

Baxter Lane Corridor

INTRODUCTION

Baxter Lane, from Harper Puckett Road/Cottonwood Road to Jackrabbit Lane, is a rural corridor situated on the urban fringe of Bozeman and Belgrade. It is increasingly serving as an east-west route parallel to and between East Valley Center Road and Huffine Lane. With rapid development underway along the corridor, traffic volumes are growing and bringing new safety and congestion concerns. Both the *Greater Triangle Area Transportation Plan* (GTATP) and the *Safe Streets and Roads for All* (SS4A) *Action Plan* identify the corridor as a priority for improvements. The GTATP recommends upgrading the roadway to an urban minor arterial standard with on-street bike lanes and a shared-use path to address capacity needs, while the SS4A plan calls for targeted improvements to enhance safety. To better understand conditions and inform future investments, the project team conducted a planning-level assessment that included a field review, 24-hour traffic counts at key intersections, and speed data collection using radar units.

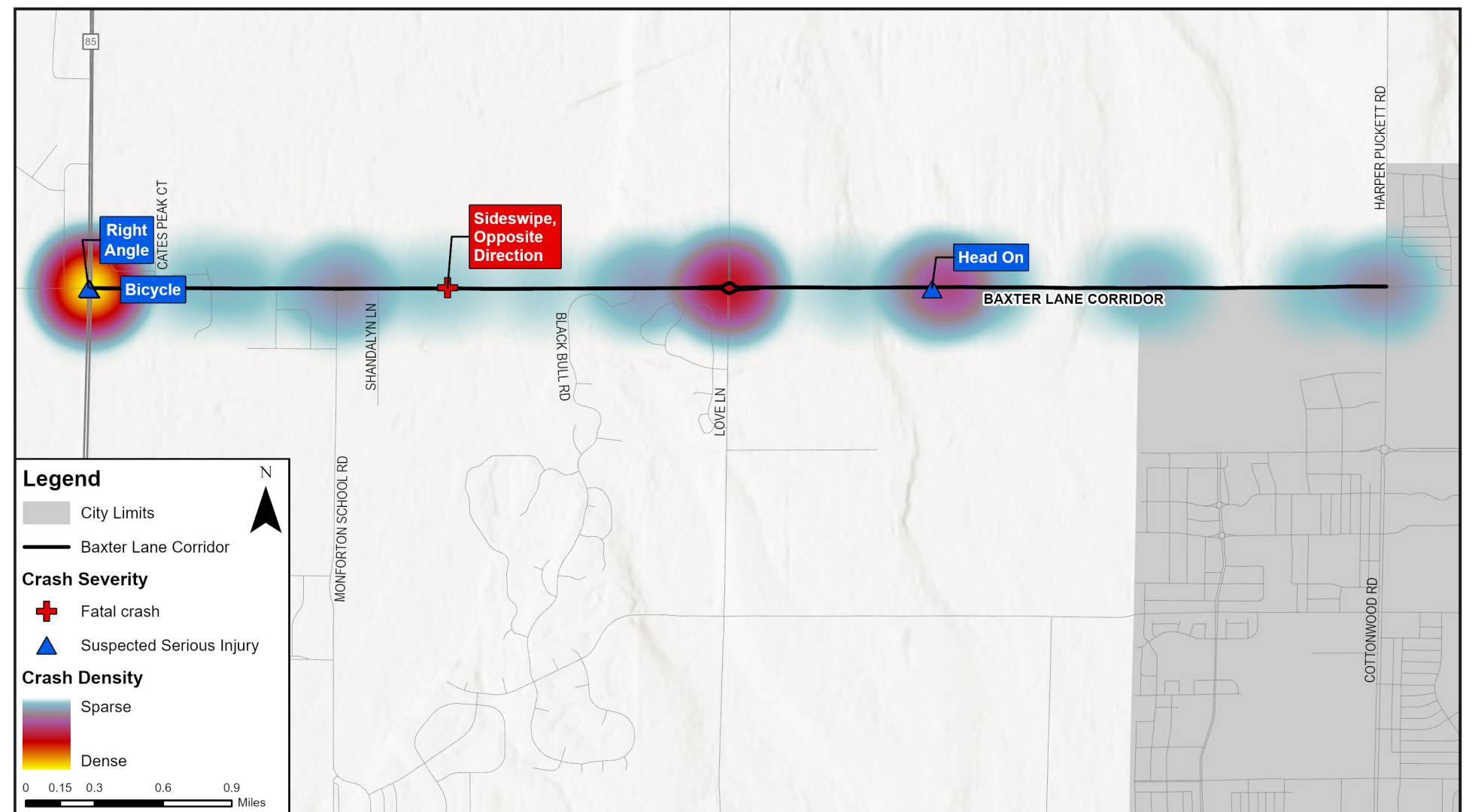
EXISTING CONDITIONS

The following pages provide a summary of existing conditions along Baxter Lane, highlighting potential constraints and key considerations to help guide planning and design decisions for a future corridor widening project.

Crash History

Between January 1, 2019, and December 31, 2023, the Baxter Lane corridor experienced 101 reported crashes, concentrated in several “hot spot” locations as shown on the map to the right and summarized below.

- **Jackrabbit Lane (29 crashes):** This intersection accounted for the highest number of crashes, but also the highest traffic volumes. Crashes were most commonly rear-end (38%) and right-angle (28%) collisions occurring during daylight hours on dry roads.
- **Monforton School Road (6 crashes):** This location experienced a mix of fixed-object, rear-end, and rollover crashes, all resulting in property damage only. Half of the incidents were intersection-related, while the other half were unrelated to the intersection.
- **Black Bull Road (4 crashes):** All crashes at this location resulted in property damage only. Half of the crashes occurred on icy or frost-covered surfaces.
- **Love Lane (16 crashes):** The roundabout at this intersection was completed in fall 2019, near the beginning of the crash analysis period. All 16 crashes appear to have occurred after the roundabout installation, though nearly all were property damage only. Right-angle and fixed-object collisions were most frequent.
- **McDonald Creek to Aajker Creek (10 crashes):** This segment saw a high share of fixed-object (60%) and head-on (20%) collisions, with 20% involving serious or minor injuries. About 70% of incidents involved an errant vehicle striking a ditch, embankment, or fence with 60% occurring on icy road surfaces, particularly in the morning hours.
- **Cottonwood Road (30 crashes):** Cottonwood was another high-crash/high-volume location, with 30 crashes recorded, including one fatality. The roundabout at this intersection was completed in 2023, towards the end of the analysis period, when the connection of Cottonwood Road between Baxter Lane and Oak Street was finished. Rear-end and fixed-object collisions were most frequent. More than half of the crashes occurred in dark, unlit conditions, and icy surfaces contributed to nearly half of the incidents.



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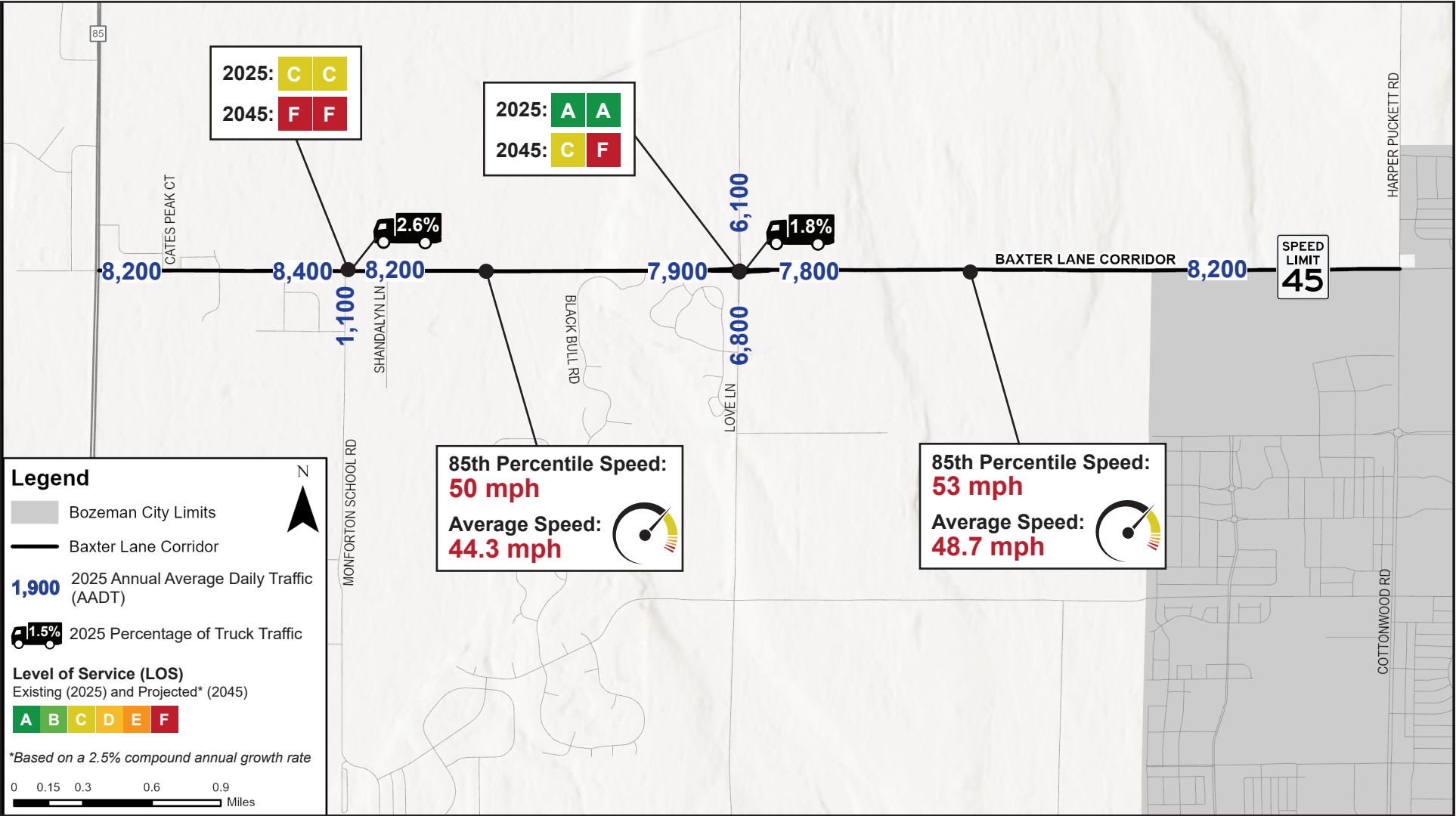
Traffic Operations

Average daily traffic volumes (AADT) along Baxter Lane range between 7,800 and 8,400 vehicles, with heavy trucks representing a small share at 1.5–3%, translating to approximately 250 trucks per day east of Jackrabbit Lane, tapering to about 140 trucks east of Love Lane. A few bicyclists (10 or less) were observed traveling the corridor. Travel demand follows typical commuter patterns, with peak periods occurring in the morning from 6 to 9 AM and in the evening from 4 to 6 PM. Traffic flows are fairly balanced in both directions, though westbound peaks tend to last longer, while eastbound peaks are shorter but slightly higher in intensity.

Intersection Level of Service (LOS) is a standardized measure used to evaluate how well an intersection handles traffic demand, with grades ranging from A (free-flow conditions) to F (severe congestion and long delays). It is determined through traffic analysis methods that consider vehicle volumes, delay times, and roadway capacity, providing planners and engineers with a benchmark for identifying operational deficiencies and prioritizing improvements.

Given existing traffic volumes, the Love Lane roundabout operates at LOS A during both peak periods, while the Monforton School Road intersection functions at LOS C. According to the MDT *Road Design Manual*, LOS C or better is considered adequate for rural collectors like Baxter Lane. By 2045, assuming a 2.5% compound annual growth rate (as projected in the GTATP), the Love Lane intersection is expected to degrade to LOS C during the AM peak hour and LOS F during the PM peak hour while Monforton School Road is projected to deteriorate to LOS F in both peak periods.

Speed data collected along Baxter Lane highlights consistent speeding behavior in both directions relative to the posted 45 mph speed limit. Between Monforton School Road and Love Lane, the 85th percentile speed was measured at 50 mph with an average of 44.3 mph. On any given day, 80 to 97 percent of drivers exceeded the posted limit, with maximum speeds recorded as high as 87 mph. East of Love Lane, between Love Lane and Cottonwood Road, speeds were even higher: the 85th percentile reached 53 mph, and the average was 48.7 mph. Approximately 75 to 80 percent of vehicles were speeding in this segment, with the maximum observed speed topping out at 103 mph.



Environmental Conditions and Constraints

The Baxter Lane corridor is shaped by a range of physical, environmental, and land use factors that will influence how future improvements are planned and implemented. Key considerations include roadway geometry, adjacent development patterns, surface waters and wetlands, and farmland protections that may require additional review and mitigation.

Corridor Configuration and Physical Features

Baxter Lane runs east to west and is currently configured as a two-lane rural roadway with one lane in each direction. The paved shoulders are approximately one foot wide but are deteriorating and offer little accommodation for cyclists or pedestrians. The roadway is striped for passing throughout most of the corridor and carries a posted speed limit of 45 miles per hour. Side slopes are steep, non-recoverable, and heavily vegetated with grasses, shrubs, and trees, limiting recovery areas for vehicles that leave the roadway. These features contribute to safety risks, particularly during winter when snow and ice accumulation narrow the roadway further.

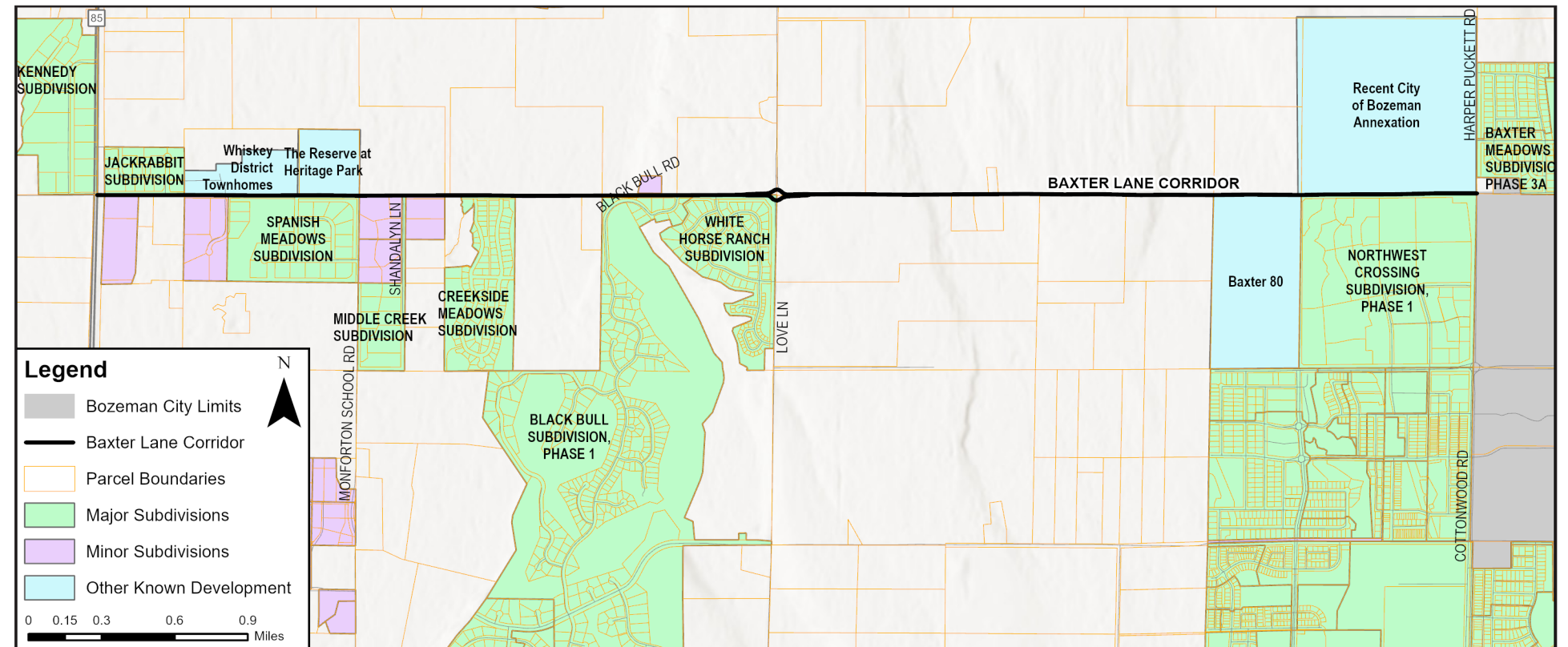


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Right-of-way and Land Use

Land use along the corridor is primarily agricultural and low- to medium-density residential, though development pressures are rapidly transforming its character. Between Jackrabbit Lane and Monforton School Road, new subdivisions such as Jackrabbit Subdivision, the Whiskey District Townhomes, and the Reserve at Heritage Park are contributing to higher traffic demands. Between Shandalyn Lane and Love Lane, Creekside Meadows, Black Bull, and White Horse Ranch have added residential density, while larger-scale developments such as Northwest Crossing and Baxter 80 are emerging west of Cottonwood Road. In addition, the Bozeman City Commission recently annexed 164 acres northwest of the Cottonwood Road intersection for medium- to high-density residential development, signaling ongoing growth.

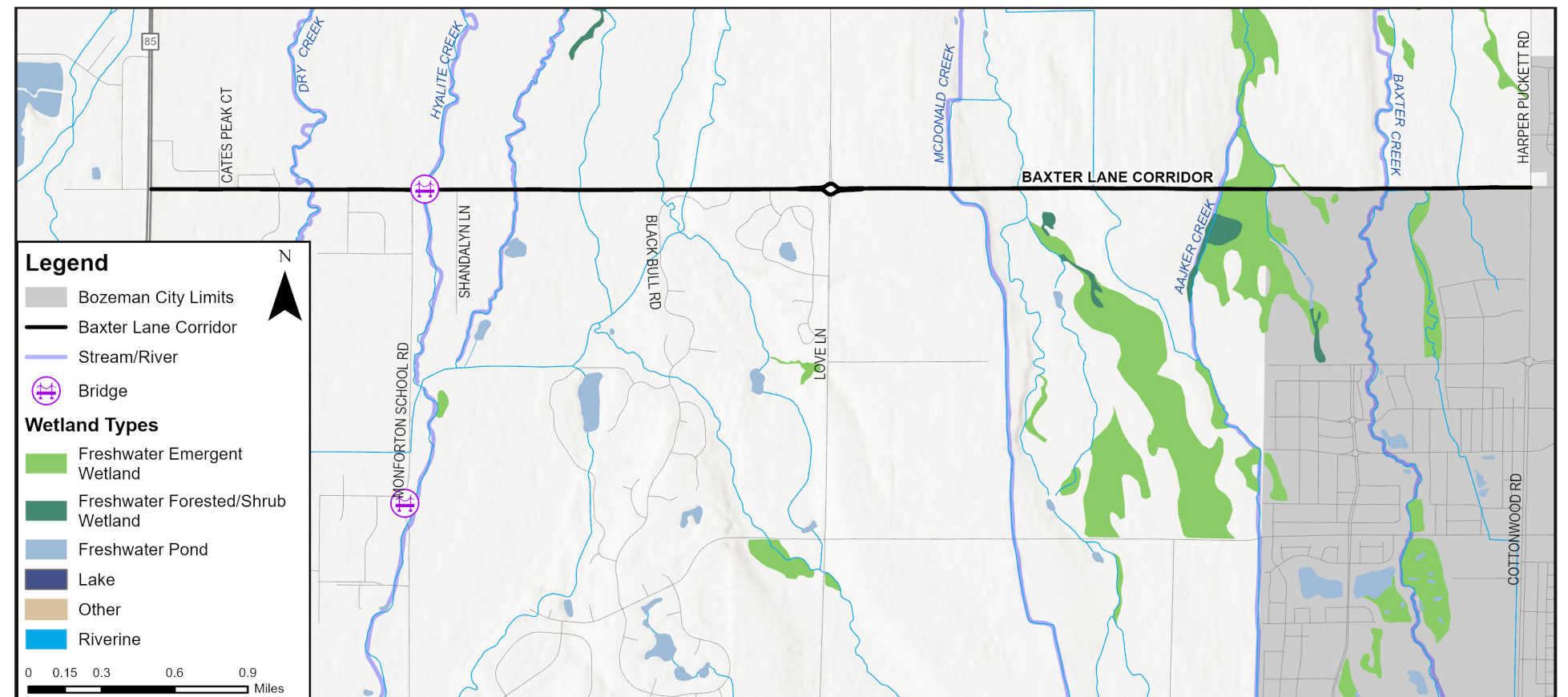
Roadway exists primarily through easements. For an urban minor arterial, the *Gallatin County Transportation Design and Construction Standards* recommend 100 feet of right-of-way to accommodate travel lanes, bike facilities, and shared-use paths. Review of recent development proposals suggests that an easement of 60 feet was previously in place for the corridor. While it is anticipated that the county will secure the necessary right-of-way incrementally as development occurs, there are segments where additional acquisition will likely be necessary to support corridor expansion.



Surface Waters

Five named creeks cross the Baxter Lane corridor: Dry Creek, Hyalite Creek, McDonald Creek, Aajker Creek, and Baxter Creek. Hyalite Creek is the only crossing served by a bridge structure, while the others are routed through culverts. Several smaller unnamed tributaries and drainage features are also present, creating localized maintenance concerns during spring runoff and heavy storms. Between McDonald and Aajker Creeks, the terrain drops slightly in elevation, creating an area prone to moisture retention and recurring icy conditions in winter months.

Wetlands mapped by the U.S. Fish & Wildlife Service National Wetlands Inventory are located within the corridor, particularly in the segment between Aajker and Baxter Creeks. These wetlands, coupled with the creek crossings, represent important environmental constraints that will require permitting and potential mitigation if disturbed by future roadway improvements.

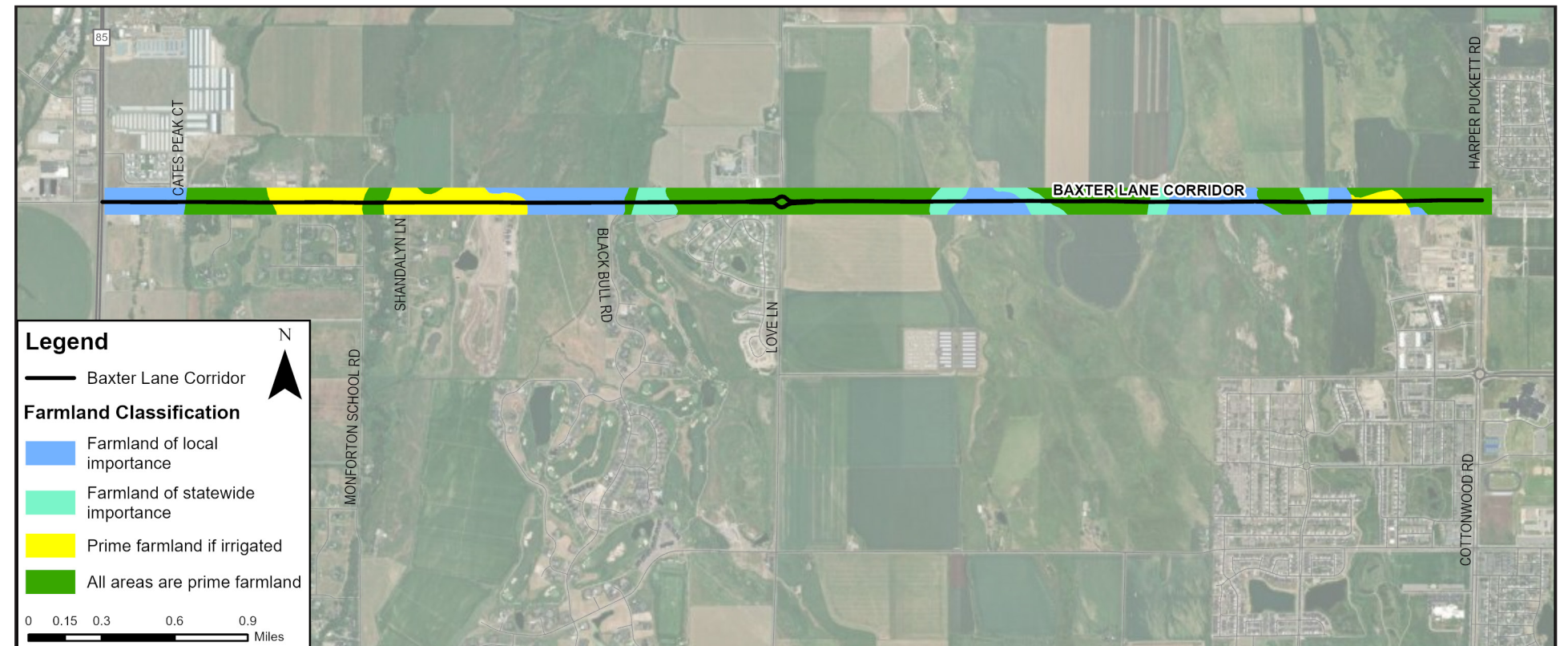


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Farmland

Historically, the lands surrounding Baxter Lane were primarily farmland, and several parcels continue to be actively farmed today. Much of this land is classified as prime farmland or farmland of local or statewide importance. These classifications are significant because they trigger review requirements under the Farmland Protection Policy Act (FPPA) for any project involving federal funding or approvals.

The FPPA does not apply to areas already committed to urban development, but it does require that farmland impacts be evaluated and that federal actions be compatible with state and local farmland preservation goals. This means that although residential development is steadily converting farmland to other uses, portions of the corridor will still likely need to be assessed for potential agricultural impacts during project development.

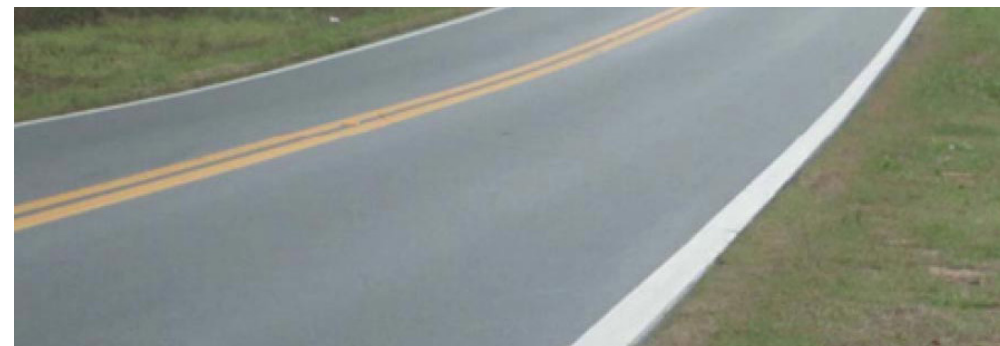


RECOMMENDATIONS

Consistent with the Greater Transportation Area Transportation Plan, the long-term vision for Baxter Lane is to reconstruct the corridor as a three-lane urban minor arterial, matching the existing cross-section east of Cottonwood Road within Bozeman city limits. The preferred configuration includes one travel lane in each direction with a continuous two-way left-turn lane or dedicated turn bays at major intersections, along with on-street bike lanes, curb and gutter, and a shared-use path on the north side of the roadway. This complete-street cross section is intended to accommodate future traffic growth while improving multimodal connectivity and safety.

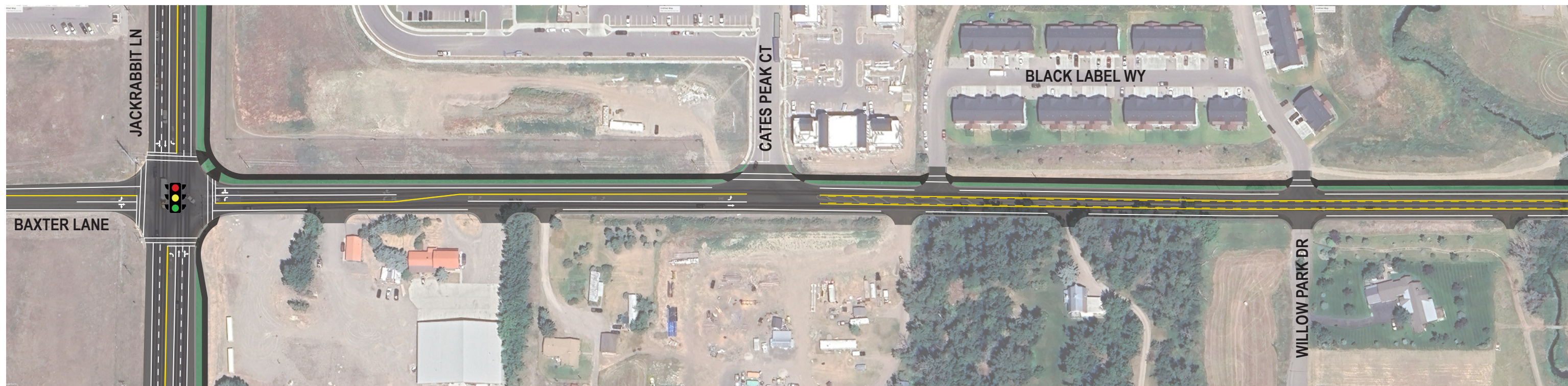
Intersection upgrades will also be critical, with Monforton School Road identified as a priority for operational and safety improvements. Potential treatments may include added turn lanes, installation of a traffic signal, conversion to a roundabout, or alternative intersection designs such as a continuous-T. The appropriate design should be determined during future project development based on updated traffic forecasts and detailed safety analysis.

In the near term, a set of lower-cost safety measures are recommended to address immediate needs while laying the groundwork for larger investments. Between Macdonald and Aajker Creeks, improvements such as drainage upgrades, guardrail installation, and increased winter maintenance will help reduce run-off-the-road and icy-surface crashes. Corridor-wide, delineation enhancements, such as more visible edge lines, upgraded pavement markings, roadside delineators, and the potential use of centerline or shoulder rumble strips, should be pursued to improve driver awareness and reduce roadway-departure crashes. Finally, it is recommended that the city and county coordinate to actively manage access along the corridor, limiting the number of new direct access points to help minimize conflict points as development continues.





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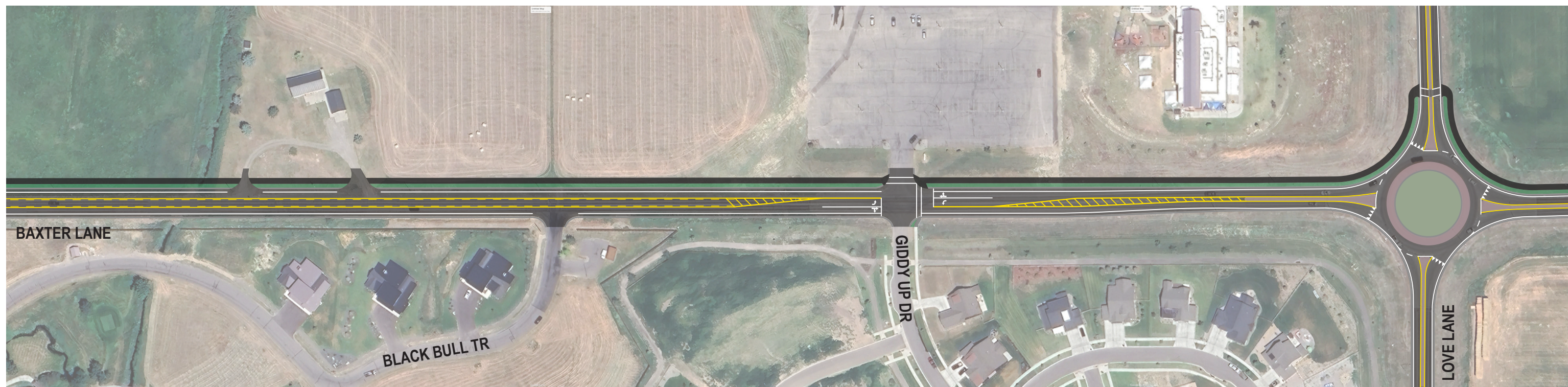


DISCLAIMER (CONCEPTUAL – FOR PLANNING PURPOSES ONLY):

The conceptual design reflects existing driveways along the corridor. Turn lanes may be installed at high-volume intersections in place of a continuous two-way left-turn lane, where appropriate. The final design should balance reasonable access to adjacent properties with minimizing conflict points, based on detailed engineering analysis and coordination with landowners and stakeholders.



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