FARMWAY ROAD CORRIDOR STUDY



FINAL REPORT

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Prepared for:

Canyon Highway District No. 4

City of Caldwell

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Chapter 1 Introduction

Canyon Highway District No. 4 (CHD4) and the City of Caldwell (City) have partnered to develop this corridor plan for Farmway Road, from its intersection with Karcher Road (SH-55) to Simplot Boulevard (SH-19).

The purpose of this study is to identify roadway and intersection improvements needed to accommodate the forecasted year 2045 traffic demand and to identify access locations and access management on the future corridor to improve safety and operations. This long-term plan for the corridor provides CHD4 and the City with a resource to address questions and resolve issues that may arise as traffic volumes increase, additional high crash locations emerge, or development occurs along the corridor and in the vicinity. This corridor plan identifies the following:

- Roadway cross-section
- Intersection improvements
- Pedestrian and bicycle facilities
- Drainage collection and disposal strategy
- Irrigation crossings for replacement or extension
- Access management objectives and strategies to balance mobility and safety

1.1 Study Approach

The corridor study utilized a combination of agency policy and standards, agency feedback, and engineering best practices to complete a corridor plan that meets the needs of future planned growth and development west of the City of Caldwell.

The forecasted year 2045 traffic demand was analyzed on the 4.5-mile-long corridor comparing vehicle delay and speed for two intersection improvement options: a traffic signal and a roundabout.



Figure 1-1. Farmway Road corridor study area and study intersections

1.2 Assumptions and Limitations

This study effort was conducted with the following assumptions and limitations:

- The analysis year and design year is 2045.
- Operational performance for stop-controlled and signalized intersections is based on the *Highway Capacity Manual 6th Edition* (HCM6) capacity methodologies using Synchro 11 (version 11.1.1.6).
- Operational performance for roundabouts is based on the *2019 Washington State Department of Transportation Sidra Policy Settings* (WSDOT Method) using SIDRA 9.0. WSDOT developed default Sidra parameters based on delay and queue observations of existing roundabout operations that better reflect field operations compared to the HCM6 Method, which tends to underestimate capacity. The WSDOT Method includes the operational effects of geometry (geometric delay), and all geometric assumptions for this analysis follow the default values in the WSDOT Method.
- The January 2022 edition of the *Highway Standards & Development Procedures for the Association of Canyon County Highway Districts*, specifies a minimum design Level of Service (LOS) of C for rural roadways and intersections and LOS D for suburban roadways and intersections. For this study, the intersection is considered suburban and the minimum design LOS is D for the intersection.
- At roundabouts, the maximum allowable volume-to-capacity ratio for an approach was established at 0.85 for the critical/worst lane, which is the operational standard for the neighboring Ada County Highway District (ACHD).
- The existing property lines and section lines shown in the exhibits are approximate and based on data from the 2020 Canyon County GIS.
- The planning-level intersection and corridor designs are centered on GIS section lines unless otherwise noted.

Chapter 2 Existing Corridor

2.1 Study Corridor

Farmway Road is functionally classified as a principal arterial located in Canyon County on the western limits of the City of Caldwell. The road provides a north-south connection of two state highways, SH-55 (Karcher Road) and SH-19 (Simplot Boulevard), resulting in significant freight traffic. The road currently has one lane in each direction with no median, paved shoulders approximately four feet in width, and no access restrictions. The posted speed limit is 50 miles per hour (mph). The study segment of Farmway Road extends 4.5 miles in length, between its intersection with Karcher Road and Simplot Boulevard. The land surrounding the roadway is currently agricultural and rural residential with concentrated industrial development on the north end of the corridor near Simplot Boulevard.

In 2020, between 4,200 and 6,800 vehicles per day traveled on Farmway Road, and the 85th-percentile speed ranged from 54 to 57 miles per hour.

The major cross-streets within the Farmway Road study area are:

- Simplot Boulevard (SH-19) – principal arterial, with five lanes and a posted speed limit of 55 mph
- Logan Street – collector, with two lanes and a posted speed limit of 35 mph to the west of Farmway Road and 30 mph to the east
- Linden Street – minor arterial, with two lanes and a posted speed limit of 35 mph to the west of Farmway Road and 30 mph to the east
- Ustick Road – principal arterial, with two lanes and a posted speed limit of 50 mph to the west of Farmway Road and 35 mph to the east
- Homedale Road – minor arterial, with two lanes and a posted speed limit of 50 mph
- Karcher Road (SH-55) – principal arterial, with two lanes and a posted speed limit of 55 mph

The major cross-streets listed above form the study area intersections, with the exception of Karcher Road. Improvements to the Karcher Road and Farmway Road intersection are currently being designed by the Idaho Transportation Department (ITD), and as a result, the intersection is not included in this study.

2.2 Intersection Operations

Existing (year 2020) traffic operations at the five study intersections were evaluated using HCM6 methodology. The intersection evaluation reports are included in the *Traffic and Safety Analysis Report* in Appendix B. The intersection control and level of service (LOS) for the existing operations are:

- Simplot Boulevard and Farmway Road intersection
  - The northbound and southbound approaches are stop-controlled and operate at LOS F during the PM peak hour.
- Logan Street and Farmway Road intersection
  - The eastbound and westbound approach are stop-controlled and operate at LOS C during the PM peak hour.
- Linden Street and Farmway Road intersection
  - The eastbound and westbound approaches are stop-controlled and operate at LOS C during the PM peak hour.
- Ustick Road and Farmway Road intersection
  - The eastbound and westbound approaches are stop-controlled and operate at LOS C during both peak hours.
- Homedale Road and Farmway Road intersection
  - The eastbound and westbound approaches are stop-controlled and operate at LOS C during the PM peak hour.

2.3 Crash History

Crash data for the study intersections and segments along Farmway Road were provided by ITD for the five-year period from January 1, 2015, through December 31, 2019. The data was analyzed as intersection related and non-intersection related to identify crash patterns that could potentially be mitigated with countermeasure improvements. Refer to the *Traffic and Safety Analysis Report* in Appendix B for a detailed discussion of the crash data and countermeasures.

A total of 100 crashes were reported in the project limits within the most recent five-year period from 2015 to 2019. The majority of crashes were property damage only (PDO) crashes (67 percent), followed by C injury and B injury crashes (13 percent each), A injury crashes (5 percent) and two fatal crashes (2 percent). The two fatal crashes at Homedale Road were both reported in 2017 as result of a westbound vehicle failing to stop at the stop sign and colliding with a vehicle on Farmway Road. The two fatal crashes resulted in a total of four fatalities and six injuries. Figure

2-1 on page 5 illustrates the severity of crashes at each intersection and along each segment between the study intersections.

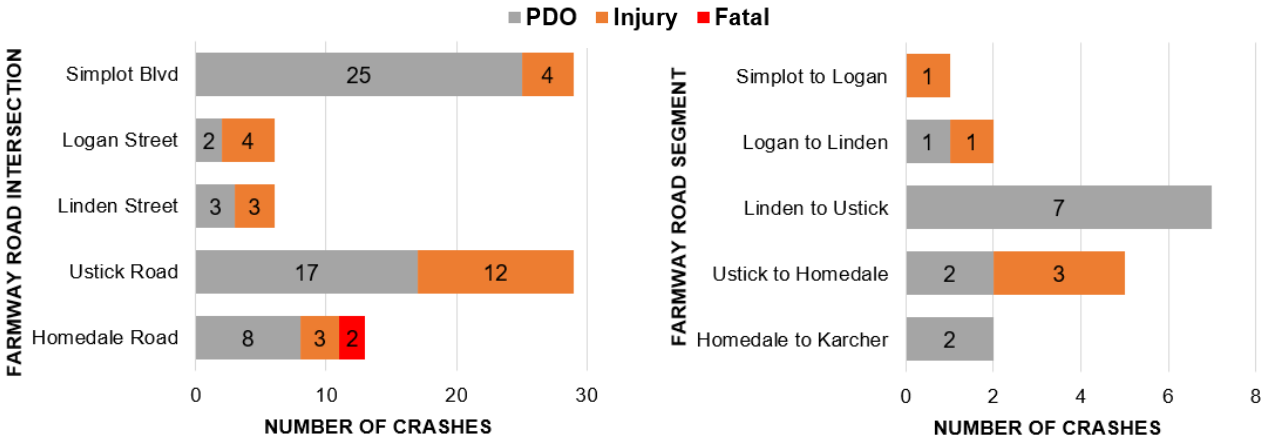


Figure 2-1. 2015-2019 crash frequency and severity – project vicinity

2.4 Freight

Farmway Road has higher-than-average freight traffic compared to other non-state routes, with daily heavy vehicle counts of approximately 1,300 vehicles, or nearly 20 percent of the daily traffic. According to the Community Planning Association of Southwest Idaho (COMPASS) *2018 Freight Study*, businesses along the Simplot Boulevard corridor near Farmway Road are a mid-to-high density truck destinations, and Farmway Road is classified as a regional/other freight connector roadway. Farmway Road serves as a connection between truck traffic on Karcher Road traveling to destinations along the Simplot Boulevard corridor.

2.5 Pedestrian and Bicycle Facilities

There are currently no dedicated bicycle facilities along Farmway Road nor on any of the major cross-street approaches in the study area. Approximately 700 feet of sidewalk is present on the east side of the roadway between Simplot Boulevard and Garber Street at the north end of the corridor, and on the northeast corner of the Farmway Road and Linden Street intersection in front of the newly constructed church. No other pedestrian facilities exist along Farmway Road nor on any of the major cross-street approaches in the study area.

2.6 Drainage and Irrigation Facilities

Farmway Road generally drains from south to north from its intersection with Karcher Road to the Simplot Boulevard intersection, with localized low points along the corridor. There are limited

segments of curb and gutter present within the study limits listed below. In all other areas, existing roadway runoff sheds off the edge of the pavement to the existing gravel shoulder. Combination curb and gutter are located:

- Along the east side of Farmway Road for approximately 2000 feet south of Simplot Boulevard
    - Discharges to vegetated drainage swales on east side of Farmway Road
- Northwest corner of Farmway Road and Linden Road along the church frontage
    - Discharges to drainage basin, northeast corner of Linden intersection
- Along the east side of Farmway Road from Stahlridge Street to the Phyllis Canal
    - Pipe culvert at north limit of curb and gutter discharges to the Phyllis Canal
- At guardrail locations at the Farmway Road and Ustick Road intersection
    - Discharges to gravel shoulder

Chapter 3 Corridor Plan Development

3.1 2045 Planning Year Traffic Conditions

The COMPASS regional travel demand forecast model predicts traffic volumes on Farmway Road will increase from 6,800 vehicle per day (vpd) in 2020 to 11,400 vpd in 2040, assuming that Farmway Road is widened to five lanes by 2040 without a crossing of the Boise River. If a river crossing is constructed, 2040 traffic is expected to increase to 13,000 vpd. Refer to Appendix B, *Traffic and Safety Analysis*, for a detailed discussion of the traffic analysis conducted for this study.

The 2045 COMPASS model was not available at the time of the traffic analysis effort, so the 2040 forecasts were scaled up to 2045 volumes by applying directional and intersection growth rates calculated from the 2035 and 2040 forecast models. These projected 2045 AM and PM peak turning movement volumes were used in the traffic analysis for network and intersection operations.

Two improvement options were analyzed at each intersection: a traffic signal and a roundabout. Table 3-1 on page 8 compares traffic operations for the two intersection options.

The lane configuration for the intersections with traffic signals consisted of:

- Farmway Road – one left-turn lane, two through lanes and one right-turn lane
- Cross-streets
    - Simplot Boulevard and Ustick Road – one left-turn lane, two through lanes and one right-turn lane
    - Logan Street, Linden Street and Homedale Road - one left-turn lane, one through lane and one right-turn lane

The lane configuration for the roundabouts consisted of:

- Farmway Road – one shared left-turn and through lane and one shared through and right-turn lane
- Cross-streets
    - Simplot Boulevard and Ustick Road – one shared left-turn and through lane and one shared through and right-turn lane
    - Logan Street, Linden Street and Homedale Road – one shared left-turn, through and right-turn lane

Table 3-1. Comparison of 2045 intersection operations

Intersection	MOE	Traffic Signal		Roundabout	
		AM Peak	PM Peak	AM Peak	PM Peak
Simplot Boulevard and Farmway Road	Intersection LOS	B	C	A	A
	Intersection Delay (sec)	19	31	6	7
Logan Street and Farmway Road	Intersection LOS	C	C	A	A
	Intersection Delay (sec)	26	35	6	7
Linden Street and Farmway Road	Intersection LOS	B	C	A	A
	Intersection Delay (sec)	12	27	6	6
Ustick Road and Farmway Road	Intersection LOS	C	D	A	A
	Intersection Delay (sec)	28	36	6	7
Homedale Road and Farmway Road	Intersection LOS	C	C	A	A
	Intersection Delay (sec)	25	23	6	6

The roundabout intersections operate with less vehicle delay than the signalized intersections during the AM and PM peak hours. Traffic operations during off-peak operations, not analyzed for this study, would also show that the roundabouts operate with less delay than the signalized intersections.

The urban street section LOS was evaluated for the signalized and roundabout corridor options. It is based on travel speeds for the through traffic and is calculated for each roadway segment, between intersections, from the microsimulation analysis results.

The urban street section LOS for the AM and PM peak hour with the 2045 Build signalized corridor and roundabout corridor scenarios are compared in Table 3-2 and Table 3-3 on page 9.

Table 3-2. 2045 Build urban street section LOS – AM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2045 Build Signalized Corridor		2045 Build Roundabout Corridor	
				Travel Speed, mph	Urban Street LOS	Travel Speed, mph	Urban Street LOS
SB	Simplot to Logan	50	0.99	44.8	LOS A	41.0	LOS A
SB	Logan to Linden	50	0.50	45.8	LOS A	34.8	LOS B
SB	Linden to Ustick	50	1.01	42.3	LOS A	41.0	LOS A
SB	Ustick to Homedale	50	1.03	45.0	LOS A	41.5	LOS A
SB	Homedale to Karcher	50	0.99	44.8	LOS A	28.6	LOS C
		Travel time*, minutes		6.1		7.5	
NB	Karcher to Homedale	50	0.99	43.4	LOS A	41.8	LOS A
NB	Homedale to Ustick	50	1.03	46.4	LOS A	40.8	LOS A
NB	Ustick to Linden	50	1.01	47.7	LOS A	40.8	LOS A
NB	Linden to Logan	50	0.50	45.2	LOS A	34.5	LOS B
NB	Logan to Simplot	50	0.99	33.0	LOS C	32.4	LOS C
		Travel time*, minutes		6.5		7.3	

**Travel time observation shown from n/o Simplot Boulevard to s/o Karcher Road*

Table 3-3. 2045 Build urban street section LOS – PM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2045 Build Signalized Corridor		2045 Build Roundabout Corridor	
				Travel Speed, mph	Urban Street LOS	Travel Speed, mph	Urban Street LOS
SB	Simplot to Logan	50	0.99	43.5	LOS A	39.5	LOS B
SB	Logan to Linden	50	0.50	45.8	LOS A	34.2	LOS B
SB	Linden to Ustick	50	1.01	42.9	LOS A	40.0	LOS B
SB	Ustick to Homedale	50	1.03	45.8	LOS A	40.5	LOS A
SB	Homedale to Karcher	50	0.99	25.9	LOS C	28.6	LOS C
		Travel time*, minutes		7.1		7.6	
NB	Karcher to Homedale	50	0.99	44.6	LOS A	41.5	LOS A
NB	Homedale to Ustick	50	1.03	42.1	LOS A	40.2	LOS A
NB	Ustick to Linden	50	1.01	46.5	LOS A	40.8	LOS A
NB	Linden to Logan	50	0.50	41.6	LOS A	34.4	LOS B
NB	Logan to Simplot	50	0.99	28.3	LOS C	34.1	LOS B
		Travel time*, minutes		7.0		7.2	

**Travel time observation shown from n/o Simplot Boulevard to s/o Karcher Road*

3.2 Freight Considerations

The 4.5-mile-long segment of Farmway Road between SH-55 and SH-19 currently experiences more than 1,300 trucks per day during a typical weekday, or nearly 20 percent of the daily traffic volume.

According to the COMPASS's *2018 Freight Study*, businesses along the Simplot Boulevard corridor near Farmway Road are mid-to-high density truck destinations, and Farmway Road is classified as a regional freight connector roadway north of Logan Street. The route also experiences traffic that bypasses travel on US-95 between its junction with Karcher Road, west of the City of Marsing, and the US-95 interchange on I-84 for an alternate route, via Karcher Road, Farmway Road, Simplot Boulevard and I-84.

To maintain Farmway Road as a viable freight route in the future, the concept design incorporated the following design considerations suggested in COMPASS's *2018 Freight Study* for freight corridor preservation:

- Context sensitive design and multimodal integration – With freight passing through an area with current and future residential development, bike lanes are not proposed on Farmway Road. Instead, a shared use path located on both sides of the road a minimum of 10 feet from the nearest vehicle travel lane is proposed to provide a physical separation from vehicles to pedestrians and bicyclists (see Chapter 3.3, Pedestrian and Bicycle Facilities).
- Intersection design – The major cross-street intersections on Farmway Road are designed for WB-67 truck traffic. A WB-67 truck has a 67 feet long wheelbase and is an interstate truck with sleeper and a 53 feet long trailer. The WB-67 trucks can make all movements at the roundabouts and signalized intersections without entering opposing traffic lanes.
- Roadway design – The lane widths proposed for the Farmway Road are 12 feet and 14 feet (adjacent to curb and gutter) in width to accommodate the high volume of truck traffic (see Figure 3-1. Farmway Road cross-section).

3.3 Pedestrian and Bicycle Facilities

The *2020 Caldwell Pathways and Bicycle Route Master Plan* highlights the need for pathways and bicycle routes surrounding the project vicinity. It identifies the majority of Farmway Road as a high-risk facility for pedestrian and bicycle collisions with vehicles due to its narrow pavement width and high speed. The plan identifies Farmway Road between Simplot Boulevard and Karcher Road as a priority corridor for a shared use path for pedestrians and bicycles on each side of the

roadway (sidepath). A short-term or interim treatment is a wider paved shoulder. The master plan also identifies shared use paths on Homedale Road and Ustick Road branching from Farmway Road to the east, and a variation of bike lane types on Logan Street, Ash Street, and Linden Street branching east from Farmway Road into the City of Caldwell. There are no proposed signalized pedestrian crossings, such as Rectangular Rapid Flash Beacon (RRFB) or Pedestrian Hybrid Beacon (PHB), identified on Farmway Road in the master plan.

The proposed pedestrian and bicycle improvements in this corridor plan include a shared use path on each side of Farmway Road (shown in Figure 3-1).

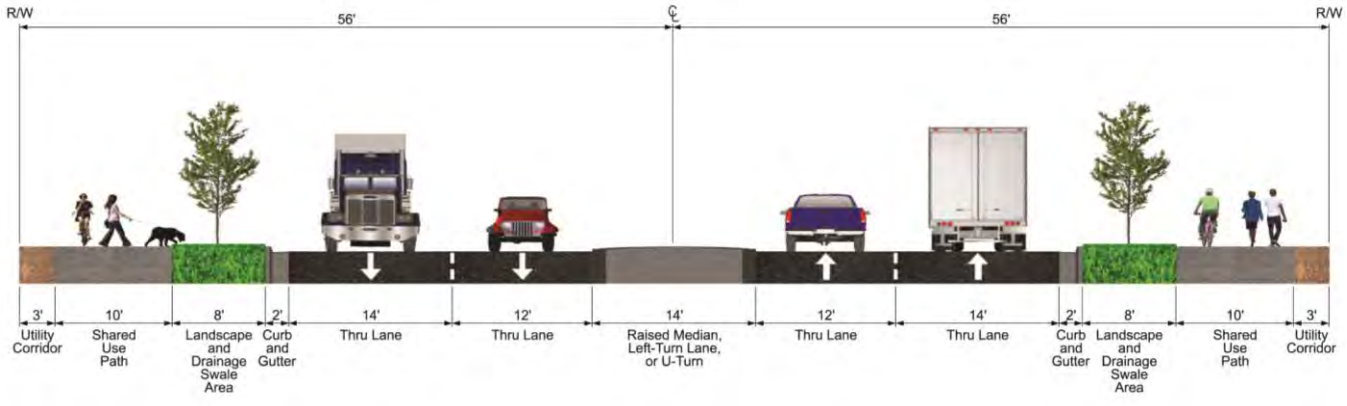


Figure 3-1. Farmway Road cross-section

Opportunities for pedestrians and bicyclists to cross Farmway Road would be provided at the major intersections by traffic signals or roundabouts. RRFBs would be provided at the roundabouts at approaches with two through lanes.

3.4 Drainage Collection and Disposal

The proposed cross-section for Farmway Road includes four travel lanes (two in each direction), a raised median, and curb and gutter with a grassed swale and shared use path on both sides of the roadway. This will create an area of impervious ground whose stormwater runoff will need to be collected and treated locally.

The drainage collection and disposal strategy for the corridor consists of the following measures:

- Collect and treat as much stormwater as possible within the eight-foot grassed swales proposed for both sides of the roadway. The storage capacity of the swale can be increased by including a drain rock window beneath the surface. It is estimated that a drain rock

window, measuring 3 feet by 3 feet, will provide sufficient storage for the proposed pavement width.

- In areas where the swale and drain rock window lack the capacity to store the design storm, such as intersections or stretches of roadway with multiple driveway approaches, supplement them with catch basins piped to seepage beds located behind the back of the shared use path within permanent easements for access by the Highway District or City forces for maintenance. Seepage beds should be designed to limit impact to developable parcels along Farmway Road.
- Existing development may make seepage beds unfeasible in some areas. In these locations, larger areas of runoff can be collected into piped systems and discharged to a drainage basin or basins to be sized and located during design.

The estimated construction costs for drainage collection and disposal will vary throughout the corridor depending on the disposal option chosen, field conditions including soil types and depth to groundwater and available right-of-way.

3.5 Irrigation Crossings

As part of the data collection efforts for this planning study, a review of existing irrigation crossings was conducted both visually and with GIS information provided by CHD4. For the purposes of this study, crossings smaller than 24 inches in diameter are considered minor and not included in this evaluation. The following is an inventory of crossings equal to or greater than 24 inches in diameter that will be extended or replaced as part of the ultimate roadway widening:

- West End Drain (North) – 54-inch RCP
  - Extend 50 feet and replace headwalls
- West End Drain (South) – 48-inch CMP
  - Replace 140 feet with RCP pipe
- Bardsly Gulch Drain – 60-inch RCP
  - Extend 50 feet and rebuild headwalls
- Phyllis Canal – 26-foot span concrete rail bridge
  - Extend 200 feet or replace 300 feet
  - Additional improvements to the Phyllis Canal will depend on the selected concept for the Ustick and Farmway intersection:

  - Option 1 – Roundabout centered on section lines. This option was developed after discussion with the agencies to re-route the canal in the public right-of-way (ROW) directly east of the current canal crossing of Farmway Road approximately one-quarter mile north of Ustick Road. This will allow the canal to be abandoned south of the canal re-route.
  - Option 2 – Roundabout shifted to southwest. This option was developed to avoid impacts to the Phyllis Canal; however, it may require re-routing a short distance of the canal or placing retaining wall in the northeast corner of the intersection to avoid the canal.
- Crossing on south leg of Ustick intersection – 24-inch RCP
  - Extend 40 feet
- Crossing at Drake Lane– 24-inch CMP
  - Replace 130 feet with PVC

3.6 Access Management

Access management is a set of strategies implemented in roadway design and land development to control roadway access to reduce crashes and improve traffic flow. Primary access management techniques are:

- Access spacing, including spacing between roundabout and signalized intersections and distance between private driveways
- Turning lanes, including dedicated left- and right-turn lanes and U-turn lanes, as well as indirect left turns, U-turns, and roundabouts
- Median treatments, including raised medians that limit turn movements across a roadway

The access management approach proposed for Farmway Road establishes full access for all approaches at the major public street intersections and limits spacing to one-half mile between full access intersections.

A raised median will be installed along the corridor to limit access between the one-half mile public street intersections to right-in and right-out movements. Driveway access will be limited to 660 feet minimum spacing to be implemented as re-development occurs. Openings in the raised median will be constructed to provide U-turn opportunities downstream of limited access driveways. The U-turns will limit out-of-direction travel to one-quarter mile for left-turn and through movements from the driveways (see Figure 3-2 on page 14).



Figure 3-2. U-turn opportunities for access-limited driveways

3.7 Public Outreach

Appendix C, *Public Outreach Summary Report*, summarizes the public involvement effort for this study. The agencies communicated news of the corridor plan and solicited public feedback in an online public information meeting (PIM) and by letter mailings to adjoining property owners. The PIM webpage was active for comment between March 3 through March 25, 2022, and the mailers were sent the week of March 3, 2022.

The PIM webpage was organized into four corridor plan components:

- Roadway cross-section
- Intersection improvements
- Access
- Overall corridor

In general, the respondents that were in favor of the proposed cross-section agree that the corridor is currently too narrow for the number of vehicles that use the corridor now, and that the need for widening will continue to grow as the surrounding areas are developed. These respondents also commented that the widening would attract and improve safety and operations for pedestrian and bicyclists. The respondents that were not in favor of the proposed cross-

section generally expressed concern of the right-of-way requirements and its subsequent residential and farming impacts. Eleven respondents (28%) expressed concern with the shared-used path, stating that they felt it was not necessary on both sides of the roadway, or that it was not needed due to lack of pedestrian/bicycle activity on the corridor.

Table 3-4. Summary of public support

Totals	Roadway Cross-section	Intersection Improvements		Access	Overall Corridor
		Roundabout	Traffic Signal		
Supportive	15 (38%)	14 (35%)	21 (53%)	5 (12%)	13 (33%)
Not Supportive	10 (25%)	21 (53%)	14 (35%)	17 (43%)	11 (28%)
Unsure or No Comment	15 (37%)	5 (13%)	5 (13%)	18 (45%)	16 (39%)

The respondents that were in favor of a roundabout corridor over the conventional traffic signal corridor generally commented that roundabouts have improved safety and operations compared to traffic signals.

3.8 Corridor Evaluation

Two intersection types were developed for the major intersections on Farmway Road: a conventional signalized intersection and a roundabout. To optimize traffic operations and driver expectations, two corridor plans were developed that maintained a consistent intersection type. Appendix A contains exhibits of the two corridor plans and reduced scale intersection exhibits. The two corridor plan options, signalized and roundabout, were evaluated for the following criteria:

- Traffic Operations – Travel time on Farmway Road and intersection delay.
- Freight – Accommodate large trucks, reduce stops and provide consistent speed.
- Access – Allow increased left-turns and provide for pedestrian/bicycle traffic.
- Safety – Roadway segment and intersection safety (fewer crashes).
- Property Impacts – Impact on properties fronting Farmway Road and side streets.

- Cost – Life cycle cost consisting of estimated construction costs, operation and maintenance costs, vehicle delay, and expected crash costs over 20-year service life.

A rating matrix was developed to summarize differences between the signalized and roundabout corridors for the evaluation factors above. The two options were compared to the No-Build, which served as the baseline. The matrix was presented to the public in the online PIM and is re-oriented in Table 3-5 on page 18. A narrative summary of the findings follows.

Traffic operations – travel time on Farmway Road: Traffic analysis was conducted for both options as summarized in Chapter 3.1. The calculated year 2045 travel times for the 4.5-mile-long corridor were approximately 66 seconds longer in the AM peak hour for the roundabout corridor compared to the signalized corridor, and approximately 21 seconds longer in the PM peak hour.

Traffic operations – intersection vehicle delay: The average vehicle delay at the intersections in year 2045 for the roundabouts on the corridor is approximately 80 seconds less than the traffic signals in the AM peak hour and approximately 120 seconds less in the PM peak hour. The majority of additional delay for the traffic signals is experienced by the cross-street traffic.

Freight – large vehicle design: Both options were designed for WB-67 trucks to make all movements at the roundabouts and signalized intersections without entering opposing traffic lanes.

Freight – speed consistency and reduced stops: Roundabouts have yield control and provide better speed consistency and reduced stops compared to traffic signal operations.

Access – left-turn access: Both options provide full access at the intersections for left-turns but limit left-turns between the one-mile intersections with the access management strategy described in Chapter 3.6.

Access – pedestrians and bicycles: The two options have identical 10 feet wide sidepaths for pedestrians and bicyclists. At the intersections, roundabouts have historically resulted in the fewer pedestrian and bicycle crashes than traffic signals.

Safety – roadway segment: Both options implement the access management described in Chapter 3.6, utilizing raised medians and U-turns to reduce left-turns and reduce vehicle conflict points.

Safety – intersection: Historically, roundabouts have proven to have fewer crashes, especially injury and fatality, than traffic signals. According the NCHRP 672, *Roundabouts, An Informational Guide,* roundabouts have:

- 48% fewer crashes than signalized intersections
- 78% fewer injury crashes than signalized intersections
- 75% fewer vehicle conflict points, eliminating the most severe intersection crashes: head-on and T-bone collisions

Property Impacts – Farmway Road properties: With a proposed ROW width of 112 feet, implementing the five-lane roadway between, and at, the two intersection options will measurably impact properties fronting Farmway Road.

Property Impacts – Side street properties: The roadways on all side streets are proposed to be widened to meet the City of Caldwell's street and ROW width corresponding to their functional classification.

Cost – estimated life cycle costs: Life cycle cost consists of the total cost for the improvement over the 20-year service life including the year 2045 estimated costs for construction of the proposed improvements (excluding ROW), the costs of vehicle delay over the service life, safety costs based on predictive crash methodologies and annual maintenance costs for the service life. See Appendix B, *Traffic and Safety Analysis*, for detailed descriptions of estimated costs and calculation methodology.

Table 3-5. Corridor rating matrix

Corridor Rating Criteria	No-Build	Signalized Corridor	Roundabout Corridor
Traffic Operations: Travel Time on Farmway			
Traffic Operations: Intersection Vehicle Delay			
Freight: Large Vehicle Design (WB-67)			
Freight: Speed Consistency and Reduce Stops			
Access: Left-turn Access			
Access: Pedestrians and Bicycles			
Safety: Roadway Segment			
Safety: Intersection			
Property Impacts: Farmway Road Properties			
Property Impacts: Side Street Properties			
Cost: Estimated Life Cycle Costs	$78M	$142M	$72M

Bad	Poor	Neutral	Fair	Good
				

3.9 Selected Corridor Plan

Following the online PIM, the project team, including technical staff from CHD4 and the City, selected the **roundabout corridor for Farmway Road**, citing the benefits roundabout provide for safety, life-cycle costs and traffic operations.

Appendix A Proposed Improvements Exhibits

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Traffic Signal



Notes

1. Future full-access intersection. Traffic signal control with railroad crossing signals and gates and receiving lanes on Farmway Road widened to allow northbound U-turns for passenger cars and pick-up trucks.
2. Intersection improvements and approaching roadways are shifted north of section line approximately 9 feet to utilize available right-of-way on the north side of Simplot Boulevard and minimize property impacts on the south side.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Roundabout



Notes

1. Future full-access intersection. Roundabout control with railroad crossing signals and gates and roundabout is dual-lane configuration with two circulating lanes on all approaches.
2. Intersection improvements and approaching roadways are shifted north of section line approximately 9 feet to utilize available right-of-way on the north side of Simplot Boulevard and minimize property impacts on the south side.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

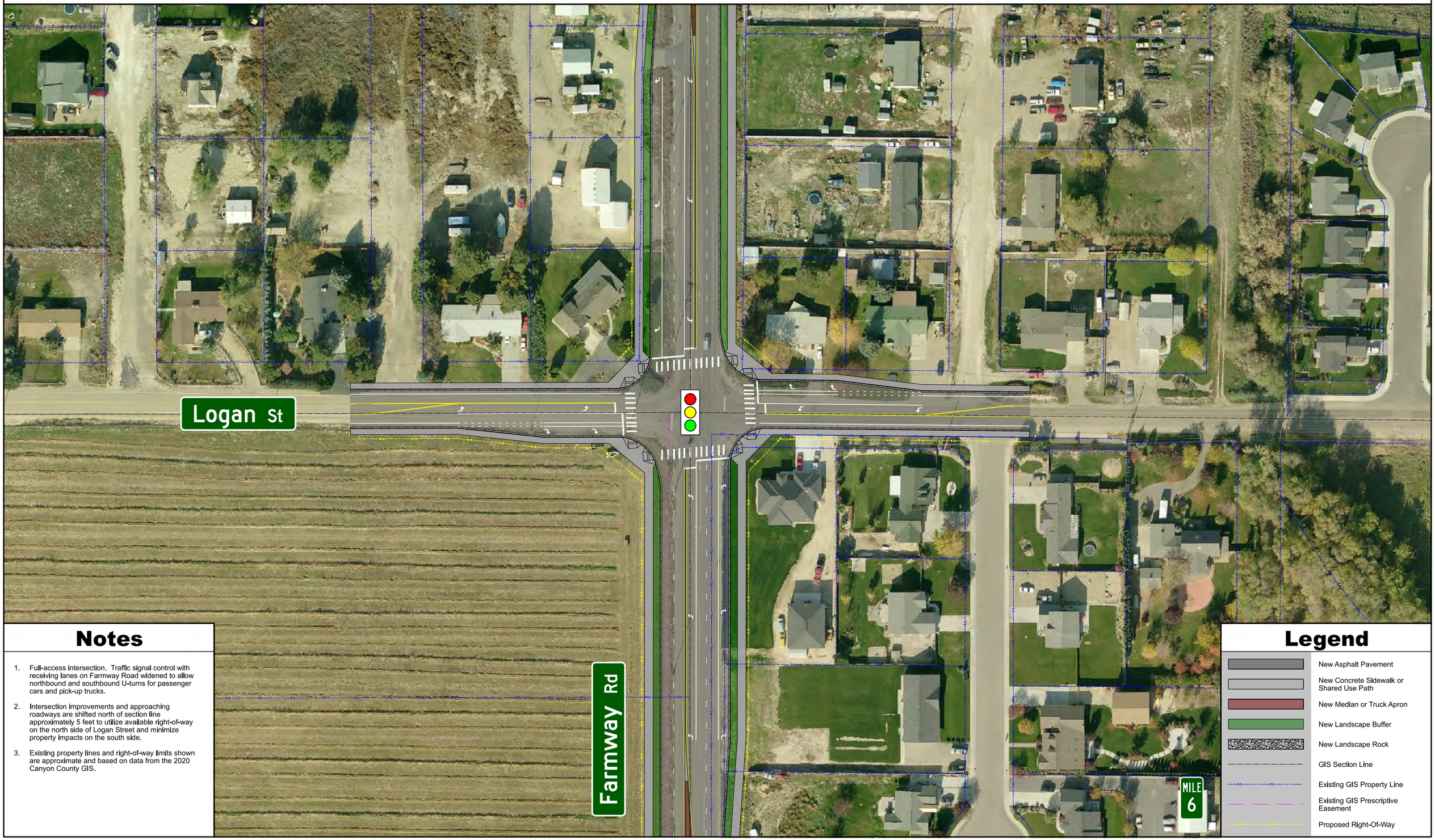
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Traffic Signal

0 25' 50' 100'

January 2022



Notes

1. Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
2. Intersection improvements and approaching roadways are shifted north of section line approximately 5 feet to utilize available right-of-way on the north side of Logan Street and minimize property impacts on the south side.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

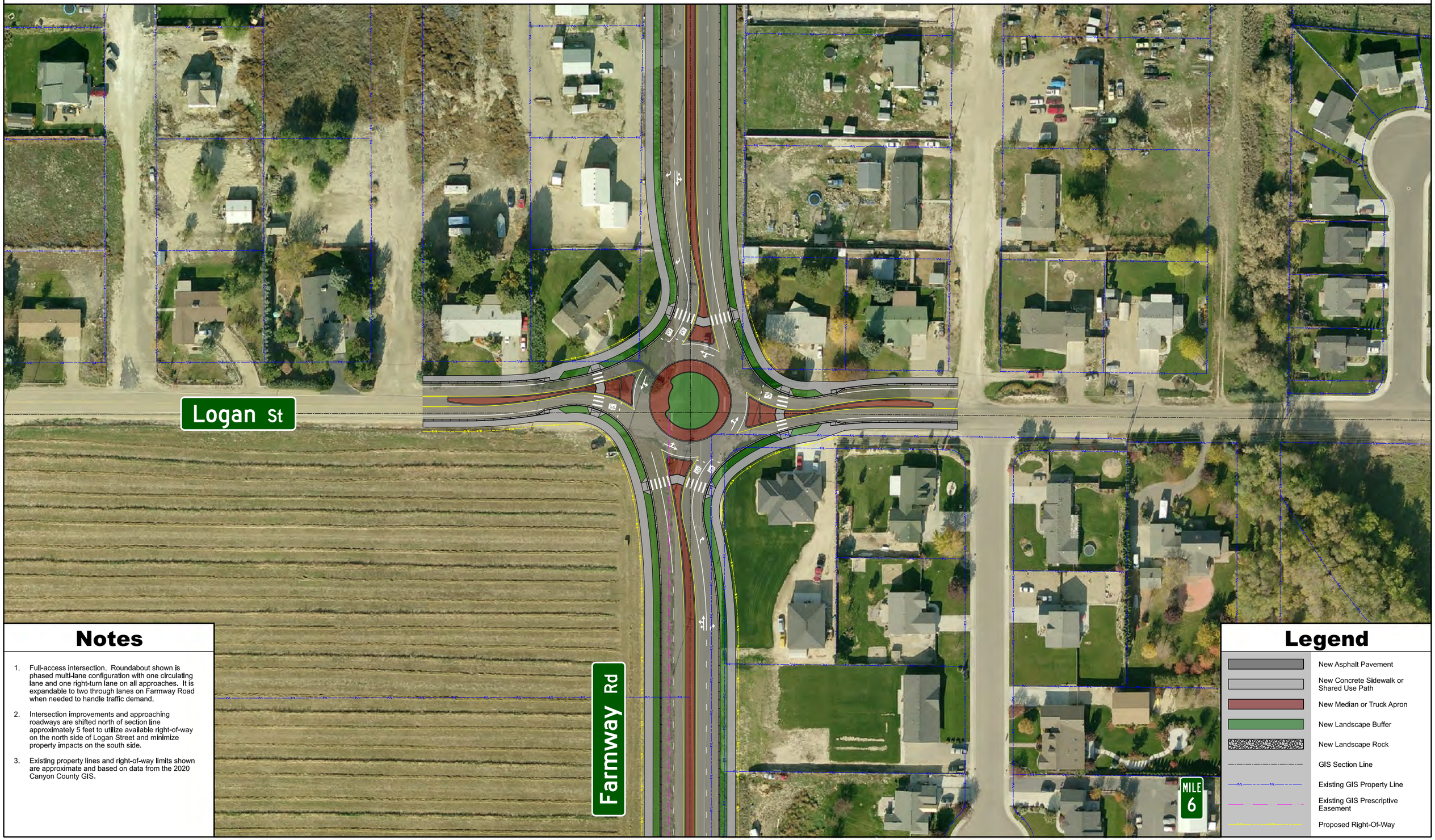
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Roundabout

0 25' 50' 100'

January 2022



Notes

1. Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
2. Intersection improvements and approaching roadways are shifted north of section line approximately 5 feet to utilize available right-of-way on the north side of Logan Street and minimize property impacts on the south side.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

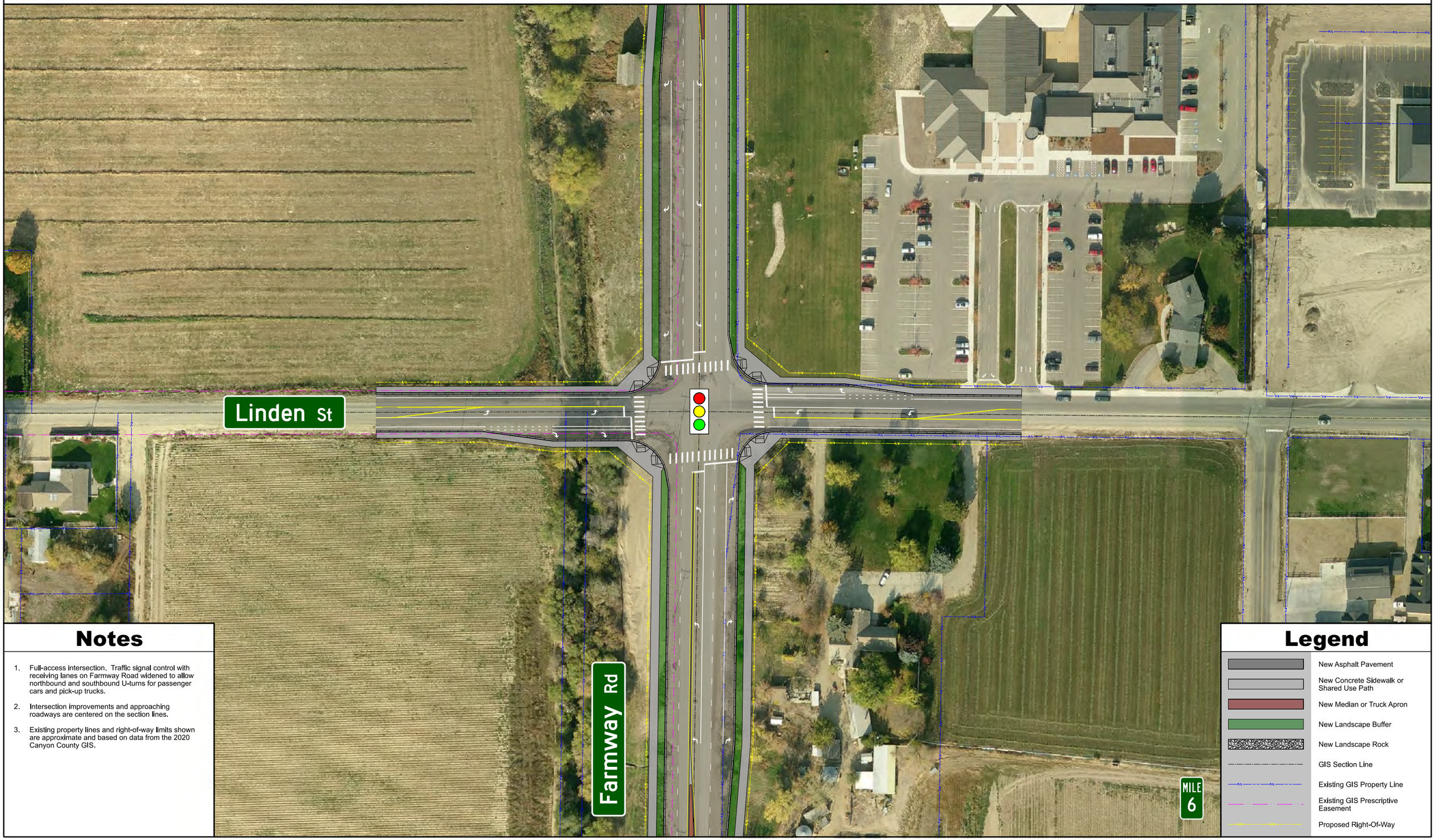
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Traffic Signal



Notes

1. Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

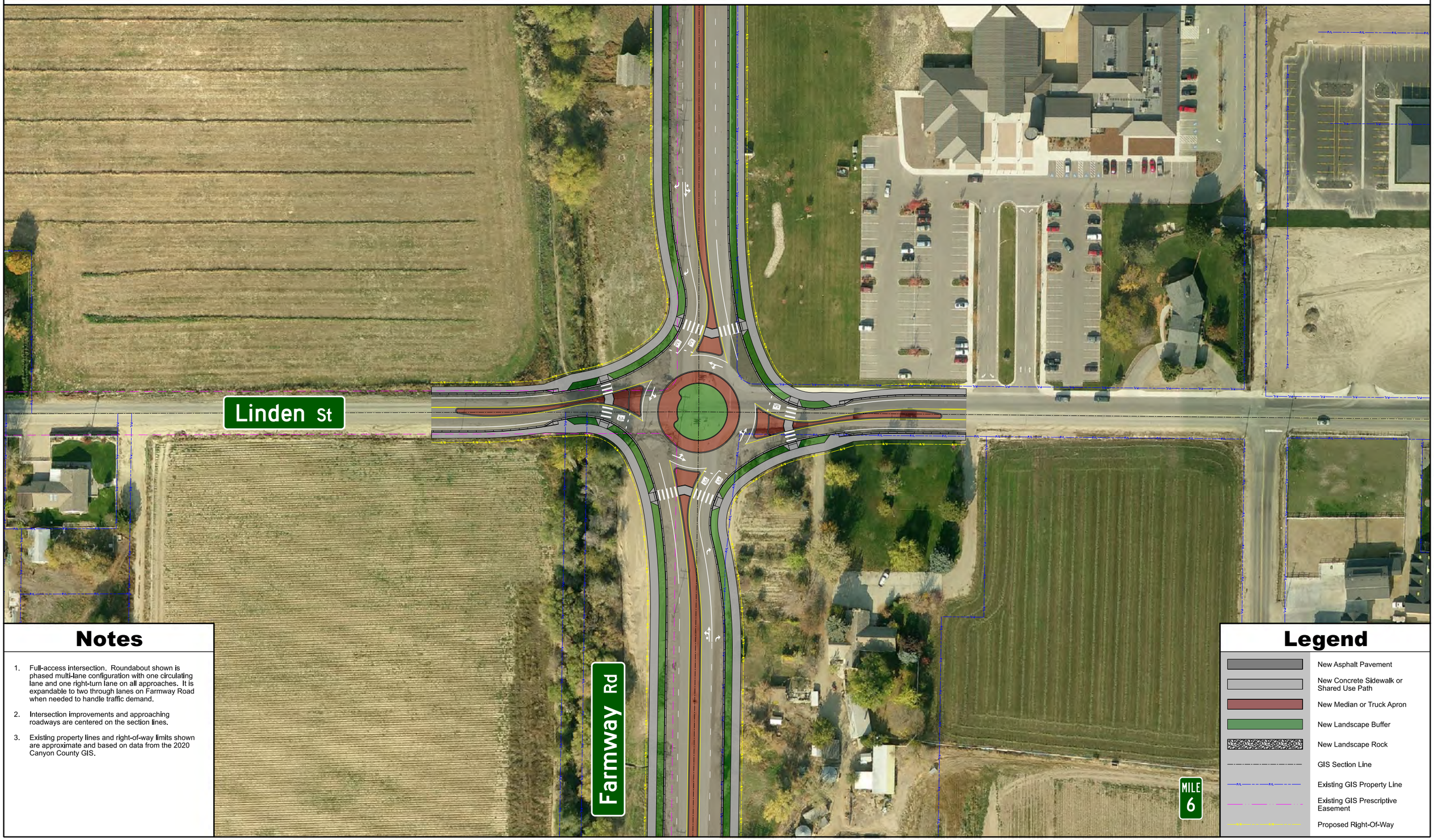
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Roundabout



Notes

1. Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

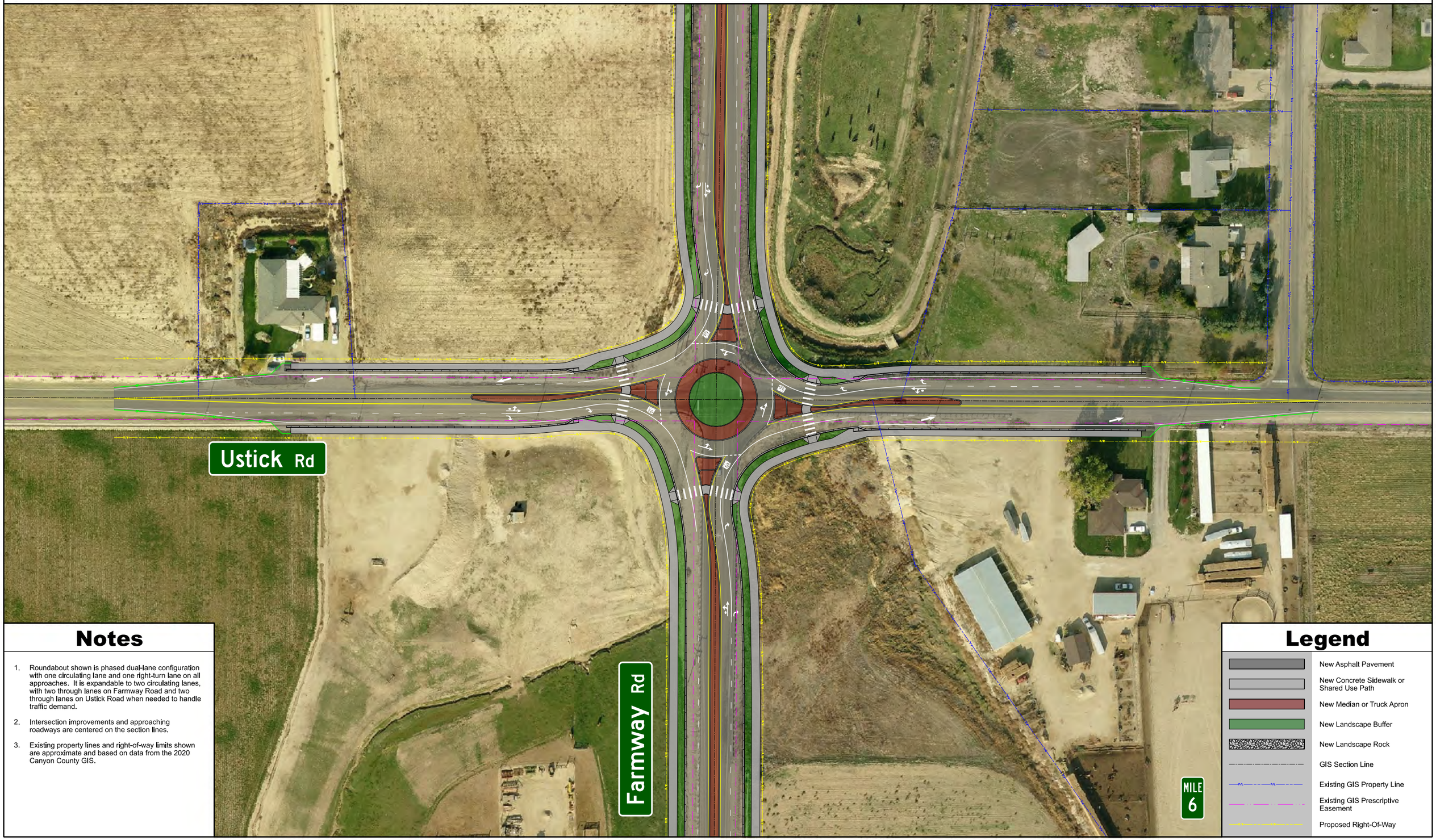
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Roundabout

0 25' 50' 100'

January 2022



Notes

1. Roundabout shown is phased dual-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two circulating lanes, with two through lanes on Farmway Road and two through lanes on Ustick Road when needed to handle traffic demand.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

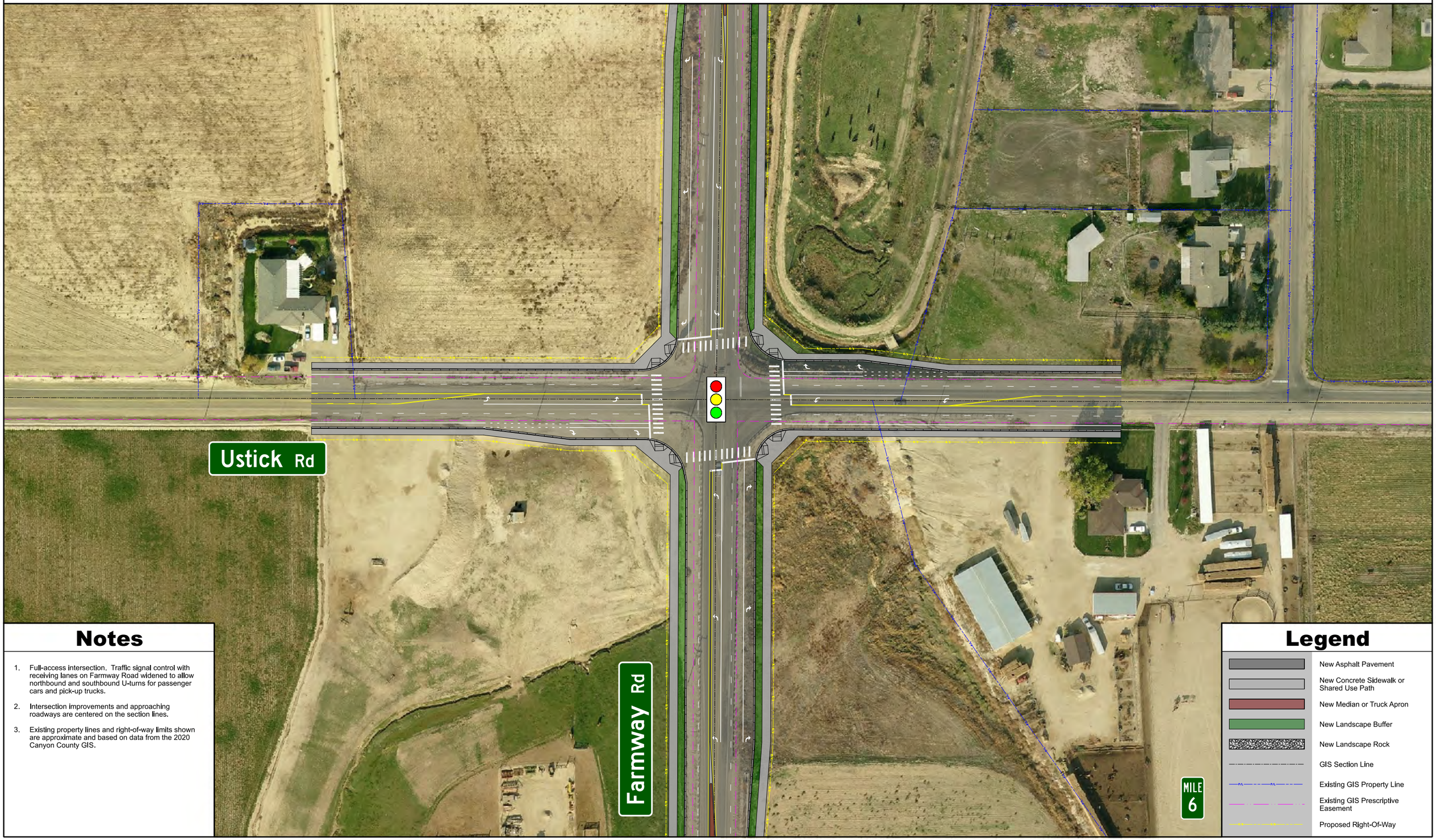
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Traffic Signal



Notes

1. Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

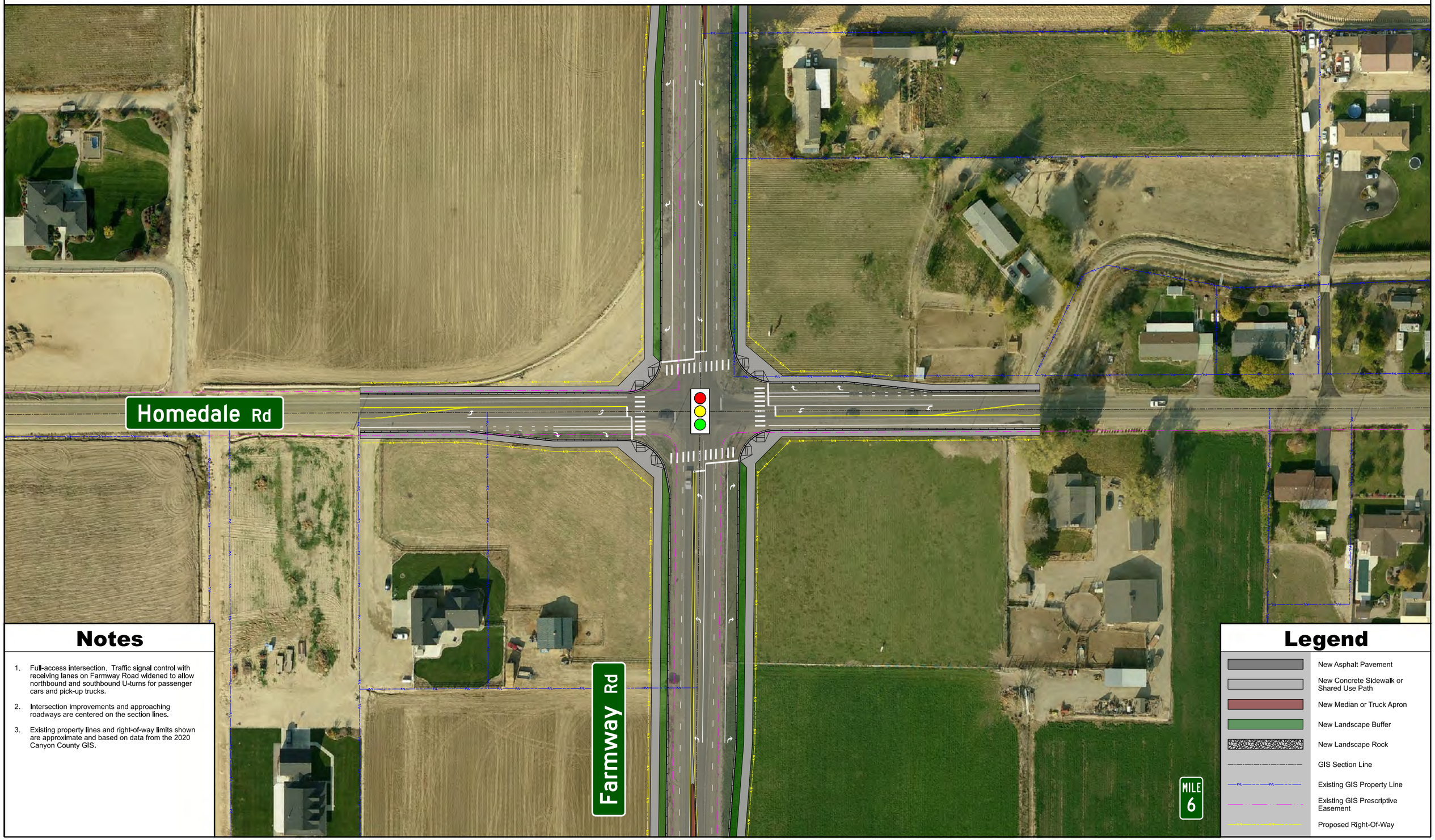
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Traffic Signal

0 25' 50' 100'

January 2022



Notes

1. Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

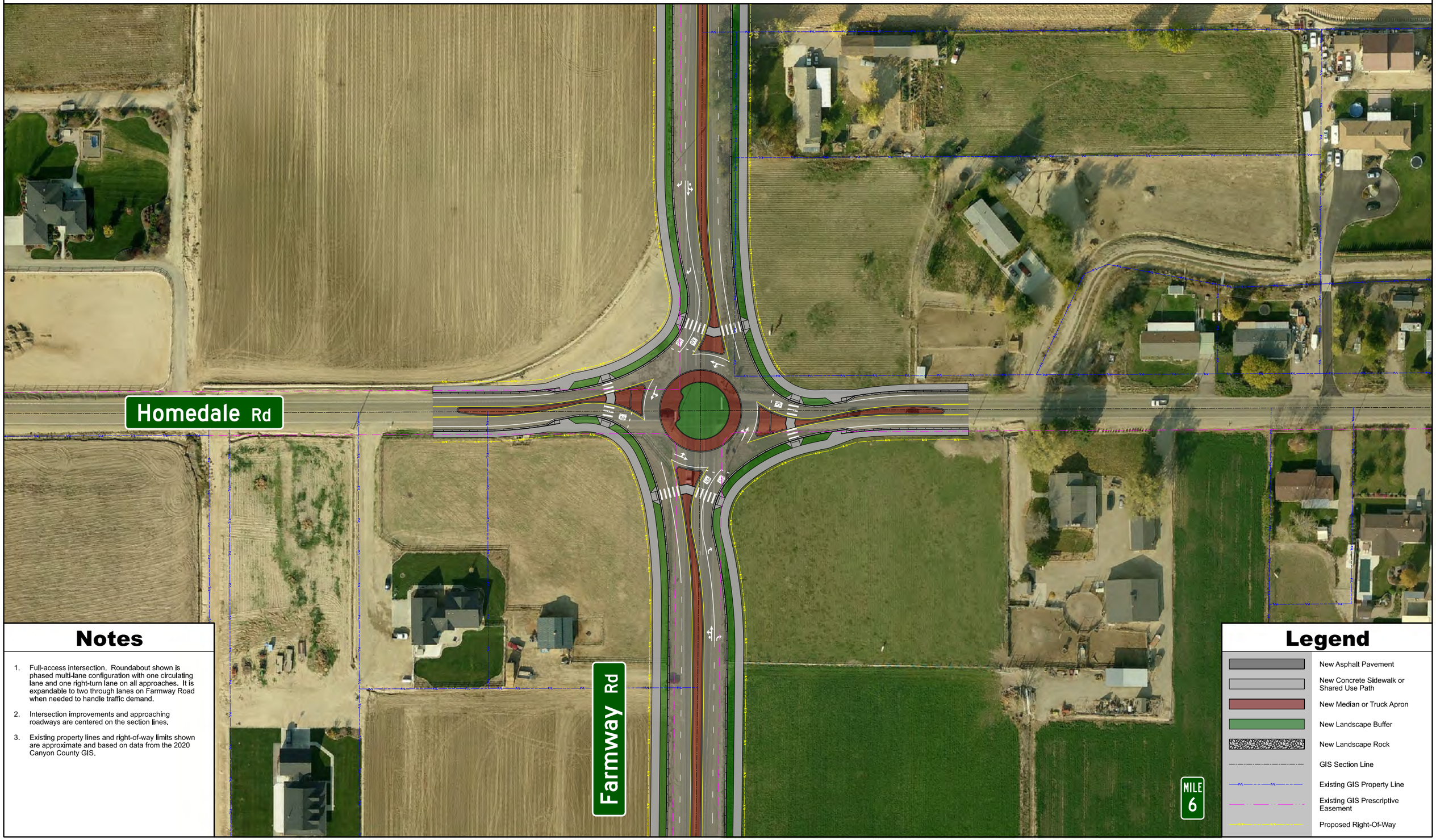
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 25' 50' 100'

January 2022

Farmway Road Corridor Planning Study

Design Year (2045) Intersection Improvement Option - Roundabout



Notes

1. Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
2. Intersection improvements and approaching roadways are centered on the section lines.
3. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Legend

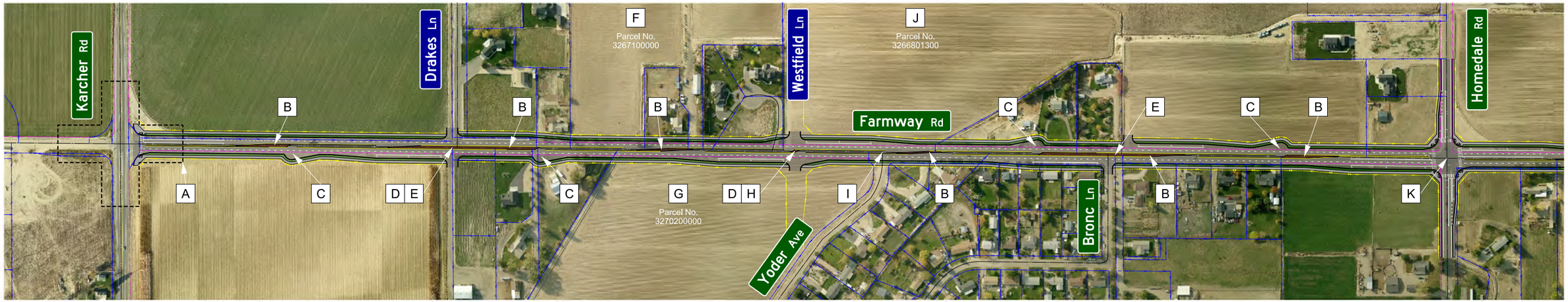
- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Truck Apron
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

0 100' 200' 400'

November 2021

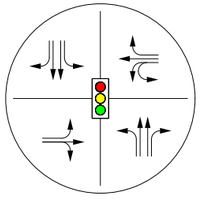
Farmway Road Corridor Planning Study

Design Year (2045) Corridor Improvement Option - Traffic Signal Corridor
Karcher Road to Homedale Road



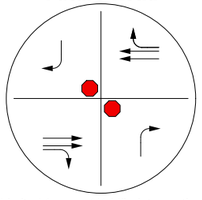
Corridor Plan

Karcher Road



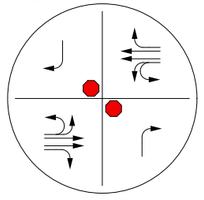
Full Access Intersection
Traffic Signal Control

Drakes Lane and Future Road



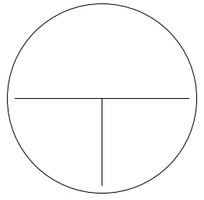
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and No Left-turn from Farmway Road)
Stop Control

Westfield Lane and Future Yoder Avenue



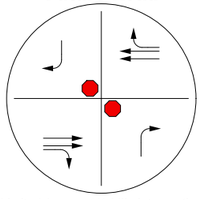
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Yoder Avenue



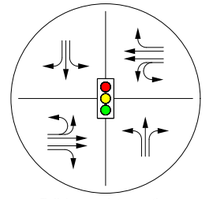
Closed Access
Intersection Will Be Closed
After New Intersection At Westfield

Bronc Lane and Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and No Left-turn from Farmway Road)
Stop Control

Homedale Road



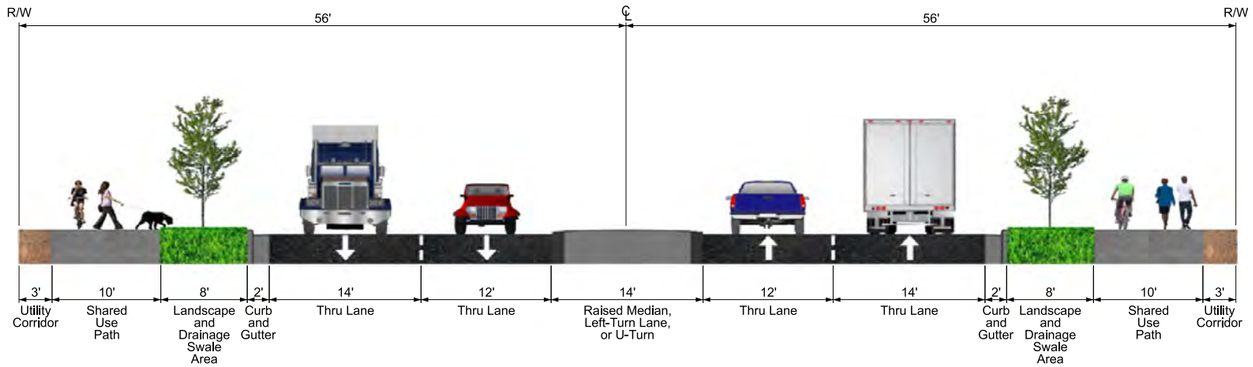
Full Access Intersection
Traffic Signal Control

Notes

- A The intersection of Farmway Road and Karcher Road (Idaho 55) is not included with this study. ITD is leading the design of the intersection as a separate project.
- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- F Temporary access for the future development of Parcel No. 3267100000 on Farmway Road will be abandoned when other public road access is available. Access is anticipated at a future ¼-mile intersection road or a future ½-mile collector road located along the parcel's north boundary.
- G Access for the future development of Parcel No. 3270200000 will be at the ½-mile collector road that will extend east to connect to Yoder Avenue.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a traffic signal.
- I The current Yoder Avenue approach on Farmway Road will be closed when the future ½-mile collector road east of Farmway Road is constructed.
- J Access for the future development of Parcel No. 3266801300 will be at the future ¼-mile collector road and at the ½-mile collector road along the parcel's south boundary.
- K Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow U-turns for passenger cars and pick-up trucks.

1. Existing property lines and right-of-way limits shown are approximate based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

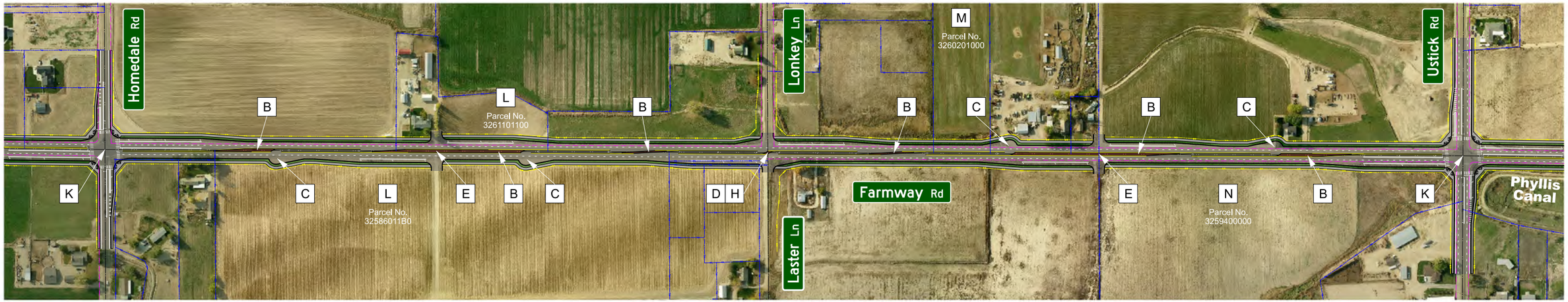
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

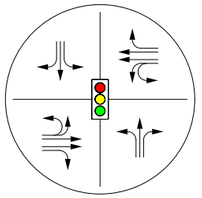
Design Year (2045) Corridor Improvement Option - Traffic Signal Corridor

Homedale Road to Ustick Road



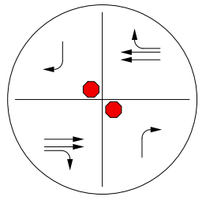
Corridor Plan

Homedale Road



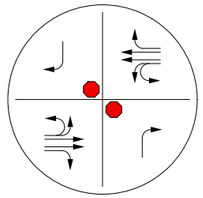
Full Access Intersection
Traffic Signal Control

Future Road



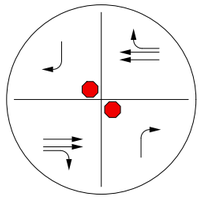
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Lonkey Lane and Laster Lane



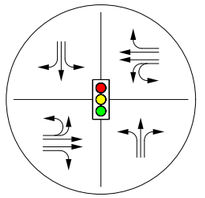
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Ustick Road



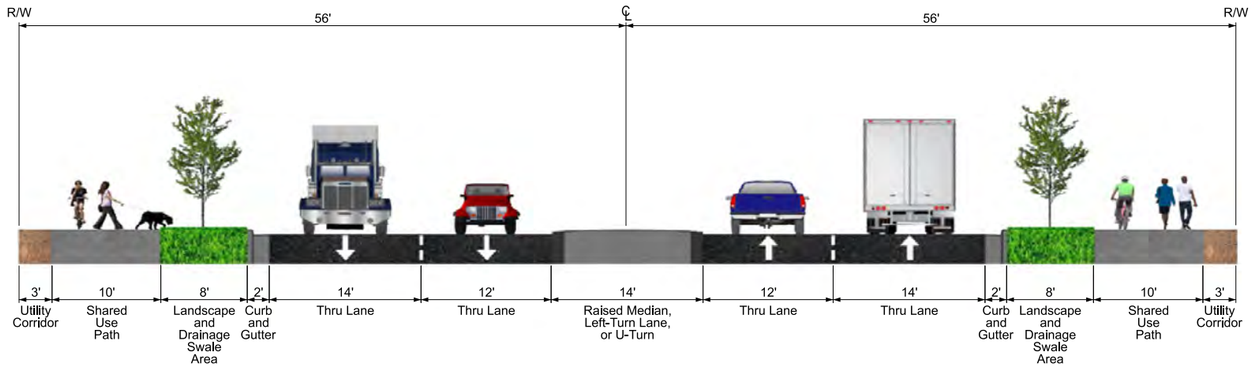
Full Access Intersection
Traffic Signal Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a traffic signal.
- K Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
- L Access for the future development of Parcel No. 32586011B0 and Parcel No. 3261101100 will be at the future ¼-mile intersection.
- M Temporary access for the future development of Parcel No. 3260201000 on Farmway Road will be abandoned when other public road access is available.
- N Access for the future development of Parcel No. 3259400000 will be at the future ¼-mile intersection.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

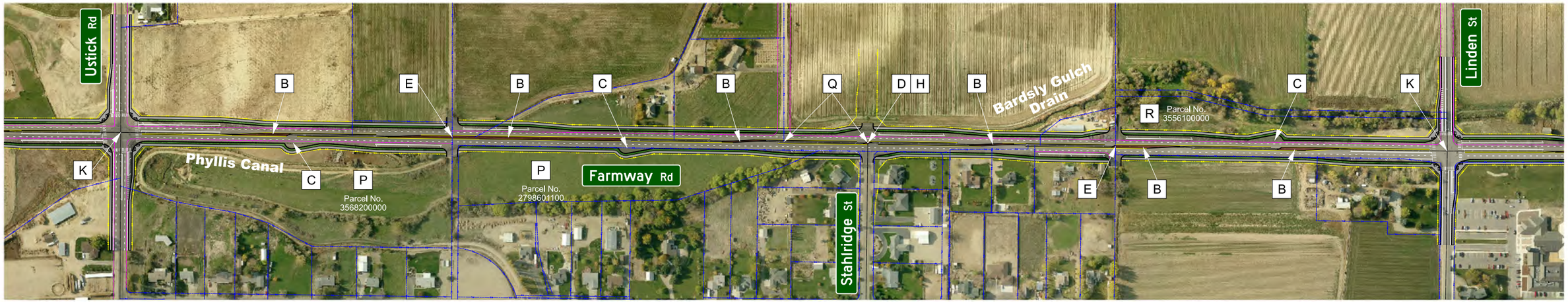
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

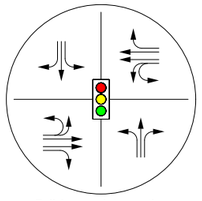
Design Year (2045) Corridor Improvement Option - Traffic Signal Corridor

Ustick Road to Linden Street



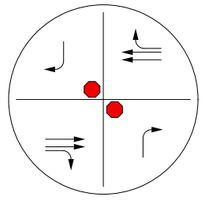
Corridor Plan

Ustick Road



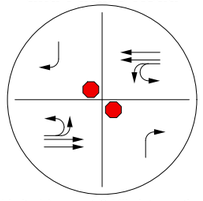
Full Access Intersection
Traffic Signal Control

Future Road



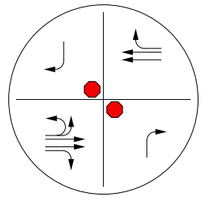
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Stahlridge Street and Future Road



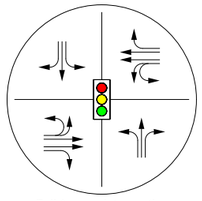
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Southbound Left-turn from Farmway Road)
Stop Control

Linden Street



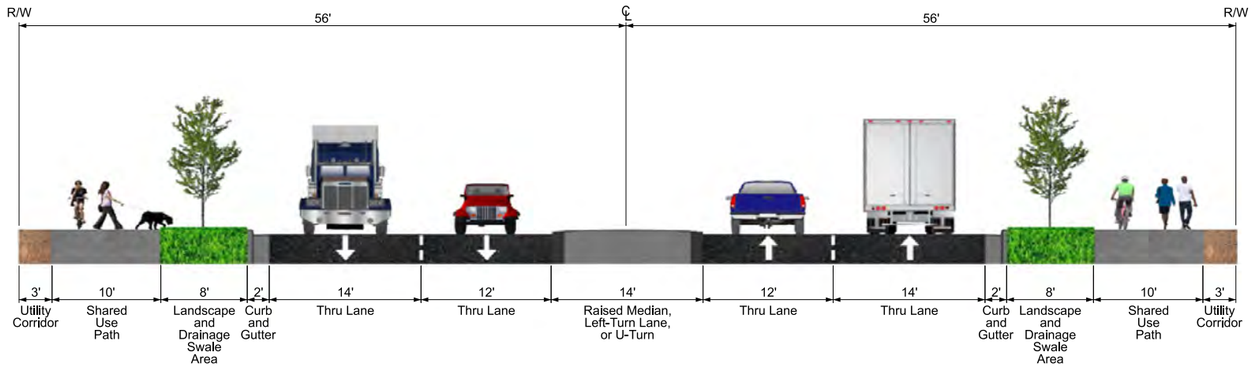
Full Access Intersection
Traffic Signal Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a traffic signal.
- K Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
- P Access for the future development of Parcel No. 3568200000 and Parcel No. 2798601100 will be at the future ¼-mile intersection.
- Q Realign future collector road to the north to create full-access intersection with Stahlridge Street.
- R Access for the future development of Parcel No. 3556100000 will be at the future ¼-mile intersection.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

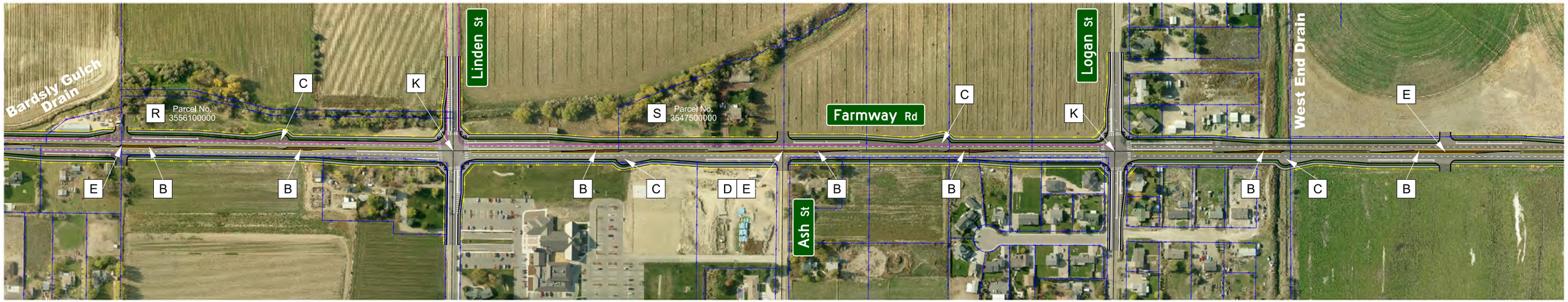
0 100' 200' 400'

November 2021

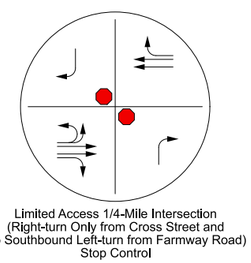
Farmway Road Corridor Planning Study

Design Year (2045) Corridor Improvement Option - Traffic Signal Corridor

Linden Street to Logan Street

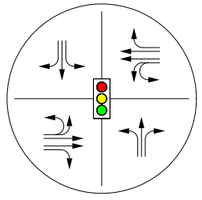


Corridor Plan



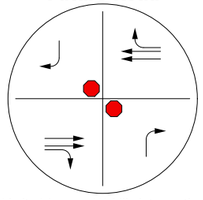
Future Road

Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Southbound Left-turn from Farmway Road)
Stop Control



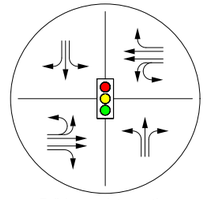
Linden Street

Full Access Intersection
Traffic Signal Control



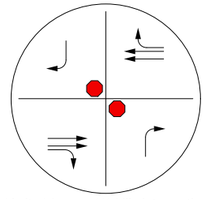
Ash Street and Future Road

Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control



Logan Street

Full Access Intersection
Traffic Signal Operations



Future Road

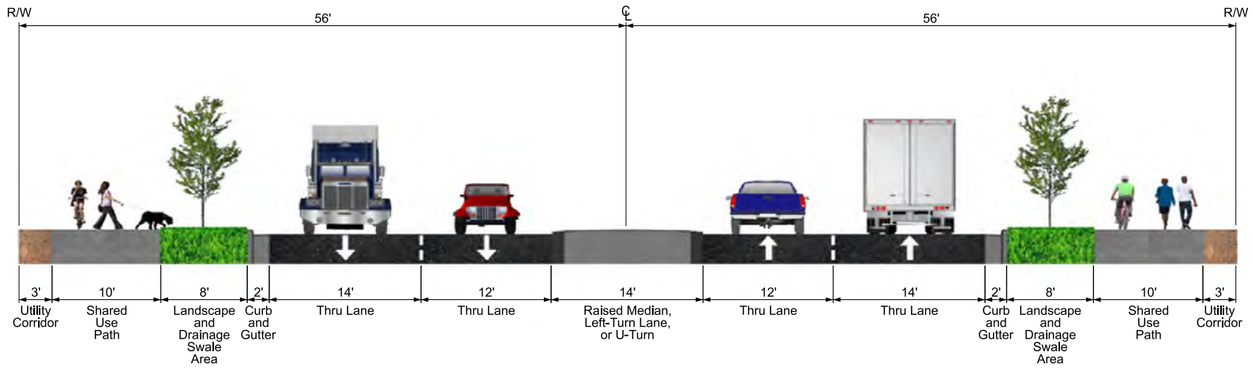
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- K Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
- R Access for the future development of Parcel No. 3556100000 will be at the future ¼-mile intersection.
- S Access for the future development of Parcel No. 3547500000 will be at the future ¼-mile intersection.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

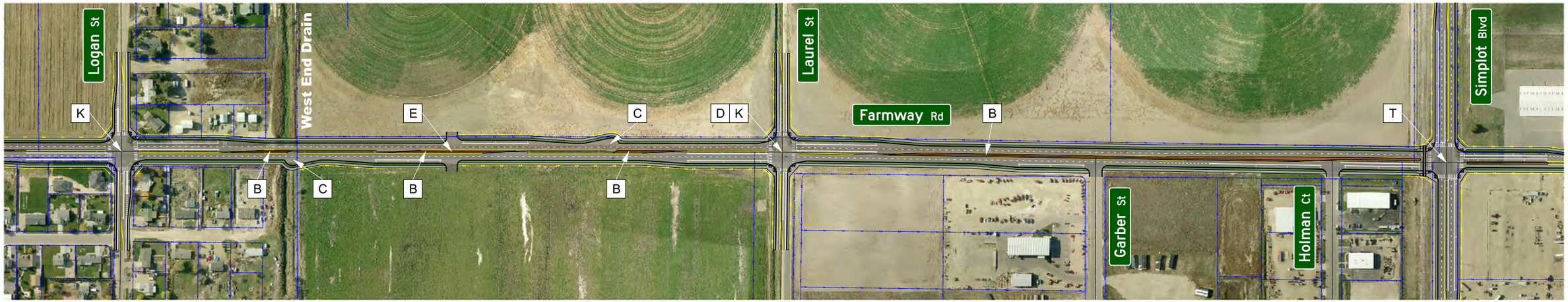
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

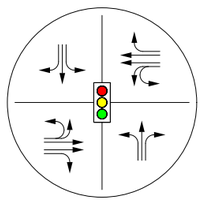
Design Year (2045) Corridor Improvement Option - Traffic Signal Corridor

Logan Street to Simplot Boulevard



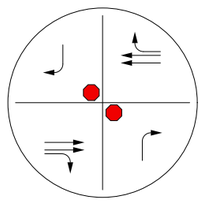
Corridor Plan

Logan Street



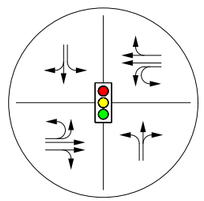
Full Access Intersection
Traffic Signal Control

Future Road



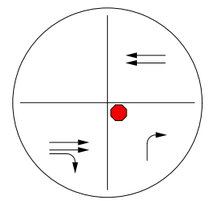
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control

Laurel Street



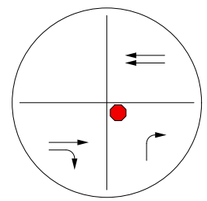
Full Access Intersection
Traffic Signal Control

Garber Street



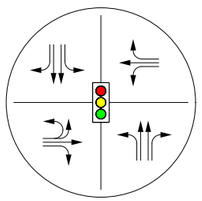
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street
and No Left-turn from Farmway Road)
Stop Control

Holman Court



Limited Access Intersection
(Right-turn Only from Cross Street
and No Left-turn from Farmway Road)
Stop Control

Simplot Boulevard



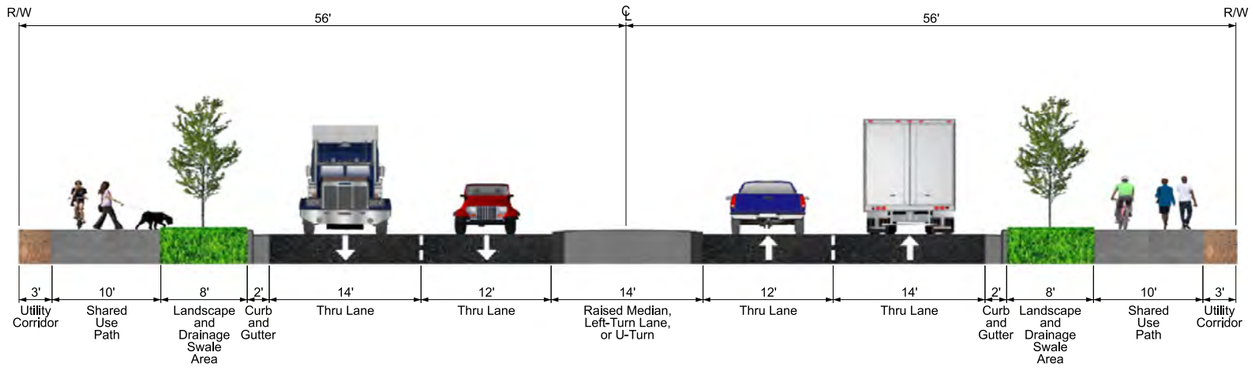
Full Access Intersection
Traffic Signal Control

Notes

- B — Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C — Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D — Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E — Future limited access intersection located ¼-mile from nearest full-access intersection.
- K — Full-access intersection. Traffic signal control with receiving lanes on Farmway Road widened to allow northbound and southbound U-turns for passenger cars and pick-up trucks.
- T — Full-access intersection. Traffic signal control with railroad crossing signals and gates and receiving lanes on Farmway Road widened to allow northbound U-turns for passenger cars and pick-up trucks.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

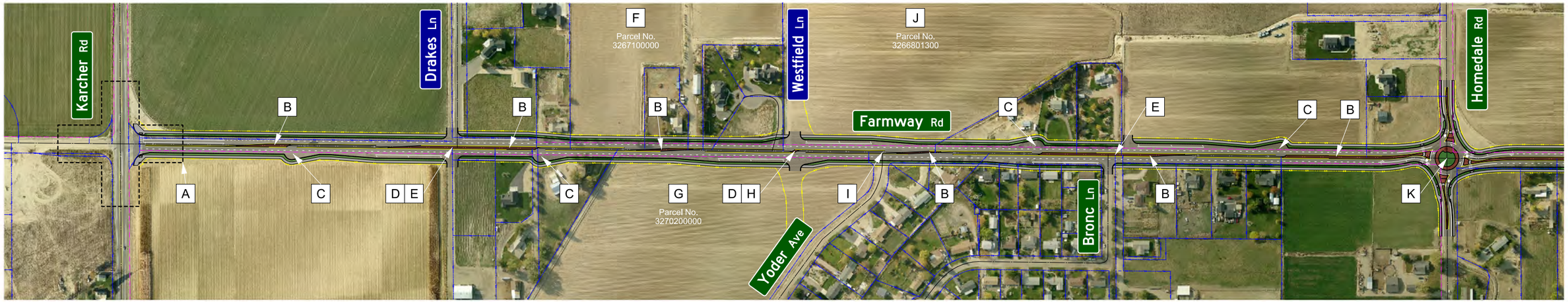
MILE 6

0 100' 200' 400'

November 2021

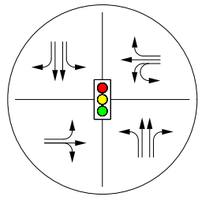
Farmway Road Corridor Planning Study

Design Year (2045) Corridor Improvement Option - Roundabout Corridor
Karcher Road to Homedale Road



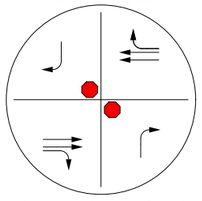
Corridor Plan

Karcher Road



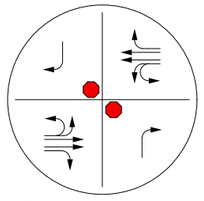
Full Access Intersection
Traffic Signal Control

Drakes Lane and Future Road



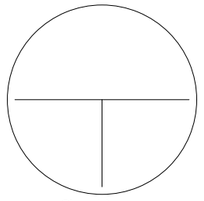
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and No Left-turn from Farmway Road)
Stop Control

Westfield Lane and Future Yoder Avenue



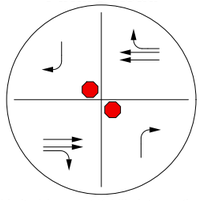
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Yoder Avenue



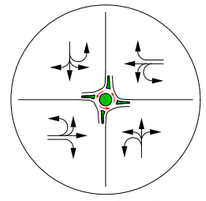
Closed Access
Intersection Will Be Closed
After New Intersection At Westfield

Bronc Lane and Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and No Left-turn from Farmway Road)
Stop Control

Homedale Road



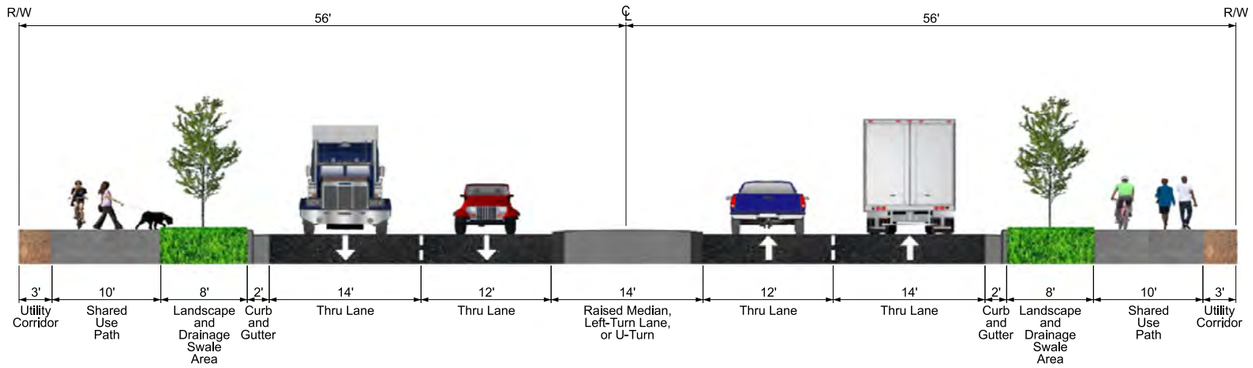
Full Access Intersection
Roundabout Control

Notes

- A The intersection of Farmway Road and Karcher Road (Idaho 55) is not included with this study. ITD is leading the design of the intersection as a separate project.
- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- F Temporary access for the future development of Parcel No. 3267100000 on Farmway Road will be abandoned when other public road access is available. Access is anticipated at a future ¼-mile intersection road or a future ½-mile collector road located along the parcel's north boundary.
- G Access for the future development of Parcel No. 3270200000 will be at the ½-mile collector road that will extend east to connect to Yoder Avenue.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a multi-lane roundabout.
- I The current Yoder Avenue approach on Farmway Road will be closed when the future ½-mile collector road east of Farmway Road is constructed.
- J Access for the future development of Parcel No. 3266801300 will be at the future ¼-mile collector road and at the ½-mile collector road along the parcel's south boundary.
- K Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.

1. Existing property lines and right-of-way limits shown are approximate based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

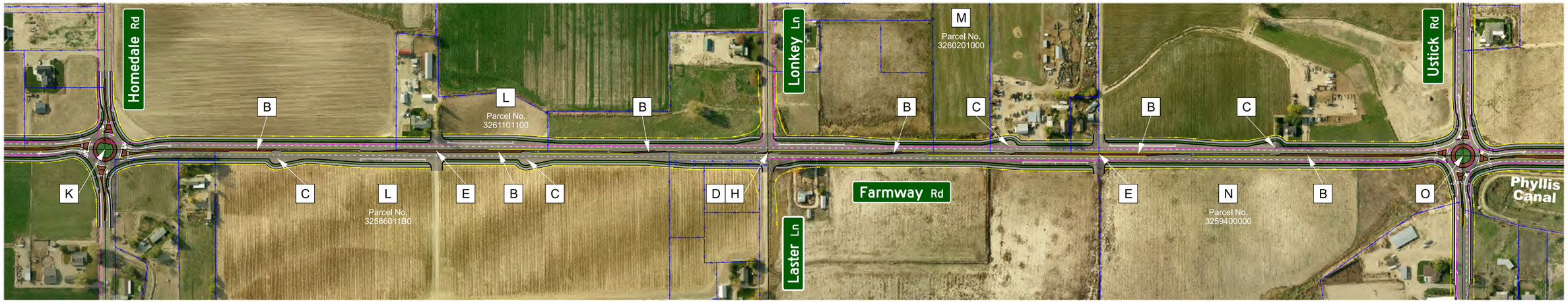
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

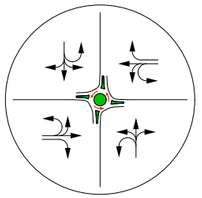
Design Year (2045) Corridor Improvement Option - Roundabout Corridor

Homedale Road to Ustick Road



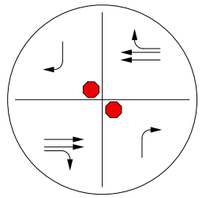
Corridor Plan

Homedale Road



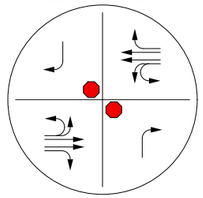
Full Access Intersection
Roundabout Control

Future Road



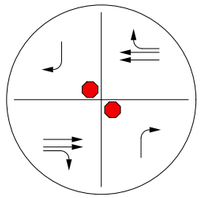
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Lonkey Lane and Laster Lane



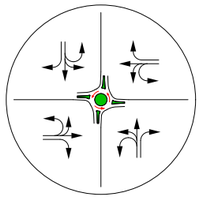
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Ustick Road



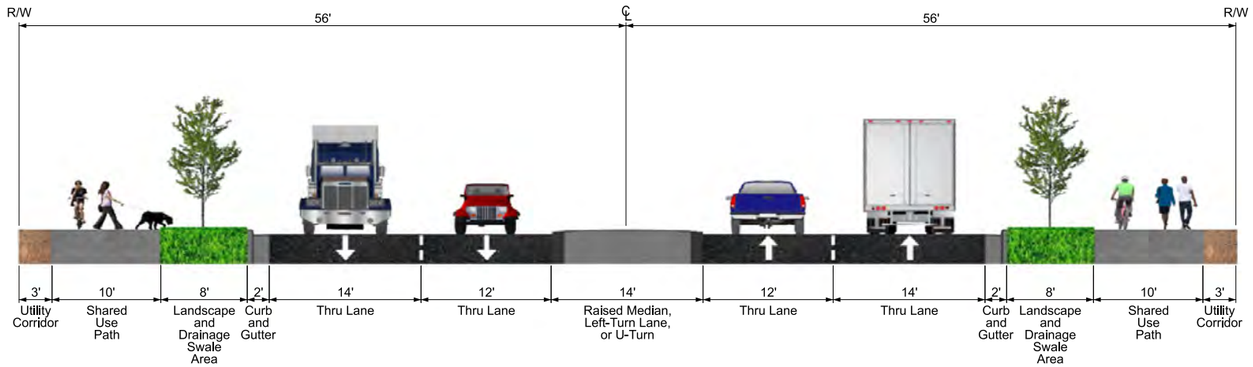
Full Access Intersection
Roundabout Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a multi-lane roundabout.
- K Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
- L Access for the future development of Parcel No. 32586011B0 and Parcel No. 3261101100 will be at the future ¼-mile intersection.
- M Temporary access for the future development of Parcel No. 3260201000 on Farmway Road will be abandoned when other public road access is available.
- N Access for the future development of Parcel No. 3259400000 will be at the future ¼-mile intersection.
- O Full-access Intersection. Roundabout shown is phased dual-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two circulating lanes, with two through lanes on Farmway Road and two through lanes on Ustick Road when needed to handle traffic demand.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

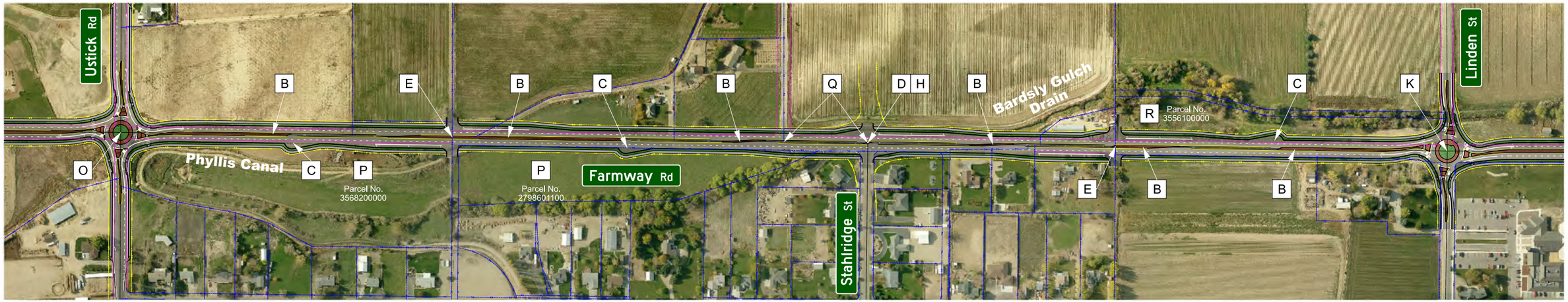
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

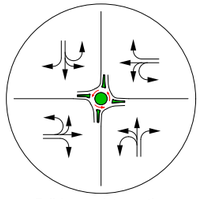
Design Year (2045) Corridor Improvement Option - Roundabout Corridor

Ustick Road to Linden Street



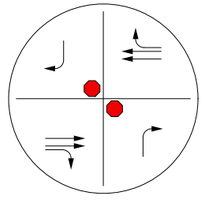
Corridor Plan

Ustick Road



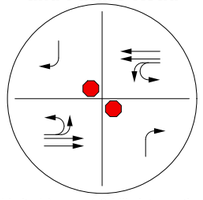
Full Access Intersection
Roundabout Control

Future Road



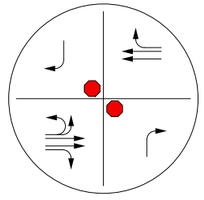
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turn from Farmway Road)
Stop Control

Stahlridge Street and Future Road



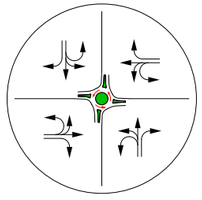
Limited Access 1/2-Mile Intersection
(Right-turn Only from Cross Street)
Stop Control

Future Road



Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Southbound Left-turn from Farmway Road)
Stop Control

Linden Street



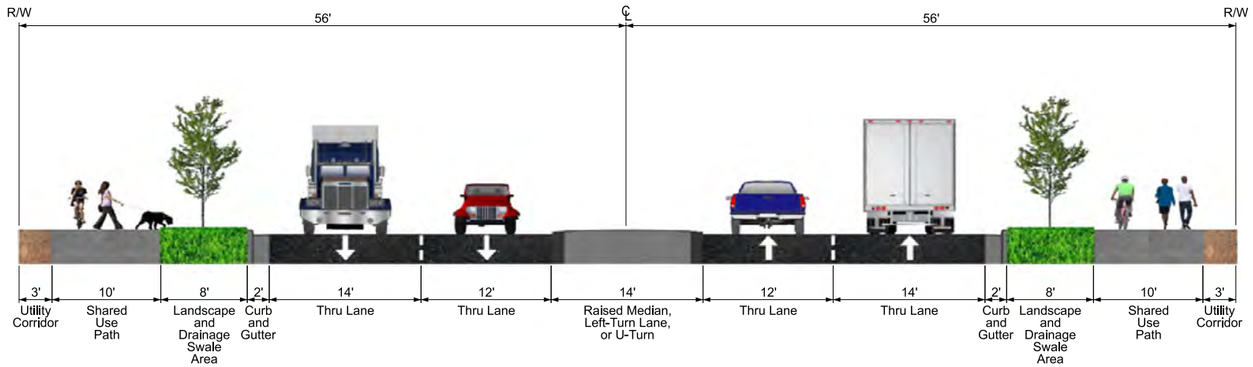
Full Access Intersection
Roundabout Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- H Access for ½-mile intersection is initially limited to right-in/right-out with left-in and U-turn access. A future full-access intersection will be constructed when needed to handle traffic demand. Right-of-way limits are shown for a multi-lane roundabout.
- K Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
- O Full-access Intersection. Roundabout shown is phased dual-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two circulating lanes, with two through lanes on Farmway Road and two through lanes on Ustick Road when needed to handle traffic demand.
- P Access for the future development of Parcel No. 3568200000 and Parcel No. 2798601100 will be at the future ¼-mile intersection.
- Q Realign future collector road to the north to create full-access intersection with Stahlridge Street.
- R Access for the future development of Parcel No. 3556100000 will be at the future ¼-mile intersection.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

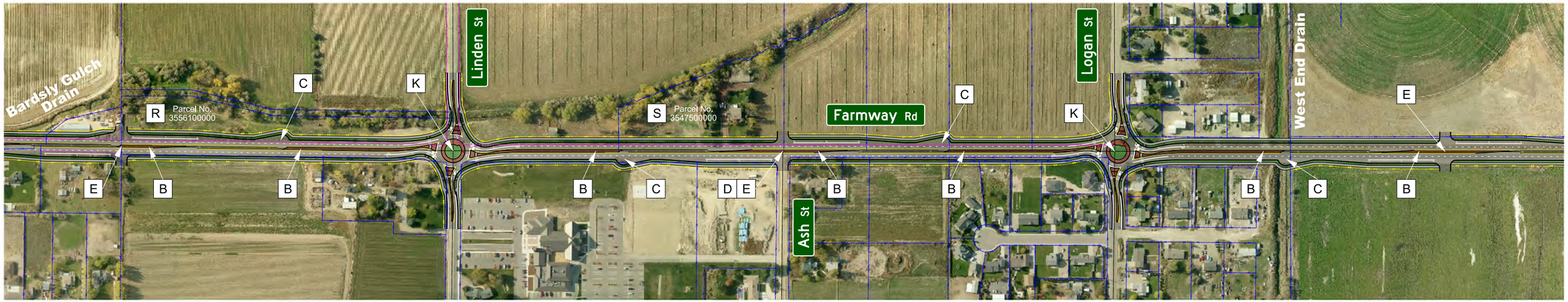
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

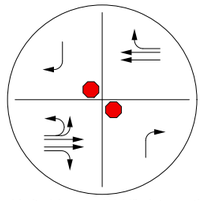
Design Year (2045) Corridor Improvement Option - Roundabout Corridor

Linden Street to Logan Street



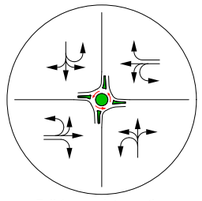
Corridor Plan

Future Road



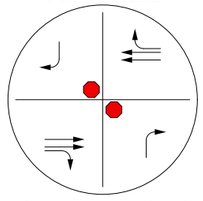
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Southbound Left-turn from Farmway Road)
Stop Control

Linden Street



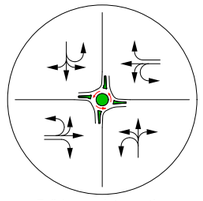
Full Access Intersection
Roundabout Control

Ash Street and Future Road



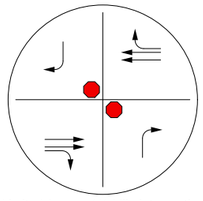
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control

Logan Street



Full Access Intersection
Roundabout Control

Future Road



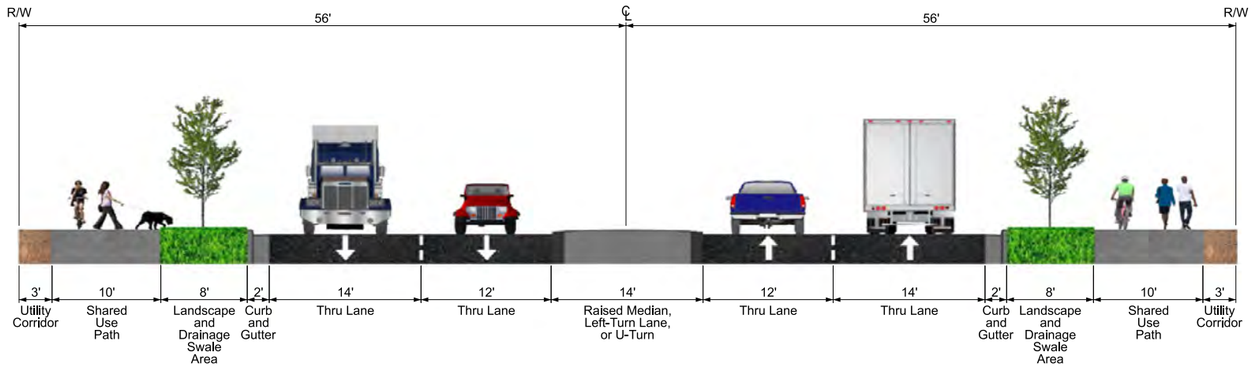
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control

Notes

- B Raised median to limit access along Farmway Road to right-in and right-out, except as shown at public street intersections.
- C Loon provided to allow U-turns for passenger cars and pick-up trucks.
- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
- E Future limited access intersection located ¼-mile from nearest full-access intersection.
- K Full-access intersection. Roundabout shown is phased multi-lane configuration with one circulating lane and one right-turn lane on all approaches. It is expandable to two through lanes on Farmway Road when needed to handle traffic demand.
- R Access for the future development of Parcel No. 3556100000 will be at the future ¼-mile intersection.
- S Access for the future development of Parcel No. 3547500000 will be at the future ¼-mile intersection.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

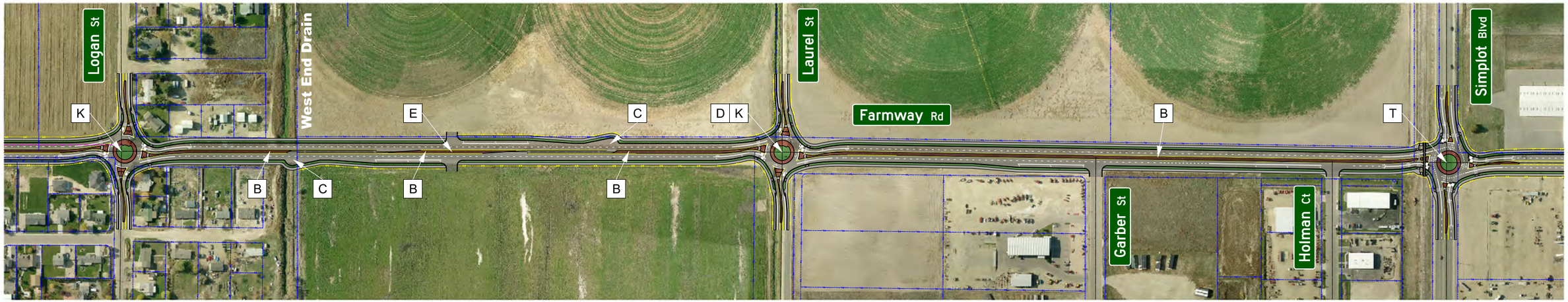
0 100' 200' 400'

November 2021

Farmway Road Corridor Planning Study

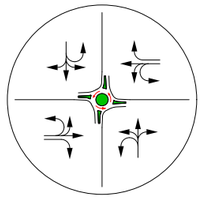
Design Year (2045) Corridor Improvement Option - Roundabout Corridor

Logan Street to Simplot Boulevard



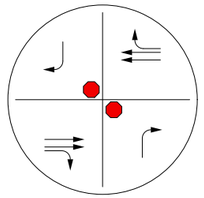
Corridor Plan

Logan Street



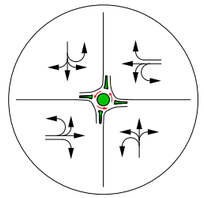
Full Access Intersection
Roundabout Control

Future Road



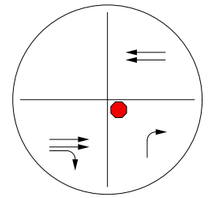
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street and
No Left-turns from Farmway Road)
Stop Control

Laurel Street



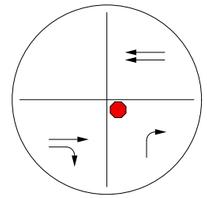
Full Access Intersection
Roundabout Control

Garber Street



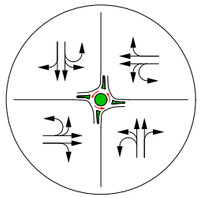
Limited Access 1/4-Mile Intersection
(Right-turn Only from Cross Street
and No Left-turn from Farmway Road)
Stop Control

Holman Court



Limited Access Intersection
(Right-turn Only from Cross Street
and No Left-turn from Farmway Road)
Stop Control

Simplot Boulevard



Full Access Intersection
Roundabout Control

Notes

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- D Future collector road per the City of Caldwell's 2040 Comprehensive Plan.
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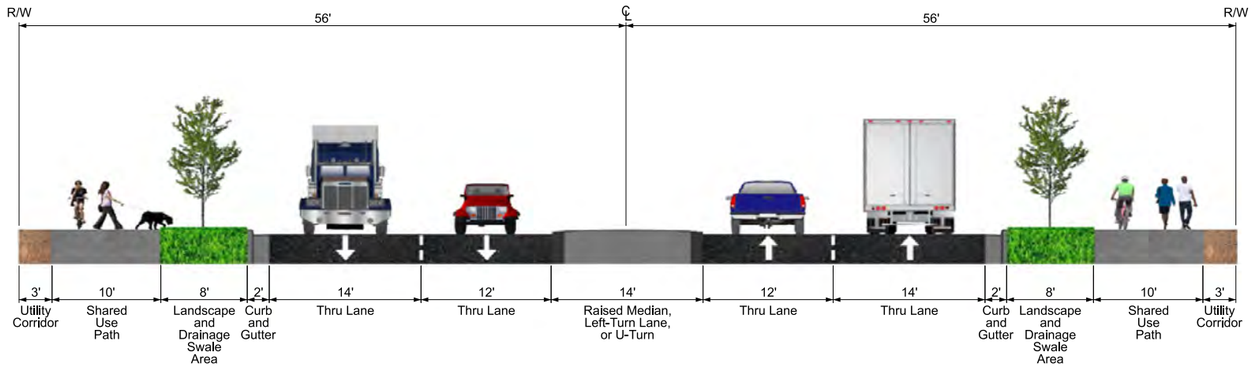
- T Full-access intersection. Roundabout shown is dual-lane configuration with two circulating lanes on all approaches.

1. Existing property lines and right-of-way limits shown are approximate and based on data from the 2020 Canyon County GIS.

Intersection Configurations



Farmway Road Cross Section

Legend

- New Asphalt Pavement
- New Concrete Sidewalk or Shared Use Path
- New Median or Median Curb
- New Landscape Buffer
- New Landscape Rock
- GIS Section Line
- Existing GIS Property Line
- Existing GIS Prescriptive Easement
- Proposed Right-Of-Way

MILE 6

Appendix B Traffic and Safety Analysis Report

FARMWAY ROAD CORRIDOR STUDY



TRAFFIC AND SAFETY ANALYSIS REPORT

NOVEMBER 17, 2022

Prepared for:

Canyon Highway District No. 4

City of Caldwell

Prepared by:

Six Mile Engineering

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Chapter 1 Introduction

Canyon Highway District No. 4 (CHD4) and the City of Caldwell (City) partnered to develop a corridor plan for 4.5 miles of Farmway Road, from its intersection with Karcher Road (SH-55) to its intersection with Simplot Boulevard (SH-19). This traffic and safety analysis report summarizes the analysis conducted for the corridor study.

1.1 Scope

The traffic and safety analysis consists of the following key tasks:

- Analysis of existing peak hour (AM and PM) traffic conditions at the following study intersections on Farmway Road:
    - Simplot Boulevard
    - Logan Street
    - Linden Street
    - Ustick Road
    - Homedale Road
- Analysis of intersection-related and roadway segment crashes reported on Farmway Road from year 2015 to 2019
- Comparison of forecasted year 2045 traffic for the following roadway alternatives to identify the future roadway configuration needed for Farmway Road from Karcher Road to Simplot Boulevard:
    - No-Build: Existing two-lane Farmway Road
    - Alternative 1: Three-lane Farmway Road
    - Alternative 2: Three-lane Farmway Road with three-lane Boise River crossing
    - Alternative 3: Five-lane Farmway Road
    - Alternative 4: Five-lane Farmway Road with three-lane Boise River crossing
- Analysis of forecasted year 2045 peak hour (AM and PM) traffic conditions at the five study intersections on Farmway Road for two intersection control types:
    - Roundabout
    - Traffic signal
- Analysis of forecasted year 2045 peak hour (AM and PM) traffic conditions for a roundabout corridor and a signalized intersection corridor utilizing microsimulation

modeling to evaluate travel time, speed, speed consistency, and urban street section level of service (LOS)

- Estimate of life-cycle benefit-costs for the following:
    - Delay benefit cost versus project cost
    - Crash reduction benefit cost versus project cost

Chapter 2 Existing Conditions

2.1 Data Collection

Intersection turning movement (ITM) counts were collected by L2 Data Collection (L2) on December 8, 2020, for the study intersections listed in section 1.1. ITM counts at Karcher Road from July 18, 2019 were provided by Idaho Transportation Department (ITD). CHD4 provided 24-hour weekday roadway counts with vehicle classifications at several locations along Farmway Road and at each study intersection side-street approach between December 1 and 10, 2020.

2.2 Intersection Analysis

The measures of effectiveness (MOEs) for conventional intersection operations include average vehicle delay, LOS and the v/c ratio of the controlled approach for unsignalized intersections. The operations were evaluated for 2020 Existing conditions using HCM6 methodology. The Synchro intersection evaluation reports are in the Appendix.

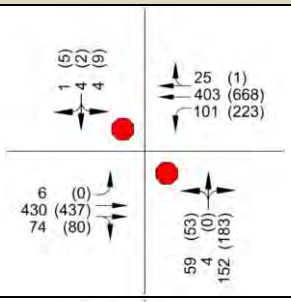
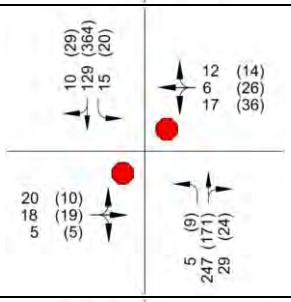
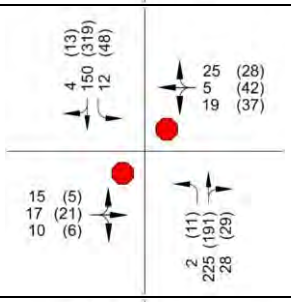
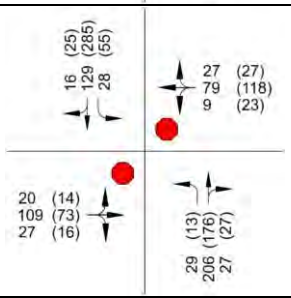
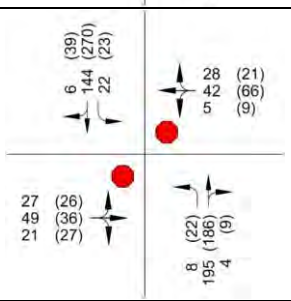
2.2.1 2020 Existing Operations

The existing turning movement volumes, lane configuration, intersection control and MOEs are summarized in Table 2-1 on page 5. The following are results from the 2020 existing intersection traffic analysis:

- Simplot Boulevard and Farmway Road intersection
  - The northbound and southbound approaches operate at LOS F during the PM peak hour, with a v/c ratio of 0.88 on the northbound approach during the PM peak hour.
- Logan Street and Farmway Road intersection
  - The eastbound and westbound approaches operate at LOS C during the PM peak hour, with a v/c ratio of 0.26 or better on the two controlled approaches during the peak hours.
- Linden Street and Farmway Road intersection
  - The eastbound and westbound approaches operate at LOS C during the PM peak hour, with a v/c ratio of 0.30 or better on the two controlled approaches during the peak hours.
- Ustick Road and Farmway Road intersection
  - The eastbound and westbound approaches operate at LOS C during both peak hours, with a v/c ratio of 0.51 or better on the two controlled approaches during the peak hours.

- Homedale Road and Farmway Road intersection
    - The eastbound and westbound approaches operate at LOS C or better during the PM peak hour, with a v/c ratio of 0.25 or better on the two controlled approaches during the peak hours.

Table 2-1. 2020 existing intersection operations

Intersection	Peak Hour Volumes [AM (PM)], Control and Channelization	MOE	AM Peak	PM Peak
Simplot Boulevard (SH-19) and Farmway Road		Control LOS, NB / SB	D / D	F / F
		Control Delay (sec), NB / SB	25 / 27	68 / 58
		Max Lane Group v/c Ratio	0.57 (NB)	0.88 (NB)
Logan Street and Farmway Road		Control LOS, EB / WB	B / B	C / C
		Control Delay (sec), EB / WB	13 / 13	16 / 19
		Max Lane Group v/c Ratio	0.10 (EB)	0.26 (WB)
Linden Street and Farmway Road		Control LOS, EB / WB	B / B	C / C
		Control Delay (sec), EB / WB	13 / 12	17 / 18
		Max Lane Group v/c Ratio	0.9 (EB)	0.30 (WB)
Ustick Road and Farmway Road		Control LOS, EB / WB	C / C	C / C
		Control Delay (sec), EB / WB	24 / 15	25 / 21
		Max Lane Group v/c Ratio	0.51 (EB)	0.45 (WB)
Homedale Road and Farmway Road		Control LOS, EB / WB	C / B	C / C
		Control Delay (sec), EB / WB	15 / 13	16 / 15
		Max Lane Group v/c Ratio	0.25 (EB)	0.23 (EB)

2.3 Crash History

Crash data for the study intersections and segments along Farmway Road were provided by ITD for the five-year period from January 1, 2015, through December 31, 2019. The data was analyzed as intersection related and non-intersection related to identify crash patterns that could potentially be mitigated with countermeasure improvements identified in section 5.2.2 on page 34. Figure 2-1 illustrates the severity of crashes at each intersection and along each segment between the study intersections.

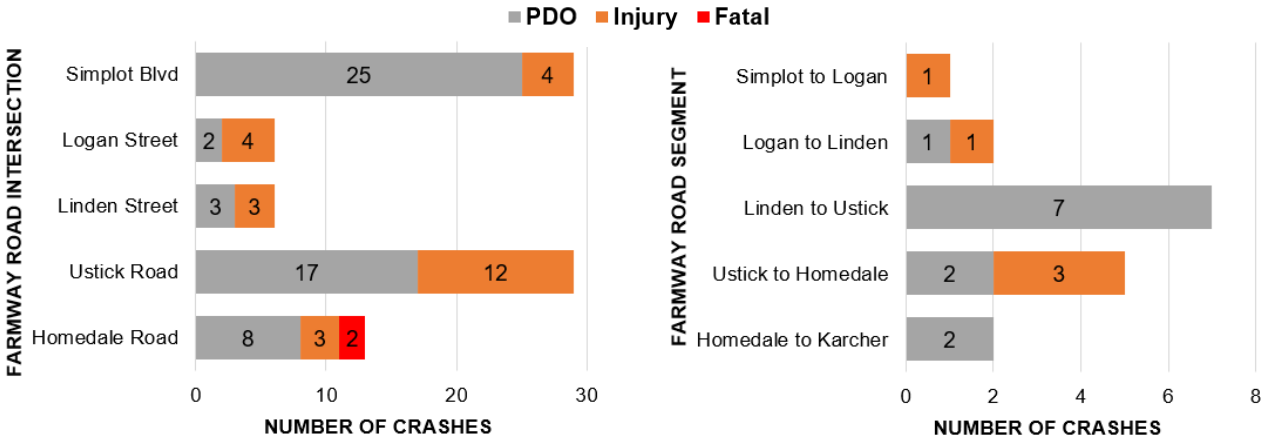


Figure 2-1. 2015-2019 crash frequency and severity – project vicinity

A total of 100 crashes were reported in the project limits within the most recent five-year period from 2015 to 2019. The majority of crashes were property damage only (PDO) crashes (67 percent), followed by C injury and B injury crashes (13 percent each), A injury crashes (5 percent) and two fatal crashes (2 percent). The most common crash types for each intersection are shown in Table 2-2 on page 7, and the most common crash types for each segment are shown in Table 2-3 on page 7.

Table 2-2. Intersection crash summary (2015-2019)

Intersection	Total Crashes	Crash Severity F / A / B / C / PDO	Frequency of Common Crash Types				
			Angle and Angle Turning	Head-On and Head-On Turning	Side Swipe (Opposite and Same)	Rear-End/ Rear-End Turning	Other[1]
Simplot Boulevard	29	0 / 0 / 1 / 3 / 25	20	2	3	1	3
Logan Street	6	0 / 1 / 0 / 3 / 2	2	-	1	2	1
Linden Street	6	0 / 0 / 1 / 2 / 3	5	-	1	-	-
Ustick Road	29	0 / 0 / 10 / 2 / 17	20	2	1	1	5
Homedale Road	13	2 / 2 / 0 / 1 / 8	10	-	-	1	2

[1]Other includes pedestrian, backed into, overturn, embankment, non-contact unit, guardrail, and fence

The two fatal crashes at Homedale Road were both reported in 2017 as result of a westbound vehicle failing to stop at the stop sign and colliding with a vehicle on Farmway Road. The two fatal crashes resulted in a total of four fatalities and six injuries. The pedestrian crash was reported in 2017 at the Logan Street intersection, and the driver was cited for inattentive driving.

Table 2-3. Segment crash summary (2015-2019)

Segment	Total Crashes	Crash Severity F / A / B / C / PDO	Frequency of Common Crash Types				
			Angle and Angle Turning	Head-On	Rear-End	Overturn	Other[1]
Simplot to Logan	1	0 / 0 / 0 / 1 / 0	-	-	-	-	1
Logan to Linden	2	0 / 1 / 0 / 0 / 1	1	-	-	-	1
Linden to Ustick	7	0 / 0 / 0 / 0 / 7	-	-	1	2	4
Ustick to Homedale	5	0 / 1 / 1 / 1 / 2	1	1	1	2	-
Homedale to Karcher	2	0 / 0 / 0 / 0 / 2	-	-	-	-	2

[1]Other includes ditch, pedestrian, fence, fixed object, and utility/light post, pole, or support

The were no fatal crashes reported along Farmway Road that were not intersection-related between 2015 and 2019. There was one pedestrian crash reported in 2016 south of Logan Street

where a pedestrian attempted to perform a mid-block crossing at night and was struck by a northbound vehicle resulting in a type A injury crash.

The most common crash types for all intersection related crashes were angle/angle turning (69 percent), head-on/head-on turning (5 percent), rear-end/rear-end turning (7 percent), and side swipe opposite/same direction (6 percent). All other crash types represent four percent or less of the total intersection related crash types. The most common contributing circumstances are failed to yield (46 percent), failed to obey stop sign (13 percent), inattention and speed too fast for conditions (7 percent each). All other contributing circumstances represent six percent or less of the total intersection related crash contributing circumstances.

The most common crash types for non-intersection related crashes were related to the vehicle leaving the roadway and striking a fixed object (totaling 47 percent of segment crashes), followed by overturn (24 percent), rear-end (12 percent), and angle/angle turning (12 percent). The most common contributing circumstances for the non-intersection related crashes was speed to fast for conditions (24 percent). All other reported contributing circumstance are reported only two times per segment and represent twelve percent or less.

Chapter 3 Forecasted Traffic

3.1 Traffic Forecasts

3.1.1 Seasonal Adjustment Factors

The traffic counts were collected on weekdays throughout different months of the year and do not represent annual average weekday traffic (AAWT); therefore, the counts were adjusted by a monthly seasonal adjustment factor (MSF) to normalize them to AAWT. Local transportation agencies do not generate standardized MSFs or have a standard method to calculating MSFs; therefore, the standardized method from the *2019 Project Traffic Forecasting Handbook* by the Florida Department of Transportation (FDOT) was used.

Following FDOT methodology, MSFs were calculated for each month using historic traffic volumes recorded at the four surrounding automatic traffic recorders (ATRs) from the previous calendar year. Due to Covid-19 impacts on traffic in 2020, data from 2019 was used for the previous calendar year. The MSFs that were applied to each traffic count according to the count month are shown in Table 3-1.

Table 3-1. Monthly seasonal adjustment factors

Month	Monthly Seasonal Adjustment Factor (MSFs)
July	0.970
December	1.088

3.1.2 Land Use and Demographics

Existing and future projected demographics data surrounding the project vicinity were provided by the Community Planning Association of Southwest Idaho (COMPASS) and land use mapping was obtained from Canyon County and the City. The existing land use surrounding Farmway Road is primarily agricultural farmland, with a mix of dispersed residential housing on the east side of Farmway Road north of Ustick Road and commercial developments near the Simplot Boulevard intersection (see Figure 3-1 on page 10 for Canyon County and Figure 3-2 on page 11 for the City of Caldwell). The land use surrounding Farmway Road is projected to grow with residential development south of Laurel Road to Ustick Road, and industrial expansion north of Laurel Road

to Simplot Boulevard. Commercial development is projected at the intersection of Karcher Road and Farmway Road.

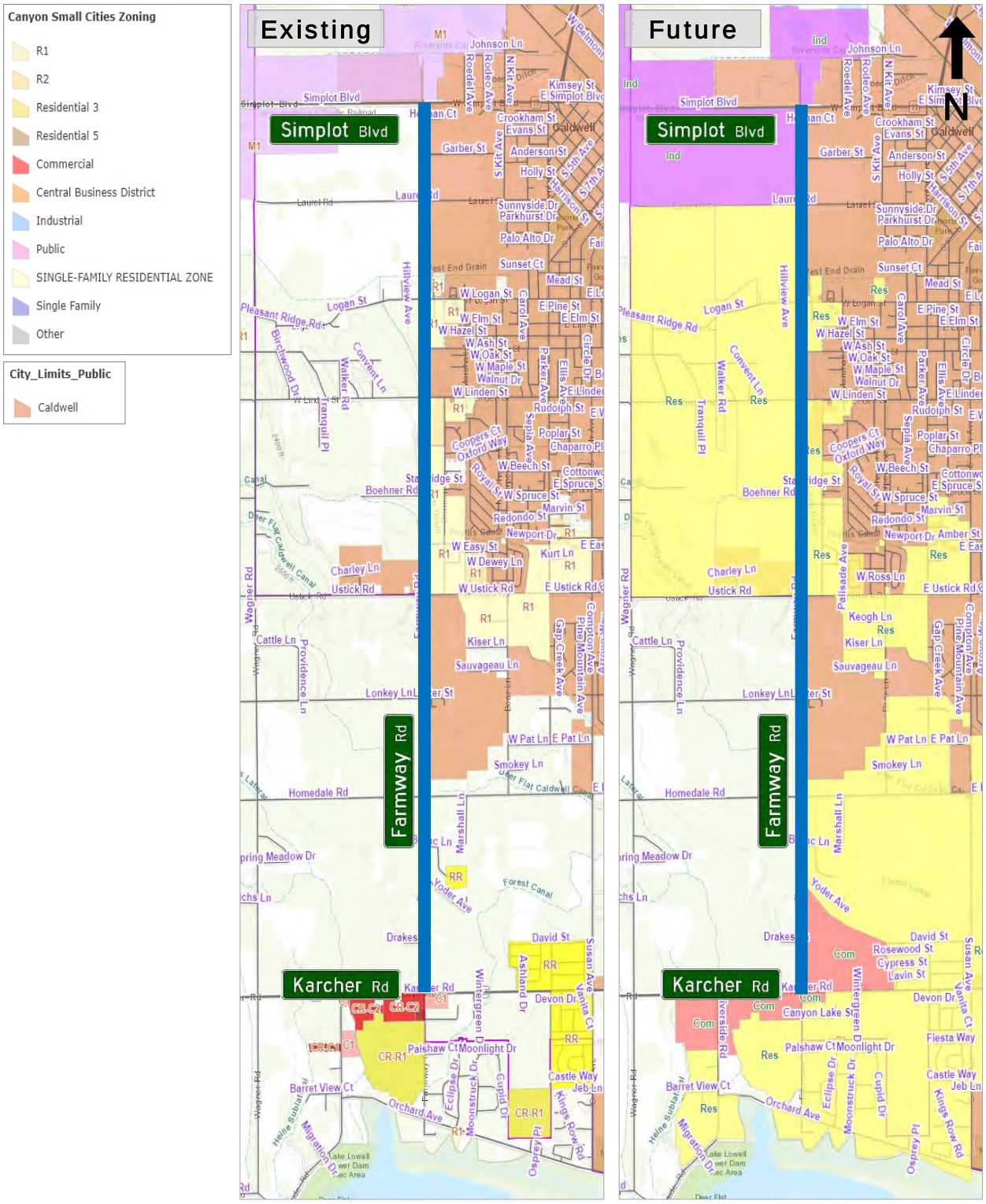


Figure 3-1. Canyon County land use zoning surrounding Farmway Road

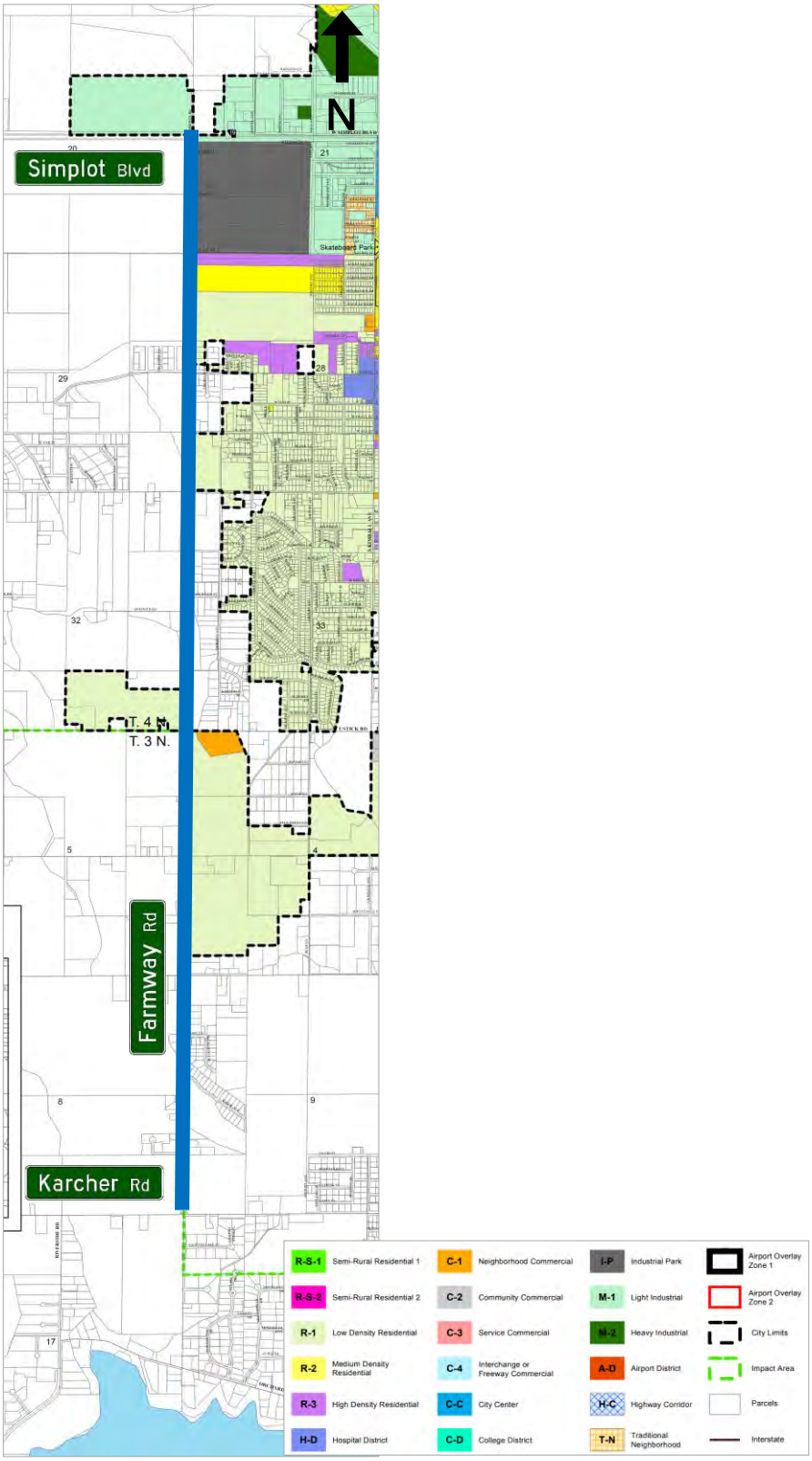


Figure 3-2. City of Caldwell land use zoning surrounding Farmway Road

Population, household, and employment demographics for the region that surround the project vicinity were provided by COMPASS for 2020 and 2040. Demographics were summarized for the one-mile area surrounding Farmway Road that is expected to be serviced by Farmway Road. The demographics from the traffic analysis zones (TAZs) were consolidated into two regions, City of Caldwell and Canyon County. The total population in the area is projected to increase 25 percent from 2020 to 2040, including an increase in households and employment by 31 percent and 85 percent, respectively (see Figure 3-3).

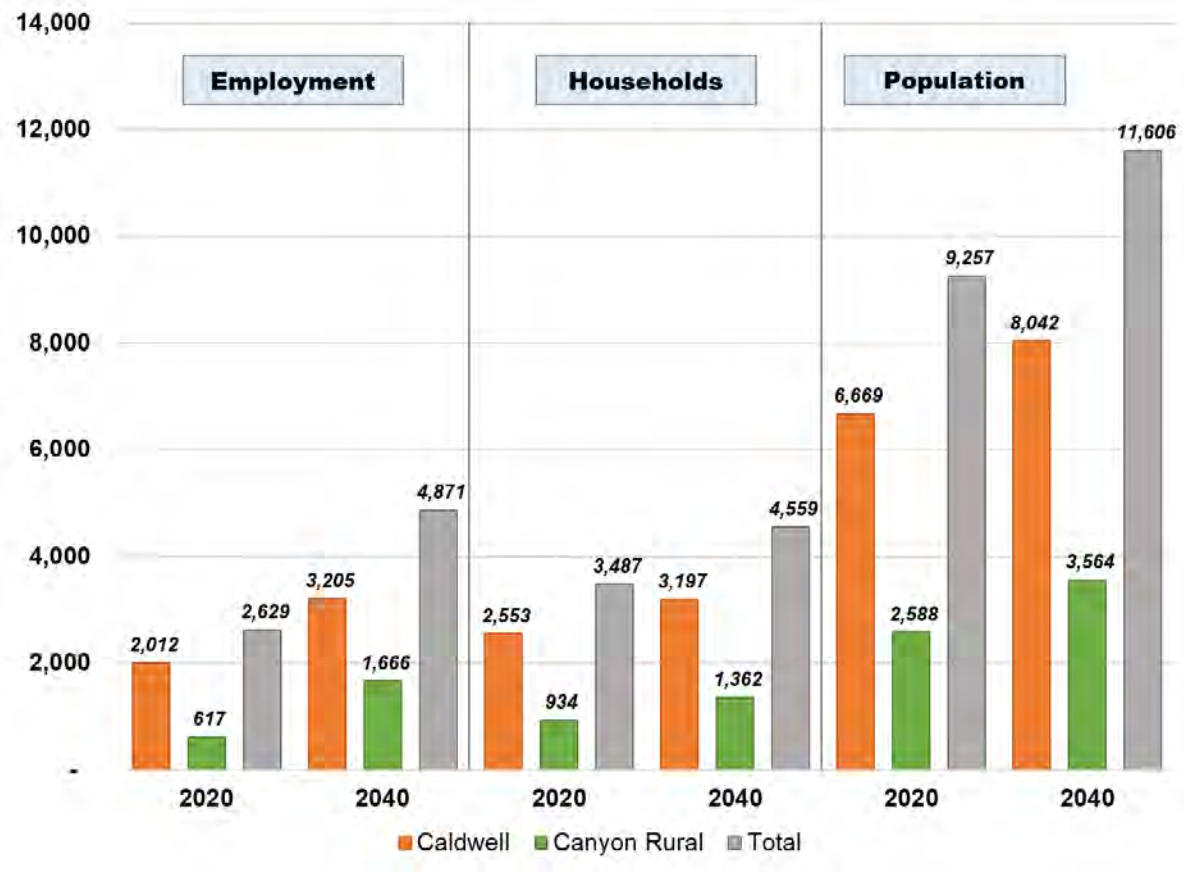


Figure 3-3. 2020 and 2040 demographics

3.1.3 COMPASS CIM 2.0 Roadway Network

COMPASS provided 24-hour, AM and PM peak forecasts from their 2020, 2030, 2035 and 2040 travel demand models that were updated in July 2020 with reconciled demographics and roadway network conformity. The following short-term or long-term funded improvements in the vicinity

of Farmway Road are included in the model roadway network and are obtained from the 2040 Communities in Motion 2.0 (2040 CIM 2.0) master plan:

- **2020 Base**
  - Includes all roadway improvements expected to be open by December 31, 2020.
- **2040 No-Build (COMPASS Adopted Model)**
  - Surrounding Roadway Network: Includes programmed and long-term funded roadway projects listed in the 2040 CIM 2.0.
  - Farmway Road: Existing two-lane roadway
- **2040 Build (COMPASS Alternative Models)**
  - Surrounding Roadway Network: All Build alternatives include programmed long-term funded roadway projects listed in the 2040 CIM 2.0, plus the following two unfunded projects to be considered for fiscal-year 2028 funding through the ITD Safety and Capacity program:
    - Karcher Road, Farmway to 10th Avenue, five-lane widening
    - Karcher Road, 10th Avenue to Indiana Road, five-lane widening
  - Farmway Road: The following four alternatives vary the number of lanes on Farmway and compare to the build consideration of a bridge spanning the Boise River (see Table 3-2):
    - Alternative 1: Three-lane Farmway Road from Simplot Boulevard to Karcher Road
    - Alternative 2: Three-lane Farmway Road from Simplot Boulevard to Karcher Road with three-lane Boise River crossing
    - Alternative 3: Five-lane Farmway Road from Simplot Boulevard to Karcher Road
    - Alternative 4: Five-lane Farmway Road from Simplot Boulevard to Karcher Road with three-lane Boise River crossing

Table 3-2. No-Build and Build alternative models

Alternative Name	Number of Lanes on Farmway	Number of Lanes on SH-55, Farmway to Indiana	Includes 3-Lane Boise River Crossing
No-Build	2	2	No
Alterative 1	3	5	No
Alterative 2	3	5	Yes
Alterative 3	5	5	No
Alterative 4	5	5	Yes

3.1.4 COMPASS Model Traffic Comparisons

Average daily traffic (ADT) at key segment locations for the 2040 No-Build and four Build alternatives are shown in Table 3-3. The unadjusted 2040 ADT volumes shown are the raw forecast volumes from the COMPASS models that were used in discussion by Six Mile, CHD4 and the City of Caldwell for determination of which Build alternative model to proceed with in the traffic analysis.

Table 3-3. Unadjusted 2040 COMPASS model No-Build and Build segment ADT

Road	Segment	Existing Count (Year)	2020 Base Forecast	2040 No-Build	2040 Build Alt 1	2040 Build Alt 2	2040 Build Alt 3	2040 Build Alt 4
		2-Lane Existing Conditions	*2-Lane Existing Conditions*	*2-Lane Existing Conditions*	*3-Lane Without River Crossing*	*3-Lane With River Crossing*	*5-Lane Without River crossing*	*5-Lane With River Crossing*
North-South Roadways								
Farmway Road	Boise River crossing	n/a	n/a	n/a	n/a	8,900	n/a	8,900
	south of Simplot Boulevard (SH-19)	6,237 (2018)	4,800	10,200	10,000	11,500	10,000	10,400
	north of Ustick Road	6,486 (2020)	5,500	9,800	8,800	9,900	9,600	10,700
	north of Karcher Road (SH-55)	5,660 (2020)	3,800	10,200	10,000	11,500	10,000	10,400
Wagner Road *(1 mile west of Farmway)*	north of Ustick Road	347 (2009)	260	240	240	240	240	240
	north of Simplot Boulevard (SH-19)	227 (2015)	570	1,310	2,600	2,400	2,500	2,400
10th Avenue *(1 mile east of Farmway)*	north of Ustick Road	4,000 (2019)	4,300	7,600	6,900	6,500	3,000	3,000
	north of Karcher Road (SH-55)	7,083 (2018)	1,690	6,700	7,200	7,000	1,570	1,560
East-West Roadways								
Simplot Boulevard (SH-19)	west of Farmway Road	13,000 (2019)	14,700	23,900	23,900	24,500	23,900	24,500
	east of Farmway Road	15,000 (2019)	15,800	25,000	25,000	22,100	25,000	22,100
Karcher Road (SH-55)	west of Farmway Road	12,836 (2019)	16,500	19,800	20,300	20,200	20,300	20,200
	east of Farmway Road	12,100 (2019)	14,600	18,500	23,800	23,900	23,800	24,000

The unadjusted 2040 ADT volume differences between the No-Build and Build alternatives are shown in Table 3-4. A positive value indicates that the Build alternative has an increase in vehicle demand compared to the No-Build option; whereas a negative number indicates that the Build model removes vehicles from the observed segment location due to alternate routes being taken with the improved surrounding roadway network in the project vicinity.

Table 3-4. Unadjusted 2040 No-Build and Build segment ADT differences

Road	Segment	2040 No-Build *2-Lane Existing Conditions*	2040 Build Alt 1 *3-Lane Without River Crossing*	2040 Build Alt 2 *3-Lane With River Crossing*	2040 Build Alt 3 *5-Lane Without River Crossing*	2040 Build Alt 4 *5-Lane With River Crossing*
North-South Roadways						
Farmway Road	Boise River crossing	-	0	8,900	0	8,900
	south of Simplot Boulevard (SH-19)	-	-200	1,300	-200	200
	north of Ustick Road	-	-1,000	100	-200	900
	north of Karcher Road (SH-55)	-	-200	1,300	-200	200
Wagner Road *(1 mile west of Farmway)*	north of Ustick Road	-	0	0	0	0
	north of Karcher Road (SH-55)	-	1,290	1,090	1,190	1,090
10th Avenue *(1 mile east of Farmway)*	north of Ustick Road	-	-700	-1,100	-4,600	-4,600
	north of Karcher Road (SH-55)	-	500	300	-5,130	-5,140
East-West Roadways						
Simplot Boulevard (SH-19)	west of Farmway Road	-	0	600	0	600
	east of Farmway Road	-	0	-2,900	0	-2,900
Karcher Road (SH-55)	west of Farmway Road	-	500	400	500	400
	east of Farmway Road	-	5,300	5,400	5,300	5,500

3.1.5 Planning-Level Analysis

The ADT volumes on Farmway Road for the No-Build and Build alternatives were compared to planning-level LOS thresholds from FDOT to evaluate the travel lane needs. The FDOT thresholds values vary according to different parameters: LOS, area type (urban, transitional, rural), facility

type (freeway, uninterrupted highway, signalized), if a signalized facility – state versus non-state facility, divided or undivided median, with or without turn lanes, and speed limit.

According to section 3120.020 of the 2022 Association of Canyon County Highway Districts Manual, the minimum design LOS is LOS C for rural roadways and intersections, and LOS D for suburban roadways and intersections.

The following parameters were used for the FDOT analysis on Farmway Road:

- Existing – Transitioning Area, Uninterrupted Highway
- 2040 No-Build – Urban Area, Non-State Signalized Arterial, 40 mph or higher speed limit. All-way stop control or signalization will be needed at the study intersections Farmway Road by 2040.
- 2040 Build – Urban Area, Non-State Signalized Arterial, 40 mph or higher speed limit. The FDOT methodology does not include thresholds for a roundabout arterial so only signalized arterial thresholds were used.

On Farmway Road, the 2020 base forecasts are significantly lower than the actual counts, which indicates that the 2040 forecasts may be underestimated. To account for this underestimation of the ADT used for the FDOT analysis, the ADT was modified using the *Screenline Refinement with Base Volumes* method from Section 6.1 of *NCHRP 765, Analytical Travel Forecasting Approaches from Project-Level Planning and Design* (NCHRP 765). The 2020 count volumes were compared to the 2020 base model forecasts to determine the type of adjustment to apply to the 2040 model forecasts to generate the 2040 adjusted forecasts. In general, the 2040 model forecasts are modified by applying both the *Difference* and *Ratio* method and averaging those two modified values, resulting in the screenline-adjusted 2040 forecast volumes. The values shown in Table 3-5 on page 17 are the 2040 Farmway Road unadjusted ADT on the corridor and the corresponding screenline-adjusted ADT.

The screenline-adjusted ADT on Farmway Road is slightly greater than the three-lane FDOT threshold for the three-lane model with Boise River crossing (Alternative 2), and less than the five-lane FDOT threshold for the five-lane models (Alternatives 3 and 4).

After coordination with CHD4 and the City, the agencies decided to proceed with analysis for a five-lane corridor with the Build Alternative 3 screenline-adjusted AM and PM peak hour volumes. Though the FDOT planning-level analysis did not suggest the need for the five lanes with the

projected 2040 volumes, if a Boise River crossing is funded and constructed in the future a five-lane cross-section would be needed; therefore, a five-lane cross-section was selected as the preferred lane configuration. In addition, a five-lane cross-section would provide additional excess capacity if the 2045 design year forecasts are underestimated, and more development and traffic growth occur.

Table 3-5. Farmway Road – Existing, No-Build and Build segment ADT and FDOT LOS

Road	Segment	Existing Count	2040 No-Build	2040 Build Alt 1	2040 Build Alt 2	2040 Build Alt 3	2040 Build Alt 4
		2-Lane Existing Conditions	*2-Lane Existing Conditions*	*3-Lane Without River Crossing*	*3-Lane With River Crossing*	*5-Lane Without River Crossing*	*5-Lane With River Crossing*
Farmway Road	Boise River Crossing	n/a	n/a	n/a	8,900	n/a	8,900
	Simplot Boulevard to Karcher Road *(raw count/forecast, ADT on segment)*	6,832	9,800	9,600	10,500	9,600	10,500
	Simplot Boulevard to Karcher Road *(screenline-adjusted, ADT on segment)*	n/a	11,639	11,429	13,026	11,429	13,026
Existing or Modeled Lanes on Farmway Road, Simplot Boulevard to Karcher Road		2	2	3	3	5	5
Major Intersection Type *(not including Simplot Boulevard or Karcher Road)*		Existing Two-Way Stop-Control	Signalized and/or All-Way Stop Control	Signalized or Roundabout	Signalized or Roundabout	Signalized or Roundabout	Signalized or Roundabout
FDOT LOS D Max Threshold		17,300		12,960		30,600	
FDOT LOS E/F Max Threshold		23,400		14,580		31,950	
Number of Lanes Needed, Simplot Boulevard to Karcher Road, for LOS D or better		***2***	***2***	***3***	***5***	***3***	***5***

3.1.6 2045 Forecasted Peak Hour Traffic

The 2040 AM and PM peak hour turning movement traffic were derived from the screenline-adjusted directional approach forecasts using the *Iterative Procedure – Directional Method* in section 6.1 of the NCHRP 765. The directional method uses an initial estimate of intersection turning movement percentages (2020 projected counts, seasonally adjusted) to alternatively balance the 2040 entering traffic and departing traffic volumes in a turning movement matrix until an acceptable level of convergence is reached.

Because the 2045 COMPASS model was not available at the time of the traffic analysis effort, the 2040 forecasts were scaled up to 2045 volumes by applying directional and intersection growth rates calculated from the 2035 and 2040 forecast models. These projected 2045 AM and PM peak turning movement volumes were used in the traffic analysis for network and intersection operations.

Chapter 4 Forecasted Traffic Analysis

4.1 Intersection Analysis

4.1.1 Conventional Intersection Analysis

The measures of effectiveness (MOEs) for conventional intersection operations include average vehicle delay, LOS and the v/c ratio of the controlled approach for unsignalized intersections, and worst v/c ratio and worst movement for signalized intersections. The operations were evaluated for 2020 Existing, 2045 Build with signalized corridor, and 2045 Build with roundabout corridor.

Conventional intersection analysis followed methodologies from the *Highway Capacity Manual, Volume 6* (HCM6). Both unsignalized and conventional signalized intersections were evaluated with Synchro 11 software, and the analysis summary reports are in the Appendix. The following parameters were used in the Synchro analysis:

- 2020 Existing
  - Saturation flow rate: 1,628 vehicles per hour per lane (vphpl) (field measured)
  - Peak hour factor: Existing (from counts)
  - Heavy vehicle percentages: Existing (from counts)
  - Intersection control: Two-way stop-controlled
- 2045 No-Build
  - Saturation flow rate: 1,900 vphpl
  - Peak hour factor: 1.0
  - Heavy vehicle percentages: Existing (from counts)
  - Signalized cycle lengths per timing operation:
    - Uncoordinated: 120 seconds during the AM peak hour and 130 seconds during the PM peak hour
    - Actuated-coordinated: 120 seconds during the AM peak hour and 130 seconds during the PM peak hour
  - Right turn on red allowed
- 2045 Build
  - Saturation flow rate: 1,900 vphpl
  - Peak hour factor: 1.0

- Heavy vehicle percentages: Existing (from counts)
- Signalized cycle lengths:
  - Uncoordinated: Combination of 100 seconds and 110 seconds during both peak hours
  - Actuated-coordinated: 120 seconds during the AM peak hour and 130 seconds during the PM peak hour
- Right turn on red allowed
- Protected/permissive left turns

4.1.2 Conventional Intersection Level of Service Threshold

HCM6 defines LOS for intersections based on average delay per vehicle, and the thresholds differ between signalized and unsignalized intersections as shown in Table 4-1. The thresholds are only applicable for lane group volume-to-capacity (v/c) ratios of less than 1.0.

Table 4-1. HCM6 intersection LOS thresholds

LOS	Signalized Intersection	Unsignalized or Roundabout Intersection
A	≤10 sec	≤10 sec
B	10–20 sec	10–15 sec
C	20–35 sec	15–25 sec
D	35–55 sec	25–35 sec
E	55–80 sec	35–50 sec
F	>80 sec	>50 sec

4.1.3 Roundabout Analysis

Roundabout analysis was conducted with Washington State Department of Transportation (WSDOT) Method capacity methodologies using SIDRA 9 software. The WSDOT Method is the SIDRA 9 Standard capacity model, with default analysis parameters listed in the *2019 Washington State Department of Transportation Sidra Policy Settings* (included in the Traffic and Safety Report Appendix). The WSDOT Method, which follows the SIDRA Standard model, is dependent on roundabout design parameters, including inscribed circle diameter, lane widths, entry radius and angle, and an environmental factor that is used to calibrate to local driver behavior. The roundabout design parameters used in the SIDRA analysis are shown in Table 4-2 on page 21. This study considered a multi-lane roundabout with dual-lane approaches on Farmway Road and higher-volume side-streets and single-lane approaches on lower-volume side-streets.

Table 4-2. SIDRA roundabout parameters

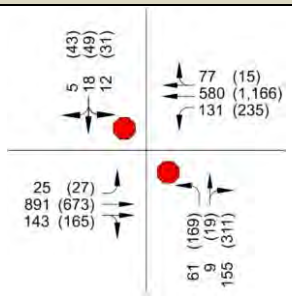
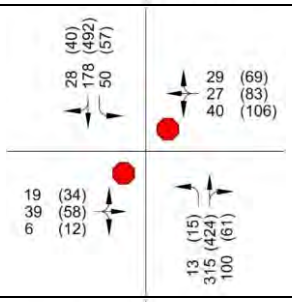
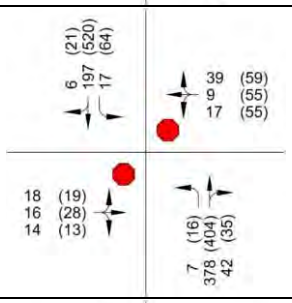
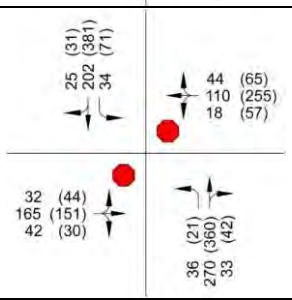
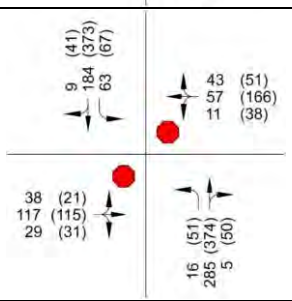
Parameter	Value	
	Single Lane Approach	Dual Lane Approach
Approaching Width	15 feet	14 feet each
Circulating Width	18 feet	30 feet
Center Island Diameter	100 feet	
Entry Radius	90 feet	110 feet
Entry Angle	30 degrees	
Environment Factor	1.0	
PHF	1.0	

4.1.4 2045 No-Build Operations

The 2045 No-Build traffic forecasts were evaluated with the existing intersection configuration, which is the scenario where no roadway or intersection improvements occur. All study intersections fail during the PM peak hour by 2045 with the projected volumes. The projected turning movement volumes, lane configurations, intersection control and MOEs are summarized in Table 4-3 on page 22. The results from the 2045 No-Build intersection traffic analysis follow:

- Simplot Boulevard and Farmway Road intersection
  - The northbound and southbound approaches operate at LOS F during both the AM and PM peak hours, with a v/c ratio greater than 1.0 on the northbound and southbound approach during the PM peak.
- Logan Street and Farmway Road intersection
  - The eastbound and westbound approaches operate at LOS F during the PM peak hour, with a v/c ratio greater than 1.0 on the westbound approach.
- Linden Street and Farmway Road intersection
  - The eastbound approach operates at LOS E and the westbound approach at LOS F during the PM peak hour, with a v/c ratio of 0.76 on the westbound approach.
- Ustick Road and Farmway Road intersection
  - The eastbound approach operates at LOS F during the AM peak hour, while both eastbound and westbound approaches operate at LOS F during the PM peak hour, with a v/c ratio greater than 1.0 in the PM peak hour and at 0.81 or better during the AM peak hour.
- Homedale Road and Farmway Road intersection
  - The eastbound and westbound approaches operate at LOS F during the PM peak hour, with a v/c ratio greater than 1.0 on both approaches.

Table 4-3. 2045 No-Build intersection operations

Intersection	Peak Hour Volumes [AM (PM)], Control and Channelization	MOE	AM Peak	PM Peak
Simplot Boulevard (SH-19) and Farmway Road		Control LOS, NB / SB	**F** / **F**	**F** / **F**
		Control Delay (sec), NB / SB	**>300** / **212**	**>300** / **>300**
		Max Lane Group v/c Ratio	**>1.0** (NB)	**>1.0** (NB, SB)
Logan Street and Farmway Road		Control LOS, EB / WB	C / C	**F** / **F**
		Control Delay (sec), EB / WB	18 / 20	90 / **>300**
		Max Lane Group v/c Ratio	0.30 (WB)	**>1.0** (WB)
Linden Street and Farmway Road		Control LOS, EB / WB	C / B	**E** / **F**
		Control Delay (sec), EB / WB	16 / 13	43 / 56
		Max Lane Group v/c Ratio	0.14 (WB)	0.76 (WB)
Ustick Road and Farmway Road		Control LOS, EB / WB	**F** / C	**F** / **F**
		Control Delay (sec), EB / WB	51 / 21	**>300** / **>300**
		Max Lane Group v/c Ratio	0.81 (EB)	**>1.0** (EB, WB)
Homedale Road and Farmway Road		Control LOS, EB / WB	D / C	**F** / **F**
		Control Delay (sec), EB / WB	27 / 17	228 / 272
		Max Lane Group v/c Ratio	0.55 (EB)	**>1.0** (EB, WB)

4.1.5 2045 Build Operations

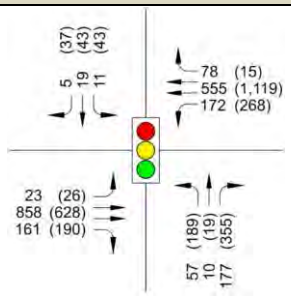
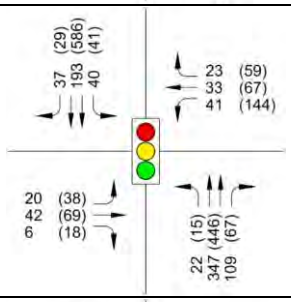
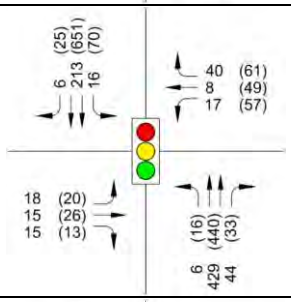
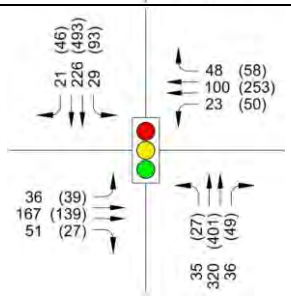
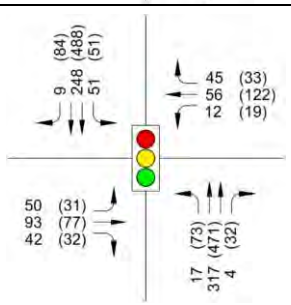
The 2045 Build traffic volumes are the traffic forecasts for Alternative 3 with five-lanes on Farmway Road and no Boise River crossing. They were analyzed at all study intersections with two intersection control scenarios – signalized corridor and roundabout corridor (dual-lane or multi-lane).

4.1.5.1 Signalized Corridor

The projected turning movement volumes, lane configurations, intersection control and MOEs are summarized in Table 4-4 on page 24. The following are results from the 2045 Build traffic forecast with signalized intersections:

- Simplot Boulevard and Farmway Road intersection
    - The intersection is projected to operate at LOS C with 31 seconds of average delay per vehicle in the PM peak hour and a v/c ratio of 0.86 or less for all lane groups during peak hours.
- Logan Street and Farmway Road intersection
    - The intersection is projected to operate at LOS C or better with 35 seconds of average delay per vehicle in the PM peak hour and a v/c ratio of 0.69 or less for all lane groups during peak hours.
- Linden Street and Farmway Road intersection
    - The intersection is projected to operate at LOS C or better with 27 seconds of average delay per vehicle in the PM peak hour and a v/c ratio of 0.63 or less for all lane groups during peak hours.
- Ustick Road and Farmway Road intersection
    - The intersection is projected to operate at LOS D or better with 36 seconds of average delay per vehicle in the PM peak hour and a v/c ratio of 0.75 or less for all lane groups during peak hours.
- Homedale Road and Farmway Road intersection
    - The intersection is projected to operate at LOS C with 25 seconds of average delay per vehicle in the AM peak hour and a v/c ratio of 0.67 or less for all lane groups during peak hours.

Table 4-4. 2045 Build intersection operations – signalized corridor

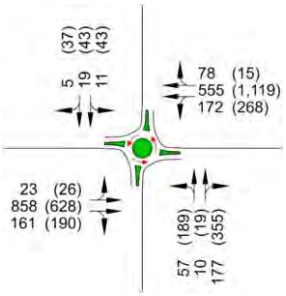
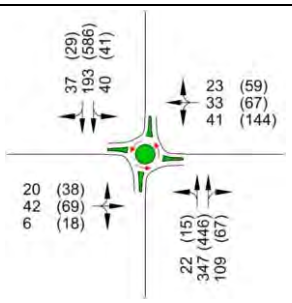
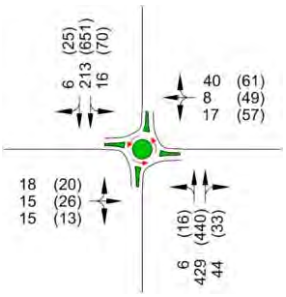
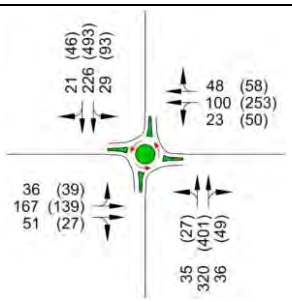
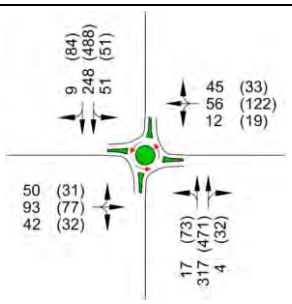
Intersection	Peak Hour Volumes [AM (PM)], Control and Channelization	MOE	AM Peak	PM Peak
Simplot Boulevard and Farmway Road		Intersection LOS	B	C
		Intersection Delay (sec)	19	31
		Max Lane Group LOS & v/c Ratio	C (NB, SB) 0.56 (NBR)	D (NBL/T, SB) 0.86 (NBR)
Logan Street and Farmway Road		Intersection LOS	C	C
		Intersection Delay (sec)	26	35
		Max Lane Group LOS & v/c Ratio	E (EBT) 0.55 (EBT)	E (EBL/T, WB) 0.69 (EBT)
Linden Street and Farmway Road		Intersection LOS	B	C
		Intersection Delay (sec)	12	27
		Max Lane Group LOS & v/c Ratio	E (EBT, WBT) 0.63 (WBR)	E (EBL/T, WBT/R) 0.58 (WBR)
Ustick Road and Farmway Road		Intersection LOS	C	D
		Intersection Delay (sec)	28	36
		Max Lane Group LOS & v/c Ratio	E (EBT/R, WBT/R) 0.67 (EBT)	E (EBT, WBT/R) 0.75 (WBT)
Homedale Road and Farmway Road		Intersection LOS	C	C
		Intersection Delay (sec)	25	23
		Max Lane Group LOS & v/c Ratio	E (EBT, WBT/R) 0.62 (WBT)	E (EBT, WBT/R) 0.67 (SBT)

4.1.5.2 Roundabout Corridor

The projected turning movement volumes, lane configuration, intersection control and MOEs are summarized in Table 4-5 on page 26. The following are results from the 2045 Build traffic forecasts with roundabout intersections:

- Simplot Boulevard and Farmway Road intersection
    - The intersection is projected to operate at LOS A in the peak hours with an average vehicle delay of 7 seconds during the PM peak hour and a v/c ratio of 0.57 or less for all lane groups during peak hours.
- Logan Street and Farmway Road intersection
    - The intersection is projected to operate at LOS A in the peak hours with an average vehicle delay of 7 seconds or less and a v/c ratio of 0.28 or less for all lane groups during peak hours.
- Linden Street and Farmway Road intersection
    - The intersection is projected to operate at LOS A in the peak hours with an average vehicle delay of 6 seconds and a v/c ratio of 0.26 or less for all lane groups during peak hours.
- Ustick Road and Farmway Road intersection
    - The intersection is projected to operate at LOS A in the peak hours with an average vehicle delay of 7 seconds or less and a v/c ratio of 0.27 or less for all lane groups during peak hours.
- Homedale Road and Farmway Road intersection
    - The intersection is projected to operate at LOS A in the peak hours with an average vehicle delay of 6 seconds and a v/c ratio of 0.24 or less for all lane groups during peak hours.

Table 4-5. 2045 Build intersection operations – roundabout corridor

Intersection	Peak Hour Volumes [AM (PM)], Control and Channelization	MOE	AM Peak	PM Peak
Simplot Boulevard (SH-19) and Farmway Road		Intersection LOS	A	A
		Intersection Delay (sec)	6	7
		Max Approach LOS & v/c Ratio	A (All) 0.40 (EB)	B (SB) 0.57 (WB)
Logan Street and Farmway Road		Intersection LOS	A	A
		Intersection Delay (sec)	6	7
		Max Approach LOS & v/c Ratio	A (All) 0.17 (NB)	A (All) 0.28 (WB)
Linden Street and Farmway Road		Intersection LOS	A	A
		Intersection Delay (sec)	6	6
		Max Approach LOS & v/c Ratio	A (All) 0.16 (NB)	A (All) 0.26 (SB)
Ustick Road and Farmway Road		Intersection LOS	A	A
		Intersection Delay (sec)	6	7
		Max Approach LOS & v/c Ratio	A (All) 0.16 (NB)	A (All) 0.27 (SB)
Homedale Road and Farmway Road		Intersection LOS	A	A
		Intersection Delay (sec)	6	6
		Max Approach LOS & v/c Ratio	A (All) 0.17 (EB)	A (All) 0.24 (SB)

4.2 Roadway Segment Analysis

Urban street section LOS is based on travel speeds. Travel speeds for through traffic were calculated on each roadway segment from the microsimulation results and are based on an average of five microsimulation runs. The AM and PM peak hours were modeled for a 1.5-hour period, including 30 minutes of warm-up. The results are shown in the following sections.

4.2.1 Roadway Segment Level of Service Threshold

Urban street section LOS was evaluated on each roadway segment from the corridor microsimulation results generated by an average of five microsimulation runs in VISSIM. The metric is based on average travel speed between intersections and provides a measure of the corridor operations on Farmway Road for the northbound and southbound directions. The AM and PM peak hours were modeled for a 1.5-hour period, including 30 minutes of warm-up. The urban street section LOS criteria for each speed category are shown in Table 4-6 and the results are shown in the following sections.

Table 4-6. HCM6 urban street section LOS criteria

LOS	Travel Speed Threshold by Base Free-Flow Speed, mph							v/c Ratio*
	55	50	45	40	35	30	25	
A	>44	>40	>36	>32	>28	>24	>20	≤ 1.0
B	>37	>34	>30	>27	>23	>20	>17	
C	>28	>25	>23	>20	>18	>15	>13	
D	>22	>20	>18	>16	>14	>12	>1	
E	>17	>15	>14	>12	>11	>9	>8	
F	≤17	≤15	≤14	≤12	≤11	≤9	≤8	
F	Any							> 1.0

** The critical v/c ratio is based on consideration of the through movement v/c ratio at each boundary intersection in the subject direction of travel. The critical v/c ratio is the largest ratio of those considered.*

4.2.2 2020 Existing and 2045 No-Build

If no intersection control improvements and widening occurs on Farmway Road by 2045, the northbound travel time is expected to increase from nearly six minutes to 19 minutes during both peak hours, while the southbound travel time remains nearly constant at approximately six minutes. Most of the increase in northbound delay is due to the Simplot Boulevard intersection which remains stop-controlled on the Farmway Road approach in 2045. The 2020 Existing and 2045 No-Build travel time results are shown in Table 4-7 on page 28.

Table 4-7. 2020 Existing and 2045 No-Build travel times

Direction	Length*, mi	Posted Speed, mph	AM Peak		PM Peak	
			2020 Existing	2045 No-Build	2020 Existing	2045 No-Build
			Travel Time, min (field calibrated)	Travel Time, min	Travel Time, min (field calibrated)	Travel Time, min
SB	4.5	50	5.7	5.9	5.8	6.0
NB	4.5	50	5.8	19.3	5.8	19.0

The urban street section LOS for the 2020 Existing and 2045 No-Build existing traffic conditions are shown in Table 4-8 and Table 4-9 on page 28. All segments operate at LOS A under 2020 Existing traffic conditions except the northbound segment between Logan Street and Simplot Boulevard which operates at a LOS F. The stop-controlled northbound approach to Simplot Boulevard creates severe congestion for the segment and the average travel speed reduces to four (4) mph. If no intersection control modifications are made at the Simplot Boulevard and Farmway Road intersection by 2045, the northern most segment between Logan Street and Simplot Boulevard will fail during both the AM and PM peak hour, and possibly at other non-peak hour periods throughout the day.

Table 4-8. 2020 Existing and 2045 No-Build urban street section LOS – AM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2020 Existing		2045 No-Build Existing Configuration	
				Average Travel Speed, mph	Urban Roadway LOS	Average Travel Speed, mph	Urban Roadway LOS
SB	Simplot to Logan	50	0.99	47.8	LOS A	47.4	LOS A
SB	Logan to Linden	50	0.50	49.0	LOS A	48.7	LOS A
SB	Linden to Ustick	50	1.01	48.8	LOS A	48.5	LOS A
SB	Ustick to Homedale	50	1.03	48.6	LOS A	48.2	LOS A
SB	Homedale to Karcher	50	0.99	46.1	LOS A	40.2	LOS A
NB	Karcher to Homedale	50	0.99	47.8	LOS A	47.4	LOS A
NB	Homedale to Ustick	50	1.03	48.6	LOS A	48.2	LOS A
NB	Ustick to Linden	50	1.01	48.4	LOS A	47.9	LOS A
NB	Linden to Logan	50	0.50	48.0	LOS A	47.3	LOS A
NB	Logan to Simplot	50	0.99	42.1	LOS A	4.0	**LOS F**

Table 4-9. 2020 Existing and 2045 No-Build urban street section LOS – PM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2020 Existing		2045 No-Build Existing Configuration	
				Average Travel Speed, mph	Urban Roadway LOS	Average Travel Speed, mph	Urban Roadway LOS
SB	Simplot to Logan	50	0.99	47.4	LOS A	47.4	LOS A
SB	Logan to Linden	50	0.50	48.3	LOS A	48.3	LOS A
SB	Linden to Ustick	50	1.01	48.3	LOS A	48.2	LOS A
SB	Ustick to Homedale	50	1.03	48.1	LOS A	47.7	LOS A
SB	Homedale to Karcher	50	0.99	43.0	LOS A	36.7	LOS B
NB	Karcher to Homedale	50	0.99	47.6	LOS A	47.2	LOS A
NB	Homedale to Ustick	50	1.03	48.7	LOS A	48.3	LOS A
NB	Ustick to Linden	50	1.01	48.5	LOS A	47.8	LOS A
NB	Linden to Logan	50	0.50	48.1	LOS A	47.1	LOS A
NB	Logan to Simplot	50	0.99	43.3	LOS A	4.1	**LOS F**

4.2.3 2045 Build

The urban street section LOS for the AM and PM peak hour with the 2045 Build with signalized corridor and roundabout corridor scenarios are compared in Table 4-10 and Table 4-11 on page 30.

Table 4-10. 2045 Build urban street section LOS – AM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2045 Build Signalized Corridor		2045 Build Roundabout Corridor	
				Travel Speed, mph	Urban Street LOS	Travel Speed, mph	Urban Street LOS
SB	Simplot to Logan	50	0.99	44.8	LOS A	41.0	LOS A
SB	Logan to Linden	50	0.50	45.8	LOS A	34.8	LOS B
SB	Linden to Ustick	50	1.01	42.3	LOS A	41.0	LOS A
SB	Ustick to Homedale	50	1.03	45.0	LOS A	41.5	LOS A
SB	Homedale to Karcher	50	0.99	44.8	LOS A	28.6	LOS C
NB	Karcher to Homedale	50	0.99	43.4	LOS A	41.8	LOS A
NB	Homedale to Ustick	50	1.03	46.4	LOS A	40.8	LOS A
NB	Ustick to Linden	50	1.01	47.7	LOS A	40.8	LOS A
NB	Linden to Logan	50	0.50	45.2	LOS A	34.5	LOS B
NB	Logan to Simplot	50	0.99	33.0	LOS C	32.4	LOS C

Table 4-11. 2045 Build urban street section LOS – PM peak

Direction	Farmway Road Segment Location	Posted Speed Limit, mph	Segment Length, mi	2045 Build Signalized Corridor		2045 Build Roundabout Corridor	
				Travel Speed, mph	Urban Street LOS	Travel Speed, mph	Urban Street LOS
SB	Simplot to Logan	50	0.99	43.5	LOS A	39.5	LOS B
SB	Logan to Linden	50	0.50	45.8	LOS A	34.2	LOS B
SB	Linden to Ustick	50	1.01	42.9	LOS A	40.0	LOS B
SB	Ustick to Homedale	50	1.03	45.8	LOS A	40.5	LOS A
SB	Homedale to Karcher	50	0.99	25.9	LOS C	28.6	LOS C
NB	Karcher to Homedale	50	0.99	44.6	LOS A	41.5	LOS A
NB	Homedale to Ustick	50	1.03	42.1	LOS A	40.2	LOS A
NB	Ustick to Linden	50	1.01	46.5	LOS A	40.8	LOS A
NB	Linden to Logan	50	0.50	41.6	LOS A	34.4	LOS B
NB	Logan to Simplot	50	0.99	28.3	LOS C	34.1	LOS B

Adding conventional signals or roundabouts will reduce the average travel speed along the entire corridor; however, intersection control improvements will improve the travel time for northbound traffic between Logan Street and Simplot Boulevard from LOS F to LOS C or better by allowing Farmway Road traffic to proceed through the intersection with significantly less delay compared to the existing stop-controlled intersection. This results in acceptable differences in the segment LOS along the corridor in both directions during the AM and PM peak hours.

For the two 2045 Build intersection control scenarios, the worst segment LOS during the AM peak hour is expected to be LOS C for northbound between Logan Street and Simplot Boulevard with both corridor scenarios, and the worst segment LOS during the PM peak hour is expected to be LOS C for southbound travel between Homedale Road and Karcher Road with both corridor scenarios.

The comparison between the 2045 No-Build and 2045 Build corridor alternatives travel time results for the AM and PM peak hours are shown in Table 4-12 and Table 4-13 on page 31. The following is the summary of the travel time benefits for the critical northbound travel direction for each corridor treatment:

- 2045 Build Signalized Corridor
    - The five-lane widening with coordinated signals constructed at the study intersections reduces the travel time from 19.3 minutes (No-Build travel time) to

6.5 minutes during the AM peak hour and reduces from 19.0 minutes to 7.0 minutes during the PM peak hour.

- 2045 Build Roundabout Corridor
  - The five-lane widening with dual-lane roundabouts constructed at the study intersections reduced the travel time from 19.3 minutes (No-Build travel time) to 7.3 minutes during the AM peak hour and reduces from 19.0 minutes to 7.2 minutes during the PM peak hour.

Table 4-12. 2045 No-Build and 2045 Build travel times – AM peak

			2045 No-Build	2045 Build Signalized Corridor	2045 Build Roundabout Corridor
Direction	Length*, mi	Posted Speed, mph	Travel Time, min	Travel Time, min	Travel Time, min
SB	4.5	50	5.9	6.1	7.5
NB	4.5	50	19.3	6.5	7.3

** Travel time observation shown from n/o Simplot Boulevard to s/o Karcher Road*

Table 4-13. 2045 No-Build 2045 Build travel times – PM peak

			2045 No-Build	2045 Build Signalized Corridor	2045 Build Roundabout Corridor
Direction	Length*, mi	Posted Speed, mph	Travel Time, min	Travel Time, min	Travel Time, min
SB	4.5	50	6.0	7.1	7.6
NB	4.5	50	19.0	7.0	7.2

** Travel time observation shown from n/o Simplot Boulevard to s/o Karcher Road*

Chapter 5 Safety Analysis

5.1 Delay Benefit-Cost Analysis

The cost benefit of reduced delay for motorists traveling the Farmway Road corridor with the two intersection control improvement scenarios was calculated for a 20-year service life. Delay costs were calculated for the 2045 No-Build, Build signalized corridor, and Build roundabout corridor. The difference in delay costs was used to determine the benefit costs with respect to each improvement scenario. Benefits were quantified for each year and were conservatively calculated for weekday AM and PM peak periods only, although the improvements would likely reduce delays during other periods of the day and on weekends. The following components were used in the calculations:

- Network Delay (vehicle-hours) – The network delay per vehicle type (passenger car or heavy vehicle) is obtained from the VISSIM microsimulations for all vehicles on Farmway Road and the side streets for the AM and PM peak hour. The delay for the years between 2020 existing and 2045 were determined using straight line interpolation. All network delay savings are based on the savings with respect to the No-Build scenario.
- Annual Delay – The daily network delay savings multiplied by 250 days (five weekdays per week at 52 weeks per year minus 10 holidays).
- Delay Cost – An hourly delay cost of $20.77 is based on ITD's 2020 road user cost for passenger cars and $50.45 for commercial/heavy vehicles.
- Project Cost – The estimated project costs for the No-Build and two Build scenarios, which includes construction and design costs, but not right-of-way, follows:
    - Build Signalized Corridor = $46.7 million
    - Build Roundabout Corridor = $45.0 million

Using the network delay results, the total delay savings benefit for the 20-year service life of the proposed Build improvements, and the resulting total benefit-cost ratio, are as follows and with the details shown in Table 5-1 on page 33:

- Build Signalized Corridor - $14.1 million and 0.30:1
- Build Roundabout Corridor - $14.9 million and 0.33:1

Table 5-1. Delay benefit-cost ratio for proposed improvements (20-year service life)

Time period	No-Build Delay (veh.-hrs)	Build Delay (veh.-hrs)	Delay Savings (veh.-hrs)	Total Delay Savings in 20 Years (veh.-hrs)	ITD Passenger Car cost per Hour	ITD Heavy Vehicle cost per Hour	Delay Savings Benefit over 20-year Service Life
Build Signalized Corridor							
AM (Passenger Car)	88.7	36.9	51.8	269,577	$20.77		$5,599,119
AM (HV)	8.8	2.1	6.7	34,836		$50.45	$1,757,473
PM (Passenger Car)	112.3	62.8	49.5	257,200	$20.77		$5,342,042
PM (HV)	8.6	3.3	5.3	27,312		$50.45	$1,377,875
						TOTAL DELAY SAVINGS	*$14,076,509*
						TOTAL ESTIMATED PROJECT COST	*$46,712,790*
						DELAY BENEFIT-COST RATIO	**0.30**
Build Roundabout Corridor							
AM (Passenger Car)	88.7	32.3	56.5	293,563	$20.77		$6,097,311
AM (HV)	8.8	2.0	6.8	35,443		$50.45	$1,788,104
PM (Passenger Car)	112.3	61.2	51.1	265,938	$20.77		$5,523,540
PM (HV)	8.6	3.1	5.5	28,571		$50.45	$1,441,425
						TOTAL DELAY SAVINGS	*$14,850,381*
						TOTAL ESTIMATED PROJECT COST	*$44,957,640*
						DELAY BENEFIT-COST RATIO	**0.33**

5.2 Safety Benefit-Cost Analysis

5.2.1 Five-Year Crash History (2015 to 2019) Cost

The costs associated with the crash data from the most current five-year period, 2015 to 2019, were evaluated by the 2021 ITD Highway Safety Improvement Program (HSIP) methodology for each study intersection and roadway segment along Farmway Road between Simplot Boulevard and Karcher Road. The total crashes, severity and costs are summarized in Table 5-2 on page 34. Over five years, the corridor had 100 crashes reported totaling almost $26 million, or approximately $5.2 million per year.

Table 5-2. Intersection and roadway segment crash summary (2015-2019)

	Fatality	Injury A	Injury B	Injury C	Property Damage Only	Total Crashes	Total Crash Costs
Cost per Crash[1]	*$10,322,433*	*$493,671*	*$134,460*	*$68,660*	*$3,478*		
Intersection							
Simplot and Farmway	0	0	1 (3%)	3 (10%)	25 (86%)	29	$427,390
Logan and Farmway	0	1 (17%)	0	3 (50%)	2 (33%)	6	$706,607
Linden and Farmway	0	0	1 (17%)	2 (33%)	3 (50%)	6	$282,214
Ustick and Farmway	0	0	10 (34%)	2 (7%)	17 (59%)	29	$1,541,046
Homedale and Farmway	2 (15%)	2 (15%)	0	1 (8%)	8 (62%)	13	$21,728,692
					Intersection Subtotal	***83***	**$24,685,949**
Roadway Segment							
Simplot to Logan	0	0	0	1 (100%)	0	1	$68,660
Logan to Linden	0	1 (50%)	0	0	1 (50%)	2	$497,149
Linden to Ustick	0	0	0	0	7 (100%)	7	$24,346
Ustick to Homedale	0	1 (20%)	1 (20%)	1 (20%)	2 (40%)	5	$700,269
Homedale to Karcher	0	0	0	0	2 (100%)	2	$6,956
					Roadway Segment Subtotal	***17***	***$1,297,380***
Total	***2***	***5***	***13***	***13***	***67***	***100***	***$25,983,329***

[1] Cost per crash from 2021 ITD HSIP benefit-cost methodology

5.2.2 Potential Safety Countermeasures and Benefit-Cost Ratio

Using the 2021 ITD HSIP, the safety improvement benefit-cost ratio was estimated for two potential countermeasures for the Build traffic signal corridor (see Table 5-3 on page 36) and the Build roundabout corridor (see Table 5-4 on page 37). The crash reduction factors (CRFs) are from Federal Highway Administration's (FHWA's) Crash Modification Factor Clearinghouse. The following are the estimated benefit-cost ratios for both corridor options, calculated with the planning level cost estimates:

- Traffic Signal Corridor
    - Estimated project cost = $46,712,790
    - Estimated benefit-cost ratio = 1.63:1
    - Estimated crash reduction savings = $76,333,304 over 20 years.
- Roundabout Corridor
    - Estimated project cost = $44,957,640
    - Estimated benefit-cost ratio = 1.83:1
    - Estimated crash reduction savings = $82,490,101 over 20 years.

The HSIP forms can be found in the Appendix.

Table 5-3. Safety benefit-cost ratios of potential countermeasures – Signalized corridor

Countermeasure	Crash Reduction Factor	Crash Type (Crash Severity)	Applicable Crashes from Previous Five Years	Number of Crashes Reduced in 20 Years	Safety Savings over 20-year Service Life
Install a Traffic Signal (CRF 326)					
Simplot Boulevard	77.0%	Angle (K, A, B, C, PDO)	17	52.36	$583,629
Logan Street			2	6.16	$1,531,219
Linden Street			5	15.40	$858,507
Ustick Road			19	58.52	$3,429,026
Homedale Road			10	30.80	$66,892,235
Install a Traffic Signal (CRF 328)					
Simplot Boulevard	-58.0%	Rear-End (K, A, B, C, PDO)	1	-2.32	- $8,069
Logan Street			2	-4.64	- $167,360
Linden Street			0	0.00	$0
Ustick Road			1	-2.32	- $8,069
Homedale Road			1	-2.32	- $8,069
Install a Traffic Signal (CRF 325)					
Simplot Boulevard	44.0%	All [Other] Types (K, A, B, C, PDO)	11	19.36	$412,583
Logan Street			2	3.52	$241,683
Linden Street			1	1.76	$6,121
Ustick Road			9	15.84	$746,676
Homedale Road			2	3.52	$12,243
Install raised median (CRF 2219)					
Simplot Boulevard to Karcher Road	45.0%	Angle (K, A, B, C, PDO)	2	3.60	$894,868
Install raised median (CRF 2219)					
Simplot Boulevard to Karcher Road	29.0%	All (K, A, B, C, PDO)	4	4.64	$887,923
Add Travel Lane (2 to 4 Lane Segment) (CRF 7568)					
Simplot Boulevard to Karcher Road	18.4%	All (PDO)	11	8.10	$28,158
		Grand Total	100	212.7	
				TOTAL CRASH COST SAVINGS (2025-2045)	$76,333,304
				TOTAL ESTIMATED PROJECT COST	$46,712,790
				SAFETY BENEFIT-COST RATIO	**1.63**

Table 5-4. Safety benefit-cost ratios of potential countermeasures – Roundabout corridor

Countermeasure	Crash Reduction Factor	Crash Type (Crash Severity)	Applicable Crashes from Previous Five Years	Number of Crashes Reduced in 20 Years	Safety Savings over 20-year Service Life
Intersection geometry reconfiguration [to roundabout] (CRF 228)					
Simplot Boulevard	82.0%	All (K, A, B, C)	4	13.1	$1,116,643
Logan Street			4	13.1	$2,294,855
Linden Street			3	9.8	$891,438
Ustick Road			12	39.4	$4,860,698
Homedale Road			5	16.4	$71,178,847
Intersection geometry reconfiguration [to roundabout] (CRF 227)					
Simplot Boulevard	44.0%	All (PDO)	25	44.0	$153,032
Logan Street			2	3.5	$12,243
Linden Street			3	5.3	$18,364
Ustick Road			17	29.9	$104,062
Homedale Road			8	14.1	$48,970
Install raised median (CRF 2220)					
Simplot Boulevard to Karcher Road	45.0%	Angle (K, A, B, C, PDO)	2	3.6	$894,868
Install raised median (CRF 2219)					
Simplot Boulevard to Karcher Road	29.0%	All (K, A, B, C, PDO)	4	4.6	$887,923
Add Travel Lane (2 to 4 Lane Segment) (CRF 7568)					
Simplot Boulevard to Karcher Road	18.4%	All (PDO)	11	8.8	$28,158
		Grand Total	100	205.6	
				TOTAL CRASH COST SAVINGS (2025-2045)	$82,490,101
				TOTAL ESTIMATED PROJECT COST	$44,957,640
				SAFETY BENEFIT-COST RATIO	**1.83**

5.3 Life-cycle Cost

Life-cycle costs for the no-build, signalized and roundabout corridor alternatives were estimated using the Florida Department of Transportation (FDOT) *Intersection Control Evaluation (ICE)* and FHWA's *Safety Performance for Intersection Control Evaluations (SPICE)* tools. The SPICE tool calculates the crash costs for each intersection control option which is input into the ICE tool that summarizes total costs over the service life of the project. The life-cycle cost categories are listed below and simplified descriptions of the calculations for each category follow:

- Capital costs
- Operations and maintenance costs
- Vehicle delay costs
- Safety (expected future crash costs)

Capital costs include the planning-level estimates for corridor design and construction. The planning level estimates for design and construction of the signalized and roundabout corridor alternatives are based on constructing the ultimate five-lane roadway cross section and 112 feet right-of-way included in the corridor plan, which includes three- or five-lane approaching roadway cross sections approximately 350 feet on each side of Farmway at all study intersections.

Annual operations and maintenance costs were estimated for each alternative. For the traffic signal corridor alternative, operations and maintenance costs include signal retiming, equipment replacement, power, and signal operator time. For the roundabout corridor alterative, operations and maintenance costs include equipment replacement for lighting, power, and limited landscape maintenance.

The cost of vehicle delay was calculated for passenger cars and freight. Hourly vehicle delay costs were based on ITD's *Road User Costs*. The 2020 costs used for this study were $20.77 per hour for passenger cars and $50.45 for freight. The FDOT life-cycle delay methodology uses the weekday AM and PM peak hour delays for 2025 and 2045 to project the delay for all hours, days, weeks and months of the year over the project design life. The cumulative vehicle hours of delay over the project design life is multiplied by the road user delay cost to estimate the delay costs.

The safety cost is the cost of the predicted number of crashes to occur over the project design life. Crash costs were based on ITD's *2020 Idaho Traffic Crashes* report. A weighted average cost for fatality and injury crashes was calculated as $317,352 per crash. Property damage only crash costs are $3,478. FHWA life-cycle safety methodology uses the safety performance functions (SPFs) and the predictive method from the *Highway Safety Manual* to predict crashes over a life-cycle for the purposes of comparing different intersection control alternatives. The predicted crashes over the project design life are multiplied by the crash costs to estimate the safety costs.

A discount rate of 4 percent was applied to all annual costs (operations and maintenance, vehicle delay, and safety) to bring the costs to a net present value. The life-cycle costs for signalized and roundabout corridor are summarized in Table 5-5 on page 39.

Table 5-5. Life-cycle cost (20-year service life)

Corridor Type	Capital Cost	Operations and Maintenance Cost	Vehicle Delay Cost	Safety Cost	Total Life-Cycle Cost
No Build	$0	$18,238	$49,519,248	$27,191,853	**$76,729,339**
 Traffic Signal	$46,712,790	$565,811	$79,173,162	$16,542,870	**$142,994,633**
 Roundabout	$44,957,640	$150,702	$21,501,468	$5,452,246	**$72,062,056**

Appendix C Public Outreach Summary Report

FARMWAY ROAD CORRIDOR STUDY



PUBLIC OUTREACH SUMMARY REPORT

JUNE 30, 2022

Prepared for:

Canyon Highway District No. 4

City of Caldwell

Prepared by:

Six Mile Engineering

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Chapter 1 Introduction

The Canyon Highway District No. 4 (CHD4) and the City of Caldwell (City) solicited public comment on the proposed concepts for the future of Farmway Road between its intersection with State Highway 55 (Karcher Road) to the State Highway 19 (Simplot Boulevard) intersection.

The agencies communicated news of the corridor plan and solicited public feedback in the online public information meeting (PIM) and by letter mailings to adjoining property owners that were mailed the week of March 3, 2022. The PIM webpage was active for comment between March 3 through March 25, 2022.

The project webpage was organized into four corridor plan components:

- Roadway cross-section
- Intersection improvements
- Access
- Overall corridor

Each section contained text describing the components of the Farmway Road corridor plan and pertinent exhibits to provide a clear vision to the public. A question was asked at the end of each section, and a comment response box was provided for public feedback. A total of 40 people provided comments on the Farmway Road Corridor between March 7 and April 16, 2022. Comments were received from both the online response forms as well as the letter mailings.

This report summarizes the project webpage information displayed, with summary statistics of the degree of support for each corridor plan component. The Appendix contains the property mailer, a response matrix of all individual responses received, and the PIM exhibits.

Chapter 2 Corridor Plan Components

2.1 Roadway Cross-section

2.1.1 Webpage Text

Forecasted year 2045 traffic volumes indicate Farmway Road will be approaching the need for five lanes in 20 years. Additionally, if Farmway Road is extended north from Simplot Boulevard across the Boise River, five lanes are expected to be needed within 20 years.

To meet these needs, the proposed roadway section includes:

- Two through lanes in each direction
- Center raised median or left-turn/U-turn lane
- Curb and gutter
- 10 feet wide shared use path on each side separated from roadway by an 8 feet wide landscape buffer

This section requires a total of 112 feet of right-of-way width (56 feet each side). An exhibit of the proposed roadway cross-section is in the Appendix.

Question to the public: What are your thoughts on the proposed future Farmway Road cross-section?

A response comment box was provided for public comment.

2.1.2 Comment Summary

The following provides the degree of support for the proposed cross-section and roadway widening:

- **38%** of respondents were supportive
- **25%** of respondents were not supportive
- **38%** of respondents were unsure or did not provide comment on this section

The following responses are generally representative of those received in support of the proposed cross-section:

- I really like the way this plan safely and comfortably provides multimodal transportation options from Karcher Rd to Simplot Rd and Indian Creek.
- I like the fact that there would be walkways to each side of the road. A turning lane is very valuable and helps to keep accident rates lower.
- I think it needs to be five lanes now.
- This roadway is a critical N/S corridor. This section will provide both vehicle and pedestrian mobility as this area becomes more urbanized. Establishing the R/W footprint now when it is more rural will really reduce impacts to property owners and reduce costs.

The following responses are generally representative of those opposed to the proposed cross-section:

- As a property owner, I am concerned about the loss of land I would experience with the road widening. My preference would be to leave the road in its existing configuration. My property is still being utilized as farm ground, road widening would adversely impact the farm operation.
- The county has 30 ft from road center, not 56 feet each side from center. Road is fine, if they get rid of the fluff this is a busy road and not a walkway also, greenbelt will interfere with some crops. Very opposed to those.
- This is a county road not a freeway, shrink the proposed size down for the sake of residents.
- We are all for the expansion however we do have some concerns…. how are you going to be able to expand that much without taking our property or our neighbor across the streets property?

A summary of public comments can be found in the Appendix.

2.2 Intersection Improvements

2.2.1 Webpage Text

Two intersection types – traffic signals and roundabouts – were evaluated at the following major intersections on Farmway Road:

- Homedale Road
- Ustick Road
- Linden Street
- Logan Street
- Simplot Boulevard

Planning-level designs were developed for the two intersection types at each intersection. The decision on intersection type for the Simplot Boulevard intersection will be decided by the Idaho Transportation Department (ITD). The intersection of Farmway Road and Karcher Road is currently in design by ITD to continue as a traffic signal and is not included in this study. Exhibits for each intersection and each alternative presented to the public are in the Appendix and include the following features:

- Traffic Signal
    - Two through lanes on all Farmway Road and Ustick Road approaches.
    - One through lane on Homedale Road, Linden Street, and Logan Street approaches.
    - Left-turn and right-turn lanes on all approaches.
    - Ability for passenger cars to make U-turns from the Farmway Road left-turn lanes.
    - Design vehicle is a 67-feet wheel-base truck (interstate semi-truck with 53-foot-long trailer).
- Roundabouts
    - Initially all single-lane roundabouts (one circulating lane with two approach lanes on Farmway, one through/left and one right-turn lane).
    - Ustick Road would have two approach lanes (one through/left and one right-turn lane on each approach) and would convert to a future dual-lane roundabout (two circulating lanes and two approach lanes each direction).

- Homedale, Linden, and Logan would convert to future multi-lane roundabouts with two through lanes on Farmway but remain single approach lanes on side roads.
- Design vehicle is a 67-feet wheel-base truck (interstate semi-truck with 53-foot-long trailer).

Question to the public: What are your thoughts on the proposed Farmway Road intersections?

A response comment box was provided for public comment.

2.2.2 Comment Summary

The following provides the degree of support for the study intersections being improved to a roundabout over a conventional traffic signal:

- **35%** of respondents were supportive
- **53%** of respondents were not supportive
- **13%** of respondents were unsure or did not provide comment on this section

The following responses are generally representative of those received in favor of a roundabout over a conventional traffic signal:

- Lights and roundabouts are definitely needed.
- I feel that roundabouts would make more sense to keep the flow of traffic from backing up and would keep traffic moving.
- I strongly recommend roundabout intersections. They optimize traffic flow and reduce crashes compared to signal intersections.

The following responses are generally representative of those received not in favor of a roundabout over a conventional traffic signal:

- We do not need any changes in any way except on Simplot intersection... Traffic flows.
- Roundabouts don't belong on a road as busy as Farmway. It needs to be well timed stop lights. If you go the speed limit you should make all green lights.
- Given the heavy truck traffic on Farmway, I think that standard intersections with traffic signals would work much better than roundabouts. Tractor-trailer rigs in roundabout intersections will result in frequent, more serious accidents.

A summary of public comments can be found in the Appendix.

2.3 Access

2.3.1 Webpage Text

Allowable access to major roadways is critical for safety and traffic flow. Accesses are a point of conflict between through traffic on the main road and traffic turning in and out. When traffic is heavy on the main road, vehicles slowing down to make turns into accesses force vehicles behind them to slow also, causing congestion along the main road and possible rear-end crashes. In order to minimize these safety and capacity impacts of access, the following general access configuration is being proposed:

- Traffic signals or roundabouts at the existing major intersections allowing for U-turns, typically one mile spacing.
- Right in/out and left-in/U-turn (RCUT) at ½-mile spacing, with right-of-way for future signal or roundabout when traffic volumes make expansion necessary.
- Right-in/right-out (RIRO) at ¼-mile distance from major intersections.
- Existing driveways limited to right-in/right-out.
- Indirect left-turn lanes and loons to shorten distance back to accesses where direct left-turns are prohibited.

Corridor exhibits presented to the public are in the Appendix and show the proposed initial access management configuration with indirect left-turn loons and left turns at the ½-mile spacing that limit out of direction travel to a maximum of 0.5 miles where direct left turns are not provided. With the future signal or roundabout at the ½-mile, the adjacent left-turn loons can be reversed to limit out of direction travel to a maximum of ¼-mile in the ultimate configuration.

Question to the public: What are your thoughts on the access proposals for Farmway Road? How do you feel about limiting left-turns, particularly from accesses and side streets, to prevent crashes and maximize traffic flow on Farmway?

A response comment box was provided for public comment.

2.3.2 Comment Summary

The following provides the degree of support for the proposed access management strategy:

- **13%** of respondents were supportive
- **43%** of respondents were not supportive
- **45%** of respondents were unsure or did not provide comment on this section

The following responses are generally representative of those received in favor of the proposed access management strategy:

- I like the idea of limited access. Making traffic use Homedale, Ustick, Linden, etc. is the best idea. Too many access points make for a dangerous road.
- Limiting left turns should be a priority.
- If widening for larger traffic volume, all the non-primary intersections should be right-turn only and use a major intersection for u-turn if needed.
- I think newer subdivisions should be required to access only by the existing east west roads. I don't think limiting left hand turns is an issue at this time.

The following responses are generally representative of those received not in favor of the proposed access management strategy:

- The people that live in neighborhoods that already access to the road HAVE to be able to turn left into where they live.
- I do not support the dividers in the road forcing right in/right out Traffic flow. Center turn lanes would be sufficient until future traffic studies support other options.
- Limiting left turns and access to side streets is a big problem. Emergency vehicles would take longer. People that live on side streets will have difficulties coming and going.
- Wow! I understand that the road needs work, but that seems to punish a lot of people that have lived here for years!

2.4 Overall Corridor

2.4.1 Webpage Text

Three options were evaluated for the corridor:

- No-Build – Farmway Road remains as it is today with one-lane in each direction and two-way stop-controlled intersections.

- Signalized Corridor – Widen to five lanes (two lanes in each direction with center raised median or left-turn lane) and construct traffic signals at major intersections.
- Roundabout Corridor – Widen to five lanes (two lanes in each direction with center raised median or left-turn lane) and construct roundabouts at major intersections.

These corridor options were evaluated for:

- Traffic Operations – Farmway travel time and intersection delay.
- Freight – Accommodate large trucks, reduce stops and provide consistent speed.
- Access – Allow increased left-turns and provide for pedestrian/bicycle traffic.
- Safety – Roadway and intersection safety (fewer crashes)
- Property Impacts – Impact on properties fronting Farmway Road and side streets.
- Cost – Life cycle cost consisting of estimated construction costs, operation and maintenance costs, vehicle delay, and expected crash costs over 20-year service life.

A corridor rating matrix was presented to the public and is in the Appendix.

Question to the public: What are your thoughts on the overall Farmway Road corridor options? Please let us know which you prefer: No-Build, Signalized corridor, or Roundabout corridor?

A response comment box was provided for public comment.

2.4.2 Comment Summary

The following provides the degree of support for the corridor type selection:

- **33%** of respondents were supportive of the roundabout corridor alternative
- **28%** of respondents were supportive of the traffic signal corridor alternative
- **40%** of respondents were supportive of the No-build alternative or did not provide comment on this section

In general, the responses replicated those received in the previous responses according to which corridor alternative the individual favored most. The following responses are a sample of comments that provided additional project feedback and introduces some opportunities of topic discussion and clarification for public involvement material:

- No build except at Simplot.
- All of these changes make it seem as if the homes and people in these homes are really the last concern. I hope that is not the case.
- I live a block or two from Farmway on W Linden. My concern is the widening of Linden St. which would probably take out my house. What are my options?
- I give it 5-10 years tops before a roundabout needs to be replace with a signal anyways.
- I think all and all the signalized corridor would be the best solution… Also the impact on the existing traffic would be minimal compared to what would take place if roundabouts were installed.
- I think putting in all underground utilities at the same time so less disruption and cost in the future.
- Can a tunnel be incorporated at both ends of Farmway for the pathways? I have concerns about people and bikes safely crossing or traveling through the intersection of two 5-lane highways.

Chapter 3 Conclusion

All respondent comments were compiled and sorted by order of support and non-support of each component of the public comment webpage. In many cases, individuals would comment in a section that would identify with other components of the project. These responses were identified as supportive or non-supportive to the following four categories:

- Roadway cross-section
- Intersection improvements
- Access
- Overall corridor

The following table highlights their respective responses to each component of the corridor plan:

Table 1. Summary of public support

Totals	Roadway Cross-section	Intersection Improvements		Access	Overall Corridor
		Roundabout	Traffic Signal		
Supportive	15 (38%)	14 (35%)	21 (53%)	5 (12%)	13 (33%)
Not Supportive	10 (25%)	21 (53%)	14 (35%)	17 (43%)	11 (28%)
Unsure or No Comment	15 (37%)	5 (13%)	5 (13%)	18 (45%)	16 (39%)

In general, the respondents that were in favor of the proposed cross-section agree that the corridor is currently too narrow for the number of vehicles that use the corridor now, and that the need for widening will continue to grow as the surrounding areas are developed. These respondents also commented that the widening would attract and improve safety and operations for pedestrian and bicyclists. The respondents that were not in favor of the proposed cross-section generally expressed concern of the right-of-way requirements and its subsequent residential and farming impacts. Eleven respondents (28%) expressed concern with the shared-

used path, stating that they felt it was not necessary on both sides of the roadway, or that it was not needed due to lack of pedestrian/bicycle activity on the corridor.

The respondents that were in favor of a roundabout corridor over the conventional traffic signal corridor generally commented that roundabouts have improved safety and operations compared to traffic signals.

Many respondents were in favor of maintaining a continuous traffic flow corridor, rather than a corridor that permitted situations in which they could be required to stop.

Some respondents expressed their disapproval of widening the corridor and making it more desirable for more vehicles to travel between its connections with Simplot Boulevard and Karcher Road. These individuals commented that Farmway Road should remain a two-lane "Farm to Market" roadway. These viewpoints introduce an opportunity for future public outreach educating the surrounding community on future planning and developments in that section of the county.

In summary, the general response is positive toward roadway and intersection improvements along the corridor. The respondents request further information on the final impacts of the adopted alternative and how it will impact the properties that share frontage to Farmway Road.