May 2015

US 160 Access Study
Town of Bayfield

Town of Bayfield Colorado

COLORADO Department of Transportation

La Plata County Colorado

Stolfus

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Town of Bayfield

May 2015

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ACP	Access Control Plan
ADT	Average Daily Traffic
ATR	Automatic Traffic Recorder
CDOT	Colorado Department of Transportation
CR	County Road
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
IGA	Intergovernmental Agreement
MP	Mile Point
mph	Miles per hour
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
ROD	Record of Decision
STIP	Statewide Transportation Improvement Program
US	United States Highway
v/c	Volume-to-Capacity ratio

Glossary

¾ Movement Access - An access that is configured to accommodate partial movements (i.e. left-turn in or out, right-turn in, and right-turn out)

Access – Any driveway or other point of entry and/or exit such as a street, road or highway that connects to the general street system

Access Category – one of eight categories described in Section Three of the State Highway Access Code, determining the degree to which access to a state highway is controlled

ACP – A plan which designates access locations and levels of access for the purpose of bringing those portions of roadway included in the planning area into conformance with the highway functional classification to the extent feasible

Access Management – Systematic control of the location, spacing, design, and operation of driveways, median openings, and street connections to a roadway

Access Permit – Means by which access improvements are reviewed, approved and constructed in accordance with the State Highway Access Code

Average Daily Traffic Volume (ADT) – The total 24-hour volume of vehicular traffic at a particular location measured in vehicles per day

Driveway – An access that is not a public street, road, or highway

Full Movement Access – An access without turn restrictions

Functional Intersection Area – The area beyond the physical intersection of two controlled access facilities that comprises decision and maneuver distance, plus any required vehicle storage length, and is protected through corner clearance standards and connection spacing standards

Intergovernmental Agreement (IGA) – A legally-binding agreement between two or more governmental agencies

Issuing Authority – The entity responsible for issuing access permits for a segment of state highway. The board of county commissioners, the governing body of a municipality, or the department of transportation may be the Issuing Authority.

Volume-to-capacity ratio (v/c) – A calculated measure indicating the quality of traffic operations by comparing the volume of traffic demand for an intersection or specific vehicle movement to the maximum amount that can be accommodated.

Median – That portion of a highway separating opposing traffic flows

Right-in, Right-out Access – An access that is configured to accommodate only right-turns in and right-turns out

Right-of-way (ROW) – The entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel

State Highway Access Code – A manual containing the access regulations that apply to state highways within Colorado

Turning Movement Count – A tally of the number of vehicles turning left, right, or traveling through an intersection, usually reported for a one-hour time period

Executive Summary

US 160 serves as the most prominent east-west regional transportation route for southern Colorado. In October 2006, the Federal Highway Administration (FHWA) issued a Record of Decision (ROD), concluding the Environmental Impact Statement (EIS) process for approximately 16 miles of improvements on US 160 from Durango to just east of Bayfield. Subsequently, in 2013 the Town of Bayfield and CDOT collaborated, in cooperation with La Plata County, to develop an Access Control Plan (ACP) for US 160 between Gem Lane and the Town's eastern limits at approximately Mile Point 103.82. The intent of this plan was to address recent and anticipated growth in the area while maintaining alignment with project goals agreed upon by the partners. The ACP for US 160 was prepared with consideration of the previous ROD and current conditions.

The Colorado Transportation Commission assigns a category to each state highway segment within Colorado. US 160 from MP 100.3 to MP 103.8 is categorized E-X: expressway and major bypass. This segment of US 160 falls under a combination of Town of Bayfield and La Plata County jurisdiction. Land use within the project limits is predominantly rural residential and agricultural outside of the urbanized areas of the Gem Village and Bayfield. There are currently 39 full movement access points on US 160 within the study area.

Since no development plans had been submitted to the Town or County at the time of traffic forecasting, a generalized traffic growth rate consistent with both the EIS and current CDOT estimates was applied to determine traffic volumes at the 2035 planning horizon. Localized growth is included in this estimate, but it is recognized that development of various magnitude may occur at multiple locations within the corridor. An aggressive local growth scenario focused on the US 160/Bayfield Parkway (West) intersection was analyzed in the 2013 *US 160 Traffic Feasibility Study*. Similar growth projections are not likely to occur across the entire corridor within the 20-year planning horizon.

These future traffic estimates were used in conjunction with highway engineering principles to form a draft ACP. Access for parcels located between major intersections was either limited or provided via a local road. In cases where multiple access points serve a single ownership, access was reduced to one per ownership. Shared access between parcels was maintained to the extent feasible.

The draft ACP was then presented at multiple public open houses. Attendees consisted of corridor stakeholders including property owners, tenants, potential developers and the general public. Improvements incorporated into the Plan based on public comments include a new connection to the future US 160 alignment with CR 507 instead of Homestead Drive along with modifications to conditions at specific access points. The ACP provides that access to specific properties will not be closed without alternative access to the public street network.

Once the ACP was refined through the public process, a compatibility index was used to determine whether established project goals were met. This evaluation was conducted using a simple rating system identifying the ACP's treatment of each objective as favorable, neutral or unfavorable. Overall, the ACP rates favorably by improving upon the "no ACP" alternative for nine of the seventeen criteria evaluated. ACP adoption by the three entities (Town of Bayfield, La Plata County, and CDOT) is recommended along with execution of a three-way Intergovernmental Agreement (IGA).

1.0 Introduction

1.1 Project Background

United States Highway 160 (US 160) serves as the most prominent east-west regional transportation route for southern Colorado. The highway enters the southwest corner of the state and continues on to Interstate 25. After jogging to the south along the interstate, US 160 continues east across the border with Kansas. In southwest Colorado, US 160 is the primary connection between communities such as Cortez, Durango, Pagosa Springs, and Alamosa. The Colorado Department of Transportation (CDOT) is responsible for managing the highway throughout the state.

Shown in Figure 1, the Town of Bayfield is located along US 160 in La Plata County. The Town's western limit crosses US 160 at approximately the Pine River. The eastern limit crosses US 160 at

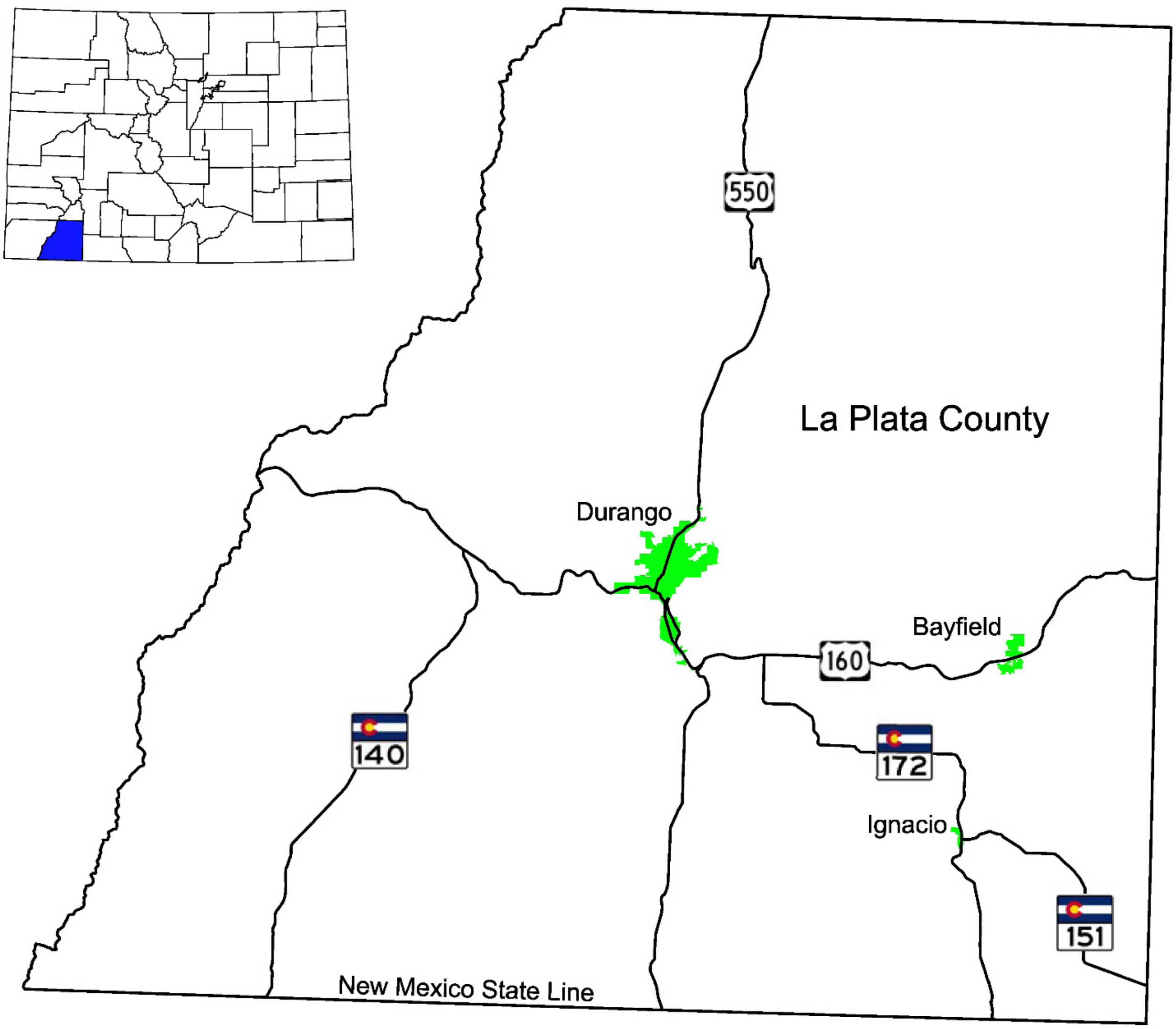


Figure 1. Vicinity Map

approximately Mile Point (MP) 104.

In October 2006, the Federal Highway Administration (FHWA) issued a Record of Decision (ROD), concluding the Environmental Impact Statement (EIS) process for approximately 16 miles of improvements on US 160 from Durango to just east of Bayfield.

Specifically, the ROD states that the purpose of the project was to:

- *Increase travel efficiency/capacity to meet current and future needs*
- *Improve safety for the traveling public by reducing the number and severity of accidents*
- *Control access*

Subsequently, in 2013 the Town of Bayfield and CDOT collaborated, in cooperation with La Plata County, to develop an Access Control Plan (ACP) for US 160 between Gem Lane (MP 100.30) and the Town's eastern limits at approximately MP 103.82 to address recent and anticipated growth in the area. The ACP for US 160 was prepared with consideration to the previous ROD and current conditions.

The purpose of this study effort is to coordinate anticipated growth with the transportation needs of the local community and traveling public. The specific goals for the ACP project are as follows:

- *Provide safe, effective, and efficient travel for traffic on US 160.*
- *Provide a safe, effective and efficient access to and from US 160 for businesses, residents, and emergency responders.*
- *Maintain compatibility with existing and proposed off-highway circulation routes*
- *Provide a plan that can be implemented in phases.*
- *Support economic viability of the project area.*
- *Maintain compatibility with the intent of previous planning efforts.*
- *Identify locations and level of access for existing and future highway intersections that balance state and local transportation planning objectives.*
- *Provide a plan that is adoptable by all entities through a respectful and collaborative partnership.*

This report summarizes the study process, analysis, findings and recommendations for access modifications within the US 160 corridor.

1.2 Project Coordination

The project area falls within the jurisdictional boundaries of both the Town of Bayfield and La Plata County. Operations and maintenance of US 160 are managed by CDOT – Region 5. The process was a cooperative effort between the three entities.

The primary project team for the development of the ACP consisted of representatives from the Town of Bayfield, La Plata County and CDOT – Region 5, Traffic and Safety Departments. Coordination with local elected officials and project stakeholders, including property owners, tenants, developers and the general public is described in the next section.

1.3 Public Involvement

Input from corridor stakeholders, including property owners, tenants, potential developers and the general public was a critical element of the project. Multiple techniques were used to engage stakeholders including a presentation to the Town Board, advertised public open houses, acceptance of written comments, and development of direct response letters to individual comments.

The Draft ACP was initially presented to the Bayfield Town Board in an open work session held on July 15, 2014. Multiple public open houses were held at Bayfield Town Hall to present and discuss the recommended Draft ACP for US 160, review access management principles, and gather public input on the draft plans. The first meeting was held on August 14th, 2014. Follow-up public open houses with focuses on Gem Village and Commerce Drive areas were held on September 18, 2014 and October 23, 2014, respectively. A final public open house covering the entire revised Draft ACP was held on December 4th, 2014.

Notifications of the open houses were mailed to the property owners adjacent to the highway via US mail. Additional notifications were sent to business owners and residents in Gem Village and along Commerce Drive for the open houses specifically regarding those locations. Announcements for the open houses were also published in the Durango Herald and/or Pine River Times newspapers to provide community-wide notification of the project.

Exhibits presenting access management principles, the study process, and the recommended draft ACP were displayed at the public open houses. Formal presentations with question/answer opportunities were held at the August and December open houses. Open house exhibits were publically available on the Town of Bayfield website. Comment sheets were available at meeting and online to allow attendees to raise concerns and ask questions. Twenty three people signed in at both the August and December open houses. Open House sign-in sheets, submitted comment sheets, and comment response letters can be found in Appendix A.

2.0 Access Management – Benefits, Principles and Techniques

As defined in the *Access Management Manual* published by the Transportation Research Board, "Access management is the systematic control of the location, spacing, design and operation of driveway median openings, and street connections to a roadway." Access management along Colorado State Highways is generally administered by CDOT on a case by case basis, as prescribed in the *State of Colorado State Highway Access Code.* Per Section 2.12 of the Access Code, CDOT or a local authority may develop an ACP for a segment of highway that defines access locations, level of access and traffic control for future conditions. Developing an ACP provides CDOT and the local authorities with the opportunity to develop a single transportation plan that considers multiple access points along a segment of highway as a roadway network rather than as individual access points. Corridor-specific issues such as intersection spacing, traffic movements, circulation, land use, topography, alternative access opportunities, and other local planning documents may be considered in developing an ACP. The ACP does not define capacity improvements, off-network improvements, or funding sources for access improvements. However, local governments often consider off-network improvements for their communities in conjunction with an ACP. The ACP is a long-range planning document that identities access conditions that will be implemented as highway and land-use characteristics change. ACPs for State Highways are adopted by executing an Inter-Governmental Agreement (IGA) between CDOT and the local authorities.

2.1 Access Management Benefits

Access management provides the means to balance mobility along the highway with local access needs. Implementation of access management principles and techniques on State and local transportation networks can provide the following long-term benefits for highway users, residents, and businesses:

Safety - Fewer conflict points result in a reduced number of crashes.

Traffic capacity – Improves conditions for highway through traffic by strategically identifying locations for vehicles to enter and exit the corridor.

Property values and the economic viability - Provides a more predictable and consistent development environment

Encourages development of local streets - Allows traffic to access local amenities without using the highway, thereby providing improved circulation and reduced volumes on the highway.

2.2 Guiding Principles

Access management centers around limiting and consolidating access along major roadways and focusing access for development on a supporting local street network and circulation system. The following guiding principles to access management were applied in the development of the ACP for US 160:

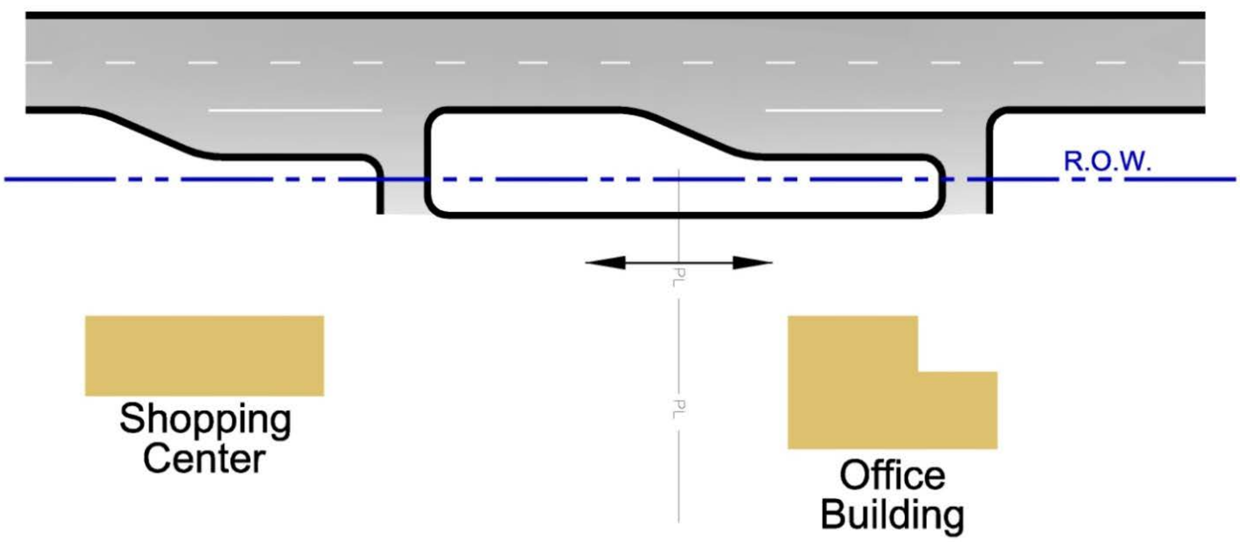
- Limit the number of direct access points to major roadways
- Locate signals and intersections to favor through movements
- Minimize the number of locations where vehicles merge, split, or cross
- Remove turning vehicles from through traffic lanes
- Provide a supporting local street network and circulation system

2.3 Techniques

Several access management techniques, illustrated below, may be used to achieve the principles outlined above and to realize the benefits of access management along US 160

2.3.1 Principle: Limit the number of direct access points to major roadways

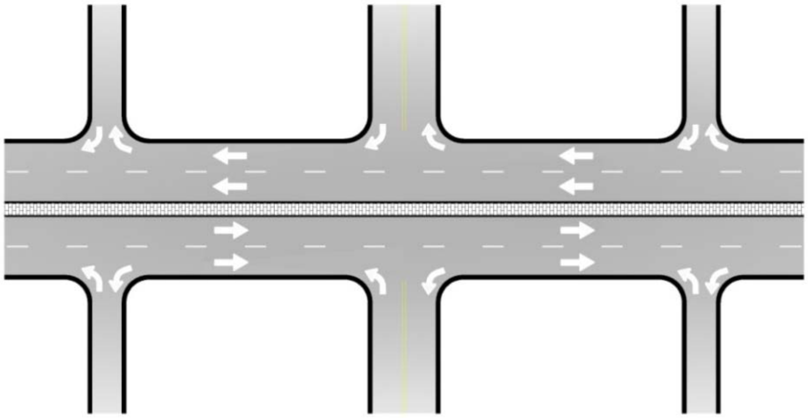
Technique: Connect Adjacent Properties



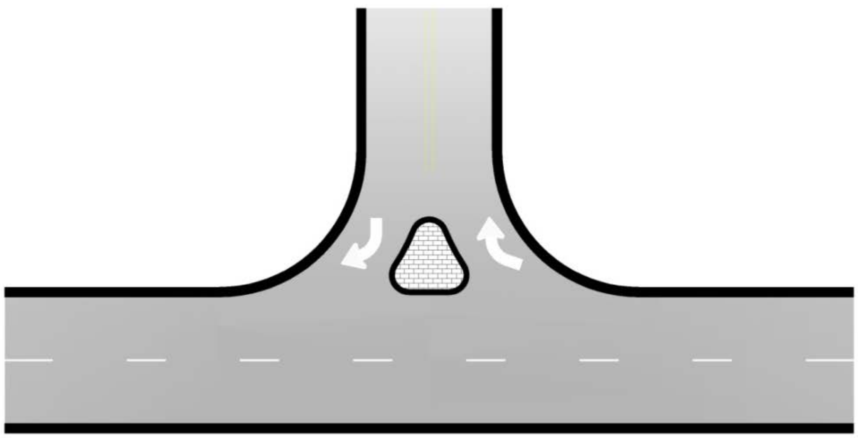
Connect adjacent properties to provide circulation between properties and increase access opportunities for multiple properties.

2.3.2 Principle: Minimize locations where vehicles merge, spilt or cross

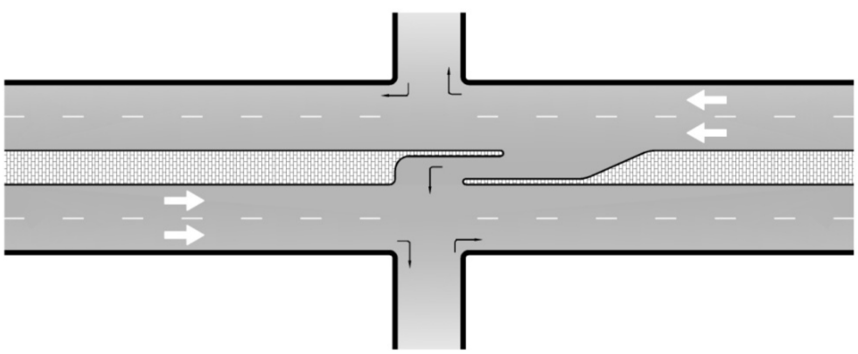
Technique: Install Medians and Islands



Right-in/right-out with raised median eliminates left turn movements between major intersections throughout a corridor.



Right-in/right-out with channelizing island eliminates left turn movements at individual access points.



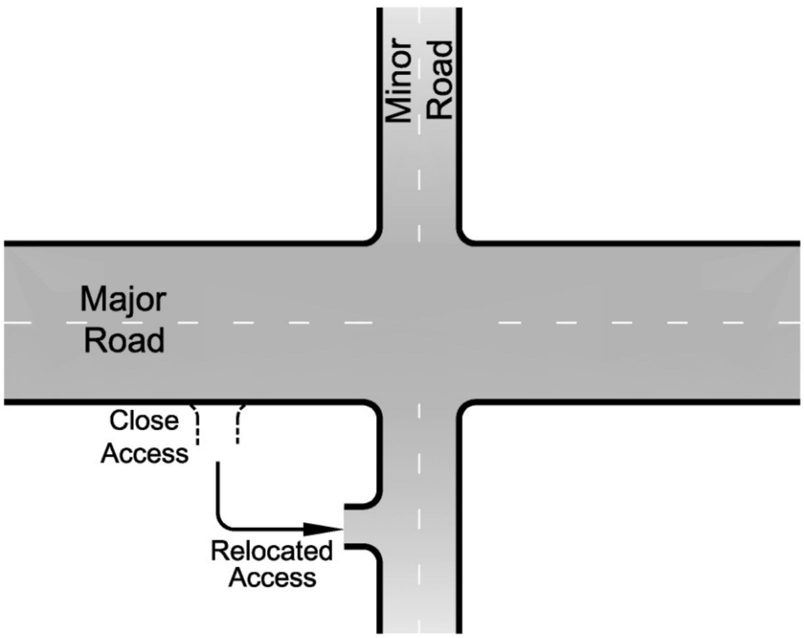
Directional median opening or a ¾ movement limits left turn movements to one direction at strategic locations where increased access is beneficial for safety or operational reasons.

2.3.3 Principle: Provide a supporting local street network & circulation system

Technique: Provide Cross Street Access

Relocate access to a side street to:

- Reduce the number of direct access points to the major roadway.
- Provide safe and easy access to a minor roadway intersection with the major roadway.
- Provide opportunities to use an alternate local route, thereby avoiding use of the major roadway completely.



3.0 Existing Conditions

3.1 Land Use Characteristics

The study area encompasses approximately 3.5 miles of State Highway that falls under a combination of the Town of Bayfield and La Plata County jurisdiction. Land use within the project limits is predominantly rural residential and agricultural outside of the urbanized areas of the Gem Village and the Bayfield. Gem Village is part of unincorporated La Plata County and is located at the western edge of the project. In this area, both commercial and single family residential land uses access the highway via the adjacent frontage roads. Within the town limits of Bayfield, residential land use with some commercial properties exist adjacent to the highway. Limited agricultural use also exists within the town boundary.

3.2 Highway Characteristics

The posted speed limit on US 160 ranges from 60 miles per hour (mph) at the east end of the project to 45 mph through the Town of Bayfield. Approximate locations of speed limit changes within the study area are summarized in Table 1 and Table 2.

Table 1. Eastbound Speed Limits

Approximate Reference Point	Approximate Location	Eastbound Speed Limits (MPH)
100.30-100.84	Gem Lane to 400 feet east of US 160 Frontage Roads at the east end of Gem Village	50
100.84-102.43	400 feet east of US 160 Frontage Roads at the east end of Gem Village) to 1,070 feet east of CR 502	55
102.43-103.20	1,070 feet east of CR 502 to 560 feet east of Commerce Drive	45
103.20-103.72	560 feet east of Commerce Drive to 500 feet east of Bayfield Parkway (East)	55
103.72-103.82	500 feet east of Bayfield Parkway (East) to 1,520 feet east of Bayfield Parkway (East)	60

Table 2. Westbound Speed Limits

Approximate Reference Point	Approximate Location	Eastbound Speed Limits (MPH)
103.82-103.50	1,520 feet east of Bayfield Parkway (East) to 500 feet east of Bayfield Parkway (East)	60
103.50-103.21	500 feet east of Bayfield Parkway (East) to 560 feet east of Commerce Drive	55
103.21-102.65	560 feet east of Commerce Drive to 1,070 feet east of CR 502	45
102.65-100.95	1,070 feet east of CR 502 to 400 feet east of US 160 Frontage Roads at the east end of Gem Village	55
100.95-100.30	400 feet east of US 160 Frontage Roads at the east end of Gem Village to Gem Lane	50

The horizontal alignment of US 160 from MP 100.3 to MP 103.8 is generally straight with the exception of two gradual curves, one at MP 101.4 and one at MP 101.8. The elevation profile along this segment of highway is gradual enough to not impede sight distance at any locations. However, the roadside cut slope at MP 102.2 limits sight distance for County Road (CR) 502.

From MP 100.3 to MP 102.6 the highway is undivided with one travel lane in each direction. A westbound passing lane also exists from MP 101.9 to 102.2. At MP 102.6,the highway enters the Town of Bayfield and a raised median is introduced along with auxiliary lanes for the signalized intersection at CR 501. The raised median ends at MP 103.0, however auxiliary lanes are in place at the unsignalized Commerce Drive intersection (MP 103.1).

3.3 Access Category

Section Three of the State of Colorado State Highway Access Code establishes a system of eight highway categories for the purpose of defining the level of access for a highway segment based on the intended function of that segment. The Colorado Transportation Commission assigns a category to each state highway segment within Colorado. US 160 from MP 100.3 to MP 103.8 is categorized E-X: expressway and major bypass.

According to Section 3.7 of the Access Code, the major control characteristics of a highway segment of Category E-X are as follows:

- Provide for interstate, interregional, intra-regional, and intercity travel needs and to a lesser degree, some intracity travel needs. Direct access service to abutting land is subordinate to providing service to through traffic movements.
- Typical spacing of intersecting streets, roads and highways shall be on intervals of one mile. One-half mile spacing of public ways may be permitted to the highway if no reasonable alternative access to the general street system exists.
- No access to private property may be permitted unless reasonable access cannot be obtained from the general street system.
- When allowed, auxiliary turn lanes shall be installed according to the criteria listed by the Access Code.
- Private direct access should be prohibited to any state highway, unless specifically categorized.
- No additional access rights shall accrue, and no additional access shall be provided upon the splitting or dividing of existing parcels of land under the same ownership.
- All access provided shall be done so with the understanding that if the highway is reconstructed, the direct access location may be closed and alternative access may be required by other available means.
- Signals for cross-streets of lesser importance do not need to be optimized equally with streets of greater importance.

3.4 Existing Access Inventory

There are currently 39 access points on US 160 within the study area. All existing access points are full movement. 15 of the access points provide field access, 4 provide business access, 14 provide public road access, 1 provides private road access and 7 provide residential access. Approximately 23% of the existing access points are within or abutting Town of Bayfield limits.

For the purpose of identifying the location of access points for this plan, all access points are defined by the approximate reference point (in hundredths of a mile) shown in the 2013 CDOT Windshield for Route 160A. All access points are located at the approximate centerline of the access (+/- 50 feet). A complete inventory of existing access points is provided in Appendix B.

The following provides a description of the accesses by type:

Public Road Signalized (PRS) – Full movement, signal-controlled intersection providing direct access to a publicly owned roadway. Buck Highway (CR 521) and CR 501 are classified as PRS access points.

Public Road Unsignalized (PRU) –Full movement, stop-controlled intersection providing direct access to a publicly owned roadway. The PRU access points in the study area include the following public streets:

- Gem Lane
- US 160 Frontage Road (South) (MP 100.376)
- CR 507
- US 160 Frontage Road (South) (MP 100.555)
- US 160 Frontage Road (North) (MP 100.799)
- US 160 Frontage Road (South) (MP 100.799)
- Homestead Drive
- Bayfield Parkway (West)
- CR 506
- CR 502
- Commerce Drive
- Bayfield Parkway (East)

Private Road Unsignalized (PVRU) – Unsignalized full movement intersection providing direct access to one or more private properties. These roadways are maintained privately. There is only one PVRU located at the eastern end of the study area at MP 103.82 and serving multiple properties on the north side of the highway.

Business Access (BA) – Full or partial movement highway access points serving businesses within the study area. These types of access points are typically used multiple times daily by a variety of traffic types. There are a total of 4 BA points in the study area, including two accesses to parks owned by the Town of Bayfield.

Residential Access (RA) – Full or partial movement private highway access points used on a regular basis by limited traffic. These types of access points include single-family private driveways. There are 7 RA points in the study area.

Field Access (FA) – Full or partial movement access points that provide direct access from the highway to agricultural land. These types of access points are typically not well-defined and are used infrequently. There are 14 FA points in the study area.

4.0 Existing Traffic Conditions

Daily traffic counts were collected at ten locations within the study area on Wednesday, August 14, 2013 and Thursday August 15, 2013. CDOT Automatic Traffic Recorder (ATR) data from July 31, 2013 indicated peaks in highway traffic during the two hour periods beginning at 7:00 a.m. and 4:00 p.m. Turning movement counts were collected during those times on August 13 and August 15, 2013 at seven locations along US 160. Existing traffic volumes are presented in Figure 2. Traffic volumes estimated at additional locations based on historic traffic count data provided by La Plata County.

4.1 Existing Traffic Operations

Traffic operations analyses were conducted at all intersections where turning movement counts were collected or estimated. Analyses at unsignalized intersections were carried out using the methods described in the *Highway Capacity Manual 2010 (HCM)* published by the Transportation Research Board of the National Academies. Rather than typical Level-of-Service analyses, Volume-to-Capacity (v/c) ratio was determined in order to maintain compatibility with the *CAP-X – Capacity Analysis for Planning of Junctions (CAP-X)* tool created by FHWA. *CAP-X* is used to evaluate the operations of alternative intersection configurations at a planning level and was applied at intersections where stop-control would not yield acceptable operations.

When using the CAP-X tool, v/c results are reported at the three levels shown in Table 3. These levels can also be correlated to those calculated using the *HCM* in order to qualitatively evaluate operations and determine whether mitigation measures might be needed.

Table 3. v/c Ratios in CAP-X

Intersection v/c	Traffic Operations
v/c ≤0.75	Demand is below intersection capacity
0.75 < v/c < 1.00	Demand approaches intersection capacity
v/c ≥ 1.00	Demand exceeds intersection capacity

For signalized intersections, v/c is reported for the intersection as a whole using *CAP-X*. At unsignalized intersections, v/c for the worst performing movement is reported per the *HCM*. Typically, left-turn or through traffic from the stop-controlled approach performs worst. The results reported in Table 4 indicate that existing traffic demands are well below capacity at all intersections along US 160 in the study area. Calculation output sheets are included in Appendix C.

Table 4. v/c at Existing Intersections

US 160 Intersection	AM Peak Hour	PM Peak Hour
CR 507	*0.03*	*0.09*
Homestead Dr.	*0.03*	*0.09*
Bayfield Pkwy (West)	*0.26*	*0.38*
CR 506	*0.03*	*0.01*
CR 502	*0.11*	*0.04*
CR 501	*0.29*	*0.31*
N. Commerce Dr.	*0.28*	*0.48*
Bayfield Pkwy (East)	*0.14*	*0.17*

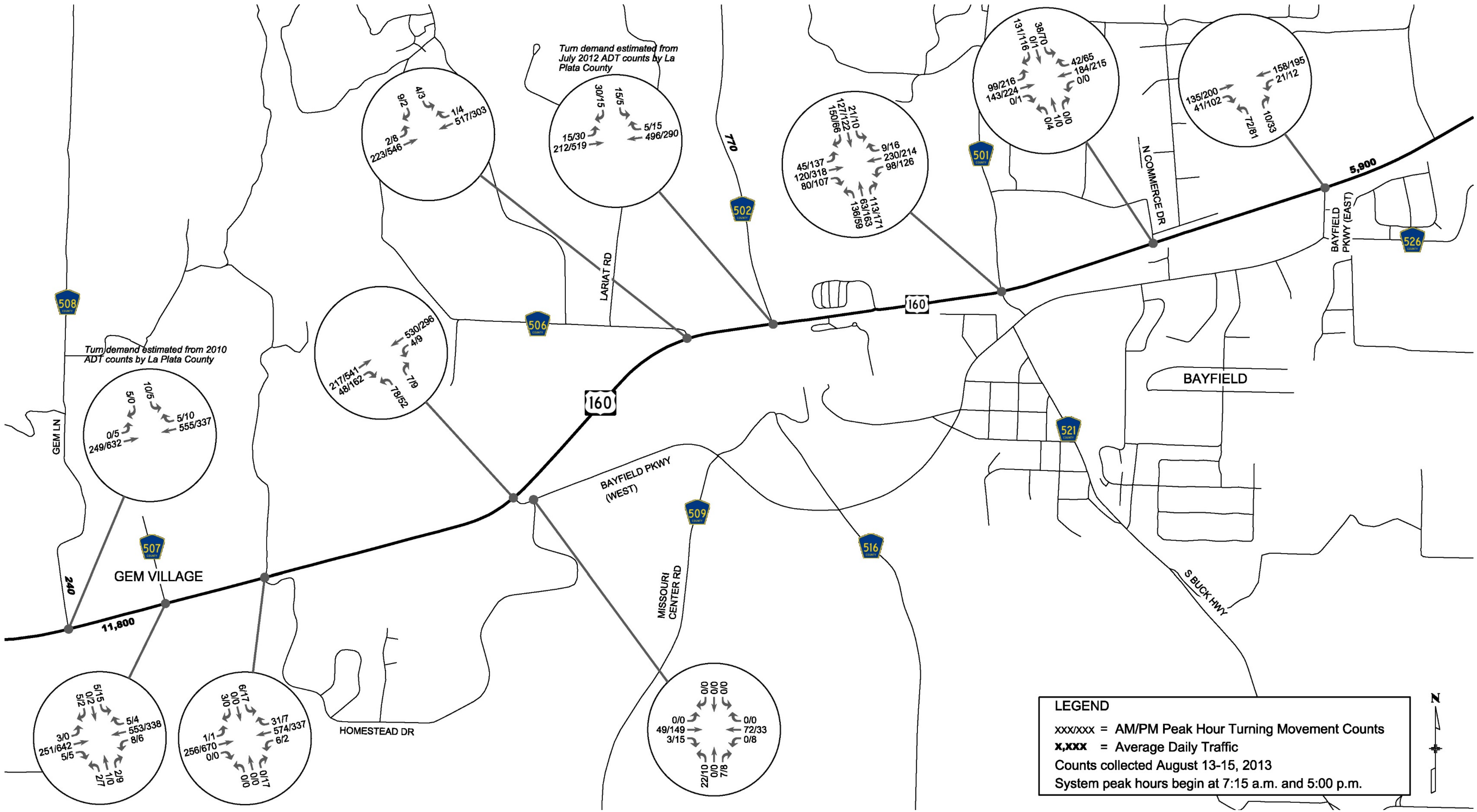


Figure 2. Existing Traffic Volumes

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5.0 Future Traffic Conditions

5.1 Traffic Growth

In the US 160 EIS, future traffic demands were estimated by growing traffic 1.79% per year. Consistent with this growth rate assumption, the CDOT estimate of 20-year growth at ATR 000217 was a factor of 1.43, which equates to 1.80% compounded annually. A straight line analysis of historical data from the ATR shows August Average Daily Traffic (ADT) increasing from 7,700 in 1992 to 10,600 in 2012. This equates to an annual compound growth rate of 1.60%.

To provide consistency with the EIS and current CDOT growth estimates, an annual compound growth rate of 1.80% was applied to 2013 traffic counts to predict future highway traffic volumes. At this rate, 2025 p.m. peak hour traffic demands at the US 160/CR 501 intersection are estimated to be approximately 11% lower than projected in the EIS. At the 2035 design year for this plan, traffic demands at the intersection are forecasted to be 3% greater than the 2025 demands from the EIS.

Daily traffic counts were previously collected by La Plata County on roads in the study area. This data indicates varying growth patterns along the county roads. Using counts between 1991 and 2012, the growth rate on CR 502 was equivalent to 1.45% compounded annually. This historical rate is thought to be reasonably representative of likely growth in the study area and was applied to existing traffic on all county roads.

Since no development plans had been submitted to the Town or County at the time of this traffic forecasting, no specific development within the project area was considered in the projection of future traffic. Localized growth is included in the background traffic projections described above, but it is recognized that development of various magnitude may occur at multiple locations within the corridor. An aggressive local growth scenario focused on the US 160/Bayfield Parkway (West) intersection was analyzed in the 2013 *US 160 Traffic Feasibility Study*. Similar growth projections are not likely to occur across the entire corridor within the 20-year planning horizon.

The resulting 2035 traffic forecast, shown without the implementation of any public street, highway, or access changes, is presented in Figure 3. This same traffic demand relocated to the future roadway network proposed in the ACP, including highway modifications, future public streets, and access restrictions, is presented in Figure 4.

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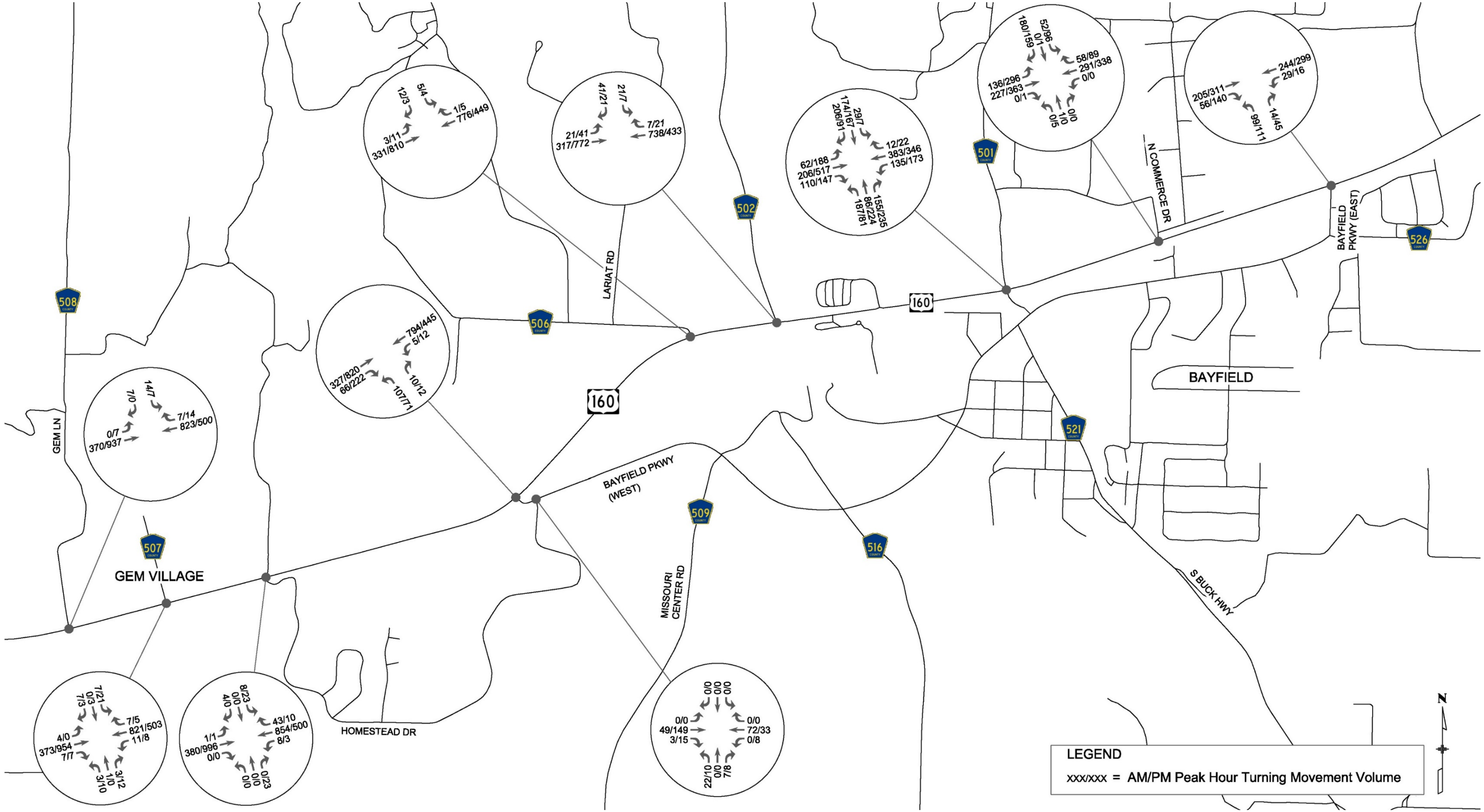

Figure 3. 2035 Traffic with Existing Roadway Network

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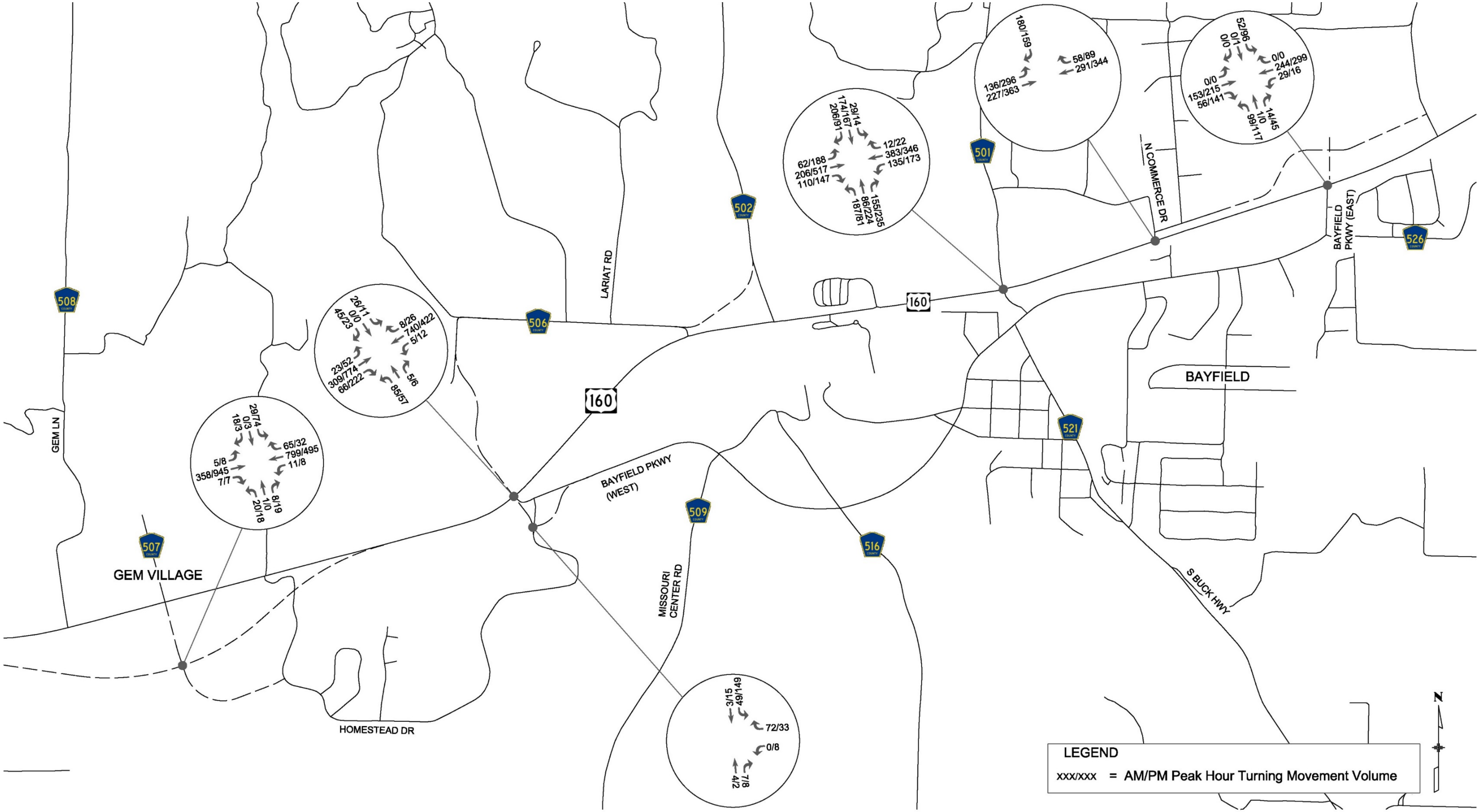

Figure 4. 2035 Traffic with ACP Improvements

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5.2 Future Traffic Operations

Future traffic operations were evaluated for two scenarios using projected traffic volumes in 2035. The first scenario assumes no changes from the existing local street network including access restrictions, additional lanes, and traffic control. The second scenario assumes improvements to the local street network and access restrictions shown in the ACP are implemented. Additional travel lanes called for in the US 160 EIS are also included in this analysis scenario.

Forecasted condition v/c ratios shown in Table 5 reflect the operations of the worst-case movement at unsignalized intersections and the intersection as a whole for signalized intersections. Currently, only the US 160/ CR 501 intersection is signalized. This intersection signalized is assumed to remain while all other intersections operate under stop-control without approaching capacity. Southbound left turns from Commerce Drive are projected to operate at capacity during the afternoon peak hour, but will be mitigated with the ACP improvements by redirecting traffic demand to full-movement intersections. Consolidation of multiple existing access points in Gem Village does raise the v/c at CR 507, however traffic at the relocated intersection is not expected to approach capacity.

Table 5. Future v/c Comparison

US 160 Intersection	With Existing Roadways		With ACP*	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Gem Ln.	0.07	0.05	N/A	N/A
CR 507	0.08	0.27	0.21	0.44
Homestead Dr./Frontage Rd.	0.08	0.29	N/A	N/A
Bayfield Pkwy (West)	0.63	0.64	0.39	0.44
CR 506	0.05	0.03	N/A	N/A
CR 502	0.23	0.08	N/A	N/A
CR 501	0.46	0.61	0.40	0.44
Commerce Dr.	0.28	1.00	0.23	0.28
Bayfield Pkwy (East)	0.27	0.35	0.20	0.23

*Assumes all ACP, local road, and US 160 improvements are in place

In addition to intersection capacity evaluations, a queuing analysis was conducted at the Commerce Drive intersection to determine if adequate separation from the CR 501 intersection will exist with projected 2035 traffic demands. The intersections are currently separated by approximately 1,930 feet measured from the westbound stop bar at CR 501 to the end of the eastbound median at Commerce Drive. Future demand for the left-in turn movement at Commerce Drive is estimated at 296 vehicles in the afternoon peak hour.

Table 4-5 of the Access Code calls for Expressway category highways to provide left turn lane length sufficient for a taper, deceleration, and vehicle storage. At the posted 45 mile per hour speed, this equates to approximately 800 feet needed to develop the left turn lane to Commerce Drive. This allows approximately 400 feet between the end of the eastbound acceleration lane from CR 501 and the beginning of the taper for the improved left turn lane at Commerce Drive. This 400-foot separation exceeds the 165-foot perception-reaction distance between intersections recommended in Table 8-3 of the *Access Management Manual*. Sufficient distance therefore exists from CR 501 to allow left turns to Commerce Drive in the 2035 design year.

6.0 ACP Development and Evaluation

Using traffic volume forecasts developed for the study, findings from the 2013 *US 160 Traffic Feasibility Study*, input from the Town, County, and CDOT, comments from the public outreach program; and guidance from the State Highway Access Code, an ACP was developed for the project. This plan considers circulation opportunities via the existing and potential future local street system.

6.1 ACP Development

A compatibility index was developed to provide a logical means for determining whether the ACP meets the established project goals. The index identified a set of evaluation criteria that correspond with each project objective, as listed in Section 1.1. The evaluation was conducted using a simple rating system identifying the ACP's treatment of each objective as favorable, neutral or unfavorable. The ACP compatibility index can be found in Appendix D.

The existing inventory of access points was reviewed with existing parcel and ownership information. This review determined which parcels adjacent to US 160 lacked access to the highway, which parcels had multiple accesses to consider for consolidation, and which parcels had access or potential access to an existing or proposed local road. Future public street connections and access points developed in the 2013 *US 160 Traffic Feasiblility Study* were also accounted for in the development of the plan.

Access solutions were developed by applying access management principles and techniques discussed in Section 2.3. Major full movement intersections were located based on existing traffic volumes, Town planning documents, anticipated growth patterns, and analysis of functional intersection areas. Functional intersection area was analyzed using American Association of State Highway and Transportation Officials (AASHTO) guidance on deceleration and taper lengths and existing speed limits to provide proposed improvements that will meet current design standards.

Access for parcels located between major intersections was either limited (right-in/right-out or ¾ movement) or provided via a local road. In cases where multiple access points serve a single ownership, access was reduced to one per ownership. Shared access between parcels was maintained to the extent feasible.

The draft ACP was presented at multiple public open houses. Attendees consisted of corridor stakeholders, including property owners, tenants, potential developers and the general public. Improvements incorporated into the ACP based on public comments include a new connection to the future US 160 alignment with CR 507 instead of Homestead Drive along with modifications to conditions at specific access points.

6.2 Evaluation Results

The ACP was evaluated using the compatibility index described above. The results of the evaluation, by objective, are listed in Table 6. Overall, the ACP rates favorably by improving upon the "no ACP" alternative for nine of the criteria evaluated. ACP adoption by the three entities (Town of Bayfield, La Plata County, and CDOT) is recommended as well as creation of an IGA. Adoption by CDOT is also recommended. Details of the ACP evaluation can be found in Appendix D. A graphical representation of the ACP is shown in Section 7.1.

Table 6. Evaluation Compatibility Summary

Project Goal	Evaluation Criteria	Rating
Provide effective through travel for traffic on US 160	Highway LOS	Favorable
	Number of Access Points	Favorable
Provide safe and effective access to and from US 160 for businesses, residents, and emergency responders	Intersection Sight Distance	Favorable
	Intersection v/c	Favorable
	Conformance with State Highway Access Code Auxiliary Lane Requirements	Neutral
	Out of Direction Travel Distance	Unfavorable
	Intersection Crash Risk	Favorable
Maintain compatibility with existing and proposed off-highway circulation routes	Local Route Connectivity	Unfavorable
	Serviceability of Local Routes to Developments and Properties within the Study Area	Favorable
Provide a plan that can be implemented in phases	Funding Opportunities	Neutral
	Phasing Opportunities	Favorable
Support the economic viability of the project area	Business Access	Neutral
Maintain compatibility with the intent of previous planning efforts	Compatibility with Local Planning	Favorable
	Compatibility with the US 160 EIS	Neutral
Provide a plan that is consistent with local intersection priorities	Compatibility with the improvement priorities of Town and County staff	Favorable
Endeavor to provide a plan that is adoptable by all entities	Physical Constraints	Neutral
	Support from Town Board and County Commission	Favorable

7.0 Plan Recommendations

This section presents details of the recommended ACP for US 160. The ACP has been developed with considerable participation from the Town of Bayfield, CDOT, La Plata County, and the public. After evaluating both existing and future conditions, the ACP defines each access configuration in the future. In general, the ACP limits full movement access to major intersections. Access for parcels between major intersections is either limited or relocated to an alternate route/cross street. In addition, highway access is generally reduced to one location per ownership. Where feasible, access is shared between adjacent properties. ¾ movement intersections are identified at key access points where providing the left-turn movement from the highway improves circulation.

Traffic control measures that may be used to achieve proposed conditions include dividing the highway with unpaved or raised medians, driveway channelizing islands at limited access points, directional median openings at ¾ movement access points, signage and striping. To avoid turn movement violations and potential enforcement issues, construction of physical access control measures is recommended to divide the highway, potentially as part of construction of the US 160 EIS improvements. Prior to those improvements, turning movement restrictions may occur as dictated by traffic safety or operational circumstances at each access point.

The narratives in this section are intended to serve as a summary of the key features of the ACP while figures provide a graphical representation. A detailed explanation of the control measures for each access in the study area is presented in the ACP Table, Exhibit A of the IGA. Reference the exhibits in Appendix E for specific access configurations and conditions.

Recognizing that this plan is a long-term planning document and not a detailed engineering design, reference point designations are intended to be approximate. As more detailed information is available, these designations may be modified (generally within 0.05 miles of the specified reference point designation) without formal amendment of the ACP.

7.1 ACP

Key features of the ACP are summarized below and illustrated in Figure 5a through Figure 5e. Auxiliary lanes shall be provided at access points as prescribed by the State Highway Access Code. Full movement intersections with potential for future signalization have been identified in the ACP; however, traffic control treatments will be evaluated on a case-by-case basis as future conditions warrant. Potential traffic control may include stop signs, traffic signals, interchanges, or others recognized by the *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD) published by FHWA. Traffic signals may be implemented at intersection only if warranted per current MUTCD standards and when funding is available. Once a signal is warranted and until such time as it is constructed, movements may be restricted if operational or safety issues develop.

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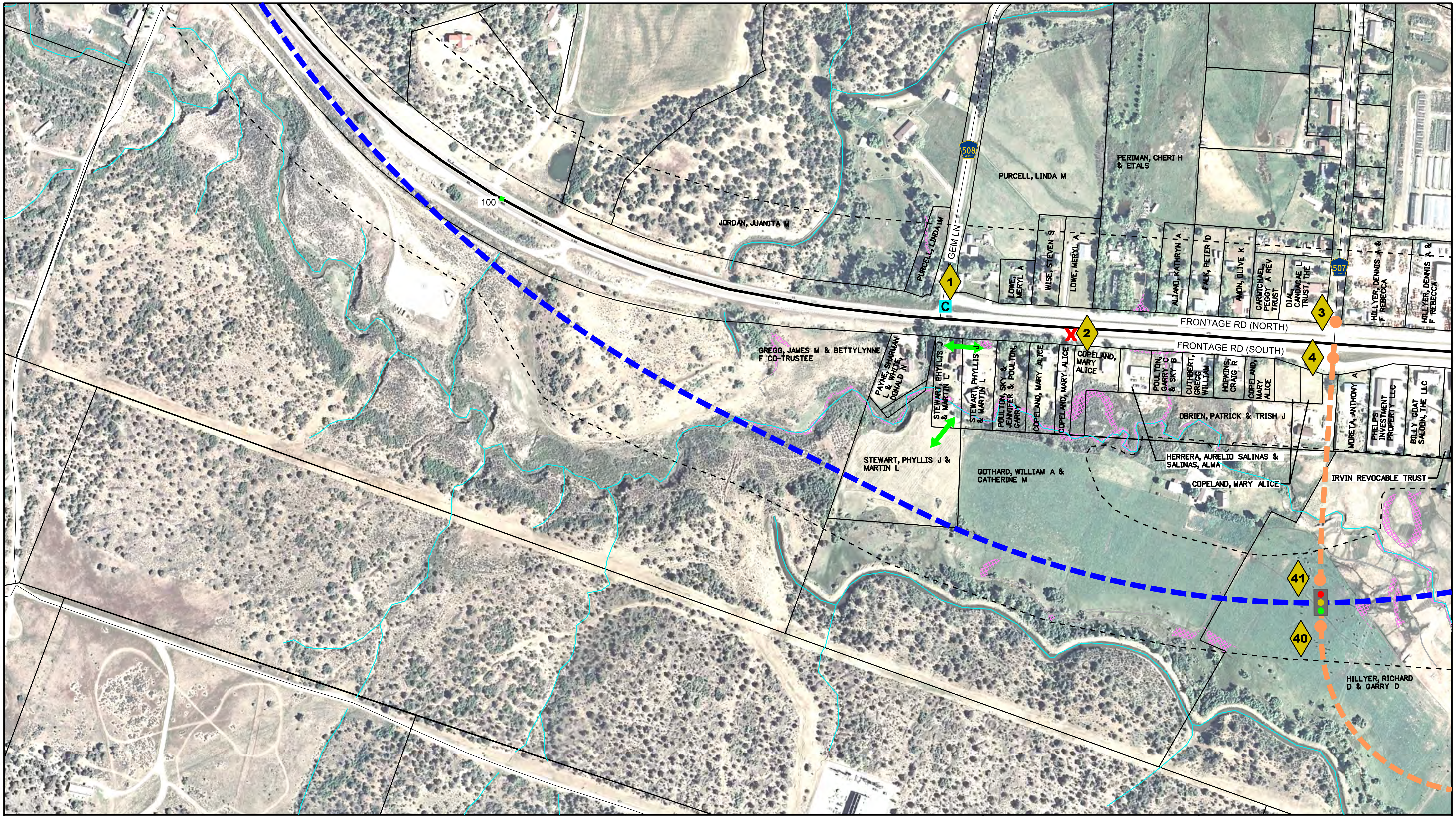

LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- Access closed with change in land use or alternative connection
- Cross Access for Shared Access Point
- Cross Access by Common Ownership
- Milepost
- Future US 160 EIS Alignment
- Future Public Street (Conceptual Alignment)
- Town Limits
- US 160 EIS Wetland Survey Limits
- Documented Wetland
- Potential Wetland Area

N

0' 150' 300'

FIGURE 5
US 160 ACCESS EXHIBIT
1 OF 5

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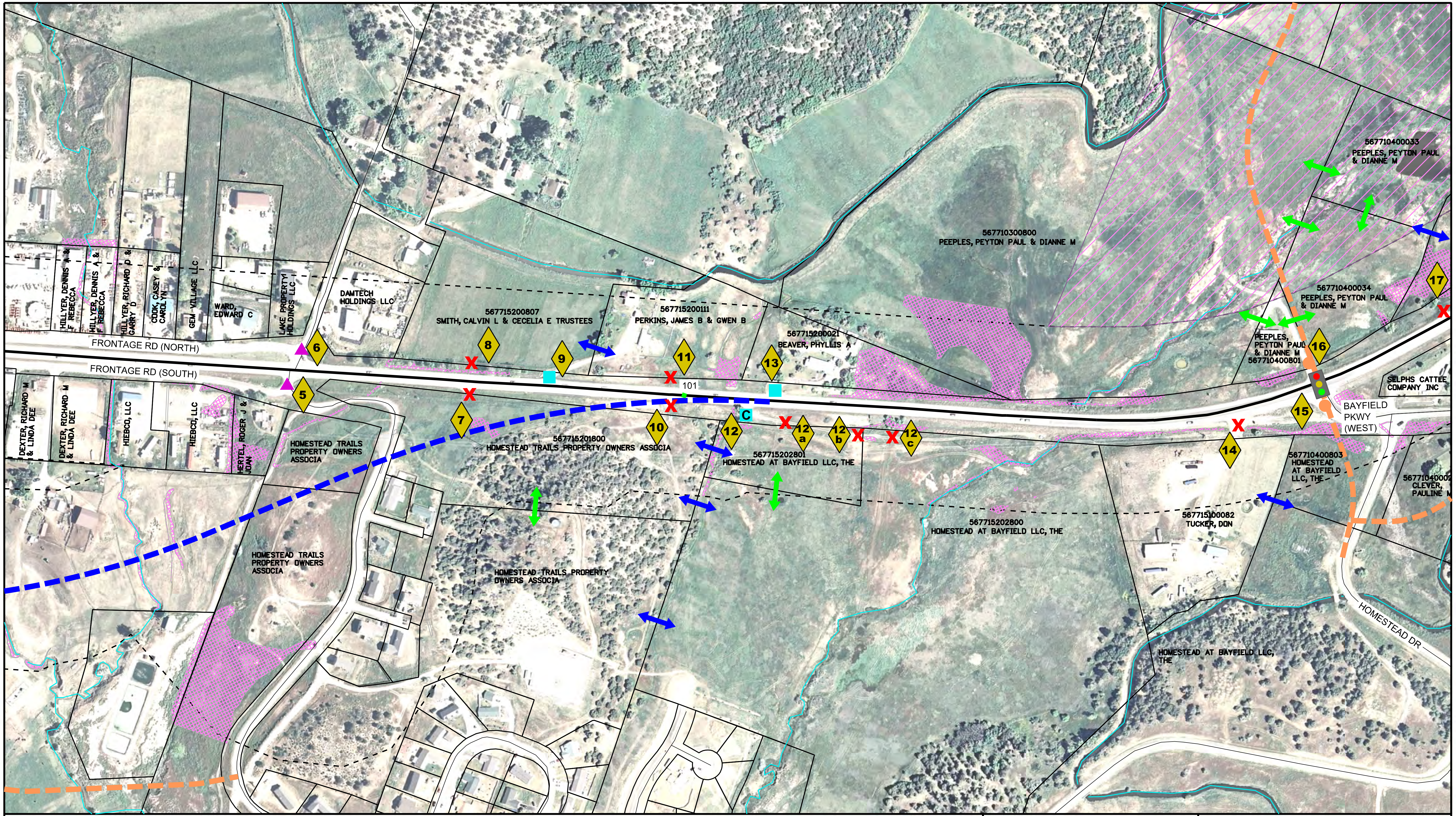

LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- Access closed with change in land use or alternative connection
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- Milepost
- Future US 160 EIS Alignment
- Future Public Street (Conceptual Alignment)
- Town Limits
- US 160 EIS Wetland Survey Limits
- Documented Wetland
- Potential Wetland Area

N

0' 150' 300'

FIGURE 5
US 160 ACCESS EXHIBIT
2 OF 5

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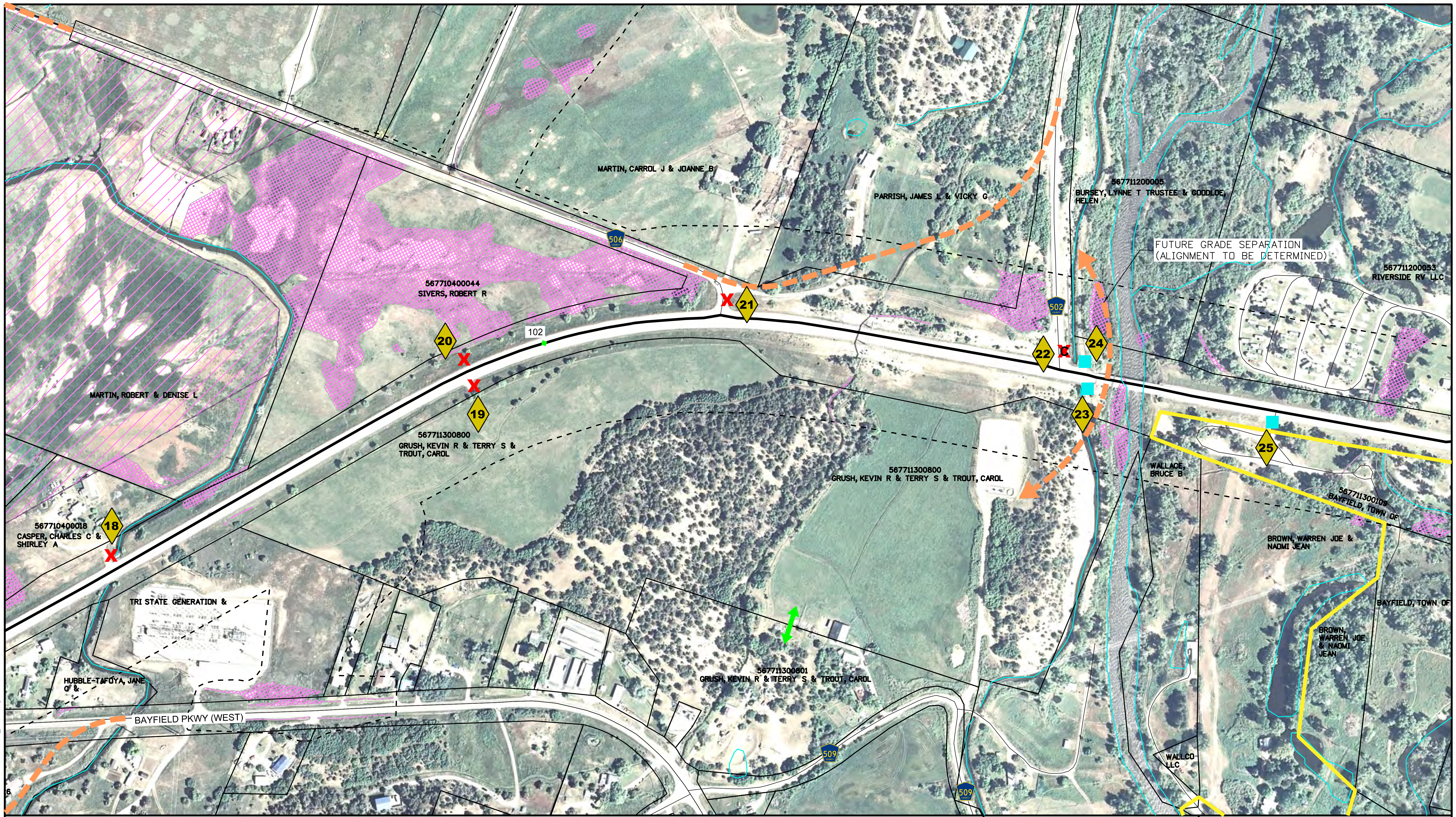

LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- Access closed with change in land use or alternative connection
- Cross Access for Shared Access Point
- Cross Access by Common Ownership
- Milepost
- Future US 160 EIS Alignment
- Future Public Street (Conceptual Alignment)
- Town Limits
- US 160 EIS Wetland Survey Limits
- Documented Wetland
- Potential Wetland Area

N

0' 150' 300'

FIGURE 5
US 160 ACCESS EXHIBIT
3 OF 5

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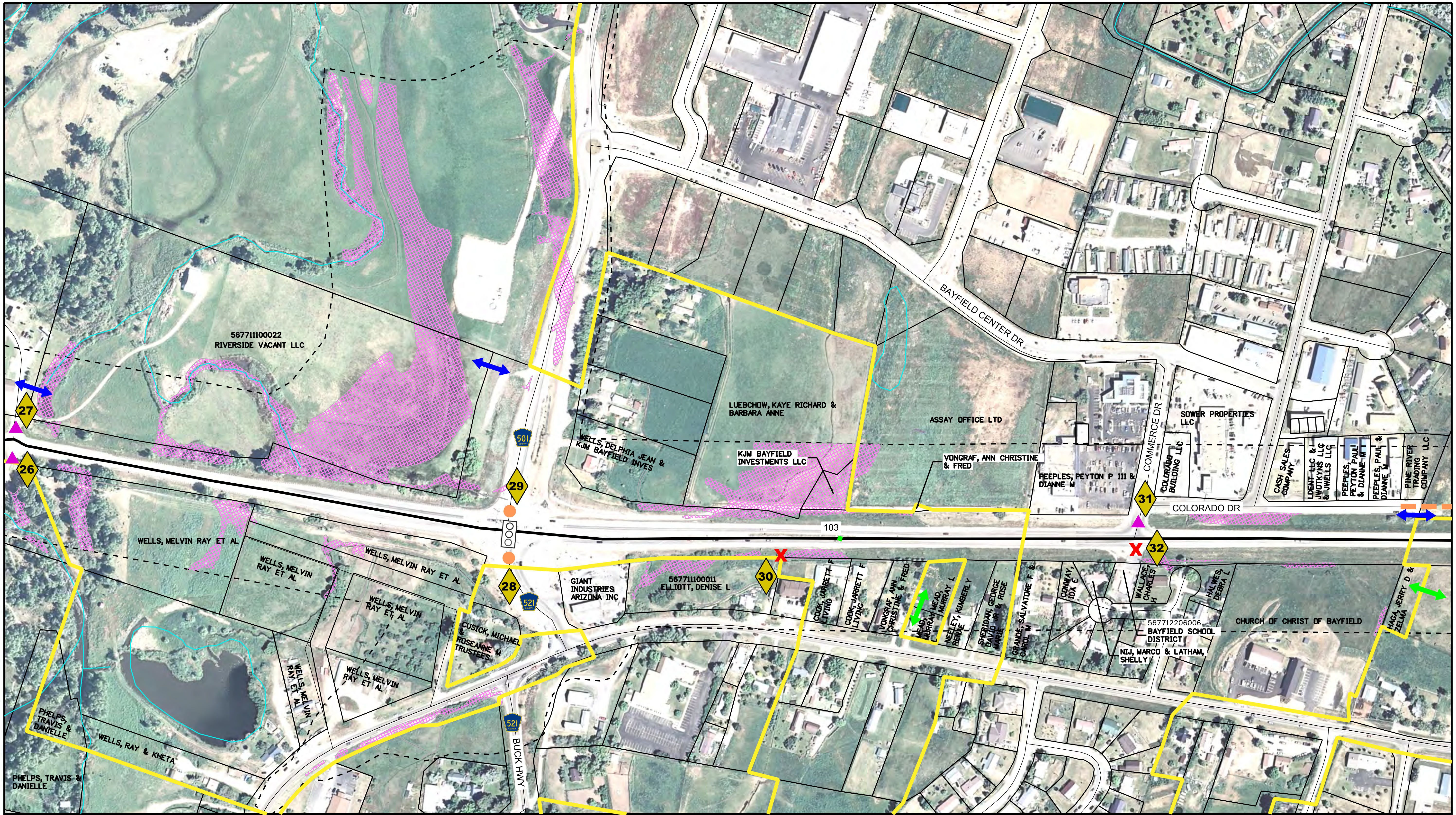

LEGEND:

Access Point	Right-In, Right-Out
Full Movement	3/4 Movement Left-In
C Conditional	Access closed with change in land use or alternative connection
Potential Signal	Cross Access for Shared Access Point
Existing Signal	Cross Access by Common Ownership
Milepost	US 160 EIS Wetland Survey Limits
Future US 160 EIS Alignment	Documented Wetland
Future Public Street (Conceptual Alignment)	Potential Wetland Area
Town Limits	

N

0' 150' 300'

FIGURE 5
US 160 ACCESS EXHIBIT
4 OF 5

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LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- Access closed with change in land use or alternative connection
- Cross Access for Shared Access Point
- Cross Access by Common Ownership
- Milepost
- Future US 160 EIS Alignment
- Future Public Street (Conceptual Alignment)
- Town Limits
- US 160 EIS Wetland Survey Limits
- Documented Wetland
- Potential Wetland Area

N

0' 150' 300'

FIGURE 5
US 160 ACCESS EXHIBIT
5 OF 5

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7.1.1 County Road 507

At the current US 160 alignment, full movement to and from CR 507 will be maintained, potential for future signalization does not exist given the limited distance between the highway and frontage roads. If an operational or safety issue develops prior to realignment of US 160, turn movement restrictions may be required to mitigate those issues. Existing accesses west of CR 507 will be restricted to Right-In, Right-Out or closed and those immediately to the east will be restricted to ¾ access in order to allow for heavy vehicle circulation.

With realignment of US 160 to the south of Gem Village, CR 507 will be extended to provide a new full-movement intersection. At the realigned highway, the intersection with CR 507 does have the potential for signalization when warranted under current MUTCD standards. This new intersection also allows for a potential local street connection from the extended CR 507 to Homestead Drive. Upon realignment of US 160, the existing highway could become a locally managed roadway with different access requirements.

7.1.2 Bayfield Parkway (West)

Full-movement access will be maintained on both the north and south sides of US 160 at the existing Bayfield Parkway (West) intersection. A future public street connection to CR 506 is anticipated on the north side of the intersection and was evaluated at a conceptual level in the 2013 *US 160 Traffic Feasibility Study*. As noted in that study, existing intersection geometry is not suitable for signalization. In order for signalization at the intersection to occur, Bayfield Parkway (West) must be realigned to provide adequate queue storage. While a concept for the Bayfield Parkway (West) realignment to Homestead Drive was identified as feasible, a more detailed engineering study will be required to determine precise requirements and design constraints. If safety or operational issues develop at the US 160 intersection prior to realignment of Bayfield Parkway (West), turning movement restrictions may be implemented to mitigate those issues. Signalization of the intersection will not occur unless warranted under current MUTCD standards.

7.1.3 Commerce Drive

On the north side of US 160, Commerce Drive will be restricted to ¾ access when secondary roadways provide a connection to the full-movement Bayfield Parkway (East) intersection with the highway. Alternatively, if US 160 is improved to a divided highway section prior to construction of the secondary roadway connection, access will be restricted and eastbound traffic from Commerce Drive will access US 160 at CR 501. The restriction of movements at Commerce Drive reduces conflict points, which is conventionally understood to reduce the opportunity for crashes. Particularly, the elimination of the more difficult crossing movements has the potential to reduce both crash frequency and severity. In the case that a safety or operational issue at the Commerce Drive intersection with US 160 develops prior to either of those improvements, access additional restrictions may be required to mitigate the issue.

On the south side of US 160 opposite Commerce Drive is a driveway serving the commercial property currently owned by the Bayfield School District and operated by the Pine River Trading Company. Access to this driveway will be restricted to Right-In, Right-Out when a safety or operational issue develops at the driveway or may be restricted when Commerce Drive access is restricted to ¾ access, as described above. If ownership of the property changes, the current land use on the property is expanded, or enlarged, highway access will be closed and the property will access the local street system at E. Pony Lane only.

7.1.4 Bayfield Parkway (East)

On the south side of US 160, Bayfield Parkway (East) will remain a full-movement access. North of the highway, full-movement access will be provided to a future public street that will ultimately connect to the rest of the local street network. Future local streets shown in the ACP are conceptual only and will require further engineering study to determine alignments and ultimate connectivity to the roadway network. This intersection does have the potential for signalization when warranted under current MUTCD standards; however, if an operational or safety issue develops prior the satisfaction of signal warrants, turn movement restrictions may be required to mitigate those issues.

Access Control Lines, also referred to as “A-lines,” run the length of US 160 through this corridor and restrict access to specific locations. An opening in the A-line for the purpose of access is referred to as a “deeded access opening.” The width of the A-line opening provides CDOT with guidance on the level and type of land use potentially allowed by the State. Properties that have an access to their property other than the highway are generally not allowed direct access to the highway even if an A-line opening exists.

Currently, there is not an A-line opening at the proposed Bayfield Parkway (East) north leg access, although an opening at this location is inferred in this ACP. In order to open the A-line for a future public street at this location, the local jurisdiction and/or property owner must submit an application for an A-line opening to CDOT. CDOT in turn must receive approval from FHWA. Section 7.2.11 of the CDOT Right-Of-Way Manual identifies the steps involved for this request. While the IGA and the ACP may be used in support, the application must demonstrate that the opening of the A-line provides "improved highway design, operation and public safety, long term benefits to the highway and necessary highway Right of Way for future highway reconstruction." The ACP identifies new off-system streets and connectivity to help achieve these goals.

7.2 Other Recommended Improvements

In support of the recommended ACP, development of a local street network that serves the areas north of US 160 at Bayfield Parkway (West) and Bayfield Parkway (East) is recommended. At the western location, the local street system should provide a continuous connection from US 160 to CR 506 and ultimately on to CR 502. At the eastern location, the local street system should provide a connection from the commercial area of Bayfield focused at Commerce Drive to the highway. Connections to the north serving existing residential use and future development closer to the highway are also desirable. New connections to the existing private road to the east should also be considered as part of the roadway planning.

8.0 Implementation

The improvements recommended in the Access Study represent a long-range plan that will be implemented in phases as changes and growth occur. Construction of the recommended improvements may be completed using public and/or private funding. Portions of the plan will be implemented based on the following triggers:

1. A property develops, redevelops, or changes use, resulting in a change in traffic operations or safety. In this case, limited improvements at the specific access point may be required by CDOT. As part of the Town or County's development review process, additional transportation improvements may also be necessary to address specific traffic-related impacts created by the development. These improvements will be compatible with the ACP. If a property does not redevelop, the property owner will not be required to construct access modifications. (Private Funding)

2. The Town and/or County obtain funding to complete improvements to a segment of the US 160 corridor or a local route. (Public Funding)

3. State and/or Federal Funds are obtained to complete improvements to a segment of the US 160 corridor as identified in the Statewide Transportation Improvement Program (STIP) and the US 160 EIS. (Public Funding)

4. A safety or operational issue develops that can be mitigated through the implementation of access management techniques consistent with the ACP. Depending on the extent and type of safety or operational issue, improvements may address a segment of the US 160 corridor, a local route, or may be limited to an isolated location or access point. Public funding from any combination of agencies may be obtained to construct improvements. (Public Funding)

5. Any combination of 1, 2, 3, or 4.

Under case 1, a property owner must follow the access permit process as defined by Section 2 of the *State of Colorado State Highway Access Code, latest edition*. CDOT will remain the issuing authority for US 160. In short, the process requires owners to submit an application for an access permit when developing, redeveloping, or changing the use of their property. Once the access permit is issued, construction plans for permitted improvements must be developed and submitted to CDOT for review. A Notice to Proceed will be issued following acceptance of the Construction Documents by CDOT, thereby allowing the applicant to proceed with construction. As determined by the CDOT Permit Unit, access permits may allow for construction of interim conditions and define requirements for future conditions that match the ACP depending upon individual circumstances specific to each permit.

Under case 2, the Town and/or County may obtain funds either through local government budgeting, grants, or other funding sources. Once funding is available, the Town and/or County will work through the CDOT planning process to develop a highway improvement project. The project will follow the process and procedures for design, construction, and management detailed in CDOT's *Local Agency Manual*. If a Town/County project is developed off of the State Highway System, such as completion of an alternate local route not intersecting with US 160, CDOT will not be involved in the project. The Town and/or County will administer the project according to their own standards and procedures.

Under case 3, a project receiving State and/or Federal funds must be identified in the STIP. In Colorado, six years of transportation projects and their funding sources must be identified in the STIP. The STIP is updated every four years through a continuing, comprehensive and cooperative process involving the CDOT, FHWA, Federal Transit Administration, Metropolitan Planning Organizations, Transportation Planning Regions, County and local governments.

Under case 4, any agency may identify a safety or operational issue along the corridor through a crash pattern analysis, documented complaints, direct observation or other manner. A single agency or partnership of agencies may obtain funding to implement access management techniques that are consistent with the ACP and specifically address the issue. Depending on the project's lead agency, administration occurs through the local agency process as described in case 2 or through CDOT's process as described in case 3.

Detailed engineering drawings of exact roadway alignments and access improvements will be required as project funding is identified. Details related to storm drainage, utilities, landscaping, environmental issues, pedestrian/bicycle facilities, roadway sections, and other topographic features will be considered during this design process. Environmental evaluations and permitting appropriate to the size, type, and funding of the project will be completed as part of the design phase.

To provide for continued commitment to the access modifications recommended by this study, it is recommended that the City, County, and CDOT adopt an ACP. The ACP identifies access locations and levels of access by reference point for US 160, within the project limits. In addition, the ACP is considered in future local transportation and land use planning efforts that may involve US 160.

In order to formalize an ACP, an IGA must be developed and adopted by CDOT, the Town of Bayfield and La Plata County. An ACP Table that specifically defines proposed conditions for individual access points will serve as Exhibit A to the IGA. A map showing the location of each access point along with off-highway roadways will serve as Exhibit B. In recognition of the plan's long-range nature and the potential for conditions to change over time, a critical element of the IGA is the definition of a process for plan modifications. Exhibit C to the IGA defines this process, which requires mutual agreement of the IGA parties on modifications to the plan. For the US 160 corridor, the process for administration of the plan shall be as described in the *State of Colorado State Highway Access Code, latest edition.* The IGA with exhibits is presented in Appendix E.

Appendix A – Public Outreach

PLANNING FOR FUTURE GROWTH

Town of Bayfield, La Plata County & Colorado Department of Transportation (CDOT)

Invite you to an

Open House

for the

US Highway 160 Access Management Plan

The public open house will provide the community with an opportunity to:

- Learn about planning for future growth along US Highway 160
- Discuss future access points along the US 160 corridor in the Town of Bayfield, Gem Village, and La Plata County with project representatives.
- Provide comments on access points to US 160.

Thursday, August 14th, 2014
6:00 pm to 9:00 pm
(formal presentation at 7:00 pm)

Town of Bayfield Town Hall
1199 Bayfield Parkway

For more information, contact:
Chris La May, Town Manager
Town of Bayfield
(970) 884-9544
clamay@bayfieldgov.org

PLANNING FOR FUTURE GROWTH

Town of Bayfield, La Plata County & Colorado Department of Transportation (CDOT)

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for the

US Highway 160 Access Management Plan

The public open house will provide the community with an opportunity to:

- Learn about planning for future growth along US Highway 160
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Town of Bayfield Town Hall
1199 Bayfield Parkway

For more information, contact:
Chris La May, Town Manager
Town of Bayfield
(970) 884-9544
clamay@bayfieldgov.org

Bayfield US 160 Access Plan
Public Open House - August 14, 2014
Bayfield, CO

Name	Whom Representing	Phone #	Email
BRIAN KIMMEL	Grush Family	2592629	swlsinc c frontie.net
CAROLYN HUNTER	LEE MCCUTCHEN	247-9082	contextarch@yahoo.com
Dr. Rick K Smith	Town	759-2229	
JERRY HAGA	~~SELF~~ SELF	759-9081	JerryHaga@Yahoo.Com
JIM Sower	Pine River Valley Bank	884-2711	JimS@frontier.net
GREG ROTH	NO BODY BUT ME	884 4521	ROTHHOGHEAVEN@SKYWERX.COM
DARYL YOST	BAYFIELD AUTO	884-9727	DARYLYOST@HOTMAIL.COM
Jim Parrish	myself	9041	—
Ashleigh Tarkington	Self	884-9155	ashleightarkington@yahoo.com
Paul Peeples	SELF	884-9523	
Rich Hillyer	Southwest Ag	884-4101	rich@swaginc.com.
Bob Martin	self	4 4926	diamondm@wic.net
GARRY HILLYER	SOUTHWEST AG	884-4101	GARRY@SWAGINC.COM
Phyllis Rhodes	Heritage Days Committee	884-6108	phyllisjay7@gr.com
Deb Koenig	Self	884-9409	blonds_place@yahoo.com
Hal Koenig	PERSONAL	769-1523	hal.koenig@yahoo.com
Casey Cook	PERSONAL	759-6204	ccubed@mypurpose.com
HARRY GOFF	SELF	749-8741	hgoff@frontier.net
Melanie Mazur	Pine River Times	884-2331	prt@pinerivertimes.com
Perkins Family	Gwen & Barry	749-5078	rr_perkins@msn.com

Bayfield US 160 Access Plan
Public Open House - August 14, 2014
Bayfield, CO

Name	Whom Representing	Phone #	Email
Rick Phelps	Phelps Investment Properties	749-4605	RKPhelps@Hotmail.com
Carol Blatnick	- Self - School Dist	884-2884	cblatnick@gobrainstorm.net
MACK COKER	RIVERSIDE RV	769-7772	MACK@SKYWEBS.COM

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: Carl Blatnick Representing: Self / School Board member

Address:________________ City:________ State:___

Zip Code:________ Phone:________ Email: ________________

Do you want to be added to the mailing list? Yes _____ No_____

Are you a (check all that apply):

- ☐ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☑ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

What elements of the access plan do you dislike?

Do you have any concerns about how the access plan will be implemented?

Other comments:

Please visit with the school dist. They are taking 1st steps for planning. need site! Part of project due to overcrowding @ the elementary

Please leave this with us, mail, or email by **August 27, 2014** to:

Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Contact Troy Zabel - 884-2496

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: Rich Hillyer Representing: Southwest Ag

Address: 39927 Hwy 160 City: Bayfield State: Co

Zip Code: 81122 Phone: 970-884-4101 Email: rich@swaginc.com

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- ☒ Property Owner along US 160
- ☒ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☒ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

Safer aspects of Hwy

What elements of the access plan do you dislike?

Consider C.R. 507 intersection in middle of Gem Village for Better Business Access

Do you have any concerns about how the access plan will be implemented?

Other comments:

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: GARRY HILLYER Representing: SOUTHWEST AG INC.

Address: 39927 U.S. HWY 160 City: BAYFIELD State: CO

Zip Code: 81122 Phone: 970-884-4101 Email: GARRY@SWAGINC.COM

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- ☒ Property Owner along US 160
- ☒ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☐ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

BAYFIELD PARKWAY INTERSECTIONS

What elements of the access plan do you dislike?

CONSIDER C.R. 507 ACCESS AT GEM VILLAGE

Do you have any concerns about how the access plan will be implemented?

Other comments:

LOWER EXISTING HWY 160 GRADE THROUGH GEM VILLAGE TO ALLOW FOR ADDING LEFT TURN LANES AS A POSSIBLE INTERIM IMPROVEMENT BEFORE THE BYPASS IS CONSTRUCTED.

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: DARYL YOST Representing: BAYFIELD AUTO

Address: ______ City: ______ State: ___

Zip Code: ______ Phone: ______ Email: DARYLYOST@HOTMAIL.COM

Do you want to be added to the mailing list? Yes _____ No _____

Are you a (check all that apply):

- ☐ Property Owner along US 160
- ☒ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☐ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

What elements of the access plan do you dislike?

Do you have any concerns about how the access plan will be implemented?

Other comments:
BAYFIELD SCHOOLS ALOWED TO OPERATE OUT OF THERE ACESS PERMIT AT COMERCE DR

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

PLEASE ADD ME TO YOUR EMAIL LIST

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: BRIAN KUMMEL Southwest Land Services Inc Representing: Grush Family / Trout Trust

Address: PO Box 2673 City: Durango State: Co

Zip Code: 81302 Phone: 259-2629 Email: swlsinc@frontier.net

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- ☒ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☐ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

safe access

What elements of the access plan do you dislike?

potential access across agricultural lands when other routes are available and the need to cross this property with a County Road is of questionable value.

Do you have any concerns about how the access plan will be implemented?

remember to alert property owners of interest with plenty of notice !!!

Other comments:

let it rain

Please leave this with us, mail, or email by **August 27, 2014** to:
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5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: Jim Parrish Representing: ____________________

Address: 671 C.R. 506 ____________________ City: ____________ State: ___

Zip Code: 81122 Phone: 884-9041 Email: ____________________

Do you want to be added to the mailing list? Yes ✓ No ____

Are you a (check all that apply):

- ☑ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☑ Bayfield Resident in project area
- ☑ La Plata County Resident in project area
- ☑ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

I have no problem with the current propolsal

What elements of the access plan do you dislike?

Do you have any concerns about how the access plan will be implemented?

None.

Other comments:

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

8-16-14

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: HARRY GOFF Representing: WIFE AND SELF

Address: 1824 EASTLAWN City: DURANGO State: CO

Zip Code: 81301 Phone: 749-8741 247-1153 Email: hgoff@frontier.net

Do you want to be added to the mailing list? Yes ✓ No____

Are you a (check all that apply):

- ☑ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☐ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

MOST EVERYTHING EXCEPT SEE BELOW

What elements of the access plan do you dislike?

I WOULD PREFER THE CENTRAL ENTRY INTO GEM VILLAGE (I THINK IT LINES UP WITH CR 506). OTHERWISE G.V. IS SORT OF SKIPPED OVER COMING FROM THE WEST.

Do you have any concerns about how the access plan will be implemented?

THE MEETING WAS VERY INFORMATIVE. THE BEST ON THIS SUBJECT I HAVE ATTENDED. MIKE MCVAUGH AND STOLFUS DID A GOOD JOB AND ANSWERED QUESTIONS.

Other comments:

I WOULD LIKE TO SEE THE DESIGN TEAM LOOK AT A CONNECTION BETWEEN BAYFIELD PARKWAY, AT THE WEST END OF THE CHURCH OF CHRIST PROPERTY AND MOUNTAIN VIEW TO THE NORTH. THIS WOULD REQUIRE (CONTINUED BELOW)

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

RAISING THE GRADE OF US 160 AND AN UNDERPASS FOR THE CONNECTION. COMMERCE DRIVE COULD BE

Thank you for your participation

ELIMINATED AS AN INTERSECTION W/ 160. I THINK IT'S WORTH A LOOK. HG

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: Melanie Mazur Representing: Pine River Times

Address: Box 830 City: Bayfield State: CO

Zip Code: 81122 Phone: 884-2331 Email: arts@pinerivertimes.com

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- ☐ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☒ La Plata County Resident in project area
- ☐ Member of the General Public
- ☒ Other media elite

What elements of the access plan do you support?

Eastern access near Alta Convenience.

What elements of the access plan do you dislike?

~~Plea~~ Commerce Drive access needs to be guaranteed until an Eastern access ~~is~~ is ~~c~~ constructed

Do you have any concerns about how the access plan will be implemented?

Please try to include as many sidewalks bike trails, etc as feasible

Other comments:

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

Andrew Amend

From: Andrew Amend
Sent: Monday, September 15, 2014 3:29 PM
To: 'Carole McWilliams'
Cc: Elizabeth Stolfus; mike.mcvaugh@state.co.us; Jim Horn (james.b.horn@state.co.us); Jim Davis; Heinlein - CDOT, Jo; 'Chris Lamay'
Subject: RE: Bayfield Hwy 160 access control plan

Dear Ms. McWilliams,

On behalf of the project team, including Town of Bayfield, La Plata County, and CDOT, I would like to thank you for participating in the access planning process and providing written comments. We are currently evaluating your comments along with comments provided by others to improve the draft access plan presented this summer. The project team expects to present an updated plan in October.

We encourage you to attend future planning events and to continue to offer any feedback you may have.

Sincerely,
Andrew

Andrew Amend, PE | Transportation Engineer www.stolfusandassociates.com Stolfus & Associates, Inc. | 5690 DTC Boulevard, Suite 101W | Greenwood Village, CO 80111
P: 303 221 2330 | andrew@stolfusandassociates.com

-----Original Message-----
From: Carole McWilliams [mailto:news@pinerivertimes.com]
Sent: Wednesday, August 27, 2014 10:16 AM
To: Andrew Amend
Subject: Bayfield Hwy 160 access control plan

Here are my comments re. the Bayfield Highway 160 Access Control Plan.

Bayfield and CDOT have had an adversarial relationship for almost 20 years. CDOT's stranglehold on highway access has thwarted economic development in Bayfield, resulting in a large share of locals clogging Highway 160 to commute to jobs in Durango. In October 1999, the Transportation Commission imposed the expressway designation over the town's very strong objections. I was one of the people who travelled to Denver for that meeting. The expressway designation, as described in the access code, did not match conditions on the ground, but that didn't seem to matter. Funny thing, all the protests of designations at that meeting were from Region 5, all saying pretty much the same thing. No matter.

The message to Bayfield has always been that CDOT cares more about through travelers than Colorado residents, the local needs and desires. Locals using the highway are seen as an inconvenience to the through travelers. Refer back to Bayfielders commuting to Durango because of lack of economic development here.

I have developed an extremely cynical and dis-trustful attitude about CDOT since the late 1990s, and as a result, I have what some might consider obsessive documentation of what has transpired. I hope the current access control plan represents a change in how CDOT deals with Bayfield. The powerpoint presentation to town trustees in July said project goals include safe and efficient local access along with effective through travel; and compatibility with a local vision, including a plan consistent with local intersection priorities, that supports the economic viability of the area. Those would indeed be a change in how CDOT relates to Bayfield.

My fundamental thought is that an access control plan wouldn't be needed if we could get rid of the expressway designation and get the designation Bayfield asked for in 1998. Absent that, I support the town plans to keep the west end Bayfield Parkway intersection where it is, with some reconfiguration and access on the north side of the highway. I support the new north side access at the east edge of Bayfield, opening that area for residential and commercial development, and creating an alternative for traffic now accessing the highway from Commerce Drive. My understanding is that the town and local developers would pay the costs of those east and west end intersection improvements. I stress that Commerce Drive has been and will continue to be an essential link between the north and south halves of town. It is vital for our businesses, such as they are.

Thank you for your consideration of these comments.

Carole McWilliams
PO Box 693, Bayfield CO 81122

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE - AUGUST 14, 2014

Name: GREG ROTH Representing: N/A

Address: 38280 HIGHWAY 160 City: BAYFIELD State: COLORADO

Zip Code: 81122 Phone: 970 884 4521 Email: ROTHHOGHEAVEN@SKYWERX.COM

Do you want to be added to the mailing list? Yes ✓ No____

Are you a (check all that apply):

- [x] Property Owner along US 160
- [ ] Business Owner/Lessee along US 160
- [ ] Bayfield Resident in project area
- [ ] La Plata County Resident in project area
- [ ] Member of the General Public
- [ ] Other

What elements of the access plan do you support?

CLOSING ACCESSES ALONG THE ROUTE AND 3/4 TURNS

* LETS LOWER THE HIGHWAY THRU GEM VILLAGE NOW, AND GAIN SOME TURN LANES

What elements of the access plan do you dislike?

WHERE THE ACCESS IS TO BE FOR GEM VILLAGE. IT SHOULD AND NEEDS TO BE DIRECTLY SOUTH OF THE COUNTY ROAD

* LET'S LOWER THE HIGHWAY THRU GEM VILLAGE NOW

Do you have any concerns about how the access plan will be implemented?

NOPE

Other comments:

TELL THE EASTERN SLOPE TO GO TO PURGATORY AND SEND US MORE MONEY

* LETS LOWER THE HIGHWAY THRU GEM VILLAGE NOW AND GAIN SOME TURN LANES

Please leave this with us, mail, or email by **August 27, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
GEM VILLAGE PUBLIC OPEN HOUSES - SEPTEMBER 2014

Name: Candace Dial & Crystal Ross Representing: Village Junction Antiques

Address: 39793 US Hwy 160 City: Bayfield State: CO

Zip Code: 81122 Phone: 970-884-2445 Email: villagejunctionantiques@yahoo.com

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- [x] Property Owner along US 160
- [x] Business Owner/Lessee along US 160
- [ ] Gem Village Resident in project area
- [ ] La Plata County Resident in project area
- [ ] Member of the General Public
- [ ] Other

What elements of the access plan do you support?

What elements of the access plan do you dislike?

Our customer base is largely tourists, or people traveling to and from Pagosa Springs & Durango. We feel this would be detimental to our retail sales.

Do you have any concerns about how the access plan will be implemented?

We would need good signage to encourage travelers to turn off to Gem Village business

Other comments:

Please leave this with us, mail, or email by **September 30, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

STATE OF COLORADO
Department of Transportation
Region 5
3803 North Main Avenue, Suite 100
Durango, Colorado 81301
(970) 385-8360, FAX (970) 385-8361
E-mail: mike.mcvaugh@[redacted]state.co.us

Michael D. McVaugh
Traffic & Safety Engineer

October 14, 2014

Candace Dial and Crystal Ross
Village Junction Antiques
39793 US Hwy 160
Bayfield, CO 81122

RE: Bayfield - US 160 Access Plan in Gem Village

Dear Ms. Dial and Ms. Ross,

On behalf of the project team: the Town of Bayfield, La Plata County, and CDOT, I would like to thank you for providing written comments regarding the Bayfield - US 160 Access Plan. We are currently evaluating your comments along with those provided by others to improve the draft access plan. The project team expects to present an updated plan in December.

We appreciate your concerns regarding the future of US 160 through Gem Village. The proposed alignment of US 160 shown in our plan reflects the US 160 Record of Decision (ROD) alignment of the highway in this area. This alignment was evaluated and selected through an Environmental Impact Statement process that began in 1996 and concluded in 2006. That process included public input, safety evaluations, resource impact studies, as well as other technical evaluations. Currently, the improvements to US 160 at Gem Village are unfunded and do not have a planned date for implementation.

The US 160 Access Plan is limited, by Colorado Statute, to the regulation of accesses only. The Plan therefore uses the US 160 ROD alignment as a basis for evaluating access to and from the highway without consideration of alternative highway alignments. The findings of the US 160 Access Plan evaluations will specify where each access will be located and what types of vehicular movements will be allowed at each access point.

In response to your comment regarding signage for travelers, we have included a pamphlet with information regarding CDOT's Tourist Oriented Directional Sign program. This program provides business identification and directional information along state highways for tourist oriented activities.

Thank you again for your participation in the US 160 Access Plan. We encourage you to attend future planning events and to continue to offer any feedback you may have.

Very Truly Yours,

STOLFUS & ASSOCIATES, INC.

Andrew Amend

Andrew Amend, P.E.
Transportation Engineer

COMMENT SHEET

BAYFIELD US 160 ACCESS PLAN

GEM VILLAGE PUBLIC OPEN HOUSES – September 2014

Name: Robert & Denise Plant Representing: Plant Family

Address: 1212 Homestead Dr City: Bayfield State: CO

Zip Code: 81122 Phone: 884-4375 Email: rplant2k@yahoo.com

Do you want to be added to the mailing list? Yes ✓ No ____

Are you a (check all that apply):

✓ Property owner along US160

___ La Plata County Resident in project area

___ Business Owneressee along US160

___ Member if the General Public

___ Gem Village Resident in project area

___ Other

What elements of the access plan do you support?

None

What elements of the access plan do you dislike? The Flow of Traffic - Lights of incoming cars will shine in our home - Disruptive. Increasing Traffic in our Subdivision - Homestead Trails

Do you have any concerns about how the access plan will be implemented?

yes - Many too disruptive to Residents & wild life

TATE OF COLORADO

partment of Transportation
gion 5
3 North Main Avenue, Suite 100
rango, Colorado 81301
70) 385-8360, FAX (970) 385-8361
mail: mike.mcvaugh@[redacted]state.co.us

ichael D. McVaugh
affic & Safety Engineer

Please leave this with us, mail, or email by **September 30, 2014** to:

Andrew Amend, P.E. Stolfus & Associates, Inc.

5690 DTC Boulevard, Suite 101W, Greenword Village, CO 80111

303.221.2300 (Phone) 303.221.2331 (Fax)

andrew@stolfusandassociates.com

COMMENT SHEET

BAYFIELD US 160 ACCESS PLAN

GEM VILLAGE PUBLIC OPEN HOUSES – September 2014

Name: Brian + Dawn Schultz **Representing:** Homestead Trails

Address: 1398 Homestead Dr **City:** Bayfield **State:** CO

Zip Code: 81122 **Phone:** 970-884-5298 **Email:** brianschultz4444@gmail.com

Do you want to be added to the mailing list? Yes X **No** ___

Are you a (check all that apply):

- ___ Property owner along US160
- X La Plata County Resident in project area
- ___ Business Owneressee along US160
- X Member if the General Public
- X Gem Village Resident in project area
- ___ Other

What elements of the access plan do you support?

None

What elements of the access plan do you dislike? The highway project is going to run way too close to our house. Too much highway noise. ~~It~~ It will decrease the value of our home. Too many lights from cars directing in to our home. We have children + worry about their safety with the highway that close.

Do you have any concerns about how the access plan will be implemented?

It's a waste of money to move the highway that's perfectly functional the way it is.

We were never notified of any meetings + are very concerned about this!

Other comments:

This will wreck our quite neighborhood. We didn't buy our home with the intention of staring at a noisy highway in front of our house.

STATE OF COLORADO

Department of Transportation
Region 5
3803 North Main Avenue, Suite 100
Durango, Colorado 81301
(970) 385-8360, FAX (970) 385-8361
E-mail: mike.mcvaugh@[redacted]state.co.us

Michael D. McVaugh
Traffic & Safety Engineer

Please leave this with us, mail, or email by **September 30, 2014** to:

Andrew Amend, P.E. Stolfus & Associates, Inc.

5690 DTC Boulevard, Suite 101W, Greenword Village, CO 80111

303.221.2300 (Phone) 303.221.2331 (Fax)

andrew@stolfusandassociates.com

BAYFIELD
SCHOOL DISTRICT
Learning for All

November 19, 2014

Jo Heinlein
Colorado Department of Transportation
3803 N. Main Avenue, Suite 100
Durango, CO 81301

Dear Jo:

Thank you for your recent visit to Bayfield to discuss the long-range plans for Highway 160 through Bayfield. As we discussed, the District currently owns two pieces of property that may be impacted by any changes to Highway 160 through Bayfield corridor.

42456 Highway 160, Bayfield
The District leases this building as a source of income that directly benefits student extracurricular activities. Given the significance of this funding, the District supports maintaining access from Highway 160.

TBD Oak Drive, Bayfield (Parcel #5677-013-00-016)
This vacant property was purchased by the District in December 2012 to be used as a future school site. We anticipate building on this property within the next three to five years, due to growth in our lower grade levels. Given its proximity to our property, we would like to participate in future discussions surrounding the installation of a traffic light at the intersection of Highway 160 and Bayfield Parkway.

On behalf of the Bayfield School District, I request the addition of this letter to any public comments related to the long-range plans for the Highway 160 corridor through Bayfield. Please do not hesitate to contact me directly if you would like further detail.

Sincerely,

Troy Zabel
Superintendent

Bayfield School District 10 Jt-R
24 Clover Drive
Bayfield, CO 81122
970-884-2496, 970-884-4284 (fax)

February 4, 2015

Troy Zabel
Bayfield School District 10 Jt-R
24 Clover Drive
Bayfield, CO 81122

RE: Bayfield - US 160 Access Plan in Gem Village

Dear Mr. Zabel,

On behalf of the project team: the Town of Bayfield, La Plata County, and CDOT, I would like to thank you for your letter addressed to Jo Heinlein of CDOT regarding the Bayfield - US 160 Access Plan. We are currently evaluating your comments along with those provided by others to improve the plan. The project team expects to present the final plan to Town and County Boards in March for adoption.

The Access Plan identifies where and how highway access will occur in the future. Control of access provides benefits to highway operation and safety, while also taking into account local development and transportation planning. The Access Plan addresses each of the District properties you mentioned in your letter as follows:

42456 Highway 160, Bayfield
Closure of this property's highway access will not occur unless the use of the lot is expanded or enlarged. If the use is expanded or enlarged, the property would retain access to the local street system at E. Pony Lane only. Additionally, highway improvements may require restrictions of access at an earlier date. While it is recognized that the school property provides an alternate source of income for the District; without future restriction of the access, the Commerce Drive intersection with US 160 may not be able to function safely and efficiently.

TBD Oak Drive, Bayfield (Parcel #5677-013-00-016)
District planning for this property was considered in the development of the the Access Plan, which calls for future north-side access to US 160 across from Bayfield Parkway at the east end of town. The Access Plan allows all movements and for a future traffic signal at this location. Public street connections to the highway access point will be established by Town and/or County planning efforts separate from this Access Plan. Signalization of the highway intersection will be implemented as warranted according to the *Manual on Uniform Traffic Control Devices*.

Thank you again for your participation in the US 160 Access Plan. We encourage you to continue to offer any feedback you may have.

Very Truly Yours,

STOLFUS & ASSOCIATES, INC.

Andrew Amend

Andrew Amend, P.E.
Transportation Engineer

Bayfield US 160 Access Plan
Public Open House - December 4, 2014
Bayfield, CO

Name	Whom Representing	Phone #	Email
Mike Russell	Homestead	385.4546	michael@russellpe.com
Grant Richards	Homestead	799-1747	grantkenai@msn.com
MARSHA MORELAND	"	749-2682	marsha@gobrainstorm.net
Stephanie Strain	"	749 7386	jsastrain@yahoo.com
Ron Willmett	Self	884-2318	dlw2048@msn.com
Paul Black	L-J Ranch LLC	884-9042	16barJranch@Hotmail.Com
Carole McWilliams	Pine River Times	884-2331	news@pinerivertimes.com
TERRY GRUSH	HOMESTEAD	946-5699	TGRUSH32@YAHOO.Com
RON DUNAVANT	FIRST NATIONAL BANK OF DURANGO	382-5631	rdunavant@fnbdurango.com
Robert & Denise Plant	Homestead	884-4375	rplant2k@yahoo.com
Bill & Cathy Gothard	ACE Storage	749-6749	gothardhoe@yahoo.com
HARRY GOFF	SELF	749-8741	hgoff@frontier.net
Rich Hillyer	S.W.A. & Self	749-7783	rich@swaginc.com.
GARRY HILLYER	SWAG & SELF	884-4101	GARRY@SWAGINC.COM
Dennis Hillyer	SWAG & Self	884-9494	dennis@swaginc.com
GREG ROTH	NO BODY	884 4521	ROTHHOGHEAVEN@SKYWERX.COM
Pattie Zoria	Animas River Wetlands	247-0206	pattie@animasriverwetlands.com
Mac Thomson	self	903-9751	riskmac@gmail.com
Monte Miller	self	884-4327	monte.miller_2008@gmail.com
Michelle Nelson	self MiniMerc	884-9904	michelle@bayfieldminimerc.com

Bayfield | La Plata County Colorado | CDOT COLORADO Department of Transportation | Stolfus

Bayfield US 160 Access Plan
Public Open House - December 4, 2014
Bayfield, CO

Name	Whom Representing	Phone #	Email
DARYL YOST	BUS OWNER	970-769-5334	DARYLYOST@HOTMAIL.COM
BARRETT Potthoff	Self	9707640232	
Jeff Bynum	1390 Homestead Dr	970-903-9441	jbcustom1@hotmail.com

BAYFIELD La Plata County Colorado CDOT COLORADO Department of Transportation Stolfus

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014

Name: DARYL YOST Representing: BUS OWNER

Address: 360 MOUNTAIN VIEW PO BOX 1402 City: BAYFIELD State: CO

Zip Code: 81122 Phone: 970-769 5334 Email: DARYLYOST@HOTMAIL.COM

Do you want to be added to the mailing list? Yes X No____

Are you a (check all that apply):

- [x] Property Owner along US 160
- [x] Business Owner/Lessee along US 160
- [ ] Bayfield Resident in project area
- [ ] La Plata County Resident in project area
- [ ] Member of the General Public
- [ ] Other

What elements of the access plan do you support?

What elements of the access plan do you dislike?

Do you have any concerns about how the access plan will be implemented?

THAT NO CHANGES BE MADE AT COMMARCE DR UNTIL A NEW EAST SIDE CONNECTION IS MADE WITH EASMENTS AND ACESS TO COMMARCE

Other comments:

502 COULD HAVE RT TURN ONLY HEADING WEST VS A GATE

Please leave this with us, mail, or email by **December 18, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014

Name: Michelle Nelson Representing: Mini Merc / Sower Properties Self

Address: PO Box 1503 City: Bayfield State: CO

Zip Code: 81122 Phone: 884-9904 Email: michelle@bayfieldminimerc.com

Do you want to be added to the mailing list? Yes ✓ No____

Are you a (check all that apply):

- ☑ Property Owner along US 160
- ☑ Business Owner/Lessee along US 160
- ☑ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☑ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

What elements of the access plan do you dislike?

Do you have any concerns about how the access plan will be implemented?

Make sure to open new access at EAST end before making Commerce Dr a 3/4 Intersection.

Other comments:

Good Job Listening to Comments Along the way.

Please leave this with us, mail, or email by **December 18, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
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andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014 Homestead Vls.

Name: MARSHA A. MORELAND Representing: SELF (Homeowner)

Address: 278 HOMESTEAD CIRCLE City: BAYFIELD State: CO

Zip Code: 81122 Phone: 970-749-2686 Email: marsha@gobrainstorm.net

Do you want to be added to the mailing list? Yes ✓ No____

Are you a (check all that apply):

- ☐ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☒ La Plata County Resident in project area
- ☐ Member of the General Public
- ☐ Other

What elements of the access plan do you support?

I do not have a problem w/improvements or upgrades to Highway 160, however I don't want needless money spent to lengthen hwy. where not necessary.

What elements of the access plan do you dislike?

I don't care for the extension of Hwy. into Homestead trails at cul-de-sac whereby properties will be deleted fm. our subdivision plat for fees on our infastrucure. Lots being bought out or deleted.

Do you have any concerns about how the access plan will be implemented?

Since Homestead Vls. is a small subdivision, even at buildout. To have less lots carry costs of maintaining roads, water system, etc. will hurt our Homeowners in this economy. Remove

Other comments: lot next (EAST) of cul-de-sac and come out there.

* Most important to me is to have the intersection & light at Parkway Blvd. & Hwy. 160 (West end) or entrance to business route put in ASAP. Very Very dangerous right now – Bad plan years ago!

(Pin Village Sem Village Rout + busi. Rout)

Please leave this with us, mail, or email by **December 18, 2014** to:

Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014

Name: Mike Russell Representing: Homestead

Address: 934 Main Ave. Unit C City: DURANGO State: CO

Zip Code: 81301 Phone: 970-385-4546 Email: michael@russellpe.com

Do you want to be added to the mailing list? Yes ✓ No_____

Are you a (check all that apply):

- ☐ Property Owner along US 160
- ☐ Business Owner/Lessee along US 160
- ☐ Bayfield Resident in project area
- ☐ La Plata County Resident in project area
- ☐ Member of the General Public
- ☑ Other Consultant for Homestead

What elements of the access plan do you support?

Revised Gem Village by-pass with keeping the US 160-West Bayfield Parkway intersection in the same "general" location. Consolidation of accesses into a new right in-right out on the stretch just east of Gem Village

What elements of the access plan do you dislike?

The location of the proposed south leg of the US 160/West Bayfield Parkway intersection bisects the existing ~~Bay~~ Homestead Parcel in a manner that creates two small undevelopable parcels. Shifting the alignment east would help preserve this parcel for economic development

Do you have any concerns about how the access plan will be implemented?

The sooner the better!

When the Gem Village intersection is developed a connection to the Homestead ~~Ranch~~ Subdivision should be installed as well to ensure connectivity.

Other comments:

Please move forward with updating the EIS ASAP and begin working on funding the construction of the Gem Village bypass.

Please leave this with us, mail, or email by **December 18, 2014** to:
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5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014

Name: Grant Richards Representing: Homestead Trails

Address: 1315 Mountain View Dr City: Bayfield State: CO

Zip Code: 81122 Phone: 799-1747 Email: grantKenai@MSN.com

Do you want to be added to the mailing list? Yes X No____

~~Are you a (check all that apply)~~:

- [x] Property Owner along US 160
- [x] Business Owner/Lessee along US 160
- [ ] Bayfield Resident in project area
- [x] La Plata County Resident in project area
- [x] Member of the General Public
- [ ] Other

What elements of the access plan do you support?

ALL.

What elements of the access plan do you dislike?

The South leg of the US 160, Bayfield Parkway intersection bisects a Homestead at Bayfield LLC Parcel rendering both remaining Parcels useless. Moving this intersection East would be a Benefit.

Do you have any concerns about how the access plan will be implemented?

I am concerned when this plan would be implemented. It would Greatly improve safety if done soon. I am concerned about Noise at the East end of the Gem Village bypass.

Other comments:

Hopefully you will update the EIS and work on Funding for the Gem Village by Pass.

Please leave this with us, mail, or email by **December 18, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

January 29, 2015

Mike Russell, P.E.
Russell Planning & Engineering
934 Main Avenue, Unit C
Durango, CO 81301

Cc: Grant Richards

RE: Bayfield - US 160 Access Plan in Gem Village

Dear Mr. Russell,

On behalf of the project team, I would like to thank you for providing written comments regarding the Bayfield - US 160 Access Plan. We are currently evaluating your comments along with those provided by others to improve the plan. The project team expects to present the final plan to Town and County Boards in February for adoption.

We appreciate your concerns regarding the proposed realignments of Bayfield Parkway and Homestead Drive. The alignments are based on recommendations made in the Town of Bayfield - Traffic Feasibility Study, which was completed in May 2014. The US 160 Access Plan uses recommendations from the Traffic Feasibility Study to specify where and how highway access may occur, but does not specify off-highway improvements.

The concept recommended in the Traffic Feasibility Study was based on projected future traffic demands, physical constraints, roadway design standards, and stakeholder input. A primary concern of the project team was ensuring sufficient distance between the proposed Bayfield Parkway/Homestead Drive intersection and US 160 so that a traffic signal on the highway could be accommodated in the future. In the absence of specific development proposals and field survey information, recommendations from the Traffic Feasibility Study represent potential solutions that will require further engineering study prior to implementation. Design of these roadway improvements will likely be influenced by better defined development plans for the area and by more detailed information regarding physical constraints. No timetable for these improvements has been established, but local stakeholders including Homestead Trails will be involved when design moves forward.

Thank you again for your participation in the US 160 Access Plan. We encourage you to continue to offer any feedback you may have.

Very Truly Yours,

STOLFUS & ASSOCIATES, INC.

Andrew Amend

Andrew Amend, P.E.
Transportation Engineer

COMMENT SHEET
BAYFIELD US 160 ACCESS PLAN
PUBLIC OPEN HOUSE – December 4, 2014

Name: MaryAlice Copeland Representing: Self (+ neighbors)

Address: 39640 U.S. Hwy 160 (Gem Village) City: Bayfield State: CO

Zip Code 81122 Phone: 970 884-2419 Email: maryacope@ q. com

Do you want to be added to the mailing list? Yes _____ No_____

Are you a (check all that apply):

- [x] Property Owner along US 160
- [ ] Business Owner/Lessee along US 160
- [ ] Bayfield Resident in project area
- [x] La Plata County Resident in project area
- [ ] Member of the General Public
- [ ] Other

What elements of the access plan do you support?

North side W access should be Rin, Rout for safety –

What elements of the access plan do you dislike?

Concern: West access to Hwy on S side in Gem Village – Map shows desire of CDOT to close. There is a lot of use of this access – some by large/longer vehicles proceeding East along the frontage road. Garbage truck still has to back up along service road to W of this access.

Do you have any concerns about how the access plan will be implemented?

If it is closed, there will be multiple problems w/ lge vehicles having to back up long distance along frontage road. This W + S access is often used by emergency vehicles when hwy. is blocked & traffic needs to be moved either E or W –

Other comments:

Some vehicles turn R at this S+W access to allow hwy through traffic to continue more smoothly – some have pulled off to change tires, talk on phone, etc – It is a safety "valve" at times – please do NOT close this access on the W and South side of the Village.

Please leave this with us, mail, or email by **December 18, 2014** to:
Andrew Amend, P.E. Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 101W, Greenwood Village, CO 80111
303.221.2330 (Phone) 303.221.2331 (Fax)
andrew@stolfusandassociates.com

Thank you for your participation

January 29, 2015

Mary Alice Copeland
39640 U.S. Highway 160
Bayfield, CO 81122

RE: Bayfield - US 160 Access Plan in Gem Village

Dear Ms. Copeland,

On behalf of the project team: the Town of Bayfield, La Plata County, and CDOT, I would like to thank you for providing written comments regarding the Bayfield - US 160 Access Plan. We are currently evaluating your comments along with those provided by others to improve the access plan. The project team expects to present the final plan to Town and County Boards in February for adoption.

We appreciate your concerns regarding the south-side frontage road access point to US 160 at the west end of Gem Village. The project team agrees that the mobility of large vehicles on the frontage road must be supported while also achieving the Access Plan goal of increasing intersection safety. The plan will be updated to reflect a Right-In, Right-Out access at this location until an adequate large vehicle turnaround can be provided. Conversion of the access point from full-movement to Right-In, Right-Out may occur as part of highway safety improvement project or when development in the vicinity increases traffic at the access by more than 20%.

Thank you again for your participation in the US 160 Access Plan. We encourage you to continue to offer any feedback you may have.

Very Truly Yours,

STOLFUS & ASSOCIATES, INC.

Andrew Amend

Andrew Amend, P.E.
Transportation Engineer

Appendix B - Existing Access Inventory

US 160 - Existing Access Inventory

Access ID No.	Reference Point (Windshield)	Owner/Description	Current Business	Existing Configuration	Side	Type	Notes
	100.01	MP 100					
1	100.30	Gem Lane		Unsignalized Full Movement	LT	PRU	Access to Frontage Road
2	100.38	US 160 Frontage Road (South)		Unsignalized Full Movement	RT	PRU	Access to Frontage Road
3	100.56	CO RD 507		Unsignalized Full Movement	LT	PRU	Access to Frontage Road
4	100.56	US 160 Frontage Road (South)		Unsignalized Full Movement	RT	PRU	Access to Frontage Road
5	100.80	US 160 Frontage Road (South)		Unsignalized Full Movement	RT	PRU	Access to Frontage Road
6	100.80	US 160 Frontage Road (North)		Unsignalized Full Movement	LT	PRU	Access to Frontage Road
7	100.90	Homestead Trails Property Owners Association		Unsignalized Full Movement	RT	FA	GATED
8	100.90	Smith, Calvin L & Cecelia E Trustees		Unsignalized Full Movement	LT	FA	GATED
9	100.94	Smith, Calvin L & Cecelia E Trustees		Unsignalized Full Movement	LT	RA	Perkins, James B & Gwen B Cross Access
	100.99	MP 101					
10	101.03	Homestead Trails Property Owners Association		Unsignalized Full Movement	RT	FA	GATED
11	101.03	Perkins, James B & Gwen B		Unsignalized Full Movement	LT	FA	GATED
12	101.08	Homestead at Bayfield LLC, The		Unsignalized Full Movement	RT	PRU	Access to Lift Station
		Homestead at Bayfield LLC, The		Unsignalized Full Movement	RT	FA	No direct highway access
		Homestead at Bayfield LLC, The		Unsignalized Full Movement	RT	FA	No direct highway access
		Homestead at Bayfield LLC, The		Unsignalized Full Movement	RT	FA	No direct highway access
13	101.09	Beaver, Phyllis A		Unsignalized Full Movement	LT	RA	
14	101.37	Tucker, Don		Unsignalized Full Movement	RT	RA	GATED
15	101.42	Bayfield Parkway (West)		Unsignalized Full Movement	RT	PRU	
16	101.42	Peeples, Peyton Paul & Dianne M		Unsignalized Full Movement	LT	RA	GATED
17	101.50	Casper, Charles C & Shirley A		Unsignalized Full Movement	LT	FA	GATED
18	101.59	Casper, Charles C & Shirley A		Unsignalized Full Movement	LT	RA	
19	101.83	Grush, Kevin R & Terry S & Trout, Carol		Unsignalized Full Movement	RT	FA	

Legend
PRS - Public Road Signalized
PRU - Public Road Unsignalized
PVRU - Private Road Unsignalized
BA - Business Access
RA - Residential Access
FA - Field Access

US 160 - Existing Access Inventory

Access ID No.	Reference Point (Windshield)	Owner/Description	Current Business	Existing Configuration	Side	Type	Notes
20	101.83	Sivers, Robert R		Unsignalized Full Movement	LT	FA	
	101.98	MP 102					
21	102.00	CO RD 506		Unsignalized Full Movement	LT	PRU	
22	102.24	CO RD 502		Unsignalized Full Movement	LT	PRU	
23	102.27	Grush, Kevin R & Terry S & Trout, Carol		Unsignalized Full Movement	RT	FA	Ditch Access
24	102.27	Bursey, Lynne T Trustee & Goodloe, Helen		Unsignalized Full Movement	LT	FA	Ditch Access
25	102.37	Bayfield, Town of	Bayfield Visitor Center/Pine River Park	Unsignalized Full Movement	RT	BA	Gated
26	102.48	Bayfield, Town of		Unsignalized Full Movement	RT	BA	Gated Recreational Access
27	102.48	Riverside RV LLC	Bayfield Riverside Riverside RV Park	Unsignalized Full Movement	LT	BA	Ag/Res Property Neighbor
28	102.81	Buck Highway		Signalized Full Movement	RT	PRS	
29	102.81	CO RD 501		Signalized Full Movement	LT	PRS	
30	102.87	Elliott, Denise		Unsignalized Full Movement	RT	FA	
	102.90	MP 103					
31	103.10	N. Commerce Dr		Unsignalized Full Movement	LT	PRU	
32	103.10	Bayfield School District		Unsignalized Full Movement	RT	BA	
33	103.30	Peeples Real Estate Investments LLLP		Unsignalized Full Movement	LT	RA	
34	103.30	Haga, Jerry D & Zelma		Unsignalized Full Movement	RT	FA	GATED
35	103.45	Southwestern Foods Inc		Unsignalized Full Movement	LT	RA	Lee W Properties LLC Cross Access
36	103.53	Bayfield Parkway (East)		Unsignalized Full Movement	RT	PRU	
38	103.81	Yarina, David P & Brenda A		Unsignalized Full Movement	RT	FA	GATED
39	103.82	Byrd, Oscar & Nancy Trustees		Unsignalized Full Movement	LT	PVRU	RA / AG Access

Legend
PRS - Public Road Signalized
PRU - Public Road Unsignalized
PVRU - Private Road Unsignalized
BA - Business Access
RA - Residential Access
FA - Field Access

Appendix C – Traffic Methodology, Data Analysis

Memorandum

To: Mike McVaugh, PE
Chris La May
Jim Davis, PE

cc: Elizabeth Stolfus, PE
Jo Heinlein

From: Andrew Amend, PE

Date: September 26, 2013

Re: US 160 Bayfield Traffic Feasibility Analysis - Draft Methodology

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This memorandum describes the general traffic engineering and transportation planning approach proposed by Stolfus & Associates, Inc. for the US 160 Traffic Feasibility Analysis near Bayfield, Colorado. The purpose of this memorandum is to outline, for the benefit of the Town, County and CDOT, the primary assumptions and procedures that will be used in developing future traffic projections. All traffic analyses conducted in the feasibility analysis will be in accordance with this methodology and be used to support access-related decisions made during the course of the project.

STUDY AREA

The study limits cover US 160 through and adjacent to the Town of Bayfield in La Plata County. The US 160 analysis limits will generally extend from Gem Lane (MP 100.468) to Bayfield Parkway (MP 103.624). This section of US 160 functions as a Principal Arterial per FHWA guidelines and falls within the E-X: Expressway access category. The study area will primarily compare the highway and access configuration shown in the preferred alternative from the May 2006 *US 160 Final EIS* to any new access configurations proposed by the project team.

EXISTING TRAFFIC VOLUMES

Daily traffic counts were collected on Wednesday, August 14th and Thursday, August 15th, 2013. The two counts were located on US 160, west of CR 507 and east of Bayfield Parkway. Average Daily Traffic (ADT) at those locations was found to be 11,800 and 5,900, respectively. It is also noted there was 10% more traffic on August 14th than August 15th at both count locations. At the western count location, morning and afternoon peak hour traffic was 8.2% and 8.6% of daily traffic, respectively.

August 15th and 16th, 2012 count data from the CDOT Automatic Traffic Recorder (ATR) 000217 located east of Homestead Drive shows ADT of 11,200. Daily traffic data collected on Tuesday, June 5th, 2012 east of Bayfield Parkway shows ADT of 5,700 at that location. Based on these CDOT sources, data collected in 2013 is thought to be consistent with the typical traffic patterns in area and representative of peak season traffic volumes. CDOT data indicates truck percentages of 4.8% and 9.6% at the Homestead Drive and Bayfield Parkway locations, respectively.

ATR data from July 31, 2013 indicated peaks in traffic demand during the two hour periods beginning at 7:00 a.m. and 4:00 p.m. Turning Movement Counts (TMCs) were then collected during those times on August 13th and 15th, 2013 at seven locations along US 160. System peaks in traffic were determined by adding total intersection volumes of all counted intersections. The system peak hours began at 7:15 a.m. and 5:00 p.m. TMC data from these peak hours is shown in the attached exhibit.

BACKGROUND TRAFFIC PROJECTIONS

In the EIS, future traffic demands were estimated by growing traffic 1.79% per year. Consistent with this growth rate assumption, the current CDOT estimate of 20-year growth at ATR 000217 is a factor of 1.43, which equates to 1.80% compounded annually. A straight line analysis of historical data from the ATR shows August ADT increasing from 7,700 in 1992 to 10,600 in 2012. This equates to an annual compound growth rate of 1.60%.

In order to maintain consistency with the EIS and current CDOT growth estimates, an annual compound growth rate of 1.80% will be applied to 2013 traffic volumes to predict future highway traffic volumes. At this rate, 2025 p.m. peak hour traffic demands at the US 160/CR 501 intersection are estimated to be approximately 11% lower than projected in the EIS. However, this traffic feasibility analysis will consider a 20 year horizon for growth projections. 2033 traffic demands at the intersection are forecasted to be 3% greater than the 2025 demands from the EIS.

Tube counts have also been collected on county roads in the study area. This data indicates varying growth patterns along the various roads. Using counts between 1991 and 2012, growth on CR 502 was 1.45% compounded annually. This growth rate will be applied to existing traffic on all county roads in the study area.

PLANNED DEVELOPMENT

Planned development accounted for in this study considered properties near US 160 with development potential. Generally, those properties were consistent with those considered in the *US 160/160B (West Side) Transportation Study* prepared by Drexel, Barrell & Co. in 2011. This study is not intended to define the future land use of specific properties so only a rough estimate of development intensity will be made. Roughly consistent with the 2011 *Transportation Study*, 380 acres will be considered for development.

Areas adjacent to US 160 will be assumed to be developed as retail and areas farther from the highway will be assumed to be single family homes. The following summarizes the traffic generating impacts of these assumptions from the ITE *Trip Generation, 9th Edition* based on average rates for Single-Family Detached Housing and Shopping Center:

- 35,600 Daily Trips Generated
- 1,130 trips generated during the morning peak hour
- 3,200 trips generated during the afternoon peak hour

Development trips will be reduced to account for internal trips and pass-by trips where applicable. The distribution of development generated trips along US 160 will match that in the attached trip distribution figure.

TRAFFIC MODELS

Traffic models of access configurations will primarily consist of assessing trip reassignment as a result of access change. The FHWA Cap-X tool for the planning of junctions will then be used to evaluate the capacity of highway access points. Two scenarios will be evaluated for each proposed configuration:

- Year 2035 without implementation of any US 160 EIS improvements (No-EIS scenario)

- Year 2035 with full implementation of US 160 EIS improvements (EIS scenario)

The No-EIS scenario will consider how a new access will function assuming that no other changes are made along the corridor beyond those upon which the new access is contingent. The EIS scenario will evaluate the new access and how it interacts with all improvements proposed in the US 160 EIS. Evaluation of an interim or phased scenario will only be considered at the request of the project team. Peak hour traffic signal warrants described in the Manual on Uniform Traffic Control Devices (MUTCD) will be used as a planning level tool to determine if full movement intersections may be signalized in future scenarios.

The Cap-X tool separates junction types into intersections, roundabouts, and interchanges. Numerous configurations of these junction types can evaluated at a planning level with results presented as volume-to-capacity ratio (v/c) for the junction. Right-of-Way constraints and State Highway Access Code auxiliary lane requirements will be considered along with turn demand when selecting lane configurations at the junctions. The results of these analyses and comparisons, in combination with physical and other constraints, will assist the project team in making access-related decisions.

Attachments (2)

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / Gem Ln*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*August 2013*
Analysis Time Period	*AM*		

Project Description *13021*	
East/West Street: *Highway 160A*	North/South Street: *Gem Ln*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	249			555	5
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	276	0	0	616	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				10	0	5
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	11	0	5
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	0						16	
C (m) (veh/h)	960						352	
v/c	0.00						0.05	
95% queue length	0.00						0.14	
Control Delay (s/veh)	8.8						15.7	
LOS	A						C	
Approach Delay (s/veh)	--	--				15.7		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / County Rd 507*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *County Rd 507*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	3	251	5	8	553	5
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	3	278	5	8	614	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	1	2	5	0	5
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	2	1	2	5	0	5
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	3	8		5			10	
C (m) (veh/h)	961	1279		344			329	
v/c	0.00	0.01		0.01			0.03	
95% queue length	0.01	0.02		0.04			0.09	
Control Delay (s/veh)	8.8	7.8		15.6			16.3	
LOS	A	A		C			C	
Approach Delay (s/veh)	--	--	15.6			16.3		
Approach LOS	--	--	C			C		

 HCS+™ Version 5.6 Generated: 12/29/2014 10:16 AM

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Homestead Drive*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Homestead Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	1	256	0	6	574	31
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	1	284	0	6	637	34
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	6	0	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	6	0	3
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	1	6		0			9	
C (m) (veh/h)	919	1278					284	
v/c	0.00	0.00					0.03	
95% queue length	0.00	0.01					0.10	
Control Delay (s/veh)	8.9	7.8					18.1	
LOS	A	A					C	
Approach Delay (s/veh)	--	--				18.1		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	Max Rusch
Agency/Co.	Stolfus and Associates
Date Performed	12/10/2014
Analysis Time Period	AM

Site Information

Intersection	160A / Bayfield Parkway West
Jurisdiction	La Plata County
Analysis Year	August 2013

Project Description 13021

East/West Street: Highway 160A | North/South Street: Bayfield Parkway

Intersection Orientation: East-West | Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		217	48	4	530	
Peak-Hour Factor, PHF	0.96	0.90	0.90	0.90	0.90	0.96
Hourly Flow Rate, HFR (veh/h)	0	241	53	4	588	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			1			0
Lanes	0	1	1	0	1	0
Configuration		T	R	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	78	0	9			
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	86	0	10	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	0	0
Configuration	LT		R			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT	LT		R			
v (veh/h)		4	86		10			
C (m) (veh/h)		1326	336		798			
v/c		0.00	0.26		0.01			
95% queue length		0.01	1.02		0.04			
Control Delay (s/veh)		7.7	19.4		9.6			
LOS		A	C		A			
Approach Delay (s/veh)	--	--	18.4					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / County Rd 506*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *County Rd 506*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*223*			*517*	*1*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*2*	*247*	*0*	*0*	*574*	*1*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration	*LT*				*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*	*0*	*9*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LTR*	
v (veh/h)	*2*						*14*	
C (m) (veh/h)	*994*						*533*	
v/c	*0.00*						*0.03*	
95% queue length	*0.01*						*0.08*	
Control Delay (s/veh)	*8.6*						*11.9*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.9*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / County Rd 502*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*August 2013*
Analysis Time Period	*AM*		

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *County Rd 502*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	15	212			496	5
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	16	235	0	0	551	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				15	0	30
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	16	0	33
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	16						49	
C (m) (veh/h)	1015						449	
v/c	0.02						0.11	
95% queue length	0.05						0.37	
Control Delay (s/veh)	8.6						14.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				14.0		
Approach LOS	--	--				B		

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Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*	**Acceptable Configurations**			
Project Number:	*13021*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*Bayfield, CO*	28	0	0	0
Date	December 19, 2013				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									463	0.29	0.29	10
2	Conventional Shared RT LN	CSRL									503	0.31	0.31	13
3.1	Quadrant Roadway	S-W			475	0.30			291	0.18	371	0.23	0.30	11
3.2		N-E	382	0.24			312	0.20			308	0.19	0.24	7
3.3		S-E			351	0.22	351	0.22			263	0.16	0.22	5
3.4		N-W	230	0.14					312	0.20	348	0.22	0.22	4
4.1	Partial Displaced Left Turn	N-S	249	0.16	175	0.11					322	0.20	0.20	3
4.2		E-W					236	0.15	176	0.11	321	0.20	0.20	2
5	Displaced Left Turn	FULL	249	0.16	175	0.11	236	0.15	176	0.11	248	0.15	0.16	1
6.1	Restricted Crossing U-Turn	N-S	368	0.23	257	0.16	526	0.33	559	0.35			0.35	15
6.2		E-W	359	0.22	351	0.22	361	0.23	379	0.24			0.24	6
7.1	Median U-Turn	N-S	235	0.15	268	0.17					494	0.31	0.31	12
7.2		E-W					256	0.16	424	0.26	513	0.32	0.32	14
8.1	Partial Median U-Turn	N-S	185	0.12	326	0.20					456	0.29	0.29	8
8.2		E-W					230	0.14	250	0.16	456	0.29	0.29	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.40			0.30			0.37			0.37			0.40	5
9.2	1 X 2	0.36			0.13	0.17		0.33			0.23	0.14		0.36	4
9.3	2 X 1	0.22	0.19		0.27			0.10	0.26		0.35			0.35	3
9.4	2 X 2	0.20	0.17		0.12	0.16		0.10	0.24		0.22	0.13		0.24	2
9.5	3 X 3	0.09	0.12	0.15	0.03	0.09	0.14	0.01	0.09	0.21	0.05	0.17	0.13	0.21	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					319	0.20	286	0.18					0.20	8
10.2		E-W					254	0.16	203	0.13					0.16	5
11.1	Partial Cloverleaf	N-S					90	0.06	197	0.12					0.12	2
11.2		E-W					192	0.24	160	0.10					0.12	1
13.1	Displaced Left Turn	N-S	234	0.15			246	0.15	128	0.08			168	0.11	0.15	4
13.2		E-W	249	0.16			274	0.17	153	0.10			292	0.18	0.18	6
14.1	Double Crossover Diamond	N-S	97	0.06	207	0.13	190	0.12	158	0.10	124	0.08	168	0.11	0.13	3
14.2		E-W	263	0.16	212	0.13	230	0.14	190	0.12	298	0.19	311	0.19	0.19	7
15.1	Single Point	N-S	187	0.12			396	0.25					260	0.16	0.25	10
15.2		E-W	263	0.16			369	0.23					267	0.17	0.23	9

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / North Commerce Drive*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*August 2013*
Analysis Time Period			

Project Description *13021*	
East/West Street: *Highway 160A*	North/South Street: *North Commerce Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*99*	*143*	*0*	*0*	*184*	*42*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*110*	*158*	*0*	*0*	*204*	*46*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*		*TR*	*LT*		*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*1*	*0*	*38*	*0*	*131*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*1*	*0*	*42*	*0*	*145*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*0*	*1*	*1*
Configuration	*L*		*TR*	*LT*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*	*L*		*TR*	*LT*		*R*
v (veh/h)	*110*	*0*	*0*		*1*	*42*		*145*
C (m) (veh/h)	*1316*	*1422*	*283*		*367*	*396*		*837*
v/c	*0.08*	*0.00*	*0.00*		*0.00*	*0.11*		*0.17*
95% queue length	*0.27*	*0.00*	*0.00*		*0.01*	*0.36*		*0.63*
Control Delay (s/veh)	*8.0*	*7.5*	*17.7*		*14.8*	*15.2*		*10.2*
LOS	*A*	*A*	*C*		*B*	*C*		*B*
Approach Delay (s/veh)	--	--	*14.8*			*11.3*		
Approach LOS	--	--	*B*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Bayfield Parkway East*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*	
East/West Street: *Highway 160A*	North/South Street: *Bayfield Parkway East*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	135	41	21	158	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	150	45	23	175	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	72		10	0		0
Peak-Hour Factor, PHF	0.90	0.96	0.90	0.90	0.96	0.90
Hourly Flow Rate, HFR (veh/h)	80	0	11	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	0	1	0	0	0
Configuration	L		R		LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR	L		R		LR	
v (veh/h)	0	23	80		11		0	
C (m) (veh/h)	1401	1378	558		872			
v/c	0.00	0.02	0.14		0.01			
95% queue length	0.00	0.05	0.50		0.04			
Control Delay (s/veh)	7.6	7.7	12.5		9.2			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	12.1					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Gem Ln*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Gem Ln*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	637			337	10
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	5	663	0	0	351	10
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				5	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	5	0	0
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	5						5	
C (m) (veh/h)	1198						258	
v/c	0.00						0.02	
95% queue length	0.01						0.06	
Control Delay (s/veh)	8.0						19.2	
LOS	A						C	
Approach Delay (s/veh)	--	--				19.2		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County Rd 507*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* North/South Street: *County Rd 507*

Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	642	5	6	338	4
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	668	5	6	352	4
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	7	0	9	15	2	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	7	0	9	15	2	2
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	0	6		16			19	
C (m) (veh/h)	1203	918		298			222	
v/c	0.00	0.01		0.05			0.09	
95% queue length	0.00	0.02		0.17			0.28	
Control Delay (s/veh)	8.0	8.9		17.8			22.7	
LOS	A	A		C			C	
Approach Delay (s/veh)	--	--	17.8			22.7		
Approach LOS	--	--	C			C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Homestead Drive*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Homestead Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*670*	*0*	*2*	*337*	*7*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*1*	*697*	*0*	*2*	*351*	*7*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*17*	*17*	*0*	*0*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*17*	*17*	*0*	*0*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (veh/h)	*1*	*2*		*17*			*17*	
C (m) (veh/h)	*1201*	*899*		*441*			*192*	
v/c	*0.00*	*0.00*		*0.04*			*0.09*	
95% queue length	*0.00*	*0.01*		*0.12*			*0.29*	
Control Delay (s/veh)	*8.0*	*9.0*		*13.5*			*25.6*	
LOS	*A*	*A*		*B*			*D*	
Approach Delay (s/veh)	--	--	*13.5*			*25.6*		
Approach LOS	--	--	*B*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway West*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*541*	*162*	*296*	*9*	
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*563*	*168*	*308*	*9*	*0*
Percent Heavy Vehicles	*2*	*--*	*--*	*2*	*--*	*--*
Median Type	*Undivided*					
RT Channelized			*1*			*0*
Lanes	*0*	*1*	*1*	*0*	*1*	*0*
Configuration		*T*	*R*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*52*	*0*	*9*			
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*54*	*0*	*9*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*1*	*0*	*0*	*0*
Configuration	*LT*		*R*			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*	*LT*		*R*			
v (veh/h)		*308*	*54*		*9*			
C (m) (veh/h)		*1008*	*144*		*526*			
v/c		*0.31*	*0.38*		*0.02*			
95% queue length		*1.32*	*1.73*		*0.05*			
Control Delay (s/veh)		*10.1*	*44.8*		*12.0*			
LOS		*B*	*E*		*B*			
Approach Delay (s/veh)	*--*	*--*	*40.1*					
Approach LOS	*--*	*--*	*E*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County Rd 506*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* — North/South Street: *County Rd 506*

Intersection Orientation: *East-West* — Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	8	546			303	4
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	8	568	0	0	315	4
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	2	0
Configuration	LT				T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3	0	2
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	3	0	2
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	8						5	
C (m) (veh/h)	1238						381	
v/c	0.01						0.01	
95% queue length	0.02						0.04	
Control Delay (s/veh)	7.9						14.6	
LOS	A						B	
Approach Delay (s/veh)	--	--				14.6		
Approach LOS	--	--				B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County 502*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* North/South Street: *County 502*

Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*30*	*519*			*290*	*10*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*1.00*	*1.00*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*31*	*540*	*0*	*0*	*302*	*10*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*	*0*	*15*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*15*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LTR*	
v (veh/h)	*31*						*20*	
C (m) (veh/h)	*1248*						*536*	
v/c	*0.02*						*0.04*	
95% queue length	*0.08*						*0.12*	
Control Delay (s/veh)	*8.0*						*12.0*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*12.0*		
Approach LOS	--	--				*B*		

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Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*	Acceptable Configurations			
Project Number:	*13021*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*Bayfield, CO*	28	0	0	0
Date	December 19, 2013				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									488	0.31	0.31	10
2	Conventional Shared RT LN	CSRL									587	0.37	0.37	14
3.1	Quadrant Roadway	S-W			460	0.29			428	0.27	418	0.26	0.29	5
3.2		N-E	476	0.30			320	0.20			437	0.27	0.30	7
3.3		S-E			273	0.17	273	0.17			437	0.27	0.27	4
3.4		N-W	241	0.15					325	0.20	321	0.20	0.20	1
4.1	Partial Displaced Left Turn	N-S	296	0.18	300	0.19					464	0.29	0.29	6
4.2		E-W					328	0.20	261	0.16	333	0.21	0.21	3
5	Displaced Left Turn	FULL	296	0.18	300	0.19	328	0.20	261	0.16	328	0.21	0.21	2
6.1	Restricted Crossing U-Turn	N-S	417	0.26	391	0.24	674	0.42	798	0.50			0.50	15
6.2		E-W	559	0.35	459	0.29	349	0.22	569	0.36			0.36	13
7.1	Median U-Turn	N-S	287	0.18	226	0.14					509	0.32	0.32	11
7.2		E-W					369	0.23	523	0.33	555	0.35	0.35	12
8.1	Partial Median U-Turn	N-S	213	0.13	176	0.11					485	0.30	0.30	8
8.2		E-W					357	0.22	448	0.28	485	0.30	0.30	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.51			0.72			0.30			0.42			0.72	5
9.2	1 X 2	0.45			0.38	0.34		0.26			0.28	0.15		0.45	3
9.3	2 X 1	0.18	0.33		0.65			0.11	0.19		0.39			0.65	4
9.4	2 X 2	0.17	0.29		0.35	0.31		0.09	0.16		0.26	0.13		0.35	2
9.5	3 X 3	0.04	0.14	0.26	0.09	0.28	0.29	0.01	0.10	0.16	0.07	0.19	0.13	0.29	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					405	0.25	474	0.30					0.30	9
10.2		E-W					254	0.16	252	0.16					0.16	2
11.1	Partial Cloverleaf	N-S					86	0.05	108	0.07					0.07	1
11.2		E-W					384	0.30	263	0.16					0.24	8
13.1	Displaced Left Turn	N-S	195	0.12			261	0.16	288	0.18			262	0.16	0.18	4
13.2		E-W	297	0.19			225	0.14	203	0.13			328	0.20	0.20	6
14.1	Double Crossover Diamond	N-S	149	0.09	249	0.16	245	0.15	215	0.13	214	0.13	262	0.16	0.16	3
14.2		E-W	319	0.20	346	0.22	295	0.18	184	0.12	366	0.23	271	0.17	0.23	7
15.1	Single Point	N-S	283	0.18			554	0.35					423	0.26	0.35	10
15.2		E-W	319	0.20			320	0.20					207	0.13	0.20	5

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / North Commerce Drive*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *North Commerce Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	216	224	1	0	215	65
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	225	233	1	0	223	67
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	4	0	0	70	1	116
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	4	0	0	72	1	120
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LT	L		TR	LT		R
v (veh/h)	225	0	4		0	73		120
C (m) (veh/h)	1272	1333	163			222		817
v/c	0.18	0.00	0.02			0.33		0.15
95% queue length	0.64	0.00	0.08			1.44		0.52
Control Delay (s/veh)	8.4	7.7	27.6			29.1		10.2
LOS	A	A	D			D		B
Approach Delay (s/veh)	--	--				17.3		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Bayfield Parkway East*
Jurisdiction	*La Plata County*
Analysis Year	*August 2013*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway East*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	200	102	12	195	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	208	106	12	203	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	81		33	0		0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	84	0	34	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	0	1	0	0	0
Configuration	L		R		LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR	L		R		LR	
v (veh/h)	0	12	84		34		0	
C (m) (veh/h)	1369	1246	486		778			
v/c	0.00	0.01	0.17		0.04			
95% queue length	0.00	0.03	0.62		0.14			
Control Delay (s/veh)	7.6	7.9	14.0		9.8			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	12.8					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / Gem Ln*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*2035*
Analysis Time Period	*AM*		

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *Gem Ln*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	370			823	7
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	411	0	0	914	7
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				14	0	7
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	15	0	7
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	0						22	
C (m) (veh/h)	741						304	
v/c	0.00						0.07	
95% queue length	0.00						0.23	
Control Delay (s/veh)	9.9						17.8	
LOS	A						C	
Approach Delay (s/veh)	--	--				17.8		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	*160A / County Rd 507*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*2035*
Analysis Time Period	*AM*		

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *County Rd 507*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*373*	*7*	*11*	*821*	*7*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*4*	*414*	*7*	*12*	*912*	*7*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*3*	*1*	*3*	*7*	*0*	*7*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*3*	*1*	*3*	*7*	*0*	*7*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (veh/h)	*4*	*12*		*7*			*14*	
C (m) (veh/h)	*743*	*1138*		*189*			*176*	
v/c	*0.01*	*0.01*		*0.04*			*0.08*	
95% queue length	*0.02*	*0.03*		*0.12*			*0.26*	
Control Delay (s/veh)	*9.9*	*8.2*		*24.8*			*27.2*	
LOS	*A*	*A*		*C*			*D*	
Approach Delay (s/veh)	--	--	*24.8*			*27.2*		
Approach LOS	--	--	*C*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Homestead Drive*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *Homestead Drive*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*380*	*0*	*8*	*854*	*43*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*1*	*422*	*0*	*8*	*948*	*47*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*8*	*0*	*4*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*8*	*0*	*4*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (veh/h)	*1*	*8*		*0*			*12*	
C (m) (veh/h)	*695*	*1137*					*144*	
v/c	*0.00*	*0.01*					*0.08*	
95% queue length	*0.00*	*0.02*					*0.27*	
Control Delay (s/veh)	*10.2*	*8.2*					*32.3*	
LOS	*B*	*A*					*D*	
Approach Delay (s/veh)	--	--				*32.3*		
Approach LOS	--	--				*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Bayfield Parkway West*
Jurisdiction	*La Plata County*
Analysis Year	

Project Description *13021*
East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway West*
Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*327*	*66*	*5*	*794*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*363*	*73*	*5*	*882*	*0*
Percent Heavy Vehicles	*2*	*--*	*--*	*2*	*--*	*--*
Median Type	*Undivided*					
RT Channelized			*1*			*0*
Lanes	*0*	*1*	*1*	*0*	*1*	*0*
Configuration	*LT*		*R*	*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*107*	*0*	*10*			
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*118*	*0*	*11*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration	*LT*		*TR*			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LTR*	*LT*		*TR*			
v (veh/h)	*0*	*5*	*118*		*11*			
C (m) (veh/h)	*767*	*1196*	*188*		*682*			
v/c	*0.00*	*0.00*	*0.63*		*0.02*			
95% queue length	*0.00*	*0.01*	*4.48*		*0.05*			
Control Delay (s/veh)	*9.7*	*8.0*	*55.0*		*10.4*			
LOS	*A*	*A*	*F*		*B*			
Approach Delay (s/veh)	*--*	*--*	*51.2*					
Approach LOS	*--*	*--*	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / County Rd 506*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *County Rd 506*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	3	331			776	1
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	3	367	0	0	862	1
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	2	0
Configuration	LT				T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				5	0	12
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	5	0	13
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	3						18	
C (m) (veh/h)	775						355	
v/c	0.00						0.05	
95% queue length	0.01						0.16	
Control Delay (s/veh)	9.7						15.7	
LOS	A						C	
Approach Delay (s/veh)	--	--				15.7		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Max Rusch	Intersection	160A / County Rd 502
Agency/Co.	Stolfus and Associates	Jurisdiction	La Plata County
Date Performed	12/10/2014	Analysis Year	2035
Analysis Time Period	AM		

Project Description 13021	
East/West Street: Highway 160A	North/South Street: County Rd 502
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	21	317			738	7
Peak-Hour Factor, PHF	0.90	0.90	1.00	1.00	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	23	352	0	0	820	7
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				41	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	45	0	0
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	23						45	
C (m) (veh/h)	804						192	
v/c	0.03						0.23	
95% queue length	0.09						0.91	
Control Delay (s/veh)	9.6						29.5	
LOS	A						D	
Approach Delay (s/veh)	--	--				29.5		
Approach LOS	--	--				D		

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Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*
Project Number:	*13021*
Location	*Bayfield, CO*
Date	December 19, 2013

Critical Lane Volume Sum			
Acceptable Configurations			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
28	0	0	0

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									639	0.40	0.40	10
2	Conventional Shared RT LN	CSRL									684	0.43	0.43	12
3.1	Quadrant Roadway	S-W			650	0.41			398	0.25	504	0.31	0.41	11
3.2		N-E	523	0.33			453	0.28			384	0.24	0.33	6
3.3		S-E			483	0.30	483	0.30			411	0.26	0.30	5
3.4		N-W	318	0.20					362	0.23	472	0.30	0.30	4
4.1	Partial Displaced Left Turn	N-S	341	0.21	242	0.15					442	0.28	0.28	3
4.2		E-W					346	0.22	87	0.05	423	0.26	0.26	2
5	Displaced Left Turn	FULL	341	0.21	242	0.15	346	0.22	87	0.05	322	0.20	0.22	1
6.1	Restricted Crossing U-Turn	N-S	312	0.20	379	0.24	695	0.43	426	0.27			0.43	13
6.2		E-W	492	0.31	481	0.30	429	0.27	541	0.34			0.34	7
7.1	Median U-Turn	N-S	324	0.20	367	0.23					859	0.54	0.54	15
7.2		E-W					287	0.18	604	0.38	709	0.44	0.44	14
8.1	Partial Median U-Turn	N-S	256	0.16	447	0.28					626	0.39	0.39	8
8.2		E-W					249	0.16	365	0.23	626	0.39	0.39	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.46			0.52			0.59			0.40			0.59	5
9.2	1 X 2	0.44			0.23	0.29		0.51			0.17	0.23		0.51	4
9.3	2 X 1	0.25	0.21		0.46			0.17	0.42		0.36			0.46	3
9.4	2 X 2	0.24	0.20		0.20	0.26		0.15	0.37		0.16	0.21		0.37	2
9.5	3 X 3	0.10	0.14	0.18	0.04	0.17	0.23	0.02	0.14	0.32	0.08	0.08	0.18	0.32	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					440	0.28	393	0.25					0.28	8
10.2		E-W					264	0.17	183	0.11					0.17	1
11.1	Partial Cloverleaf	N-S					125	0.08	270	0.17					0.17	2
11.2		E-W					278	0.33	116	0.07					0.17	3
13.1	Displaced Left Turn	N-S	321	0.20			339	0.21	176	0.11			231	0.14	0.21	5
13.2		E-W	187	0.12			306	0.19	232	0.15			422	0.26	0.26	7
14.1	Double Crossover Diamond	N-S	321	0.20	285	0.18	260	0.16	217	0.14	170	0.11	231	0.14	0.20	4
14.2		E-W	207	0.13	158	0.10	338	0.21	107	0.07	276	0.17	448	0.28	0.28	9
15.1	Single Point	N-S	465	0.29			635	0.40					358	0.22	0.40	10
15.2		E-W	207	0.13			416	0.26					381	0.24	0.26	6

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	

Site Information

Intersection	*160A / North Commerce Drive*
Jurisdiction	*La Plata County*
Analysis Year	

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *North Commerce Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	136	227	0	0	291	58
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	151	252	0	0	323	64
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	1	0	52	0	180
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	1	0	57	0	200
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LT	L		TR	LT		R
v (veh/h)	151	0	0		1	57		200
C (m) (veh/h)	1171	1313	142		229	242		718
v/c	0.13	0.00	0.00		0.00	0.24		0.28
95% queue length	0.44	0.00	0.00		0.01	0.92		1.15
Control Delay (s/veh)	8.5	7.7	30.4		20.8	24.4		11.9
LOS	A	A	D		C	C		B
Approach Delay (s/veh)	--	--	20.8			14.7		
Approach LOS	--	--	C			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / Bayfield Parkway East*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/10/2014*	Analysis Year	*2035*
Analysis Time Period	*AM*		

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *Bayfield Parkway East*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*205*	*56*	*29*	*244*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*227*	*62*	*32*	*271*	*0*
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*99*		*14*	*0*		*0*
Peak-Hour Factor, PHF	*0.90*	*0.96*	*0.90*	*0.90*	*0.96*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*110*	*0*	*15*	*0*	*0*	*0*
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*1*			*0*
Lanes	*1*	*0*	*1*	*0*	*0*	*0*
Configuration	*L*		*R*		*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*	*L*		*R*		*LR*	
v (veh/h)	*0*	*32*	*110*		*15*		*0*	
C (m) (veh/h)	*1292*	*1273*	*407*		*781*			
v/c	*0.00*	*0.03*	*0.27*		*0.02*			
95% queue length	*0.00*	*0.08*	*1.10*		*0.06*			
Control Delay (s/veh)	*7.8*	*7.9*	*17.1*		*9.7*			
LOS	*A*	*A*	*C*		*A*			
Approach Delay (s/veh)	--	--	*16.2*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Gem Ln*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Gem Ln*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*937*			*500*	*14*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*1.00*	*1.00*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*7*	*976*	*0*	*0*	*520*	*14*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*	*0*	*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LTR*	
v (veh/h)	*7*						*7*	
C (m) (veh/h)	*1034*						*130*	
v/c	*0.01*						*0.05*	
95% queue length	*0.02*						*0.17*	
Control Delay (s/veh)	*8.5*						*34.3*	
LOS	*A*						*D*	
Approach Delay (s/veh)	--	--				*34.3*		
Approach LOS	--	--				*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County Rd 507*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *County Rd 507*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*954*	*7*	*8*	*503*	*5*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*993*	*7*	*8*	*523*	*5*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*	*0*	*12*	*21*	*3*	*3*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*12*	*21*	*3*	*3*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (veh/h)	*0*	*8*		*22*			*27*	
C (m) (veh/h)	*1039*	*692*		*145*			*101*	
v/c	*0.00*	*0.01*		*0.15*			*0.27*	
95% queue length	*0.00*	*0.04*		*0.53*			*1.06*	
Control Delay (s/veh)	*8.5*	*10.3*		*34.3*			*53.5*	
LOS	*A*	*B*		*D*			*F*	
Approach Delay (s/veh)	--	--	*34.3*			*53.5*		
Approach LOS	--	--	*D*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Homestead Drive*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Homestead Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1*	*996*	*0*	*3*	*500*	*10*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*1*	*1037*	*0*	*3*	*520*	*10*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*23*	*23*	*0*	*0*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*23*	*23*	*0*	*0*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (veh/h)	*1*	*3*		*23*			*23*	
C (m) (veh/h)	*1037*	*670*		*281*			*80*	
v/c	*0.00*	*0.00*		*0.08*			*0.29*	
95% queue length	*0.00*	*0.01*		*0.27*			*1.16*	
Control Delay (s/veh)	*8.5*	*10.4*		*19.0*			*67.9*	
LOS	*A*	*B*		*C*			*F*	
Approach Delay (s/veh)	--	--	*19.0*			*67.9*		
Approach LOS	--	--	*C*			*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Bayfield Parkway West*
Jurisdiction	*La Plata County*
Analysis Year	

Project Description *13021*

East/West Street: *Highway 160A* — North/South Street: *Bayfield Parkway West*

Intersection Orientation: *East-West* — Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	821	222	296	9	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	855	231	308	9	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			1			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	52	0	9			
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	54	0	9	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	2	0	0	0	0
Configuration	LT		TR			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	LT		TR			
v (veh/h)	0	308	54		9			
C (m) (veh/h)	1611	785	84		358			
v/c	0.00	0.39	0.64		0.03			
95% queue length	0.00	1.92	4.22		0.08			
Control Delay (s/veh)	7.2	12.5	117.5		15.3			
LOS	A	B	F		C			
Approach Delay (s/veh)	--	--	102.9					
Approach LOS	--	--	F					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County Rd 506*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *County Rd 506*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	11	810			449	5
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	11	843	0	0	467	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	2	0
Configuration	LT				T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				4	0	3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	3
Percent Heavy Vehicles	0	0	0	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	1	0
Configuration					LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LTR	
v (veh/h)	11						7	
C (m) (veh/h)	1086						222	
v/c	0.01						0.03	
95% queue length	0.03						0.10	
Control Delay (s/veh)	8.3						21.7	
LOS	A						C	
Approach Delay (s/veh)	--	--				21.7		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / County 502*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* North/South Street: *County 502*

Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*41*	*772*			*433*	*21*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*1.00*	*1.00*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*42*	*804*	*0*	*0*	*451*	*21*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*	*0*	*21*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*21*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration					*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LTR*	
v (veh/h)	*42*						*28*	
C (m) (veh/h)	*1090*						*356*	
v/c	*0.04*						*0.08*	
95% queue length	*0.12*						*0.26*	
Control Delay (s/veh)	*8.4*						*16.0*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.0*		
Approach LOS	--	--				*C*		

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Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*	
Project Number:	*13021*	
Location	*Bayfield, CO*	
Date	December 19, 2013	

Critical Lane Volume Sum			
Acceptable Configurations			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
27	1	0	0

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									974	0.61	0.61	14
2	Conventional Shared RT LN	CSRL									848	0.53	0.53	13
3.1	Quadrant Roadway	S-W			764	0.48			588	0.37	553	0.35	0.48	12
3.2		N-E	500	0.31			435	0.27			671	0.42	0.42	7
3.3		S-E			421	0.26	421	0.26			474	0.30	0.30	1
3.4		N-W	374	0.23					393	0.25	547	0.34	0.34	4
4.1	Partial Displaced Left Turn	N-S	427	0.27	390	0.24					677	0.42	0.42	8
4.2		E-W					456	0.28	420	0.26	499	0.31	0.31	3
5	Displaced Left Turn	FULL	427	0.27	390	0.24	456	0.28	420	0.26	492	0.31	0.31	2
6.1	Restricted Crossing U-Turn	N-S	469	0.29	725	0.45	1226	0.77	1036	0.65			0.77	15
6.2		E-W	579	0.36	701	0.44	664	0.42	665	0.42			0.44	9
7.1	Median U-Turn	N-S	300	0.19	404	0.25					701	0.44	0.44	10
7.2		E-W					619	0.39	672	0.42	764	0.48	0.48	11
8.1	Partial Median U-Turn	N-S	242	0.15	293	0.18					649	0.41	0.41	5
8.2		E-W					516	0.32	655	0.41	649	0.41	0.41	6

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.45			1.10			1.01			0.81			1.10	5
9.2	1 X 2	0.38			0.58	0.52		0.81			0.52	0.29		0.81	3
9.3	2 X 1	0.16	0.29		0.99			0.36	0.65		0.69			0.99	4
9.4	2 X 2	0.14	0.24		0.53	0.47		0.30	0.52		0.45	0.25		0.53	2
9.5	3 X 3	0.01	0.14	0.23	0.12	0.43	0.45	0.08	0.27	0.51	0.13	0.36	0.25	0.51	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					649	0.41	555	0.35					0.41	9
10.2		E-W					340	0.21	409	0.26					0.26	4
11.1	Partial Cloverleaf	N-S					149	0.09	118	0.07					0.09	1
11.2		E-W					553	0.31	378	0.24					0.35	7
13.1	Displaced Left Turn	N-S	233	0.15			386	0.24	365	0.23			331	0.21	0.24	3
13.2		E-W	420	0.26			278	0.17	358	0.22			523	0.33	0.33	6
14.1	Double Crossover Diamond	N-S	233	0.15	277	0.17	302	0.19	329	0.21	358	0.22	331	0.21	0.22	2
14.2		E-W	327	0.20	578	0.36	374	0.23	352	0.22	535	0.33	553	0.35	0.36	8
15.1	Single Point	N-S	446	0.28			760	0.47					522	0.33	0.47	10
15.2		E-W	327	0.20			466	0.29					463	0.29	0.29	5

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / North Commerce Drive*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* North/South Street: *North Commerce Drive*

Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	296	363	1	0	338	89
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	308	378	1	0	352	92
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5	0	0	96	1	159
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	5	0	0	100	1	165
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	1
Configuration	L		TR	LT		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LT	L		TR	LT		R
v (veh/h)	308	0	5		0	101		165
C (m) (veh/h)	1116	1179	62			101		692
v/c	0.28	0.00	0.08			1.00		0.24
95% queue length	1.14	0.00	0.26			12.31		0.94
Control Delay (s/veh)	9.5	8.1	68.1			293.9		11.8
LOS	A	A	F			F		B
Approach Delay (s/veh)	--	--				118.9		
Approach LOS	--	--				F		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/10/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Bayfield Parkway East*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway East*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	311	140	16	299	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	323	145	16	311	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	111		45	0		0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	115	0	46	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	0	1	0	0	0
Configuration	L		R		LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR	L		R		LR	
v (veh/h)	0	16	115		46		0	
C (m) (veh/h)	1249	1094	328		653			
v/c	0.00	0.01	0.35		0.07			
95% queue length	0.00	0.04	1.60		0.23			
Control Delay (s/veh)	7.9	8.3	21.9		10.9			
LOS	A	A	C		B			
Approach Delay (s/veh)	--	--	18.7					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / County Rd 507*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *County Rd 507*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	358	7	11	799	65
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	5	397	7	12	887	72
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	20	1	8	29	0	18
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	22	1	8	32	0	20
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	5	12	22	1	8	32	0	20
C (m) (veh/h)	713	1151	233	139	842	156	152	612
v/c	0.01	0.01	0.09	0.01	0.01	0.21	0.00	0.03
95% queue length	0.02	0.03	0.31	0.02	0.03	0.76	0.00	0.10
Control Delay (s/veh)	10.1	8.2	22.1	31.1	9.3	34.0	28.7	11.1
LOS	B	A	C	D	A	D	D	B
Approach Delay (s/veh)	--	--	19.1			25.2		
Approach LOS	--	--	C			D		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Bayfield Parkway West*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*
East/West Street: *Highway 160A* North/South Street: *Bayfield Parkway West*
Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	23	309	66	5	740	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	25	343	73	5	822	8
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	85	0	5	26	0	54
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	94	0	5	28	0	60
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	25	5	94	0	5	28	0	60
C (m) (veh/h)	798	1139	238	170	870	175	154	639
v/c	0.03	0.00	0.39	0.00	0.01	0.16	0.00	0.09
95% queue length	0.10	0.01	1.91	0.00	0.02	0.57	0.00	0.31
Control Delay (s/veh)	9.7	8.2	29.9	26.2	9.2	29.5	28.4	11.2
LOS	A	A	D	D	A	D	D	B
Approach Delay (s/veh)	--	--	28.9			17.0		
Approach LOS	--	--	D			C		

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Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*
Project Number:	*13021*
Location	*Bayfield, CO*
Date	December 19, 2013

Critical Lane Volume Sum			
Acceptable Configurations			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
28	0	0	0

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									639	0.40	0.40	10
2	Conventional Shared RT LN	CSRL									684	0.43	0.43	12
3.1	Quadrant Roadway	S-W			650	0.41			398	0.25	504	0.31	0.41	11
3.2		N-E	523	0.33			453	0.28			384	0.24	0.33	6
3.3		S-E			483	0.30	483	0.30			411	0.26	0.30	5
3.4		N-W	318	0.20					362	0.23	472	0.30	0.30	4
4.1	Partial Displaced Left Turn	N-S	341	0.21	242	0.15					442	0.28	0.28	3
4.2		E-W					346	0.22	87	0.05	423	0.26	0.26	2
5	Displaced Left Turn	FULL	341	0.21	242	0.15	346	0.22	87	0.05	322	0.20	0.22	1
6.1	Restricted Crossing U-Turn	N-S	312	0.20	379	0.24	695	0.43	426	0.27			0.43	13
6.2		E-W	492	0.31	481	0.30	429	0.27	541	0.34			0.34	7
7.1	Median U-Turn	N-S	324	0.20	367	0.23					859	0.54	0.54	15
7.2		E-W					287	0.18	604	0.38	709	0.44	0.44	14
8.1	Partial Median U-Turn	N-S	256	0.16	447	0.28					626	0.39	0.39	8
8.2		E-W					249	0.16	365	0.23	626	0.39	0.39	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.46			0.52			0.59			0.40			0.59	5
9.2	1 X 2	0.44			0.23	0.29		0.51			0.17	0.23		0.51	4
9.3	2 X 1	0.25	0.21		0.46			0.17	0.42		0.36			0.46	3
9.4	2 X 2	0.24	0.20		0.20	0.26		0.15	0.37		0.16	0.21		0.37	2
9.5	3 X 3	0.10	0.14	0.18	0.04	0.17	0.23	0.02	0.14	0.32	0.08	0.08	0.18	0.32	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					440	0.28	393	0.25					0.28	8
10.2		E-W					264	0.17	183	0.11					0.17	1
11.1	Partial Cloverleaf	N-S					125	0.08	270	0.17					0.17	2
11.2		E-W					278	0.33	116	0.07					0.17	3
13.1	Displaced Left Turn	N-S	321	0.20			339	0.21	176	0.11			231	0.14	0.21	5
13.2		E-W	187	0.12			306	0.19	232	0.15			422	0.26	0.26	7
14.1	Double Crossover Diamond	N-S	321	0.20	285	0.18	260	0.16	217	0.14	170	0.11	231	0.14	0.20	4
14.2		E-W	207	0.13	158	0.10	338	0.21	107	0.07	276	0.17	448	0.28	0.28	9
15.1	Single Point	N-S	465	0.29			635	0.40					358	0.22	0.40	10
15.2		E-W	207	0.13			416	0.26					381	0.24	0.26	6

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / North Commerce Drive*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *North Commerce Drive*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	136	363			291	58
Peak-Hour Factor, PHF	0.90	0.90	0.96	0.96	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	151	403	0	0	323	64
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	0	2	1
Configuration	L	T			T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						180
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.90
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	200
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							R
v (veh/h)	151							200
C (m) (veh/h)	1168							882
v/c	0.13							0.23
95% queue length	0.45							0.88
Control Delay (s/veh)	8.5							10.3
LOS	A							B
Approach Delay (s/veh)	--	--				10.3		
Approach LOS	--	--				B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / Bayfield Parkway East*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway East*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	153	56	29	244	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	0	170	62	32	271	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	99	1	14	52	0	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	110	1	15	57	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	0	32	110	1	15	57	0	0
C (m) (veh/h)	1289	1333	552	457	973	499	422	911
v/c	0.00	0.02	0.20	0.00	0.02	0.11	0.00	0.00
95% queue length	0.00	0.07	0.74	0.01	0.05	0.39	0.00	0.00
Control Delay (s/veh)	7.8	7.8	13.1	12.9	8.8	13.1	13.5	9.0
LOS	A	A	B	B	A	B	B	A
Approach Delay (s/veh)	--	--	12.6			13.1		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*AM*

Site Information

Intersection	*160A / County Rd 507*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* North/South Street: *County Rd 507*

Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	8	945	7	8	495	32
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	8	984	7	8	515	33
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	18	0	19	74	3	18
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	18	0	19	77	3	18
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	8	8	18	0	19	77	3	18
C (m) (veh/h)	1018	693	117	109	575	176	113	779
v/c	0.01	0.01	0.15	0.00	0.03	0.44	0.03	0.02
95% queue length	0.02	0.04	0.54	0.00	0.10	2.23	0.08	0.07
Control Delay (s/veh)	8.6	10.3	41.3	38.0	11.5	41.1	37.7	9.7
LOS	A	B	E	E	B	E	E	A
Approach Delay (s/veh)	--	--	26.0			35.3		
Approach LOS	--	--	D			E		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / Bayfield Parkway West*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*

East/West Street: *Highway 160A* | North/South Street: *Bayfield Parkway West*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	52	774	222	12	422	26
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	54	806	231	12	439	27
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	57	0	6	11	0	54
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	59	0	6	11	0	56
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	54	12	59	0	6	11	0	56
C (m) (veh/h)	1092	666	134	129	646	194	97	818
v/c	0.05	0.02	0.44	0.00	0.01	0.06	0.00	0.07
95% queue length	0.16	0.06	2.23	0.00	0.03	0.18	0.00	0.22
Control Delay (s/veh)	8.5	10.5	52.6	32.9	10.6	24.7	42.1	9.7
LOS	A	B	F	D	B	C	E	A
Approach Delay (s/veh)	--	--	48.7			12.2		
Approach LOS	--	--	E			B		

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Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 50 - Bayfield Traffic Feasibility PM Peak*
Project Number:	*13021*
Location	*Bayfield, CO*
Date	December 19, 2013

Critical Lane Volume Sum			
Acceptable Configurations			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
27	1	0	0

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									974	0.61	0.61	14
2	Conventional Shared RT LN	CSRL									848	0.53	0.53	13
3.1	Quadrant Roadway	S-W			764	0.48			588	0.37	553	0.35	0.48	12
3.2		N-E	500	0.31			435	0.27			671	0.42	0.42	7
3.3		S-E			421	0.26	421	0.26			474	0.30	0.30	1
3.4		N-W	374	0.23					393	0.25	547	0.34	0.34	4
4.1	Partial Displaced Left Turn	N-S	427	0.27	390	0.24					677	0.42	0.42	8
4.2		E-W					456	0.28	420	0.26	499	0.31	0.31	3
5	Displaced Left Turn	FULL	427	0.27	390	0.24	456	0.28	420	0.26	492	0.31	0.31	2
6.1	Restricted Crossing U-Turn	N-S	469	0.29	725	0.45	1226	0.77	1036	0.65			0.77	15
6.2		E-W	579	0.36	701	0.44	664	0.42	665	0.42			0.44	9
7.1	Median U-Turn	N-S	300	0.19	404	0.25					701	0.44	0.44	10
7.2		E-W					619	0.39	672	0.42	764	0.48	0.48	11
8.1	Partial Median U-Turn	N-S	242	0.15	293	0.18					649	0.41	0.41	5
8.2		E-W					516	0.32	655	0.41	649	0.41	0.41	6

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	1 X 1	0.45			1.10			1.01			0.81			1.10	5
9.2	1 X 2	0.38			0.58	0.52		0.81			0.52	0.29		0.81	3
9.3	2 X 1	0.16	0.29		0.99			0.36	0.65		0.69			0.99	4
9.4	2 X 2	0.14	0.24		0.53	0.47		0.30	0.52		0.45	0.25		0.53	2
9.5	3 X 3	0.01	0.14	0.23	0.12	0.43	0.45	0.08	0.27	0.51	0.13	0.36	0.25	0.51	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					649	0.41	555	0.35					0.41	9
10.2		E-W					340	0.21	409	0.26					0.26	4
11.1	Partial Cloverleaf	N-S					149	0.09	118	0.07					0.09	1
11.2		E-W					553	0.31	378	0.24					0.35	7
13.1	Displaced Left Turn	N-S	233	0.15			386	0.24	365	0.23			331	0.21	0.24	3
13.2		E-W	420	0.26			278	0.17	358	0.22			523	0.33	0.33	6
14.1	Double Crossover Diamond	N-S	233	0.15	277	0.17	302	0.19	329	0.21	358	0.22	331	0.21	0.22	2
14.2		E-W	327	0.20	578	0.36	374	0.23	352	0.22	535	0.33	553	0.35	0.36	8
15.1	Single Point	N-S	446	0.28			760	0.47					522	0.33	0.47	10
15.2		E-W	327	0.20			466	0.29					463	0.29	0.29	5

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Max Rusch*
Agency/Co.	*Stolfus and Associates*
Date Performed	*12/11/2014*
Analysis Time Period	*PM*

Site Information

Intersection	*160A / North Commerce Drive*
Jurisdiction	*La Plata County*
Analysis Year	*2035*

Project Description *13021*
East/West Street: *Highway 160A* North/South Street: *North Commerce Drive*
Intersection Orientation: *East-West* Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*296*	*363*			*344*	*89*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*308*	*378*	*0*	*0*	*358*	*92*
Percent Heavy Vehicles	*2*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*159*
Peak-Hour Factor, PHF	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*165*
Percent Heavy Vehicles	*2*	*2*	*2*	*2*	*2*	*2*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*1*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*							*R*
v (veh/h)	*308*							*165*
C (m) (veh/h)	*1107*							*863*
v/c	*0.28*							*0.19*
95% queue length	*1.15*							*0.71*
Control Delay (s/veh)	*9.5*							*10.2*
LOS	*A*							*B*
Approach Delay (s/veh)	--	--				*10.2*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Max Rusch*	Intersection	*160A / Bayfield Parkway East*
Agency/Co.	*Stolfus and Associates*	Jurisdiction	*La Plata County*
Date Performed	*12/11/2014*	Analysis Year	*2035*
Analysis Time Period	*PM*		

Project Description *13021*

East/West Street: *Highway 160A*	North/South Street: *Bayfield Parkway East*
Intersection Orientation: *East-West*	Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	215	141	16	299	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	223	146	16	311	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	117	0	45	96	1	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	121	0	46	100	1	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			1			0
Lanes	1	1	1	1	1	1
Configuration	L	T	R	L	T	R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L	T	R	L	T	R
v (veh/h)	0	16	121	0	46	100	1	0
C (m) (veh/h)	1246	1186	518	426	940	460	351	888
v/c	0.00	0.01	0.23	0.00	0.05	0.22	0.00	0.00
95% queue length	0.00	0.04	0.91	0.00	0.15	0.83	0.01	0.00
Control Delay (s/veh)	7.9	8.1	14.1	13.5	9.0	15.0	15.3	9.1
LOS	A	A	B	B	A	B	C	A
Approach Delay (s/veh)	--	--	12.7			15.0		
Approach LOS	--	--	B			B		

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Appendix D – Access Plan Methodology and Evaluation Process

DRAFT Traffic Feasibility Study and Access Plan Compatibility Index

Alternatives will be evaluated using the following criteria to determine if they meet established project goals. Traffic Feasibility criteria will be limited to those items highlighted.

Project Goal	Evaluation Criteria	Rating		Reasoning	Status with Respect to Criteria: Favorable (+)	Neutral (0)	Unfavorable (-)
Provide effective through travel for traffic on US 160	Highway LOS	Favorable	1	The Access Plan is compatible with the US 160 EIS improvements, which improve the highway from a two-lane undivided section to a four-lane divided highway. This improvement, along with the restriction would result in a higher LOS for the corridor according to the Highway Capacity Manual.	Improves from No-ACP scenario	Little or no change from No-ACP scenario	Worsens from No-ACP scenario
	Number of Access Points	Favorable	1	The number of access points is reduced from 39 to 17.	Less access	No change in access	More access
Provide safe and effective access to and from US 160 for businesses, residents, and emergency responders	Intersection Sight Distance	Favorable	1	Existing access points with inadequate sight distance are restricted or eliminated.	More intersections have adequate sight distance	Same number of intersections have adequate sight distance	Fewer intersections have adequate sight distance
	Intersection v/c	Favorable	1	Analysis of future traffic shows reduced v/c ratios with the Access Plan when compared to no improvements in the area.	v/c decreases for most intersections as compared to the No-ACP scenario	Little or no change to v/c for most intersections as compared to the No-ACP scenario	v/c increases for most intersections as compared to the No-ACP scenario
	Conformance with State Highway Access Code Auxiliary Lane Requirements	Neutral	0	Most existing access points that may someday warrant auxiliary lanes already have sufficient spacing.	More locations meet auxiliary lane standards	Some locations meet auxiliary lane standards	Fewer locations meet auxiliary lane standards
	Out of Direction Travel Distance	Unfavorable	-1	Access restrictions require traffic from individual properties to turn right on to the highway and then turn around at the next intersection.	Less out-of-direction travel distance is required	No change	More out-of-direction travel distance is required
	Intersection Crash Risk	Favorable	1	The number of the conflict points at intersections in the corridor is reduced.	Reduced by implementing needed physical improvements and access control measures	Maintained by implementing needed physical improvements only	Increased due to failure to implement needed physical improvements or access control
Maintain compatibility with existing and proposed off-highway circulation routes	Local Route Connectivity	Unfavorable	-1	Restricted access at the existing CR 506 and CR 502 intersections with US 160 will require local traffic to travel farther for highway access.	Improve connectivity of local routes	Maintain connectivity of local routes	Reduce connectivity of local routes
	Serviceability of Local Routes to Developments and Properties within the Study Area	Favorable	1	Access Plan allows for future local road connectivity with US 160 at CR 507 and Bayfield Parkway (East and West).	Improve serviceability of local routes	Maintain serviceability of local routes	Reduce serviceability of local routes
Provide a plan that can be implemented in phases	Funding Opportunities	Neutral	0	Future local roads on the north side of US 160 at Bayfield Parkway (East and West) and the future connection from CR 507/US 160 to Homestead Drive allow access to currently undeveloped land. Both developer and/or local funding could be used to make the improvements. The north leg of the future CR 507 intersection with US 160 would likely be funded publicly with the US 160 EIS improvements, but could also attract some private funds. The local road connection from CR 502 to CR 506 as well as improvements on the south side of US 160 at Bayfield Parkway (West) are unlikely to attract private funding.	Commitment for public and/or private funding	Opportunity for public and/or private funding	Opportunity for public and/or private funding unlikely
	Phasing Opportunities	Favorable	1	With the exception of the Bayfield Parkway/Homestead Drive improvements on the south side of US 160, local road improvements are compatible with development and can be easily phased to progress toward the final access plan.	Plan recommendations can be segmented into logical, compatible pieces funded by private development	Plan recommendations can be segmented into logical, compatible pieces requiring public & private funding	Plan recommendations not easily segmented and require significant public investment to implement
Support the economic viability of the project area	Business Access	Neutral	0	The plan generally maintains existing access for businesses in Bayfield and Gem Village, with the exception of the south Commerce Drive driveway.	Expands market area for the majority of businesses in the corridor	Market area maintained for a majority of businesses in the corridor	Reduced market area for a majority of businesses in the corridor
Maintain compatibility with the intent of previous planning efforts	Compatibility with Local Planning	Favorable	1	The Access Plan is compatible with local road plans for Bayfield Parkway (East). Addtionally, access points at Bayfield Parkway (West) and US 160 are set for future planning.	Expands/improves upon the intent of previous local planning recommendations	Consistent with the intent of previous local planning recommendations	Not consistent with the intent of previous local planning efforts
	Compatibility with the US 160 EIS	Neutral	0	The Access Plan maintains the same number of full movement access points as the US 160 ROD.	Plan is consistent with the Purpose and Need and enhances the Preferred Alternative	Plan is consistent with the Purpose and Need	Plan is not consistent with the Purpose and Need
Provide a plan that is consistent with local intersection priorities	Compatibility with the improvement priorities of Town and County staff	Favorable	1	The Access Plan establishes access points at the intersections with the highest local priority located at both ends of Bayfield Parkway.	Plan priotitizes most of the intersections most in need of improvement	Plan prioritizes some of the intersections most in need of improvement	Plan does not priortize the intersections most in need of improvement
Endeavor to provide a plan that is adoptable by all entities	Physical Constraints	Neutral	0	Local Road connections at Bayfield Parkway (West) and the connection from CR 502 to CR 506 face significant, but not unmanageable physical constraints.	No physical constraints	Manageable physical constraints	Physical constraints are not manageable
	Support from Town Board and County Commission	Favorable	1	The Town and County Boards both support the plan.	Plan is favored by most officials	Plan support is balanced	Plan is not favored by most officials

Appendix E – Intergovernmental Agreement

INTERGOVERNMENTAL AGREEMENT
BETWEEN
THE TOWN OF BAYFIELD (THE TOWN), LA PLATA COUNTY (THE COUNTY) and THE STATE OF COLORADO DEPARTMENT OF TRANSPORTATION (THE DEPARTMENT)
FOR THE BAYFIELD ACCESS CONTROL PLAN

THIS INTERGOVERNMENTAL AGREEMENT is entered into effective as of this ___ day of ______ 20__, by and between the Town, the County, and the Department, all of said parties being referred to collectively herein as "Agencies."

RECITALS

A. The Agencies are authorized by the provisions of Article XIV, Section 18(2)(a), Colorado Constitution, and Sections 29-1-201 et. Seq., C.R.S., to enter into contracts with each other for the performance of functions which they are authorized by law to perform on their own; and

B. Each Agency is authorized by Section 43-2-147(I)(a), C.R.S., to regulate access to public highways within its respective jurisdiction; and

C. The coordinated regulation of vehicular access to public highways is necessary to maintain the efficient and smooth flow of traffic, to reduce the potential for traffic accidents, to protect the functional level and optimize the traffic capacity, and to provide an efficient spacing of traffic signals and access points; and

D. The Agencies desire to provide for the coordinated regulation of vehicular, pedestrian, and bicycle access and safety for the US Hwy 160 corridor through Gem Village (La Plata County) and Bayfield as follows:

MP 100.25 and MP 103.82 (hereafter referred to as the "Segments") which is within the jurisdiction of the Agencies; and

E. The Agencies are authorized pursuant to Section 2.12 of the 1998 State Highway Access Code, 2 C.C.R. 601-1, (the "Access Code") to enter into a written agreement adopting and implementing a comprehensive and mutually acceptable highway access control plan for the Segments for the purposes above recited; and

F. The Agencies specifically find and determine that this access control plan is a necessary exercise of each Agency's legislative, governmental, or police powers to promote and protect the public health, safety, and general welfare of the citizens of the Town, County, and State; and

G. The development of this Access Control Plan (ACP) adheres to the requirements of the Access Code, Section 2.12.

NOW THEREFORE, for and in consideration of the mutual promises, agreements, and commitments herein contained, the Agencies agree as follows:

1. The Access Control Plan, dated ________, for the Segments (herein referred to as the "ACP") is attached hereto as Exhibits A, B, and C, and incorporated herein by this reference.

2. The Agencies shall regulate access to Highway 160 in accordance with the ACP, C.R.S. Section 42-2-147 C.R.S. (the "Access Law"), and the applicable sections of the Access Code. Vehicular access to Highway 160 within the Segments may be permitted only when such access in in compliance with this Agreement, the ACP, the Access Law, and the applicable sections of the Access Code. Per section 2.12(3) of the Access Code, all action taken in regard to access shall be in conformance with the plan and current Code design standards unless both the Department and the local authority(s) approve a geometric design waiver under the waiver subsection of the Code.

3. Access points that were in existence prior to the effective date of this Agreement may continue in existence until such time as a change in the access is required by the Access Control Plan, the Access Law, in the course of highway reconstruction, or as determined appropriate in the course of development, redevelopment, subdivision actions or change of use by the Town or County. When closure, modification, or relocation of access is necessary or required, the Agencies having jurisdiction shall utilize appropriate legal process to effect such action.

4. Actions taken by the Agencies with regard to transportation planning, transportation facilities, and traffic operations within the ACP shall be in conformity with this Agreement. The Agencies agree to develop and adopt the necessary ordinances, official documents, plans and maps to fulfill their respective responsibilities under this Agreement.

5. Parcels of real property created after the effective date of this Agreement which adjoin the Segments shall be provided with access to the Segments as documented in the ACP, so long as the use, location, and design thereof, conform to the provisions of this Agreement, the Town and County Codes, or based upon approved amendments to the ACP.

6. This Agreement is based upon and intended to be consistent with the Access Law and Access Code.

7. This Agreement does not create any current specific financial obligation for any of the Agencies. Any further financial obligation of any Agency shall be subject to the execution of an appropriate encumbrance document, where required. Agencies involved in or affected by any particular or site-specific undertaking provided for herein will cooperate with each other to agree upon a fair and equitable allocation of the costs associated therewith. Notwithstanding any provision of this Agreement, no Agency shall be required to expend its public funds for such undertaking without the express prior approval of its governing body or director. All financial obligations of the Agencies hereunder shall be approved by its governing body or director. All financial obligations of the Agencies hereunder shall be contingent upon sufficient funds therefore being appropriated, budgeted, and otherwise made available.

8. Should any section(s) or provision(s) of this Agreement be judicially determined invalid or unenforceable, such judgment shall not affect, impair, or invalidate the remaining provisions of this Agreement, the intention being that the various provisions hereof are severable.

9. This Agreement supersedes and controls all prior written and oral agreements and representations of the Agencies concerning regulating vehicular access to the Segments. No additional or different oral representation, promise, or agreement shall be binding on any Agency.

10. This Agreement may be amended or terminated only in writing executed by the Agencies with express authorization from their respective governing bodies or legally designated officials. To the extent the Access Control Plan is modified by a change, closure, relocation, consolidation, or addition of an access, the Agencies may amend the attached Access Control Plan so long as the amendment is executed in writing and amended in accord with Access Law and the Access Code. The Access Control Plan Amendment Process is attached hereto and is incorporated in Exhibit C.

11. By Signing this Agreement, the Agencies acknowledge and represent to one another that all procedures necessary to validly contract and execute this Agreement have been performed, and that the persons signing for each Agency have been duly authorized to sign.

12. No portion of this Agreement shall be deemed to constitute a waiver of any immunities the parties or their officers or employees may possess, nor shall any portion of this Agreement be deemed to have created a duty of care which did not previously exist with respect to any person not a party to this Agreement.

13. It is expressly understood and agreed that the enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the undersigned parties and nothing in this Agreement shall give or allow any claim or right of action whatsoever by any other person not included in this Agreement. It is an express intention of the undersigned parties that any entity other than the undersigned parties receiving services or benefits under this Agreement shall be an incidental beneficiary only.

IN WITNESS THEREOF, the Agencies have executed this Agreement effective as of the day and year written above.

Town of Bayfield, Colorado	**ATTEST:**
___________________________	___________________________
Dr. Rick K. Smith Date Mayor, Town of Bayfield	Name of Town Clerk Date Town Clerk

Approved as to Form:

____

Town Attorney Date

La Plata County, Colorado	**ATTEST:**
___________________________	___________________________
Gwen Lachelt Date Board of County Commissioners, Chair	Name of Clerk Date Clerk to the Board

Approved as to Form:

____

County Attorney Date

State of Colorado
Department of Transportation

____

Kerrie Neet Date
Region Transportation Director

CONCUR:	**ATTEST:**
___________________________	___________________________
Joshua Laipply, PE, Date Chief Engineer	Chief Clerk Date

Exhibit A & B

ACCESS CONTROL PLAN
United States Highway 160 between MP 100.25 and MP 103.82

Town of Bayfield, La Plata County, and the State of Colorado Department of Transportation

I. **Purpose**

The purpose of this Access Control Plan (ACP) is to provide the Agencies with a comprehensive roadway access control plan for the pertinent segments of United States Highway 160 through Bayfield, Colorado.

II. **Authority**

The development of this Access Control Plan was completed pursuant to the requirements of the Access Code, Section 2.12, and adopted by the attached Agreement.

III. **Responsibilities**

It is the responsibility of each of the Agencies to this Agreement to ensure that vehicular access to the Segments shall only be in conformance with this Agreement. The cost of access improvements, closures and modifications shall be determined pursuant to section 43-2-147(6)(b) C.R.S., the Agreement, and this Access Control Plan. All access construction shall be consistent with the design criteria and specifications of the Access Code.

IV. **Existing and Future Access**

A. The attached table (Exhibit A) provides a listing of each existing and future access point in the Segments. The Attached Map (Exhibit B) shows the access points along the Segments of United States Highway160 through Bayfield. For each access point the following information is provided: location, description of the current access status, and the proposed configuration or condition for change (Access Plan). All access points are defined by the approximate Department mile point (in hundredths of a mile) along United States Highway 160. All access points are located at the approximate centerline of the access.

B. All highway design and construction will be based on the assumption that the Segments will have a sufficient cross section to accommodate all travel lanes and sufficient right-of-way to accommodate longitudinal installation of utilities.

Exhibit C

ACCESS CONTROL PLAN AMENDMENT PROCESS
United States Highway 160 between MP 100.25 and MP 103.82

Town of Bayfield, La Plata County, and the State of Colorado Department of Transportation

Any request for amendment must be submitted to the Department's Region 5 Access Manager by a signatory of the Agreement (either of the Agencies). The amendment must be located within the jurisdiction and have the written support of the submitting signatory. Amendments shall be required for any change to the Access Control Plan as shown in the Exhibit A and B, including, but not limited to, any new or changes to the location of:

1. Signalized intersections
2. Full movement intersections/access points
3. ¾ intersections/access points
4. Right-in/right-out only intersections/access points

The amendment request shall include the following documents:

1. Descriptions of the proposed access and changes to the Access Control Plan.
2. Justification for the requested amendment.
3. For signalized intersections, a supporting Traffic Impact Study per the State Highway Access Code.
4. A list of any requested design waivers as applicable.
5. A proposed revised plan sheet clearly depicting the access modifications. The revised plan sheet will replace the corresponding sheet in Exhibit B.

Upon Submission of Information:

1. The Department shall review the submittal for completeness and for consistency with the access objectives, principles, and strategies described in the United States Highway 160 - Town of Bayfield Access Control Plan and the State Highway Access Code ("Access Code"). The Department shall also determine if any applicable design waivers can be granted. Any amendment request that results in a violation of the Access Code or for which a design waiver cannot be granted will not be considered.

2. If the amendment request is found to be complete, it will be forwarded, along with a brief report, to an Access Control Plan Advisory Committee, consisting of representatives from the Town, the County and the Department. Each Agency is responsible for appointing one Advisory Committee Member. An Alternative Advisory Committee Member may be appointed as an alternate.

3. After receipt of the conditions or modifications, each Advisory Committee Member will be responsible for coordinating their Agency review and providing a decision on whether to accept or decline the amendment. The Advisory Committee Members will have 30 days to submit their Agency's vote to the Department Region 5 Access Manager in writing.

4. A unanimous decision of the Agencies will be necessary to approve the amendment. An agency not responding within the 30-day period will be interpreted as a “decline” decision. The Department will provide voting results, to include a tally sheet documenting each agency vote, to all Advisory Committee Members within 15 days of receiving all votes, or following the 30 day review period. If the votes of the Advisory Committee members are not unanimous, the Advisory Committee shall convene a meeting of its membership to jointly discuss the amendment request and the positions of each member.

5. Acceptable votes from the Agencies include: accept without modifications; accept with conditions or modifications; or disapprove.

6. If an Agency accepts with conditions or modifications, the Agency requesting the condition or the modification must provide supporting justification and any applicable requests for a design waiver. Any vote to accept with conditions or modifications that results in a violation of the Access Code or for which a design waiver cannot be granted will not be considered.

7. If found to be complete, the Department will forward the conditions or modifications to all members of the Access Control Plan Advisory Committee.

8. After the receipt of the conditions or modifications, each Advisory Committee Member will be responsible for coordinating their Agency review and providing a decision on whether to accept or decline the conditions and modifications.

9. The Advisory Committee Members will have 20 days to submit their agency’s subsequent vote to the Department in writing.

10. A unanimous vote of the Agencies will be necessary to approve the conditions and modifications. An Agency not responding within the 20-day period will be interpreted as a “decline” decision.

11. The Department will provide voting results to all Advisory Committee Members within 10 days of receiving all votes, or following the 20 day review period.

EXHIBIT A- ACCESS CONTROL PLAN TABLE
UNITED STATES HIGHWAY 160 BETWEEN MP 110.25 AND MP 103.82

Access ID No.	Reference Point[1]	Side[2]	Parcel Number	Description/Current Owner	Existing Configuration	Proposed Configuration[3]	Condition[4]
1	100.30	LT		CR 508/Gem Lane	Unsignalized Full Movement	Right-In, Right-Out Special Use Access Only	Gated at next Special Use Permit Application. Temporary access available with Special Use Permit only. Restricted to Right-In, Right-Out with US 160 improvement on current alignment.
2	100.38	RT		US 160 Frontage Road (South)	Unsignalized Full Movement	Close Access - Access via CR 507 available	Restricted to Right-In, Right Out with redevelopment affecting traffic operations and/or safety, or with US 160 improvement on current alignment. Close access when a Frontage Road (South) turnaround for heavy vehicles is available.
3	100.56	LT		CR 507	Unsignalized Full Movement	Unsignalized Full Movement	
4	100.56	RT		US 160 Frontage Road (South)	Unsignalized Full Movement	Unsignalized Full Movement	
5	100.80	RT		US 160 Frontage Road (South)	Unsignalized Full Movement	3/4 Movement (Left-In, Right-In, and Right-Out only)	Restricted with redevelopment affecting traffic operations and/or safety, or with US 160 improvement on current alignment.
6	100.80	LT		US 160 Frontage Road (North)	Unsignalized Full Movement	3/4 Movement (Left-In, Right-In, and Right-Out only)	Restricted with redevelopment affecting traffic operations and/or safety, or with US 160 improvement on current alignment.
7	100.90	RT	567715201800	Homestead Trails Property Owners Association	Unsignalized Full Movement	Close Access - Access available via Homestead Dr	Closed with property redevelopment or US 160 improvement on current alignment.
8	100.90	LT	567715200807	Smith, Calvin L & Cecelia E Trustees	Unsignalized Full Movement	Close Access - Shared at Access 9	Closed with property redevelopment or US 160 improvement on current alignment.
9	100.94	LT	567715200807	Smith, Calvin L & Cecelia E Trustees	Unsignalized Full Movement - Shared Access	Right-In, Right-Out - Shared Access	Restricted with property redevelopment or US 160 improvement on current alignment. Cross-access exists with Property No. 567715200111 and shall be formalized with redevelopment of either property.
	100.99			Milepost 101			
10	101.03	RT	567715201800	Homestead Trails Property Owners Association	Unsignalized Full Movement	Close Access - Access available via Homestead Dr	Closed upon property redevelopment or US 160 improvement on current alignment.
11	101.03	LT	567715200111	Perkins, James B & Gwen B	Unsignalized Full Movement	Close Access - Shared at Access 9	Closed with Cross Access Agreement at Access 9 and either property redevelopment or US 160 improvement on current alignment.
12	101.08	RT		Utility Access Road	Unsignalized Full Movement	Right-In, Right-Out Maintenance Access Only	Restricted upon US 160 improvement.
12a	101.10*	RT	567715202801	Homestead at Bayfield LLC, The	Unsignalized Full Movement	Close Access - Access available via Homestead Drive	Closed with property redevelopment.
12b	101.15*	RT	567715202801	Homestead at Bayfield LLC, The	Unsignalized Full Movement	Close Access - Access available via Homestead Dr	Closed with property redevelopment.
12c	101.17*	RT	567715202800	Homestead at Bayfield LLC, The	Unsignalized Full Movement	Close Access - Access via Homestead Dr	Closed with property redevelopment.
13	101.09	LT	567715200021	Beaver, Phyllis A	Unsignalized Full Movement	Right-In, Right-Out	Restricted with property redevelopment or US 160 improvement.
14	101.37	RT	567715100082	Tucker, Don	Unsignalized Full Movement	Close Access - Access available via future secondary roadways or shared access	Restricted to Right-In, Right Out with US 160 improvement or property redevelopment. Close access with property redevelopment and secondary roadway/shared access to Access 15 (Bayfield Parkway West).

* No direct highway access
[1] Defined per 2013 CDOT Windshield - Route 160A
[2] Oriented up-milepost
[3] Access may be further restricted if safety or operational issues develop
[4] Redevelopment is a change in land use and/or modification to a property

EXHIBIT A- ACCESS CONTROL PLAN TABLE
UNITED STATES HIGHWAY 160 BETWEEN MP 110.25 AND MP 103.82

Access ID No.	Reference Point[1]	Side[2]	Parcel Number	Description/Current Owner	Existing Configuration	Proposed Configuration[3]	Condition[4]
15	101.42	RT		Bayfield Parkway (West)	Unsignalized Full Movement	Full Movement with potential for signalization	Signalization is only allowable with secondary roadway improvements that correct intersection geometry and provide sufficient vehicle storage between US 160 and Bayfield Parkway. Signal shall be implemented only when warranted by current MUTCD standards.
16	101.42	LT	567710400801	Peeples, Peyton Paul & Dianne M	Unsignalized Full Movement	Full Movement with potential for signalization	Signalization is only allowable with secondary roadway improvements to correct intersection geometry and provide sufficient vehicle storage between US 160 and Bayfield Parkway. Signal shall be implemented only when warranted by current MUTCD standards. Cross access agreement shall be required between Property Nos. 567710400018, 567710400033, 567710300800, and 567710400034 upon redevelopment or ownership change.
17	101.50	LT	567710400018	Casper, Charles C & Shirley A	Unsignalized Full Movement	Close Access - Access 18 available	Closed with property redevelopment or US 160 improvement.
18	101.59	LT	567710400018	Casper, Charles C & Shirley A	Unsignalized Full Movement	Close Access - Access available via future secondary roadways/shared access	Restricted to Right-In, Right Out with US 160 improvement. Close access with property redevelopment and secondary roadway/shared access to Access 16 (Bayfield Parkway West).
19	101.83	RT	567711300800	Grush, Kevin R & Terry S & Trout, Carol	Unsignalized Full Movement	Close Access - Access to CR 509 available	Restricted to Right-In, Right Out with US 160 improvement. Closed with property redevelopment.
20	101.83	LT	567710400044	Sivers, Robert R	Unsignalized Full Movement	Close Access - Access to CR 506 available	Closed with property redevelopment or US 160 improvement.
	101.98			Milepost 102			
21	102.00	LT		CR 506	Unsignalized Full Movement	Close Access - Access available via future secondary roadways	Restricted to Right-In, Right Out with US 160 improvement. Closed with a secondary roadway connection between CR 506 and Access 16 (Bayfield Parkway).
22	102.24	LT		CR 502	Unsignalized Full Movement	Close Access - Access available via future secondary roadways	Restricted to Right-In, Right Out upon US 160 improvement. Closed when a secondary roadway connections from CR 502 to CR 506 and to Access 16 (Bayfield Parkway West) are constructed. Once closed, Gated Right-In, Right-Out Emergency Access shall be maintained until equivalent CR 502 response times are available using new stations or new secondary roadway connections.
23	102.27	RT	567711300800	Grush, Kevin R & Terry S & Trout, Carol	Unsignalized Full Movement	Right-In, Right-Out Ditch Access	Restricted with US 160 improvement.
24	102.27	LT	567711200005	Bursey, Lynne T Trustee & Goodloe, Helen	Unsignalized Full Movement	Right-In, Right-Out Ditch Access	Restricted with US 160 improvement.
25	102.37	RT	567711300109	Bayfield, Town of	Unsignalized Full Movement	Right-In, Right-Out	Restricted with property redevelopment or US 160 improvement.
26	102.48	RT	567711300109	Bayfield, Town of	Unsignalized Full Movement	3/4 Movement (Left-In, Right-In, and Right-Out only)	Restricted with property redevelopment or US 160 improvement.

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EXHIBIT A- ACCESS CONTROL PLAN TABLE
UNITED STATES HIGHWAY 160 BETWEEN MP 110.25 AND MP 103.82

Access ID No.	Reference Point[1]	Side[2]	Parcel Number	Description/Current Owner	Existing Configuration	Proposed Configuration[3]	Condition[4]
27	102.48	LT	567711200053	Riverside RV LLC	Unsignalized Full Movement - Shared Access	3/4 Movement (Left-In, Right-In, and Right-Out only) - Shared Access	Restricted with redevelopment of either property or US 160 improvement. Cross-access currently exists with Property No. 567711100022 and shall be formalized with redevelopment or ownership change of either property. Cross access shall be extended to CR 501 with redevelopment and/or ownership change of Property No. 567711100022.
28	102.81	RT		CR 521	Signalized Full Movement	Signalized Full Movement	
29	102.81	LT		CR 501	Signalized Full Movement	Signalized Full Movement	
30	102.87	RT	567711100011	Elliott, Denise L	Unsignalized Full Movement	Close Access - Access available via Bayfield Parkway	Closed with property redevelopment or US 160 improvement.
	102.90			Milepost 103			
31	103.10	LT		N. Commerce Dr	Unsignalized Full Movement	3/4 Movement (Left-In, Right-In, and Right-Out only)	Restricted with a secondary roadway connection to Access 37 (Bayfield Parkway East), when US 160 is improved, or when required to address a safety issue mitigable by turning movement restrictions.
32	103.10	RT	567712206006	Pine River Trading Company/Bayfield School District	Unsignalized Full Movement	Close Access - Access available via secondary roadways	Restricted with US 160 improvement or restrictions at Access 31 (N. Commerce Drive). Closed with redevelopment affecting traffic operations and/or safety.
33	103.30	LT	567712200004	Peeples Real Estate Investments LLLP	Unsignalized Full Movement	Close Access - Access available via Colorado Drive	Restricted to Right-In, Right-Out with US 160 improvement. Close with property redevelopment or improved access to Colorado Dr. Cross-access agreement required with Property No. 567712200029 for future public access to Access 37 (Bayfield Parkway East) when either property redevelops.
34	103.30	RT	567712200007	Haga, Jerry D & Zelma	Unsignalized Full Movement	Close Access - Access available via Bayfield Parkway	Closed with property redevelopment or US 160 improvement.
35	103.45	LT	567712200029	Southwestern Foods Inc	Unsignalized Full Movement - Shared Access	Close Access - Access available via future secondary roadways	Restricted to Right-In, Right-Out with property redevelopment or US 160 improvement. Cross-access with Property No. 567712200028 exists and shall be formalized to provide future public access to Access 37 (Bayfield Parkway) when either property redevelops. Access Closed with secondary roadway connection for both properties to Access 37 (Bayfield Parkway East). Cross-access agreement required with Property No. 567712200004 for future public access to Access 37 when either property redevelops.
36	103.53	RT		Bayfield Parkway (East)	Unsignalized Full Movement	Full Movement with potential for signalization	Signal shall be implemented only when warranted by current MUTCD standards.
37	103.53	LT		Future Public Street		Full Movement with potential for signalization	Signal shall be implemented only when warranted by current MUTCD standards. Property Nos. 567712200028, 567701400017, 567701300016, and 567712200029 shall access US 160 at this location via future secondary roadway.
38	103.81	RT	567712115010	Yarina, David P & Brenda A	Unsignalized Full Movement	Right-In, Right-Out Maintenance Access	Restricted with US 160 improvement.

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EXHIBIT A- ACCESS CONTROL PLAN TABLE
UNITED STATES HIGHWAY 160 BETWEEN MP 110.25 AND MP 103.82

Access ID No.	Reference Point[1]	Side[2]	Parcel Number	Description/Current Owner	Existing Configuration	Proposed Configuration[3]	Condition[4]
39	103.82	LT	567701400017	Koinonia Properties LLC	Unsignalized Full Movement	Close Access - Access available via future secondary roadways	Restricted to Right-In, Right-Out with US 160 improvement. Closed with a secondary roadway connection to Access 37 (Bayfield Parkway East).
40	100.56	RT		Future US 160/CR 507 intersection		Full Movement with potential for signalization	Unsignalized Full Movement intersection with US 160 realignment. Signal shall be implemented only when warranted by current MUTCD standards.
41	100.56	LT		Future US 160/CR 507 intersection		Full Movement with potential for signalization	Unsignalized Full Movement intersection with US 160 realignment. Signal shall be implemented only when warranted by current MUTCD standards.

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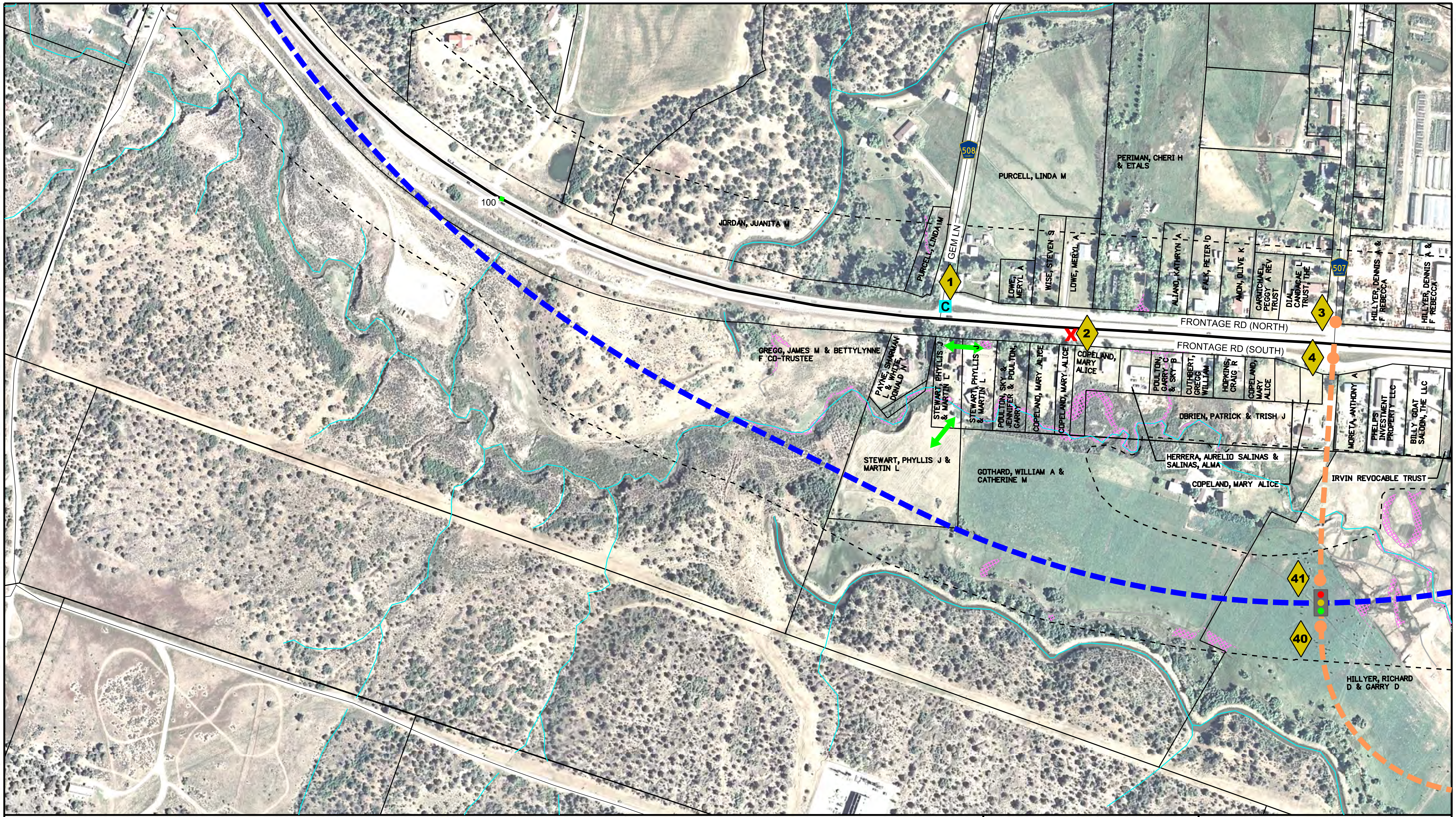

LEGEND:

- Access Point
- Full Movement
- C — Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- X — Access closed with change in land use or alternative connection
- Cross Access for Shared Access Point
- Cross Access by Common Ownership
- Milepost
- Future US 160 EIS Alignment
- Future Public Street (Conceptual Alignment)
- Town Limits
- US 160 EIS Wetland Survey Limits
- Documented Wetland
- Potential Wetland Area

N

0' 150' 300'

Exhibit B
Access Control Plan Map
United States Highway 160
between MP 100.25 and MP 103.82
Sheet 1 of 5

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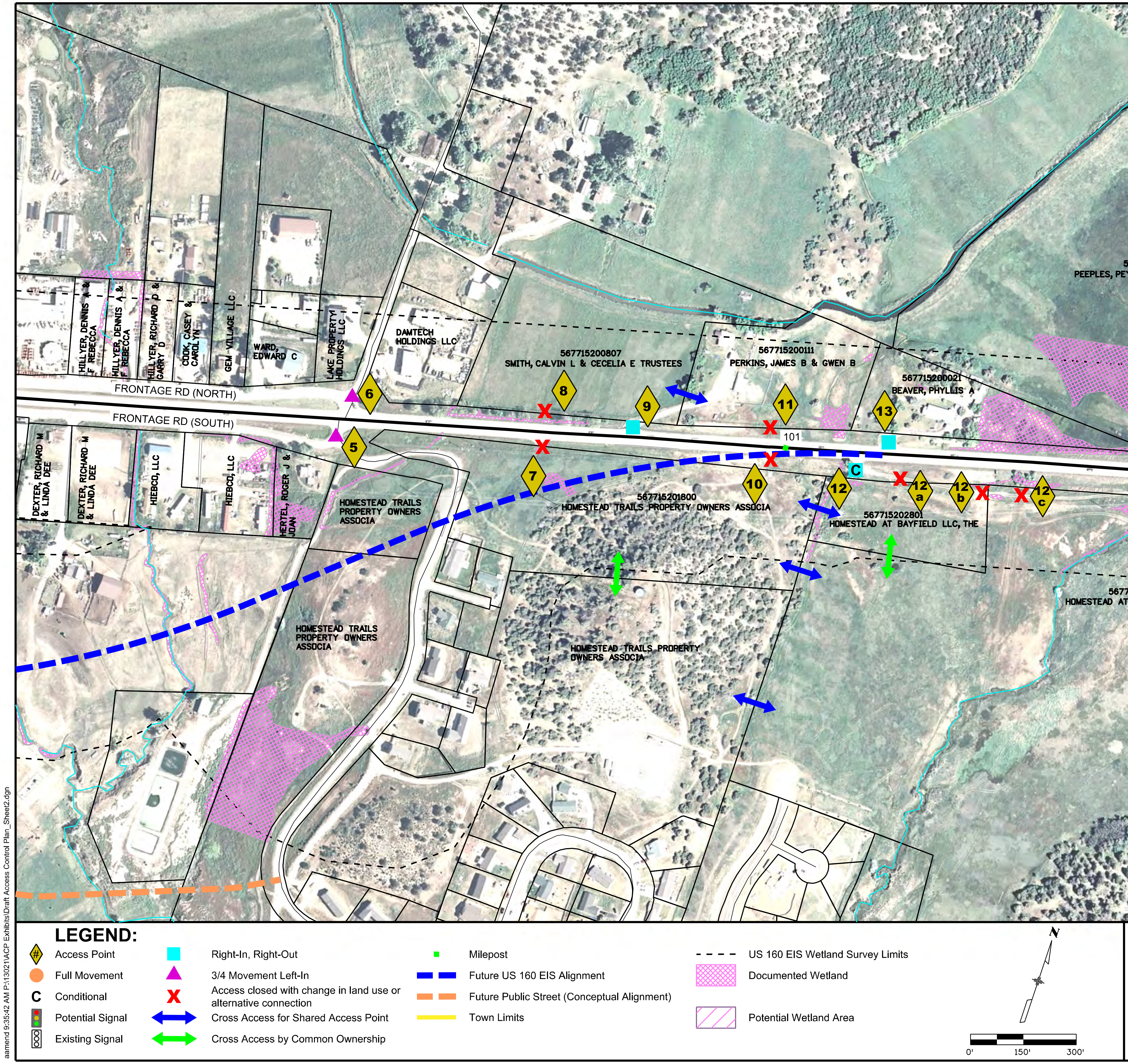
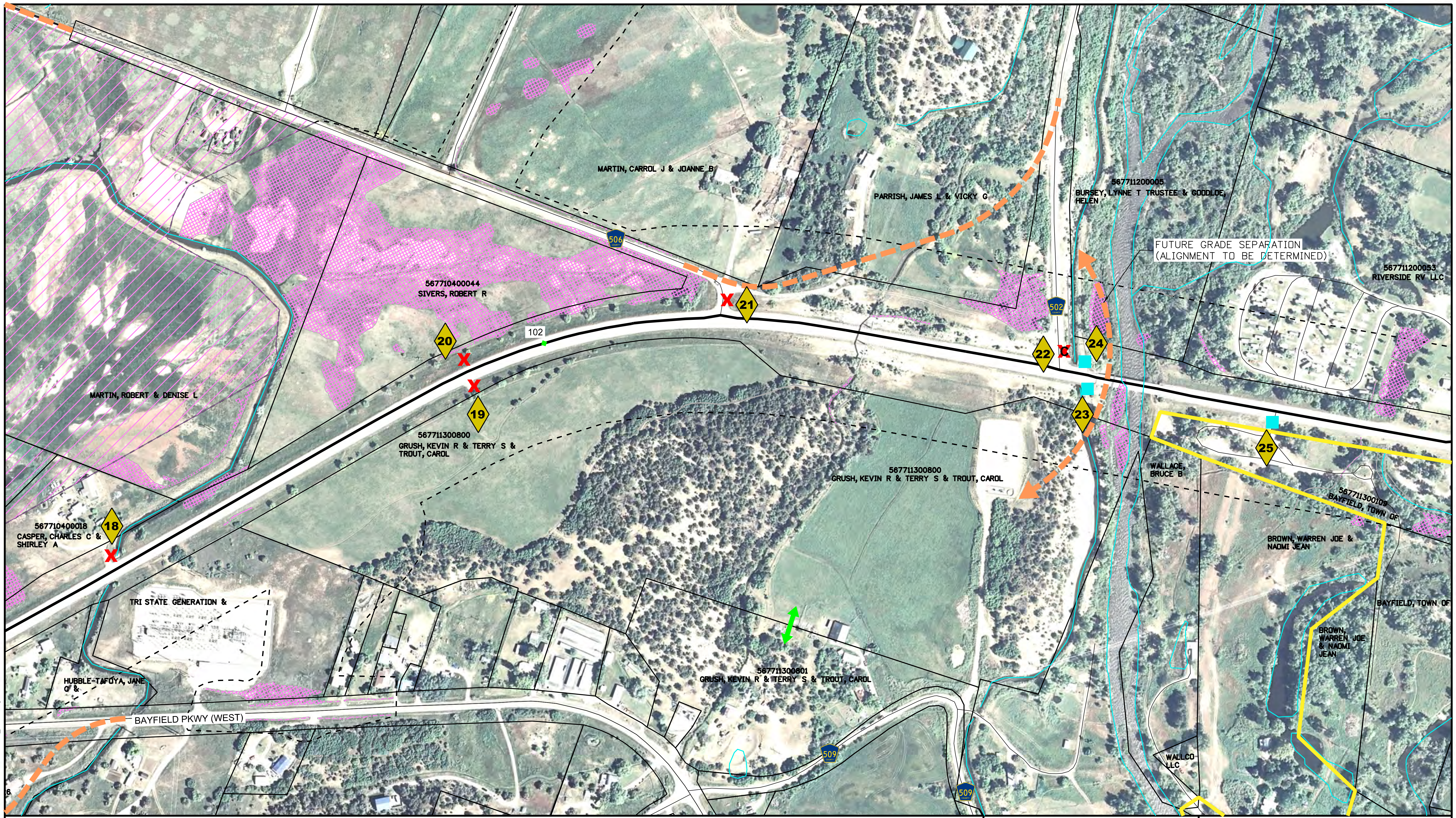


Exhibit B
Access Control Plan Map
United States Highway 160
between MP 100.25 and MP 103.82
Sheet 2 of 5



LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- X Access closed with change in land use or alternative connection
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N

0' 150' 300'

Exhibit B
Access Control Plan Map
United States Highway 160
between MP 100.25 and MP 103.82
Sheet 3 of 5

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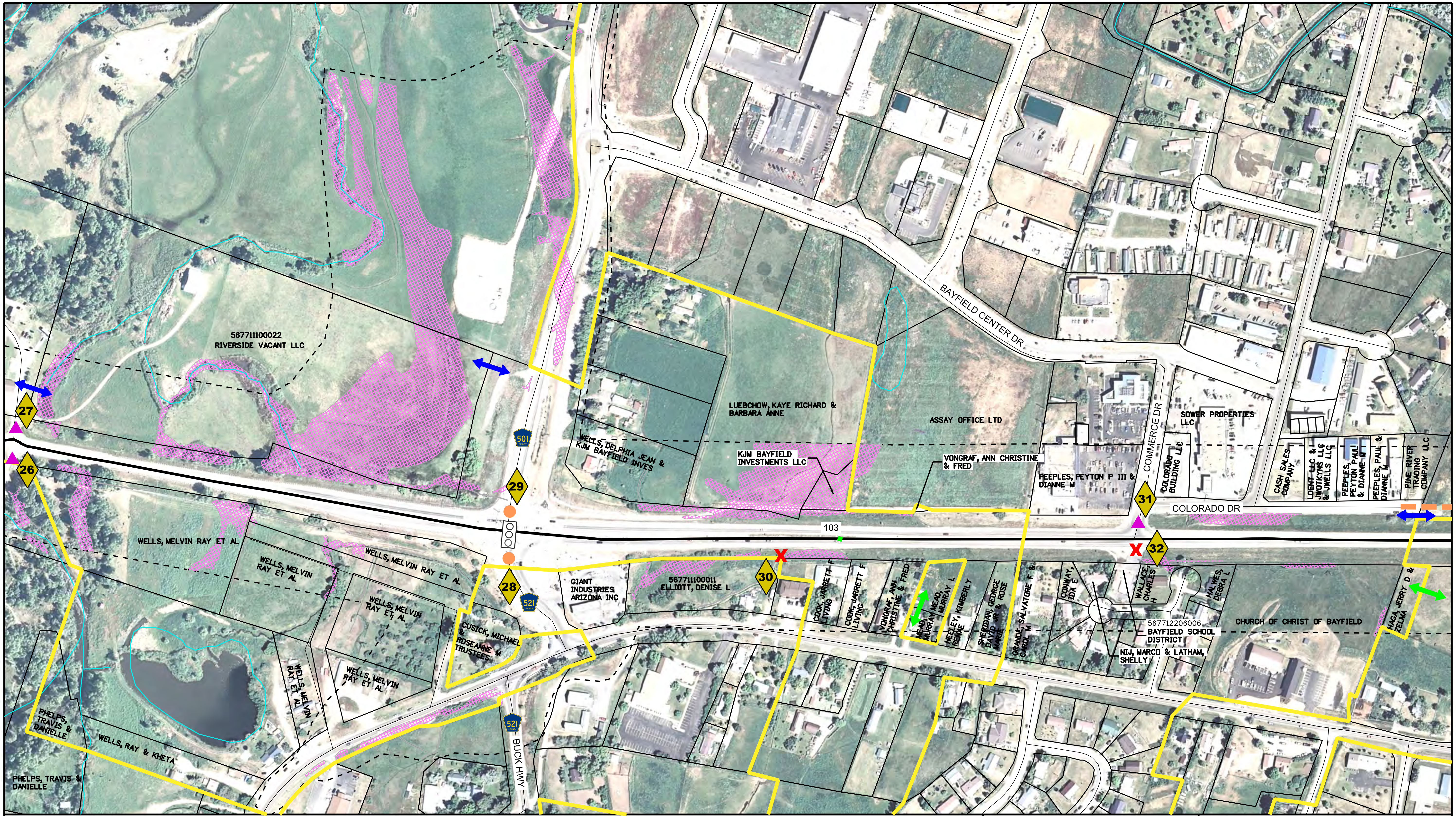

LEGEND:

- Access Point
- Full Movement
- C Conditional
- Potential Signal
- Existing Signal
- Right-In, Right-Out
- 3/4 Movement Left-In
- Access closed with change in land use or alternative connection
- Cross Access for Shared Access Point
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- US 160 EIS Wetland Survey Limits
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N

0' 150' 300'

Exhibit B
Access Control Plan Map
United States Highway 160
between MP 100.25 and MP 103.82
Sheet 4 of 5

LEGEND:

Access Point	Right-In, Right-Out	Milepost
Full Movement	3/4 Movement Left-In	Future US 160 EIS Alignment
C Conditional	Access closed with change in land use or alternative connection	Future Public Street (Conceptual Alignment)
Potential Signal	Cross Access for Shared Access Point	Town Limits
Existing Signal	Cross Access by Common Ownership	

US 160 EIS Wetland Survey Limits

Documented Wetland

Potential Wetland Area

N

0' 150' 300'

Exhibit B
Access Control Plan Map
United States Highway 160
between MP 100.25 and MP 103.82
Sheet 5 of 5

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