Walterscheid Boulevard Reconstruction Plan

CHEYENNE MPO

CHEYENNE METROPOLITAN PLANNING ORGANIZATION

In Association With:

FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

GLM Design Group

BME
BenchMark
ENGINEERS, PC

September 2022

"The preparation of this report has been financed, in part, through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views of policy of the U.S. Department of Transportation."

This plan was completed with assistance from the following individuals and agencies:

Steering Committee

- Jillian Harris, Senior Planner, Cheyenne MPO
- Tom Mason, Director, Cheyenne MPO
- Ginni Stevens, Senior Planner, Cheyenne MPO
- Christopher Yaney, Senior Planning Technician, Cheyenne MPO
- Ryan Shields, Wyoming Department of Transportation
- Wes Bybee, Wyoming Department of Transportation
- Taylor McCort, Wyoming Department of Transportation
- Tom Cobb, City of Cheyenne Engineer
- Wes Bay, Deputy City Engineer
- Charles Bloom, City of Cheyenne Planning and Development Director
- Vicki Nemecek, City of Cheyenne Public Works Director
- Byron Mathews, Cheyenne Fire and Rescue Division Chief
- Molly Bennett, Laramie County Public Works Director
- South Cheyenne Water and Sewer District
- Erin Gates, BenchMark Engineers, PC
- Scott Larson, BenchMark Engineers, PC
- Lyle Devries, Felsburg Holt & Ullevig
- Charles, Buck, Felsburg Holt & Ullevig
- Faith Kelley, Felsburg Holt & Ullevig
- Gene MacDonald, GLM Design Group

References

City of Cheyenne Unified Development Code, amended July 13, 2021
Laramie County Land Use Regulations, 2019 Edition
Connect 2045 Long-Range Transportation Plan, December 2020, by Kimley Horn
Division Avenue and Wallick Road Corridor Study, September 2015, by AVI
Fox Farm Road Corridor Plan, September 2013, by AVI
Cheyenne Metropolitan Area Safe Routes to School Plan, 2010, by Alta Planning and Design
Cheyenne On-Street Bicycle Plan and Greenway Plan Update, June 2012, by Alta Planning and Design
State Transportation Improvement Program 2022, by the Wyoming Department of Transportation, September 17, 2021
Transportation Department – Laramie County School District Number 1, *www.laramie1.org/en-US/transportation-e2c2d885*
Taylor, R., Memorandum to Michael E. Menghini, State Bridge Engineer, Wyoming Department of Transportation. July 24, 2020
Wyoming Pipeline Infrastructure – Enhanced Oil Recovery Institute, *https://www.wyopipeline.com/wp-admin/index.php* (account required for access)

Recorded Plats

Allison Tracts, 2nd Filing, September 1936, Baldwin
Church Addition, May 23, 1983, Hopkins
Dorothy G. Subdivision, September 21, 1973, Hudson
Flo-M Subdivision, March 1, 1971, Kelley
Garey Addition, April 1985, Steil
Gateway South, 2nd Filing, February 2009, Steil
Gateway South, 3rd Filing, January 2012, Steil
Gateway South, 5th Filing, August 2017, Jones
Gateway South, 6th Filing, January 2019, Jones
Harmony Meadows, December 2002, Voeller
Harmony Meadows, 2nd Filing, June 2004, Dawson
Leisher-Black Addition, 2nd Filing, July 1958, Martin
Rossman Elementary School, July 15, 2008, Genzel
South Cheyenne, 1889
Spring Hill Addition, October 2006, Steil
South Park, 6th Filing, January 2009, Asbury
South Park, 10th Filing, October 17, 2018, Jones
Stanfield Addition, March 1923, Baldwin
Stanfield Addition, 3rd Filing, May 1962, Baldwin
Valley View Estates, April 1973, Hudson

Plats noted are available electronically via Cheyenne and Laramie County Cooperative GIS Program.

TABLE OF CONTENTS

FIGURES AND TABLES

Introduction

This plan provides 35% design level plans for the reconstruction Walterscheid Boulevard with the inclusion of appropriate elements and considerations for an urban "complete street". In addition to the conceptual plans for the roadway, the plan includes improvements to intersections, stormwater drainage upgrades, and modifications to utilities. Analysis of traffic operations and stormwater drainage to support the recommended improvements have been completed and are also included.

Walterscheid Boulevard is a two-lane collector roadway extending from Deming Drive to College Drive in south-central Cheyenne. This road provides connectivity between the Original City neighborhoods (located north of Interstate 80) and numerous residential and commercial subdivisions south of Interstate 80 located on both the east and west sides of the road. Anticipated development and growth in south Cheyenne, including anticipated development adjacent to Walterscheid Boulevard, will increase traffic volumes.

The Walterscheid Boulevard corridor includes many intersections with numerous roads. This report specifically analyzed and provides suggestions for improvements at Deming Drive, Fox Farm Road, Jefferson Road, Allison Road, Prosser Road, and College Drive. The operational relationship between these roads and Walterscheid Boulevard indicates the importance of Walterscheid Boulevard within the overall transportation network to connect neighbors to commercial areas and beyond. The roadway is a well-traveled and much used by route in the community by vehicular and pedestrian traffic. Sidewalks and Greenway facilities are limited, but where present are utilized by the public.

Although the actual road and pavement surface are in generally acceptable condition, the overall roadway corridor is lacking facilities for other modes of travel, i.e., pedestrians and bicyclists. Sidewalks have not been constructed at numerous locations, although there are many schools and facilities providing services for young members of the community that are adjacent to and near the roadway. Appropriate features that comply with current Americans with Disabilities Act (ADA) standards are missing or inconsistent at numerous locations. Stormwater drainage infrastructure is a maintenance challenge along the corridor, in particular the open ditches that run parallel to the roadway. Although the Allison Draw drainage channel is located near the Walterscheid Boulevard corridor, none of the roadway is within either the 100-year or 500-year floodplain.

Complete streets are a balanced design for regional and local routes that accommodate all potential users of the street and other elements within rights-of-way. Complete streets strive for equitable accommodation for all modes of travel (vehicular, pedestrian, bicycles, and transit) so that the interests of one mode does not necessarily compromise the others.

Goals and Objectives

Objective:

Develop a conceptual (35% design level) plan for the reconstruction and widening of Walterscheid Boulevard between Deming Drive and College Drive that meets the anticipated future mobility needs of residents and businesses along the corridor and in the greater South Cheyenne area.

Goals:

- Update to a Minor Arterial between Deming Drive and College drive with improvements to intersections of Deming Drive, Fox Farm Road, Jefferson Road, Allison Road, Prosser Road, and College Drive
- Convert to a Complete Street
- Create a plan to guide and serve as a template for future development
- Involve stakeholders, including the public, in data collection and recommendations
- Provide recommendations that are supported by data, proper analysis, and standard practices

Figure 1 Project Area

Existing Conditions

Walterscheid Boulevard has been dedicated and repeatedly shown as a public roadway via various plats. Figure 2 shows the general areas of the numerous plats along the corridor for future reference in this

plan. For clarity, developments with numerous filings have been listed under one common name. Research indicates the currently unplatted area northwest of Walterscheid Boulevard and Allison Road was previously platted as a filing Interior Heights. A boundary survey was not completed for this plan.

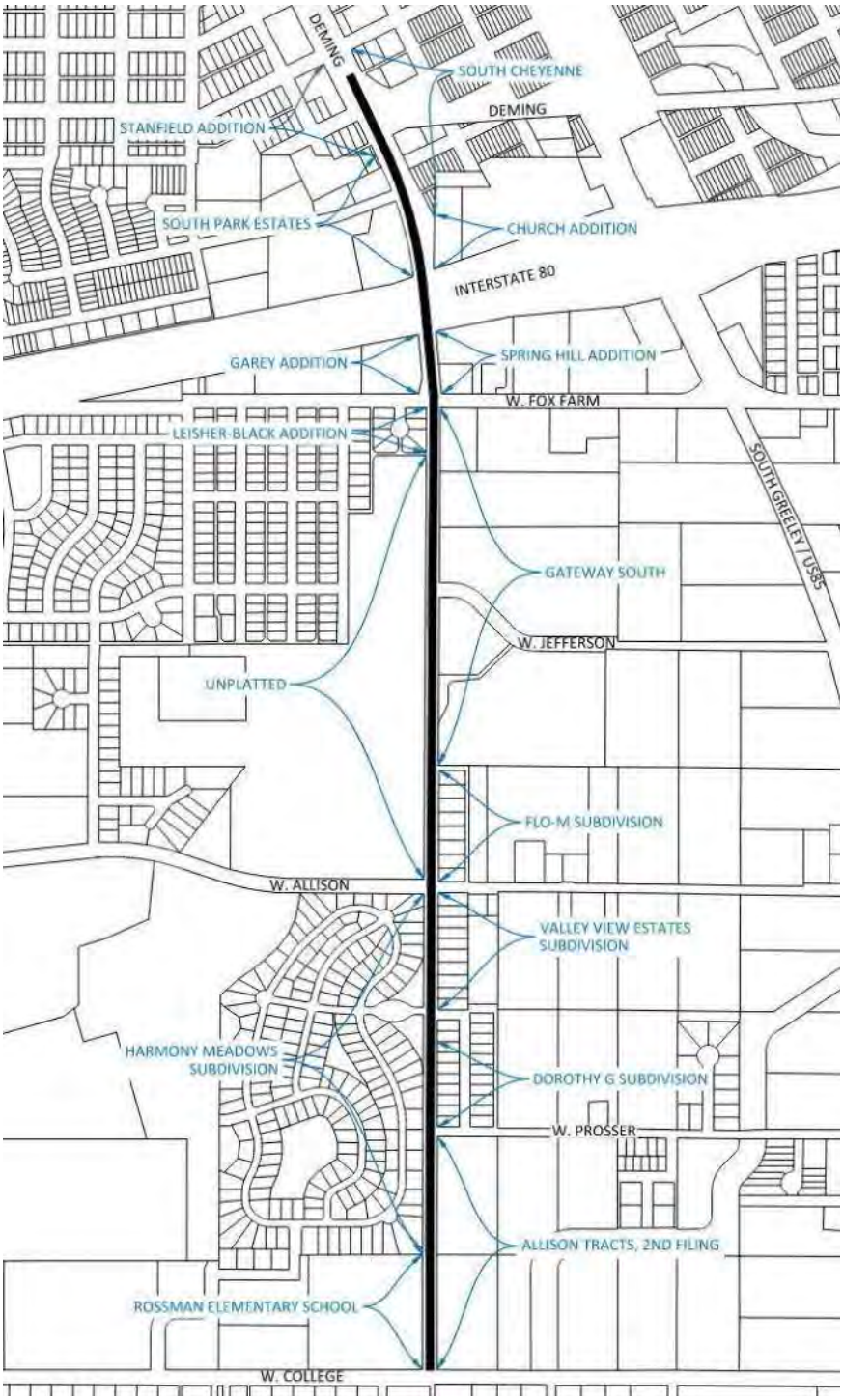


Figure 2 Subdivisions adjacent to Walterscheid Boulevard

The majority of Walterscheid Boulevard is located within the boundary of the City of Cheyenne between Allison Road and Deming Drive; however, two county "pockets" are located along this portion of the corridor. From Allison Road to College Drive the west side of the road is located in the City of Cheyenne, however, the east side has not been annexed and is under the jurisdiction of Laramie County. In the figure below, the shaded area is within the incorporated boundary of the City of Cheyenne, the non-shaded area is under the jurisdiction of Laramie County.

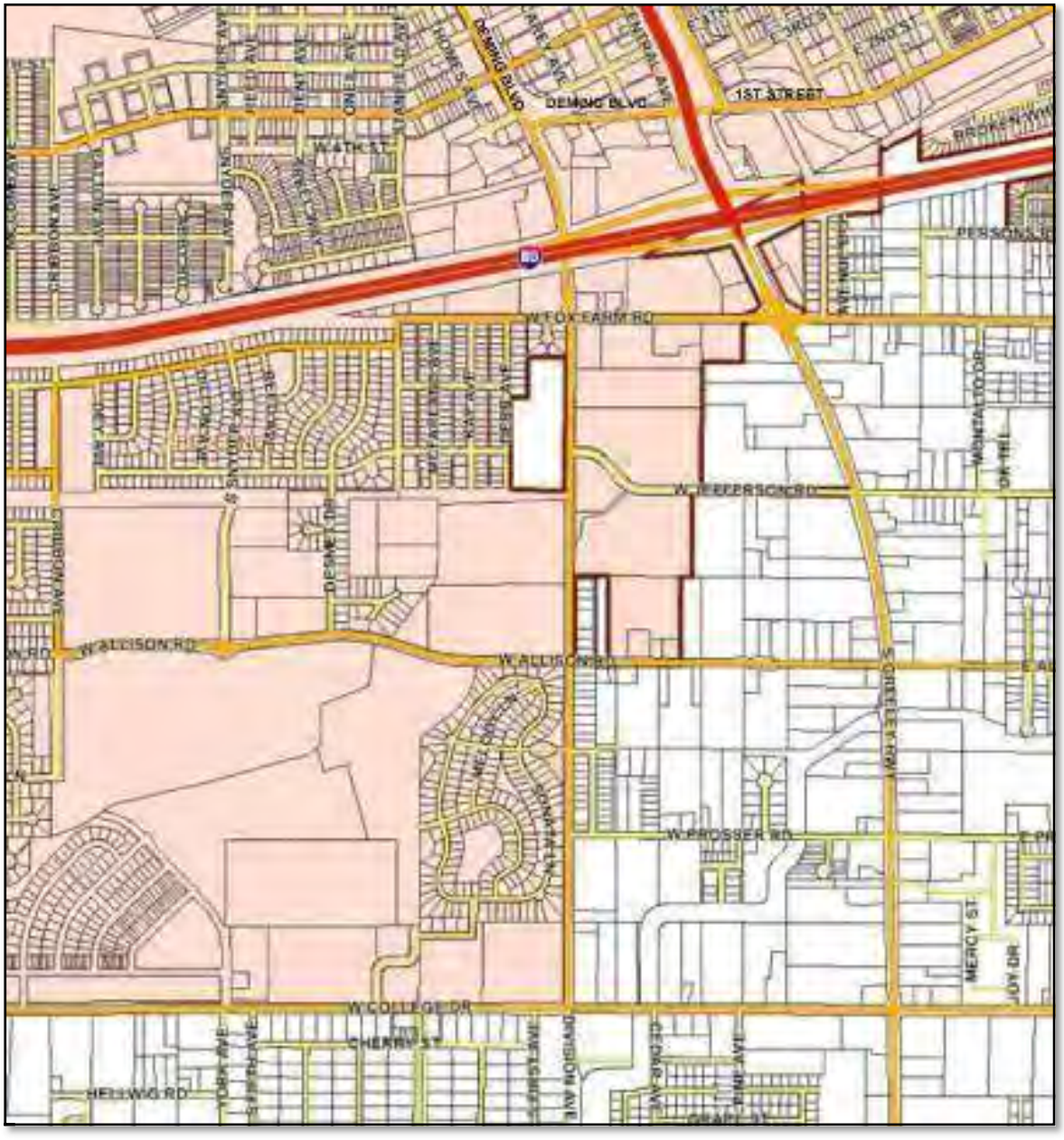


Figure 3: City and Laramie County Boundaries

Zoning adjacent to the roadway varies and includes medium and high density residential, mixed use residential, mixed-use business, community business, light industrial, public, planned unit development, and

agricultural. In general, the apparent uses of the properties adjacent to the corridor correspond the respective variety of zones.

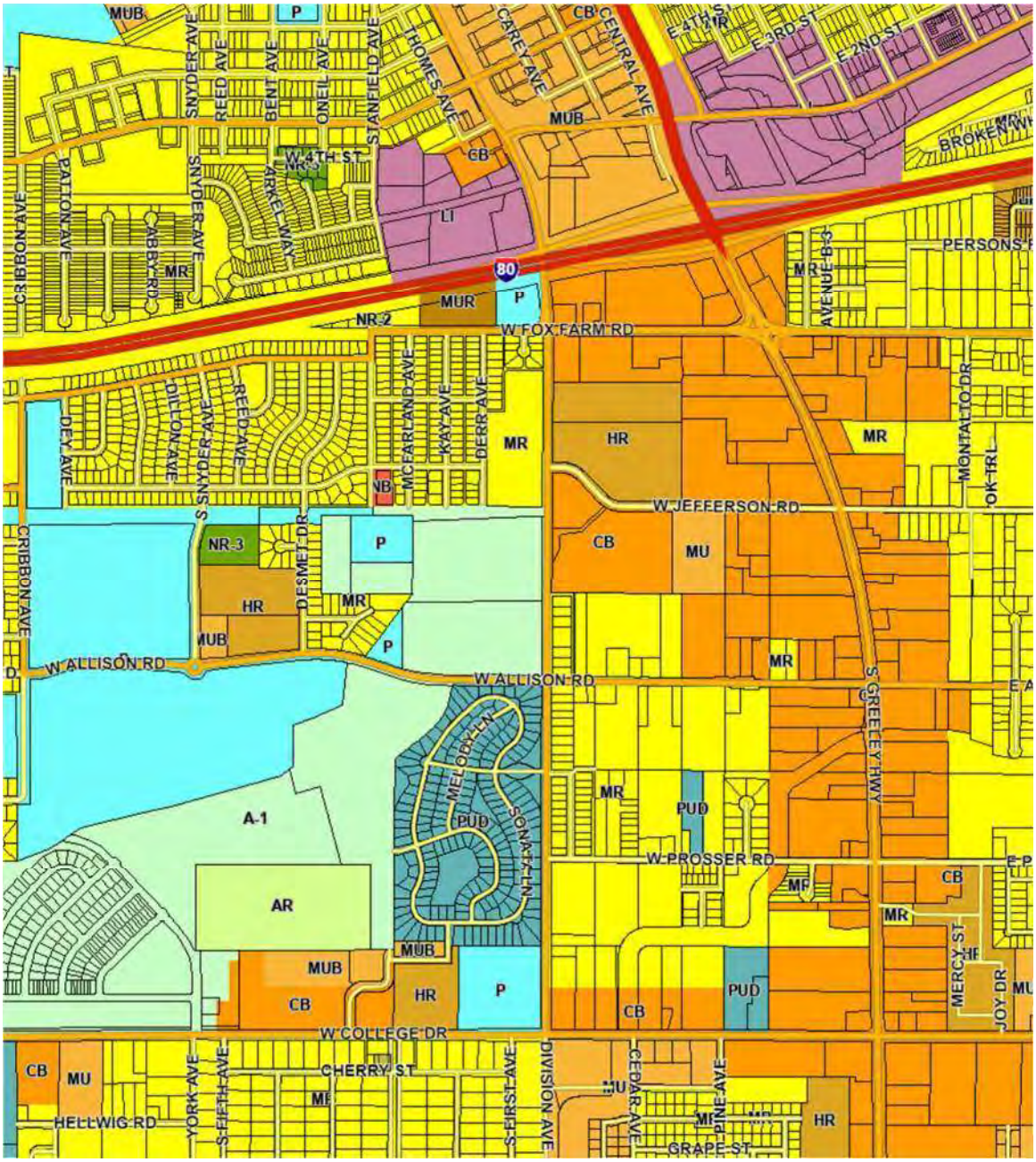


Figure 4 Project Area Zoning

The Cheyenne Board of Public Utilities (BOPU) owns, operates, and maintains the water and sanitary sewer lines in Walterscheid Boulevard north of Fox Farm Road, and west of Walterscheid Boulevard within Fox Farm Road into the residential area. BOPU also has a dedicated 12-inch transmission line that runs in Walterscheid Boulevard from College Drive to Fox Farm Road. A water master meter is located at the intersection of Fox Farm for BOPU to provide water to the South Cheyenne Water and Sewer

District (SCWSD). The SCWSD owns, operates, and maintains the water and sanitary sewer lines in Walterscheid Boulevard south of Fox Farm Road in the corridor area, with the exception of the previously mentioned BOPU transmission line. Fire hydrant assemblies, valve box covers, meter pits, air relief assemblies, sanitary manholes, and other appurtenances for both the BOPU and SCWSD systems are noted throughout the corridor.

Along the Walterscheid Boulevard corridor the area north of Interstate 80, stormwater drains to Crow Creek. Inlets are located at the curb near the intersection of Deming Drive. Along the corridor south of Interstate 80, stormwater drains toward the Allison Draw channel, although other constructed improvements are in place in some locations prior to discharge into the channel. A large detention pond is located west of the road from approximate station 33+00 to station 39+40 (for stationing see the 35% design plans). The discharge pipe for this pond crosses Walterscheid Boulevard and drains to the east. A storm sewer network is located in Allison Road with numerous inlets at the intersection. Detention ponds are located near Serenade Drive and the discharge pipes from these ponds cross Walterscheid Boulevard and drain to the east. Other culverts drain the west ditch to the east ditch near station 16+60. The stormwater detention pond for Rossman Elementary School is located in the southeast corner of the property and discharges into the storm sewer in College Drive. An inlet near station 4+00 appears to drain the road surface to the east ditch.

A city fire station is located northwest of the intersection of Walterscheid Boulevard and Fox Farm Road. Appropriate access and emergency vehicle movements should be considered with the ultimate plan for improvements to Walterscheid Boulevard and at the intersection of Fox Farm. The closest county fire station is Laramie County Fire District Number 1, Station 1, located approximately 1.25 miles east of Walterscheid on Allison Road.

Sanitation services for collection of solid waste, recycling, and compost are provided by the City of Cheyenne for properties within the City. For properties in the County, property owners utilize private companies for solid waste collection. Walterscheid Boulevard is a City Priority 1 snow route for the entire length between Deming Drive and College Drive. Fox Farm Road and Allison Road west of Walterscheid Boulevard are also identified as City Priority 1. Jefferson Road, Allison Road (east of Walterscheid), and Prosser Road are County Priority 1 snow routes. College Drive is a Wyoming Department of Transportation (WYDOT) route for snow and ice concerns.

Rossman Elementary School is located northwest of the intersection of Walterscheid Boulevard and College Drive. This public school serves approximately 330 students in kindergarten through sixth grade. Staff and visitor parking is accessed from Walterscheid Boulevard, as well as a student drop-off lane. A dedicated drop-off and pick-up loop for buses is accessed from College Drive. Laramie County School District Number One (LCSD1) follows the Wyoming Department of Education Chapter 20 rules regarding student transportation. As such, transportation is not provided for elementary-aged students residing within one mile of the school and two miles of the school for secondary students; therefore, it is expected that many students walk, ride bicycles, or are transported privately to and from school within the project area.

The Wyoming Child and Family Development Head Start (Head Start) and the Boys and Girls Club of Cheyenne are located adjacent to each other and southeast of the intersection of Walterscheid Boulevard and Jefferson Road. Both facilities utilize bus services for the transportation of some students. South High School and Johnson Junior High schools are approximately one-half mile west of Walterscheid Boulevard on Allison Road. Triumph High, Goins Elementary, and Cole Elementary schools are also located within close proximity to the Walterscheid Boulevard corridor.

It is evident by the current infrastructure that the existing roadway was constructed over multiple phases and infrastructure was not constructed to accommodate all current users. Over the years some improvements have been made to upgrade the roadway, intersections, and for multimodal users, however, that has not been the case with all development/redevelopment, i.e., when residential development occurred at the residential subdivision southwest of Walterscheid Boulevard and Allison Road, the roadway was not upgraded to then-current standards regarding sidewalks, landscape, curb and gutter, etc.

In general, the road includes two asphalt-paved travel lanes (one in each direction) for the full length of the roadway within the plan area. A double yellow line indicates the centerline of the road. To delineate the right edge of the travel lane for southbound traffic, where curb and gutter is not in place, white edge striping has been painted. This edge striping extends from north of Rossman Elementary School to Fox Farm Road. Additionally, edge striping has been painted for both travel lanes from Fox Farm Road to Deming Drive. Curb and gutter are located on the east side of the road for the full length and the west side from Fox Farm Road to Deming Drive. Figure 5 shows the general widths of the travel lanes, sidewalks (where present), right-of-way widths, and other constraints.

No turn lanes are currently delineated from Walterscheid onto College Drive for either eastbound or westbound traffic, or to delineate through traffic onto Division Avenue.

This lack of delineated lanes may cause confusion for drivers as most traffic current turns either eastward or westward.

A right turn lane is present for westbound traffic onto Allison Road from southbound Walterscheid.

Allison Road at Walterscheid includes a center left turn lane and combined right turn and through lane from both eastbound and west bound.

Southbound Walterscheid at Fox Farm includes a free right with a yield for westbound traffic. A right turn lane is present at Fox Farm for northbound traffic onto Walterscheid Boulevard.

At Deming Drive, a left turn lane for eastbound traffic from northbound and left turn lane for eastbound to southbound traffic is present. From Deming Drive onto Walterscheid Boulevard a right turn lane for northbound traffic is present.

Walterscheid Boulevard is signed for a speed limit of 35 miles per hour (MPH) between College Drive and Fox Farm Road and 30 MPH from Fox Farm Road to Deming Drive. A school zone of 20 MPH speed limit is present at Rossman Elementary via a flashing beacon.

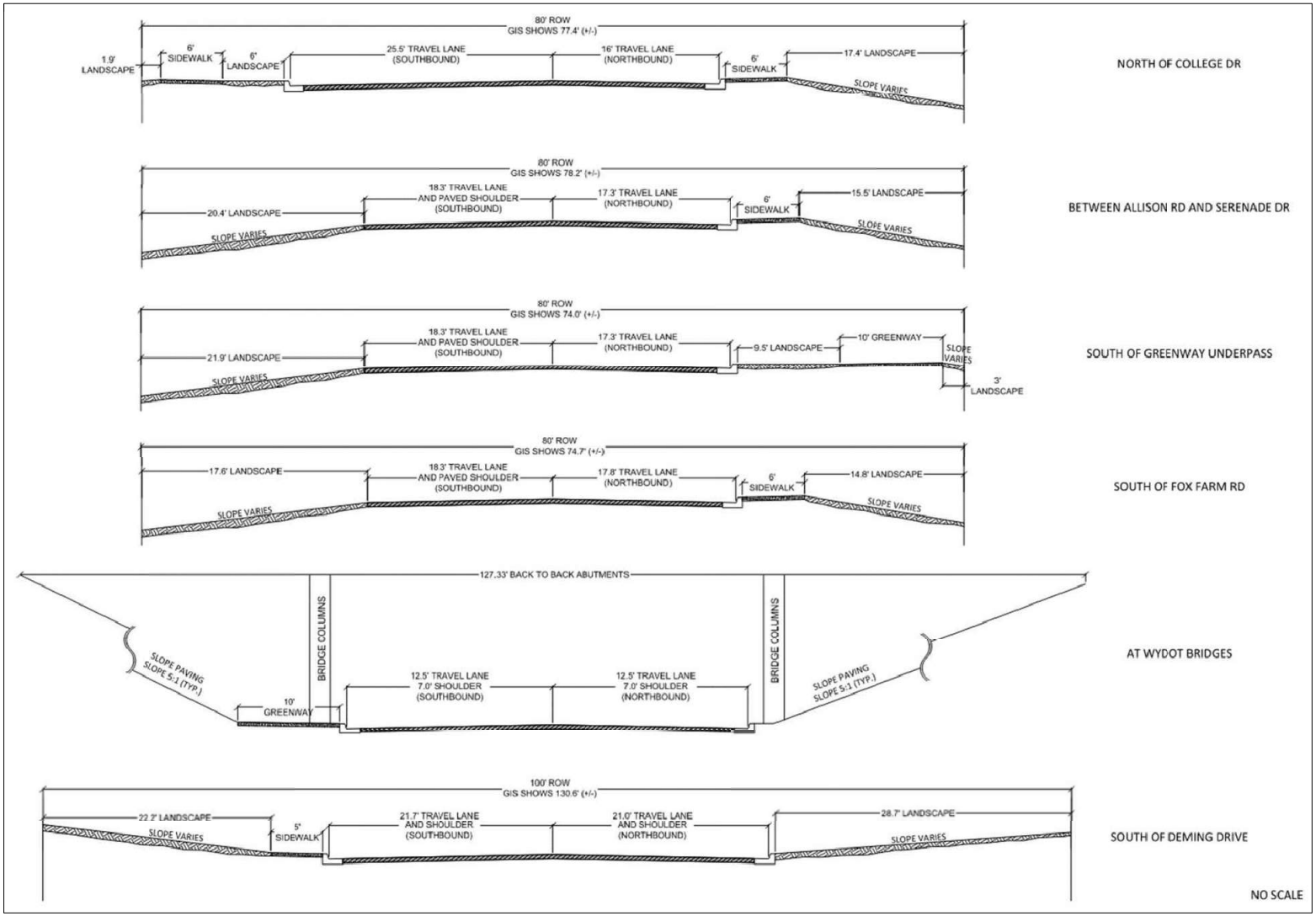


Figure 5 Existing Cross Sections Along the Corridor

Existing Cross Section Notes

Travel lane widths include paved shoulder widths and laned edge striping is not shown.

The area north of College Drive has Rossman Elementary School located to the west (left side of the cross section). A sidewalk was installed with the construction of the replacement school.

The area between Allison Road and Serenade Drive does not include sidewalk adjacent to the Harmony Meadows subdivision (left side of the shown cross section). To the west of the right-of-way are a 30-foot wide pipeline easement and a 10-foot wide drainage and utility easement.

The greenway shifts from the east side of the road (south of Fox Farm Road) to the west side (north of Fox Farm Road) and no formal, constructed pedestrian facilities are in place on the east side of the road between Fox Farm Road and Deming Drive.

The three Interstate 80 bridges that cross over Walterscheid constrict the available area for improvements to the roadway and pedestrian facilities. Although shown as a 10-foot greenway at the bridges, the usable width is narrower due to the bridge columns.

Current WYDOT programming indicates bridge maintenance work to be let for construction in fiscal year 2023 for structures AZF, AZG, and AZH which are the three bridges for I-80 crossing over Walterscheid Boulevard. This work is expected to include approach slab replacement and resetting the bridge railings, approach guardrails may also need to be reset. WYDOT has no plans to completely replace these structures. Pavement rehabilitation work is programmed by WYDOT for College Drive between route marker (RM) 0.17 and RM 2.17, which includes the intersection at Walterscheid. The anticipated work includes milling the existing asphalt and placing an asphalt overlay on College Drive in fiscal year 2024. This work does not currently indicate other improvements at the intersection with Walterscheid Boulevard. The City of Cheyenne has programmed improvements at the intersection at Fox Farm Road. The design work has been placed on hold pending concurrence and approval of this plan. The City of Cheyenne is also progressing on improvements at the intersection of Deming Drive and 5th Street, including the bridge over Crow Creek.

The intersections at College Drive and Allison Road are controlled by signalization. The intersection at Fox Farm Road is controlled by a 4-way stop with a free-right and yield for southbound turning west. Prosser Road, Serenade Drive, Jefferson Road, and westbound Deming Drive are controlled by stop signs for traffic coming onto Walterscheid Boulevard. No control is present for oncoming traffic at Dot Ray Place onto Walterscheid Boulevard. The functional classification of the numerous roads that intersect Walterscheid indicates Walterscheid is currently providing connectivity to the greater area by providing access between residential neighborhoods and commercial areas.

Table 1 Functional Classification of Intersecting Roads

Functional Classification of Intersecting Roads	
Intersecting Road	**Functional Classification**
Deming Drive	Major Collector
Fox Farm Road	Minor Arterial (east) Major Collector (west)
Jefferson Road	Minor Collector
Allison Road	Major Collector
Serenade Drive	Local
Dot Ray Place	Local
Prosser Road	Minor Collector
College Drive	Principal Arterial

An attached sidewalk is in place along the east side of the Walterscheid north from College Drive to the connection to the Greater Cheyenne Greenway (Greenway) at the alley north end of Flo-M Subdivision (terminating approximately 620 feet north of Allison Road). A ten-foot-wide section of Greenway is detached from the road from the previously referenced alley north adjacent to the apartment complexes

near Jefferson for a length of approximately 650 feet. An attached sidewalk is present from the north end of the apartment complex to the Fox Farm Road intersection, for a length of approximately 350 feet. The Greenway is attached on the west side of Walterscheid Boulevard from Fox Farm Road to the southernmost Interstate 80 bridge, then transitions to attached sidewalk to Deming Drive. An attached sidewalk on the east side of Walterscheid south of Deming Drive terminates approximately 75 feet from the intersection. A detached sidewalk is adjacent to Rossman Elementary School and a mid-block crosswalk is present approximately 330 feet north of the College Drive intersection. Unpaved pedestrian footpaths are noted in most areas where sidewalks or the Greenway are not present. Crosswalks are delineated at the College Drive intersection (crossing College Drive) and Allison Road intersection (all directions). Concrete barriers are in place behind the curb at the Interstate 80 bridges to protect pedestrians. All of Walterscheid Boulevard is considered to be an on-street bike route. The Greenway crosses under Walterscheid Boulevard south of Jefferson Road.

Within the corridor study area, a short stretch of bus route (as routes were pre-pandemic), via the Cheyenne Transit Program, is present. This route runs westbound on Jefferson Road, then southbound on Walterscheid Boulevard, then westbound on Allison Road. The closest designated bus stop is located near 515 W. Jefferson Road. See 2022 Transit Development Plan for new route service recommendations.

Detectable warning plates have not been installed at numerous intersections were pedestrian traffic crosses vehicular traffic. Some existing ADA ramps suggest crossings at 45 degree angles, rather than perpendicular to vehicular traffic. Some ADA ramps have detectable warning plates that do not extend the full width of the ramp.

“No Parking” signs are in place along the east side of the road from College Drive to Fox Farm Road and on the west side near Rossman Elementary School.

Numerous residences are addressed and have access from Walterscheid, particularly on the east side of the road from College Drive to the alley at the north end of Flo-M Subdivision. 15 residences at 712 Walterscheid Boulevard utilize two accesses. Approximately 20 residences at 713 W. Prosser Road utilize an access from Prosser Road and an access from Walterscheid Boulevard, with the remaining two accessing directly from Walterscheid Boulevard with a joint access. Ten residences back-up to Walterscheid Boulevard on Dot Ray Place and have access from Dot Ray Place. Seven residences between Dot Ray Place and Allison Road access only from Walterscheid Boulevard, and three share accesses to both Walterscheid Boulevard and Allison Road. Seven residences north of Allison Road access from Walterscheid Boulevard, however an unpaved alley is located to the presumed back of the properties. Moving these approaches to the east side of the lots may be possible, however there may be other physical constraints and coordination with property owners will be necessary. The garage of one residence only has access from Walterscheid (105 Columbus). Of note, the properties in Dorothy G Subdivision, Valley View Estates, and Flo-M Subdivision are individual lots of varying ownership, rather than common ownership by a common owner for the multiple lots.

Existing street lighting is maintained by Black Hills Energy. Black Hills Energy also has overhead and underground power at various locations along and crossing the corridor. Two natural gas lines, one high pressure and one medium pressure are located in Fox Farm Road and cross through the intersection at Walterscheid Boulevard. Other lower pressure natural gas lines are located along the corridor providing service to consumers. High West Energy has overhead power within the corridor as well. A crude oil pipeline is located within a 50-foot easement west of the road from north of Rossman Elementary school to approximate station 36+35 where the pipeline crosses to the east side of the road and diverges from the parallel to the road north of Interstate 80 in an eastward direction. The Western Area Power Administration (WAPA) maintains a station west of Walterscheid Boulevard from approximate station 33+00 to station 39+40. Two accesses from Walterscheid Boulevard are provided for this facility.

Brief Summaries from Previous Reports and Recommendations

The Connect 2045 Long-Range Transportation Plan, approved in 2020, indicated a significant reduction in the Level of Service (LOS) between 2019 and 2045 to be reduced from B to D for Walterscheid Boulevard between Fox Farm Road and Deming Drive. This plan also recommended Walterscheid Boulevard be widened to a five-lane road from College Drive to Deming Drive/5th Street and ranked it as a high priority. The estimate to build Walterscheid Boulevard to a five-lane, minor arterial standard was $4.35 million for 2020, and an anticipated cost of $5.64 million at year of expenditure, between 2026 and 2030. Due to financial constraints, this project was listed as a Tier-2 (2026-2030) project. The lead funding source was identified as local funds, rather than State or Federal, with the City of Cheyenne taking the lead.

The plan sheets included in the Division Avenue and Wallick Road Corridor Study (2015) show a left turn lane from southbound Walterscheid Boulevard to eastbound College Drive and the right lane at the intersection to be a through lane. These plans also show an east-west crosswalk on the south side of the intersection. The construction of Division Avenue between College Drive and Wallick Road and of Wallick Road between Division Avenue and US Highway 85 was listed in the 2022 WYDOT State Transportation Improvement Program (STIP) for future construction (beyond 2027). Laramie County placed this project on the 1% Specific Purpose Optional Tax (commonly known as the 6th Penny) ballot voted on November 2, 2021. This item was approved; however, Laramie County has not established a timeframe for design or construction of this project. Further coordination will be necessary at the intersection of College Drive and Walterscheid Boulevard to the north and Division Avenue to the south to address a slight skew in travel path (see Figure 6). The skew of the northbound

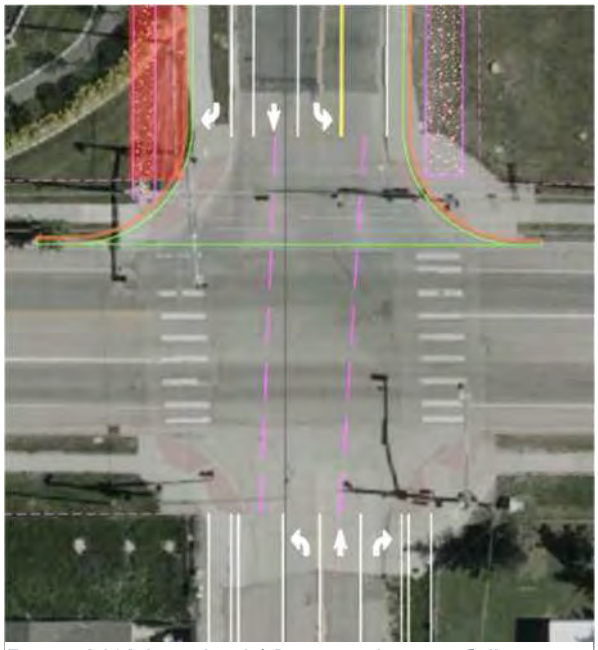


Figure 6 Walterscheid / Division skew at College

through lane is approximately 3.7 degrees, and the skew of the southbound through lane is approximately 2.3 degrees.

The Fox Farm Road Corridor Plan (2013) suggested improvements to the intersection at Fox Farm Road and Walterscheid Boulevard to included installing a signal when warranted by either the LOS or crash history, installing roadway lighting, widening the intersection legs, removing the free-right, and installing sidewalk and curb and gutter that are missing to bring the road to an urban standard. A roundabout at this intersection was considered, but not recommended to the proximity to residential features and the need to acquire rights-of-way. However, some of these constraints have changed since the adoption of this specific plan.

The Cheyenne On-Street Bicycle Plan and Greenway Plan Update (2012) recommends the installation of bike lanes on Walterscheid Boulevard between Deming Drive and College Drive as a near-term project. These bike lanes will help to complete existing gaps in the existing bike lane network. Uphill bike lanes and downhill shared lane markings may be warranted where steep slopes are present. This report also included a conceptual plan for the South Park Extension of the Greenway. This extension terminates at the intersection of 4th Street and Deming Drive, just north of the Walterscheid Boulevard and Deming Drive intersection. This report noted that the current on-street bicycle facilities on Walterscheid Boulevard exhibit the lowest quality. Factors that contribute to the low quality include high motor vehicle speeds, high motor vehicle traffic volumes, drive approach conflicts, and intersection conflicts. Bridge conflicts were also noted specific to the grade separate crossing at Interstate 80 as protection from vehicles is not provided. The report indicated bike lanes on Walterscheid Boulevard between Deming Drive and College Drive to be a medium tier project to provide access and mobility to an area that is lacking in services for cyclists but has community support.

The Cheyenne Metropolitan Area Safe Routes to School Plan (2010) notes that the sidewalk network is generally complete in the direct vicinity of Rossman Elementary School, and that the signalized intersection at College Drive provides an opportunity for safe pedestrian crossing. Walterscheid Boulevard is noted however, to create a barrier for students walking and bicycling to school. This report also notes there is no sidewalk from the neighborhood directly north of Rossman to the school property, and this is noted as a priority infill sidewalk.

Cheyenne Metropolitan Area Pedestrian Plan (2010) identified the full length of Walterscheid Boulevard between Deming Drive and College Drive as a Priority Pedestrian Corridor. This plan noted the lack of streetlights along the corridor and recommended an east-west crosswalk on the south side of the intersection and installation of detectable warning at the ADA ramps.

Coordination and Public Involvement

Steering Committee and MPO Committees

A kick-off meeting was held March 3, 2021, with representatives from the Cheyenne MPO, BenchMark Engineers, FHU, and GLM Design in attendance. The intent of this group was to form the basis of the expectations of the project. A second meeting was held prior first public meeting to finalize the presentation materials and verify what information the design team was asking of the public.

Following the public open house, the MPO and design team identified additional stakeholders to participate in the Steering Committee to gather more information, insight, and to offer feedback. In addition to the members identified above, the Steering Committee was expanded to include representatives from the City of Cheyenne (Engineering, Planning and Development, and Public Works), the Cheyenne Board of Public Utilities (BOPU), WYDOT (District 1 Construction and District 1 Traffic), Laramie County Public Works, and the South Cheyenne Water and Sewer District. During the process, a representative from Cheyenne Fire and Rescue was also added to the Steering Committee. The first Steering Committee meeting with the larger group summarized the progress to date and the feedback from the first public meeting. As needed, smaller groups met to discuss specific issues either before or after Steering Committee meetings.

Following the first public meeting, the design team was notified that the intersection at Fox Farm Road would be included in this project for analysis, recommendation, and 35% design plans of the recommended improvements. Steering Committee meetings were held off until the documents modifying the contract for the inclusion of Fox Farm Road were approved. Steering Committee meetings provide the design team an opportunity to display the progress of the project and request feedback for various design elements.

MPO Technical Committee

The project was presented twice to the MPO Technical Committee during the analysis and planning process. The first presentation was held February 16, 2022, via a video-based virtual platform. As an introduction, the design team explained the project goals, showed the project area, identified the deliverables associated with the 35% design plan and recommendations, and summarized the project status to date. The design team provided UDC-standard information regarding roadway classifications, established standards, elements of Complete Street and multi-modal design elements, and a summary of physical constraints along the corridor. A summary of the existing traffic operations was presented, including observed travel speeds throughout the corridor. The design team explained the data associated with five-year crash history along the corridor. A summary of the deficiencies for multi-modal users were also presented. Preliminary forecasting of traffic volumes for the year 2045 were shown and explained along with suggestions for improvements. An alternatives analysis for the intersections was provided to show the anticipated level of service at the respective intersections based on the various improvements. A preliminary summary of the stormwater drainage along the corridor and recommended modifications

was provided. The design team also summarized stakeholder outreach efforts. The course that will be used to finalize the plan was summarized to address the roadway in the existing right-of-way, intersection improvements, pedestrian and bicyclists, stormwater network upgrades, and the potential to phase the construction of the improvements.

Questions and comments from the committee included a suggestion that the jurisdiction of the roadway all be within the city. It was recommended the design team speak directly with Cheyenne Fire and Rescue regarding the intersection at Fox Farm Road due to the proximity of Fire Station 2, as well as aerial lift trucks navigating the intersection, and access during construction. It was noted a level of service D is anticipated in the future at Fox Farm Road, Allison Road, and Prosser Road. The design team has set a level of service D as the limit but will look into what it would take to make it better. It was noted that bypass lanes at roundabouts seem to be an issue and it was recommended to limit such use. It was noted that although the plans for Division Avenue and Wallick Road showed lane changes on Walterscheid Boulevard, the design team will not be required to incorporate those specific recommendations into this plan.

A second presentation to the MPO Technical Committee was held May 25, 2022, via a video-based virtual platform. The design team reminded the committee of the goals and expectations of the project. A status update was provided as well as summary of the alternatives analysis completed for the intersections. The group was presented with additional information on the project, specifically at the intersections of Fox Farm Road and Deming Drive.

MPO Citizens' Advisory Committee

The design team was prepared to present the project to the MPO Citizens' Advisory Committee on February 17, 2022, via a video-based virtual platform. However, the committee did not have a quorum and the meeting was cancelled.

A presentation to the MPO Citizen's Advisory Committee was held May 25, 2022, via a video-based virtual platform. The design team introduced itself and explained the project goals. The committee was shown the project area, summarized the various uses, zoning, high number of schools, and potential for growth in the area. The design team defined what items were to be completed for the 35% design plan and recommendations. A status update for the project was provided. The design team provided information regarding roadway classifications, established standards, elements of complete street and multi-modal design elements, and a summary of physical constraints along the corridor. A summary of the existing and forecasted traffic operations was summarized. The summary of the alternatives analysis for the intersections was provided to show the anticipated level of service at the respective intersections based on the various improvements, as well as the potential to reduce crashes at Allison Road, College Drive, and Fox Farm Road. A preliminary summary of the stormwater drainage along the corridor and recommended modifications was provided. The design team also summarized stakeholder outreach efforts. The course of action that the design team will follow was reviewed. This includes finalizing the plan, addressing the roadway elements within the existing right-of-way, intersection improvements,

pedestrian and bicyclists, stormwater network upgrades, and the potential to phase the construction of the improvements.

MPO Policy Committee

The design team presented the project to the MPO Policy Committee on March 23, 2022. This presentation included an explanation of the project and specific goals, as well as the various processes being utilized by the design team to analyze and provide recommendations for the corridor. A summary of how the design team was moving to meet the goals including a modified roadway section, intersection improvements, recommendations for multi-modal users, improvements to the stormwater network, inclusion of facilities for pedestrians and bicyclists, access to residences, and ideas to phase construction if beneficial. The design team catalogued the constraints that limit full implementation of the standards defined in the UDC for a minor arterial and how the standards would be modified to accommodate the anticipated traffic volumes, movements, and other users. The design team summarized the public outreach and stakeholder involvement completed to date. No questions were asked by the Policy Committee members of the design team.

Public Involvement

The first public open house was held May 25, 2021, at Rossman Elementary School from 5:30pm to 7:00pm. The site was chosen as the facility is located adjacent to the project site – northwest of the intersection of Walterscheid Boulevard and College Drive. As a public school, this facility has adequate parking, is readily known in the neighborhood, would meet potential accessibility needs, and would accommodate a public meeting during COVID-19 restrictions.

Advertisement for the public meeting was coordinated by MPO staff using graphics and information provided by the design team. Postcards were mailed by the MPO to residents in the area. A visual message board was placed along the roadway to notify roadway users of the public meeting, and the meeting was advertised on the MPO website and on the organization's Facebook page.

A visual presentation was delivered to those in attendance and attempted to be streamed via the MPO's Facebook page. Due to technical difficulties, a recording of the presentation was posted to the MPO's website after the meeting for the public to view. The presentation was followed by an Open House with display boards.

Twenty members of the public attended. Additionally, six representatives of public agencies or clients attended. The MPO had two staff members in attendance. The design team had five people participate in the presentation and open house portions.

The presentation explained the specific goals of the project, specifically noting that the intersection at Fox Farm Road was not included (this was later included with the project as a contract amendment). It was noted the deliverables were 35% design plans, not for the public to expect any construction of

improvements in the near term. For background purposes, roadway functional classifications and standards were discussed. Multimodal users were defined. A list of physical constraints along the corridor were presented. A summary of existing and forecasted traffic conditions were presented. We requested the public's input via comment sheets that requested general information and provided opportunities for feedback with three open-ended questions and an additional area for comments. Attendees were requested to complete a comment sheet and leave it that night or return it by June 4, 2021.

General information questions requested respondents to identify if they were residents (owner or renter), property owner (non-occupant or of vacant land), a business owner or employee, or a corridor user. The responses from this question indicate we reached a variety of people who live, work, or a have a vested interest in the corridor. Another general information question asked how long the respondent had lived or worked in the area. Based on the responses, we understand that these people have witnessed first-hand changes along and within the corridor.

Question 1: *What do you like about Walterscheid Boulevard and the overall project area?*

Overall, the responses indicate favorable opinions of the area, specifically schools, the Greenway, shopping is nearby, development is occurring, and it is well maintained.

Question 2: *What concerns do you have about traffic safety along Walterscheid Boulevard, and what safety improvements would you like to see?*

The concerns included traffic congestion and anticipated additional traffic, speeding and a lack of law enforcement for speeding, a lack of turn lanes, snow and ice removal, and truck traffic on Deming Drive. Other concerns not related to traffic safety included a lack of sidewalks and crosswalks, a lack of curb and gutter, weeds, and overhead powerlines.

Question 3: *Are there areas of Walterscheid Boulevard where it is difficult for pedestrians and bicyclists to navigate and how could these be improved?*

Respondents indicated vehicle speed should be addressed, and sidewalks or bike paths should be installed the full length of the corridor.

Question 4: *If you have additional comments, please share them here:*

This section allowed respondents to provide additional insight along the corridor. Responses included noting the lack of streetlights and that a number of pedestrians walk along corridor at night, and in areas where streetlights are present, better maintenance is needed. An electrical box (which the sidewalk is routed around) was noted to be a problem. Stormwater drainage concerns were noted as a sinkhole at one property, flooding at another, and sediment from the streets entering the drainage system.

During the open house portion, design team staff shared additional information and provided clarification to attendees. Additional comments and the general summary of conversations include the following:

- The open ditch south of Allison Road on the west side of Walterscheid Boulevard is problematic.
- Although the intersection at Fox Farm Road is not included, individuals specifically suggested a roundabout.
- Some drivers avoid the Fox Farm Road intersection after students are released from South High School due to congestion.
- The property owners at 200 Walterscheid Boulevard are open to improvements and negotiations if it can help the overall corridor area.

The presentation was posted to the MPO's Facebook page on June 8, 2021. Five comments were posted by one respondent. In summary, the respondent noted a lack of turn lanes at Allison Road, no school zone at Rossman, the lack of sidewalk north of Rossman on the west side, traffic congestion in the morning south of Allison Road backs-up past Dot Ray Place.

The second public open house was held March 22, 2022, at Rossman Elementary School from 5:30 pm to 7:00 pm. As before, the facility was chosen as it is located near the project site, had adequate parking, is known in the neighborhood, would meet accessibility needs, and could accommodate a public meeting during COVID-19.

Advertisement for the public meeting was coordinated by MPO staff using graphics and information provided by the design team. A visual message board was placed along the roadway prior to the meeting. The meeting was advertised in the Wyoming Tribune-Eagle on March 20, 2022. The meeting was also advertised on the organization's website as well as the official Facebook page.

A visual presentation was delivered to those in attendance followed by a Questions and Answers session and an Open House with display boards.

22 members of the public attended. Additionally, three representatives of public agencies or clients attended. The MPO had two staff members in attendance. The design team had four individuals participate in the presentation, questions and answers session, and open house portions.

With the expectation that some members of the public had not attended the first meeting, the presentation described the specific goals of the project, specifically noting that the intersection at Fox Farm Road had been added to the project. It was explained that the deliverables for this project are 35% design plans, however the finalization of plans and construction of improvements has not been programmed or funded. For background purposes and as a reminder, the presentation included a brief discussion of UDC standards, elements and the necessity of complete streets, and specific physical constraints. A summary of the traffic operations and safety analysis was presented, as well as suggested improvements based upon forecasted conditions. Alternatives for improvements at intersections were presented. A summary of the stormwater drainage analysis and recommended improvements was noted.

Elements of the plan were presented for the roadway, intersections, pedestrian and bicycle accommodations, and stormwater drainage improvements. Implementation, although not specifically funded other than the intersection at Fox Farm, was discussed for near-term and long-term improvements, as well as potentially phasing some of the work. We requested the public's input via comment sheets that requested general information and provided opportunities for feedback on three open-ended questions and an additional area for comments. Attendees were requested to complete a comment card and leave it that night or return it by March 31, 2022.

As with the first public meeting the general information questions requested respondents to identify if they were residents (owner or renter), property owner (non-occupant or of vacant land), a business owner or employee, or a corridor user. Like before, the responses from this question indicated a range of people who live, work, or a have a specific interest in the Walterscheid corridor.

Question 1: What do you like about the proposed plan for Walterscheid Boulevard?

Overall, the respondents liked the plans as well as the three-lane road with turn lanes for inclusion of sidewalks and the Greenway to make the corridor safer for pedestrians. They recognize the value of planning for future development and alleviating traffic congestion. Additionally, they appreciate keeping the public informed of the project.

Question 2: Do you have any concerns with the proposed plan for Walterscheid Boulevard?

Concerns from the respondents include the roundabout option at Fox Farm, streetlights at the Fox Farm roundabout option, a belief that the Greenway and on street bike lanes are duplicate facilities, access to properties, compensation for additional rights-of-way, maintenance of utilities, the connection south of College Drive, and a lack of a timeframe to implement the improvements.

Question 3: Are there additional items that should be considered at this point in the process?

Respondents noted concerns regarding detours, excessive traffic due to existing apartment complex facilities, congestion at West Allison before and after school, and the aesthetic of existing trees near the Boys and Girls Club.

Question 4: If you have any additional comments, please share them here:

Additional comments provided included concerns with the LOS at school release times, the need for contrasting color of concrete pavement at the roundabout and requested more detail on the stormwater improvements.

Design team staff shared additional information and provided clarification to attendees during the question and answer session and the open house portion of the meeting. General and specific comments from conversations include the following:

- Constraints include right-of-way, easements, private property, etc.
- Discussed the benefits of Type B curb and gutter.
- Concerns with LOS related to school start and release times.
- Questions were asked related to nearby projects (Division Avenue and Prosser Road).
- Concerns with the termination of bike lanes at College Drive.

Copies of the advertisement for both meetings, post card (for the first meeting only), sign-in sheets, presentation slides, display boards, and comment sheets are included in the appendix of this report.

Alternative Development and Analysis

Standards

The process used to develop the recommended conceptual plans considered the existing conditions and constraints, anticipated traffic volumes, multimodal uses, and adopted standards. It was determined by the Steering Committee that the *City of Cheyenne Unified development Code*, 2021 Edition, would be the basis for the roadway cross section as the majority of the roadway falls within the City of Cheyenne.

Table 2 Minor Arterial Standards

Minor Arterial Standards			
Criteria	**City of Cheyenne (3-lane)**	**City of Cheyenne (5-lane)**	**Laramie County**
Speed Limit (MPH)	35 – 40	35 – 40	30 – 45
Number of Lanes	2	4	2
Daily Traffic Volume	7,500 – 18,000	15,000 – 32,000	3,500 – 15,000
Width of Lanes (feet)	12	12	12
Median (feet)	12	12	12
Parking	None	None	None
Bicycle Lane / Shoulder (feet)	6	6	6
Tree Lawn / Landscape (feet)	8	8	8
Pedestrian Area / Sidewalk (feet)	6	6	8
Right-of-Way Width, minimum (feet)	100	100	100

Figure 7 Standard Minor Arterial in 80-foot right-of-way

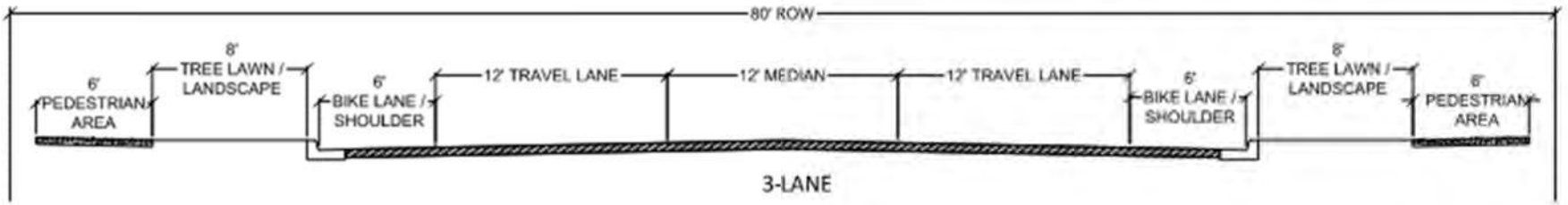
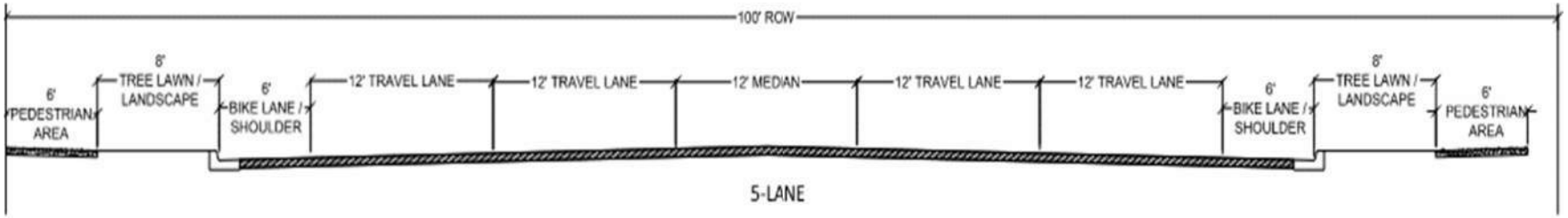


Figure 8 USC Standard Minor Arterial Cross Section



Each of the standards for Minor Arterial roadways in the UDC identifies 100 feet of right-of-way as the minimum. The numerous existing developments and utilities adjacent to Walterscheid, specifically from Fox Farm Road to College Drive limits the availability of easily obtaining additional rights-of-way, therefore, the alternatives considered are for improvements within the existing right-of-way. Incorporation of bike lanes in the paved shoulder area of the road as well as separated sidewalks are key components of complete streets. The tree lawn and landscape areas will provide flexibility at specific locations where the sidewalks need to be attached and widening of the roadway for auxiliary lanes. The tree lawn and landscape areas may also be utilized to address grade differentiations between the roadway and existing site elevations.

Existing Constraints

Numerous constraints existing along the corridor which limit the available for additional real property which may be obtained for public right-of-way.

Existing Right-of-Way and Development

Per information recorded on the various plats along the corridor the right-of-way is 80 feet, except for south of Deming Drive to Fox Farm Road, where it is 100-feet. Although additional rights-of-way may be obtained, existing residential development are in place in many locations. Utility, drainage, and other easements also pose constraints to widening the roadway and providing Complete Street features. Table 3 summarizes the easements recorded on plats that are available on the public domain via the Cheyenne and Laramie County GIS Cooperative; refer to the 35% design plans for noted stationing along the corridor.

Table 3 Summary of Rights-of-Way and Easements

Summary of Right-of-Way and Easement, per plats			
Stationing	**ROW**	**Easements identified on plats**	**Plats**
0+95 to 7+18	80’	Drainage Easement adjacent to west ROW line (irregular width southeast corner of school site) SCWSD Utility Easement for water and sewer into site	Rossman Elementary Allison Tracts, 2nd Filing
7+18 to 13+57	80’	30’ Pipeline Easement adjacent to west ROW line 10’ Drainage and Utility Easement adjacent to Pipeline Easement 16’ Drainage and Utility Easement into site (SE corner) 16’ Qwest Utility Easement with 10’ Pedestrian Access Easement into site aligned with Prosser Road	Harmony Meadows Harmony Meadows, 2nd Filing Allison Tracts, 2nd Filing
14+10 to 19+89	80’	30’ Pipeline Easement adjacent to west ROW 10’ Drainage and Utility Easement adjacent to Pipeline Easement Dedicated Detention Area west of road	Harmony Meadows, 2nd Filing Dorothy G Subdivision

		16' Utility and Drainage Easement adjacent to east ROW line	
20+44 to 26+77	80'	30' Pipeline Easement adjacent to west ROW 10' Drainage and Utility Easement adjacent to Pipeline Easement Dedicated Detention Area west of road	Harmony Meadows, 2nd Filing Valley View Estates
27+36 to 33+40	80'	No easements shown	Flo-M Subdivision see Note 1
33+66 to 42+75	80'	8' Utility Easement adjacent to east ROW line 50' Pipeline Easement adjacent to east ROW line, overlaps 8' Utility Easement Drainage Easement (irregular width) adjacent to Pipeline Easement	Gateway South, 2nd Filing Gateway South, 5th Filing Gateway South, 6th Filing see Note 2
43+55 to 46+06	80'	50' Pipeline Easement adjacent to east ROW line 26' Utility, Drainage, Access & Emergency Access Easement adjacent to 50' Pipeline Easement Drainage Easement into site, width varies	Gateway South 2nd Filing See Note 2
46+06 to 53+02	80'	50' Pipeline Easement adjacent to east ROW line 16' Drainage Easement, overlaps 50' Pipeline Easement, adjacent to ROW line Drainage Easement into site, width varies 36' Utility, Drainage, & Access Easement into site 100' US Department of Interior Easement into site, crossing Walterscheid	Leisher-Black Addition, 2nd Filing Gateway South 3rd Filing See Note 2
53+78 to 57+09	100'	50' Pipeline Easement adjacent to east ROW line 24' Utility Easement into site 40' Utility Easement into site 40' Utility Easement into site 16' Utility Easement into site, overlaps 40' Utility Easement	Garey Addition Spring Hill Addition See Note 3
60+32 to 69+50	Varies, See Note 4	10' Utility Easement, adjacent to west ROW line 60' ROW for West 3rd Street, with 10' utility easements on both sides 10' Sewer Line Easement adjacent to 10' Utility Easement (L6, B2, South Park, 6th) 20' BOPU Easement into site	South Park Estates, 6th Filing South Park Estates, 10th Filing Church Addition South Cheyenne Addition

Note 1: Property west of Walterscheid is not platted. Flo-M Subdivision refers to Block 7, Interior Heights Addition

Note 2: Property west of Walterscheid is noted as un-platted on Gateway South, 2nd, 3rd, and 6th Filing plats

Note 3: Both plats indicate 100' ROW, however east lot line of Lot 2, Block 1, Garey Addition provides for additional ROW, width varies

Note 4: South Park Estates, 6th Filing identifies 100' ROW. South Park Estates, 10th Filing identifies 60' ROW for Walterscheid. Church Addition does not identify a ROW width for Pioneer Avenue (previous road name). South Cheyenne Addition identifies 80' streets (Eddy Street was name prior to Pioneer)

Bridges

WYDOT owns and maintains three bridges constructed in 1966 that cross Walterscheid Boulevard: AZF (eastbound I-80), AZG (westbound I-80) and AZH (westbound on ramp onto I-80). Currently there is not a bridge deck survey available from WYDOT for any of the three bridge structures: The structure rehabilitation report completed by WYDOT staff, dated July 24, 2020, identifies rehabilitation work for all three bridge structures and associated infrastructure.

Greenway Underpass

The existing greenway underpass is a pre-cast concrete box with internal dimensions of 8 feet tall by 12 feet wide and located between Jefferson Road and Allison Road. The box is approximately 85.5 feet in length and is slightly askew from crossing under Walterscheid perpendicular. The floor of the box is sloped at approximately 1% to allow stormwater to drain out of the structure. To accommodate a wider complete road section, the box must be extended, and the headwalls removed and reconstructed at the new ends. Modifications to the greenway at the new ends are anticipated to provide appropriate transitions.

Residential Approaches

Numerous residences are currently accessed only from Walterscheid Boulevard. Driveways and parking areas appear to be deep enough such that vehicles are not parked within the right-of-way. One garage is only accessible from Walterscheid (105 Columbus Drive).

Existing Franchise Utilities

Numerous utility easements are in place adjacent to the right-of-way per the various plats. Although construction of improvements such as roadway, sidewalks, greenway, etc. may be possible, there is a risk of financial obligation on the public entity, rather than the utility owner, for repairing and/or replacing these improvements when work is completed on the respective utility. Existing utilities are both overhead and buried within the project area.

Electrical Towers

Two large electrical transmission towers are located west of the roadway. One is located just north of the greenway underpass (approximate station 39+50) and the other is located south of the alley south of Leisher-Black Addition, 2nd Filing (approximate station 50+00). These towers are enclosed in 6-foot chain link fencing topped with barb wire. The south tower appears to be completely out of the right-of-way; the base of one leg of the north tower and some of the fencing appear to be encroaching into the right-of-way. Easements were granted for the transmission lines and appurtenances. Copies of these easements and WAPA guidelines are included in the appendix of this plan.

BOPU

Various items associated with the water and sanitary sewer systems owned and operated by BOPU within the project corridor will need to be adjusted. This will include the removal and replacement of identified fire hydrants, adjusting valves boxes, meter pit lids, and manholes to the new finished surface.

SCWSD

Modifications to the water system owned and operated by SCWSD within the project corridor will be necessary. Some fire hydrants will need to be removed and replaced due to conflicts with the proposed roadway, sidewalk, and greenway improvements. Vertical adjustments to some water lines may be necessary due to anticipated conflicts with the proposed improvements to the stormwater network.

Traffic Safety Analysis

Data was provided from the MPO for reported crashes, observed speeds, traffic counts and turning movements, current traffic volumes, and forecasted traffic volumes. The intersections included in the analysis included Deming Drive, Fox Farm Road, Jefferson Road, Allison Road, Prosser Road, and College Drive. Local roads were not included.

Reported intersection crash data was provide for a five-year period from 2016 through 2020. The intersection with Allison Road shows an elevated angle crash pattern and two incidents with pedestrians/bikes. These are the only crashes with pedestrians/bikes reported along the corridor. The limited sight distance southbound along Walterscheid may be contributing to crashes. At Fox Farm Road the majority of crashes were angle, indicating drivers may be unfamiliar with the all-way stop condition at the intersection. At the College Drive intersection rear-end crashes are consistent with signalized intersection patterns, however, insufficient roadway striping may be contributing to sideswipe incidents.

Speed data was collected in the spring of 2021. The posted speed limit between Deming Drive and Fox Farm Road is 30 MPH, the speed limit between Fox Farm Road and College Drive is 35 MPH. A 20 MPH school zone is present at Rossman Elementary, when flashing. Southbound traffic was observed to be between 5 and 10 MPH over the posted limit between Deming Drive and Allison Road and at or below the posted speed from Allison Road to College Drive. Some northbound traffic between Deming Drive and Fox Farm Road was observed to be more than 10 MPH over the posted speed limit, and speeds were noted to be less than 5 MPH over the posted speed from Fox Farm Road to College Drive.

Existing traffic volumes were collected for the morning, mid-day, and afternoon peak hour traffic volumes. The corresponding level of service and volumes during peak hours at the six intersections range from A to E are shown in Figure 9.

Forecasted traffic volumes for 2045 show a significant increase to the daily counts. Figure 10 shows the forecasted volumes and corresponding levels of service if no actions are taken to improve Walterscheid Boulevard or any of the intersections along the corridor study area. The full transportation operations report is included in Appendix E of this plan. The recommendations from this report identify improvements for the six intersections of this study. Figure 11 shows the forecasted volumes and corresponding levels of service associated with the proposed improvements.

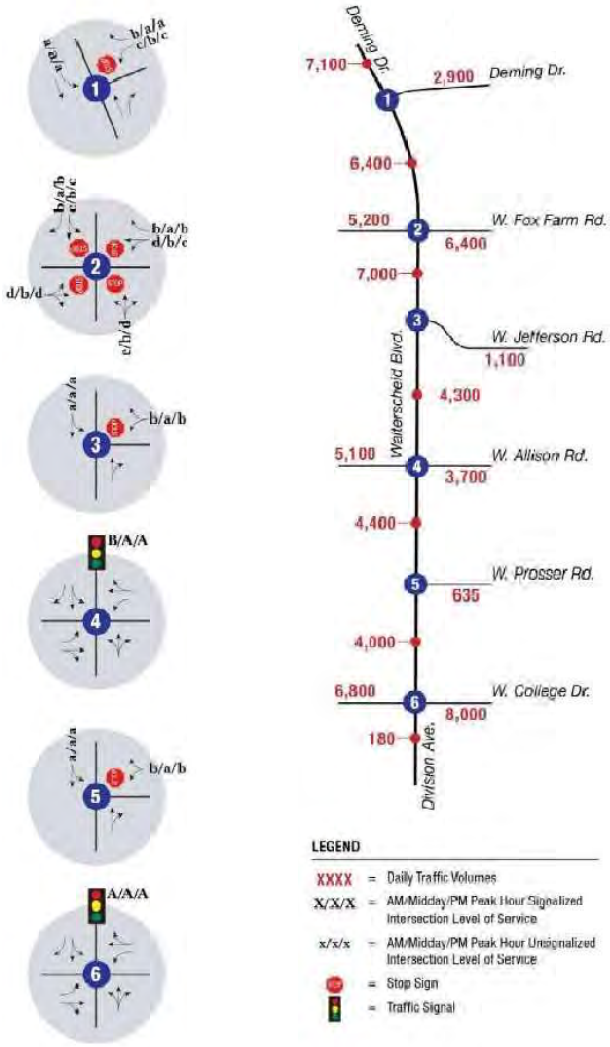


Figure 9 Current Traffic Volumes and Operations

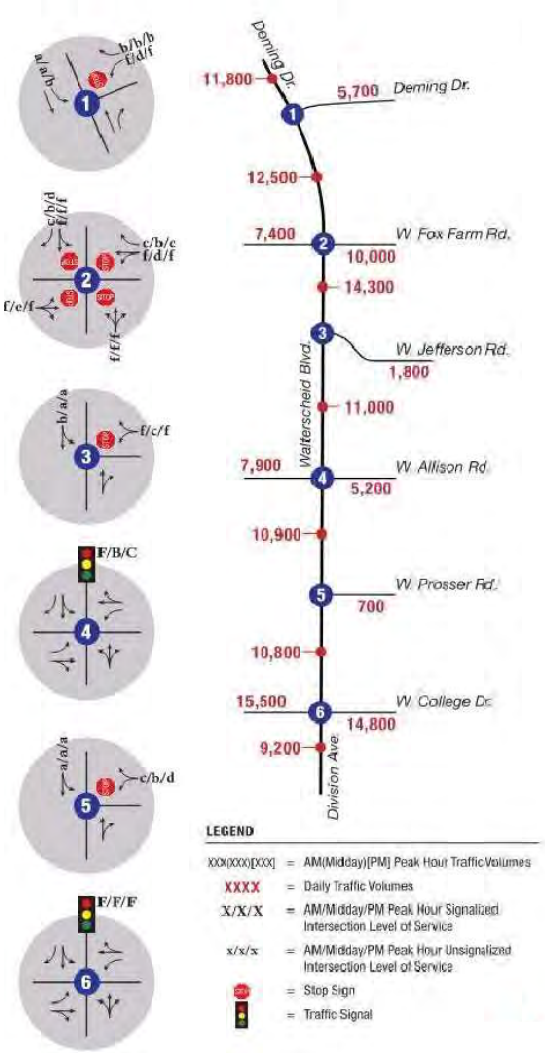


Figure 10 Forecasted 2045 Traffic Volumes and Operations without Improvements

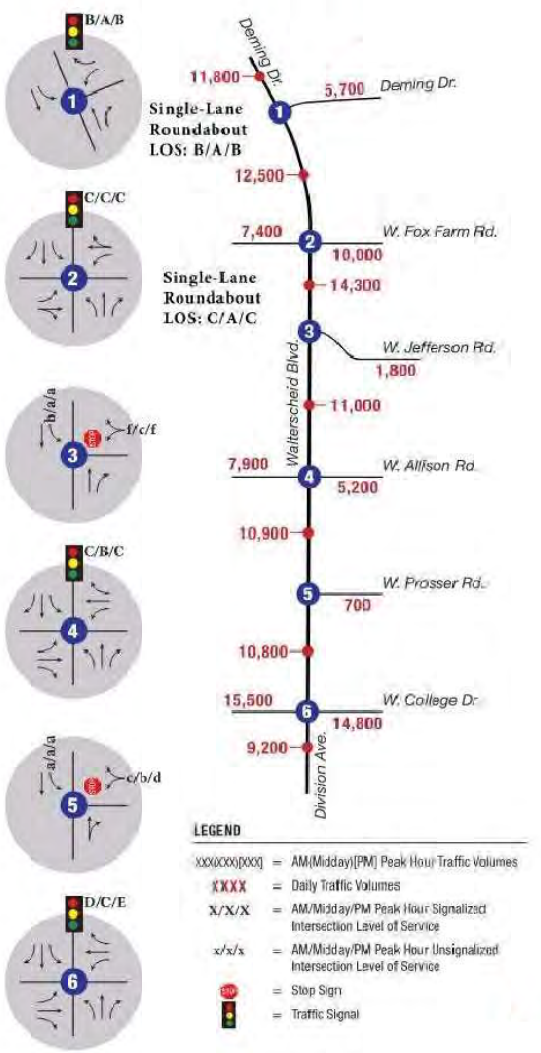


Figure 11 Forecasted 2045 Traffic Volumes and Operations with Improvements

Drainage Analysis

Stormwater drainage was analyzed along the corridor from Fox Farm Road to College Drive, which is within the Allison Draw Drainage Basin. No known stormwater drainage issues were noted in the system between Fox Farm Road and Deming Drive, therefore that portion was excluded from this plan. The system was modeled using Storm Water Management Model (SWMM), version 5.1.015 for the drainage basin existing conditions and with the proposed improvements to the roadway following the guidelines described in the UDC.

There is adequate capacity within the Allison Draw channel directly east of the project area for the stormwater discharge from the road corridor and the adjacent sub-basins. Constraints include insufficient conveyance capacities for outfalls to the Allison Draw channel. Existing drainage issues are noted at the Harmony Meadows subdivision (southwest of Walterscheid Boulevard and Allison Road), inflow into the detention pond at Tri-State (WAPA sub-station), and the northern end of the property at 200 Walterscheid Boulevard (Wyo-Fresh).

Discharges at outfall locations were modeled for 100-year events with existing conditions, additional discharges will be model for 10-, 25-, and 50-year events. Modeling was completed with the incorporation of final roadway sections, sidewalks, and other features that alter the permeability of the soil and conveyance of stormwater.

The design for the stormwater improvements would mitigate historic runoff patterns. Additionally, to provide cost-efficient recommendations, and to the extent possible, the stormwater analysis for the proposed conditions includes incorporation of existing infrastructure to detain and convey stormwater for a 100-year event. Storage volumes at two sites will be reduced due to the proposed improvements. There will be an increase to the discharge to the Allison Draw Channel, however this will be offset by the elimination of drainage issues within the corridor.

The proposed storm water detention and conveyance features will be recommended, such as piping, inlets, outfalls, and culverts are shown on the 35% design plans. The full Storm Drainage Study associated with this corridor is included in Appendix F of this plan.

Recommendations

Based on the analysis of future conditions and constraints the recommended improvements are summarized in Table 4 for Walterscheid Boulevard between Deming Drive and College Drive. These recommendations are for the roadway, intersections and approaches, facilities for complete streets, stormwater drainage, and utility modifications. These recommendations should be used as the template for future development and redevelopment along the corridor.

Table 4 Recommendations

Recommendations			
Feature	**Standard and Alternatives**	**Recommendation**	**Justification / Notes**
Road Section	5-lane 3-lane	3-lane, obtain additional rights-of-way with future development and re-development.	Significant conflict and disturbance with numerous residential properties for 5-lane section. Use available right-of-way. 3-lane is supported by forecasted traffic volumes.
Road Section at I-80 Bridges	3-lane	2-lane, no center turn. Install concrete barriers at back of curb to protect pedestrians and bridge columns.	No need for center turn lane at this location. WYDOT is not planning to replace bridges in current programming schedule timeframe.
College Intersection	Additional Auxiliary Lanes	From Walterscheid: Eastbound Left Turn, Southbound Thru, and Westbound Right Turn. From Division: Eastbound Right Turn, Northbound Thru, and Westbound Left Turn. Remove and replace one signal pole at northwest corner of intersection.	Coordinate lane alignments with Division Avenue project. Adjust striping on College.
Prosser Intersection	Additional Auxiliary Lane	Southbound Left Turn in median.	
Allison Intersection	Additional Auxiliary Lanes	From Walterscheid: Left Turn, Thru, Right Turn for northbound and southbound. From Allison: Left Turn, Thru, Right Turn for eastbound and westbound. Remove and replace signals to accommodate auxiliary lanes.	Lane lengths as shown on plans.
Jefferson Intersection	Additional Auxiliary Lanes Signalization	Northbound Right Turn, Southbound Right Turn in median.	

Fox Farm Intersection	Additional Auxiliary Lanes Signalization Roundabout with pre-emption Roundabout with Improvements and pre-emption	Roundabout with pre-emptive signal on west leg for eastbound traffic, and auxiliary right turn for eastbound from south leg.	Numerous conflicts with various utilities for signal pole locations. See decision matrix for additional information.
Deming Intersection	Additional Auxiliary Lanes Signalization Roundabout	Roundabout.	Signalization is not warranted. May maintain current stop condition for westbound, but recommend further study following completion of 5th Street Bridge project. Create cul-de-sac on 4th Street.
Additional Rights-of-Way	100-foot 80-foot	Build within 80', with additional as needed. Obtain additional, on each side, during development process.	See Cost Estimate for summary.
Bike Lane	On-Street, 6-ft, each side	6-ft, both sides, include on-pavement stencils.	Meets the recommendation from On-Street Bicycle Plan and Greenway Plan Update
Curb and Gutter (City Standard)	Type A (vertical)	Type B (rollover), east side from Alley north of Flo-M Subdivision to Dot Ray Place and from Prosser to College Drive. Type A at all other locations.	Due to numerous residential approaches and ease of constructability.
Tree Lawn / Landscape	8-ft, each side	Reduce on east side to fit Greenway into section Reduce at intersections to meet auxiliary lanes. None on either side at bridge.	Limited available for additional rights-of-way and conflict with bridge columns.
Sidewalk and Greenway, College to Fox Farm	6-ft, each side	6-ft on west side. 10-ft on east side.	Existing greenway is on east side. Attach sidewalk to back of curb near the WAPA tower.
Sidewalk and Greenway, Fox Farm to Deming	6-ft, each side	10-ft on west side, adjust as necessary as I-80 bridges, protect pedestrians at bridges. No sidewalk on east side.	WYDOT is not planning to replace bridges anytime soon.
Crosswalks	MUTCD Standard	At intersections and mid-block at Rossman Elementary School.	Improve pedestrian safety.
Residential Approaches	Rebuild at existing locations Combine Relocate	Verify which approaches can be combined later. Consider relocating approaches to alley for Flo-M subdivision if possible.	Due to overall project timing, this should be finalized later (65% plans).

Stormwater Drainage	UDC and City of Cheyenne Standards	Install approximately 1,310 LF 24-inch and 580 LF 36-inch storm sewer pipe, 50 LF of slotted drain,17 inlets, inlet lateral piping, 11 manholes, one junction box, and one conflict box.	Convey stormwater to the Allison Channel.
Water System (BOPU)	BOPU Standards	Adjust existing features to new finished grade.	
Sanitary Sewer System (BOPU)	BOPU Standards	Adjust existing features to new finished grade.	
Water System (SCWSD)	SCWSD Standards	Adjust existing features to new finished grade. Remove and replace select fire hydrants. Vertically adjust water mains due to storm sewer conflicts.	
Streetlights	City and Black Hills Standards	Install streetlights where missing.	

No on-street parking is allowed for minor arterial roads and is not recommended at any location along this corridor. Additional signage to prevent on-street parking may be necessary, particularly near Rossman Elementary School and higher-density residential areas. The existing flashers and cross section located mid-block near Rossman Elementary School shall be maintained with any improvements to the roadway.

At College Drive, the alignment of lanes will need to be coordinated with the Division Avenue improvement project. Adjustments to lane widths and landscape areas may be considered to better align the travel lanes with the future construction of Division Avenue.

At Fire Station No. 2 it is recommended the current access east of the building be closed and removed and a new access be constructed west of the building. The new access will adversely impact some of the existing on-site parking, therefore, further coordination with Cheyenne Fire and Rescue staff will be necessary to provide appropriate modifications based on this recommendation.

A boundary survey should be completed by a licensed professional land surveyor for the full length of the corridor to verify and certify the right-of-way and location of easements. Utility, drainage, access, and other easements that are no longer needed or in-use should be vacated. All of the Walterscheid Boulevard right-of-way should be incorporated into the City of Cheyenne to reduce confusion regarding jurisdictional limitations of various entities, specifically the east half of the roadway between College Drive and Allison Road.

Any development or redevelopment of properties adjacent to Walterscheid Boulevard should comply with the recommendations of this plan as a part of the entitlement and approval processes associated with access and off-site improvements.

Interim improvements may be made prior to full reconstruction of Walterscheid Boulevard to a three-lane minor arterial roadway.

- White edge striping for all travel lanes
- Delineation of a turn lane (either right or left) onto College Drive
- Install detached 6-ft sidewalk on the west side from Fox Farm Road to north of Rossman School at the ultimate build-out location
- Development and redevelopment of properties adjacent to Walterscheid should include appropriate improvements of the recommendations
- Adjust speed limits
- Complete a boundary survey
- Obtain additional rights-of-way

A phased approach to parts of the corridor, rather than full-build under one contract may also be considered. This may include the following:

- Fox Farm Road intersection (highest priority)
- Install Greenway (medium priority)
- Deming Drive intersection (low priority)

Cost Estimate

Construction Costs

A cost estimate to construct the recommended improvements is for the full project at one time, under one contract is shown in Table 5. This table also includes a breakout estimate for the improvements at the Fox Farm Road intersection at Walterscheid Boulevard, if constructed separate from the remainder of the corridor. Quantities are based on the 35% Design Plans included in Appendix B and detailed itemization is included in Appendix C.

Table 5 Engineer's Estimate of Probable Costs

Engineer's Estimate of Probable Costs			
Description	**Construction Cost**	**Right-of-Way Cost**	**Estimated Total**
Walterscheid Boulevard, full project	$ 6,624,350	$ 121,014	$ 6,745,364
Fox Farm Road Intersection as Roundabout	$ 889,021	$ 15,408	$ 904,429

The *City of Cheyenne and Board of Public Utilities Construction Specifications and Standard Drawings*, 2014 Edition was used for pay items, units, and estimated costs. For pay items not identified in the standard specification, or where non-standard measurement is noted in the estimate, written special provisions to the standard specification will be required for incorporation into the bid and contract documents.

Estimates for engineering, surveying, geotechnical investigations, and other professional services are not included in the cost estimates for the improvements. Additionally, it appears all utilities that may be in conflict with the improvements are in public right-of-way, therefore, it is assumed there will be no direct cost to the project owner if those items need to be removed, relocated, or adjusted. No inflation rate is included, and adjustments should be made for work completed in the future. Unit prices are based on data from other projects bid and engineering judgement.

Right-of-Way Costs

Although the recommendati
on for the corridor is to use the existing right-of-way, rather than obtaining
the full 100-foot right-of-way that is standard in the UDC, additional rights-of-way will be needed to properly construct the proposed improvements. Table 5 summarizes the additional property that will be needed based on the 35% design plans and includes and estimated costs. It is assumed the City of Cheyenne will take the lead for final designs and construction and therefore funds will not be exchanged for the city-owned parcels (9 and 12). Areas should be finalized with the final design plans and costs should be negotiated with specific property owners based upon industry standards.