YELLOWSTONE COUNTY BOARD OF PLANNING

City of Billings and
Yellowstone County, Montana

AGENDA

MAY 12, 2026 MEETING TIME: 4:30 p.m.
City Council Chambers, 5th Floor
316 N 26th St, Billings MT

NOTICE TO THE PUBLIC

Citizens are invited to:

- Review the Agenda Packet on the City's website at: Agendas and Minutes
- Public comment will be taken only during the Public Comment periods as indicated on the agenda and during the Public Hearings, if any are scheduled, under the Regular agenda. Comments may be sent to the Board via email before 12:00 pm on the meeting date. All emails received prior to this time will be entered into the record for the public hearing. Comments may be submitted by:
- Mail: City/County Planning Division PO Box 1178, Billings MT 59103
- Email: plnonline@billingsmt.gov
- NOTICE: All meetings and official activities of the MPO are held in buildings and locations that comply with accessibility standards according to the Americans with Disabilities Act (ADA). Special arrangements for participation in the public hearings by individuals with hearing, speech, or vision impairment may be made upon request at least three days prior to the hearing. Please notify Brenda Berns, Planning Clerk at bernsb@billingsmt.gov or call 406-247-8610.

1. **CALL TO ORDER - Planning Board President:** Welcome and Introduction of Board Members and Staff.

2. **APPROVAL OF AGENDA*** - including any additions or deletions to agenda. The agenda for a regular meeting will be closed at 5:00 p.m. three (3) working days prior to the date of the meeting.

3. **APPROVAL OF MEETING MINUTES** :

   a. Minutes of April 28 2026

   Attachments
   Minutes of April 28, 2026

4. **PUBLIC COMMENT PERIOD** -- As required (3 minute maximum per person). *Any member of the public may be heard on any subject that is not on the agenda. The Planning Board will not take any action on these items at this time, but could choose to add an item to the next meeting's agenda for discussion.*
   4a) Comments on items not on agenda and requests to add items to future agendas
   4b) Comments on items on the non-public hearing agenda items

5. **DISCLOSURE OF CONFLICT OF INTEREST**:

6. **DISCLOSURE OF EX PARTE COMMUNICATION**:

7. **OLD BUSINESS** (Agenda items that were not discussed or not completed in a previous meeting or items requiring action).

8. **NEW BUSINESS:** (Agenda items new to this meeting).

   a. Plat Review and Board Discussion. Pronghorn County Major Subdivision - Dave Green, Planner II

   Attachments
   Proposed Plat
   Draft SIA
   Findings of Fact
   Traffic Study
   Intersections Studied

9. **OTHER BUSINESS:**

a. (Standing Item) Long Range Strategic Issues and an overview of future City and County issues and projects.

10. **FUTURE AGENDA ITEMS**

11. **ADJOURNMENT**

Date:	05/12/2026
Title:	
Presented by:	
Department:	Planning & Community Services
Presentation:	

Information

RECOMMENDATION
Minutes of April 28, 2026

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

ALTERNATIVES
City Council may:

- Approve; or,
- Not Approve

FISCAL EFFECTS

Attachments

Minutes of April 28, 2026

CITY/COUNTY PLANNING BOARD

TUESDAY, APRIL 28, 2026 at 4:30pm

Members	Position	01/13/2026	01/27/2026	02/10/2026	02/242026	03/10/2026	03/24/2026	04/142026	04/28/2026	05/12/2026	05/27/2026	06/09/2026	06/23/2026	07/14/2026	07/28/2026	08/11/2026	08/25/2026	09/08/2026	09/22/2026	10/13/2026	10/27/2026	11/10/2026	11/24/2026	12/082026	12/22/2026
Jim Ronquillo	Billings Ward I	1	C	C	C	1	1	A	A																
Roger Gravgaard	Billings Ward II	1	C	C	C	1	1	1	V																
Dennie Stephenson	Billings Ward III	1	C	C	C	1	1	1	1																
John Staley **PRESIDENT**	Billings Ward IV	1	C	C	C	1	1	1	1																
David Nordel	Billings Ward V	V	C	C	C	A	A	V	A																
Troy Boucher	YC District 1	1	C	C	C	A	V	1	A																
Dennis Cook, **VICE PRESIDENT**	YC District 2	1	C	C	C	1	1	1	1																
Vacant	YC District 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacant	YC District 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vacant	YC District 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alexis Bonogofsky	YC District 6	1	C	C	C	A	A	A	1																
Vacant	YC District 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scott Reiter Megan Trevino	Ex-Officio SD2	1 A	C C	C C	C C	1 A	1 A	A A	A 1																

Please note: “A” stands for excused absence, “1” stands for present, “V” stands for Zoom participation, “C” stands for Canceled

Call the Meeting to Order: President Staley called the meeting to order at 4:45 PM

Introduction of Planning Board Members and Planning Department Staff
President Staley called for introductions of the members of the Planning Board and staff.

Attending Staff: Wyeth Friday, Planning & Community Services Director; Lora Mattox, Transportation Planning Coordinator; Hunter Kelly, Planner; Brenda Berns, Planning Clerk

Others in Attendance: Rusty Logan, MET Transit Manager; Taylor Kasperick, Performance Engineering

2. Approval of Agenda

Motion
Motion by Board member Stephenson to approve the agenda as submitted. Second by Board member Cook. Motion passed unanimously.

3. Approval of Minutes: April 14, 2026

Motion
Motion by Board member Cook to approve the April 14, 2026 meeting minutes. Second by Board Member Bonogofsky. Motion passed unanimously.

4. Public Comment: No public comment was received.

5. Disclosure of Outside (Ex-Parte) Communication – None were disclosed.

6. Disclosure of Conflicts of Interest – None were disclosed.

7. Old Business – There was no old business.

8**. New Business**

a. **Central Avenue Major Subdivision – Preliminary Plat Review. Presentation and Discussion. Hunter Kelly, Planner**

Hunter Kelly presented the preliminary plat request for the Barber Farm, also known as the Central Avenue Subdivision, following recent approval of the annexation and zoning changes by City Council. Staff described the approximately 55-acre subdivision site located north of Central Avenue and south of Broadwater Avenue, noting that the property had recently been rezoned from agricultural to a mix of commercial and mixed residential uses.

Staff reviewed the proposed phasing plan, parkland dedication, roadway layout, and traffic impact study findings. Discussion included anticipated roadway improvements and future traffic control measures associated with development in the area. Staff noted that the Traffic Impact Study had been reviewed and accepted in coordination with Public Works, and that developer contributions for required transportation improvements had been identified.
The applicant also requested two variances related to subdivision regulations, including street connectivity requirements and block dimension standards. Staff explained the rationale for the requested variances and noted that additional design details would be addressed during future site development and master site plan review. Staff concluded by recommending approval of the preliminary plat and variances subject to several conditions related to phasing documentation, compliance with subdivision regulations, roadway and utility coordination, and future site planning requirements.

Recommendation
Staff recommends conditional approval, subject to five conditions, and approval of the two requested variances.

Board Discussion
Board discussion included questions regarding the proposed commercial development adjacent to Central Avenue. President Staley asked whether the south side of the development would include commercial uses, and Mr. Kelly confirmed that the area is planned as a corridor mixed-use designation. Additional discussion occurred regarding traffic and neighborhood impacts, including the potential installation of speed bumps to address traffic calming concerns.

President Staley opened the Public Hearing. No comments were received; the Public Hearing was closed.

Applicant's Agent:
Taylor Kasperick, Performance Engineering
Mr. Kasperick addressed questions raised during prior discussion and provided additional clarification regarding traffic improvements and project phasing. He noted that the Traffic Impact Study (TIS) identified required roadway improvements, including right-turn lanes and dual left-turn lanes along Central Avenue to improve traffic flow and safety for vehicles entering and exiting the subdivision. Potential traffic calming measures were also discussed, with staff explaining that those improvements would be evaluated through the private contract and roadway permitting process in coordination with the City Engineering Division.
Mr. Kasperick further clarified that the subdivision consists of nine total lots. The development includes four commercial lots and five larger residential lots. Discussion also clarified the phasing plan, with Phase I consisting primarily of two larger residential lots and Phase II including the remaining residential and commercial lots located along the southern portion of the development.

Motion
Motion made by Board member Stephenson to recommend approval with the findings of fact and five conditions of approval. Second by Board member Bonogofsky. Motion passed unanimously.

City Council is scheduled to review and act on the preliminary plat on May 26, 2026.

a. 2024-2028 Transportation Improvement Program (TIP) Amendment 3
Lora Mattox presented an amendment to the Metropolitan Planning Organization's (MPO) Transportation Improvement Program (TIP), describing it as the four-year capital improvement plan for federally funded transportation projects within the MPO area. Ms. Mattox explained that amendments are periodically required to reflect updated project costs, timing adjustments, funding allocations, and the addition or modification of projects, including transit-related funding updates.
Discussion included several proposed project updates and additions, many of which involve MDT pavement preservation, bridge, safety, and roadway improvement projects. Staff expressed appreciation to MDT for continued investment in transportation infrastructure projects throughout the community. Additional projects discussed included two MPO-funded projects: a county sidewalk improvement project and the City of Billings' Safe Routes to School project. Staff indicated that following the required public hearing and recommendation, the amendment would proceed to the Policy Coordinating Committee for final approval.

Rusty Logan, MET Transit Manager
Mr. Logan provided an overview of transit-related amendments to the Transportation Improvement Program (TIP), noting that several updates were based on receipt of finalized Federal Transit Administration apportionment figures. Staff explained that funding tables were updated to reflect revised allocations for maintenance, paratransit, general operations, and capital projects.
Discussion included updates to federally funded transit programs, including Sections 5307, 5339, and 5310, as well as state TRANSAID funding.
Mr. Logan reviewed planned capital and operational projects, including transfer center improvements, bus wash rehabilitation, technology and equipment upgrades, bus stop improvements, and vehicle replacements for local service providers. It was also noted that TRANSAID funding, generated through rental car fees, supports transportation services for seniors and individuals with disabilities. Staff indicated that all funding updates and project adjustments are reflected within the TIP tables and corresponding city capital and equipment replacement planning documents.

Ms. Mattox reviewed the remaining approval schedule for the Transportation Improvement Program (TIP) amendment, noting that City Council had approved the amendment and that additional review would occur before the Policy Coordinating Committee (PCC). She explained that the PCC would take final action on May 19, after which the finalized TIP document would be submitted to MDT and the Federal Highway Administration.

President Staley opened the Public Hearing for comments. No comments were received; the Public Hearing was closed.

Motion
Motion made by Board member Cook to recommend approval of the 2024-2028 Transportation Improvement Program Amendment 3, second made by Board member Stephenson. Motion carried unanimously.

Other Business
Wyeth Friday reminded board members, including those serving on the Interim Planning Commission (IPC), of the upcoming IPC meeting to review the proposed amendments and related planning documents. Mr. Friday noted that the IPC is expected to make a recommendation to City Council, which will conduct a public hearing and consider moving the items forward for final adoption. The anticipated final recommendation and adoption schedule was noted for May 26, 2026.

The next Planning Board meeting will be Tuesday, May 12, 2026

Adjournment 5:14 PM

Brenda J Berns, Planning Clerk

Planning Board

Date:	05/12/2026
Title:	Pronghorn Subdivision - Preliminary Major Plat
Presented by:	David Green
Department:	Planning & Community Services
Presentation:	Yes

Information

RECOMMENDATION

Staff recommends the Planning Board review the preliminary plat at this meeting, At its May 27 meeting, the Board is scheduled to conduct a public hearing and make a recommendation of conditional approval to the Yellowstone County Board of County Commissioners for the preliminary plat of Pronghorn Subdivision, and adopt the Findings of Fact as presented in the staff report.

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

On April 1, 2026, IMEG, applied for preliminary major plat approval for Pronghorn Subdivision. The proposed subdivision creates one hundred and twenty four (124) lots for future residential and commercial development. The subject property is generally located southeast of the intersection of Pine Rock Trail and Highway 87 North. It is south of Hidden Lake Subdivision. Tax IDs for the parcels being subdivided are D11752 and D11753. The property is outside of zoning.

VARIANCES REQUESTED

No variances from the County Subdivision Regulations have been requested.

PROPOSED CONDITIONS OF APPROVAL

Pursuant to Section 76-3-608(4), MCA, the following conditions are recommended to reasonably minimize potential adverse impacts identified within the Findings of Fact.

1. To protect public health and safety, prior to final plat approval, the applicant shall receive approval from the Montana Department of Environmental Quality (MDEQ) for the proposed water systems, septic systems and the proposed storm water management.

2. To protect public health and safety, prior to final plat approval, the applicant shall petition to create an Rural Special Improvement District (RSID) for the future maintenance of all public roads within the subdivision.

3. To protect public health and safety and provide fire suppression, prior to final plat approval, the applicant shall submit construction drawings of each dry hydrant system to the Shepherd Volunteer Fire Department for review and approval during each phase of construction as listed within the SIA. Once installed, the applicant shall have each system tested and approved by the Shepherd Volunteer Fire Department. Prior to release of conveyances of Phase 5, the applicant shall provide this paper work. The applicant shall also create an RSID for the dry hydrant systems.

4. To meet the requirements of Yellowstone County Subdivision Regulations, prior to final plat approval, the applicant shall provide the required parkland dedication acreage amount for the subdivision in the Subdivision Improvement Agreement (SIA) under the heading Parkland. The applicant shall also complete the Yellowstone County Subdivision Regulation requirement in Section 10.6 to determine the appropriate cash in lieu contribution in lieu of any parkland dedication.

5. To minimize the effects on local service, prior to final plat approval, the applicant will coordinate with the United States Postal Service (USPS) for locating and providing the correct amount of space for safely delivering the mail to the residents and businesses.

6. To complete the requirements of the Yellowstone County Subdivision Regulations, prior to final plat, the applicant shall provide a restrictions on conveyances and all additional paperwork for phasing to be recorded with the final plat.

7. To meet the requirements of Yellowstone County Subdivision Regulations and Yellowstone County Public Works Policy, prior to final plat approval, the applicant shall revise the SIA for Phase 4 to include the requirement that Purple Sage Road be paved to County standards from Leadwood Drive to the eastern boundary of the proposed subdivision, including construction of an approved turnaround at the terminus of Purple Sage Road.

8. To minimize effects on the natural environment, prior to final plat approval, a weed management plan and property inspection shall be completed by the Yellowstone County Weed Department.

9. Minor changes may be made in the SIA and final documents, as requested by the Planning, Legal or Public Works Departments to clarify the documents and bring them into the standard acceptable format.

10. The final plat shall comply with all requirements of the Yellowstone County Subdivision Regulations, rules, policies, and resolutions of Yellowstone County, and the laws and Administrative Rules of the State of Montana.

PROCEDURAL HISTORY

- Pre-application meeting November 18, 2024
- Completeness review submitted to Planning Division July 3, 2025 within the 120 working days requirement.
- Second Completeness review submitted to Planning Division March 4, 2026
- Preliminary plat application submitted to Planning Division on April 1, 2026
- Departmental Review Meeting April 16, 2026
- Re-submittal of proposed plat April 23, 2026
- Planning Board plat review meeting May 12, 2026
- Planning Board public hearing meeting May 27, 2026
- Preliminary plat to Board of County Commissioners, June 23, 2026
- 60 working-day preliminary plat review period ends June 25, 2026

PLAT INFORMATION

General location: Southeast of the intersection of Pine Rock Trail and Highway 87 North. It is south of Hidden Lake Subdivision. Tax ID for the parcels being subdivided are D11752 and D11753.

Legal Description: Section 35, Township 02 N, Range 26 E, NWNW, W2NENW (60 acres) and Section 35, Township 02 N, Range 26 E, SWNW (40 ACRES)

Owner/Subdivider: AG N KT'S Properties, LLC

Engineer and Surveyor: IMEG

Existing Zoning: Outside of zoning

Existing land use: Grassland

Proposed land use: Residential and Commercial. Commercial lots are included in Blocks 1-3.

Gross and Net area: 100.08 acres / 66.57 acres

Proposed number of lots: 124

Lot size: Max: 3.47 acres
Min: 10,899 square feet

Parkland requirements: Parkland dedication will be a cash in lieu contribution.

Traffic Impact Study overview:

The applicant has provided a traffic study for the proposed development. There were two (2) intersections studied as required by County Public Works.

1 - Highway 87 N and Lorraine Street
2 - Highway 312, Bitterroot Dr, and Rosecrans Dr

The County requires cash contributions for all traffic impacts analyzed over 2%. The new access intersects with Highway 87 will create an 8% impact. The applicant will owe approximately $40,350 for their proportionate share contribution. The study also concludes that a northbound right-turn lane on Highway 87 N at Access A in not warranted for Filing 1, this filing, but will be warranted in 2054 after full build out of the Third Filing.

Pronghorn Subdivision
Intersection Cost Contribution
Prepared by: IMEG Corp.
Revised: 03/01/2026

FILING 1

Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1 HWY 87 & Lorraine St	1.05%	$ 500,000	$ -
HWY 87 & Access A	8.07%	$ 500,000	$ 40,350
		Total	**$ 40,350**

STAKEHOLDERS

A public hearing is not scheduled for this May 12 Planning Board meeting. However, the Planning Board meeting scheduled for May 27, 2026 is a public hearing and stakeholders will have the opportunity to provide comments. As of the writing of this report no public comments have been received.

ALTERNATIVES

In accordance with state law, the Board of County Commissioners has 60 working days to act upon this major preliminary plat. The 60 working day review period for the proposed plat ends on June 25, 2026. State and County subdivision regulations also require that preliminary plats be reviewed using specific criteria, as stated within this report. The County may not unreasonably restrict an owner's ability to develop land if the subdivider provides evidence that any identified adverse effects can be mitigated. Within the 60 working day review period, the Board of County Commissioners is required to:

1. Approve;
2. Conditionally Approve; or
3. Deny the Preliminary Plat

FISCAL EFFECTS

This plat will have no fiscal impacts on the City/County Planning Division.

SUMMARY

The purpose of the County's subdivision review process is to identify potential negative effects of property being subdivided. When negative effects are identified it is the subdivider's responsibility to mitigate those effects. Various County departments, private service/utility providers and the affected school district(s), have reviewed this application and provided input on effects and mitigation. The Findings of Fact, which are presented as an attachment, discuss potential negative impacts of the subdivision and conditions of approval are recommended as measures to further mitigate any impacts. In this case, there were found to be some impacts from this proposed subdivision.

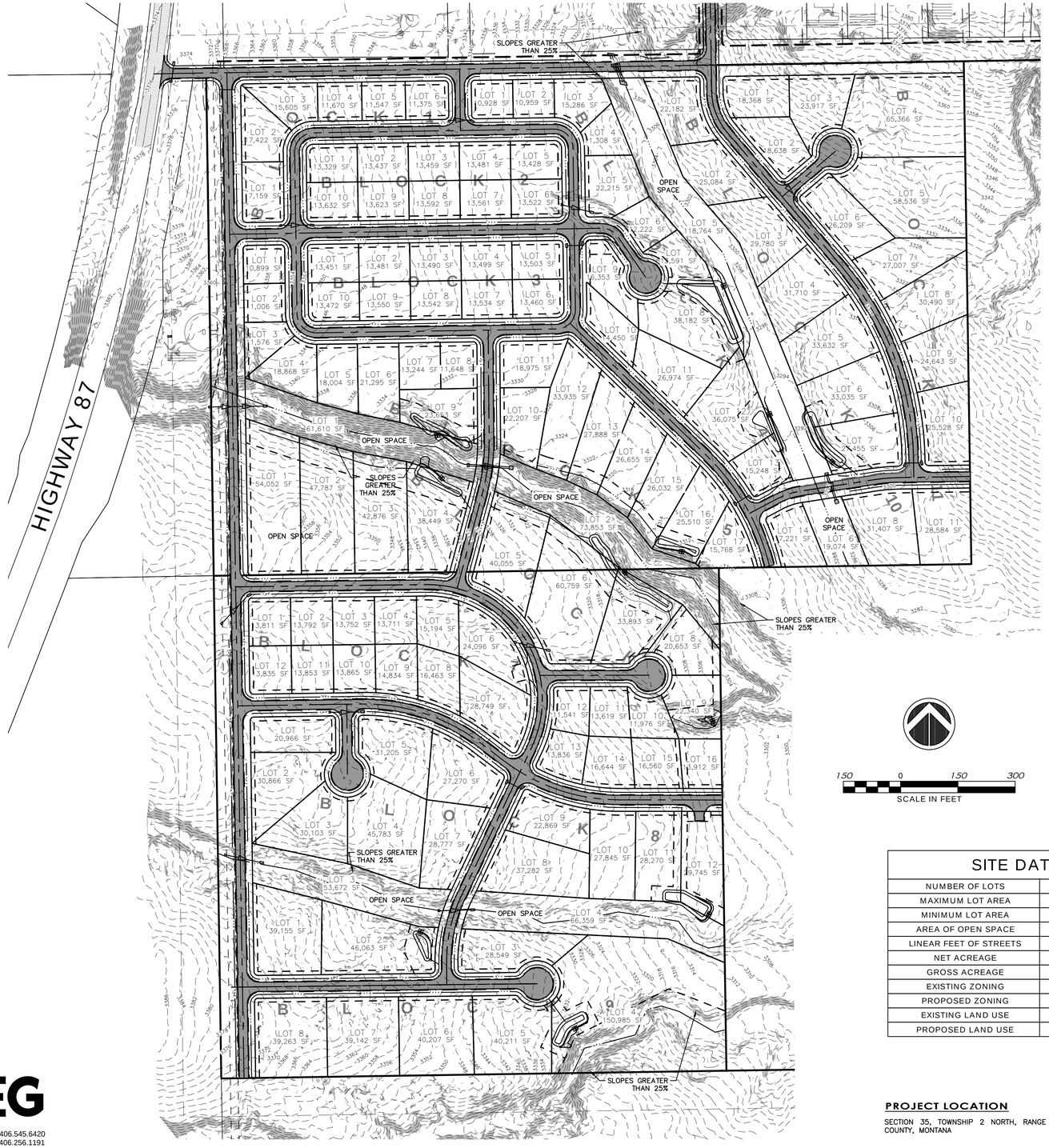
Attachments

Proposed Plat
Draft SIA
Findings of Fact
Traffic Study
Intersections Studied

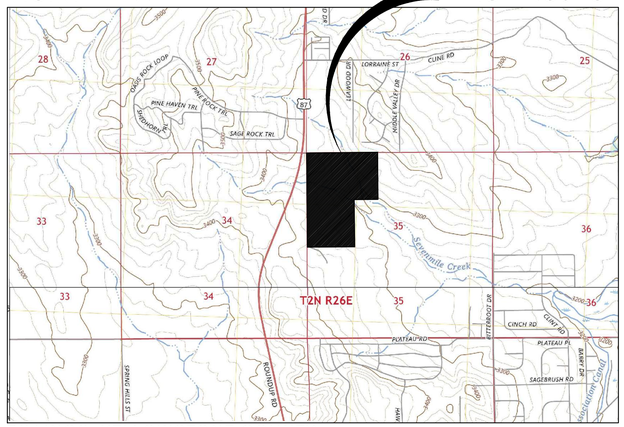
PRELIMINARY PLAT OF

PRONGHORN SUBDIVISION

LOCATED IN SECTION 35, TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M., YELLOWSTONE COUNTY, MONTANA

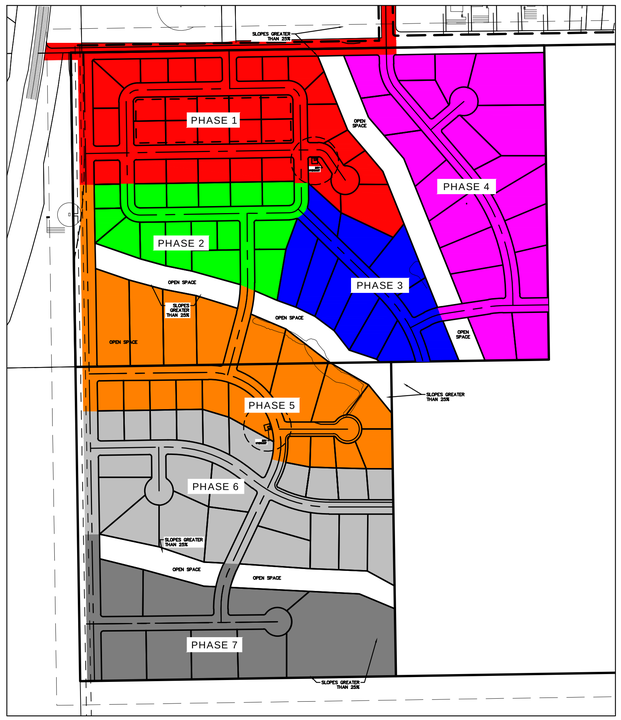


VICINITY MAP — THIS PROJECT



BILLINGS, YELLOWSTONE COUNTY

0 2000



BASIS OF BEARING
STATE PLANE MONTANA – ZONE 2500
GROUND (TRUE) DISTANCES

RECORD OWNER:
AG N KT'S PROPERTIES, L.L.C.

SUBDIVIDER:
AG N KT'S PROPERTIES, L.L.C.

DATE:
APRIL, 2026

TOTAL SUBDIVISION AREA:
100.08 ACRES (GROSS)
66.57 ACRES (NET)

LEGEND

(E) = EXISTING
(P) = PROPOSED
R/W OR R.O.W. = RIGHT–OF–WAY
U.E. = UTILITY EASEMENT
N.A.S. = NO ACCESS STRIP

▭ = CISTERN
⊠ = DRAINFIELD

150 0 150 300
SCALE IN FEET

SITE DATA

NUMBER OF LOTS	124
MAXIMUM LOT AREA	3.47 AC
MINIMUM LOT AREA	10,899 SF
AREA OF OPEN SPACE	9.46 AC
LINEAR FEET OF STREETS	16,186 LF
NET ACREAGE	66.57 AC
GROSS ACREAGE	100.08 AC
EXISTING ZONING	UNZONED
PROPOSED ZONING	UNZONED
EXISTING LAND USE	AGRICULTURAL
PROPOSED LAND USE	MIXED USE

PROJECT LOCATION

SECTION 35, TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M. OF YELLOWSTONE COUNTY, MONTANA

1/4	SEC.	T.	R.
⊠	35	2N	26E

SHEET 1 OF 3
PRONGHORN SUBDIVISION
(A SUBDIVISION OF YELLOWSTONE COUNTY)

PREPARED BY:

IMEG

175 N. 27TH ST., STE 1312
BILLINGS, MT
59101

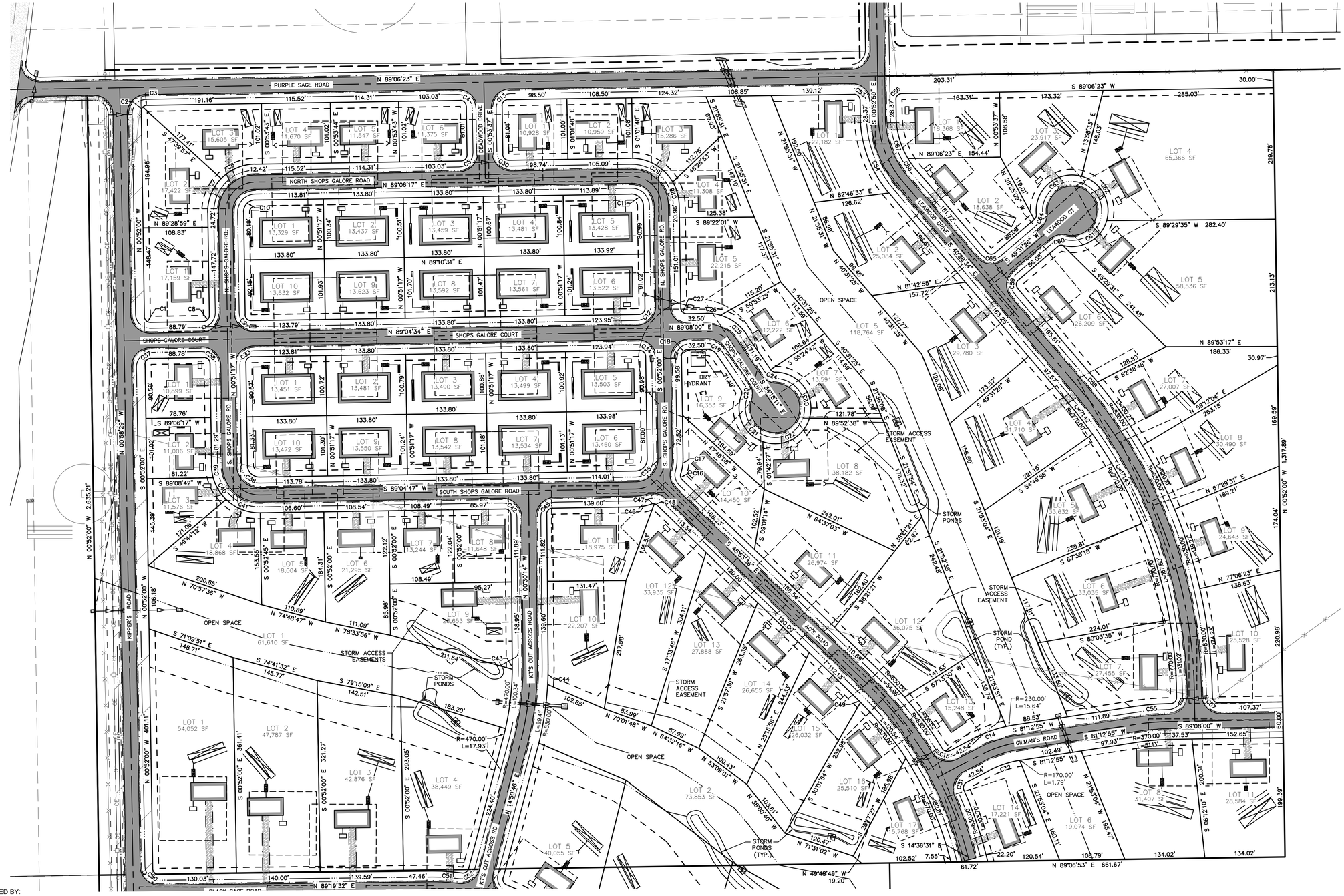
PH: 406.545.6420
FAX: 406.256.1191
www.imegcorp.com

IMEG PROJECT NO. 24001698

PRELIMINARY PLAT OF

PRONGHORN SUBDIVISION

LOCATED IN SECTION 35, TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M., YELLOWSTONE COUNTY, MONTANA



CURVE TABLE

CURVE	LENGTH	RADIUS	CHORD BEARING	CHORD DISTANCE
C1	15.72'	10.00'	N 45°53'43" W	14.15'
C2	7.85'	10.00'	N 21°37'36" E	7.65'
C3	7.85'	10.00'	N 66°36'48" E	7.65'
C4	15.71'	10.00'	S 45°53'37" E	14.14'
C5	15.71'	10.00'	S 44°06'20" W	14.14'
C6	62.80'	80.00'	S 66°36'54" W	61.20'
C7	62.80'	80.00'	S 21°38'07" W	61.20'
C8	15.70'	10.00'	S 44°06'39" W	14.13'
C9	15.72'	10.00'	S 45°53'21" E	14.15'
C10	31.40'	20.00'	S 44°07'30" W	28.27'
C11	31.43'	20.00'	N 45°52'51" W	28.29'
C12	15.70'	10.00'	N 44°06'17" E	14.14'
C13	15.71'	10.00'	S 44°06'23" W	14.14'
C14	59.98'	230.00'	S 69°50'51" W	59.81'
C15	15.08'	10.00'	N 74°24'54" W	13.69'
C16	11.10'	10.00'	S 14°05'14" E	10.54'
C17	25.95'	80.00'	S 08°25'34" W	25.84'
C18	15.71'	10.00'	S 44°08'00" W	14.14'
C19	19.74'	20.00'	N 62°35'06" W	18.95'
C20	9.63'	10.00'	N 06°43'41" W	9.26'
C21	95.08'	60.00'	N 24°33'08" W	85.44'
C22	97.93'	60.00'	S 63°17'24" W	87.42'
C23	110.99'	60.00'	S 36°27'40" E	95.83'
C24	9.63'	10.00'	S 61°52'41" E	9.26'
C25	55.06'	80.00'	S 54°01'06" E	53.98'
C26	23.92'	80.00'	N 82°17'59" W	23.83'
C27	15.71'	10.00'	N 45°52'00" W	14.14'
C28	41.15'	80.00'	S 15°36'13" E	40.70'
C29	81.14'	80.00'	S 59°23'47" E	77.71'
C30	15.71'	10.00'	S 45°53'50" E	14.14'
C31	15.08'	10.00'	N 19°10'06" E	13.69'
C32	54.10'	170.00'	N 71°29'39" E	53.88'
C33	15.70'	10.00'	S 44°06'39" W	14.13'
C34	15.72'	10.00'	N 45°53'43" W	14.15'
C35	31.40'	20.00'	N 44°06'24" E	28.27'
C36	31.44'	20.00'	S 45°53'15" E	28.30'
C37	15.70'	10.00'	S 44°06'17" W	14.14'
C38	15.72'	10.00'	N 45°53'21" W	14.15'
C39	20.01'	80.00'	N 08°01'18" W	19.96'
C40	42.86'	80.00'	N 30°32'16" W	42.35'
C41	62.88'	80.00'	N 68°24'14" W	61.27'
C42	15.78'	10.00'	S 45°42'43" E	14.19'
C43	7.64'	470.00'	S 00°02'17" E	7.64'
C44	33.71'	530.00'	N 01°19'06" E	33.70'
C45	15.63'	10.00'	N 44°17'57" E	14.09'
C46	25.95'	80.00'	N 79°47'14" E	25.84'
C47	5.06'	10.00'	N 84°59'40" E	5.01'
C48	6.04'	10.00'	N 63°11'58" W	5.95'
C49	7.88'	570.00'	S 45°29'50" E	7.88'
C50	15.67'	10.00'	S 45°46'14" E	14.12'
C51	50.48'	330.00'	N 86°17'33" W	50.43'
C52	14.53'	10.00'	S 56°28'04" W	13.28'
C53	15.71'	10.00'	S 45°53'18" E	14.14'
C54	138.17'	200.00'	S 20°41'06" E	135.44'
C55	59.42'	430.00'	S 85°10'28" W	59.38'
C56	15.71'	10.00'	S 44°06'42" W	14.14'
C57	15.65'	10.14'	N 45°52'00" W	14.14'
C58	9.98'	830.00'	N 40°07'54" W	9.98'
C59	15.71'	10.00'	N 04°31'26" E	14.14'
C60	9.63'	10.00'	N 77°05'56" E	9.26'
C61	93.05'	60.00'	S 60°14'37" W	84.00'
C62	94.57'	60.00'	N 29°20'18" W	85.08'
C63	116.38'	60.00'	N 49°56'31" E	98.98'
C64	9.63'	10.00'	N 21°56'55" E	9.26'
C65	15.71'	10.00'	N 85°28'34" W	14.14'
C66	23.18'	140.00'	N 35°44'01" W	23.15'
C67	73.54'	140.00'	S 15°56'32" E	72.70'

LEGEND

(E) = EXISTING
(P) = PROPOSED
R/W OR R.O.W. = RIGHT-OF-WAY
U.E. = UTILITY EASEMENT
N.A.S. = NO ACCESS STRIP
= CISTERN
= DRAINFIELD

1/4	SEC.	T.	R.
	35	2N	26E

80 0 80 160
SCALE IN FEET

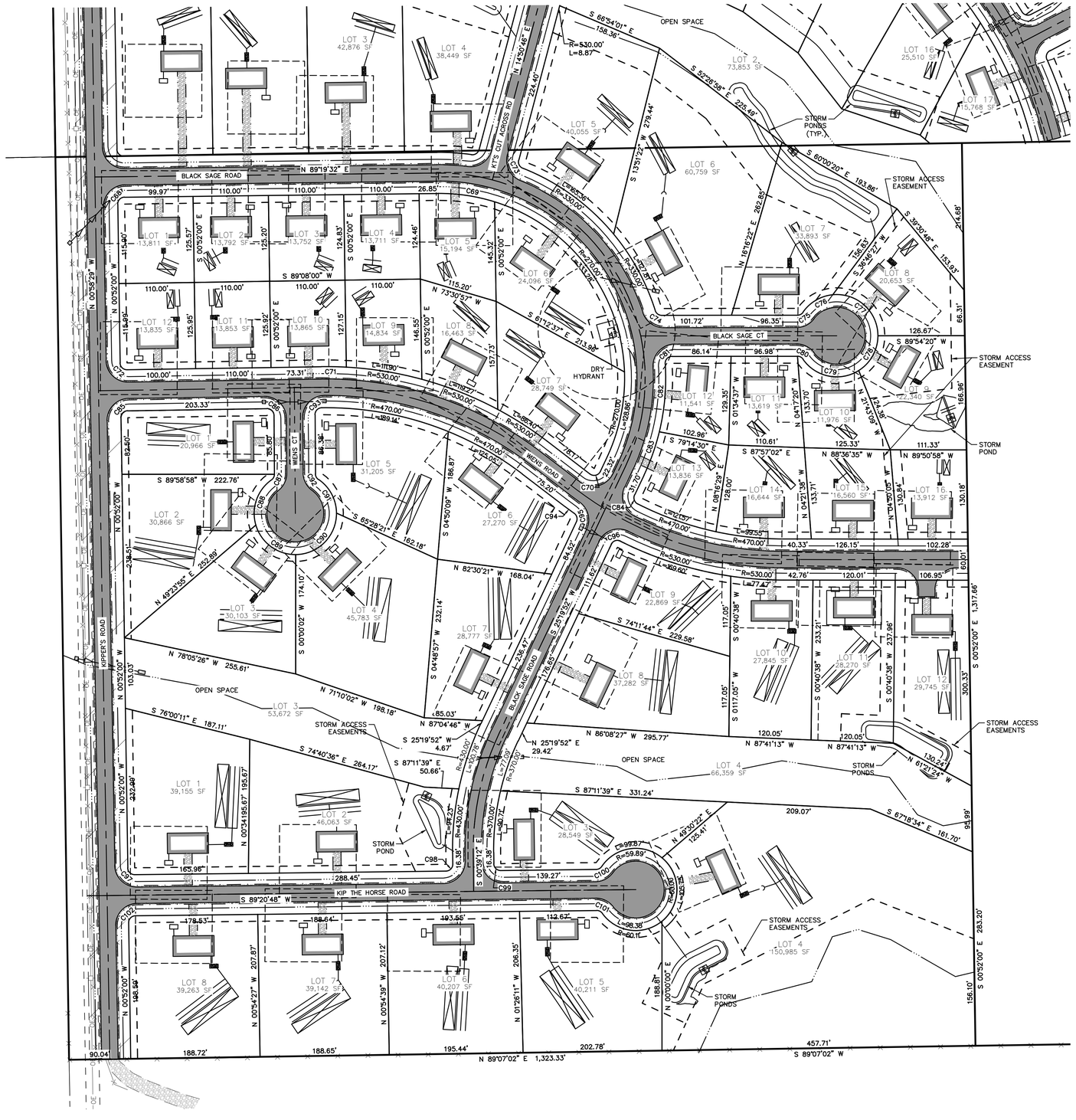
PREPARED BY:
IMEG
175 N. 27TH ST., STE 1312
BILLINGS, MT
59101
PH: 406.545.6420
FAX: 406.256.1191
www.imegcorp.com
IMEG PROJECT NO. 24001698

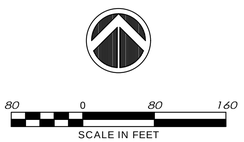
PRELIMINARY PLAT OF

PRONGHORN SUBDIVISION

LOCATED IN SECTION 35, TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M., YELLOWSTONE COUNTY, MONTANA

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD BEARING	CHORD DISTANCE
C68	15.74'	10.00'	N 44°13'46" E	14.17'
C69	84.53'	270.00'	S 81°42'22" E	84.18'
C70	17.82'	10.00'	S 76°22'24" W	15.55'
C71	36.72'	530.00'	N 88°54'01" W	36.72'
C72	15.71'	10.00'	N 45°52'33" W	14.14'
C73	14.53'	10.00'	N 26°46'33" W	13.28'
C74	12.66'	10.00'	N 53°46'05" W	11.83'
C75	9.63'	10.00'	N 62°23'09" E	9.26'
C76	51.62'	60.00'	N 59°27'34" E	50.05'
C77	100.38'	60.00'	S 47°57'55" E	89.07'
C78	60.73'	60.00'	N 28°57'23" E	58.17'
C79	91.27'	60.00'	S 78°28'07" E	82.72'
C80	9.63'	10.00'	S 62°27'51" E	9.26'
C81	16.36'	10.00'	N 43°06'20" E	14.59'
C82	100.12'	330.00'	N 04°56'33" E	99.74'
C83	67.37'	330.00'	S 19°28'58" W	67.25'
C84	15.42'	10.00'	S 18°50'04" E	13.93'
C85	15.70'	10.00'	S 44°07'27" W	14.14'
C86	15.78'	10.00'	N 45°40'36" W	14.19'
C87	9.63'	10.00'	N 27°06'25" E	9.26'
C88	74.26'	60.00'	N 19°13'30" E	69.61'
C89	77.74'	60.00'	S 53°21'03" E	72.42'
C90	94.33'	60.00'	S 44°29'32" W	84.91'
C91	57.67'	60.00'	N 28°04'56" W	55.48'
C92	9.63'	10.00'	N 28°02'35" W	9.26'
C93	15.64'	10.00'	N 44°19'23" E	14.09'
C94	19.65'	530.00'	S 53°38'48" E	19.65'
C95	13.97'	10.00'	S 14°41'20" E	12.86'
C96	15.96'	10.00'	N 71°02'31" E	14.32'
C97	15.67'	10.00'	S 45°45'36" E	14.12'
C98	15.71'	10.00'	S 44°20'48" W	14.14'
C99	15.71'	10.00'	N 45°39'12" W	14.14'
C100	9.63'	10.00'	S 61°46'18" W	9.26'
C101	9.63'	10.00'	N 63°04'41" W	9.26'
C102	15.75'	10.00'	N 44°14'24" E	14.17'





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= DRAINFIELD

1/4	SEC.	T.	R.
	35	2N	26E

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IMEG PROJECT NO. 24001698

SUBDIVISION IMPROVEMENTS AGREEMENT

PRONGHORN MAJOR SUBDIVISION

IMEG #24001698

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SUBDIVISION IMPROVEMENTS AGREEMENT
PRONGHORN SUBDIVISION

This agreement is made and entered into this_____ day of_____ , 20____, by and between *AG N KT's Properties, LLC,* whose address for the purpose of this agreement is 4585 Mountain View Road, Molt, Montana, 59057, hereinafter referred to as "Subdivider," and YELLOWSTONE COUNTY, Montana, hereinafter referred to as "County."

WITNESSETH:

WHEREAS, at a regular meeting conducted on_____ day of_____, 20____, the Board of Planning recommended conditional approval of a preliminary plat of *Pronghorn Subdivision,* and

WHEREAS, at a regular meeting conducted on _____ day of____, 20___, the Yellowstone County Board of County Commissioners conditionally approved a preliminary plat of *Pronghorn Subdivision,* and

WHEREAS, a Subdivision Improvements Agreement is required by the County prior to the approval of the final plat.

WHEREAS, the provisions of this agreement shall be effective and applicable to *Pronghorn Subdivision* upon the filing of the final plat thereof in the office of the Clerk and Recorder of Yellowstone County, Montana. The Subdivision shall comply with all requirements of the Yellowstone County Subdivision Regulations, the rules, regulations, policies, and resolutions of Yellowstone County, and the laws and administrative rules of the State of Montana.

THEREFORE, THE PARTIES TO THIS AGREEMENT, for and in consideration of the mutual promises herein contained and for other good and valuable consideration, do hereby agree as follows:

I. VARIANCES

A. There are no variances being requested with this subdivision.

II. CONDITIONS THAT RUN WITH THE LAND

A. Lot owners should be aware that this subdivision is being built in close proximity to prime deer and antelope habitat and it is likely that homeowners will experience problems with damage to landscaped shrubs, flowers, and gardens. The Montana Fish, Wildlife, and Parks Department does not provide damage assistance unless there is damage to commercial crops and/or a threat to public health and safety.

B. Lot owners should be aware that soil characteristics within the area of this subdivision, as described in the 1972 Yellowstone County Soil Survey, indicate that there could be potential limitations for proposed construction on the lots, which may require a geotechnical survey prior to construction.

C. No water rights have been transferred to the lot owners. If irrigation ditches exist on the perimeter of this development, they will be preserved for the benefit of other properties. Any existing perimeter ditches and drains shall remain in place and shall not be altered by the Subdivider or subsequent owners.

D. There is attached hereto a Waiver waiving the right to protest the creation of the special improvement district or districts which by this reference is expressly incorporated herein and made as much a part hereof as though fully and completely set forth herein at this point. The Waiver will be filed with the plat, shall run with the land, and shall constitute the guarantee by the Subdivider and property owner or owners of the developments described herein. Said Waiver is effective upon filing and is

not conditioned on the completion of the conditions set forth in this Agreement. The Subdivider and owner specifically agree that they are waiving valuable rights and do so voluntarily.

E. Culverts and associated drainage swales shall not be filled in or altered by the subdivider or subsequent lot owners.

F. When required by road improvements, all fences and irrigation ditches in the public right- of-way adjacent to this subdivision shall be removed or relocated outside of the public right-of-way and any relocation outside of the public right-of-way shall be subject to securing and recording easements.

G. Future maintenance of all public (or common) improvements shall be done through one or more RSID(s) created as part of the SIA for this subdivision.

H. Lot owners or their agent will obtain an Access Permit from County Public Works prior to any construction on any lot within the subdivision. The application will include a site plan showing the desired location of the access and show that it meets the requirements outlined by the DEQ storm water requirements for the subdivision. Failure to do so will result in the lot owner or their agent removing what has been installed and locating the access in an approved location at the lot owners' expense.

III. TRANSPORTATION

The subdivider agrees to guarantee all improvements for a period of one (1) year from the date of final acceptance by Yellowstone County.

A. Streets & Roads

All public roads within the Pronghorn Subdivision will be constructed as 24-foot-wide paved asphalt streets within 60-foot-wide public rights-of-way. All streets will be dedicated for public use and maintained through one or more Rural Special Improvement Districts (RSIDs) established at the time of final plat approval.

The internal public road network includes the following:

- Purple Sage Road — The primary access road entering the subdivision from Highway 87, serving as the main east-west corridor through the development.
- Shops Galore Court — A central collector road connecting the northern and southern commercial sections.
- North Shops Galore Road — A looped road branching from Shops Galore Court serving northern commercial lots.
- South Shops Galore Road — A looped road branching from Shops Galore Court serving southern commercial lots.
- Deadwood Drive — A north-south street connecting Purple Sage Road to interior residential lots.
- AG's Road — An interior east-west local road providing access within the central commercial phases.
- KT's Cut Across — A interior north-south street providing access within the central commercial phases.
- Black Sage Road — A north-south street connecting Kipper's Road to interior commercial and residential lots.

- Black Sage Court — A cul-de-sac extending from Black Sage Road in the eastern portion of the subdivision.

- Wiens Road — An interior east-west road connecting the interior residential phases near the subdivision's eastern boundary.

- Wiens Court — A cul-de-sac extending from Wiens Road in the southern portion of the subdivision.

- Kip the Horse Road — A cul-de-sac providing access to the southernmost residential lots.

- Leawood Drive — An interior road providing secondary circulation through central and northern residential lots.

- Leawood Court — A cul-de-sac branching from Leawood Drive.

- Gilman's Road — An east-west local connector serving interior commercial and residential areas.

- Kipper's Road — The primary access road entering the subdivision running north & south.

All roads will be constructed to Yellowstone County standards for cross-section, drainage, grading, and sight distance. Temporary turnarounds will be installed at stub ends where necessary to maintain safe emergency access during phased construction. Traffic control signs and intersection markings will comply with the Manual on Uniform Traffic Control Devices (MUTCD) and Yellowstone County Public Works requirements.

All public roads have been designed to County specifications, with appropriate centerline geometry, ROW dedication, and stormwater grading considerations. Temporary turnarounds will be provided at stubbed roads until future phases complete roadway connections. Intersections will be built with sight distance and safety requirements in compliance with MUTCD and Yellowstone County design standards.

B. Traffic Control Devices

The Pronghorn Subdivision will include the installation of regulatory traffic control signage at key intersections to ensure safe vehicular movement and compliance with County and MUTCD standards. Based on the internal street network layout and projected traffic flow, stop signs will be installed throughout the subdivision as phases are completed. Some of the stop signs are where cul-de-sac's meet the access roads.

Stop sign locations will include, but are not limited to, the following intersections:

1. Purple Sage Road & Highway 87 (stop for exiting traffic)
2. Purple Sage Road & Kipper's Road
3. Purple Sage Road & Deadwood Drive
4. Purple Sage Road & Leawood Drive
5. North Shops Galore Road & Deadwood Drive
6. Shops Galore Court & Kipper's Road
7. Shops Galore Court, North Shops Galore Road, & South Shops Galore Road
8. North Shops Galore & South Shops Galore Internal Intersections
9. South Shops Galore Road & KT's Cut Across
10. South Shops Galore Road & AG's Road
11. AG's Road & Gilman's Road
12. Gilman's Road & Leawood Drive
13. Leawood Drive & Leawood Court
14. Kipper's Road & Black Sage Road
15. Black Sage Road & KT's Cut Across
16. Black Sage Road & Black Sage Court
17. Kipper's Road & Wiens Road

18. Wiens Road & Wiens Court
19. Wiens Road & Black Sage Road
20. Kipper's Road & Kip the Horse Road
21. Kip the Horse Road & Black Sage Road

All signage will be fabricated and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and Yellowstone County specifications. The subdivider shall install signage concurrent with each phase of roadway construction to ensure functionality upon completion of each new segment of the road network.

Final placement and quantity of stop signs will be subject to Yellowstone County Public Works review and approval at the time of engineering plan submittal.

C. Access

- There will be eight accesses for the proposed subdivision, three from Purple Sage Road, one from Leawood Drive, and four from Kipper's Road. Each approach will have 60' right-of-way.

- All lots within the subdivision shall be accessed using the internal public road network.

- A no-access-strip along Highway 87 adjacent to this subdivision will be utilized to limit access from Kipper's Road.

D. Billings Area Bikeways and Trail Master Plan (BABTMP)

The BABTMP does not intersect with this property.

IV. EMERGENCY SERVICE

Emergency services for the Pronghorn Subdivision will be provided by regional agencies serving unincorporated Yellowstone County. Fire protection infrastructure will be integrated into the subdivision as required under Yellowstone County Subdivision Regulations and applicable fire code guidance.

Fire Protection:

Fire protection for the subdivision will be provided by the Shepherd VFD district To support fire suppression needs, two 30,000-gallon dry hydrant tanks will be installed within the subdivision. One dry hydrant will be located along Shops Galore Court, constructed in Phase 1, and the second will be installed will be constructed during Phase 5 off of Black Sage Road. Both hydrants are depicted on the preliminary plat and will be accessible to fire response vehicles. The tanks will be designed and installed per County and fire authority requirements, and ongoing maintenance will be the responsibility of the subdivision's RSID.

Law Enforcement:

Law enforcement services will be provided by the Yellowstone County Sheriff's Office, which has jurisdiction over unincorporated areas of the county.

Emergency Medical Services:

Ambulance services will be provided by American Medical Response (AMR). AMR Billings has been serving Yellowstone County since 1994, offering both emergency and non-emergency medical transport services.

All emergency service providers have been notified of the proposed subdivision during preliminary plat review. The subdivision's road widths, intersection design, and emergency vehicle turnaround provisions have been developed to comply with fire department access standards and ensure continuous emergency response capability throughout all phases of development.

V. Storm Drainage

Stormwater management for the Pronghorn Subdivision will be addressed through a combination of regional storm ponds and individual lot-level residential retention ponds. These systems are designed to safely accommodate runoff generated by both impervious surfaces (e.g., roads and driveways) and graded residential areas while protecting downstream properties, infrastructure, and natural drainage corridors.

A stormwater management plan will be developed in accordance with Section 4.7 of the Yellowstone County Subdivision Regulations and Montana DEQ Circular DEQ-8. The plan will include the construction of regional and individual stormwater ponds, strategically located within drainage basins and lots defined on the preliminary plat. These facilities will capture, detain, and treat roadway runoff and conveyances from common infrastructure prior to controlled release into natural drainages or swales.

All stormwater facilities, including regional and individual storm ponds and appurtenant conveyance infrastructure, will:

- Be constructed to meet or exceed MDEQ performance standards,
- Be reviewed and approved by MDEQ (or its authorized designee) prior to final plat approval,
- Be sized based on rational method or hydrologic modeling as outlined in the approved Storm Design Report,
- Include emergency overflows, and sediment forebays where required.

Final construction drawings and storm drainage reports will be submitted for County and DEQ review as part of the public infrastructure approval process. Operation and long-term maintenance of regional drainage facilities will be the responsibility of the subdivision's HOA, as defined in the covenants and the final plat filing.

VI. Utilities

A. Water Supply

Each lot within the Pronghorn Subdivision will be served by an individual cistern system, which will be supplied by a licensed local water service provider. These systems are designed to comply with Section 4.9 of the Yellowstone County Subdivision Regulations, ensuring that all water supply provisions meet the necessary health and safety standards. Approval from the Montana Department of Environmental Quality (MDEQ) will be obtained for these systems and included with the final plat filing. Maintenance of the cisterns will be the responsibility of the individual lot owners.

B. Sanitary Sewer

Wastewater treatment for the subdivision will be managed through individual septic systems installed on each lot. These systems will be designed and constructed in accordance with Section 4.8 of the Yellowstone County Subdivision Regulations and the standards set forth in Montana DEQ Circular DEQ-4. Approval from the MDEQ will be secured prior to the final plat approval, and documentation of such approval will be included in the final plat submission. Each lot owner will be responsible for the operation and maintenance of their respective septic system.

C. Power, Telephone, Gas, and Cable Television

Electricity, telephone, natural gas, and cable television services will be extended to each lot within the subdivision. These utilities will be installed within the utility easements designated on the final plat. The easements are designed to meet the requirements of the utility providers and will be coordinated with them during the development process to ensure proper installation and service delivery.

D. Solid Waste Disposal

Solid waste collection and disposal services will be provided by licensed local waste disposal companies operating within Yellowstone County. Each property owner will be responsible for arranging for their own solid waste pickup services. Disposal of solid waste will be conducted in accordance with the standards set forth by the Montana Department of Environmental Quality (MDEQ) and the Yellowstone City-County Health Department, ensuring that all waste is managed in an environmentally responsible manner.

VII. Parks & Open Space

The Subdivider is providing cash-in-lieu of a parkland dedication to satisfy the parkland dedication requirement.

VIII. Irrigation

There are no irrigation systems, irrigation districts, or water rights associated with the land comprising the Pronghorn Subdivision. As such, no irrigation infrastructure will be installed, and no water rights will be transferred as part of the subdivision process.

The subdivision has been designed to function without a centralized or individual irrigation supply. Lot owners will not be obligated to install or maintain irrigated lawns, and no requirement for turf or landscape irrigation will be imposed through the subdivision covenants.

IX. Weed Management

The Subdivider and all future lot owners shall be responsible for the control and management of noxious weeds within the Pronghorn Subdivision, consistent with the current Yellowstone County Noxious Weed List and in accordance with Section 7-22-2152, MCA.

Requirements

The following measures will be implemented:

- A Weed Management Plan shall be submitted to the Yellowstone County Weed Department for review and approval. This plan will identify existing noxious weed species present on the site and outline specific control methods, herbicide usage (if applicable), mechanical or cultural treatment, and maintenance timelines.
- The Weed Management Plan shall be kept current and updated as necessary, particularly prior to the start of construction in any new phase of development. The cost of weed management shall be borne by the individual property owner or responsible development entity.
- A Revegetation Plan shall also be submitted as part of the overall weed management strategy. This plan will identify seed mix recommendations to promote the establishment of native or low-maintenance species for soil stabilization and long-term weed suppression. Recommendations may be obtained from the Yellowstone County Weed Department and are subject to modification based on a required pre-development site inspection.

Enforcement of weed control will be consistent with County policies, and ongoing compliance will be the responsibility of each owner of record. Failure to adhere to the approved plan may result in enforcement action under County weed ordinances.

X. Soils / Geotechnical Study

No formal geotechnical investigation or site-wide soils analysis has been conducted by the Subdivider for the Pronghorn Subdivision. Soil conditions across the subdivision are expected to vary due to the property's natural topography and geological setting. As a result, subsurface conditions—including soil bearing capacity, frost susceptibility, shrink-swell potential, and groundwater levels—may differ significantly between lots.

Individual lot owners are strongly encouraged to conduct site-specific geotechnical evaluations prior to initiating any structural construction. These evaluations should be performed by a qualified professional geotechnical engineer to determine the appropriate foundation design and to assess the need for any soil stabilization, drainage enhancements, or specialized construction techniques.

The Yellowstone County Soil Survey (NRCS, 1972) classifies certain soils in this area as potentially having limitations for conventional building development, particularly with respect to septic percolation, compaction, or seasonal moisture conditions. Therefore, additional caution is warranted in siting foundations, on-site septic systems, and stormwater management features.

Responsibility for geotechnical evaluation, design, and risk management lies solely with individual lot owners, builders, or their agents at the time of development.

XI. Phasing of Improvements

The Pronghorn Subdivision will be constructed in seven (8) sequential phases in order to ensure orderly infrastructure development, manageable public service extension, and compliance with all local and state subdivision standards. This phasing approach has been designed to align with the subdivision's roadway and utility layout, stormwater basin implementation, and market absorption goals.

In accordance with MCA 76-3-617(4), the Subdivider shall notify the governing body a minimum of 30 days prior to the commencement of infrastructure construction in any phase.

Phase Overview:

- Phase 1 – Will include Lots 1 through 6 in Block 1, Lots 1 through 10 in Block 2, Lots 1 through 5 in Block 3, Lots 1 through 9 in Block 4 and Lot 1 in Block 5. This phase will include construction of Purple Sage Road, the subdivision's primary access road from Highway 87, Kipper's Road, Shops Galore Court, North Shops Galore Road, and a portion of South Shops Galore Road. There will also be a connection made to Leawood Drive. This phase will include access to the commercial lots and set up for the future portion of South Shops Galore Road corridor. A 30,000-gallon dry hydrant will be installed along Shops Galore Court during this phase as shown on the plat. Construction will begin immediately upon approval of the final plat.

- Phase 2 – Will Include Lots 6 through 10 in Block 3 and Lots 2 through 11 in Block 5. This phase will complete South Shops Galore Road and establish further internal access via a portion of KT's Cut Across. Stop signs and temporary turnarounds will be provided as required by the traffic control and emergency service plans. Phase 2 will commence no later than June 1, 2029.

- Phase 3 – Will include Lots 10 through 14 in Block 4 and Lots 12 through 17 in Block 5. This phased will continue internal street development and lot service connections along AG's Road and a portion of Gilman's Road. Stop signs and temporary turnarounds will be provided as required by the traffic control and emergency service plans. Phase 3 will commence no later than June 1, 2032.

- Phase 4 – Will include Lots 1 through 8 in Block 10 and Lots 1 through 11 in Block 11. This phase will extend Leawood Road south and include completion of Leawood Court and Gilma's Road. Additional temporary turnarounds will be provided as necessary to maintain fire access. This phase provides further buildout of residential lots and extension of drainage and utility infrastructure. Phase 4 will commence no later than June 1, 2035.

- Phase 5 – Will include Lots 1 through 12 in Block 6 and Lots 1 through 6 in Block 7. This phase will include the start of construction on Black Sage Road, the completion of KT's Cut Across and Black Sage Court. This phase provides further buildout of central lots and extension of drainage and utility infrastructure. The second 30,000-gallon dry hydrant will be installed in this phase, as depicted on the plat. Phase 5 will commence no later than June 1, 2038.

- Phase 6 – Will Include Lots 13 through 16 in Block 6, Lots 7 through 12 in Block 7 and Lots 1 through 12 in Block 8. This phase will extend Black Sage Road south and complete Wiens Road and Wiens Court. This phase includes additional commercial and residential lots. Phase 6 will commence no later than June 1, 2041.

- Phase 7 – Will include Lots 1-8 in Block 9. This phase will finish construction of Black Sage Road. This phase will also construct Kip the Horse Road, completing the southern loop of the subdivision and providing access to the final residential lots. All storm drainage and access improvements for the remaining tract will be completed during this phase. Phase 6 will commence no later than June 1, 2044.

Each phase will include the full extension of roadways, utilities, stormwater infrastructure, and fire protection improvements needed to serve the lots proposed within that phase. Temporary turnarounds will be installed where required to ensure compliance with emergency vehicle access standards and Yellowstone County Public Works requirements.

XII. Condominiums

Lots 1-10 of Block 2 and Lots 1-10 of Block 3 of this subdivision are anticipating condominiums. The condominiums are intended to be 4-plexes on each lot, totaling 80-units. It is anticipated that all units will be for personal storage use only. The Subdivider is aware of these assumptions, and all corresponding condominium documents shall be submitted to the County at the time of condominium recording.

XIII. Financial Guarantees

The Subdivider shall be responsible for the design, installation, and construction of all required public improvements in each phase of the Pronghorn Subdivision. Improvements include, but are not limited to: roads, stormwater drainage, fire protection systems, and utility infrastructure. All such improvements shall be constructed under private contract and designed by a licensed professional civil engineer registered in the State of Montana.

All improvements must be completed prior to final plat approval for each respective phase, unless a financial guarantee is provided in accordance with the procedures set forth in Chapter 5 of the Yellowstone County Subdivision Regulations.

If improvements are not fully constructed at the time of final plat, the Subdivider shall provide the County with a monetary security in an amount equal to 125% of the estimated cost of the uncompleted improvements. Acceptable forms of financial security include:

- An irrevocable letter of credit from a federally insured financial institution,
- A performance bond issued by a licensed surety company,
- An escrow agreement, or
- Any other method approved by the Yellowstone County Planning Board and Board of County Commissioners.

The cost estimate shall be prepared and sealed by a Montana-licensed professional engineer and reviewed by the County Engineer or designer. All financial instruments shall remain in effect until the County has verified that improvements have been satisfactorily completed and accepted for public use.

Upon completion of the improvements, the Subdivider's engineer shall submit to the Yellowstone County Public Works Department:

- A sealed, certified statement of completion,
- As-built drawings, and
- Any required post-construction certifications pursuant to Section 4.6.C of the Yellowstone County Subdivision Regulations.

The Subdivider shall also guarantee all installed public improvements for a period of one (1) year following final acceptance by the County.

XIV. LEGAL PROVISIONS

A. Subdivider agrees to guarantee all public improvements for a period of one year from the date of final acceptance by Yellowstone County.

B. The owners of the properties involved in this proposed Subdivision by signature subscribed herein below agree, consent, and shall be bound by the provisions of this Agreement.

C. The covenants, agreements, and all statements in this Agreement apply to and shall be binding on the heirs, personal representatives, successors and assigns of the respective parties.

D. In the event it becomes necessary for either party to this Agreement to retain an attorney to enforce any of the terms or conditions of this Agreement or to give any notice required herein, then the prevailing party or the party giving notice shall be entitled to reasonable attorney fees and costs.

E. Any amendments or modifications of this Agreement or any provisions herein shall be made in writing and executed in the same manner as this original document and shall after execution become a part of this Agreement.

F. Subdivider shall comply with all applicable federal, state, and local statutes, ordinances, and administrative regulations during the performance and discharge of its obligations. Subdivider acknowledges and agrees that nothing contained herein shall relieve or exempt it from such compliance.

G. Subdivider agrees to create any required (or expansion of existing) RSID(s) for future maintenance of all public (or common) constructed improvements prior to final plat approval.

IN WITNESS WHEREOF, the parties hereto have set their hands and official seals on the date first above written.

"SUBDIVIDER" *AG N KT's Properties, LLC*

_____

Alohi Gilman, Owner, AG N KT's Properties, LLC

STATE OF _____)

: ss

County of _____)

On this_____day of_____, 20____, before me, a Notary Public in and for the State of _____, personally appeared Alohi Gilman, Owner of AG N KT's Properties, LLC, *(Subdivider),* who executed the foregoing instrument and acknowledged to me that they executed the same.

SS _____

This agreement is hereby approved and accepted by Yellowstone County, this_____day of _____, 20____

"COUNTY"
COUNTY OF YELLOWSTONE
MONTANA

County of Yellowstone
Board of County Commissioners

By:_____
Mark Morse, Chairman

_____
Mike Waters, Commissioner

_____
Chris White, Commissioner

Attest:_____
Jeff Martin, County Clerk and Recorder

STATE OF MONTANA)
: ss
County of Yellowstone)

On this_____day of_____, 20____, before me, a Notary Public in and for the State of Montana, personally appeared Mark Morse, Mike Waters, Chris White and Jeff Martin, known to me to be the Board of County Commissioners and the County Clerk and Recorder, respectively, of Yellowstone County, Montana, whose names are subscribed to the foregoing instrument in such capacity and acknowledged to me that they executed the same on behalf of Yellowstone County, Montana.

SS _____

Waiver of Right to Protest

FOR VALUABLE CONSIDERATION, the undersigned, being the Subdivider and all of the owners of the hereinafter described real property, do hereby waive the right to protest the formation of one or more Rural Special Improvement Districts (RSID's), for a period of no more than twenty years from the recording of this waiver, which Yellowstone County may require.

This Waiver and Agreement is independent from all other agreements and is supported by sufficient independent consideration to which the undersigned are parties, and shall run with the land and shall be binding upon the undersigned, their successors and assigns, and the same shall be recorded in the office of the County Clerk and Recorder of Yellowstone County, Montana.

The real property hereinabove mentioned is more particularly described as follows:

Pronghorn Subdivision

Signed and dated this_____day of_____, 20____.

_____
Alohi Gilman, Owner, AG N KT's Properties, LLC

STATE OF _____)
: ss
County of _____)

On this_____day of_____, 20____, before me, a Notary Public in and for the State of _____, personally appeared Alohi Gilman, Owner of AG N KT's Properties LLC, the person who executed the forgoing instrument and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year hereinabove written.

SS_____

FINDINGS OF FACT

The City-County Planning Division Staff has prepared the Findings of Fact for Pronghorn Subdivision. These findings are based on the preliminary plat application and supplemental documents addressing the review criteria required by the Montana Subdivision and Platting Act (76-3-608, MCA) and the Yellowstone County Subdivision Regulations (YCSR).

A. What are the effects on agriculture, local services, the natural environment, wildlife and wildlife habitat and public health and safety (76-3-608 (3) (a) MCA) (Section 3.2 (H) (2) YCSR)

1. Effect on agriculture and agricultural water users' facilities

The subject property is open grassland with no farming activity. No water rights or shares will be transferred to individual lot owners. There are no irrigation ditches that exist on the perimeter of this development, or within the development. There will be no effect on the water users downstream from this property.

2. Effect on local services

a. **Water** – The proposed subdivision is not located within any public water district. Each lot in the subdivision will be served by cisterns. Each cistern will receive approval from the Montana Department of Environmental Quality, or its designee. Water systems will be installed meeting the requirements outlined in Section 4.9 of the Yellowstone County Subdivision Regulations and the MDEQ. **(Condition #1)** The operation and maintenance of approved water cistern systems will be the responsibility of each individual lot owner.

b. **Septic -** The proposed subdivision is not located within any public sewer district. The subdivision will be served by wastewater disposal systems as submitted to and approved by Montana Department of Environmental Quality (MDEQ). These systems shall be located and installed as approved by Montana Department of Environmental Quality, or its designee.

The Subdivision is proposed to be served by individual septic systems on each lot. Septic systems will be installed meeting the requirements outlined in Section 4.8 of the Yellowstone County Subdivision Regulations and the MDEQ. **(Condition #1)** The operation and maintenance of the septic system will be the responsibility of individual lot owners.

All private utilities, power, telephone, gas and cable television will be installed in the public right of way or easements identified on the plat.

c. **Streets and roads** – Access to the Subdivision shall be from an approach off Highway 87 N to Purple Sage Road. Half of the right of way for Purple Sage Road was dedicated as part of the southern end of Hidden Lake Subdivision. The road was never built. This subdivision will dedicate the second half of the road and construct it to county

road standards. Another access will be from Lorraine Street to Leawood Drive to the proposed subdivision. Roads within the subdivision, will be built to the County standard for a paved surface road. All roads will be within 60-foot-wide right of way with a 24-foot paved surface. An RSID will be created to maintain the roads within the subdivision. **(Condition #2)**

A TIS has been submitted for the proposed subdivision and included future filings of the subdivision. The traffic study showed the first filing to have an impact at the proposed access of Purple Sage Road (Access A) and Highway 87. Contributions for intersections impacts are shown in the table below.

Pronghorn Subdivision
Intersection Cost Contribution
Prepared by: IMEG Corp.
Revised: 03/01/2026

FILING 1

Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1 HWY 87 & Lorraine St	1.05%	$ 500,000	$ -
HWY 87 & Access A	8.07%	$ 500,000	$ 40,350
		Total	**$ 40,350**

The TIS also concludes that a northbound right-turn lane on Highway 87 N at Purple Sage Road (Access A) is not warranted for the current subdivision. The turn lane will be necessary at full build out in 2054 after Filing 3 of the subdivision.

d. **Fire and Police services** – The property is within the Shepherd Volunteer Fire District boundary. This subdivision will be provided fire service from Shepherd VFD. The subdivision will have two dry hydrant tanks. One dry hydrant is located within Phase 1 of the subdivision off of Shops Galore Court. The second dry hydrants is located within Phase 5 of the subdivision off of Black Sage Road. The applicant shall submit drawings for the tank to the Shepherd VFD for review and approval. When the tank is installed the applicant will have the system tested and signed off by the Shepherd VFD. Any road that is over 150 feet due to phasing layout must have a temporary turn around until the next phase makes a connection and the road is no longer a dead end. **(Condition #3)**

The Yellowstone County Sheriff's Department will provide law enforcement services to this subdivision.

e. **Solid Waste disposal** – The Billings Landfill has capacity for solid waste disposal. Solid waste will be collected and disposed of by a private garbage collection company. Each lot owner will be responsible for arranging for collection.

f. **Storm water drainage** – Stormwater management for the Pronghorn Subdivision will be addressed through a combination of community storm ponds and individual lot-level residential retention ponds. These systems are designed to safely accommodate runoff generated by both impervious surfaces (e.g., roads and driveways) and graded residential

areas while protecting downstream properties, infrastructure, and natural drainage corridors.

Proposed storm water drainage shall be submitted to the MDEQ for review and approval prior to final plat. All proposed stormwater systems shall meet the requirements of Section 4.7 of Yellowstone County Subdivision Regulation's and the requirements of MDEQ. **(Condition #1)**

g. **School facilities** – The proposed subdivision is located within Independent Elementary School, District #52, for K through 6. The school served a student population of approximately 299 students this year. Medicine Crow Middle School will provide school for grades 6 through 8. Medicine Crow Middle School is currently just under capacity. Capacity is 700 most recent enrollment 468. Skyview High School will provide school for grades 9 through 12. Skyview High School is currently just under capacity. Capacity is 1,684 most recent enrollment 1,632.

h. **Parks and recreation** – Parkland dedication is required for this subdivision. The applicant is proposing to provide a cash in lieu contribution for parkland meeting the requirement of state statute. Parkland acreage will be added to the SIA to determine the amount of contribution and analysis meeting Section 10.6 of the Subdivision Regulations will be required to meet the correct cash in lieu contribution. **(Condition #4)**

i. **Postal Service –** The applicant will be required to coordinate with the USPS to ensure they are providing a safe location for the postal worker to deliver the mail and the residents to retrieve their mail. **(Condition #5)**

j. **Historic features** – No known historic or cultural assets exist on the site.

k. **Phasing of Development** - The applicant is proposing to develop this subdivision in seven phases. The applicant will provide the correct paperwork to be recorded with the final plat, restriction on conveyances. **(Condition #6)**

- Phase 1 – Will include Lots 1 through 6 in Block 1, Lots 1 through 10 in Block 2, Lots 1 through 5 in Block 3, Lots 1 through 9 in Block 4 and Lot 1 in Block 5. Phase one and surrounding commercial lots are being created with the anticipation of condominiums. This phase will open upon the filing of the final plat.
- Phase 2 – Will Include Lots 6 through 10 in Block 3 and Lots 2 through 11 in Block 5. This phase will open June 1, 2029.
- Phase 3 – Will include Lots 10 through 14 in Block 4 and Lots 12 through 17 in Block 5. This phase will open June 1, 2032.
- Phase 4 – Will include Lots 1 through 8 in Block 10 and Lots 1 through 11 in Block 11. Will include paving Purple Sage Road from Leadwood to the eastern edge of the proposed subdivision **(Condition #7)** This phase will open June 1, 2035.
- Phase 5 – Will include Lots 1 through 12 in Block 6 and Lots 1 through 6 in Block 7. This phase will open June 1, 2038.

- Phase 6 – Will Include Lots 13 through 16 in Block 6, Lots 7 through 12 in Block 7 and Lots 1 through 12 in Block 8. This phase will open June 1, 2041.
- Phase 7 – Will include Lots 1-8 in Block 9. This phase will open June 1, 2044.

There are additional details in the SIA under the heading XI. Phasing of Improvements. The SIA includes which roads and what infrastructure will be included with each phase.

Public improvements will be constructed by way of a private contract with each phase.

3. Effects on the natural environment

The development will use noxious weed control measures to prevent the spread of noxious weeds to adjacent developed or agricultural land. As required by County Subdivision Regulations Section 4.15 all county subdivisions are required to apply for and obtain a weed management plan with the County Weed Department. Any subdivision that has an existing Weed Management Plan is required to get an updated Weed Management Plan. A weed management plan will be completed and a copy will be submitted with final plat. **(Condition #8)**

There are no apparent or known natural hazards on the property.

4. Effects on wildlife and wildlife habitat

Impacts on Significant, Important, and Critical Habitat: The environmental assessment provided with the subdivision does not identify any endangered wildlife on the area where the subdivision is being proposed.

This site is well-suited for development of a residential neighborhood. The development will be done in a responsible, orderly manner, and in accordance with Yellowstone County Subdivision Regulations, Administrative Rules of Montana, and DEQ, DNRC, and all other state and local development standards. By so doing, this subdivision will create no significant negative impact to the environment or community but will, instead, be an asset to the area.

There are no known endangered or threatened species on the property. A paragraph in the 'Conditions that Run with the Land' section of the SIA warns future lot owners of the likely presence of wildlife in the area and their potential to damage residential landscaping.

5. Effects on public health and safety

Plans and designs for the water and septic system will be reviewed and approved by MDEQ prior building construction on each lot to ensure public health and safety.

Fire and emergency services are provided for this proposed subdivision from Shepherd Fire Department and the Yellowstone County Sheriff's department.

B. Was an environmental assessment required? If yes, what, if any, significant adverse impacts were identified? (76-3-603 MCA) (Chapter 9, YCSR)

The applicant did provide an environmental assessment as required for this subdivision pursuant Section 9.2 of the County Subdivision Regulations. Following are the conclusions for vegetation and wildlife. There is no riparian habitat within this proposed subdivision as there are no streams that run year-round.

Vegetation: Mixed-grass prairieland: A system that covers much of the eastern two thirds of Montana, interrupted typically only by wetland/riparian areas or sand prairies and defined by vegetation supported by climates of harsh winter and short hot summers including but not limited to western wheatgrass and Festuca and Bromus [genus] grass species.

Wildlife: No 'key' wildlife areas are known to exist in the subdivision. There is a wildlife corridor provided by the natural drainages through the subdivision. Those will not be altered by the subdivider.

Wildlife Corridor: a swath of undeveloped land connecting two habitats so wildlife can more safely move between them in facilitation of healthy species populations and ecosystems.

C. Does the subdivision conform to the Yellowstone County 2008 Growth Policy, the 2018 Urban Area Transportation Plan and the Billings Area Bikeway and Trail Master Plan Update? [BMCC 23-302.H.4.]

1. **Yellowstone County - 2008 Growth Policy**

The subdivision is consistent with the following goals of the Growth Policy:

- Goal: Predictable land use decisions that are consistent with neighborhood character and land use patterns. (p. 6)

The subdivision is consistent with the type of residential development to the north. There is residential development to the north and to the southeast.

- Goal: Controlled weed populations. (p. 9)

The developer shall complete a weed management plan and shall provide a re-vegetation plan for any ground disturbed by development.

2. 2023 Billings Urban Area Long Range Transportation Plan

The subject property maintains the road study area of the Transportation Plan. As proposed, the internal streets are neighborhood streets associated with this subdivision.

3. Billings Area Bikeway and Trail Master Plan (BABTMP)

This subdivision is outside the BABTMP boundaries for trails. This subdivision will not be required to install any trails at this time.

D. Does the subdivision conform to the Montana Subdivision and Platting Act (MSPA) and to local subdivision regulations? [MCA 76-3-608 (3) (b) and Section 3.2 (3) (a) YCSR]

The proposed subdivision meets the requirements of the MSPA and the YCSR. The

subdivider and the local government have complied with the subdivision review and approval procedures that are set forth by local and state subdivision regulations.

E. Does the subdivision conform to sanitary requirements? [Section 4.8 (C) and 4.9 (C), YCSR]

The subdivision must receive approval from the MDEQ prior to any building construction on each lot. The new parcels will have both water and septic on each lot. This system will be approved by MDEQ before final plat.

F. Does the proposed subdivision meet any applicable Zoning Requirements? [Section 3.2 (H) (3) (e), YCSR]

The proposed subdivision is outside the County Zoning Jurisdiction.

G. Does the subdivision provide for necessary planned utilities? [MCA 76-3-608 (3) (c) and Section 3.2 (H) (3) (b), YCSR]

The applicant will coordinate with private utility companies to provide the required easements.

H. Does the proposed subdivision provide for Legal and Physical Access to all lots? [MCA 76-3-608 (3) (d) and Section 3.2 (H) (3) (c) (d), YCSR]

Legal and physical access will be provided from two points off Highway 87 N. One is from Purple Sage Drive and the other from Lorraine Street. Access to each lot will be from the internal roads of the subdivision.

CONCLUSIONS OF FINDINGS OF FACT

- This subdivision does not create adverse impacts that warrant denial of the subdivision.
- Impacts to agriculture, agriculture water user facilities, local services, public health and safety, the natural environment, and wildlife should be minimal, and can be mitigated by reasonable conditions of final plat approval.
- The subdivision conforms to some of the goals of the Growth Policy.
- The applicant has complied with the MSPA and YCSR processes and the subdivision conforms to the law requirements.

RECOMMENDATION

Staff recommends to the Planning Board that they forward a recommendation of conditional approval to the Board of County Commissioners for the preliminary plat of Pronghorn Subdivision and adopt the Findings of Fact as presented in the staff report.

Pronghorn Subdivision Traffic Impact Study

Alohi Gilman

IMEG #240001698.00

March 1, 2026

Prepared By:
IMEG Corp
Shawn Thorson, P.E.
Brad Lange, P.E., P.T.O.E.

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For the
Pronghorn Subdivision Development

Prepared for:
Yellowstone County, Montana

IMEG #24001698.00

March 1, 2026

1 INTRODUCTION & EXECUTIVE SUMMARY

1.1 Purpose

The purpose of this Traffic Impact Study (TIS) is to determine the operational impact that the proposed Pronghorn Subdivision Development Traffic has on the surrounding major intersections and to recommend modifications, if required, that will allow the major intersections and access drives to function adequately as the population grows. The proposed development will have access locations to Lorraine Street, Bitterroot Drive, Rosecrans Drive, Highway 87, and Highway 312.

This TIS focuses solely on the Pronghorn Subdivision Development and does not take into consideration any other proposed or future residential, commercial, or industrial developments in the surrounding area. Future developments will need to prepare a separate traffic study.

1.2 Objective

To evaluate the necessary intersections and the development, IMEG performed the following initial tasks:

- Current traffic volumes were collected for 24 hours in 15-minute intervals at the following intersections:
    - HWY 87 and Lorraine Street (Intersection 1)
    - HWY 312, Bitterroot Dr, and Rosecrans Dr (Intersection 2)
- Reviewed the existing developments Site Plan, see Appendix A, and utilized the ITE Trip Generation Manual, 11th Edition, See Appendix E, to determine the number of AM and PM trips generated by the proposed development.
- Developed 2034 and 2054 traffic for the development. Refer to Appendix B for a summary of those traffic movements.
- Assigned trip distribution to the development traffic to determine entering and existing volume. Generated trips will not increase by the growth factor.
- Researched and collected traffic data and other background information from various sources, including:
    - Montana Department of Transportation (MDT)
    - Yellowstone County, MT
- Processed calculated traffic data using the Highway Capacity Software (HCS), Version 2024 for the following scenarios:
    - Existing 2024 AM and PM peak hour traffic using the existing lane geometry at the studied intersections. See Appendix C.

- Projected 2034 and 2054 AM and PM peak hour background traffic, see **Appendix C**, and total traffic operational capacity, see **Appendix D**, using existing lane geometry at the studied intersections.
- Projected 2034 AM and PM peak hour total traffic operational capacity, see **Appendix D**, for the proposed access location to HWY 87 as well as HWY 87 and Lorraine Street.
- Projected 2054 AM and PM peak hour total traffic operational capacity, see **Appendix D**, for the proposed access locations to HWY 87, HWY 87 and Lorraine St, as well as HWY 312 and Bitterroot Dr.

1.3 Executive Summary

The proposed development is planned to proceed in three distinct phases, referred to as Filings 1 through 3. Currently, filing 1 is in the design stage, with full build-out anticipated by the year 2034. The complete build-out of all three filings is projected by 2054. A detailed traffic impact analysis was conducted for Filing 1 individually, as well as for the combined full build-out scenario of all three filings under a comprehensive master plan TIS.

2 EXISTING CONDITIONS

2.1 Study Roadway(s)

The following roadways describe the intersections that are to be analyzed as part of this study. See **Figure 1** for the intersection study areas, **Figure 2** for the Montana Department of Transportation roadway classifications, and **Figure 2a** for the City of Billings roadway classifications. It is to note that Intersection 1 is not within the City of Billings MPO planning boundary. A high-level review from Google Earth measurements was used to approximate lane widths below for the existing roadways.

2.1.1 HWY 87

HWY 87 is classified as a "Principal Arterial – Non-Interstate" road by MDT and the City of Billings. It is an asphalt paved, two-lane highway with approximately 40-foot total surface width. The total surface width contains two 12-foot asphalt travel lanes and an eight 8-foot asphalt shoulder with a rumble strip that extends the length of the roadway on both sides. There is also a rumble strip on the center line of the roadway that separates the two travel lanes. A dashed and double-solid centerline is also present, indicating when passing is allowed. There are also residential and commercial drive approaches on both sides of the roadway with the addition of side streets. The posted speed limit is 70 MPH.

2.1.2 HWY 312

HWY 312 is classified as a "Minor Arterial" road by MDT and the City of Billings. It is an asphalt paved highway with a 62-foot asphalt surface width and a varying width gravel shoulder that extends the length of the roadway on both sides. This road consists of five (5) lanes; two (2) 12-foot SW bound lanes, two (2) 12-foot NE bound lanes, and one (1) 14-foot center two-way left turn lane. There are also residential and commercial drive approaches on both sides of the roadway with the addition of side streets. The posted speed limit is 50 MPH.

2.1.3 Lorraine Street

Lorraine Street is classified as a "Local" road by MDT. The roadway is not located within the City of Billings MPO Planning Boundary. The roadway is an asphalt paved roadway with a 24-foot asphalt surface width and a varying width gravel shoulder that extends the length of the roadway on both sides. There is currently no paint striping to indicate designated travel lanes. There are

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also residential drive approaches on both sides of the roadway with the addition of side streets. The posted speed limit is 25 MPH All Streets.

2.1.4 Bitterroot Drive

Bitterroot Drive is classified as a "Local" road by MDT and as a "Minor Arterial" by the City of Billings. It is an asphalt paved, two-lane roadway with approximately 24-foot asphalt surface width and a varying width gravel shoulder that extends the length of the roadway on both sides. Both travel lanes are approximately 12-foot width. The two travel lanes are separated by a double-solid painted centerline, indicating "no passing." There are also residential drive approaches on both sides of the roadway with the addition of side streets. The posted speed limit is 25 MPH.

2.1.5 Rosecrans Drive

Lorraine Street is classified as a "Local" road by MDT and the City of Billings. The roadway is a two-lane gravel roadway with a varying width approximately 24-foot. Asphalt paved approaches are also present at major intersections. There is currently no paint striping to indicate designated travel lanes. There are also residential drive approaches on both sides of the roadway with the addition of side streets. There is currently no posted speed limit.

2.2 Study Intersection(s)

The following describes the intersections that are analyzed as part of this study. The intersection study areas are shown in **Figure 1**.

2.2.1 Intersection 1 – HWY 87 and Lorraine St

The "T" intersection is stop-controlled on the westbound leg of Lorraine St. There are no additional turn lanes at the intersection. The intersection is currently not illuminated.

Traffic data for this intersection was collected on July 23rd, 2024. From the collected traffic data, it was determined that the AM peak hour for the intersection was between 9:45 and 10:45, while the PM peak hour was between 4:30 and 5:30.

2.2.2 Intersection 2 – HWY 312, Bitterroot Dr, and Rosecrans Dr

The intersection is a "2-way," stop-controlled intersection on the northwest bound leg of Rosecrans Dr and southbound leg of Bitterroot Dr. There is an additional two-way left turn lane for the southwest bound leg and northeast bound leg of HWY 312. The intersection is currently not illuminated.

Traffic data for this intersection was collected on July 23rd, 2024. From the collected traffic data, it was determined that the AM peak hour for the intersection was between 7:00 and 8:00, while the PM peak hour was between 4:45 and 5:45.

2.3 Study Area Land Uses

The proposed development is currently surrounded by agricultural land to the East, South, and West. Immediately to the north is a residential neighborhood that consists of single-family residences.

2.4 2024 Existing Site Conditions

The existing lane configurations and Peak Hour turning movement volumes are shown in **Figure 4**. IMEG collected the current traffic data using Miovision cameras and entered that data into Highway Capacity Software (HCS), Version 2024, to evaluate the current level of service. The

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collected Miovision data can be found in Appendix H. The Two-Way Stop Control (TWSC) module of HCS was used to determine the operational capacity of each leg and the studied intersections. A summary of the results for each intersection can be seen in Table 1.

The collected traffic volumes were adjusted per MDT 2023 seasonal factors. Those adjustment factors can be found in Appendix G.

2.5 Pedestrian and Bicycle Considerations

There are currently no pedestrian considerations including sidewalks and bicycle lanes at any of the intersections described above.

Table 1: 2024 Existing Traffic Peak Hour Capacity Analysis Summary

No.	Intersection	Approach	2024 Background Traffic Peak Hour Capacity Analysis Summary					
			AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)	Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)
Intersection Control			*One-Way Stop Control (WB)*					
1	HWY 87 & Lorraine St	EB						
		WB	10.3	B	1	11.0	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.1	A	0	0.1	A	0
Intersection Control			*Two-Way Stop Control (NB/SB)*					
2	HWY 312 & Bitterroot Dr	EB	1	A	1	1.5	A	1
		WB	0	A	0	0	A	0
		NB	11.0	A	0	16.6	C	0
		SB	10.2	B	1	9.6	A	1

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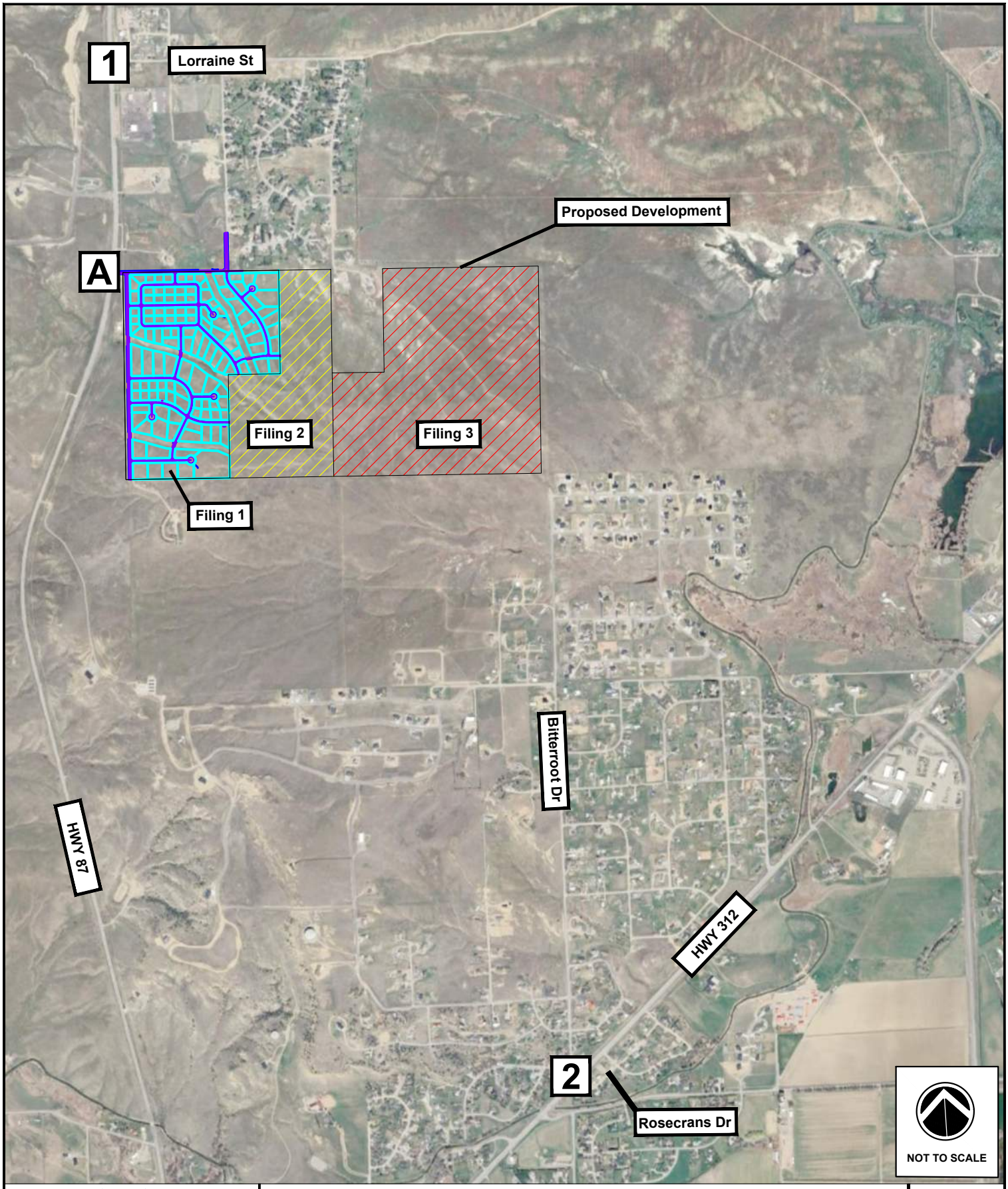

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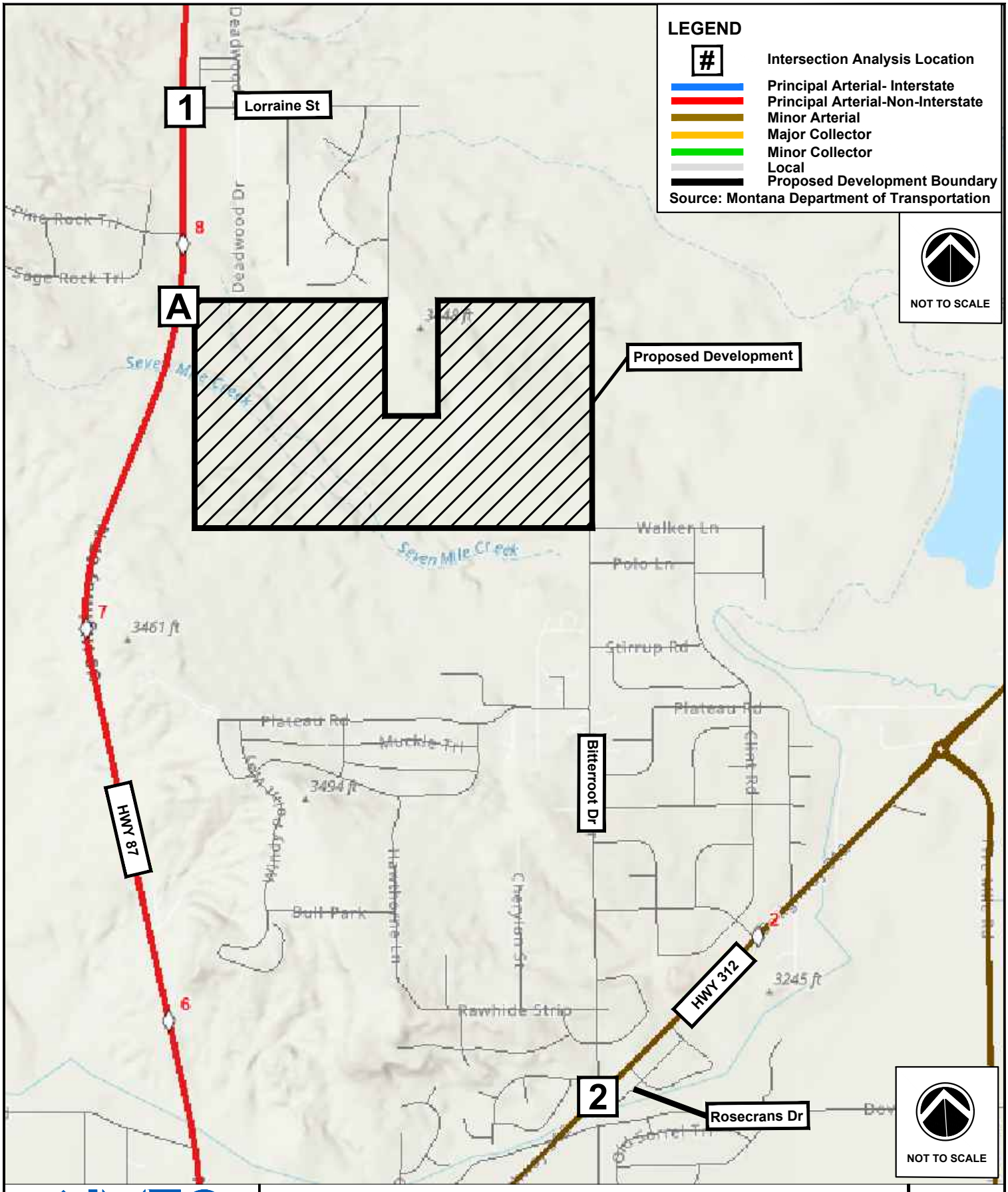
PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

STUDY LOCATION

IMEG Project No: **24001698.00**
Drawn By: **JTP**
Checked By: **ST**
Date: **05/12/2025**
FIG - 1



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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

ROADWAY FUNCTIONAL CLASSIFICATION - MONTANA DEPARTMENT OF TRANSPORTATION

IMEG Project No: 24001698.00
Drawn By: JTP
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FIG - 2

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

ROADWAY FUNCTIONAL CLASSIFICATION - CITY OF BILLINGS

IMEG Project No:	24001698.00
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	FIG - 2A

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2.6 Development Considerations

2.6.1 Crash Data

IMEG reached out to MDT on August 14, 2024, requesting additional information for historical crash data in the vicinity of the study area. MDT provided historical crash data for the two existing intersections within this study for the years between 2019-2023. No crash data was provided for the intersection of HWY 87 & Access A. The purpose of this section is to document the number of crashes, severity of crashes, and overall intersection crash rates at the two intersections being studied. The crash information was analyzed to identify intersections with crash characteristics that may warrant further study. General crash characteristics were evaluated along with potential causes. The crash information covers the five-year time period from 2019 to 2023. Appendix I contains the crash records provided by the Montana Department of Transportation. Table 2 shows the total number of crashes at each intersection.

To calculate the crash rate, severity index, and severity rate for the intersections described above, the formulas used by the Montana Department of Transportation Traffic and Safety Bureau were utilized, as defined by the following equations:

$$\boldsymbol{Intersection\ Crash\ Rate} = \frac{(Total\ \#\ of\ Crashes)(1{,}000{,}000\ Vehicles)}{(AADT\ Entering\ the\ Intersection)(Analysis\ Time\ Period)(365)}$$

$$\boldsymbol{MDT\ Severity\ Index} = \frac{(8 * Incap.\ \&\ F) + (3 * Non - Incap.\ \&\ PI) + (1 * PDO\ \&\ U)}{Total\ Crashes}$$

$$\boldsymbol{Severity\ Rate} = (Crash\ Rate)(Severity\ Index)$$

Where:

F = Fatal

PI = Possible Injury

Incap. = Incapacitated

PDO = Property Damage Only

U = Unknown

Table 2: Intersection Crashes in the Five-Year Period

INTERSECTION		# CRASHES
Intersection with 3-5 crashes		
HWY 312 & Bitterroot Drive/Rosecrans Drive	U-2W	4
Intersections with 0-2 crashes		
HWY 87 & Lorraine Street	U-1W	2
HWY 87 & Access A	U-1W	0

S=Signalized Intersection; U-1W=Unsignalized Intersection One-Way Stop Controlled; U-2W=Unsignalized Intersection Two-Way Stop Controlled; U-3W=Unsignalized Intersection Three-Way Stop Controlled; U-4W=Unsignalized Intersection Four-Way Stop Controlled.

Table 3 ranks the number of crashes against the annual average daily traffic (AADT) (provided by MDT's "MS2" traffic count software) entering each intersection, expressed as crashes per million entering vehicles (MEV). The formula above was used to determine the intersection rate, expressed in MEV. It is to note that the AADT utilized for each intersection was calculated by adding up the total AADT from 2019 to 2023 and dividing by five. Since both highways are "2-way" roads the final AADT was then divided by two to determine the AADT entering the intersection. For the data obtained at the intersection of HWY 87 and Lorraine St, MDT Traffic Count Station 56-4A-018 was used to determine AADT. For the data obtained at the intersection of HWY 312 & Bitterroot Dr & Rosecrans Dr, MDT Traffic Count Station 56-4A-282 was used to determine AADT.

Table 3: Intersection Crash Rate

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INTERSECTION		Number of Crashes	Volume*	Crash Rate
Intersections with 0.00 – 0.50 Intersection Crash Rate				
HWY 312 & Bitterroot Drive/Rosecrans Drive	U-2W	4	5,583	**0.39**
HWY 87 & Lorraine St	U-1W	2	2,936	**0.37**
HWY 87 & Access A	U-1W	0	2,936	**0.00**

S=Signalized Intersection; U-1W=Unsignalized Intersection One-Way Stop Controlled; U-2W=Unsignalized Intersection Two-Way Stop Controlled; U-3W=Unsignalized Intersection Three-Way Stop Controlled; U-4W=Unsignalized Intersection Four-Way Stop Controlled.

**AADT was calculated by adding up the total AADT from 2019 to 2023 and dividing by five. Since both highways are "2-way" roads the final AADT was then divided by two to determine the AADT entering the intersection.*

Table 4 illustrates a detailed look at the crashes to determine the MDT "severity index rating." The severity index is a ratio that shows where the most sever types of crashes occur. Crashes were put into five categories of severity: property damage (PDO), possible injury crash, minor injury crash, serious injury crash, and fatal injury crash. The severity index rating is then determined using the equation above. Also shown is the severity rate, which uses the equation above by multiplying the crash rate by the severity index.

Table 4: MDT Severity Index and Rate

INTERSECTION	PDO/Unknown	Possible Injury	Minor Injury	Serious Injury	Fatal Injury	Severity Index	Severity Rate
Intersection with 1.00 – 1.99 Severity Rate							
HWY 87 & Lorraine Street	1	0	1	0	0	3.50	**1.31**
Intersection with 0 – 0.99 Severity Rate							
HWY 312 & Bitterroot Drive/Rosecrans Drive	4	0	0	0	0	1.00	**0.39**
HWY 87 & Access A	0	0	0	0	0	0.00	**0.00**

2.6.2 Approach Site Triangles

The proposed site conditions, features, and structures were evaluated using the following sight distance equation:

$$b = 1.47 V_{major} t_g$$

Where:

b = length of leg of sight triangle along the major road (ft)

V_{major} = design speed of major road (mph)

t_g = travel time to reach and clear the major road (sec)

For evaluating the left turn from the Minor Road (Case B1) a value of 7.5 is provided for passenger cars, however a conservative 9.5 for single-unit trucks was used for t_g provided in Table 9.6. For evaluating the right turn from the Minor Road (Case B2) a value of 6.5 is provided for passenger cars, however a conservative 8.5 for single-unit trucks was used for t_g, provided in Table 9.8. Both Table 9.6 and 9.8 are from A Policy on Geometric Design of Highways and Streets, 2018 7th edition. The conservative design vehicle chosen for analysis was a Single-Unit Truck since the proposed development is intended for mainly residential use and large delivery vehicles are not expected on a frequent basis, but rather smaller residential delivery vehicles are expected more regularly. It is assumed the design speed equals the posted speed limit, which is 70 mph. Figure 3 below depicts the sight distance triangles for Intersection A. Currently there are no existing or proposed features that impact the drivers site triangle distance. As such, no further considerations are justified, and the current conditions are understood to be maintained through development.

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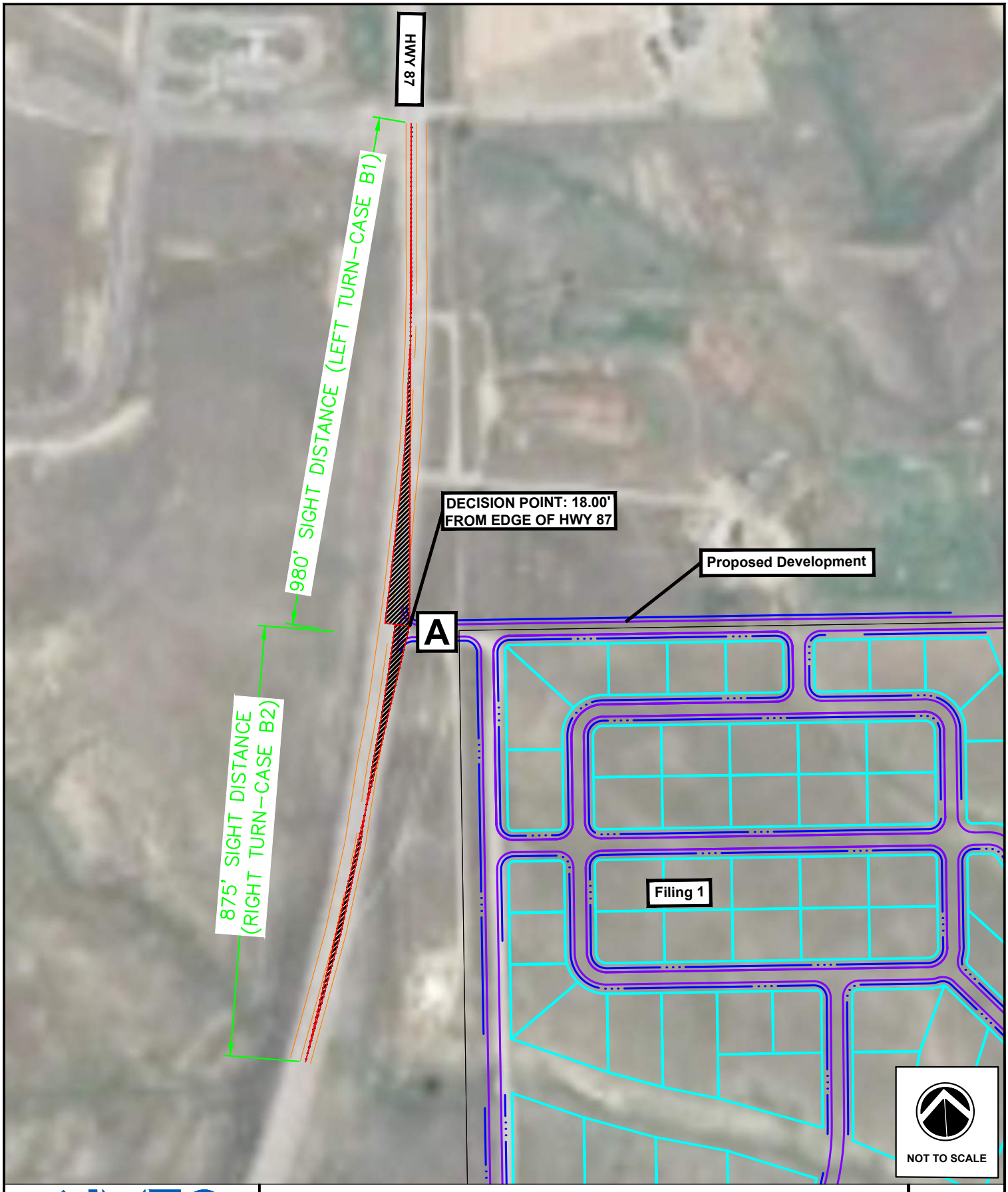

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

INTERSECTION A SIGHT DISTANCE

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Checked By: ST
Date: 05/12/2025
FIG - 3

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3 PROJECTED TRAFFIC – TRIP GENERATION AND DISTRIBUTION

3.1 Roadway Traffic Forecast

Using the annualized growth rate equation below as well as the population data provided by the Census report, the initial population (2020) was 117,116 and the final population (2024) was 121,483. Making the growth rate of Billings, MT 0.92% and to be conservative, a growth rate of 1.00% was used. Beginning with the opening year of 2034 this growth factor will be used to project the peak hour turning movement volumes to the full build year of 2054.

The annualized growth factor was determined using the equation:

$$Growth\ Rate = \left(\frac{P_{final}}{P_{initial}}\right)^{\frac{1}{n}} - 1$$

Where:

P = Population final/initial

n = Number of Years

3.2 Proposed Development Site

The proposed development is located on four unplatted parcels in Section 35, Township 02 North, Range 26 East, Yellowstone County, Montana. The development is generally located east of HWY 87, south of the residential neighborhood described as Hidden Lake Subdivision east of HWY 87, and southeast of the residential neighborhood described as Pine Rock Subdivision west of HWY 87.

The proposed development will be completed in up to three (3) separate filings. The first filing will encompass a total gross area of 100.08 acres and will include 124 lots, of which 85 will be designated for commercial use and 39 for residential use. The remaining filings will consist exclusively of residential lots ranging in size from three-quarters of an acre to one acre.

The first filing of the proposed development is expected to be fully built out by 2034. Several lots are expected to include small personal-use lofts where each unit includes access to a small restroom. These features support the assumption that the commercial development will primarily cater to owner-operated, low-occupancy businesses rather than high-traffic commercial enterprises. Each subsequent filing is anticipated to require an additional 10 years for full build-out.

For the purpose of this study, all filings are included in the analysis as a master plan. The total number of residential lots for the subsequent filings was estimated based on a total area of 200 acres, accounting for a 10% park allocation and a 15% right-of-way allocation. This calculation resulted in an estimated additional 175 residential lots, evenly split between three-quarter-acre and one-acre lots.

Water and sewer services will be provided to each lot via individual cisterns and septic systems. To estimate trip generation for the development, land use codes from the Institute of Transportation Engineers (ITE) were applied. Specifically, ITE Code 140 – Manufacturing, ITE Code 151 – Mini-Warehouse, ITE Code 210 – Single-Family Detached Housing, and ITE Code 712 – Small Office Building were determined to be the most applicable. The site plan, provided in Appendix A, illustrates the proposed development area and the general location of one planned entrance/exit. IMEG previously completed a TIS for the Shop World 2 Subdivision in Billings, Montana. That development was similar to the commercial lots classified under ITE Code 140 – Manufacturing. As shown in Appendix K, IMEG counted existing trip generation

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rates at the Shop World 1 Subdivision, which is similar to both Shop World 2 and the proposed development. The recorded peak-hour trip movements were low, indicating that the trip generation used for the proposed development is conservative.

3.3 2034 (Filing 1) Trip Distribution

There are two proposed access locations for the development, Access A from HWY 87 and Lorraine St from HWY 87. It is assumed that approximately 92% of the development's trips will utilize Access A and 8% will utilize access to Lorraine St. Percentages were assumed based on the proximity to the access streets and the nearest major intersections.

Based on existing turning movements from the intersection of HWY 87 and Lorraine St, it is assumed that 96% of the traffic exiting the development at Access A will turn left onto HWY 87 and 4% will turn right during the AM peak hour. Return trips during the PM peak hour were assumed to enter the development using the same distribution. It is also assumed based on existing turning movements that 96% of traffic exiting from the development at Lorraine St will turn left onto HWY 87 and 4% will turn right during the AM peak hour. Return trips during the PM peak hour were assumed to enter the development using the same distribution.

Percentages were assumed based on the proximity to the access streets and the nearest major intersections as well as existing turning movements. Figure 5 shows the generated trip assignments for both the AM and PM peak hours. A summary of the trips generated can be found in Table 5. ITE Trip Generation Worksheets are shown in Appendix E.

3.4 2054 (Master Plan) Trip Distribution

There are three proposed access locations for the development, Access A from HWY 87, Lorraine St from HWY 87, and Bitterroot Dr from HWY 312. It is assumed that approximately 80% of the development's trips will utilize Access A, 15% will utilize access to Bitterroot Dr, and 5% will utilize access to Lorraine St. Percentages were assumed based on the proximity to the access streets and the nearest major intersections.

Based on existing turning movements, it is assumed that 96% of the traffic exiting the development at Access A will turn left onto HWY 87 and 4% will turn right during the AM peak hour. Return trips during the PM peak hour were assumed to enter the development using the same distribution. It is also assumed that 96% of traffic exiting from the development at Lorraine St will turn left onto HWY 87 and 4% will turn right during the AM peak hour. Return trips during the PM peak hour were assumed to enter the development using the same distribution.

Based on existing turning movements, it is assumed that 99% of the traffic exiting the development at Bitterroot Dr will turn right onto HWY 312 and 1% will turn left during the AM exiting peak hour. The exiting trips for the PM peak hour were assumed to use the same distribution. For the entering AM peak hour, it is assumed that 99% of the traffic entering the development at HWY 312 will turn left onto Bitterroot Dr and 1% will turn right from HWY 312 . For the entering PM peak hour, it is assumed that 85% of the traffic entering the development at HWY 312 will turn left onto Bitterroot Dr and 15% will turn right from HWY 312.

Percentages were assumed based on the proximity to the access streets and the nearest major intersections as well as existing turning movements. Figure 6 shows the generated trip assignments for both the AM and PM peak hours. A summary of the trips generated can be found in Table 6. ITE Trip Generation Worksheets are shown in Appendix E.

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Table 5: 2034 Full Occupancy Trip Generation Summary

2034 Trip Generation – Filing 1										
Time Period	Land Use	ITE Code	Variable	Quantity	Avg Rate	Total Trips	Trips In	Trips Out	% Enter	% Exit
AM	Mini-Warehouse	151	Storage Units	46	1.70	2	1	1	51%	49%
PM	Mini-Warehouse	151	Storage Units	46	8.33	9	4	5	50%	50%
AM	Single-Family Detached Housing	210	Dwelling Units	39	0.70	27	7	20	25%	75%
PM	Single-Family Detached Housing	210	Dwelling Units	39	0.94	37	23	14	63%	37%
AM	Manufacturing	140	1000 Sq. Ft. GFA	5/Lot (6 Lots)	0.51	18	14	4	76%	24%
PM	Manufacturing	140	1000 Sq. Ft. GFA	5/Lot (6 Lots)	0.63	18	6	12	31%	69%
AM	Manufacturing	140	1000 Sq. Ft. GFA	10/Lot (7 Lots)	0.51	35	27	8	76%	24%
PM	Manufacturing	140	1000 Sq. Ft. GFA	10/Lot (7 Lots)	0.63	42	13	29	31%	69%
AM	Small Office Building	712	Employees	2/Lot (26 Lots)	1.06	55	48	7	85%	15%
PM	Small Office Building	712	Employees	2/Lot (26 Lots)	1.08	56	19	37	33%	67%
					Totals	**299**	**162**	**137**		

Table 6: 2054 Full Occupancy Trip Generation Summary

2054 Trip Generation – Master Plan										
Time Period	Land Use	ITE Code	Variable	Quantity	Avg Rate	Total Trips	Trips In	Trips Out	% Enter	% Exit
AM	Mini-Warehouse	151	Storage Units	46	1.70	2	1	1	51%	49%
PM	Mini-Warehouse	151	Storage Units	46	8.33	9	4	5	50%	50%
AM	Single-Family Detached Housing	210	Dwelling Units	214	0.70	150	38	112	25%	75%
PM	Single-Family Detached Housing	210	Dwelling Units	214	0.94	201	127	74	63%	37%
AM	Manufacturing	140	1000 Sq. Ft. GFA	5/Lot (6 Lots)	0.51	18	14	4	76%	24%
PM	Manufacturing	140	1000 Sq. Ft. GFA	5/Lot (6 Lots)	0.63	18	6	12	31%	69%
AM	Manufacturing	140	1000 Sq. Ft. GFA	10/Lot (7 Lots)	0.51	35	27	8	76%	24%
PM	Manufacturing	140	1000 Sq. Ft. GFA	10/Lot (7 Lots)	0.63	42	13	29	31%	69%
AM	Small Office Building	712	Employees	2/Lot (26 Lots)	1.06	55	48	7	85%	15%
PM	Small Office Building	712	Employees	2/Lot (26 Lots)	1.08	56	19	37	33%	67%
					Totals	**586**	**297**	**289**		

3.5 Nearby Developments

IMEG reached out to Yellowstone County Public Works and, at the time of this TIS, there are no proposed nearby developments. Any future developments will need to perform a separate TIS.

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4 TRAFFIC OPERATIONAL ANALYSIS

4.1 Analysis Description

Traffic volumes provide a general view of where the traffic is coming and going through the intersection. The concept of Level of Service (LOS) is to take the traffic volumes and then provide an overall operational analysis of the intersection or each leg of the intersection based on travel delay.

For unsignalized intersections, the LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. LOS has a range of LOS "A" (best) to LOS "F" (worst). Table 7 shows the Level of Service definitions and delay for both signalized and unsignalized intersections.

Table 7: Level of Service Definitions

Level of Service	Signalized Intersection Control Delay (sec/veh)	All-way Stop, Two-Way Stop, and Roundabout Intersection Control Delay (sec/veh)
A	≤= 10	≤= 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55-80	> 35 - 50
F	> 80; Volume Exceeds Capacity	> 50; Volume Exceeds Capacity
Source: Highway Capacity Manual 7th Edition		

LOS "C" is typically considered a minimum acceptable level of service, although exceptions could be made in specific cases. In *Figure 30.2B* Chapter 30 Section 2 of the Road Design Manual produced by the Montana Department of Transportation the minimum LOS for a Urban Principal Arterial – Non-Interstate is an LOS C, and for an Urban Minor Arterial Road is an LOS C.

If the intersection LOS exceeds (worse) these study goals, it demonstrates operational, or capacity related needs to be addressed for any potential improvements.

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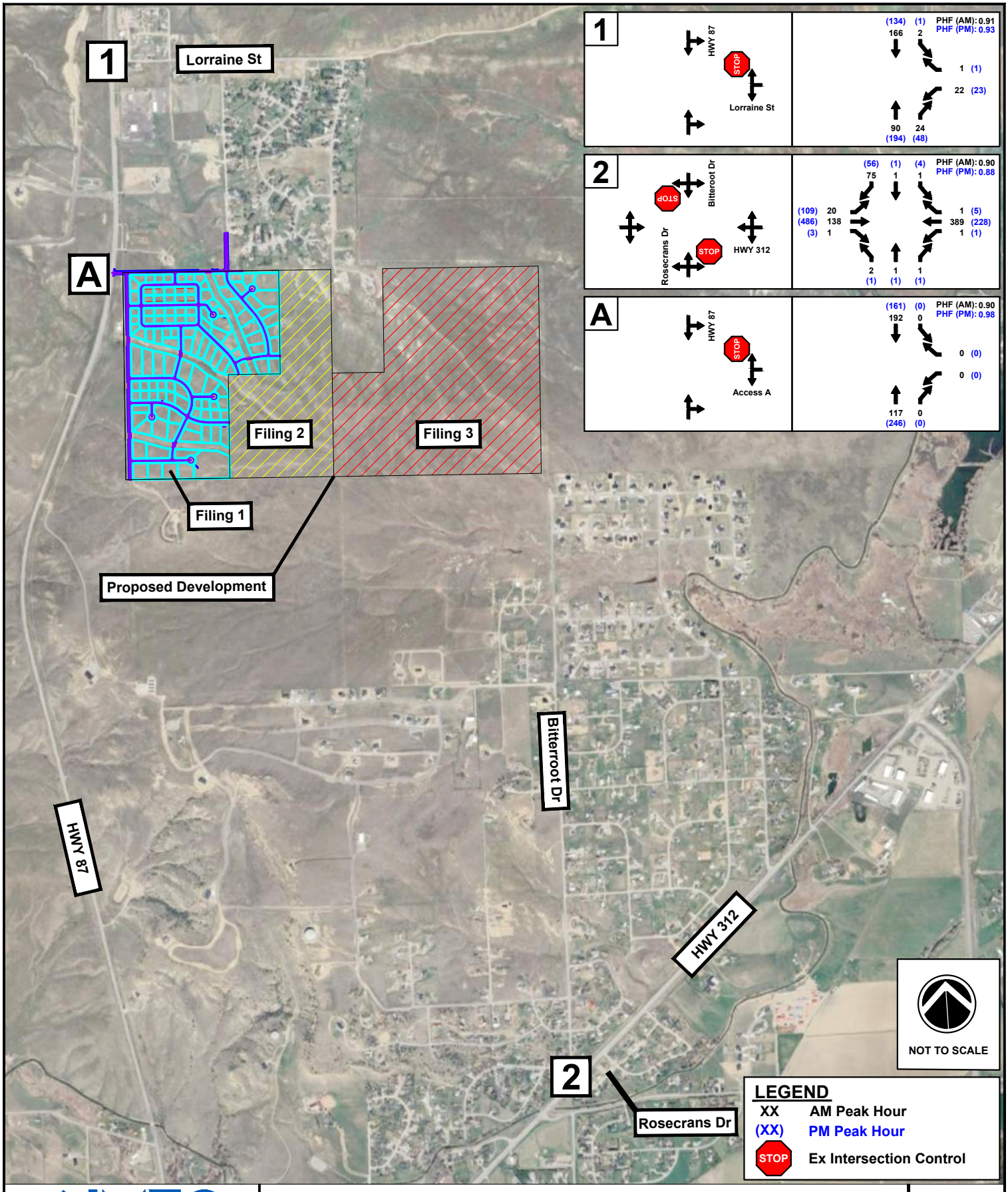

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

2024 EXISTING CONDITIONS PEAK HOUR TURNING MOVEMENT VOLUMES

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FIG - 4

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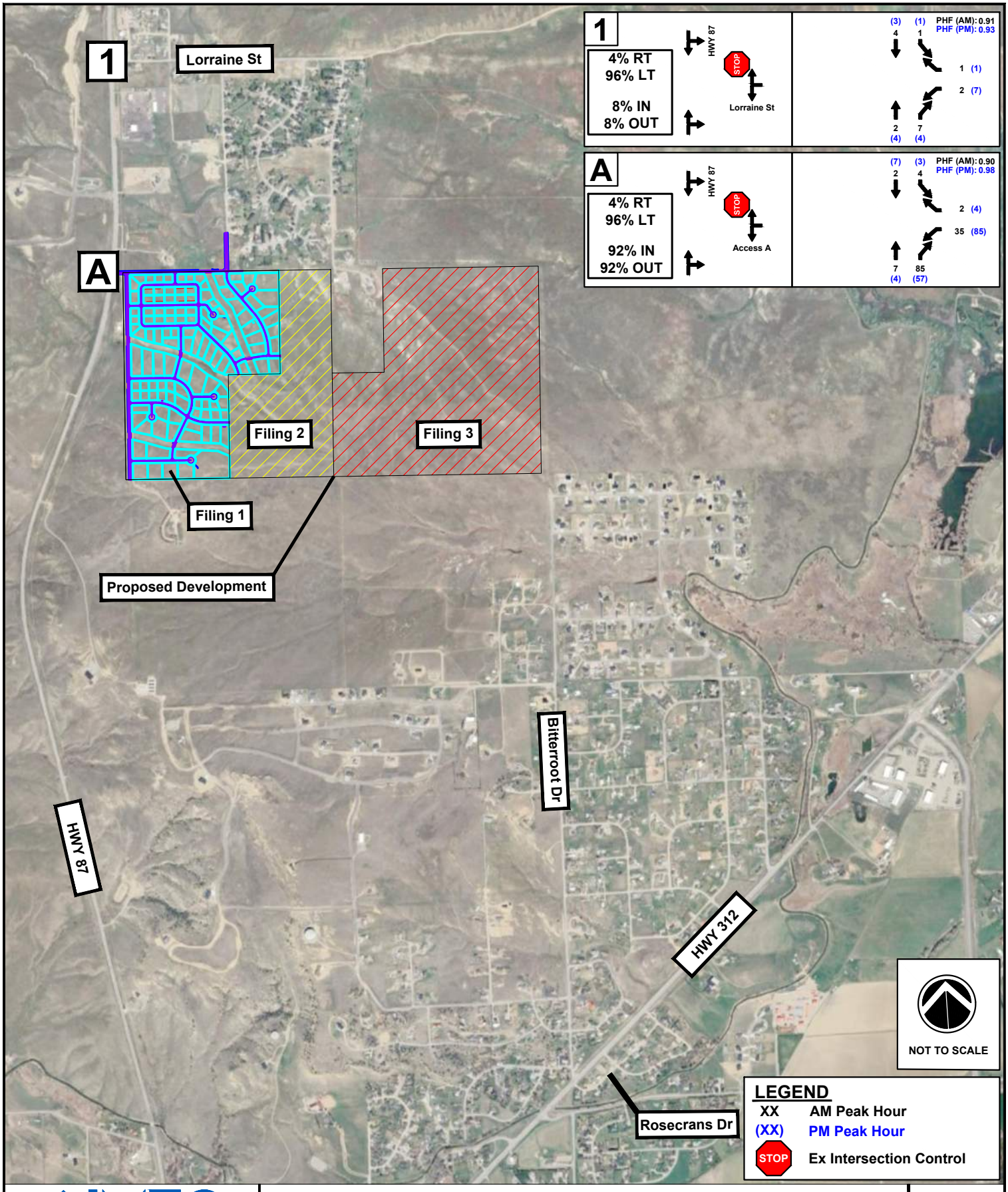

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

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2034 TRIP DISTRIBUTION & TRAFFIC ASSIGNMENT SUMMARY

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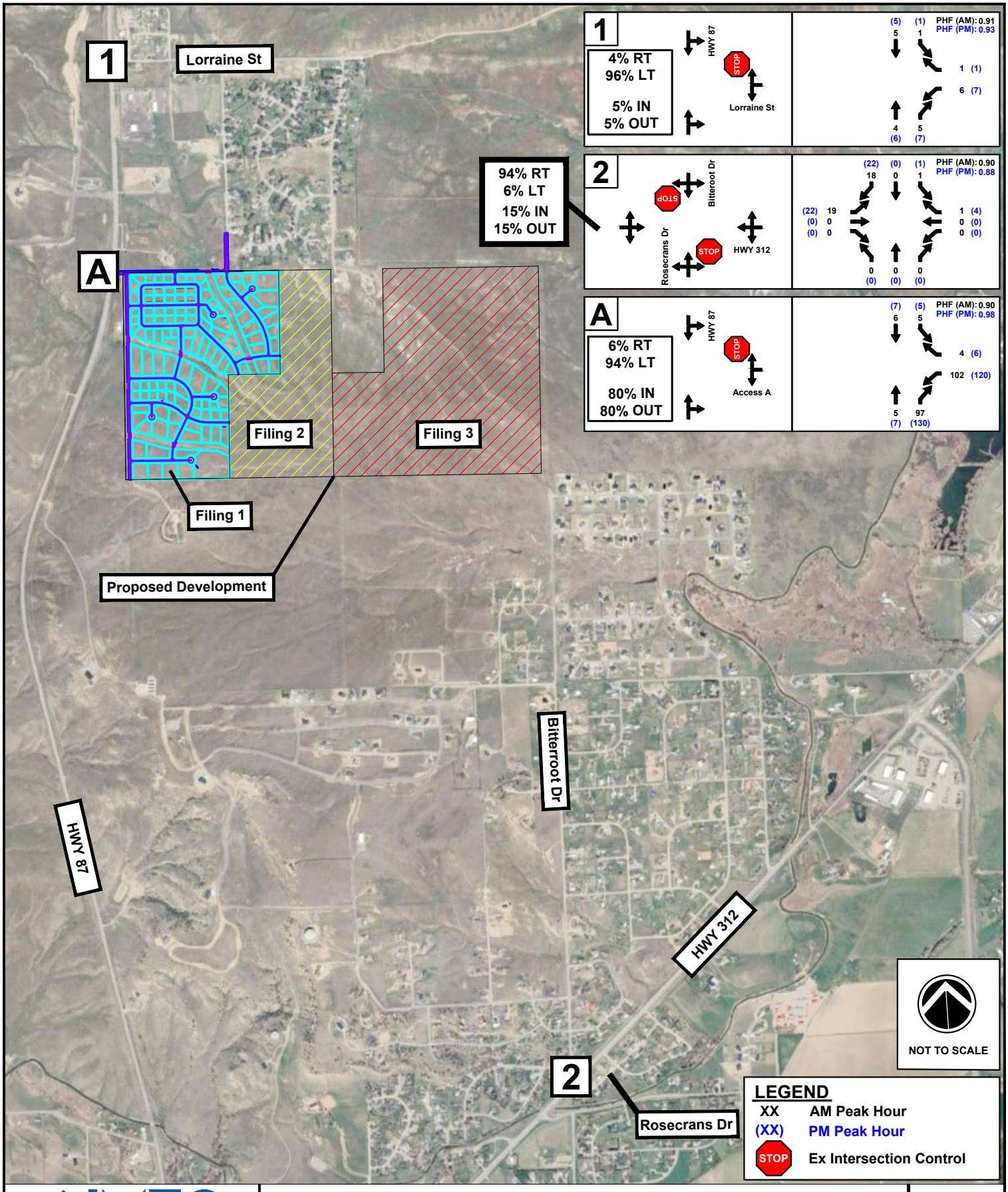
FIG - 5



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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

2054 TRIP DISTRIBUTION & TRAFFIC ASSIGNMENT SUMMARY

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FIG - 6

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4.2 2034 and 2054 Capacity and Level of Service

A capacity analysis was performed for the projected 2034 and 2054 background traffic volumes based on a 1.00% population growth rate for the same lane configuration used for the existing 2024 capacity analysis. See **Figure 7**, **Figure 8, Figure 9,** and **Appendix D** for the Highway Capacity Software (HCS) results. **Table 8** and **Table 9** below summarize the Highway Capacity Software (HCS) results, which can also be found in **Appendix C**.

Table 8: 2034 Background Traffic Peak Hour Capacity Analysis Summary

No.	Intersection	Approach	2034 Background Traffic Peak Hour Capacity Analysis Summary					
			AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay	Approach LOS	95th % Queue (veh)	Approach Delay	Approach LOS	95th % Queue (veh)
Intersection Control			*One-Way Stop Control (WB)*					
1	HWY 87 & Lorraine St	EB						
		WB	10.5	B	1	11.3	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.1	A	0	0.1	A	0
Intersection Control			*Two-Way Stop Control (NB/SB)*					
2	HWY 312 & Bitterroot Dr	EB	1.2	A	1	1.9	A	1
		WB	0	A	0	0.1	A	0
		NB	11.6	B	0	16.7	C	1
		SB	10.6	B	1	10.2	B	1

Table 9: 2054 Background Traffic Peak Hour Capacity Analysis Summary

No.	Intersection	Approach	2054 Background Traffic Peak Hour Capacity Analysis Summary					
			AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay	Approach LOS	95th % Queue (veh)	Approach Delay	Approach LOS	95th % Queue (veh)
Intersection Control			*One-Way Stop Control (WB)*					
1	HWY 87 & Lorraine St	EB						
		WB	11.2	B	1	12.3	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.1	A	0	0.2	A	0
Intersection Control			*Two-Way Stop Control (NB/SB)*					
2	HWY 312 & Bitterroot Dr	EB	1.3	A	1	2.2	A	1
		WB	0	A	0	0.1	A	0
		NB	12.7	B	0	24.5	C	1
		SB	11.4	B	1	11.4	B	1
Intersection Control			*One-Way Stop Control (WB)*					
Access	HWY 87 & Access A	EB						
		WB	11.3	B	1	12.2	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.1	A	0	0.2	A	0

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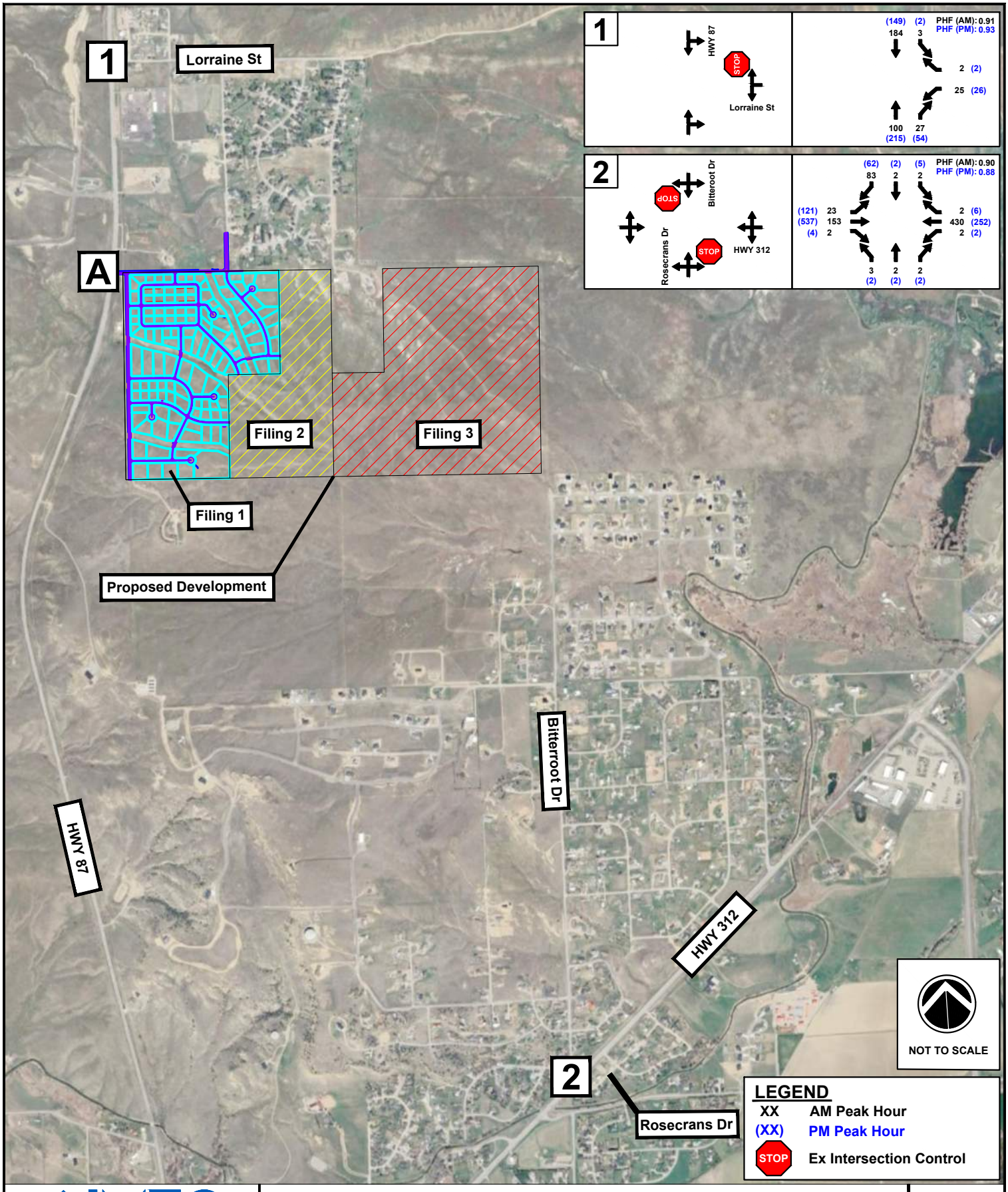

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

2034 Filing 1 BACKGROUND TRAFFIC MOVEMENTS

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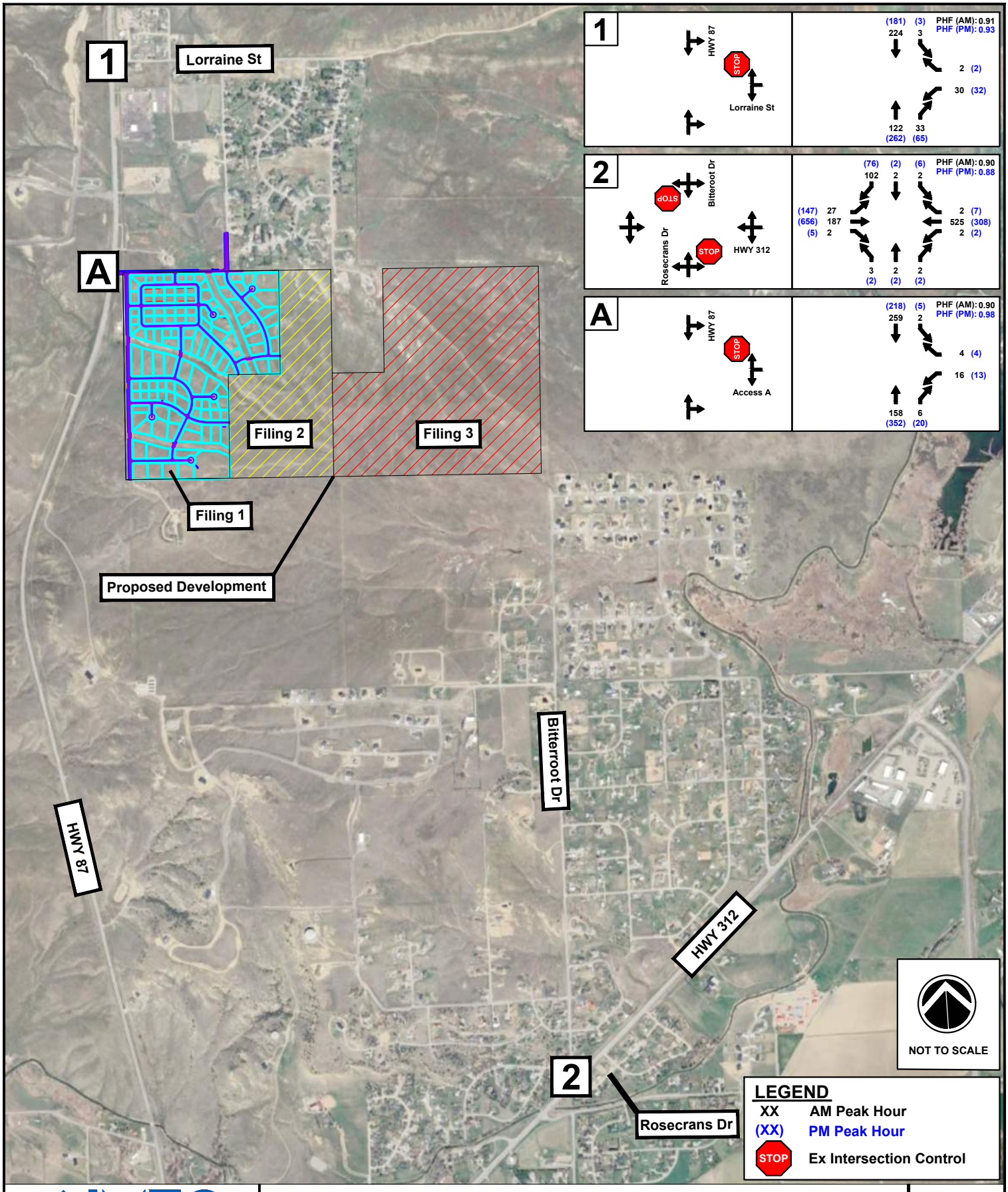
FIG - 7



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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

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2054 BACKGROUND TRAFFIC MOVEMENTS

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FIG - 8

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4.3 2034 & 2054 Projected Traffic Capacity plus Development Traffic

A capacity analysis was performed for the 2034 and 2054 traffic volumes using the existing lane configurations for the intersection study locations. 2034 is the anticipated year that Filing 1 of development will be fully occupied. 2054 is the anticipated year that the whole development will be fully occupied. The 2024 traffic volumes were increased by the previously mentioned growth factor of 1.00%. See **Figure 9** and **Figure 10** and **Appendix D** for the Highway Capacity Software (HCS) results. A summary of the 2034 and 2054 projected traffic capacity calculations can be found in **Table 10** and **Table 11.**

Table 10: 2034 Future Capacity Analysis Summary Plus Development Traffic

No.	Intersection	Approach	2034 Capacity Analysis Summary Plus Development Traffic					
			AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)	Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)
Intersection Control			*One-Way Stop Control (WB)*					
1	HWY 87 & Lorraine St	EB						
		WB	10.6	B	1	11.5	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.2	A	0	0.2	A	0
Intersection Control			*One-Way Stop Control (WB)*					
Access	HWY 87 & Access A	EB						
		WB	11.7	B	1	13.1	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.2	A	0	0.1	A	0

Table 11: 2054 Future Capacity Analysis Summary Plus Development Traffic

No.	Intersection	Approach	2054 Capacity Analysis Summary Plus Development Traffic					
			AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay	Approach LOS	95th % Queue (veh)	Approach Delay	Approach LOS	95th % Queue (veh)
Intersection Control			*One-Way Stop Control (WB)*					
1	HWY 87 & Lorraine St	EB						
		WB	11.4	B	1	12.6	B	1
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.2	A	0	0.2	A	0
Intersection Control			*Two-Way Stop Control (NB/SB)*					
2	HWY 312 & Bitterroot Dr	EB	1.7	A	1	1.7	A	1
		WB	0	A	0	0.1	A	0
		NB	13.2	B	1	25.8	D	1
		SB	11.6	B	1	11.6	B	1
Intersection Control			*One-Way Stop Control (WB)*					
Access	HWY 87 & Access A	EB						
		WB	14.2	B	1	16.5	C	2
		NB	FREE-FLOW/NO DELAY			FREE-FLOW/NO DELAY		
		SB	0.2	A	0	0.2	A	0

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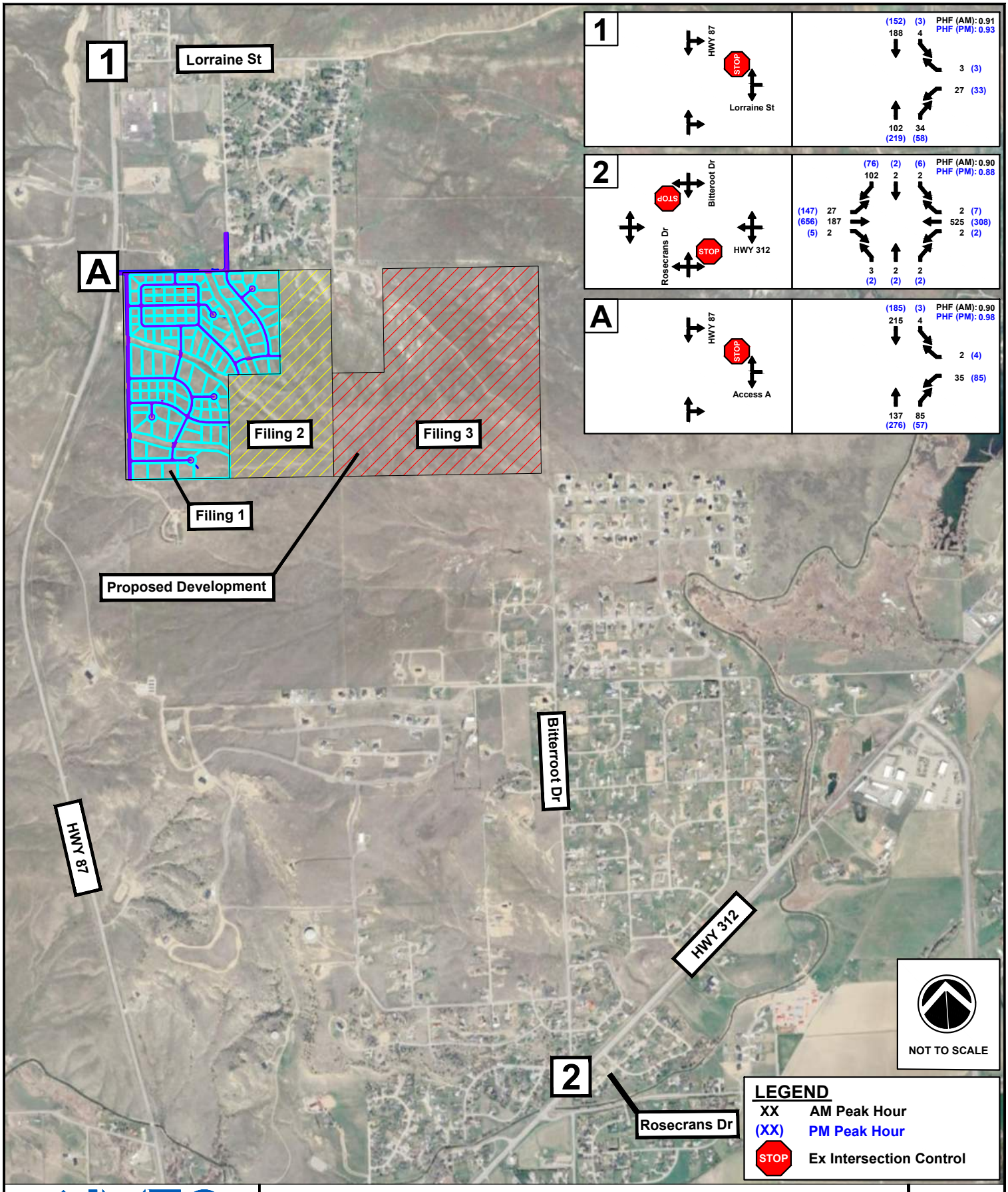

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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

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2034 FILING 1 FULL OCCUPANCY PEAK HOUR TURNING MOVEMENT PROJECTIONS

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FIG - 9

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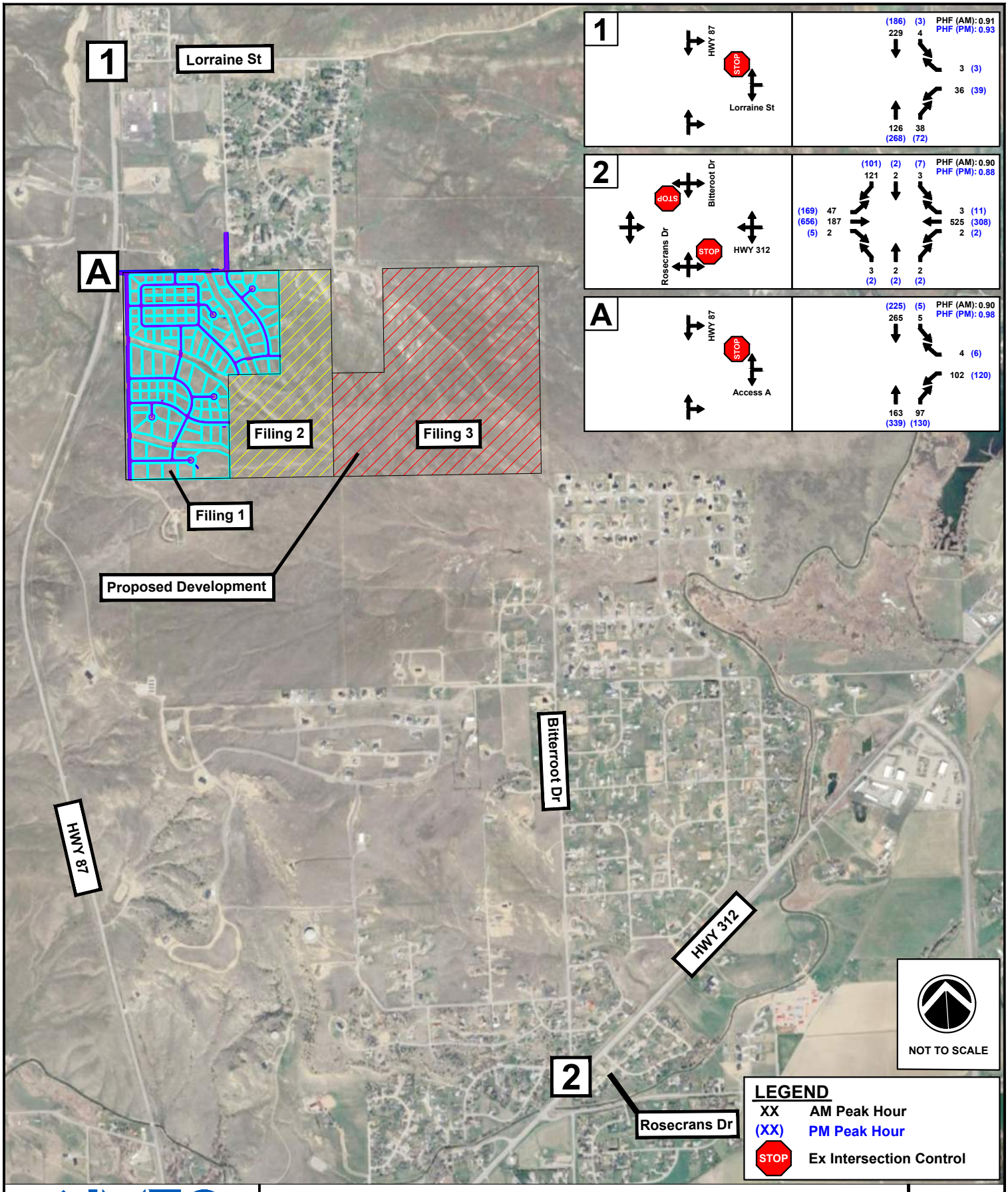

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Illinois Design Firm Registration #184.007637-0014

PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

2054 FULL OCCUPANCY PEAK HOUR TURNING MOVEMENT PROJECTIONS

IMEG Project No: 24001698.00
Drawn By: JTP
Checked By: ST
Date: 05/12/2025
FIG - 10

5 ADDITIONAL TRAFFIC OPERATIONAL ANALYSIS

5.1 Traffic Signal Warrant Analysis

A traffic signal warrant analysis was performed by using the Highway Capacity Software (HCS) MUTCD Warrants function. Meeting a signal warrant is an indication that the intersection could be considered for the installation of traffic signals. **Table 12** below summarizes the signal warrant calculations, taking into account seasonally adjusted traffic counts, pedestrian movements, and articulated trucks for each hour between 7:00 am and 6:00pm for both the existing 2024 development year and the full build year 2054. Additional signal warrant analysis information can be found in **Appendix E**.

Table 12: Signal Warrant Analysis Summary

Traffic Signal Warrants	2024	2054	2024	2054
	Intersection 1 HWY 87 & Lorraine St		Intersection 2 HWY 312 & Bitterroot Dr	
Warrant 1, Eight-Hour Vehicular Volume	NO	NO	NO	YES
Warrant 2, Four-Hour Vehicular Volume	NO	NO	NO	NO
Warrant 3, Peak Hour	NO	NO	NO	NO
Warrant 4, Pedestrian Volume				
Warrant 5, School Crossing				
Warrant 6, Coordinated Signal System				
Warrant 7, Crash History	NO	NO	NO	NO
Warrant 8, Roadway Network	NO	NO	NO	NO
Warrant 9, Intersection Near a Grade Crossing				

5.2 Right-Turn Lane Analysis

Referencing Chapter 28 of the *Traffic Engineering Manual,* and using Figure 28.4A, see **Appendix F**, the intersections of HWY 87 & Access A and HWY 87 & Lorraine St were analyzed to determine if a Right Turn Lane is justified. The intersection of HWY 312 was not analyzed due to the low volume of Right Turns for a four-lane highway.

5.3 Left-Turn Lane Analysis

Referencing Chapter 28 of the *Traffic Engineering Manual*, and using Figure 28.4C, see **Appendix F**, the intersections of HWY 87 & Access A and HWY 87 & Lorraine St were analyzed to determine if a Left Turn Lane is justified. The intersection of HWY 312 & Bitterroot Dr & Rosecrans Dr was not analyzed as there is an existing left turn lane.

As indicated on Figure 28.4A and Figure 28.4C, an exclusive Left-Turn Lane is not warranted at either intersection for the 2054 full build year. It can be seen in **Table 13** and Figure 28.4A that an exclusive Right-Turn Lane for the northbound approach at the intersection of HWY 87 and Access A may be justified by the final filing of the development.

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Table 13: Auxiliary Lane Warrant Summary

Turn Lane Warrants		2024 (Ex)		2034		2054	
		AM	PM	AM	PM	AM	PM
HWY 87 & Access A	EB RT						
	WB RT	No	No	No	No	No	No
	NB RT	No	No	No	No	Yes	Yes
	SB RT						
	EB LT						
	WB LT						
	NB LT						
	SB LT	No	No	No	No	No	No

Turn Lane Warrants		2024 (Ex)		2034		2054	
		AM	PM	AM	PM	AM	PM
HWY 87 & Lorraine St	EB RT						
	WB RT	No	No	No	No	No	No
	NB RT	No	No	No	No	No	No
	SB RT						
	EB LT						
	WB LT						
	NB LT						
	SB LT	No	No	No	No	No	No

From Table 13, the traffic data supports the considerations for an exclusive Right or Left Turn Lane. Auxiliary lane warrants worksheets for both Right Turn Lane and Left Turn Lane are included in Appendix F.

6 IMPACT MITIGATION FINANCIAL CONTRIBUTION ANALYSIS

Table 14 below illustrates the Impact Mitigation Financial Contribution Analysis for the three studied intersections. As stated in Section 4.6 C.4. B.8 of the Yellowstone County Subdivision Regulations, the Developer financial contributions will be required for all study area intersections for which the subject development project is projected to increase traffic by 2.0% or more using the "Vegas Method" calculation approach whereby only the per-lane sum total of left-turn and thru movements are compared to established critical lane volume thresholds of 1200 vehicles/hour for a four-legged intersection or 1140 vehicles/hour for a three-legged intersection.

The intersection of HWY 87 and Lorraine St as well as HWY 312 and Bitterroot Dr and Rosecrans Dr do not require a financial contribution as both intersections are below the stated 2.0%. For the purpose of the Impact Mitigation Financial Contribution Analysis for the development, the contribution was split between each filing so that the developer contributes per filing year.

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Table 14: Financial Contributions per Filing

Pronghorn Subdivision
Intersection Cost Contribution
Prepared by: IMEG Corp.
Revised: 03/01/2026

FILING 1

Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1 HWY 87 & Lorraine St	1.05%	$ 500,000	$ -
HWY 87 & Access A	8.07%	$ 500,000	$ 40,350
		Total	**$ 40,350**

Pronghorn Subdivision
Intersection Cost Contribution
Prepared by: IMEG Corp.
Revised: 09/09/2025

FILING 2

Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1 HWY 87 & Lorraine St	0.26%	$ 500,000	$ -
HWY 87 & Access A	2.37%	$ 500,000	$ 11,850
		Total	**$ 11,850**

Pronghorn Subdivision
Intersection Cost Contribution
Prepared by: IMEG Corp.
Revised: 09/09/2025

FILING 3

Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1 HWY 87 & Lorraine St	0.44%	$ 500,000	$ -
#2 HWY 312 & Bitterroot Dr & Rosecrans Dr	0.92%	$ 500,000	$ -
HWY 87 & Access A	4.47%	$ 500,000	$ 22,350
		Total	**$ 22,350**

7 CONCLUSION

Analysis of the existing traffic volumes, lane configurations, and the impacts due to the projected traffic growth and proposed development result in the following general conclusions:

- The preceding analysis demonstrates that the Pronghorn Subdivision development will not generate a significant volume of new trips at the intersections studied. The studied intersections will operate at or above the minimum requirement of an LOS B as specified in *Figure 30.2B* of Chapter 30 Section 2 of the Road Design Manual produced by the Montana Department of Transportation.

Existing 2024 traffic:

- All studied intersection approaches are functioning above the minimum LOS requirement as stated in the MDT Road Design Manual.

Projected 2034 and 2054 background traffic:

For the projected 2034 background traffic volumes:

- Intersection 1 (HWY 87 & Lorraine St) operates at an LOS of A for the Southbound (SB) approach in the AM and PM peak hours. The Westbound (WB) approach operates at an LOS of B in the AM and PM peak hours.
- Intersection 2 (HWY 312 & Bitterroot Dr) operates at an LOS of A for the WB & EB approaches in the AM and PM peak hours. The Southbound (SB) approach operates at an LOS of B in the AM and PM peak hours. The Northbound (NB) approach operates at an LOS of B in the AM peak hour and an LOS of C in the PM peak hour.

For the projected 2054 background traffic volumes:

- Intersection 1 (HWY 87 & Lorraine St) operates at an LOS of A for the Southbound (SB) AM and PM approach. The Westbound (WB) approach operates at an LOS of B in the AM and PM peak hours.
- Intersection 2 (HWY 312 & Bitterroot Dr) operates at an LOS of A for the WB & EB approaches in the AM and PM peak hours. The Southbound (SB) approach operates at

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an LOS of B in the AM and PM peak hours. The Northbound (NB) approach operates at an LOS of B in the AM peak hour and an LOS of C in the PM peak hour.

- Access A (HWY 87 & Access A) will have been in operation for 20 years in 2054. It is considered in the 2054 background traffic volumes as HWY 87 continues to grow at the 1% growth rate. Access A operates at an LOS of B for the Westbound (WB) approach in the AM and PM peak hours. The Southbound (SB) approach operates at an LOS of A in the AM and PM peak hours.

Projected 2034 and 2054 total traffic:

For the projected 2034 total traffic volumes:

- Intersection 1 (HWY 87 & Lorraine St) was only analyzed as there would be no access to Intersection 2 directly from the proposed development until the year 2054. Intersection 1 operates at an LOS of A for the Southbound (SB) approach in the AM and PM peak hours. The Westbound (WB) approach operates at an LOS of B in the AM and PM peak hours. The Northbound (NB) approach operates with no delay (free flowing). It is unlikely that development trips will utilize the intersection of HWY 87 and Lorraine St. To be conservative, it is assumed that a small percentage (8%) will utilize the intersection during the peak hours.
- Access A (HWY 87 & Access A) operates at an LOS of B for the Westbound (WB) approach in the AM peak hour and an LOS of B in the PM peak hour. The Southbound (SB) approach operates at an LOS of A in the AM and PM peak hours. The Northbound (NB) approach operates with no delay (free flowing).

For the projected 2054 total traffic volumes:

- Intersection 1 (HWY 87 & Lorraine St) operates at an LOS of A for the Southbound (SB) approach in the AM and PM peak hours. The Westbound (WB) approach operates at an LOS of B in the AM and PM peak hours. The Northbound (NB) approach operates with no delay (free flowing). It is unlikely that development trips will utilize the intersection of HWY 87 and Lorraine St. To be conservative, it is assumed that a small percentage (5%) will utilize the intersection during the peak hours.
- Intersection 2 (HWY 312 & Bitterroot Dr) operates at an LOS of A for the WB & EB approaches in the AM and PM peak hours. The Southbound (SB) approach operates at an LOS of B in the AM and PM peak hours. The Northbound (NB) approach operates at an LOS of B in the AM peak hour and an LOS of D in the PM peak hour. It can be noted that the NB approach operates at an LOS of C in the PM peak hour in the existing year.
- Access A (HWY 87 & Access A) operates at an LOS of B for the Westbound (WB) approach in the AM peak hour and an LOS of C in the PM peak hour. The Southbound (SB) approach operates at an LOS of A in the AM and PM peak hours. The Northbound (NB) approach operates with no delay (free flowing).
- A worst-case scenario distribution analysis was performed for the intersection of HWY 312 & Access A. As shown in Appendix J, if 100% of the generated trips use only the intersection of HWY 312 & Access A and no other access points through the 2054 analysis year, the intersection is projected to operate at LOS B or better during the AM peak hour and LOS C or better during the PM peak hour.

Traffic Warrant Analysis:

- For Intersection 2, *Warrant 1: Eight-Hour Vehicular Volume* has been met for the 2054 full build year. After performing the TWSC analysis usings the HCS software, it can be seen that the northbound (NB) operates at an LOS of C in the 2024 existing year, an LOS of C in the 2054 background year, and an LOS of D in the 2054 total year. It can be noted

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that the northbound (NB) approach is operating below an LOS of B in the existing (2024) year before the development added trips.

- For Access A, a right-turn auxiliary lane for the northbound (NB) approach may be justified in the full-build year of 2054. It should be noted that the lane is not required in Filing 1 (2034) but may be justified by 2054.

8 RECOMMENDATIONS

Based on the data presented during this study, it is recommended that:

- All access from the development shall be stop-controlled by installing stop signs at the proposed access locations onto HWY 87.
- Based on the Right-Turn Lane Warrant Analysis, it is recommended that an auxiliary right-turn lane be designed and implemented for the northbound (NB) approach for the intersection of HWY 87 and Access A. The lane is not required in Filing 1 (2034) but may be justified by the final filing of the development.
- Any future obstructions that would pose an impact to the sight triangle distances at the proposed approach should be limited.
- Any additional improvements shall be designed in accordance with MTD and Yellowstone County standards and comply with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
- Any improvements such as auxiliary turn lanes would need to be evaluated by MDT.
- Should the proposed development go over a total of 586 added trips during the weekday peak hours, a new TIS shall be required.

9 REFERENCES

- *Montana Department of Transportation (MDT)*
- *Yellowstone County, MT*
- *City of Billings, MT*
- *ITE Trip Generation Manual, 11th edition*
- *Highway Capacity Software (HCS), Version 2024*
- *AASHTO A Policy on Highway Geometric Design and Streets (2018), 7th Edition*
- *MDT Road Design Manual*
- *MDT Montana Traffic Engineering Manual*

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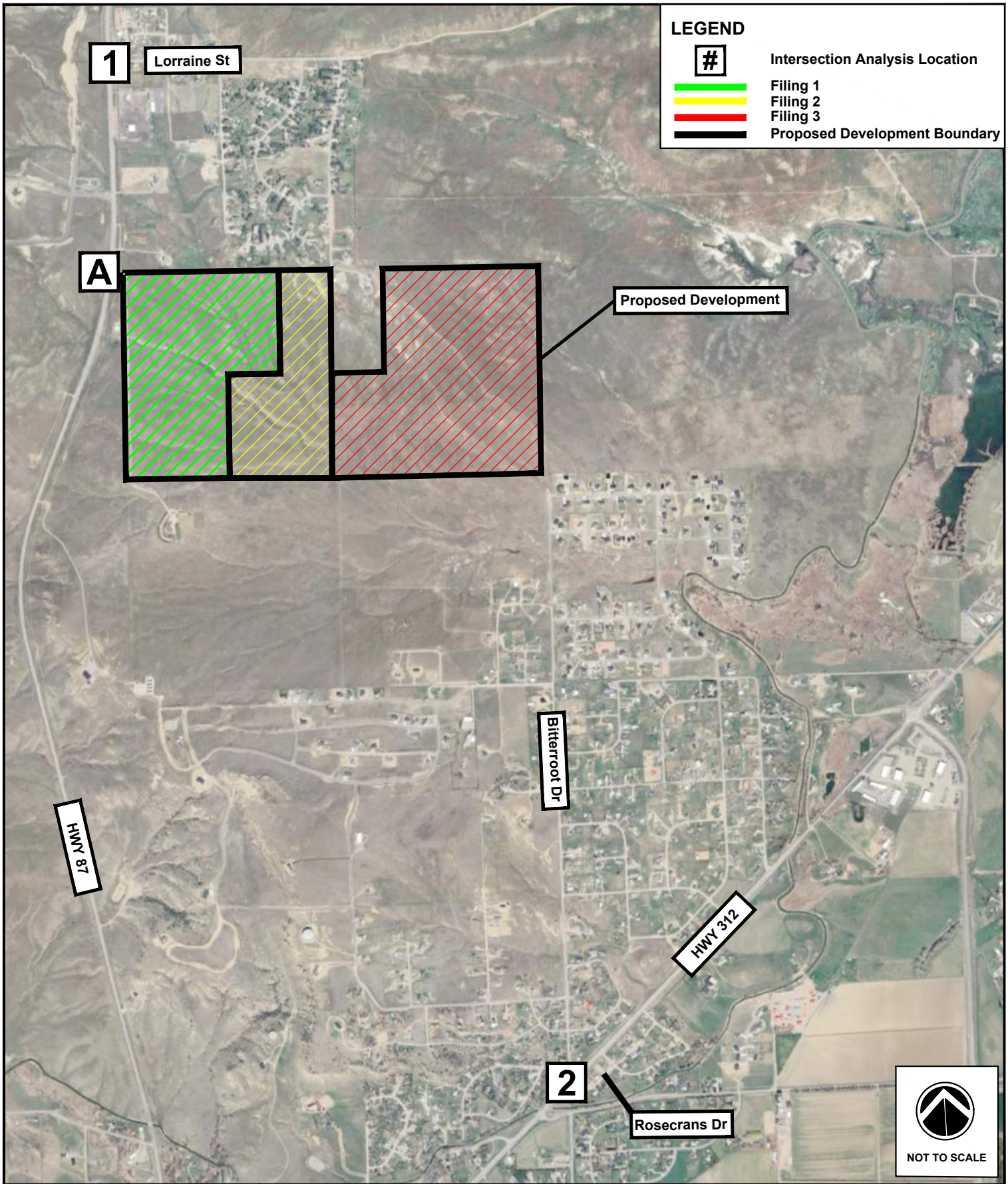
Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX A

- Site Plan
- Preliminary Plat



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PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

SITE PLAN

IMEG Project No: 24001698.00
Drawn By: JTP
Checked By: ST
Date: 05/12/2025
APP-A

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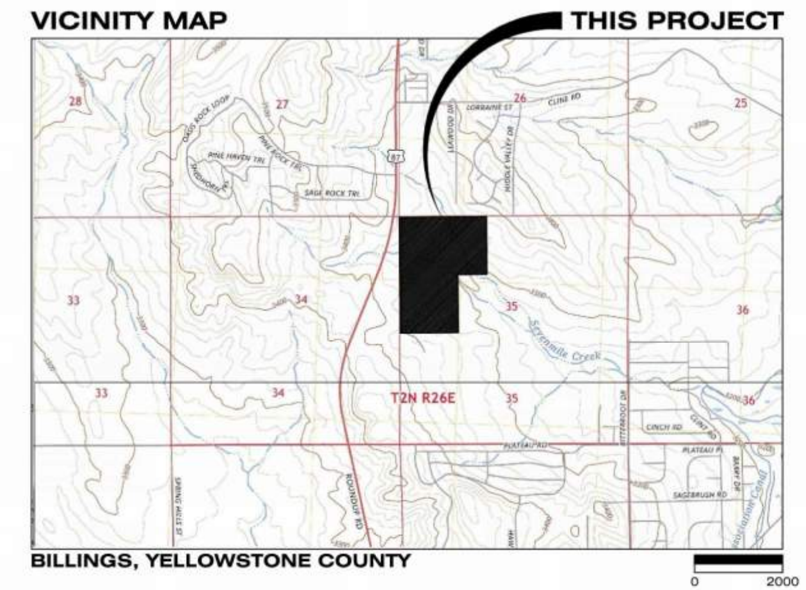
PRELIMINARY PLAT OF

PRONGHORN SUBDIVISION

LOCATED IN SECTION 35, TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M., YELLOWSTONE COUNTY, MONTANA



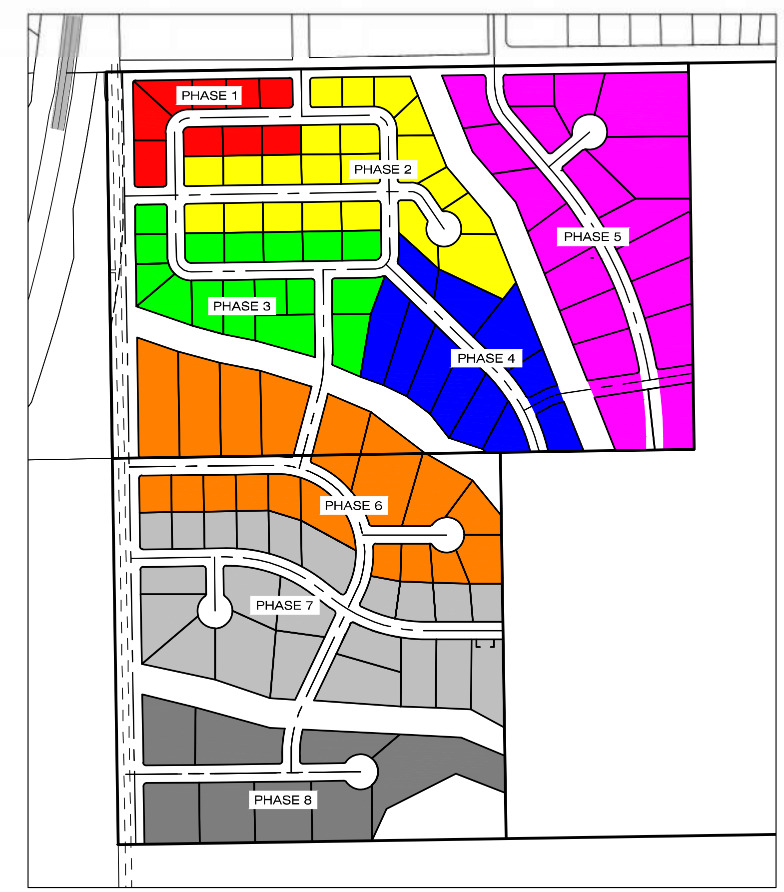
BASIS OF BEARING:
STATE PLANE MONTANA – ZONE 2500
GROUND (TRUE) DISTANCES

RECORD OWNER:
AG N KT'S PROPERTIES, L.L.C.

SUBDIVIDER:
AG N KT'S PROPERTIES, L.L.C.

DATE:
JUNE, 2025

TOTAL SUBDIVISION AREA:
100.08 ACRES (GROSS)
67.06 ACRES (NET)



150 0 150 300
SCALE IN FEET

LEGEND

(E) = EXISTING
(P) = PROPOSED
R/W OR R.O.W. = RIGHT–OF–WAY
U.E. = UTILITY EASEMENT
N.A.S. = NO ACCESS STRIP
= CISTERN
= DRAINFIELD

SITE DATA	
NUMBER OF LOTS	124
MAXIMUM LOT AREA	1.86 AC
MINIMUM LOT AREA	10,928 SF
AREA OF OPEN SPACE	11.17 AC
LINEAR FEET OF STREETS	14,772 LF
NET ACREAGE	67.06 AC
GROSS ACREAGE	100.08 AC
EXISTING ZONING	UNZONED
PROPOSED ZONING	?
EXISTING LAND USE	AGRICULTURAL
PROPOSED LAND USE	RESIDENTIAL

PERIMETER LEGAL DESCRIPTION

TOWNSHIP 2 NORTH, RANGE 26 EAST, P.M.M.

1/4	SEC.	T.	R.
☒	35	2N	26E

SHEET 1 OF 2
GILMAN SUBDIVISION
(A SUBDIVISION OF YELLOWSTONE COUNTY)

PREPARED BY:
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IMEG PROJECT NO. 24001698

Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX B

Traffic Volume Data and Lane Assignment Volumes

Project:	Pronghorn Subdivision						
County:	Yellowstone	**City:**	Billings	**State:**	MT	**Date:**	2/10/26
Location:	HWY 87 & Lorraine Street					**By:**	IMEG
North St.	HWY 87						
South St.	HWY 87	**Existing Year:**	2024			**Percent growth:**	1.00%
East St.	Lorraine St	**Filing 1**	2034	**10**	**YEARS**		1.104622
West St.		**Master Plan**	2054	**30**	**YEARS**		1.347849
Project No:	24001698.00						

Traffic Collected on: 7/23/2024 **Seasonal Adjustment Factor (Day & Month)** 0.842

AM Peak 9:45-10:45 **PHF:** 0.91 **PM Peak:** 4:30-5:30 **PHF:** 0.93

Notes: Current year traffic counts were adjusted for the seasonal day and month of the year, rounded to the nearest whole number. Minimum number of vehicles will be (1) if no collected data exists.

BACKGROUND TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 1%	Filing 1		ESTIMATED PERCENT INCREASE BY 1%	Master Plan		ESTIMATED PERCENT INCREASE BY 1%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)	2	1		3	2		3	2			
AB (T)	166	134		184	149		224	181			
AC (R)											
BC (L)											
BA (T)	90	194		100	215		122	262			
BD (R)	24	48		27	54		33	65			
CA (L)											
CD (T)											
CB (R)											
DB (L)	22	23		25	26		30	32			
DC (T)											
DA (R)	1	1		2	2		2	2			
Total - A	259	330		289	368		351	447			
Total - B	302	399		336	444		409	540			
Total - C											
Total - D	49	73		57	84		68	101			
A - Ped											
B - Ped											
C - Ped											
D - Ped											

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.842

T = THROUGH, L = LEFT, R = RIGHT

Background AM & PM Peak Hour Traffic Volumes

Pronghorn Subdivision

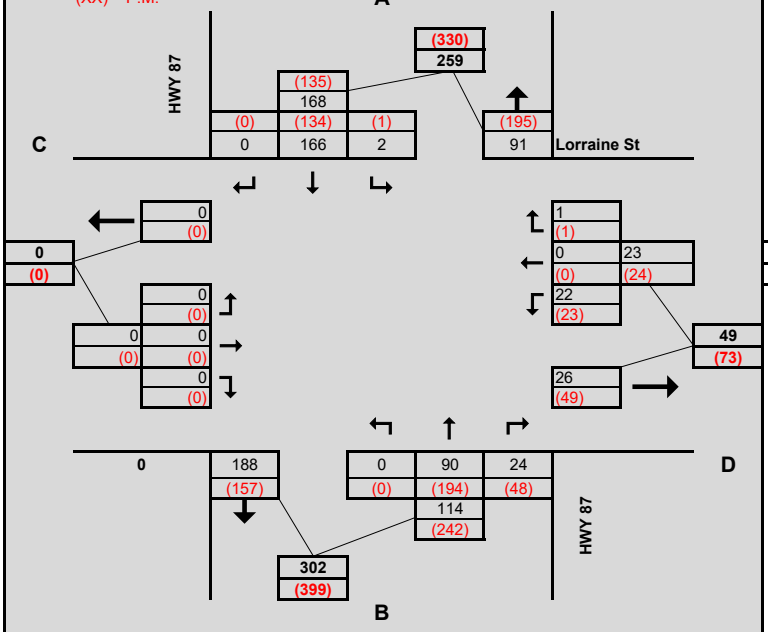
Project No: 24001698.00
Route: HWY 87 & Lorraine St
County: Yellowstone State: MT
City of: Billings

Forecasted by: IMEG
Phone: 406-248-9000

AM Peak Hour: 8:00 AM AM PHF: 0.91
PM Peak Hour: 4:00 PM PM PHF: 0.93
Date Traffic Collected: 3/19/2024
Date Calculated: 8/27/2025

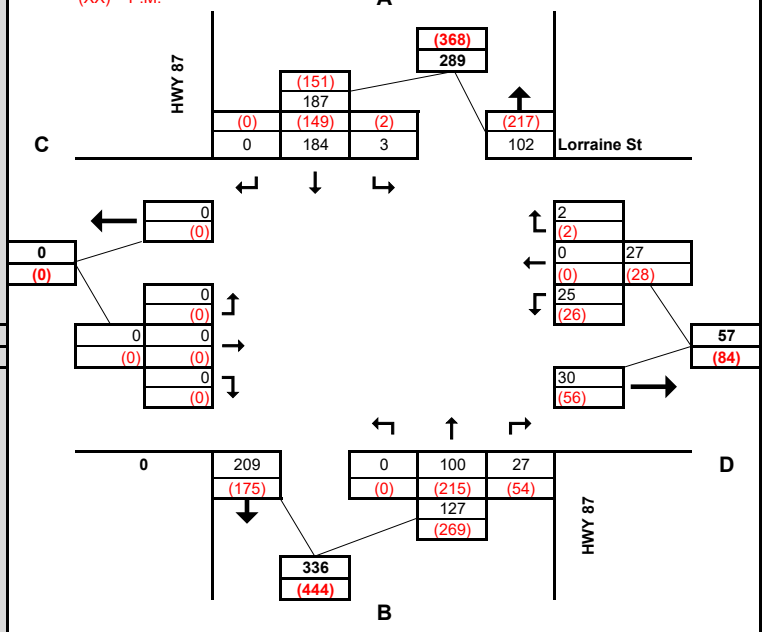
XX = A.M.
(XX) = P.M.

Existing Year: 2024



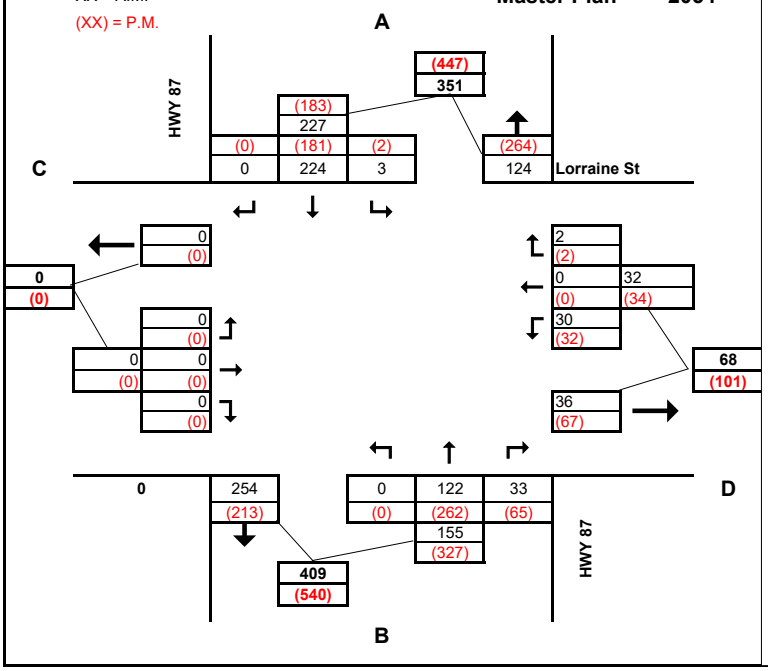
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Project:	Pronghorn Subdivision					
County:	Yellowstone	**City:**	Billings	**State:**	MT	**Date:** 2/10/26
Location:	HWY 87 & Lorraine Street					**By:** IMEG
North St.	HWY 87					
South St.	HWY 87			**Existing Year:**	2024	
East St.	Lorraine St			**Filing 1**	2034	
West St.				**Master Plan**	2054	
Project No:	24001698.00					

Notes:

DEVELOPMENT TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 0%	Filing 1		ESTIMATED PERCENT INCREASE BY 0%	Master Plan		ESTIMATED PERCENT INCREASE BY 0%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR 0**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)				1	1		1	1			
AB (T)				4	3		5	5			
AC (R)											
BC (L)											
BA (T)				2	4		4	6			
BD (R)				7	4		5	7			
CA (L)											
CD (T)											
CB (R)											
DB (L)				2	7		6	7			
DC (T)											
DA (R)				1	1		1	1			
Total - A				8	9		8	9			
Total - B				15	18		15	18			
Total - C											
Total - D				11	13		11	13			

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.842

T = THROUGH, L = LEFT, R = RIGHT

IMEG | 24001698.00 | 2/10/2026

Total AM & PM Peak Hour Traffic Volumes

Pronghorn Subdivision

Forecasted by: IMEG
Phone: 406-248-9000

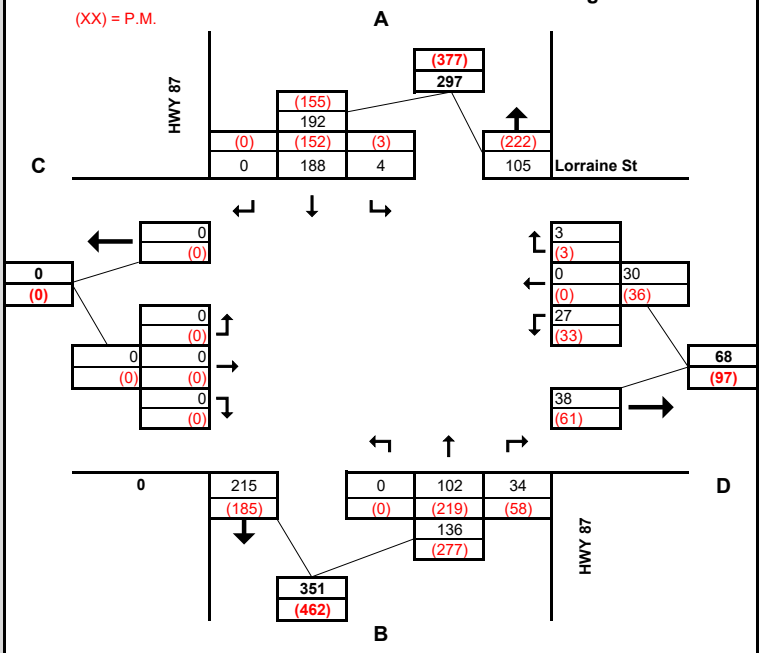
AM Peak Hour: 9:45-10:45
PM Peak Hour: 4:30-5:30

AM PHF: 0.91
PM PHF: 0.93

Project No: 24001698.00
Route: HWY 87 & Lorraine St
County: Yellowstone State: MT
City of: Billings

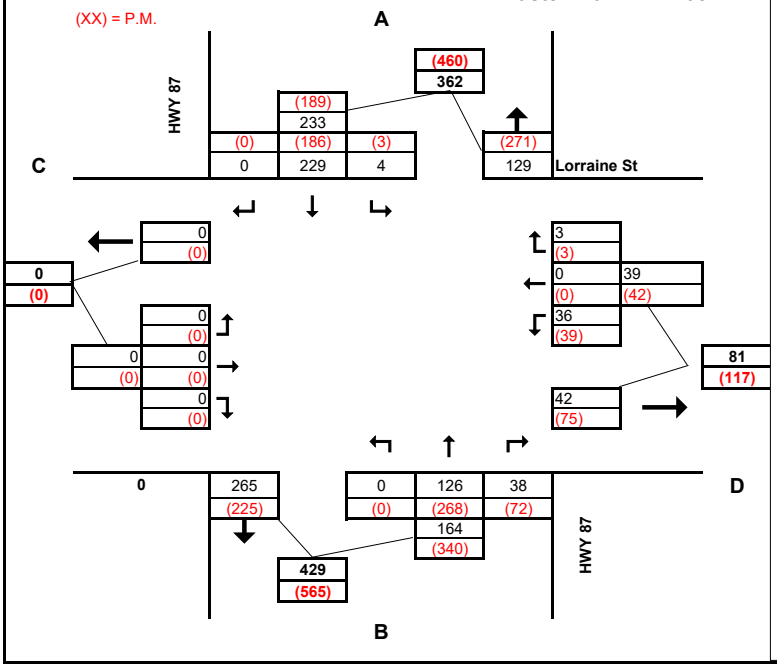
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Project:	Pronghorn Subdivision						
County:	Yellowstone	**City:**	Billings	**State:**	MT	**Date:**	2/10/26
Location:	HWY 312 & Bitterroot Dr					**By:**	IMEG
North St.	Bitterroot Dr						
South St.	Rosecrans Dr	**Existing Year:**	2024			**Percent growth:**	1.00%
East St.	HWY 312	**Filing 1**	2034	**10**	**YEARS**		1.104622
West St.	HWY 312	**Master Plan**	2054	**30**	**YEARS**		1.347849
Project No:	24001698.00						

Traffic Collected on: 7/23/2024 **Seasonal Adjustment Factor (Day & Month)** 0.824

AM Peak 7:00-8:00 **PHF:** 0.90 **PM Peak:** 4:45-5:45 **PHF:** 0.88

Notes: Current year traffic counts were adjusted for the seasonal day and month of the year, rounded to the nearest whole number. Minimum number of vehicles will be (1) if no collected data exists.

BACKGROUND TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 1%	Filing 1		ESTIMATED PERCENT INCREASE BY 1%	Master Plan		ESTIMATED PERCENT INCREASE BY 1%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)	1	4		2	5		2	6			
AB (T)	1	1		2	2		2	2			
AC (R)	75	56		83	62		102	76			
BC (L)	2	1		3	2		3	2			
BA (T)	1	1		2	2		2	2			
BD (R)	1	1		2	2		2	2			
CA (L)	20	109		23	121		27	147			
CD (T)	138	486		153	537		187	656			
CB (R)	1	3		2	4		2	5			
DB (L)	1	1		2	2		2	2			
DC (T)	389	228		430	252		525	308			
DA (R)	1	5		2	6		2	7			
Total - A	99	176		114	198		137	240			
Total - B	7	8		13	14		13	15			
Total - C	625	883		694	978		846	1194			
Total - D	531	725		591	804		720	981			
A - Ped											
B - Ped											
C - Ped											
D - Ped											

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.824

T = THROUGH, L = LEFT, R = RIGHT

IMEG | 24001698.00 | 2/10/2026

Background AM & PM Peak Hour Traffic Volumes

Pronghorn Subdivision

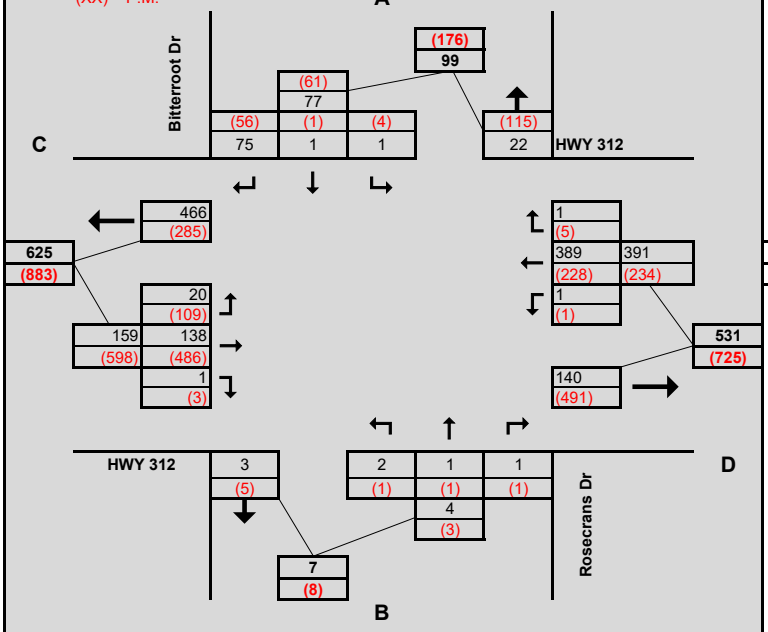
Forecasted by: IMEG
Phone: 406-248-9000

AM Peak Hour: 7:00-8:00 AM PHF: 0.90
PM Peak Hour: 4:45-5:45 PM PHF: 0.88
Date Traffic Collected: 7/23/2024
Date Calculated: 8/27/2025

Project No: 24001698.00
Route: Bitterroot Dr & HWY 312
County: Yellowstone State: MT
City of: Billings

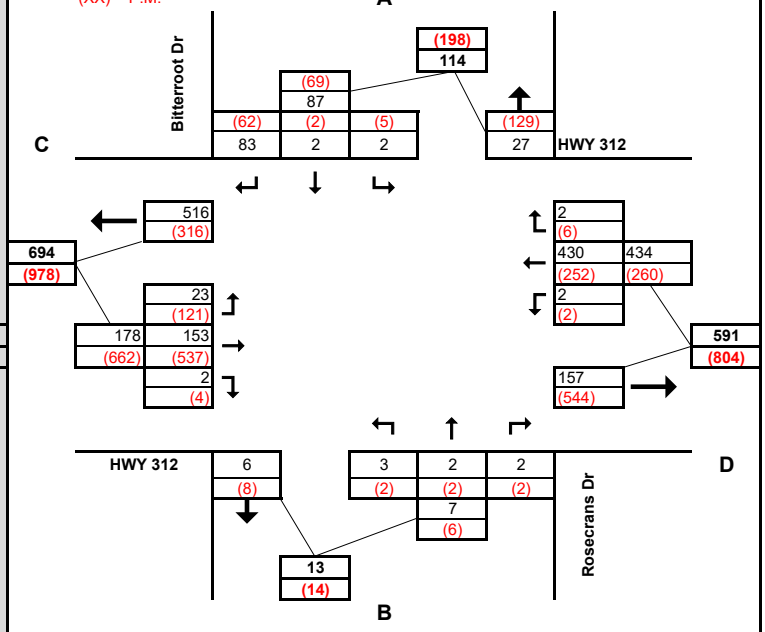
XX = A.M.
(XX) = P.M.

Existing Year: 2024



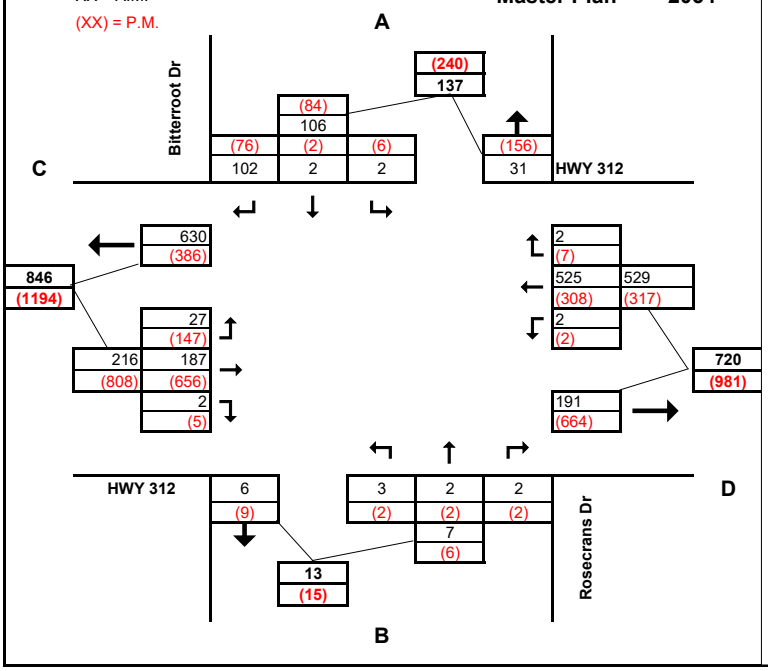
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Project:	Pronghorn Subdivision				
County:	Yellowstone	**City:**	Billings	**State:**	MT
Location:	HWY 312 & Bitterroot Dr				
North St.	Bitterroot Dr				
South St.	Rosecrans Dr				
East St.	HWY 312				
West St.	HWY 312				
Project No:	24001698.00				

Date: 2/10/26

By: IMEG

Existing Year: 2024

Filing 1 2034

Master Plan 2054

Notes:

DEVELOPMENT TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 0%	Filing 1		ESTIMATED PERCENT INCREASE BY 0%	Master Plan		ESTIMATED PERCENT INCREASE BY 0%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR 0**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)							1	1			
AB (T)											
AC (R)							18	22			
BC (L)											
BA (T)											
BD (R)											
CA (L)							19	22			
CD (T)											
CB (R)											
DB (L)											
DC (T)											
DA (R)							1	4			
Total - A											
Total - B											
Total - C											
Total - D											

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.824

T = THROUGH, L = LEFT, R = RIGHT

IMEG | 24001698.00 | 2/10/2026

Total AM & PM Peak Hour Traffic Volumes

Forecasted by: IMEG
Phone: 406-248-9000

AM Peak Hour: 7:00-8:00
PM Peak Hour: 4:45-5:45

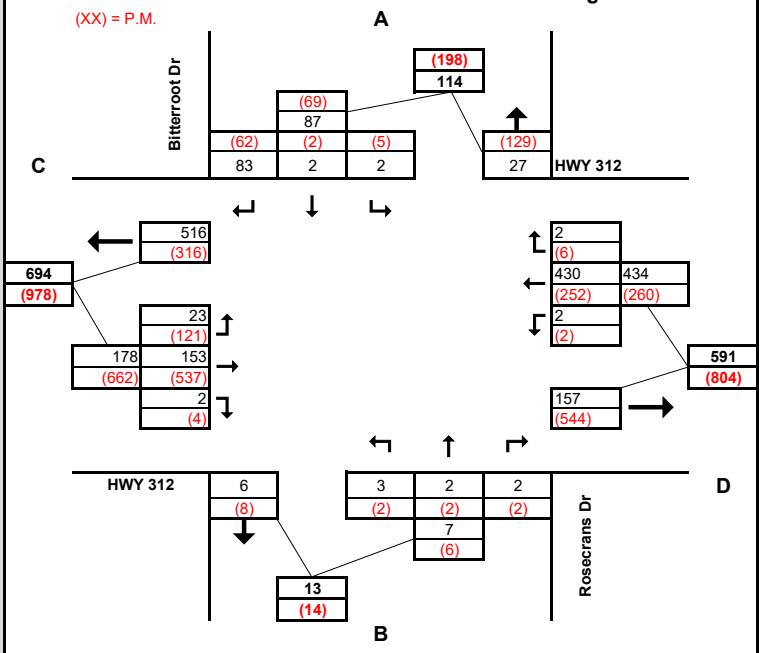
AM PHF: 0.90
PM PHF: 0.88

Pronghorn Subdivision

Project No: 24001698.00
Route: Bitterroot Dr & HWY 312
County: Yellowstone State: MT
City of: Billings

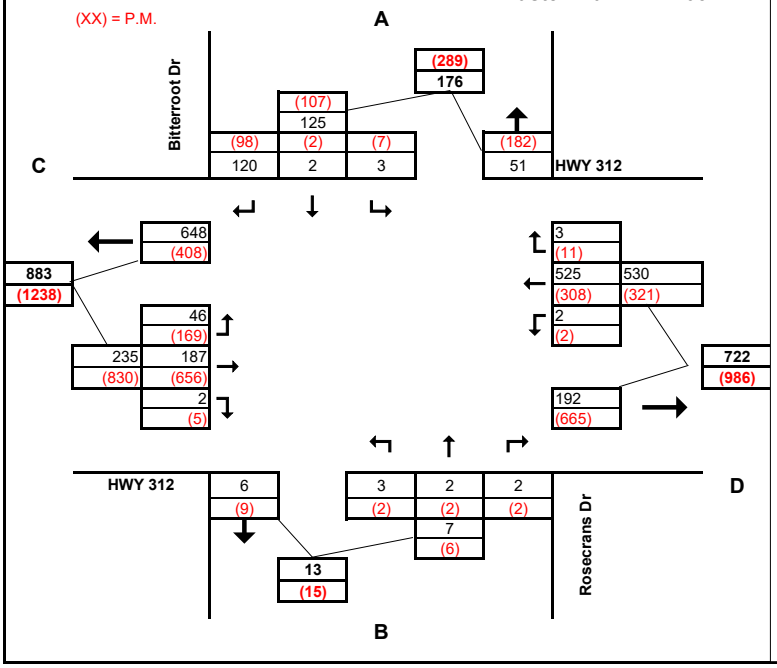
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Project:	Pronghorn Subdivision						
County:	Yellowstone	**City:**	Billings	**State:**	MT	**Date:**	2/10/26
Location:	HWY 87 & Access A					**By:**	IMEG
North St.	HWY 87						
South St.	HWY 87	**Existing Year:**	2024			**Percent growth:**	1.00%
East St.	Access A	**Filing 1**	2034	**10**	**YEARS**	1.104622	
West St.		**Master Plan**	2054	**30**	**YEARS**	1.347849	
Project No:	24001698.00						

Traffic Collected on: 7/23/2024 **Seasonal Adjustment Factor (Day & Month)** 0.842

AM Peak 9:45-10:45 **PHF:** 0.90 **PM Peak:** 4:30-5:30 **PHF:** 0.98

Notes: Current year traffic counts were adjusted for the seasonal day and month of the year, rounded to the nearest whole number. Minimum number of vehicles will be (1) if no collected data exists.

BACKGROUND TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 1%	Filing 1		ESTIMATED PERCENT INCREASE BY 1%	Master Plan		ESTIMATED PERCENT INCREASE BY 1%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)											
AB (T)	192	161		213	178		259	218			
AC (R)											
BC (L)											
BA (T)	117	246		130	272		158	332			
BD (R)											
CA (L)											
CD (T)											
CB (R)											
DB (L)											
DC (T)											
DA (R)											
Total - A	309	407		343	450		417	550			
Total - B	309	407		343	450		417	550			
Total - C											
Total - D											
A - Ped											
B - Ped											
C - Ped											
D - Ped											

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.842

T = THROUGH, L = LEFT, R = RIGHT

IMEG | 24001698.00 | 2/10/2026

Background AM & PM Peak Hour Traffic Volumes

Pronghorn Subdivision

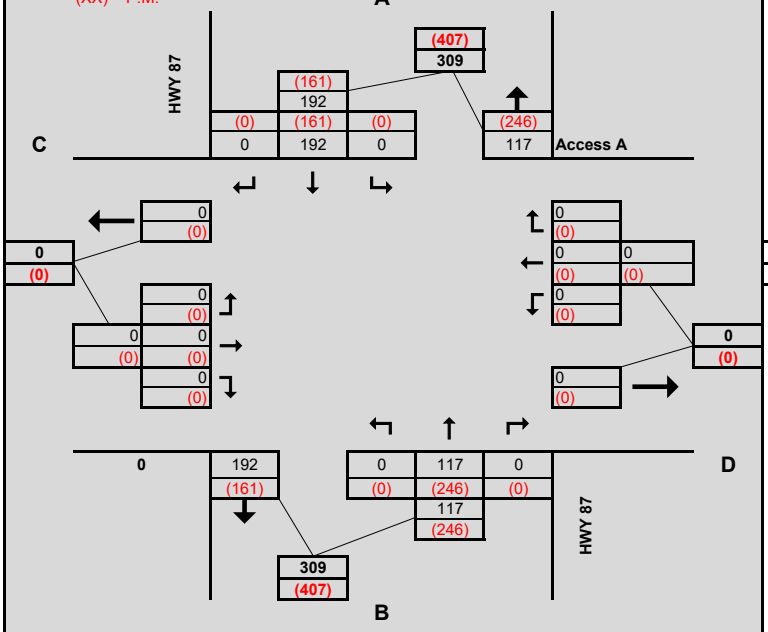
Project No: 24001698.00
Route: HWY 87 & Access A
County: Yellowstone State: MT
City of: Billings

Forecasted by: IMEG
Phone: 406-248-9000

AM Peak Hour: 9:45-10:45 AM PHF: 0.90
PM Peak Hour: 4:30-5:30 PM PHF: 0.98
Date Traffic Collected: 7/23/2024
Date Calculated: 8/27/2025

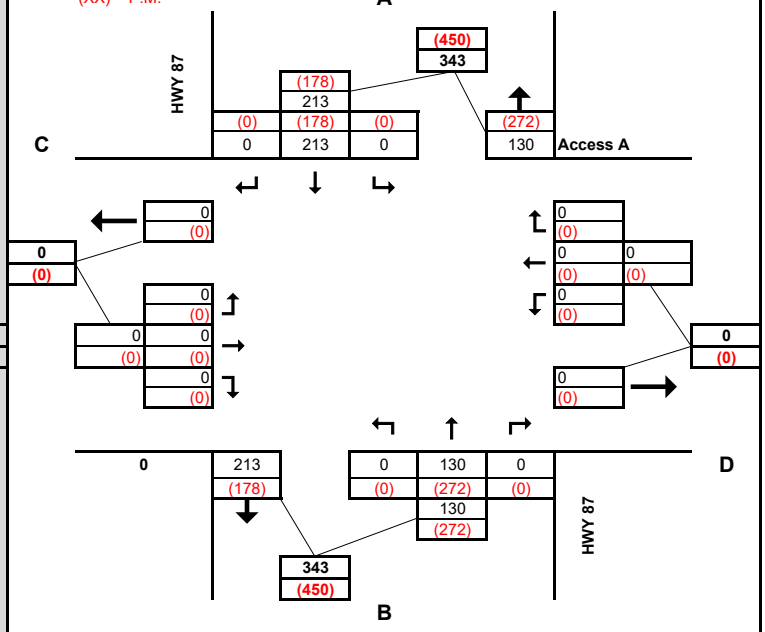
XX = A.M.
(XX) = P.M.

Existing Year: 2024



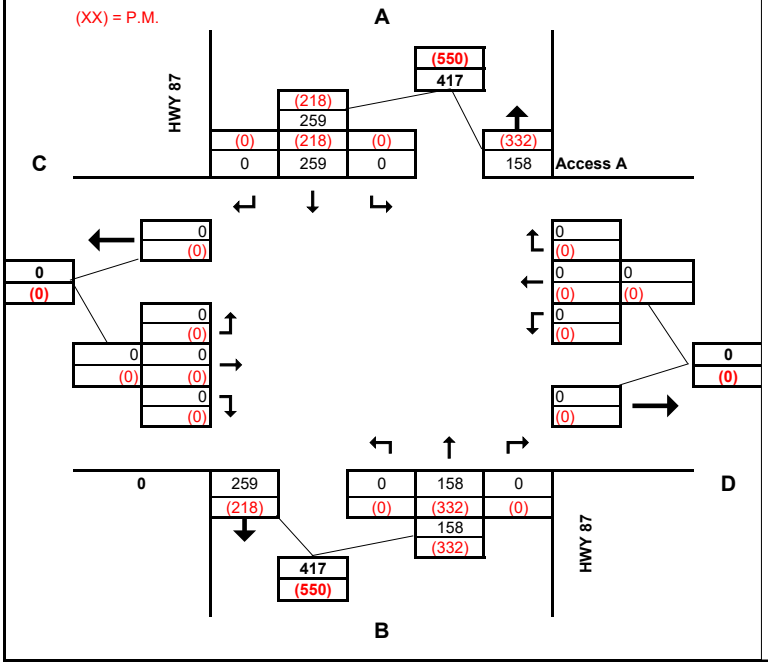
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Project:	Pronghorn Subdivision					
County:	Yellowstone	**City:**	Billings	**State:**	MT	**Date:** 2/10/26
Location:	HWY 87 & Access A					**By:** IMEG
North St.	HWY 87					
South St.	HWY 87			**Existing Year:**	2024	
East St.	Access A			**Filing 1**	2034	
West St.				**Master Plan**	2054	
Project No:	24001698.00					

Notes:

DEVELOPMENT TRAFFIC DATA

MOVEMENT	Existing Year:		ESTIMATED PERCENT INCREASE BY 0%	Filing 1		ESTIMATED PERCENT INCREASE BY 0%	Master Plan		ESTIMATED PERCENT INCREASE BY 0%		
	YEAR 2024			**YEAR 2034**			**YEAR 2054**			**YEAR 0**	
	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)				4	3		5	5			
AB (T)				2	7		6	7			
AC (R)											
BC (L)											
BA (T)				7	4		5	7			
BD (R)				85	57		97	130			
CA (L)											
CD (T)											
CB (R)											
DB (L)				35	85		102	120			
DC (T)											
DA (R)				2	4		4	6			
Total - A				15	18		15	18			
Total - B				129	153		129	153			
Total - C											
Total - D				126	149		126	149			

Existing Traffic was seasonally adjusted for the Day, Month and Year. The adjustment factor = 0.842

T = THROUGH, L = LEFT, R = RIGHT

IMEG | 24001698.00 | 2/10/2026

Total AM & PM Peak Hour Traffic Volumes

Pronghorn Subdivision

Forecasted by: IMEG
Phone: 406-248-9000

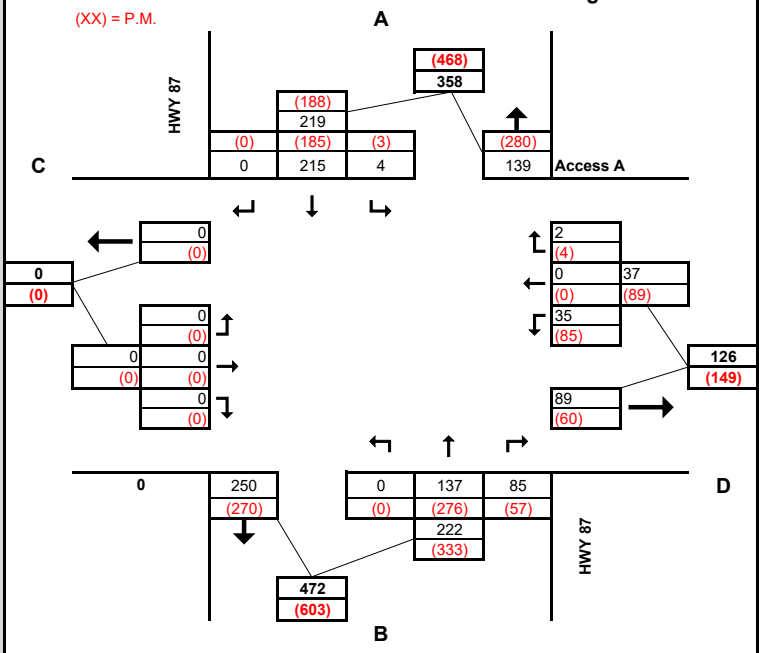
AM Peak Hour: 9:45-10:45
PM Peak Hour: 4:30-5:30

AM PHF: 0.90
PM PHF: 0.98

Project No: 24001698.00
Route: HWY 87 & Access A
County: Yellowstone State: MT
City of: Billings

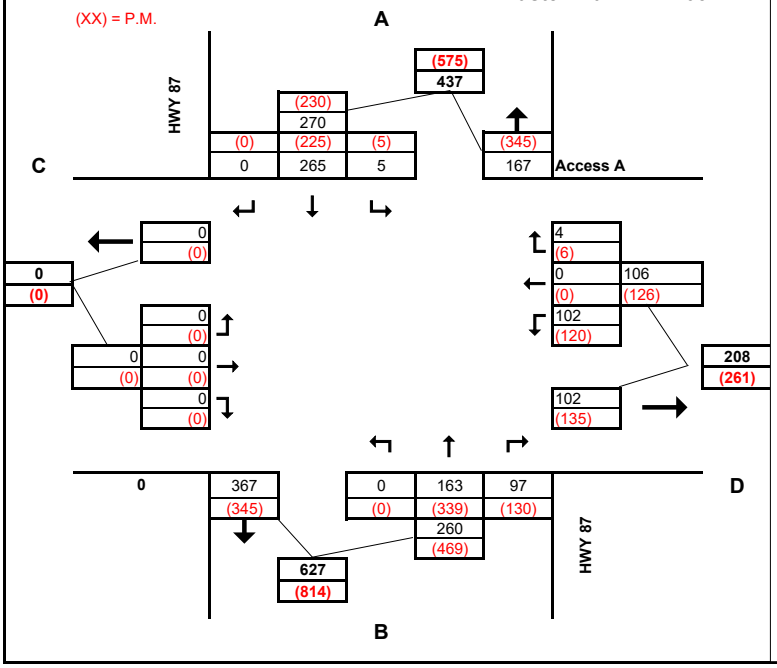
XX = A.M.
(XX) = P.M.

Filing 1 2034



XX = A.M.
(XX) = P.M.

Master Plan 2054



Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX C

Intersection Capacity Analysis - Background Traffic

- 2024 Existing Traffic
- 2034 Projected Background Traffic
- 2054 Projected Background Traffic

HCS Two-Way Stop-Control Report

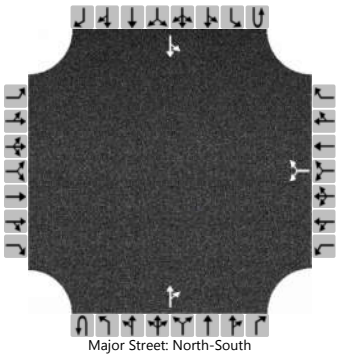
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 INT 1 AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.91
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)						22		1			90	24		2	166	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							25							2		
Capacity, c (veh/h)							704							1474		
v/c Ratio							0.04							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.5							0.0		
Control Delay (s/veh)							10.3							7.4	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						10.3								0.1		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

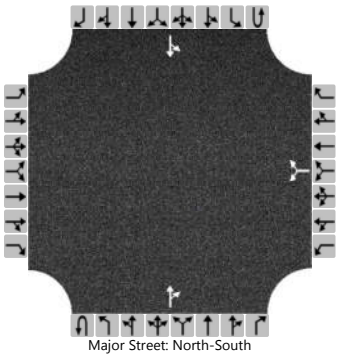
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 INT 1 PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.93
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)						23		1			194	48		2	134	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							26							2		
Capacity, c (veh/h)							629							1316		
v/c Ratio							0.04							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.5							0.0		
Control Delay (s/veh)							11.0							7.7	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.0								0.1		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

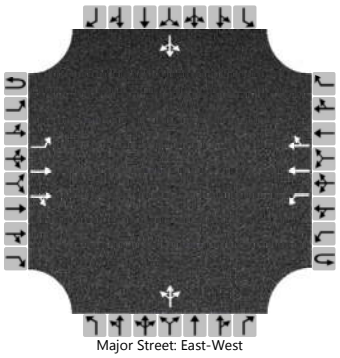
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 INT 2 AM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.90
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	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	20	138	1	0	1	389	1		2	1	1		1	1	75
Percent Heavy Vehicles (%)	3	0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left Only								9							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		22				1					4				86	
Capacity, c (veh/h)		1137				1438					604				780	
v/c Ratio		0.02				0.00					0.01				0.11	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.4	
95% Queue Length, Q_{95} (ft)		2.5				0.0					0.0				10.0	
Control Delay (s/veh)		8.2				7.5					11.0				10.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	1.0				0.0				11.0				10.2			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

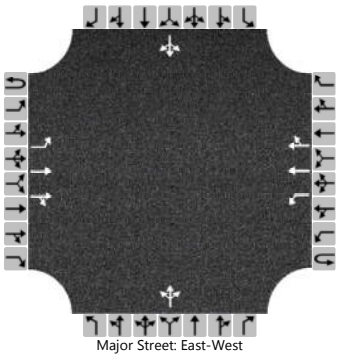
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 INT 2 PM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.88
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	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	109	486	3	0	1	228	5		1	1	1		4	1	56
Percent Heavy Vehicles (%)	3	0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left Only								9							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		124				1					3				69	
Capacity, c (veh/h)		1311				1025					315				802	
v/c Ratio		0.09				0.00					0.01				0.09	
95% Queue Length, Q_{95} (veh)		0.3				0.0					0.0				0.3	
95% Queue Length, Q_{95} (ft)		7.5				0.0					0.0				7.5	
Control Delay (s/veh)		8.0				8.5					16.6				9.9	
Level of Service (LOS)		A				A					C				A	
Approach Delay (s/veh)	1.5				0.0				16.6				9.9			
Approach LOS	A				A				C				A			

HCS Two-Way Stop-Control Report

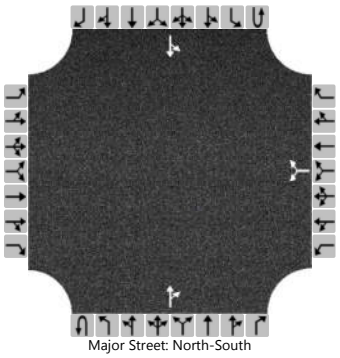
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 Access A AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
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	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		0			117	0		0	192	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							0							0		
Capacity, c (veh/h)							0							1468		
v/c Ratio														0.00		
95% Queue Length, Q_{95} (veh)														0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)														7.5	0.0	
Level of Service (LOS)														A	A	
Approach Delay (s/veh)													0.0			
Approach LOS													A			

HCS Two-Way Stop-Control Report

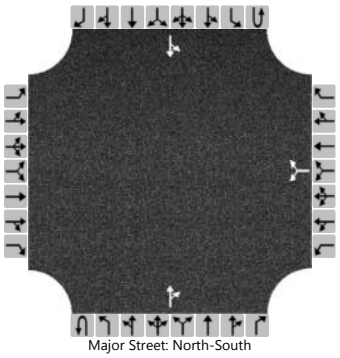
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2024
Time Analyzed	2024 Access A PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.98
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)						0		0			246	0		0	161	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							0							0		
Capacity, c (veh/h)							0							1326		
v/c Ratio														0.00		
95% Queue Length, Q_{95} (veh)														0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)														7.7	0.0	
Level of Service (LOS)														A	A	
Approach Delay (s/veh)													0.0			
Approach LOS													A			

HCS Two-Way Stop-Control Report

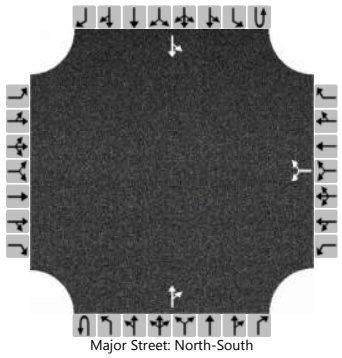
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2034
Time Analyzed	2034 INT 1 BACKGROUND AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.91
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)						25		2			100	27		3	184	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							30							3		
Capacity, c (veh/h)							678							1456		
v/c Ratio							0.04							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.5							0.0		
Control Delay (s/veh)							10.5							7.5	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						10.5								0.1		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

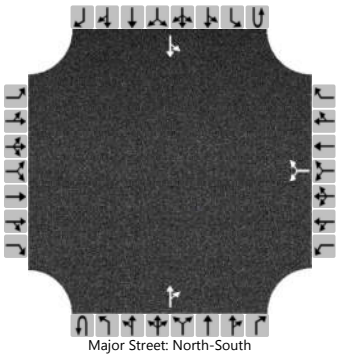
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2034
Time Analyzed	2034 INT 1 BACKGROUND PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.93
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)						26		2			215	54		2	149	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							30							2		
Capacity, c (veh/h)							600							1284		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							11.3							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.3								0.1		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

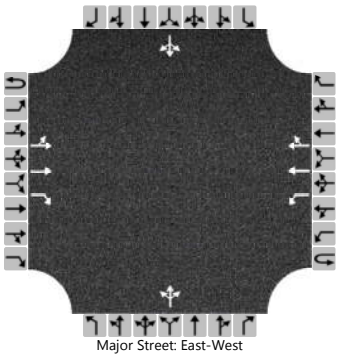
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2034
Time Analyzed	2034 INT 2 BACKGROUND AM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.90
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	2	1	0	1	2	0		0	1	0		0	1	0
Configuration		LT	T	R		L	T	TR			LTR				LTR	
Volume (veh/h)		23	153	2	0	2	430	2		3	2	2		2	2	83
Percent Heavy Vehicles (%)		0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No														
Median Type | Storage		Left Only								9						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				2					8				97	
Capacity, c (veh/h)		1093				1417					556				740	
v/c Ratio		0.02				0.00					0.01				0.13	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.4	
95% Queue Length, Q_{95} (ft)		2.5				0.0					0.0				10.0	
Control Delay (s/veh)		8.4	0.1			7.5					11.6				10.6	
Level of Service (LOS)		A	A			A					B				B	
Approach Delay (s/veh)		1.2				0.0				11.6				10.6		
Approach LOS		A				A				B				B		

HCS Two-Way Stop-Control Report

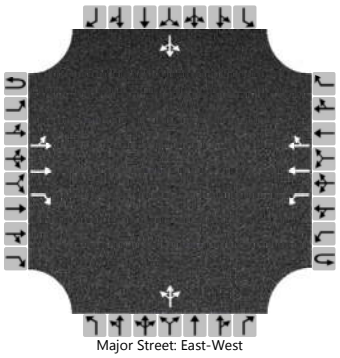
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2034
Time Analyzed	2034 INT 2 BACKGROUND PM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.98
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	2	1	0	1	2	0		0	1	0		0	1	0
Configuration		LT	T	R		L	T	TR			LTR				LTR	
Volume (veh/h)		121	537	4	0	2	252	6		2	2	2		5	2	62
Percent Heavy Vehicles (%)		0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No														
Median Type | Storage		Left Only								9						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		123				2					6				70	
Capacity, c (veh/h)		1313				1028					314				766	
v/c Ratio		0.09				0.00					0.02				0.09	
95% Queue Length, Q_{95} (veh)		0.3				0.0					0.1				0.3	
95% Queue Length, Q_{95} (ft)		7.5				0.0					2.5				7.5	
Control Delay (s/veh)		8.0	0.5			8.5					16.7				10.2	
Level of Service (LOS)		A	A			A					C				B	
Approach Delay (s/veh)		1.9				0.1				16.7				10.2		
Approach LOS		A				A				C				B		

HCS Two-Way Stop-Control Report

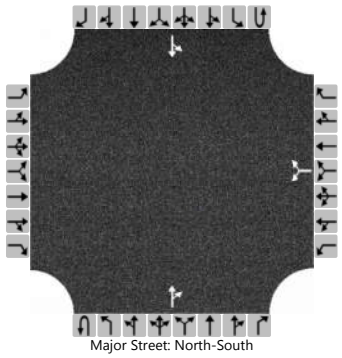
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2054
Time Analyzed	2054 INT 1 BACKGROUND AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.91
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)						30		2			122	33		3	224	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							35							3		
Capacity, c (veh/h)							617							1419		
v/c Ratio							0.06							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							11.2							7.5	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.2								0.1		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

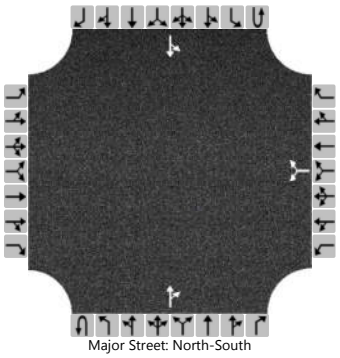
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2054
Time Analyzed	2054 INT 1 BACKGROUND PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.93
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			262	65		3	181	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							37							3		
Capacity, c (veh/h)							529							1218		
v/c Ratio							0.07							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							12.3							8.0	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						12.3								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

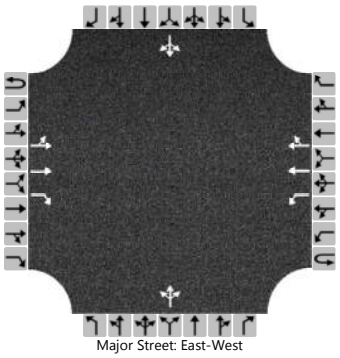
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2054
Time Analyzed	2054 INT 2 BACKGROUND AM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.90
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	2	1	0	1	2	0		0	1	0		0	1	0
Configuration		LT	T	R		L	T	TR			LTR				LTR	
Volume (veh/h)		27	187	2	0	2	525	2		3	2	2		2	2	102
Percent Heavy Vehicles (%)		0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized		No														
Median Type | Storage		Left Only							9							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		30				2					8				118	
Capacity, c (veh/h)		999				1373					477				684	
v/c Ratio		0.03				0.00					0.02				0.17	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.6	
95% Queue Length, Q_{95} (ft)		2.5				0.0					0.0				15.0	
Control Delay (s/veh)		8.7	0.2			7.6					12.7				11.4	
Level of Service (LOS)		A	A			A					B				B	
Approach Delay (s/veh)		1.3				0.0				12.7				11.4		
Approach LOS		A				A				B				B		

HCS Two-Way Stop-Control Report

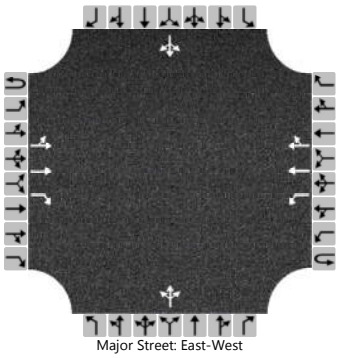
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	5/12/2025
Analysis Year	2054
Time Analyzed	2054 INT 2 BACKGROUND PM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.88
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	2	1	0	1	2	0		0	1	0		0	1	0
Configuration		LT	T	R		L	T	TR			LTR				LTR	
Volume (veh/h)		147	656	5	0	2	308	7		2	2	2		6	2	76
Percent Heavy Vehicles (%)		0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No														
Median Type | Storage		Left Only								9						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		167				2					7				95	
Capacity, c (veh/h)		1212				867					192				660	
v/c Ratio		0.14				0.00					0.04				0.14	
95% Queue Length, Q_{95} (veh)		0.5				0.0					0.1				0.5	
95% Queue Length, Q_{95} (ft)		12.5				0.0					2.5				12.5	
Control Delay (s/veh)		8.4	0.8			9.2					24.5				11.4	
Level of Service (LOS)		A	A			A					C				B	
Approach Delay (s/veh)		2.2				0.1				24.5				11.4		
Approach LOS		A				A				C				B		

Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX D

Intersection Capacity Analysis - Total Traffic

- 2034 Projected Background plus Development Traffic
- 2054 Projected Background plus Development Traffic

HCS Two-Way Stop-Control Report

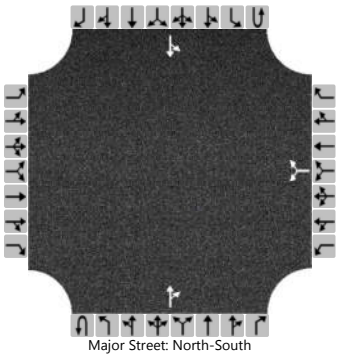
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2034
Time Analyzed	2034 INT 1 TOTAL AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.91
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)						27		3			102	34		4	188	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							33							4		
Capacity, c (veh/h)							672							1444		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							10.6							7.5	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						10.6								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

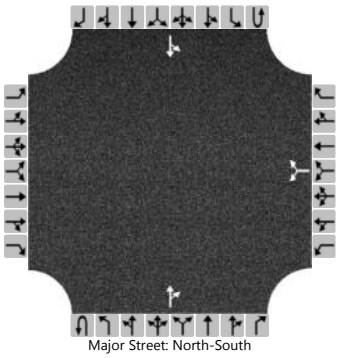
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2034
Time Analyzed	2034 INT 1 TOTAL PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.93
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)						33		3			219	58		3	152	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							39							3		
Capacity, c (veh/h)							592							1275		
v/c Ratio							0.07							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							11.5							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.5								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

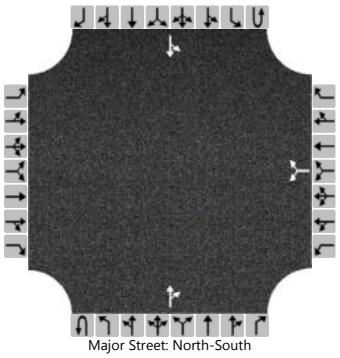
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2034
Time Analyzed	2034 A TOTAL AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
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	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						35		2			137	85		4	215	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							41							4		
Capacity, c (veh/h)							581							1331		
v/c Ratio							0.07							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							11.7							7.7	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.7								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

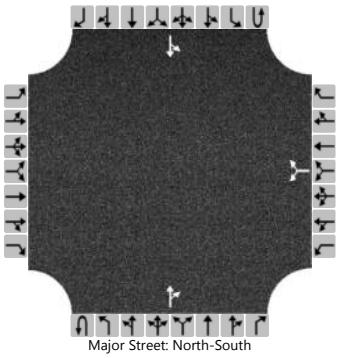
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2034
Time Analyzed	2034 A TOTAL PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
Peak Hour Factor	0.98
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)						85		4			276	57		3	185	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							91							3		
Capacity, c (veh/h)							535							1231		
v/c Ratio							0.17							0.00		
95% Queue Length, Q_{95} (veh)							0.6							0.0		
95% Queue Length, Q_{95} (ft)							15.0							0.0		
Control Delay (s/veh)							13.1							7.9	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					13.1								0.1			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report

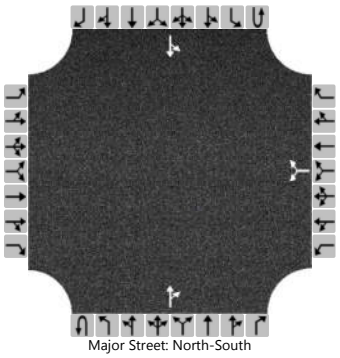
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 INT 1 TOTAL AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.91
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)						36		3			126	38		4	229	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							43							4		
Capacity, c (veh/h)							607							1407		
v/c Ratio							0.07							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.0							0.0		
Control Delay (s/veh)							11.4							7.6	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						11.4								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

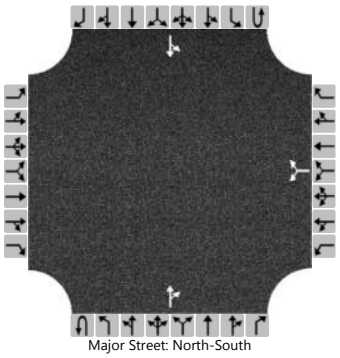
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 INT 1 TOTAL PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Lorraine St
Jurisdiction	COUNTY
East/West Street	Lorraine St
North/South Street	HWY 87
Peak Hour Factor	0.93
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)						39		3			268	72		3	186	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							45							3		
Capacity, c (veh/h)							520							1204		
v/c Ratio							0.09							0.00		
95% Queue Length, Q_{95} (veh)							0.3							0.0		
95% Queue Length, Q_{95} (ft)							7.5							0.0		
Control Delay (s/veh)							12.6							8.0	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)						12.6								0.2		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

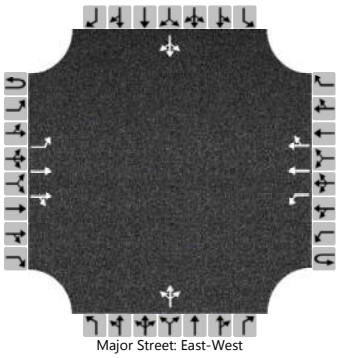
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 INT 2 TOTAL AM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.90
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	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	46	187	2	0	2	525	3		3	2	2		3	2	120
Percent Heavy Vehicles (%)	3	0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left Only								9							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		51				2					8				139	
Capacity, c (veh/h)		998				1373					446				682	
v/c Ratio		0.05				0.00					0.02				0.20	
95% Queue Length, Q_{95} (veh)		0.2				0.0					0.1				0.8	
95% Queue Length, Q_{95} (ft)		5.0				0.0					2.5				20.0	
Control Delay (s/veh)		8.8				7.6					13.2				11.6	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	1.7				0.0				13.2				11.6			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

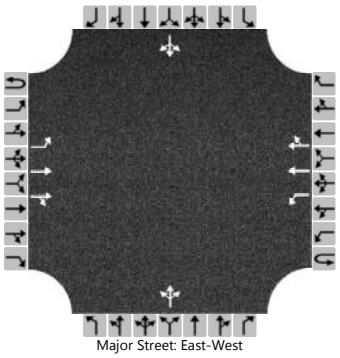
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 INT 2 Total PM
Intersection Orientation	East-West
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 312 & Bitterroot Dr
Jurisdiction	COUNTY
East/West Street	HWY 312
North/South Street	Bitterroot Dr
Peak Hour Factor	0.88
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	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	169	656	5	0	2	308	11		2	2	2		7	2	98
Percent Heavy Vehicles (%)	3	0			0	0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left Only								9							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		192				2					7				122	
Capacity, c (veh/h)		1207				867					180				669	
v/c Ratio		0.16				0.00					0.04				0.18	
95% Queue Length, Q_{95} (veh)		0.6				0.0					0.1				0.7	
95% Queue Length, Q_{95} (ft)		15.0				0.0					2.5				17.5	
Control Delay (s/veh)		8.5				9.2					25.8				11.6	
Level of Service (LOS)		A				A					D				B	
Approach Delay (s/veh)	1.7				0.1				25.8				11.6			
Approach LOS	A				A				D				B			

HCS Two-Way Stop-Control Report

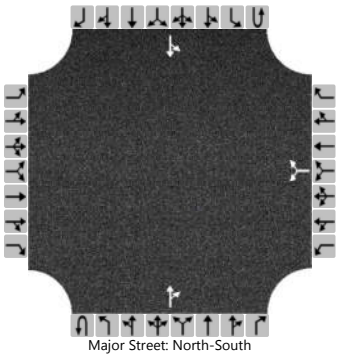
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 ACCESS A TOTAL AM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
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	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						102		4			163	97		5	265	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							118							6		
Capacity, c (veh/h)							511							1285		
v/c Ratio							0.23							0.00		
95% Queue Length, Q_{95} (veh)							0.9							0.0		
95% Queue Length, Q_{95} (ft)							22.5							0.0		
Control Delay (s/veh)							14.2							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					14.2								0.2			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report

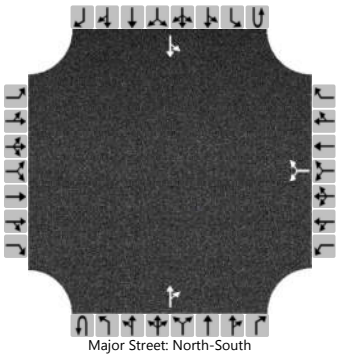
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/27/2025
Analysis Year	2054
Time Analyzed	2054 ACCESS A TOTAL PM
Intersection Orientation	North-South
Project Description	Pronghorn Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
Peak Hour Factor	0.98
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)						120		6			339	130		5	225	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							129							5		
Capacity, c (veh/h)							440							1094		
v/c Ratio							0.29							0.00		
95% Queue Length, Q_{95} (veh)							1.2							0.0		
95% Queue Length, Q_{95} (ft)							30.0							0.0		
Control Delay (s/veh)							16.5							8.3	0.0	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)					16.5								0.2			
Approach LOS					C								A			

Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX E

ITE Trip Generation Worksheets, 11th Edition

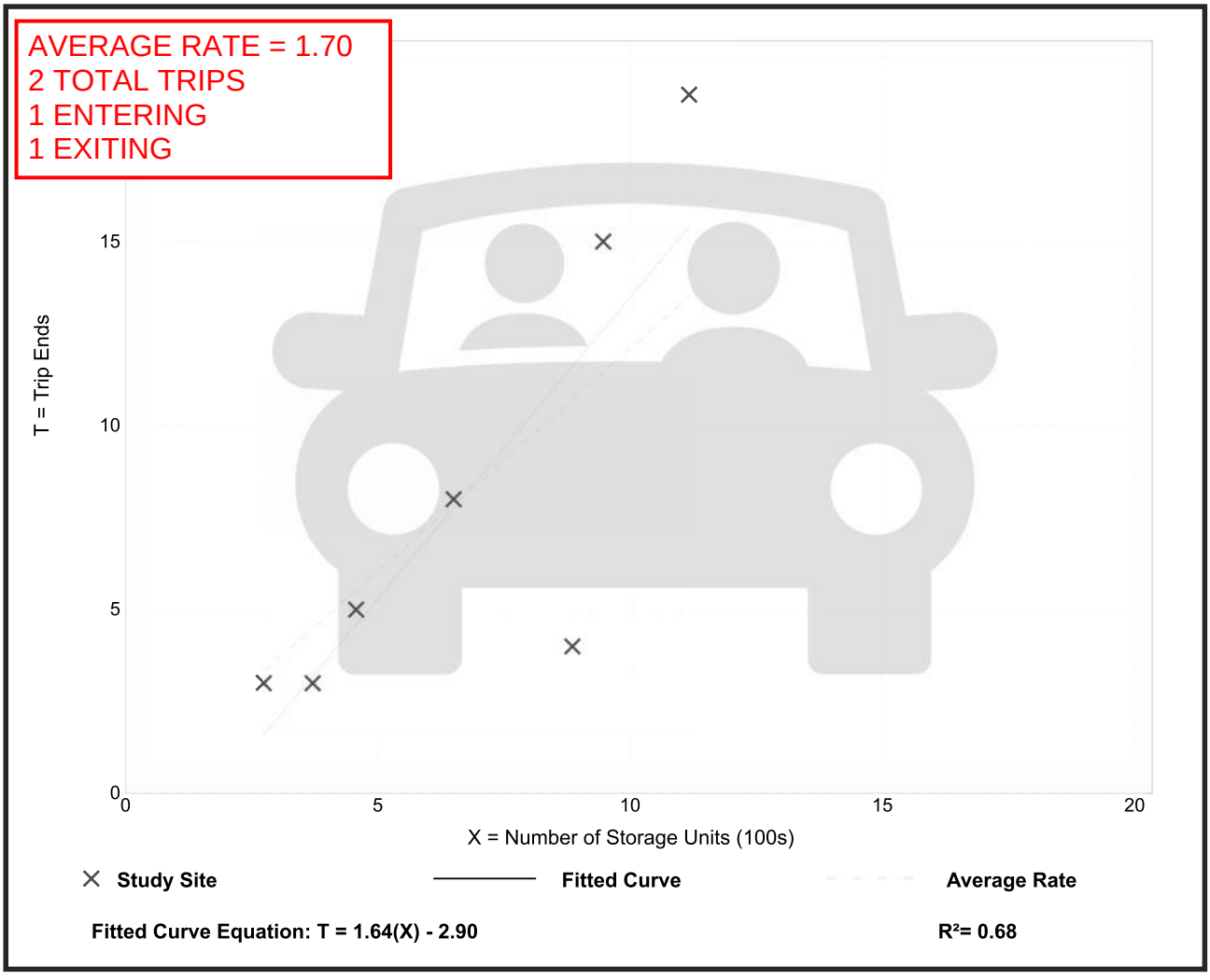
Mini-Warehouse
(151)

Vehicle Trip Ends vs:	**Storage Units (100s)**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	7
Avg. Num. of Storage Units (100s):	7
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.21	0.45 - 1.70	0.49

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

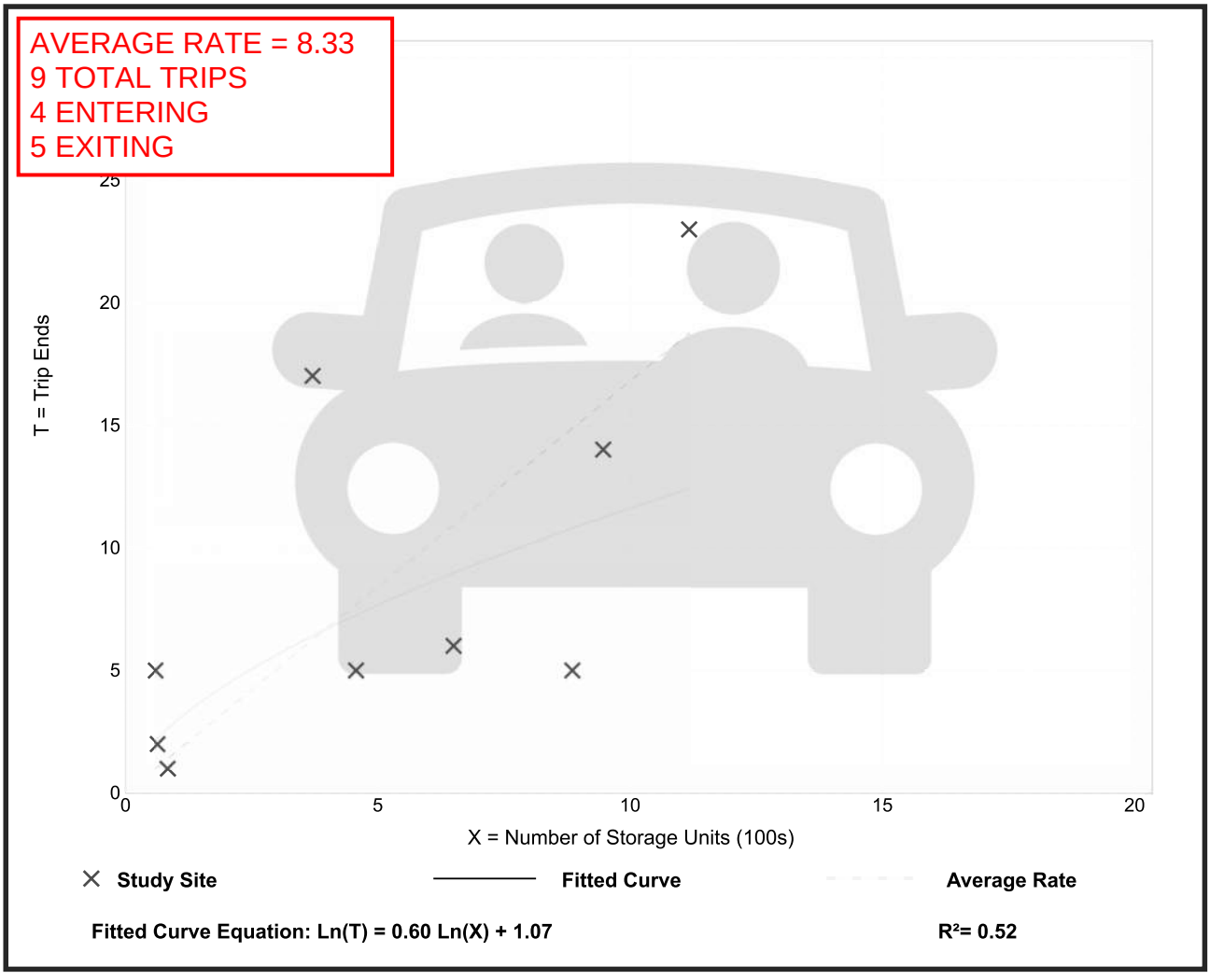
Mini-Warehouse
(151)

Vehicle Trip Ends vs: **Storage Units (100s)**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Storage Units (100s): 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.68	0.56 - 8.33	1.37

Data Plot and Equation



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Filing 1

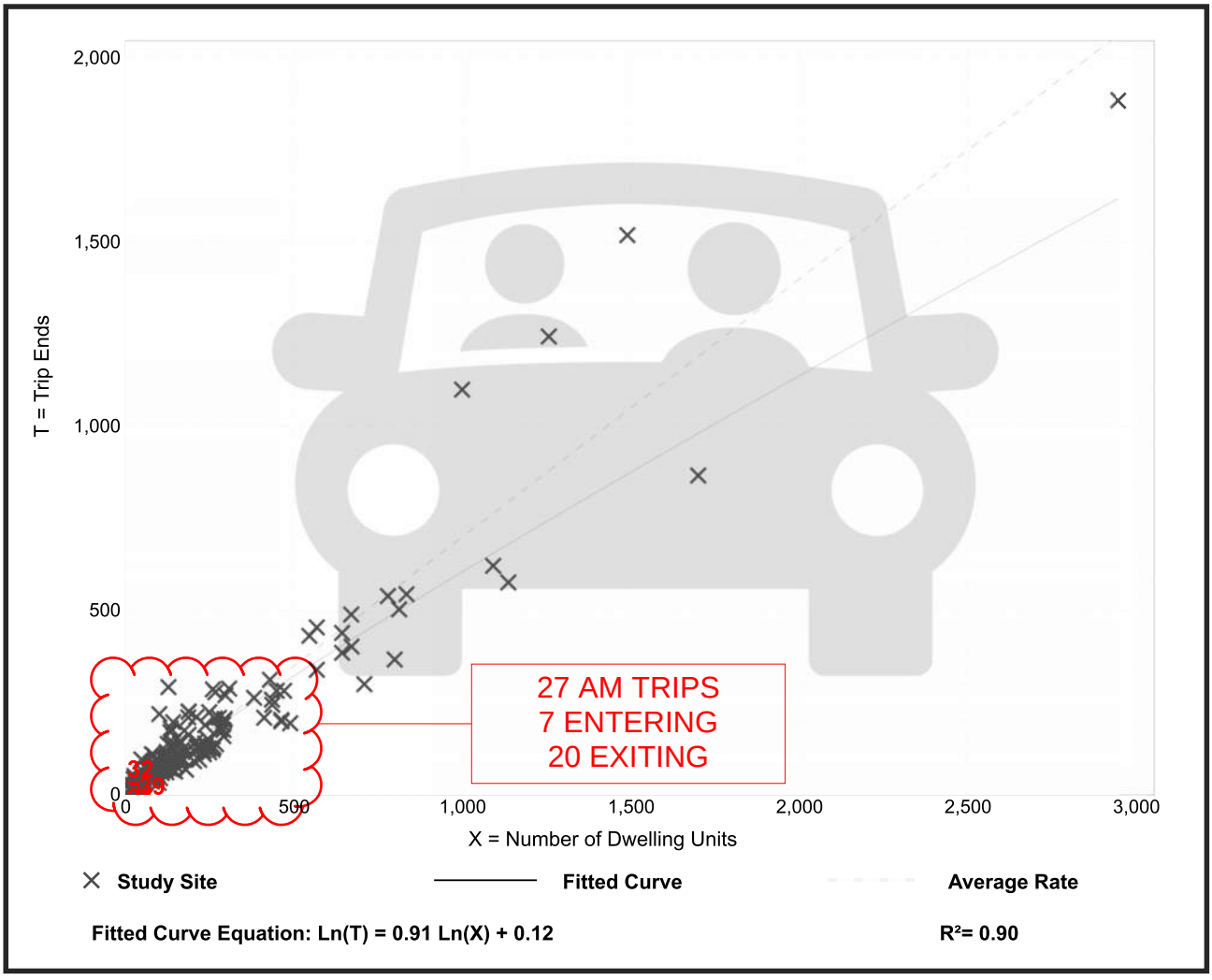
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Filing 1

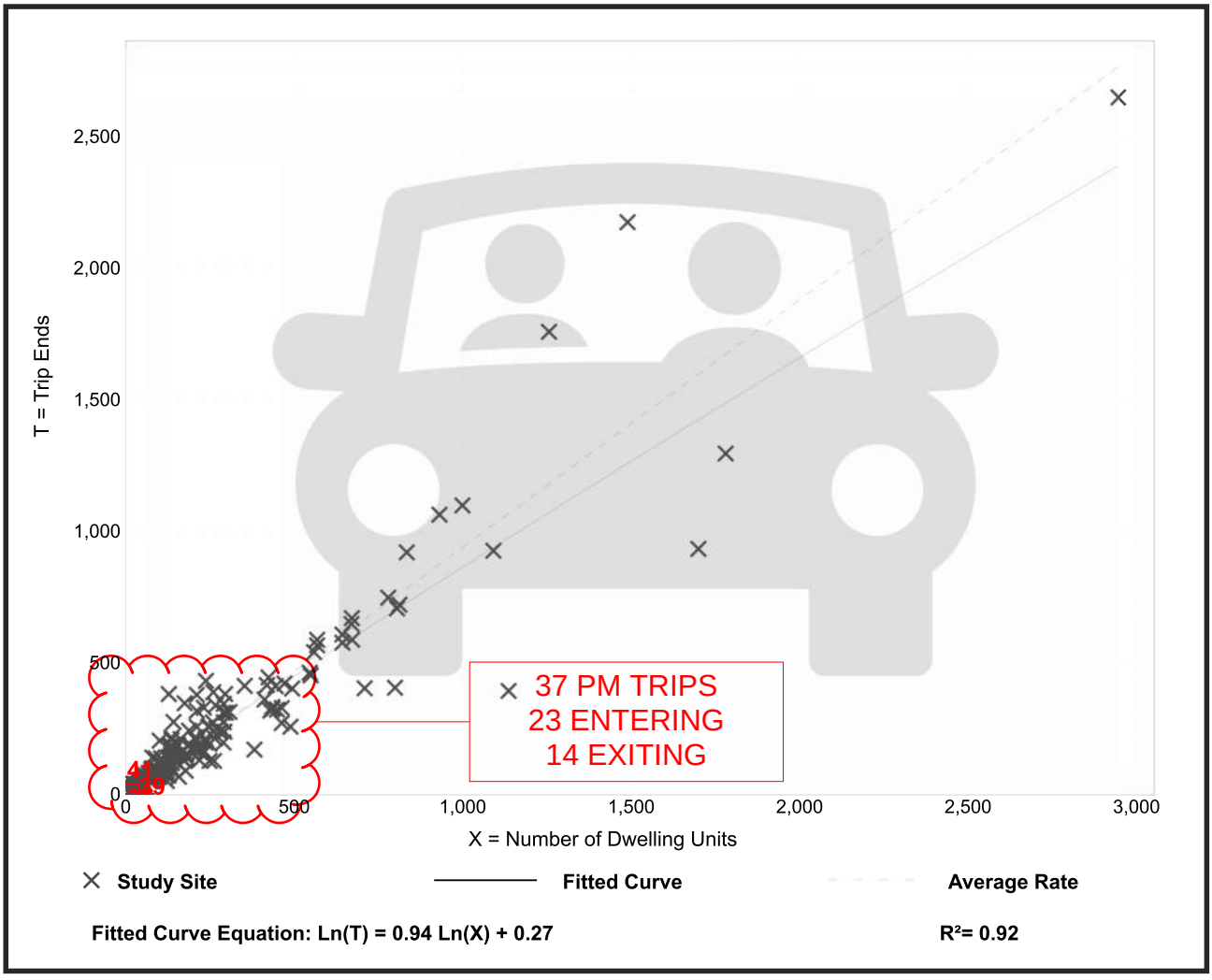
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



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Filing 1

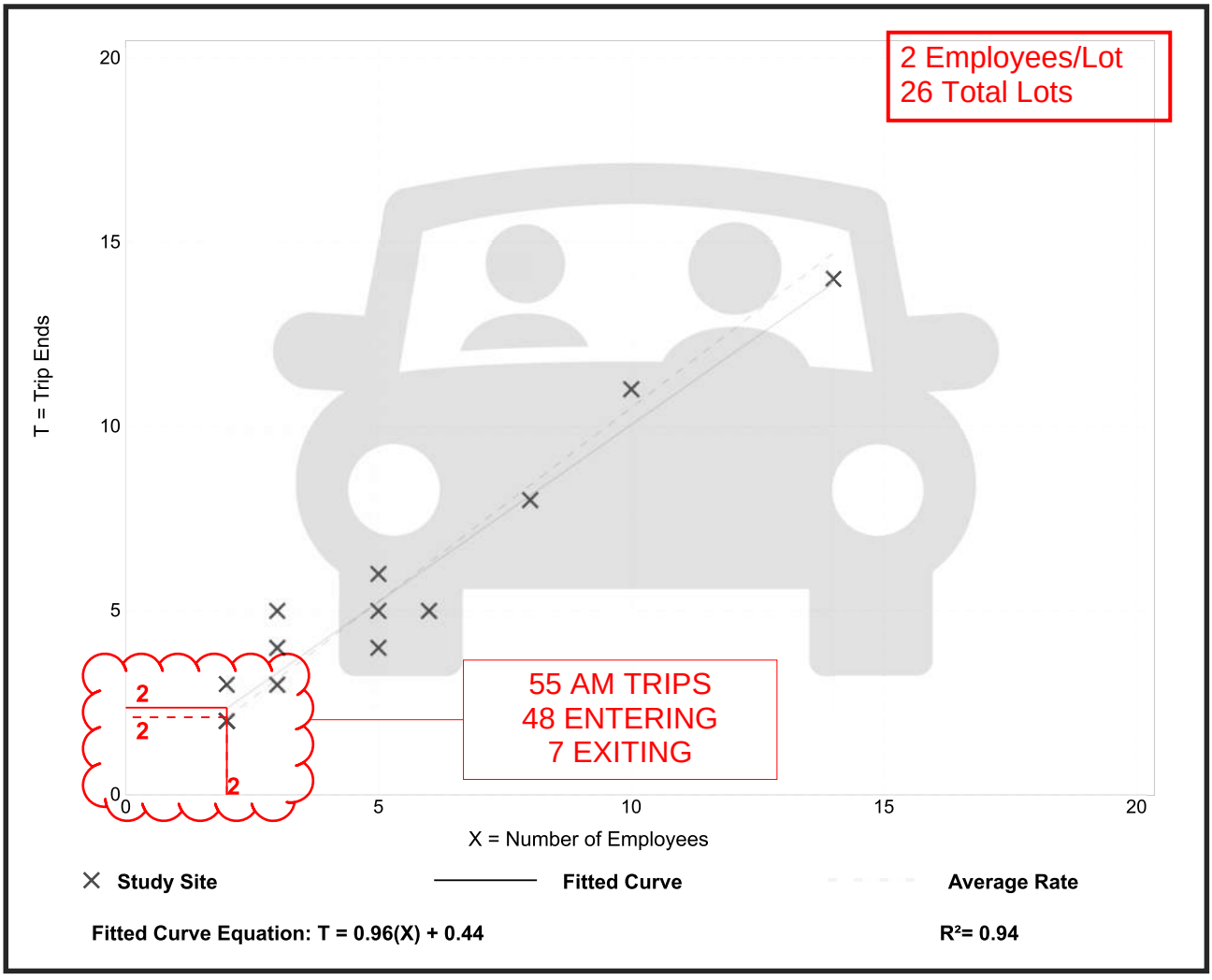
Small Office Building
(712)

Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. Num. of Employees: 5
Directional Distribution: 85% entering, 15% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.05	0.80 - 1.67	0.20

Data Plot and Equation



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Filing 1

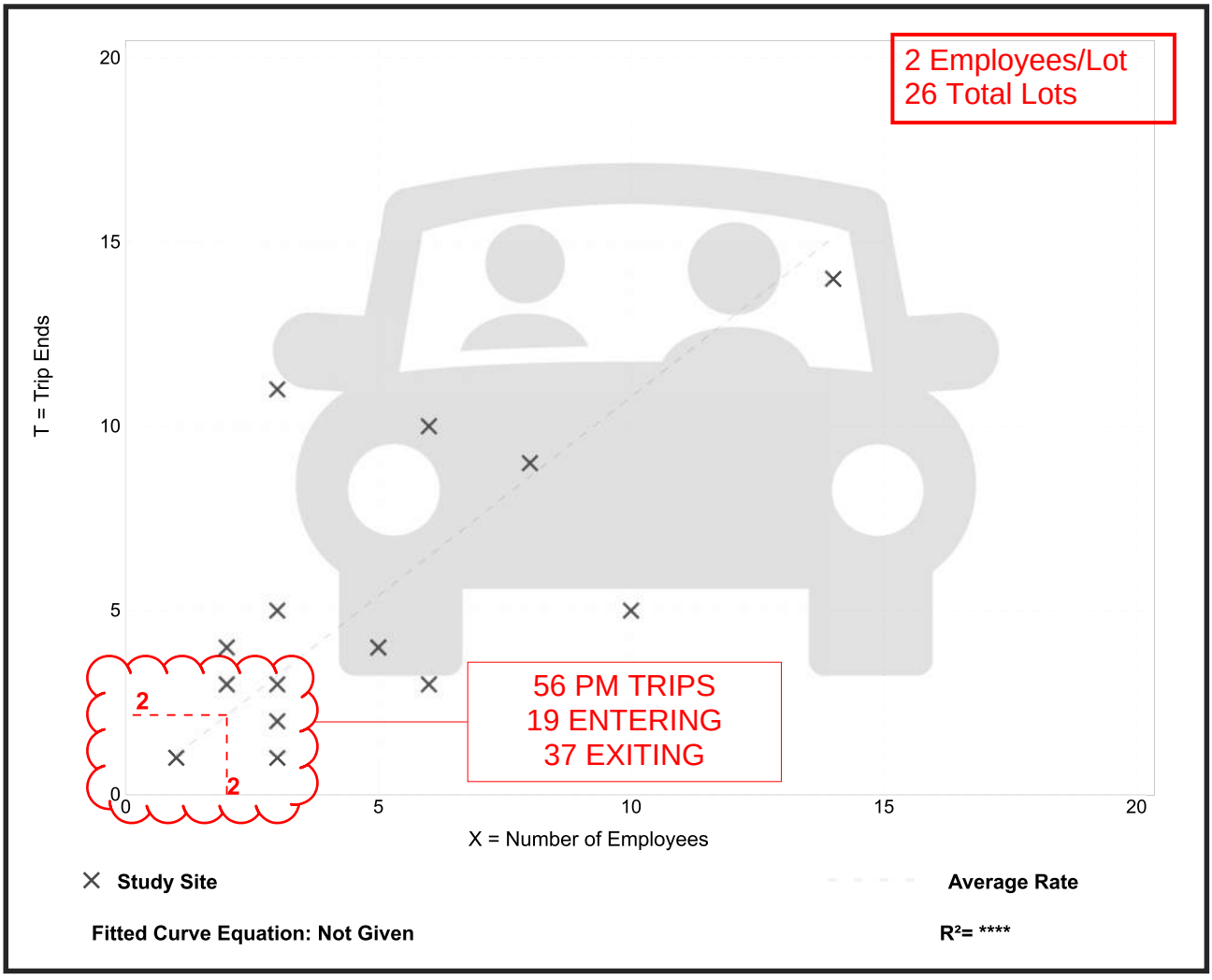
Small Office Building
(712)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	16
Avg. Num. of Employees:	5
Directional Distribution:	33% entering, 67% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.08	0.33 - 3.67	0.69

Data Plot and Equation



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Filing 1

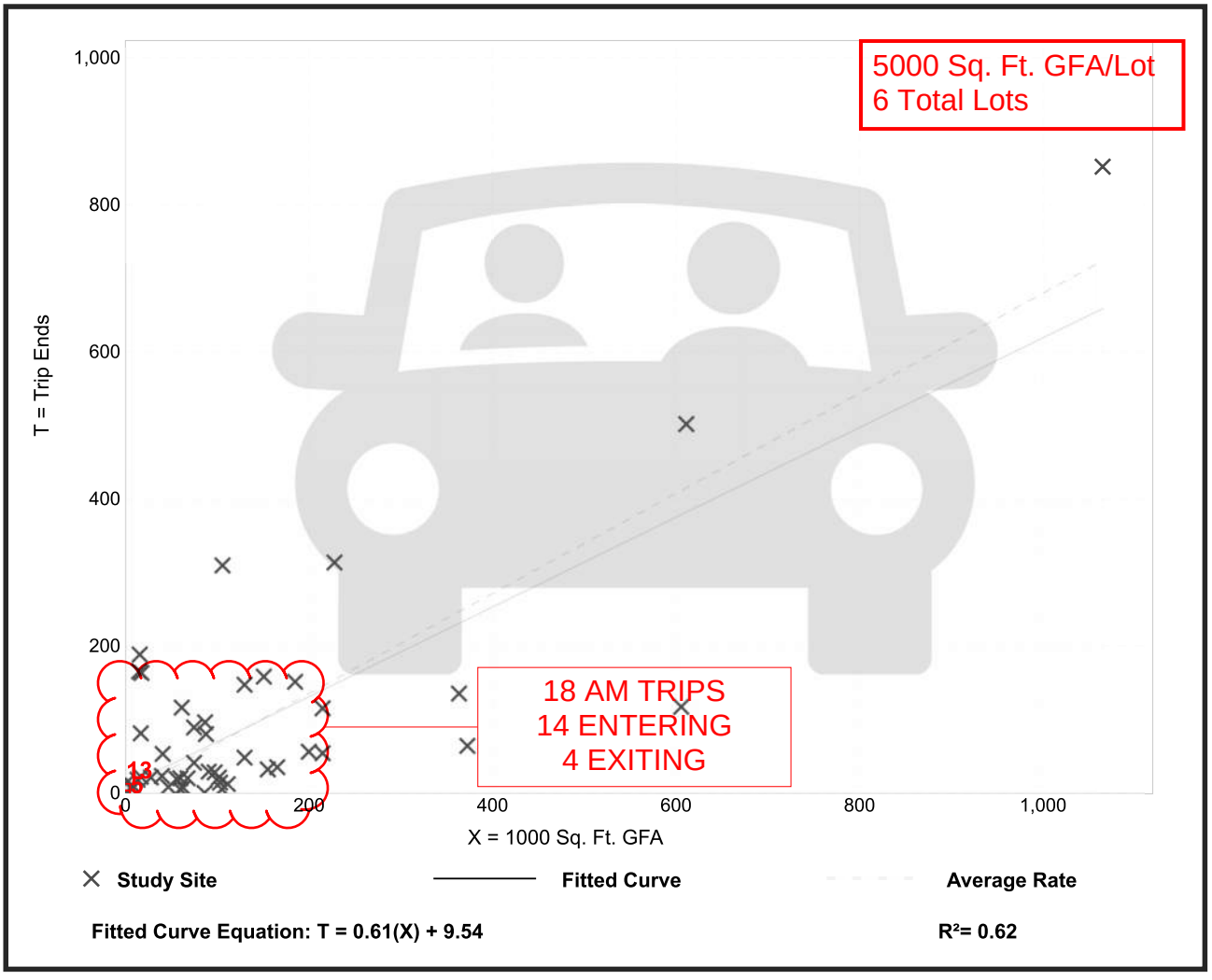
Manufacturing
(140)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. 1000 Sq. Ft. GFA: 138
Directional Distribution: 76% entering, 24% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.01 - 11.93	1.03

Data Plot and Equation



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Filing 1

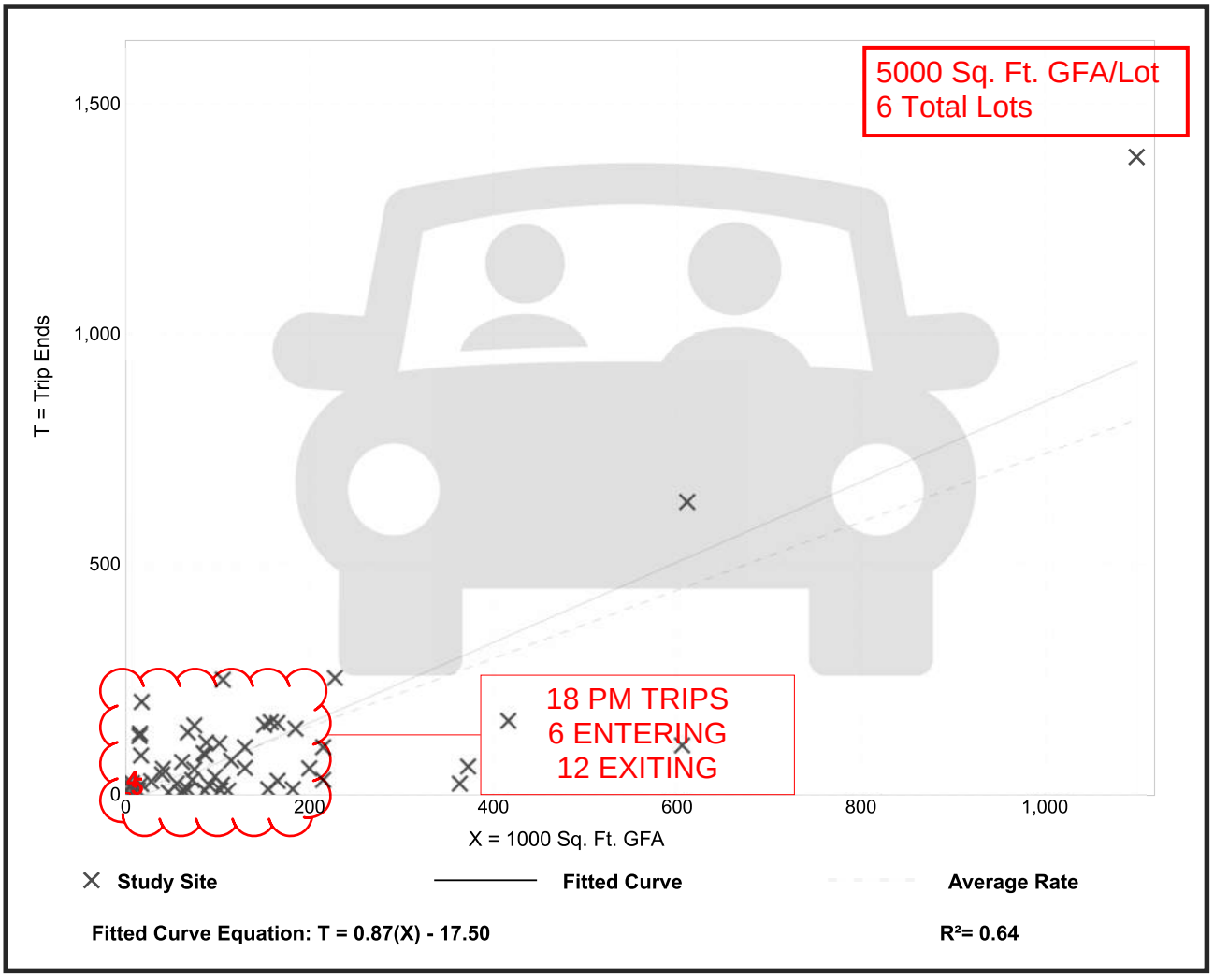
Manufacturing
(140)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 55
Avg. 1000 Sq. Ft. GFA: 142
Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.07 - 11.37	0.93

Data Plot and Equation



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Filing 1

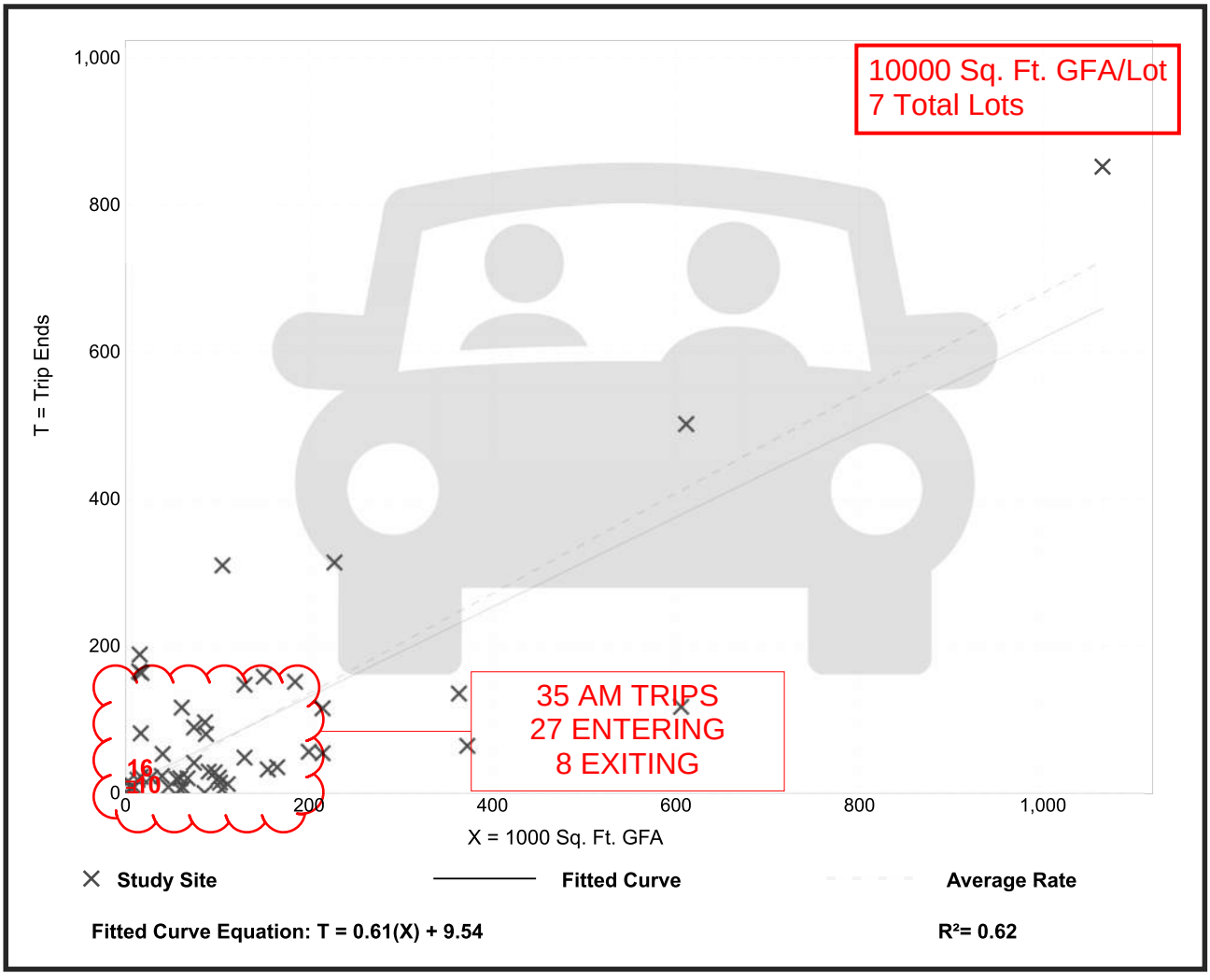
Manufacturing
(140)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. 1000 Sq. Ft. GFA: 138
Directional Distribution: 76% entering, 24% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.01 - 11.93	1.03

Data Plot and Equation



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Filing 1

Manufacturing
(140)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
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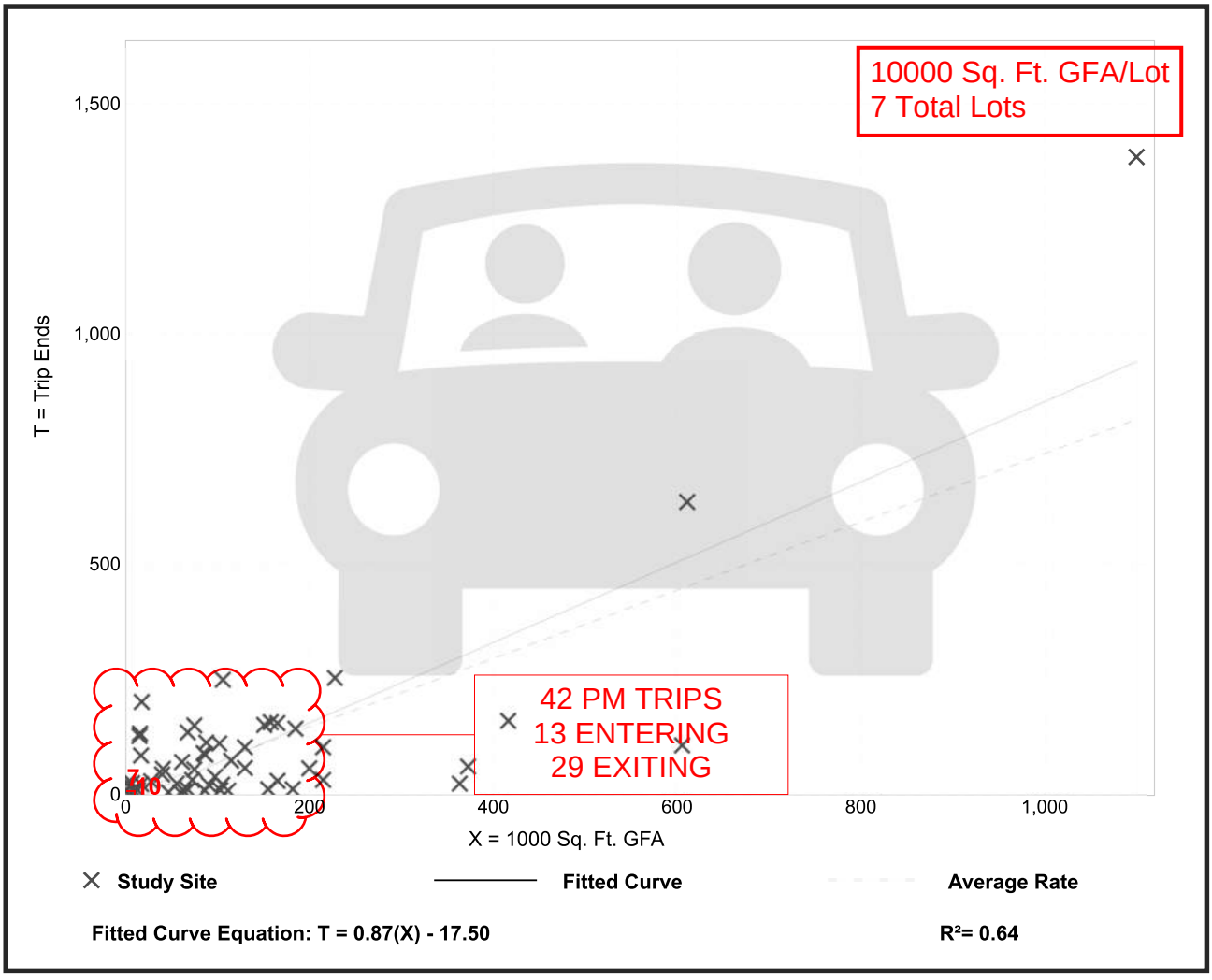
Data Plot and Equation



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Filing 2

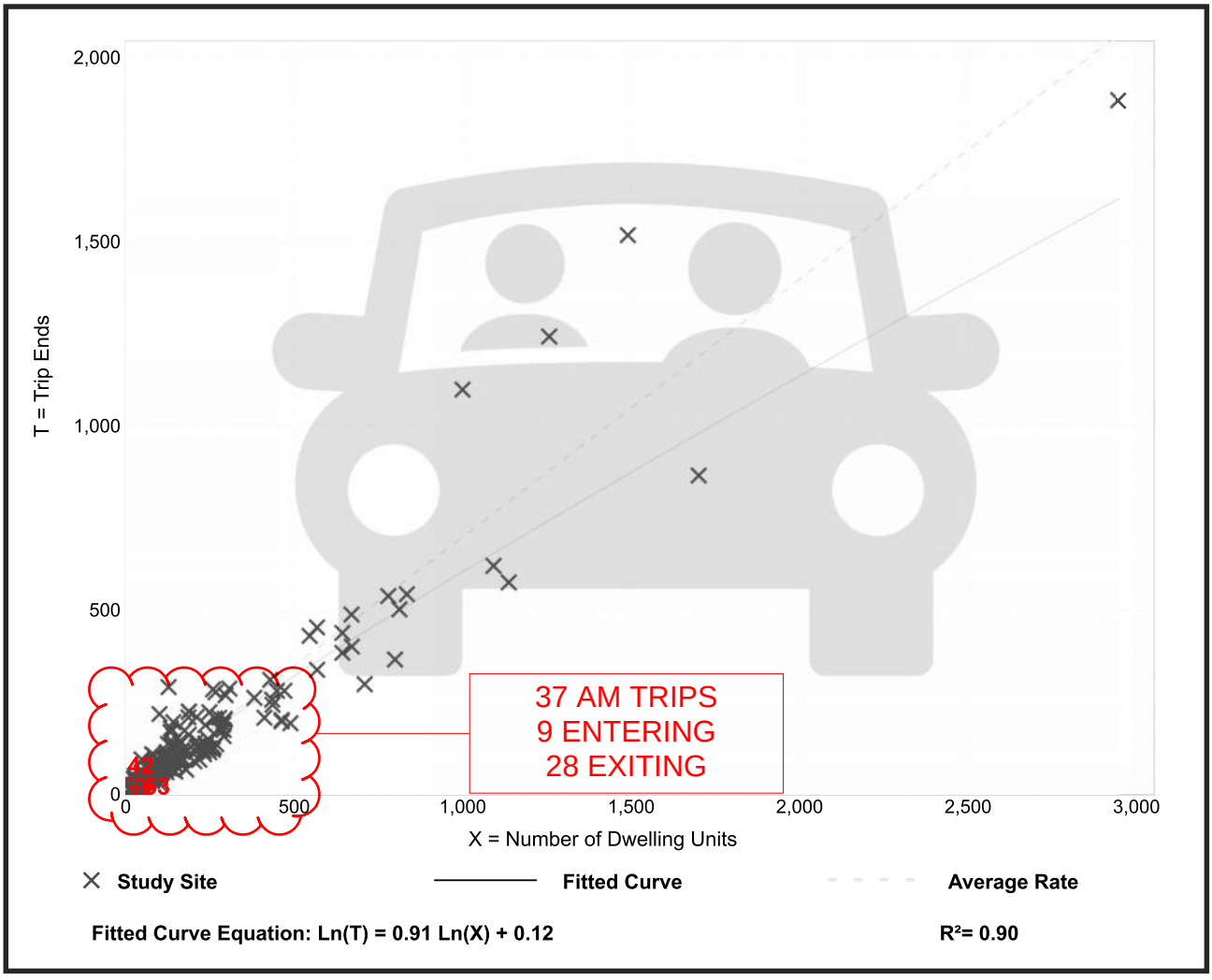
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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Filing 2

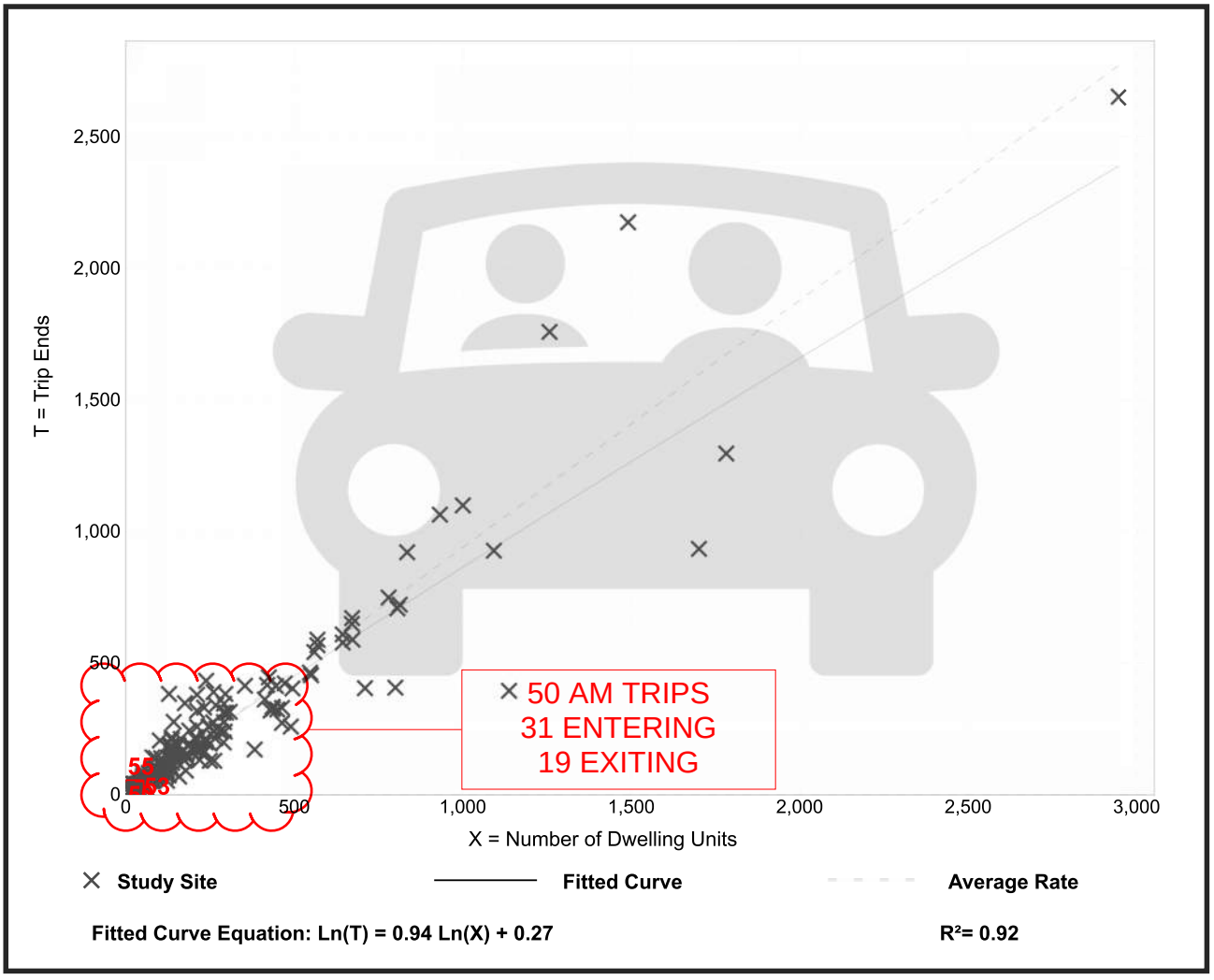
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



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Filing 3

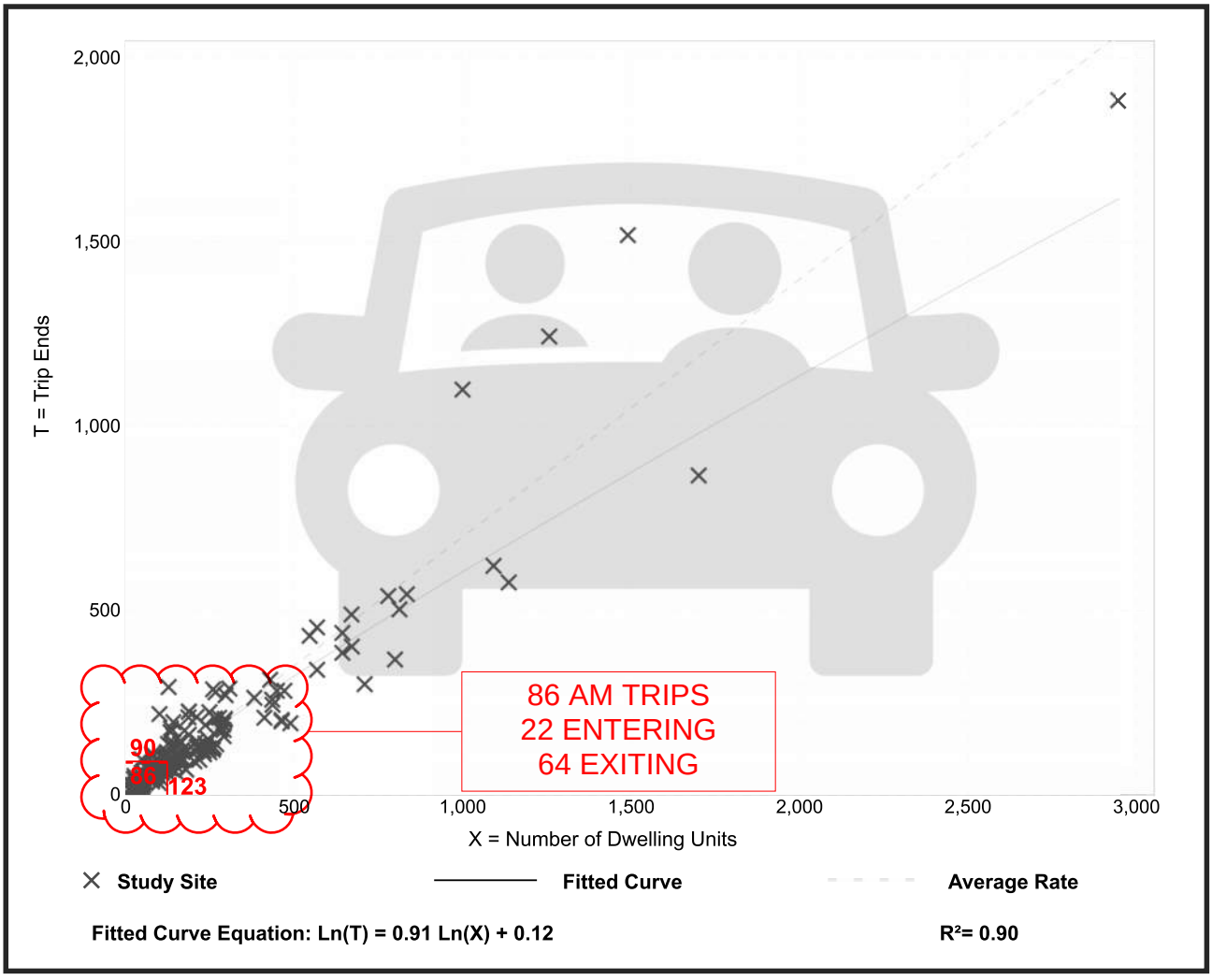
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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Filing 3

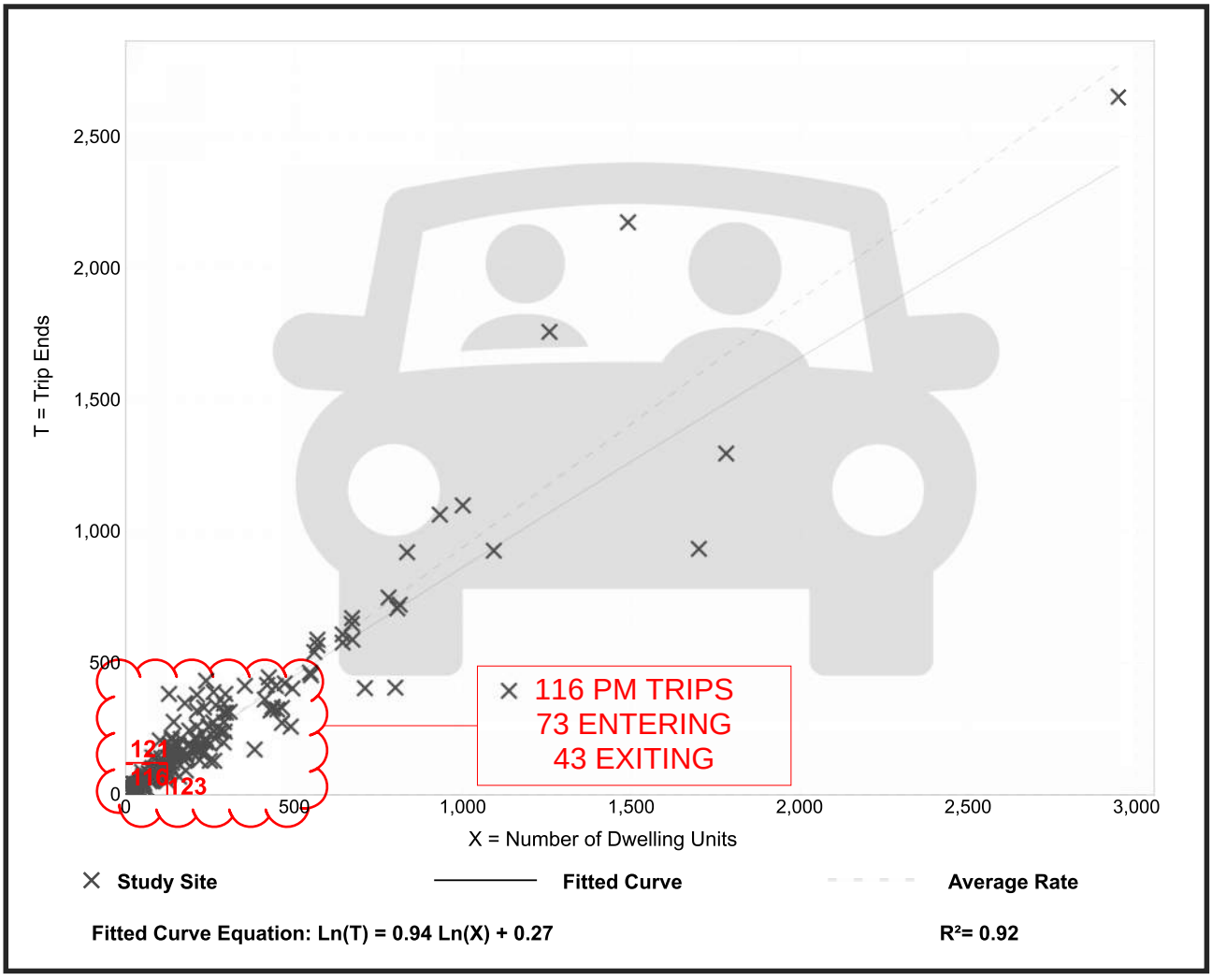
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	208
Avg. Num. of Dwelling Units:	248
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



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Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX F

- Auxiliary Turn Lane
- Traffic Signal Warrant Analysis

HWY 87 & Lorraine St

2024 Background Background Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Lorraine St	NB	114	24	90	N	242	48	90	N
	SB	168	0	90	N	135	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	23	1	90	N	24	1	90	N

2024 Background ffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Lorraine St	NB	114	0	0.0%	168	N	242	0	0.0%	135	N
	SB	168	2	1.2%	114	N	135	1	0.7%	242	N
	EB	0	0	0.0%	23	N	0	0	0.0%	24	N
	WB	23	22	95.7%	0	Y	24	23	95.8%	0	Y

2034 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Lorraine St	NB	136	34	90	N	277	58	90	N
	SB	192	0	90	N	155	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	30	3	90	N	36	3	90	N

2034 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Lorraine St	NB	136	0	0.0%	192	N	277	0	0.0%	155	N
	SB	192	4	2.1%	136	N	155	3	1.9%	277	N
	EB	0	0	0.0%	30	N	0	0	0.0%	36	N
	WB	30	27	90.0%	0	Y	36	33	91.7%	0	Y

2054 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

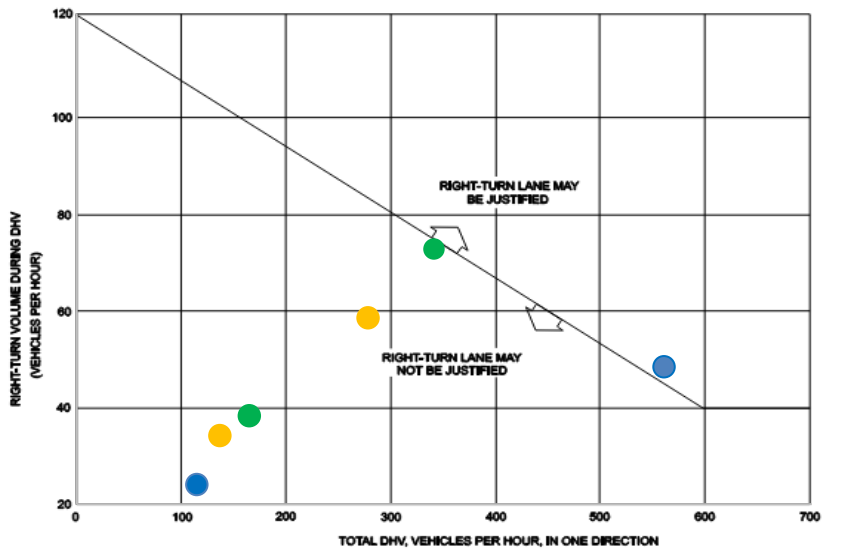
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Lorraine St	NB	164	38	90	N	340	72	90	N
	SB	233	0	90	N	189	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	39	3	90	N	42	3	90	N

2054 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Lorraine St	NB	164	0	0.0%	233	N	340	0	0.0%	189	N
	SB	233	4	1.7%	164	N	189	3	1.6%	340	N
	EB	0	0	0.0%	39	N	0	0	0.0%	42	N
	WB	39	36	92.3%	0	Y	42	39	92.9%	0	Y

HWY 87 & Lorraine St

November 2007 INTERSECTIONS AT-GRADE 28.4(3)



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.

HWY 87 & Lorraine St

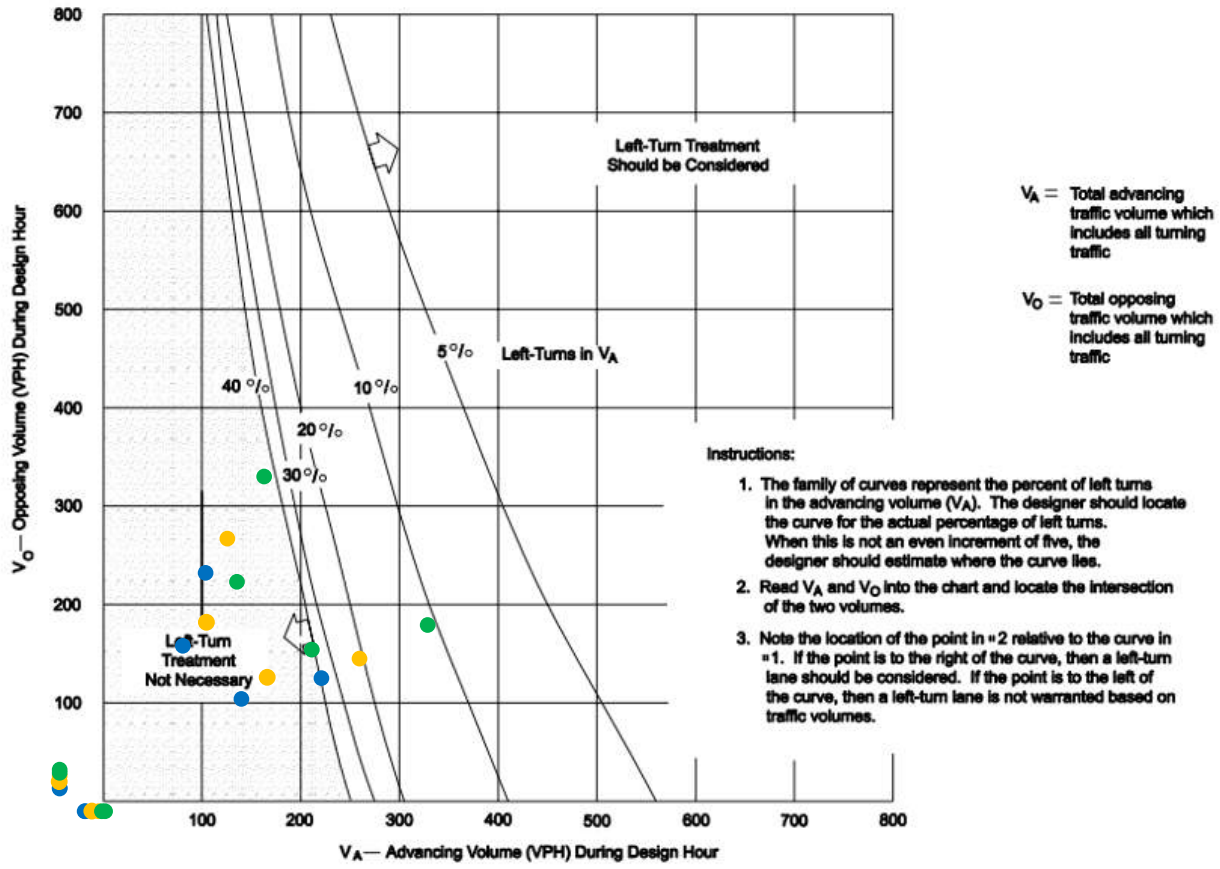
2024 Background Traffic

2034 Total Traffic

2054 Total Traffic

Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed

HWY 87 & Lorraine St



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (60 MPH)
(US Customary)

Figure 28.4C

HWY 87 & Lorraine St

2024 Background TRAFFIC
2034 Total TRAFFIC
2054 Total TRAFFIC

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

HWY 87 & Access A

2024 Background Background Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Access A	NB	117	0	90	N	246	0	90	N
	SB	192	0	90	N	161	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	0	0	90	N	0	0	90	N

2024 Background ffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Access A	NB	117	0	0.0%	192	N	246	0	0.0%	161	N
	SB	192	0	0.0%	117	N	161	0	0.0%	246	N
	EB	0	0	0.0%	0	N	0	0	0.0%	0	N
	WB	0	0	0.0%	0	N	0	0	0.0%	0	N

2034 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Access A	NB	222	85	90	N	333	57	90	N
	SB	219	0	90	N	188	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	37	2	90	N	89	4	90	N

2034 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Access A	NB	222	0	0.0%	219	N	333	0	0.0%	188	N
	SB	219	4	1.8%	222	N	188	3	1.6%	333	N
	EB	0	0	0.0%	37	N	0	0	0.0%	89	N
	WB	37	35	94.6%	0	Y	89	85	95.5%	0	Y

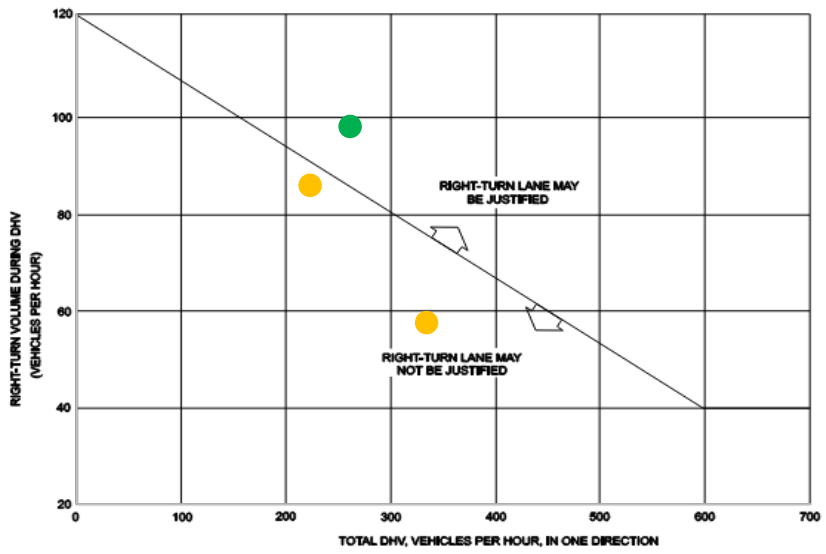
2054 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
HWY 87 & Access A	NB	260	97	90	Y	469	130	90	Y
	SB	270	0	90	N	230	0	90	N
	EB	0	0	90	N	0	0	90	N
	WB	106	4	90	N	126	6	90	N

2054 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary

Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
HWY 87 & Access A	NB	260	0	0.0%	270	N	469	0	0.0%	230	N
	SB	270	5	1.9%	260	N	230	5	2.2%	469	N
	EB	0	0	0.0%	106	N	0	0	0.0%	126	N
	WB	106	102	96.2%	0	Y	126	120	95.2%	0	Y

HWY 87 & Access A



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.

HWY 87 & Access A

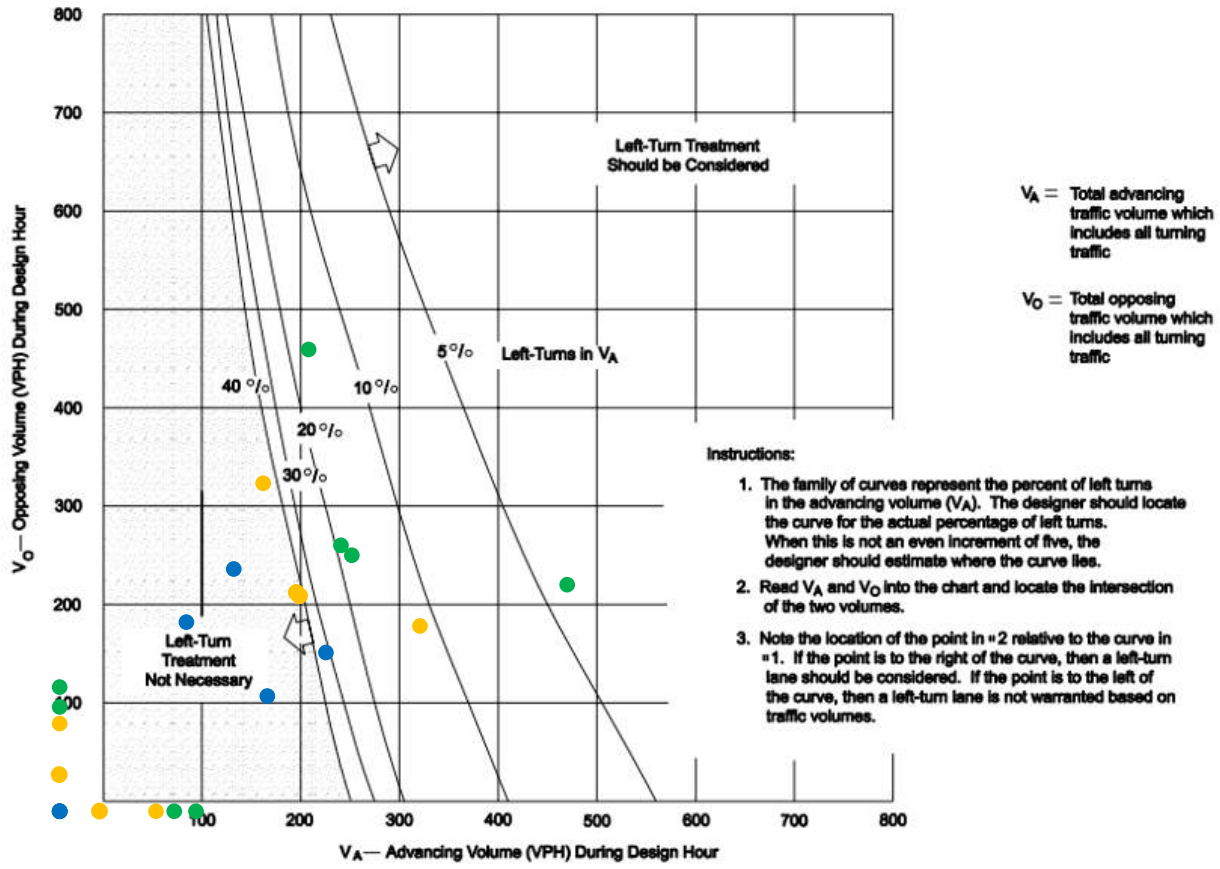
2024 Background Traffic

2034 Total Traffic

2054 Total Traffic

Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed

HWY 87 & Access A



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (60 MPH)
(US Customary)

Figure 28.4C

HWY 87 & Access A

2024 Background TRAFFIC
2034 Total TRAFFIC
2054 Total TRAFFIC

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

HCS Warrants Report

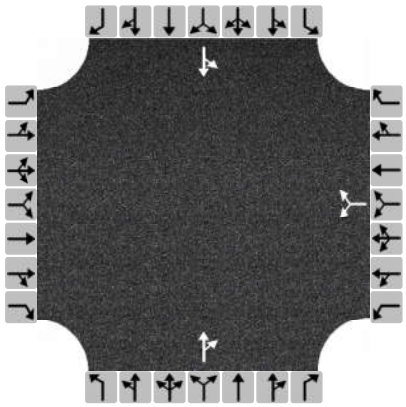
Project Information

Analyst	JTP	Date	5/15/2025
Agency	IMEG	Analysis Year	2024
Jurisdiction	COUNTY	Time Period Analyzed	12 Hr
Project Description	2024 INT 1 EXISTING		

General

Major Street Direction	North-South	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	2
Major Street Speed (mi/h)	70	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	0	0	0	0	0	0	1	0	0	1	0
Lane Usage					LR			TR			LT	
Vehicle Volumes Averages (veh/h)	0	0	0	1	0	24	0	111	23	1	110	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	0.0			9.1			0.0			0.1		
Delay Averages (veh-hrs)	0.0			0.1			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A (70%)	4B (56%)
07 - 08	208	47	255	0	0	No	No	No	No	No	No	No	No	No
08 - 09	185	26	211	0	0	No	No	No	No	No	No	No	No	No
09 - 10	224	25	249	0	0	No	No	No	No	No	No	No	No	No
10 - 11	268	26	294	0	0	No	No	No	No	No	No	No	No	No
11 - 12	215	29	244	0	0	No	No	No	No	No	No	No	No	No
12 - 13	240	14	254	0	0	No	No	No	No	No	No	No	No	No
13 - 14	227	16	243	0	0	No	No	No	No	No	No	No	No	No
14 - 15	236	22	258	0	0	No	No	No	No	No	No	No	No	No
15 - 16	260	30	290	0	0	No	No	No	No	No	No	No	No	No
16 - 17	344	19	363	0	0	No	No	No	No	No	No	No	No	No
17 - 18	339	27	366	0	0	No	No	No	No	No	No	No	No	No
18 - 19	211	23	234	0	0	No	No	No	No	No	No	No	No	No
Total	2957	304	3261	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

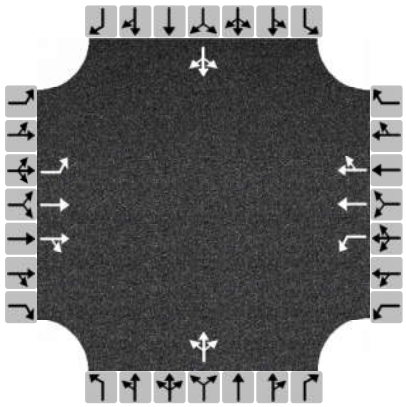
Project Information

Analyst	JTP	Date	5/15/2025
Agency	IMEG	Analysis Year	2024
Jurisdiction	COUNTY	Time Period Analyzed	12 Hr
Project Description	2024 INT 2 EXISTING		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	2
Major Street Speed (mi/h)	50	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	1	2	0	1	2	0	0	1	0	0	1	0
Lane Usage	L	TR		L	TR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	48	260	1	0	246	2	1	0	0	1	0	49
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	1.2			0.1			9.7			9.4		
Delay Averages (veh-hrs)	0.1			0.0			0.0			0.1		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	1

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A (70%)	4B (56%)
07 - 08	548	76	627	0	0	No	No	No	Yes	No	No	No	No	No
08 - 09	465	54	520	0	0	No	No	No	No	No	No	No	No	No
09 - 10	445	65	512	0	0	No	No	No	No	No	No	No	No	No
10 - 11	501	46	551	0	0	No	No	No	No	No	No	No	No	No
11 - 12	542	44	588	0	0	No	No	No	Yes	No	No	No	No	No
12 - 13	603	47	651	0	0	No	No	No	Yes	No	No	No	No	No
13 - 14	542	53	596	0	0	No	No	No	Yes	No	No	No	No	No
14 - 15	505	47	552	0	0	No	No	No	Yes	No	No	No	No	No
15 - 16	612	33	645	0	0	No	No	No	No	No	No	No	No	No
16 - 17	662	45	707	0	0	No	No	No	Yes	No	No	No	No	No
17 - 18	796	64	861	0	0	No	No	Yes	Yes	No	No	No	No	No
18 - 19	501	49	552	0	0	No	No	No	No	No	No	No	No	No
Total	6722	623	7362	0	0	0	0	1	7	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

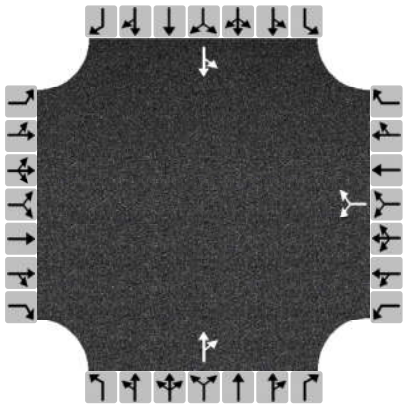
Project Information

Analyst	JTP	Date	5/15/2025
Agency	IMEG	Analysis Year	2054
Jurisdiction	COUNTY	Time Period Analyzed	12 Hr
Project Description	2054 INT 1 Full Build		

General

Major Street Direction	North-South	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	2
Major Street Speed (mi/h)	70	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	0	0	0	0	0	0	1	0	0	1	0
Lane Usage					LR			TR			LT	
Vehicle Volumes Averages (veh/h)	0	0	0	1	0	32	0	149	32	1	144	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	0.0			9.4			0.0			0.1		
Delay Averages (veh-hrs)	0.0			0.1			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	1

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A (70%)	4B (56%)
07 - 08	280	64	344	0	0	No	No	No	No	No	No	No	No	No
08 - 09	250	35	285	0	0	No	No	No	No	No	No	No	No	No
09 - 10	302	33	335	0	0	No	No	No	No	No	No	No	No	No
10 - 11	362	35	397	0	0	No	No	No	No	No	No	No	No	No
11 - 12	290	39	329	0	0	No	No	No	No	No	No	No	No	No
12 - 13	324	19	343	0	0	No	No	No	No	No	No	No	No	No
13 - 14	306	21	327	0	0	No	No	No	No	No	No	No	No	No
14 - 15	319	30	349	0	0	No	No	No	No	No	No	No	No	No
15 - 16	350	40	390	0	0	No	No	No	No	No	No	No	No	No
16 - 17	404	26	430	0	0	No	No	No	No	No	No	No	No	No
17 - 18	456	36	492	0	0	No	No	No	No	No	No	No	No	No
18 - 19	284	31	315	0	0	No	No	No	No	No	No	No	No	No
Total	3927	409	4336	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

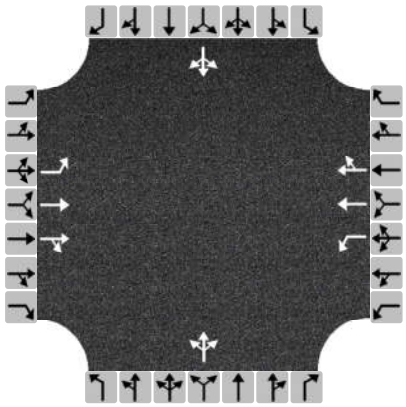
Project Information

Analyst	JTP	Date	5/15/2025
Agency	IMEG	Analysis Year	2054
Jurisdiction	COUNTY	Time Period Analyzed	12 Hr
Project Description	2054 INT 2 Full Build		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	2
Major Street Speed (mi/h)	50	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	1	2	0	1	2	0	0	1	0	0	1	0
Lane Usage	L	TR		L	TR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	65	351	2	0	332	3	1	0	0	2	0	67
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	1.2			0.0			11.3			10.0		
Delay Averages (veh-hrs)	0.2			0.0			0.0			0.2		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	1

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A (70%)	4B (56%)
07 - 08	738	102	844	0	0	No	Yes	Yes	Yes	Yes	No	No	No	No
08 - 09	627	73	701	0	0	No	No	No	Yes	No	No	No	No	No
09 - 10	600	88	690	3	0	No	Yes	No	Yes	No	No	No	No	No
10 - 11	675	62	742	1	0	No	No	Yes	Yes	No	No	No	No	No
11 - 12	730	59	792	0	0	No	No	Yes	Yes	No	No	No	No	No
12 - 13	812	64	877	0	0	No	No	Yes	Yes	No	No	No	No	No
13 - 14	731	71	803	0	0	No	No	Yes	Yes	No	No	No	No	No
14 - 15	681	63	744	0	0	No	No	Yes	Yes	No	No	No	No	No
15 - 16	824	44	868	0	0	No	No	No	Yes	No	No	No	No	No
16 - 17	892	61	954	0	0	No	No	Yes	Yes	No	No	No	No	No
17 - 18	1073	87	1161	0	0	No	Yes	Yes	Yes	Yes	No	No	No	No
18 - 19	677	66	746	0	0	No	No	Yes	Yes	No	No	No	No	No
Total	9060	840	9922	4	0	0	3	9	12	2	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	✓
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	✓
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX G

- 2024 Seasonal Adjustment Factors
- Appendix E of the Road Design Manual Produced by MDT

2024 Seasonal Factors [1]								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UMA_UC	January	1.648	1.110	1.003	0.990	0.978	1.013	1.378
	February	1.523	1.058	1.057	1.058	1.026	0.981	1.286
	March	1.571	1.039	1.007	0.983	0.966	0.971	1.313
	April	1.311	0.932	0.904	0.907	0.917	0.883	1.134
	May	1.220	0.856	0.826	0.821	0.826	0.828	1.099
	June	1.227	0.880	0.822	0.808	0.820	0.854	1.123
	July	1.235	0.882	0.824	0.838	0.838	0.838	1.124
	August	1.244	0.884	0.844	0.838	0.842	0.854	1.100
	September	1.325	0.885	0.854	0.858	0.865	0.853	1.141
	October	1.414	0.942	0.901	0.953	0.957	0.917	1.193
	November	1.503	0.976	0.943	0.941	0.950	1.013	1.309
	December	1.499	1.002	0.998	0.978	0.965	0.954	1.301

Note 1: Data obtained from the Montana Department of Transportation, for the dates of 1/1/2023 - 12/31/2023

2024 Seasonal Factors [1]								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UPA	January	1.709	1.140	1.022	0.990	0.980	0.979	1.340
	February	1.563	1.048	1.030	1.036	0.997	0.945	1.204
	March	1.547	1.030	0.977	0.970	0.962	0.944	1.197
	April	1.391	0.964	0.925	0.918	0.901	0.867	1.106
	May	1.298	0.912	0.878	0.870	0.863	0.835	1.083
	June	1.247	0.903	0.863	0.853	0.842	0.828	1.066
	July	1.233	0.871	0.842	0.837	0.832	0.822	1.056
	August	1.269	0.906	0.873	0.862	0.852	0.845	1.071
	September	1.334	0.916	0.880	0.875	0.870	0.835	1.092
	October	1.413	0.952	0.912	0.939	0.931	0.889	1.137
	November	1.498	0.966	0.933	0.934	0.925	0.957	1.225
	December	1.548	0.996	1.000	0.958	0.952	0.922	1.219

Note 1: Data obtained from the Montana Department of Transportation, for the dates of 1/1/2023 - 12/31/2023

TYPE OF FACILITY	LEVEL-OF-SERVICE CRITERIA	
Freeways (NHS — Interstate)	Rural: B	Urban: B
Principal Arterials (NHS — Non-Interstate)	Level/Rolling: B	Mountainous: C
Minor Arterials (Non-NHS — Primary)	Level/Rolling: B	Mountainous: C
Rural Collector Roads (Non-NHS — Secondary)	Desirable: B	Minimum: C
Urban Principle Arterials (NHS — Non-Interstate) 2-Lane and Multi-Lane	Desirable: B	Minimum: C
Urban Minor Arterials (Non-NHS) 2-Lane and Multi-Lane	Desirable: B	Minimum: C
Urban Collector Streets (Non-NHS)	Desirable: C	Minimum: D

LEVEL-OF-SERVICE CRITERIA

Figure 30.2B

Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX H

Miovision Data

HWY 87 and Loraine St - TMC

Tue Jul 23, 2024
AM Peak (Jul 23 2024 9:45AM - 10:45 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212282, Location: 45.892711, -108.467172

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

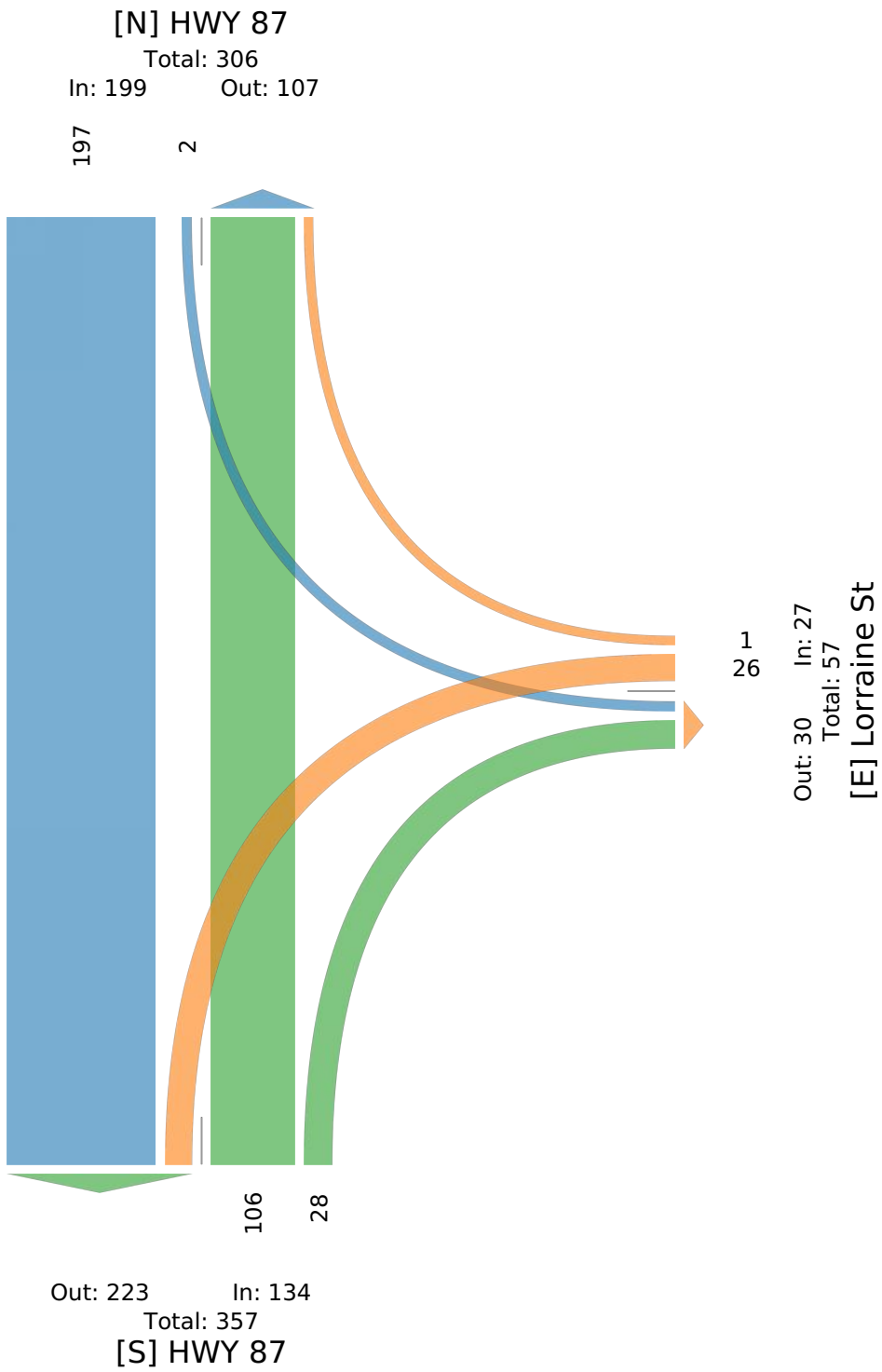
Leg Direction	HWY 87 Southbound					Lorraine St Westbound					HWY 87 Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-07-23 9:45AM	61	0	0	**61**	0	0	10	0	**10**	0	8	20	0	**28**	0	**99**
10:00AM	42	1	0	**43**	0	1	3	0	**4**	0	9	27	0	**36**	0	**83**
10:15AM	50	0	0	**50**	0	0	7	0	**7**	0	8	29	0	**37**	0	**94**
10:30AM	44	1	0	**45**	0	0	6	0	**6**	0	3	30	0	**33**	0	**84**
Total	197	2	0	**199**	0	1	26	0	**27**	0	28	106	0	**134**	0	**360**
% Approach	99.0%	1.0%	0%	**-**	-	3.7%	96.3%	0%	**-**	-	20.9%	79.1%	0%	**-**	-	**-**
% Total	54.7%	0.6%	0%	**55.3%**	-	0.3%	7.2%	0%	**7.5%**	-	7.8%	29.4%	0%	**37.2%**	-	**-**
PHF	0.807	0.500	-	**0.816**	-	0.250	0.650	-	**0.675**	-	0.778	0.883	-	**0.905**	-	0.909
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	3	0	**3**	-	3
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	2.8%	0%	**2.2%**	-	0.8%
Lights	186	1	0	**187**	-	1	26	0	**27**	-	27	94	0	**121**	-	335
% Lights	94.4%	50.0%	0%	**94.0%**	-	100%	100%	0%	**100%**	-	96.4%	88.7%	0%	**90.3%**	-	93.1%
Single-Unit Trucks	4	1	0	**5**	-	0	0	0	**0**	-	1	2	0	**3**	-	8
% Single-Unit Trucks	2.0%	50.0%	0%	**2.5%**	-	0%	0%	0%	**0%**	-	3.6%	1.9%	0%	**2.2%**	-	2.2%
Articulated Trucks	7	0	0	**7**	-	0	0	0	**0**	-	0	7	0	**7**	-	14
% Articulated Trucks	3.6%	0%	0%	**3.5%**	-	0%	0%	0%	**0%**	-	0%	6.6%	0%	**5.2%**	-	3.9%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

HWY 87 and Loraine St - TMC

Tue Jul 23, 2024
AM Peak (Jul 23 2024 9:45AM - 10:45 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212282, Location: 45.892711, -108.467172

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



HWY 87 and Loraine St - TMC

Tue Jul 23, 2024
PM Peak (Jul 23 2024 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212282, Location: 45.892711, -108.467172

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

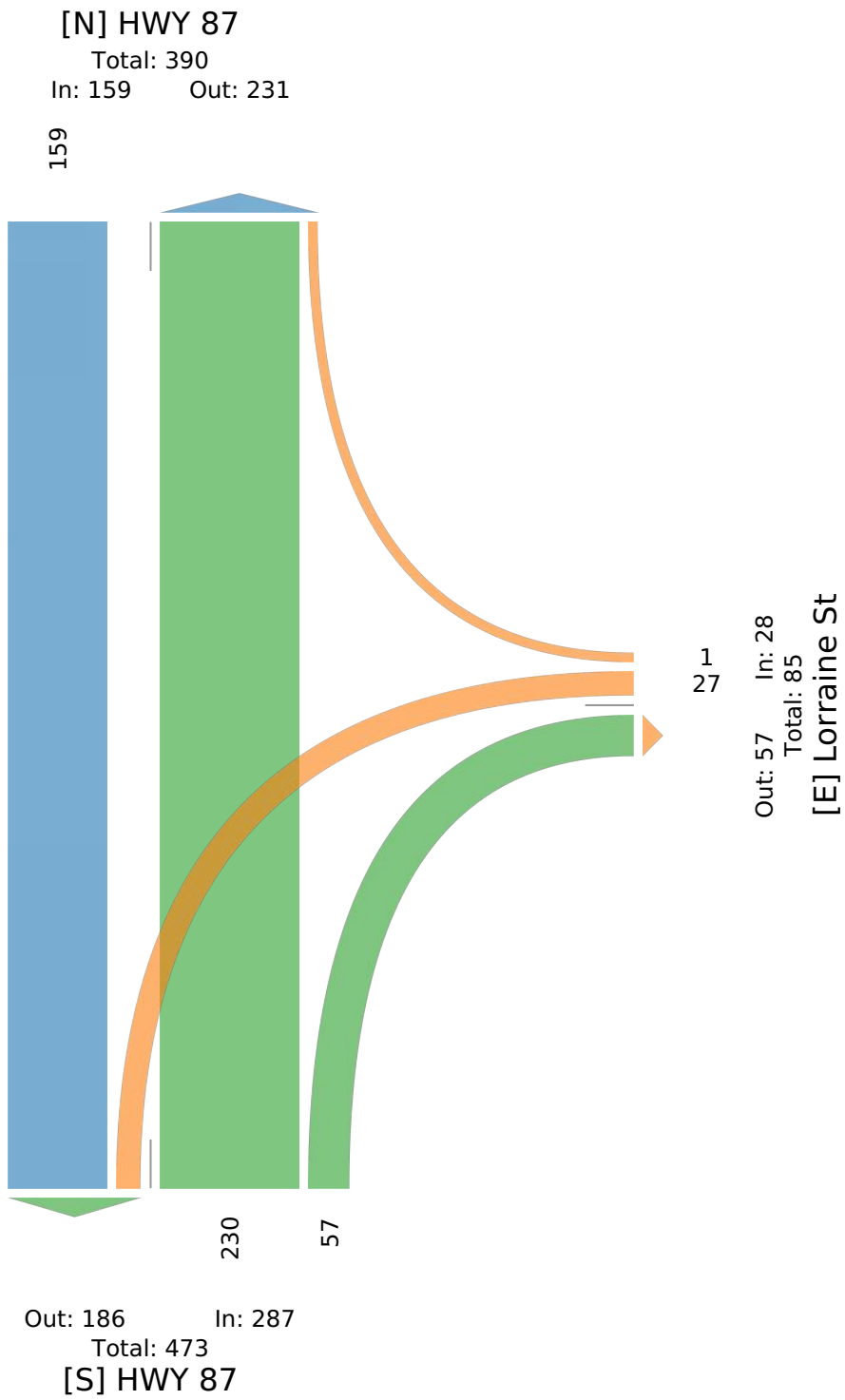
Leg Direction	HWY 87 Southbound					Lorraine St Westbound					HWY 87 Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-07-23 4:30PM	43	0	0	**43**	0	0	6	0	**6**	0	11	49	0	**60**	0	**109**
4:45PM	49	0	0	**49**	0	1	3	0	**4**	0	13	61	0	**74**	0	**127**
5:00PM	28	0	0	**28**	0	0	10	0	**10**	0	15	61	0	**76**	0	**114**
5:15PM	39	0	0	**39**	0	0	8	0	**8**	0	18	59	0	**77**	0	**124**
Total	159	0	0	**159**	0	1	27	0	**28**	0	57	230	0	**287**	0	**474**
% Approach	100%	0%	0%	**-**	-	3.6%	96.4%	0%	**-**	-	19.9%	80.1%	0%	**-**	-	**-**
% Total	33.5%	0%	0%	**33.5%**	-	0.2%	5.7%	0%	**5.9%**	-	12.0%	48.5%	0%	**60.5%**	-	**-**
PHF	0.811	-	-	**0.811**	-	0.250	0.675	-	**0.700**	-	0.792	0.943	-	**0.932**	-	0.933
Motorcycles	5	0	0	**5**	-	0	0	0	**0**	-	1	0	0	**1**	-	6
% Motorcycles	3.1%	0%	0%	**3.1%**	-	0%	0%	0%	**0%**	-	1.8%	0%	0%	**0.3%**	-	1.3%
Lights	143	0	0	**143**	-	1	27	0	**28**	-	52	229	0	**281**	-	452
% Lights	89.9%	0%	0%	**89.9%**	-	100%	100%	0%	**100%**	-	91.2%	99.6%	0%	**97.9%**	-	95.4%
Single-Unit Trucks	4	0	0	**4**	-	0	0	0	**0**	-	3	1	0	**4**	-	8
% Single-Unit Trucks	2.5%	0%	0%	**2.5%**	-	0%	0%	0%	**0%**	-	5.3%	0.4%	0%	**1.4%**	-	1.7%
Articulated Trucks	7	0	0	**7**	-	0	0	0	**0**	-	1	0	0	**1**	-	8
% Articulated Trucks	4.4%	0%	0%	**4.4%**	-	0%	0%	0%	**0%**	-	1.8%	0%	0%	**0.3%**	-	1.7%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

HWY 87 and Loraine St - TMC

Tue Jul 23, 2024
PM Peak (Jul 23 2024 4:30PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212282, Location: 45.892711, -108.467172

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



HWY 312 and Bitterroot - TMC

Tue Jul 23, 2024
AM Peak (Jul 23 2024 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212278, Location: 45.857115, -108.445417

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	Bitterroot Dr Southbound						HYW 312 Southwestbound						Rosecrans DR Northwestbound						HWY 312 Northeastbound						
Time	BR	BL	HL	U	**App**	Ped*	HR	T	L	U	**App**	Ped*	R	BR	L	U	**App**	Ped*	R	T	BL	U	**App**	Ped*	**Int**
2024-07-23 7:00AM	24	0	0	0	**24**	0	0	106	0	0	**106**	0	0	0	0	0	**0**	0	0	39	4	0	**43**	0	**173**
7:15AM	15	0	0	0	**15**	0	0	124	0	0	**124**	0	0	0	0	0	**0**	0	0	38	8	0	**46**	0	**185**
7:30AM	23	0	1	0	**24**	0	1	139	0	0	**140**	0	0	0	2	0	**2**	0	1	37	7	0	**45**	0	**211**
7:45AM	29	0	0	0	**29**	0	0	102	0	0	**102**	0	1	0	0	0	**1**	0	0	53	5	0	**58**	0	**190**
Total	91	0	1	0	**92**	0	1	471	0	0	**472**	0	1	0	2	0	**3**	0	1	167	24	0	**192**	0	**759**
% Approach	98.9%	0%	1.1%	0%	**-**	-	0.2%	99.8%	0%	0%	**-**	-	33.3%	0%	66.7%	0%	**-**	-	0.5%	87.0%	12.5%	0%	**-**	-	-
% Total	12.0%	0%	0.1%	0%	**12.1%**	-	0.1%	62.1%	0%	0%	**62.2%**	-	0.1%	0%	0.3%	0%	**0.4%**	-	0.1%	22.0%	3.2%	0%	**25.3%**	-	-
PHF	0.784	-	0.250	-	**0.793**	-	0.250	0.847	-	-	**0.843**	-	0.250	-	0.250	-	**0.375**	-	0.250	0.788	0.750	-	**0.828**	-	0.899
Motorcycles	2	0	0	0	**2**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2
% Motorcycles	2.2%	0%	0%	0%	**2.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Lights	87	0	1	0	**88**	-	1	456	0	0	**457**	-	0	0	2	0	**2**	-	0	162	24	0	**186**	-	733
% Lights	95.6%	0%	100%	0%	**95.7%**	-	100%	96.8%	0%	0%	**96.8%**	-	0%	0%	100%	0%	**66.7%**	-	0%	97.0%	100%	0%	**96.9%**	-	96.6%
Single-Unit Trucks	2	0	0	0	**2**	-	0	10	0	0	**10**	-	1	0	0	0	**1**	-	1	3	0	0	**4**	-	17
% Single-Unit Trucks	2.2%	0%	0%	0%	**2.2%**	-	0%	2.1%	0%	0%	**2.1%**	-	100%	0%	0%	0%	**33.3%**	-	100%	1.8%	0%	0%	**2.1%**	-	2.2%
Articulated Trucks	0	0	0	0	**0**	-	0	5	0	0	**5**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	7
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	1.1%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	0%	0%	**1.0%**	-	0.9%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

HWY 312 and Bitterroot - TMC

Tue Jul 23, 2024
AM Peak (Jul 23 2024 7AM - 8 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212278, Location: 45.857115, -108.445417

Provided by: IMEG Corp.
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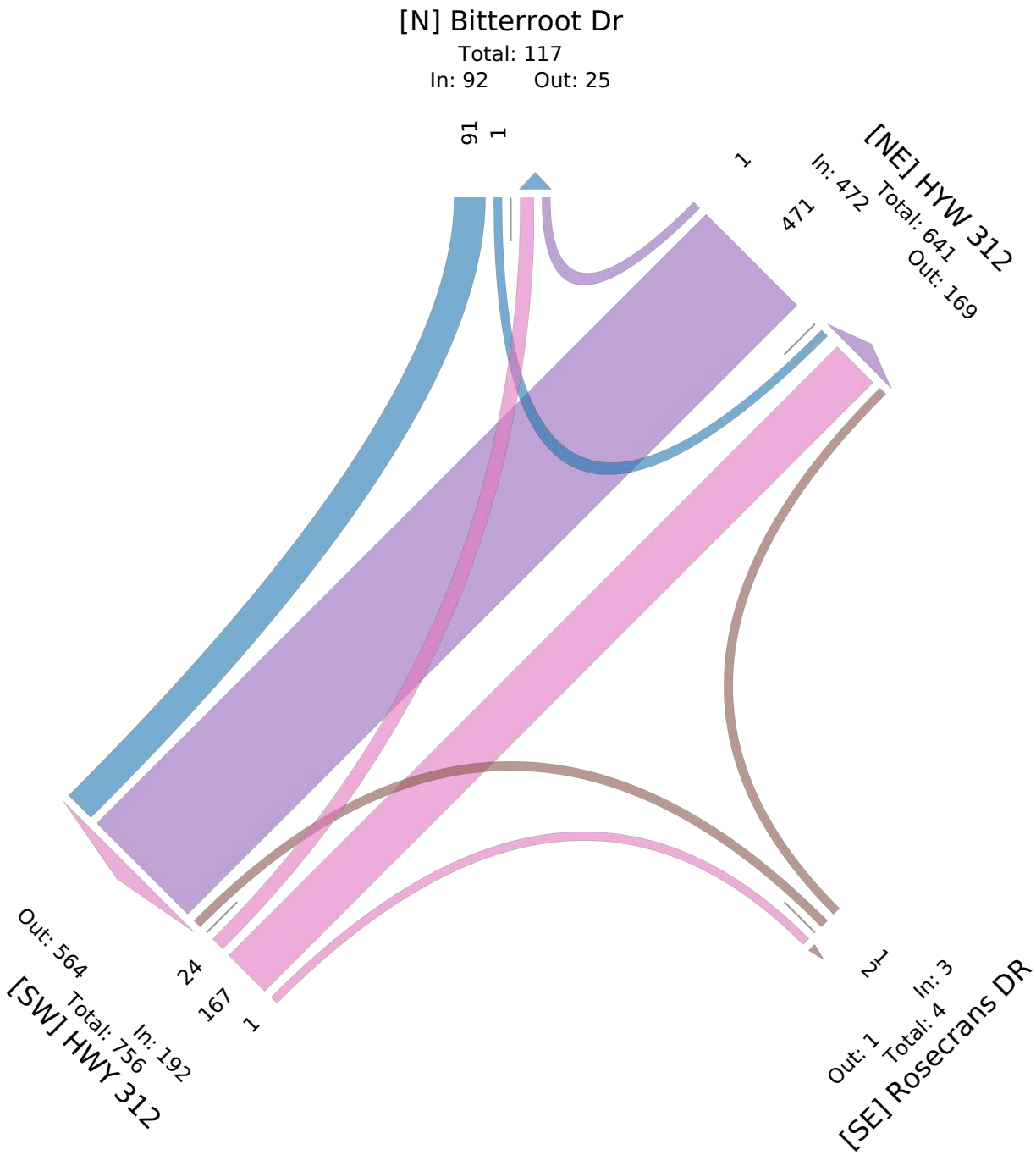


HWY 312 and Bitterroot - TMC

Tue Jul 23, 2024
PM Peak (Jul 23 2024 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212278, Location: 45.857115, -108.445417

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

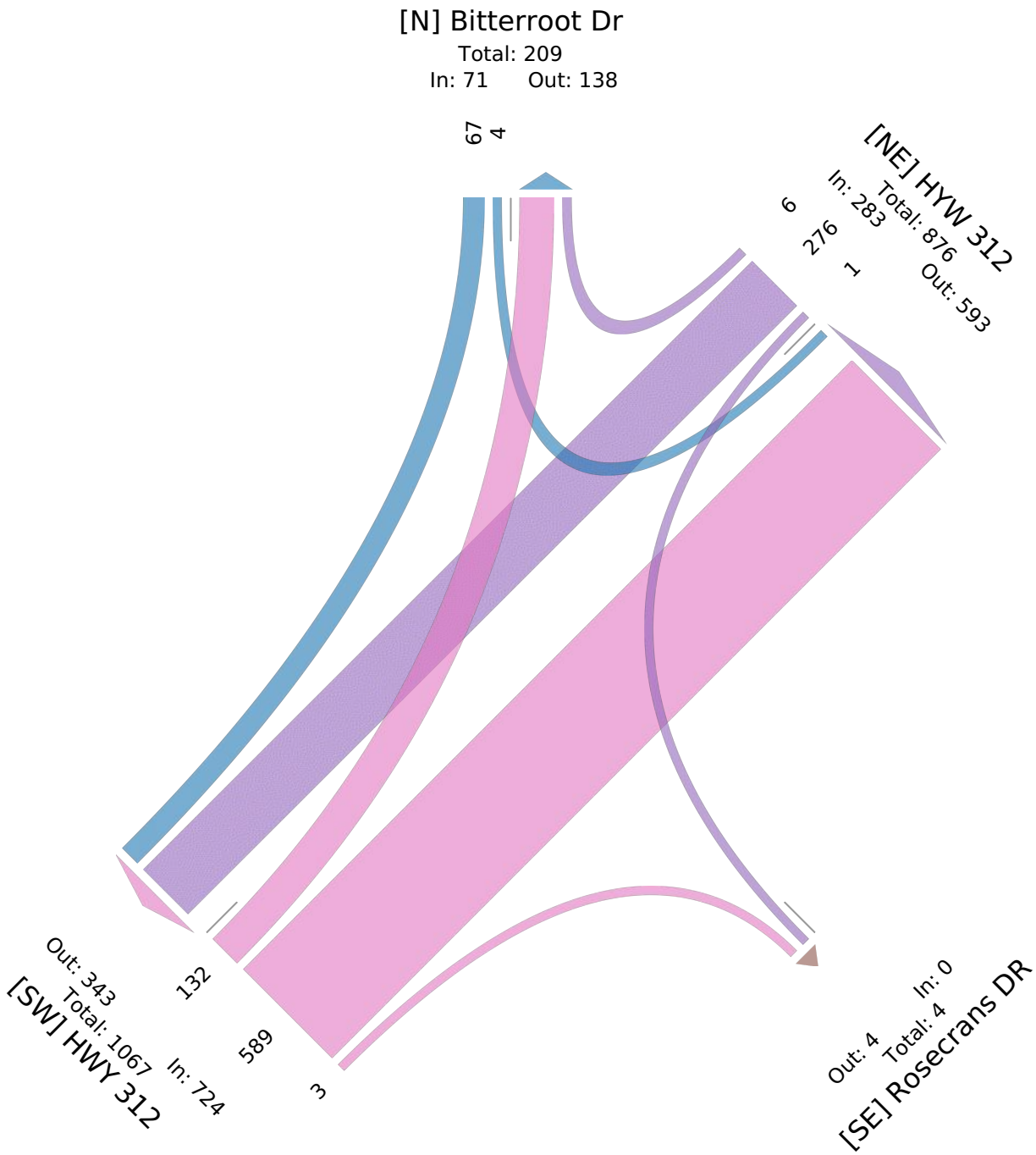
Leg Direction	Bitterroot Dr Southbound						HYW 312 Southwestbound						Rosecrans DR Northwestbound						HWY 312 Northeastbound						
Time	BR	BL	HL	U	**App**	Ped*	HR	T	L	U	**App**	Ped*	R	BR	L	U	**App**	Ped*	R	T	BL	U	**App**	Ped*	**Int**
2024-07-23 4:45PM	9	0	1	0	**10**	0	4	68	1	0	**73**	0	0	0	0	0	**0**	0	1	119	31	0	**151**	0	**234**
5:00PM	19	0	0	0	**19**	0	1	67	0	0	**68**	0	0	0	0	0	**0**	0	0	141	36	0	**177**	0	**264**
5:15PM	15	0	1	0	**16**	0	0	65	0	0	**65**	0	0	0	0	0	**0**	0	1	160	33	0	**194**	0	**275**
5:30PM	24	0	2	0	**26**	0	1	76	0	0	**77**	0	0	0	0	0	**0**	0	1	169	32	0	**202**	0	**305**
Total	67	0	4	0	**71**	0	6	276	1	0	**283**	0	0	0	0	0	**0**	0	3	589	132	0	**724**	0	**1078**
% Approach	94.4%	0%	5.6%	0%	**-**	-	2.1%	97.5%	0.4%	0%	**-**	-	0%	0%	0%	0%	**-**	-	0.4%	81.4%	18.2%	0%	**-**	-	-
% Total	6.2%	0%	0.4%	0%	**6.6%**	-	0.6%	25.6%	0.1%	0%	**26.3%**	-	0%	0%	0%	0%	**0%**	-	0.3%	54.6%	12.2%	0%	**67.2%**	-	-
PHF	0.698		- 0.500		**- 0.683**	-	0.375	0.908	0.250	-	**0.919**	-	-	-	-	-	**-**	-	0.750	0.871	0.917	-	**0.896**	-	0.884
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**-**	-	0%	0.2%	0%	0%	**0.1%**	-	0.3%
Lights	67	0	4	0	**71**	-	6	266	1	0	**273**	-	0	0	0	0	**0**	-	3	583	131	0	**717**	-	1061
% Lights	100%	0%	100%	0%	**100%**	-	100%	96.4%	100%	0%	**96.5%**	-	0%	0%	0%	0%	**-**	-	100%	99.0%	99.2%	0%	**99.0%**	-	98.4%
Single-Unit Trucks	0	0	0	0	**0**	-	0	7	0	0	**7**	-	0	0	0	0	**0**	-	0	3	1	0	**4**	-	11
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.5%	0%	0%	**2.5%**	-	0%	0%	0%	0%	**-**	-	0%	0.5%	0.8%	0%	**0.6%**	-	1.0%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.4%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**-**	-	0%	0.3%	0%	0%	**0.3%**	-	0.3%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

HWY 312 and Bitterroot - TMC

Tue Jul 23, 2024
PM Peak (Jul 23 2024 4:45PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1212278, Location: 45.857115, -108.445417

Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



Pronghorn Subdivision Development

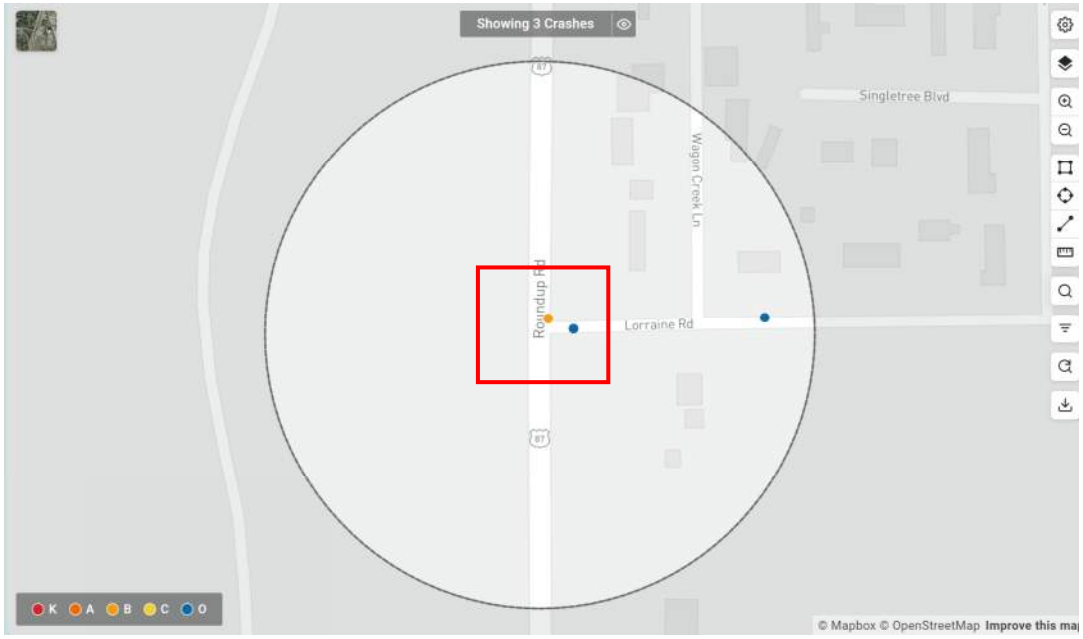
Traffic Impact Study

APPENDIX I

MDT 2019-2023 Historical Crash Data

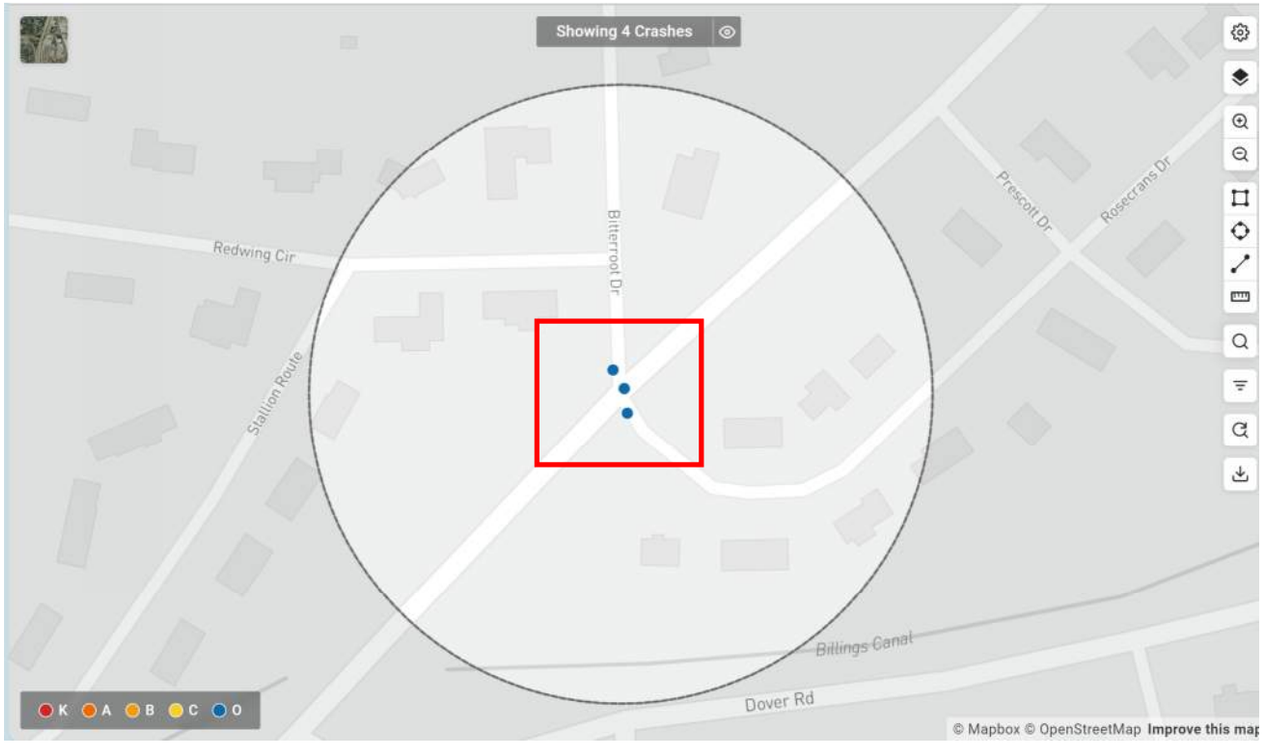
HWY 87 & Lorraine St

Crash Record Number	Crash Date	Collision Type	Road Surface Condition	Crash Injury Severity	Type A Inj Crash?	Type B Inj Crash?	Type C Inj Crash?	Fatal Crash?
50161433	1/27/2021	Left Turn, Opposite Direction	Wet	Suspected Minor Injury	No	No	Yes	No
50159955	5/31/2021	Rear-End	Dry	No apparent Injury (property damage only crash)	No	No	No	No



HWY 312 & Bitterroot Dr & Rosecrans Dr

Crash Record Number	Crash Date	Collision Type	Road Surface Condition	Crash Injury Severity	Type A Inj Crash?	Type B Inj Crash?	Type C Inj Crash?	Fatal Crash?
50195283	11/21/2023	Right Angle	Dry	No apparent Injury (property damage only crash)	No	No	No	No
50173259	2/16/2022	Sideswipe, Same Direction	Ice/Frost	No apparent Injury (property damage only crash)	No	No	No	No
50131267	8/19/2019	Rear-End	Dry	No apparent Injury (property damage only crash)	No	No	No	No
50130499	2/17/2020	Rear-End	Ice/Frost	No apparent Injury (property damage only crash)	No	No	No	No



Pronghorn Subdivision Development

Traffic Impact Study

APPENDIX J

100% Worst Case Scenario Distributions – HCS Worksheets

HCS Two-Way Stop-Control Report

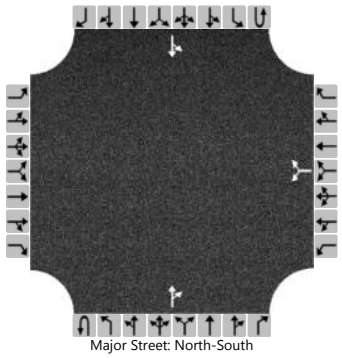
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/20/2025
Analysis Year	2054
Time Analyzed	2054 Access A AM 100 Dist
Intersection Orientation	North-South
Project Description	Gilman Major Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
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	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						127		5			158	123		5	259	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							147							6		
Capacity, c (veh/h)							509							1260		
v/c Ratio							0.29							0.00		
95% Queue Length, Q_{95} (veh)							1.2							0.0		
95% Queue Length, Q_{95} (ft)							30.0							0.0		
Control Delay (s/veh)							14.9							7.9	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					14.9								0.2			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report

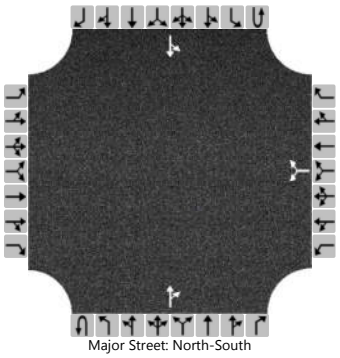
General Information

Analyst	JTP
Agency/Co.	IMEG
Date Performed	8/20/2025
Analysis Year	2054
Time Analyzed	2054 Access A PM 100 Dist
Intersection Orientation	North-South
Project Description	Gilman Major Subdivision

Site Information

Intersection	HWY 87 & Access A
Jurisdiction	COUNTY
East/West Street	Access A
North/South Street	HWY 87
Peak Hour Factor	0.98
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)						151		6			332	162		7	218	
Percent Heavy Vehicles (%)						0		0						0		
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)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							160							7		
Capacity, c (veh/h)							434							1071		
v/c Ratio							0.37							0.01		
95% Queue Length, Q_{95} (veh)							1.7							0.0		
95% Queue Length, Q_{95} (ft)							42.5							0.0		
Control Delay (s/veh)							18.1							8.4	0.1	
Level of Service (LOS)							C							A	A	
Approach Delay (s/veh)						18.1								0.3		
Approach LOS						C								A		

Pronghorn Subdivision Development

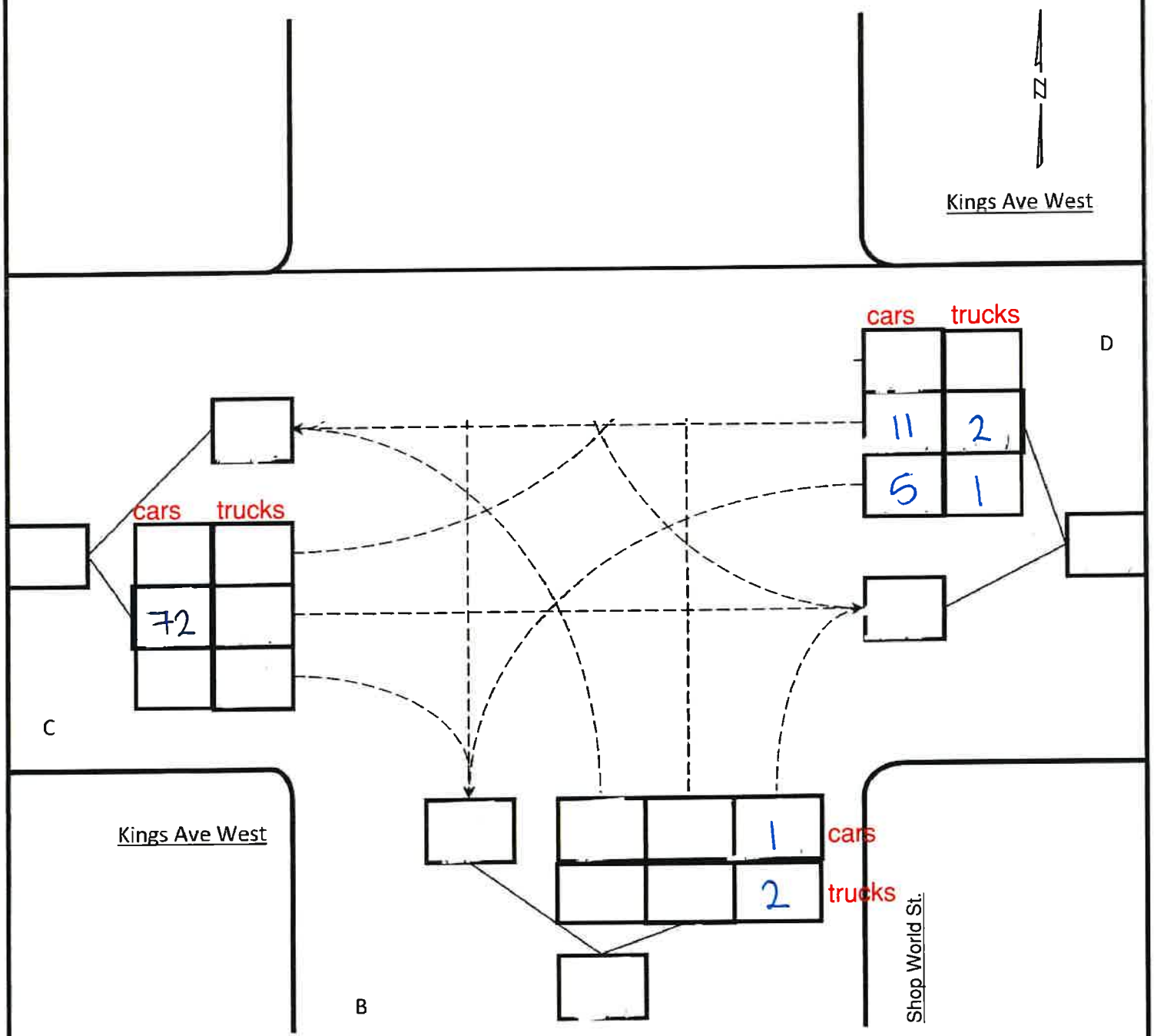
Traffic Impact Study

APPENDIX K

Shop World 1 Trip Generation Rates

7:00am - 8:00am

INTERSECTION OF
Shop World St. AND Kings Ave West
COUNTY: Yellowstone STATE: Montana



XXX = A.M.
(XXX) = P.M.

NOTE: VOLUMES INCLUDE S.U. AND M.U. VEHICLES

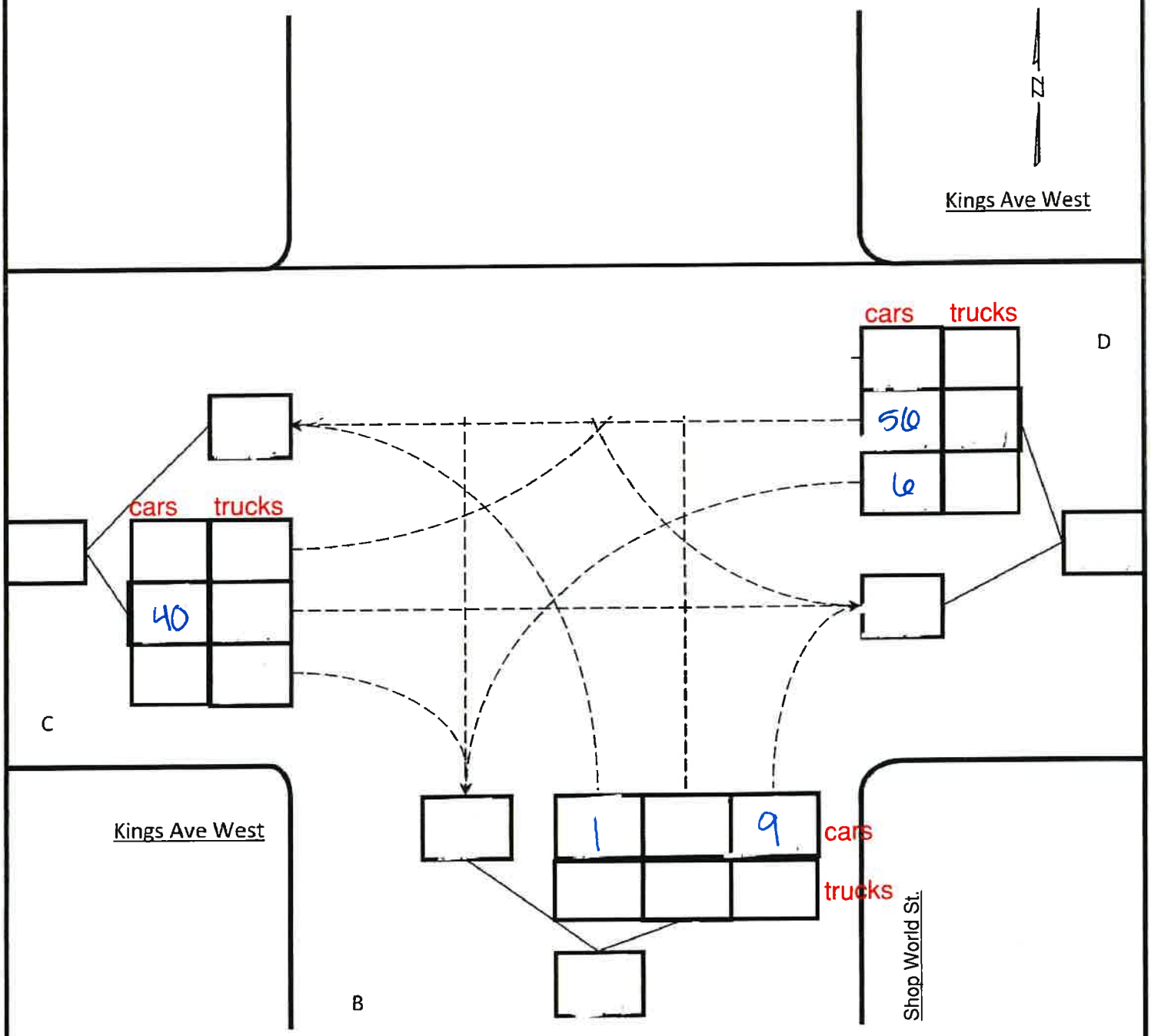
2022 Existing Peak Hour Traffic Volume Summary
Background Traffic
Shop World 2 Subdivision

IMEG	21007868.00	10/04/22	

5:00pm - 6:00pm

INTERSECTION OF Shop World St. AND Kings Ave West

COUNTY: Yellowstone STATE: Montana



XXX = A.M.
(XXX) = P.M.

NOTE: VOLUMES INCLUDE S.U. AND M.U. VEHICLES

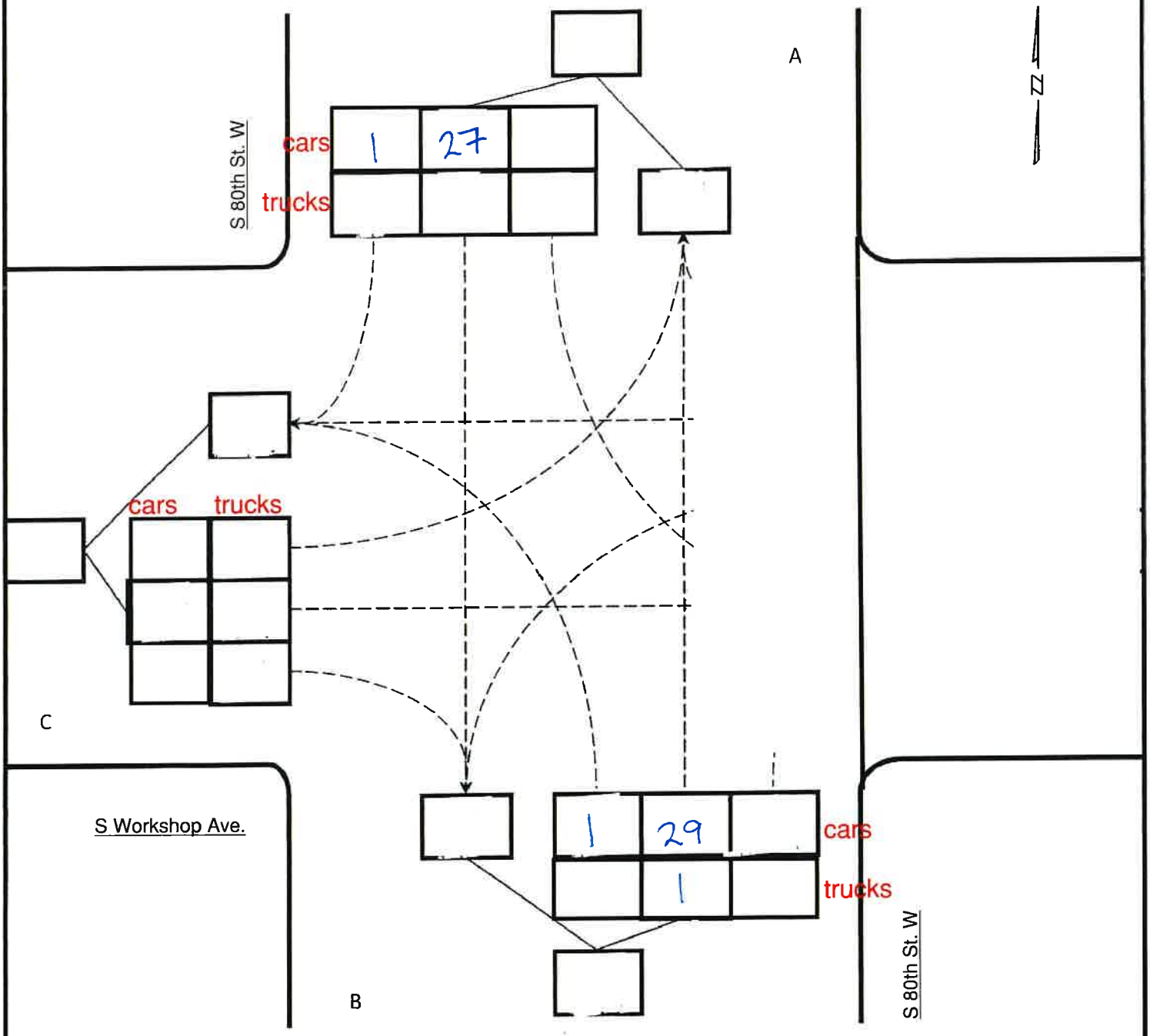
2022 Existing Peak Hour Traffic Volume Summary
Background Traffic
Shop World 2 Subdivision

IMEG	21007868.00	10/04/22	

7:00am - 8:00am

INTERSECTION OF S 80th St. West AND S Workshop Ave.

COUNTY: Yellowstone STATE: Montana



XXX = A.M.
(XXX) = P.M.

NOTE: VOLUMES INCLUDE S.U. AND M.U. VEHICLES

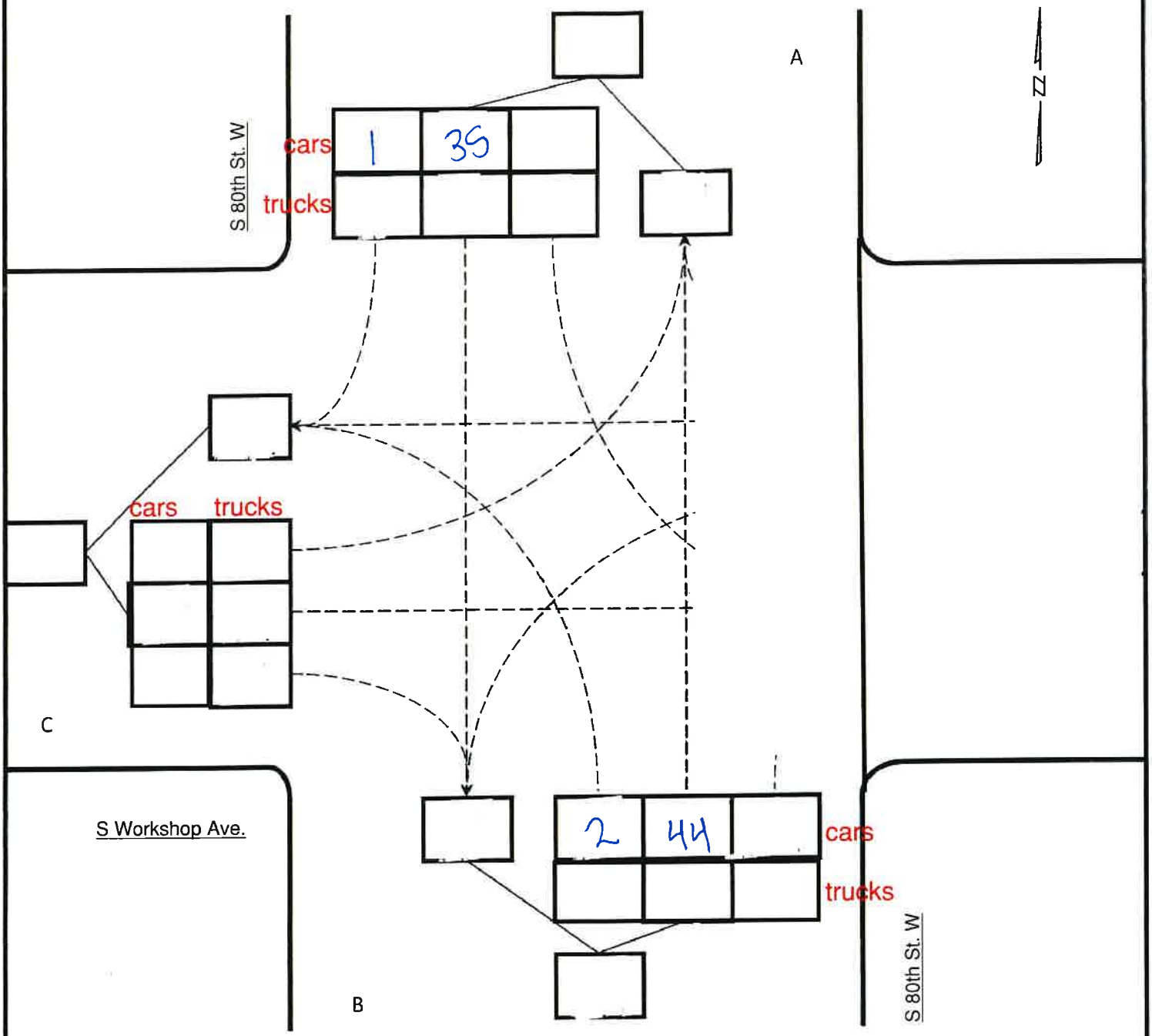
2022 Existing Peak Hour Traffic Volume Summary
Background Traffic
Shop World 2 Subdivision

IMEG	21007868.00	10/05/22	

5:00pm - 6:00pm

INTERSECTION OF S 80th St. West AND S Workshop Ave.

COUNTY: Yellowstone STATE: Montana

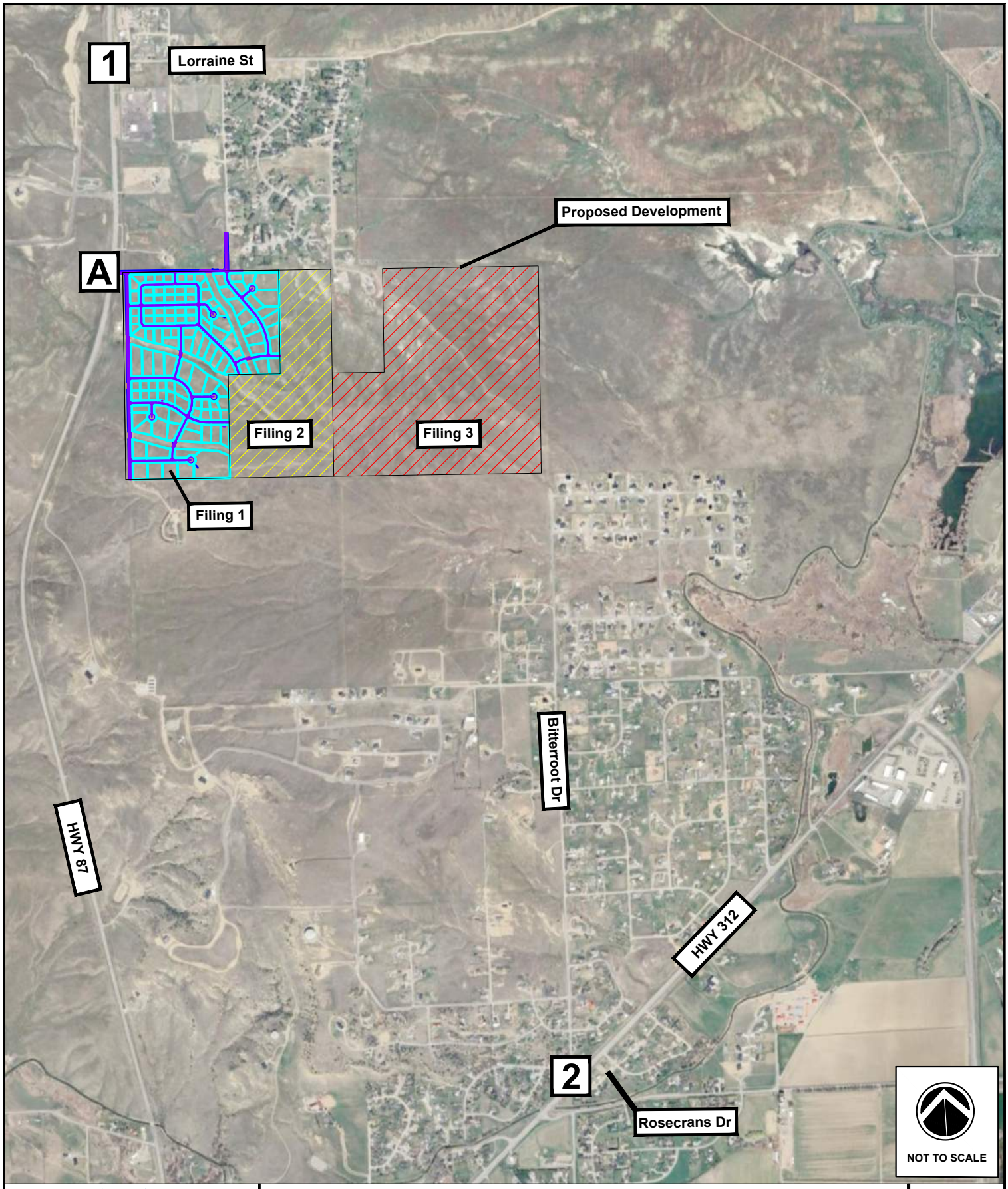


XXX = A.M.
(XXX) = P.M.

NOTE: VOLUMES INCLUDE S.U. AND M.U. VEHICLES

2022 Existing Peak Hour Traffic Volume Summary
Background Traffic
Shop World 2 Subdivision

IMEG	21007868.00	10/05/22	



3/1/26 G:\2024\24001698.00\DESIGN\CIVIL_CALCSSTUDYS\TRAFFIC IMPACT STUDY\TRAFFIC FIGURES\24001698-TIS FIGURES.DWG

IMEG
175 N 27th Street, Suite 1312
Billings, MT 59101
PH: 406.248.9000
www.imegcorp.com

PRONGHORN SUBDIVISION TRAFFIC IMPACT STUDY

BILLINGS, MONTANA

STUDY LOCATION

IMEG Project No: **24001698.00**
Drawn By: **JTP**
Checked By: **ST**
Date: **05/12/2025**
FIG - 1