

### III. ALIGNMENT ALTERNATIVES

#### TRAFFIC PROJECTIONS

Using the KMPO travel demand model, both existing and future traffic volumes were reviewed to assess the need for a facility between SH 41 and US 95. Traffic volumes for the average weekday were reviewed for other arterial routes within the area. As shown on Figure 5, traffic volumes are projected to increase significantly by 2030. Traffic volumes for the years 2003 and 2030 indicated that a new facility could address future transportation needs within the study corridor.

#### GREENSFERRY ALTERNATIVE

As a result of the KMPO Board meeting on November 2, 2006, a Greensferry Corridor was suggested as an alternative to the Huetter Corridor option to provide connectivity from Interstate 90 to US 95. The City of Post Falls has been pursuing a Greensferry Road Overpass / Interchange to address local circulation needs for several years. The subsequent analyses for the Greensferry option included updating the KMPO travel demand model for the forecast year 2030, a comparison of parcels that would be impacted by the options, and planning level cost estimates of potential right of way acquisition for both the Greensferry and Huetter alternatives. Figure 6 provides a comparison of land uses for both corridors.

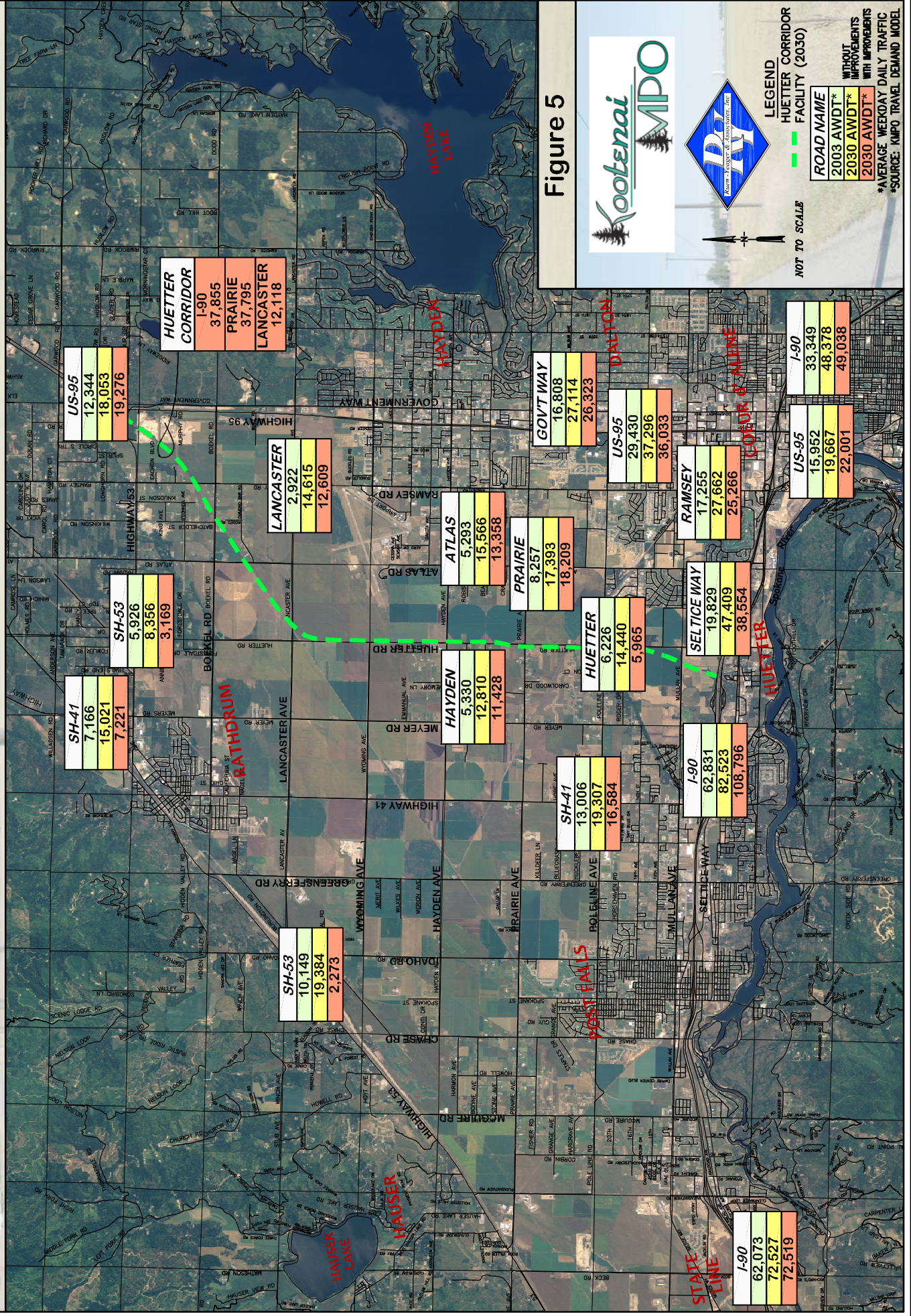
A summary of the traffic volumes and subsequent volume to capacity ratios (Table 1) were compared to assess which corridor would have the greatest benefit in addressing future traffic demands. The volume to capacity ratio is a measure of the result of the flow rate of a roadway lane divided by the capacity of the roadway lane.

The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected. For design purposes, a v/c ratio between 0.85 and 0.95 generally is used for the peak hour of the horizon year (generally 20 years out). Over-designing of an intersection should be avoided due to negative impacts to pedestrians associated with wider street crossings, the potential for speeding, land use impacts, and cost.

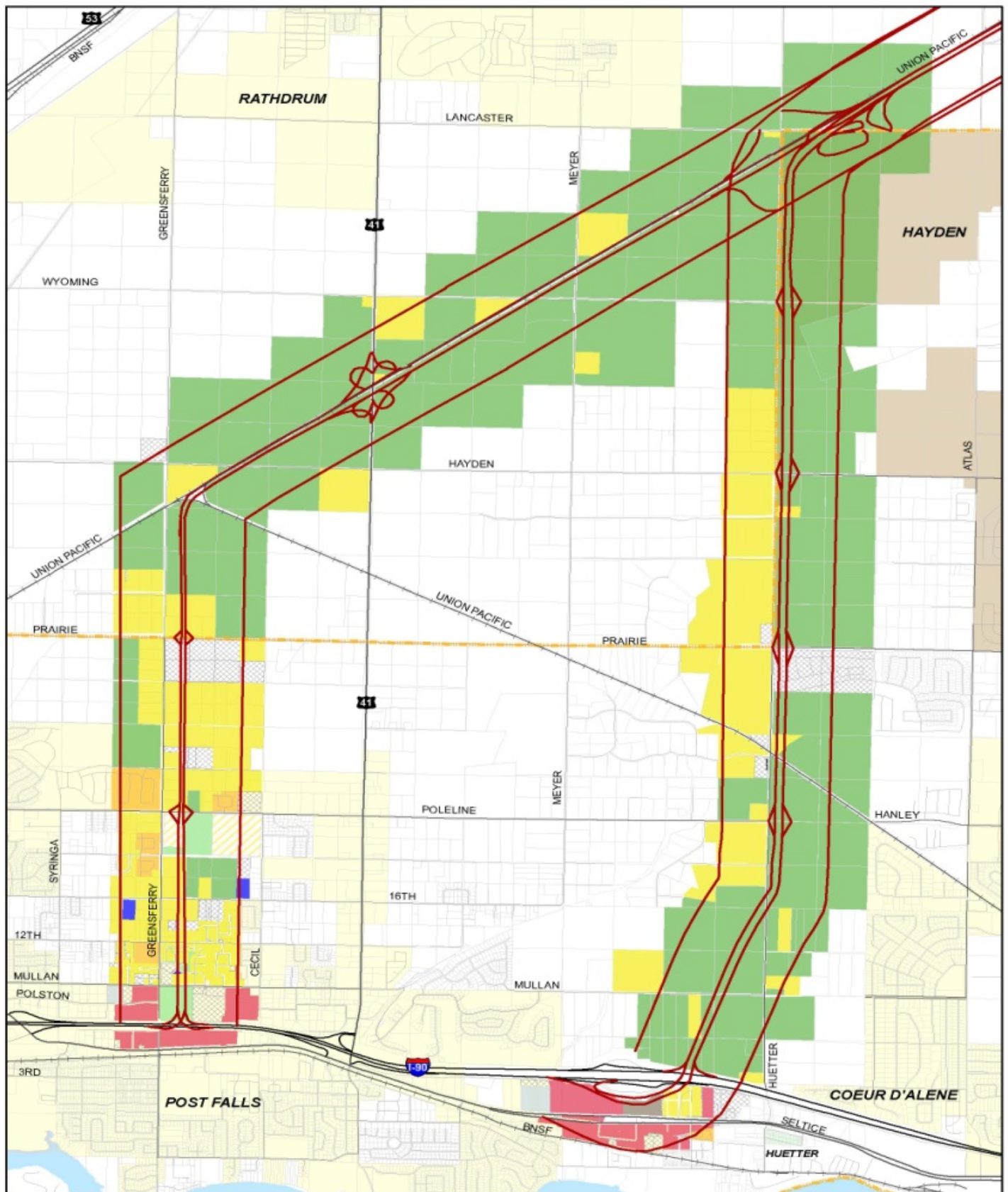




# Huetter Corridor Average Weekday Daily Traffic Volumes







### EXISTING LAND USE ADJACENT TO PROPOSED HUETTER & GREENSFERRY FREEWAYS



0.5 0.25 0 0.25 Miles

- |  |   |   |
|--|---|---|
| <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> SINGLE FAMILY  | <span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> GOVERNMENT | <span style="display:inline-block; width:15px; height:15px; border:2px solid orange;"></span> URBAN AREA BOUNDARY                               |
| <span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> MULTI-FAMILY   | <span style="display:inline-block; width:15px; height:15px; background-color:darkblue; border:1px solid black;"></span> CHURCHES    | <span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> WATER FEATURES         |
| <span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> COMMERCIAL/RETAIL   | <span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> CEMETARY       | <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> CDA: POST FALLS; RATHDRUM |
| <span style="display:inline-block; width:15px; height:15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); border:1px solid black;"></span> SCHOOLS | <span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> UNDEVELOPED     | <span style="display:inline-block; width:15px; height:15px; background-color:tan; border:1px solid black;"></span> HAYDEN                       |
| <span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> RECREATION/OPEN SPACE  | <span style="display:inline-block; width:15px; height:15px; background-color:white; border:1px solid black;"></span> OTHER PARCELS  | <span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> OTHER JURISDICTIONS   |
| <span style="display:inline-block; width:15px; height:15px; background-color:darkgreen; border:1px solid black;"></span> AGRICULTURE   | <span style="display:inline-block; width:15px; height:15px; border:2px solid red;"></span> PROPOSED CORRIDORS                       |   |

\* Approximately 1/4 mile east/west of proposed Freeways

\* Data based on best available information.  
\* Data for illustrative purposes only.  
April 2007 greensferry red

**Figure 6**



<b>Table 1. Corridor Options Traffic Comparison</b>							
<b>Corridor Options with Resulting US 95 Traffic</b>		<b>Greensferry</b>		<b>Huetter</b>		<b>US 95</b>	
<b>Intersecting Roadways</b>	<b>Direction</b>	<b>Volumes</b>	<b>V/C</b>	<b>Volumes</b>	<b>V/C</b>	<b>Greensferry Option V/C</b>	<b>Huetter Option V/C</b>
Interstate 90	NB	1,580	.40	1,750	.44	.36	.33
	SB	1,700	.43	1,090	.30	.26	.26
Prairie Avenue	NB	780	.20	1,510	.38	.77	.77
	SB	790	.20	1,370	.34	.33	.32
Hayden Avenue	NB	780	.20	1,410	.35	.75	.73
	SB	790	.20	1,120	.28	.46	.44
Lancaster Road	NB	510	.14	300	.08	.33	.32
	SB	260	.07	290	.08	.17	.13
Corridor Average Volume to Capacity Ratio		NB	.24	--	.31	.55	.54
		SB	.23	--	.25	.31	.29
Source: KMPO Travel Demand Model							

For comparison purposes (Table 2), the assessment of traffic operations using volume to capacity ratio thresholds gives a general indication of traffic delays and flow.

<b>Table 2. V/C Ratio Thresholds</b>	
<b>Critical Volume-to-Capacity Ratio</b>	<b>Assessment</b>
< 0.85	Intersection is operating under capacity. Excessive delays are not experienced.
0.85-0.95	Intersection is operating near its capacity. Higher delays may be expected, but continuously increasing queues should not occur.
0.95-1.0	Unstable flow results in a wide range of delay. Intersection improvements will be required soon to avoid excessive delays.
> 1.0	The demand exceeds the available capacity of the intersection. Excessive delays and queuing are anticipated.
Source: U.S. Department of Transportation Federal Highway Administration: Highway Capacity Manual, 2000, Chapter 7 – Operational Analysis Method	



Again for comparison purposes, the KMPO Metropolitan Transportation Plan uses the following to equate volume to capacity ratios to level of service (Table 3).

<b>Table 3. Volume to Capacity Ratio Ranges</b>	
<b>Approximate Levels of Service</b>	<b>Traffic Operations</b>
LOS A	0.00 – 0.60
LOS B	0.61 – 0.70
LOS C	0.71 – 0.80
LOS D	0.81 – 0.90
LOS E	0.91 – 1.00
LOS F	> 1.00

As illustrated in Table 4, based upon the review of right of way costs and acres of land use impacted by the facility, as well as the volume to capacity ratios (Table 1) of the Huetter Corridor versus the Greensferry Alternative and the relative improvements to the US 95 intersection, the KMPO Board reaffirmed their decision to only consider the Huetter Corridor as it better met the study purpose and need.

<b>Table 4. Corridor Options Right of Way Comparison</b>		
<b>Comparison Criteria</b>	<b>Greensferry Corridor</b>	<b>Huetter Corridor</b>
Number of Parcels Impacted	694	399
Acres of Land Impacted	3,080	2,544
Corridor Shared Parcels and Acres	23 / 675	23 / 675
Estimated Corridor Influence Area Property Values	\$580,411,830	\$377,162,210
Corridor Comparative Cost Difference	154% greater than Huetter Corridor cost	
Source: KMPO, 2006.		

The Greensferry Road Corridor alternative summary is provided in the Appendices of this report.

## **ALIGNMENT ALTERNATIVES AND PREFERRED ALIGNMENT**

Based on the revised Corridor study area (Figure 4), potential facility alignments were analyzed. Figures 7 and 8 summarize the progression of alignments examined. As illustrated, the existing



Huetter Road is at the core of all alignments analyzed. Huetter Road is an established right of way, centrally located between US 95 and SH 41, where future growth and transportation capacity needs are projected. In the end, KMPO determined that the Preferred Alignment, “Option1d”, best fit the project’s overall purpose and need. The Preferred Alignment connects to Interstate 90 east of the existing Huetter Rest Area / Idaho Port of Entry, travels north generally along the existing Huetter Road to Lancaster Avenue and then northeasterly paralleling the Spokane International Railroad - Union Pacific Railroad right of way, and connects to US 95 at SH 53.

It should be noted that the term “Preferred Alignment” defined in this report is being used in the context of establishing the project’s Right of Way Needs Map, solely. This report describes the alignment that was determined to best meet the project’s stated purpose and need. It is not intended to be the “Preferred Alignment” as determined through the Federal Highway Administration (FHWA) / ITD Conceptual Design process, the Access Point Decision Report process, nor the “Preferred Alternative” as determined through the National Environmental Policy Act (NEPA) process. The project’s FHWA and NEPA processes are anticipated to occur during the next phase of the study.

## **FACILITY TYPE AND FEATURES**

Referencing the project’s purpose, KMPO concluded that a high-speed to high-speed Type V Controlled Access Facility (ITD Access Management Policy is provided in the Appendices of this report) was the most appropriate facility to meet the project’s needs. Other facility features would include:

- Fully directional interchange at Interstate 90 east of the Huetter Rest Stop and Idaho Port of Entry.
- Grade separated full access interchanges at intersecting arterials (future five lane roadways) at one mile intervals from/to Interstate 90.
  - Poleline Avenue
  - Prairie Avenue
  - Hayden Avenue
  - Wyoming Avenue
  - Lancaster Avenue
  - Junction of State Highway 53 / US Highway 95
- Limited access frontage road (relocated Huetter Road) on the west side of the Huetter Corridor with three lanes widening to five lanes at the intersecting arterial roads, if required.
- West Huetter Corridor alignment option minimizes future right of way acquisitions.
- Allows local roadway connections to frontage road.
- Uses or parallels the Spokane International Railroad and Union Pacific Railroad right of way.
- Facility capacity – four to six travel lanes to meet future needs.
- Controlled Access Facility – Type V (no access except at interchanges).



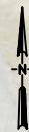
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# Figure 7

**Kootenai**  
**MPO**

**RY**  
Ryan-Young & Associates, Inc.

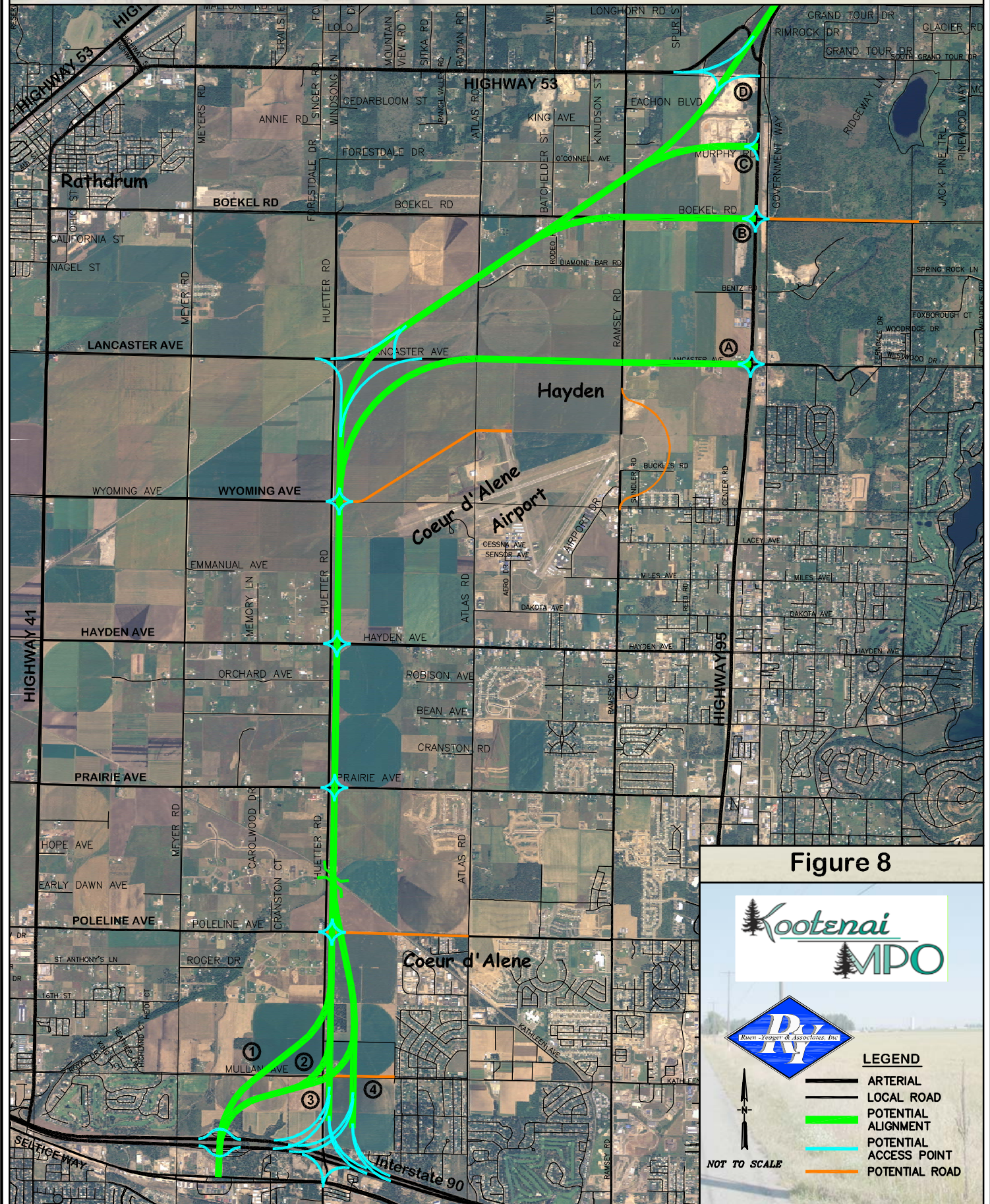
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# Huettner Corridor Refined Alignments





- Design speed – 70 MPH with a posted speed of 60 MPH minimum.
- Separated pedestrian / bicycle path generally paralleling the west side of the Huetter Corridor facility.
- A facility footprint that would minimize right of way needs and environmental impacts.
- Grade separated facility (approximately 25 feet below the existing ground surface).
- Multi-use corridor for potential land application of treated effluent wastewater to help mitigate noise and visual impacts and provide for dual use of a public facility by agencies.

## **RIGHT OF WAY NEEDS MAP ANALYSES**

This section presents facility assumptions and the analyses performed as part of the Right of Way Needs Map development process. The analyses performed were:

- Facility Connection to Interstate 90.
- Preliminary feasibility of providing a connection to and from Seltice Way.
- Preliminary review of possible interchange types.
- Refinement of alignments.

Collectively and as discussed in this report, the results from these analyses were used to determine the footprint for the Right of Way Needs Map.

### **Location and Alignment**

In accordance with the stated purpose and need of the facility, the Preferred Alternative alignment selected was Option 1d, providing for a future transportation facility that consists of one High-Speed to High-Speed Controlled Access Facility (“Mainline”) and one limited access Frontage Road. The facility is generally located between Interstate 90 at the Huetter Rest Area / Port of Entry on the south and US 95 at SH 53 junction on the north. The facility parallels and, in part, occupies the existing Huetter Road right of way and is adjacent to the Spokane International Railroad and Union Pacific Railroad right of way. Should the railroad right of way be abandoned through the Bridging the Valley project, the railroad right of way could be used for the Huetter Corridor facility. The Bridging the Valley project (KMPO, 2004) would combine both the Burlington Northern Santa Fe (BNSF) railroad mainline track with the Union Pacific Railroad mainline track in one rail corridor using the BNSF alignment.

### **Interstate 90 Access Policy**

Access to Interstate 90 will require conformance with all Federal rules and regulations, this policy is applicable to new or revised access points to existing Interstate facilities regardless of the funding of the original construction or regardless of the funding for the new access points. This includes routes incorporated into the Interstate System under the provisions of 23 U.S.C. 139(a) or other legislation. The policy statement was originally issued in the Federal Register on October 22, 1990 (55 FR 42670).

**Interchanges**

The right of way footprint includes interchanges meeting FHWA spacing requirements for approximately one mile intervals along the facility. These interchanges were assumed to be located at: 1) Interstate 90, 2) east-west arterials from Poleline Avenue to Lancaster Avenue, and 3) the US 95 and SH 53 junction. Based on the completed travel demand model analyses, it was assumed that the design year peak hour volumes would support a fully directional interchange at Interstate 90 and full terminal, grade separated interchanges for the east-west arterials from Poleline to Lancaster. Figure 9 illustrates a typical interchange layout.

**Huetter Corridor Mainline**

The Mainline (Figure 10) would be a Controlled Access Facility (ITD - Type V) with design speeds of 70 MPH with a posted speed of 60 MPH. Current ITD and AASHTO design standards would be applicable to the Huetter Mainline. Build-out for the Mainline would be flexible and provide a right way width to accommodate a four or six lane roadway section for future capacity needs. Grade separation will be provided for existing intersecting arterial roads and railroad crossings. No changes to the existing Interstate 90 alignment are proposed and connection to the planned Garwood to Sagle U.S. Highway 95 project would be anticipated.

**Facility Location**

Based upon the study purpose and need and the desire to have a minimized footprint, the facility is proposed to be approximately 25 feet below ground. By providing a sub-grade location, the visual impact of the facility is lessened as well as noise attenuation. Figure 11 shows the typical section below ground.

**Huetter Corridor Frontage Road**

The relocated Huetter Road as the frontage road would have an Arterial or Collector road functional classification and meet ITD, AASHTO, City, or Associated Highway Districts of Kootenai County current design standards. Build-out would be flexible and provide a right of way width to accommodate a three lane roadway section. At the interchange intersections, the frontage road width could be increased to allow for a five lane section depending on traffic needs. Location of the frontage roadway was reviewed along with the mainline alignment. The west frontage road options (Figure 12) included either the use of the current Huetter Road right of way for the frontage road or using the right of way for the mainline facility and offsetting the frontage road to the west of the existing right of way. The east frontage road options (Figure 13) utilized Huetter Road right of way for the mainline and was either a straight or non-linear alignment. Ultimately, the non-linear alignment (Figure 14) of the mainline facility was selected as a preferred alignment, which generally straddles the existing Huetter Road right of way. The non-linear frontage road to the west of the facility mirrors the offset requirements for intersecting roadways and minimizes the right of way footprint.

**Existing Huetter Road**

With the Huetter Corridor facility, the existing Huetter Road would remain on its current alignment south of Mullan Avenue. North of Mullan Avenue, the relocated Huetter Road would be on the west side of the Huetter Corridor facility and will continue to approximately .25 mile north of Wyoming Avenue. At that point the roadway would rejoin the existing Huetter Road alignment.



# Huetter Corridor East - West Arterial Typical Interchange / Intersection

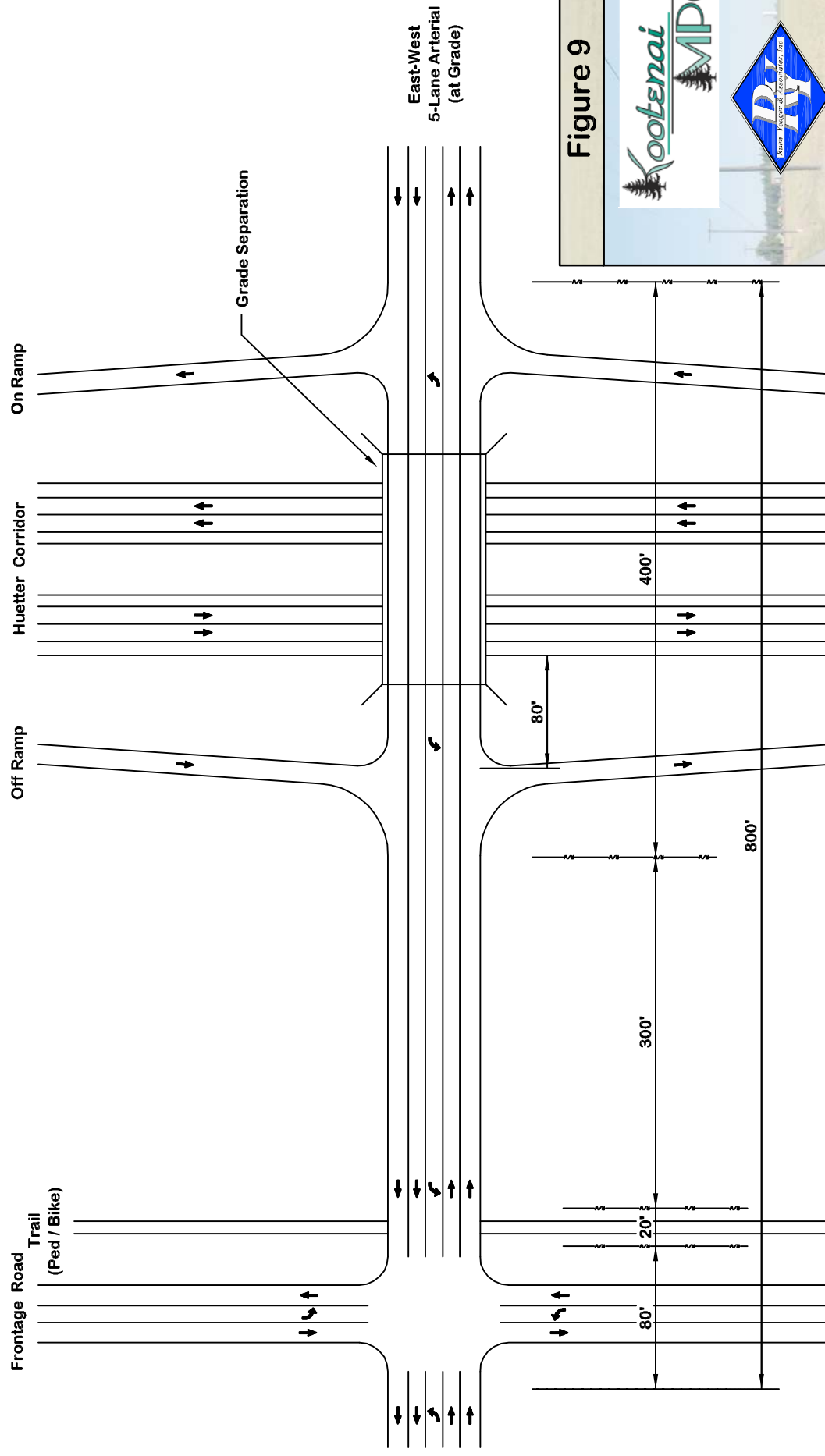


Figure 9



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# Huetter Corridor

## Mainline Typical Roadway Section

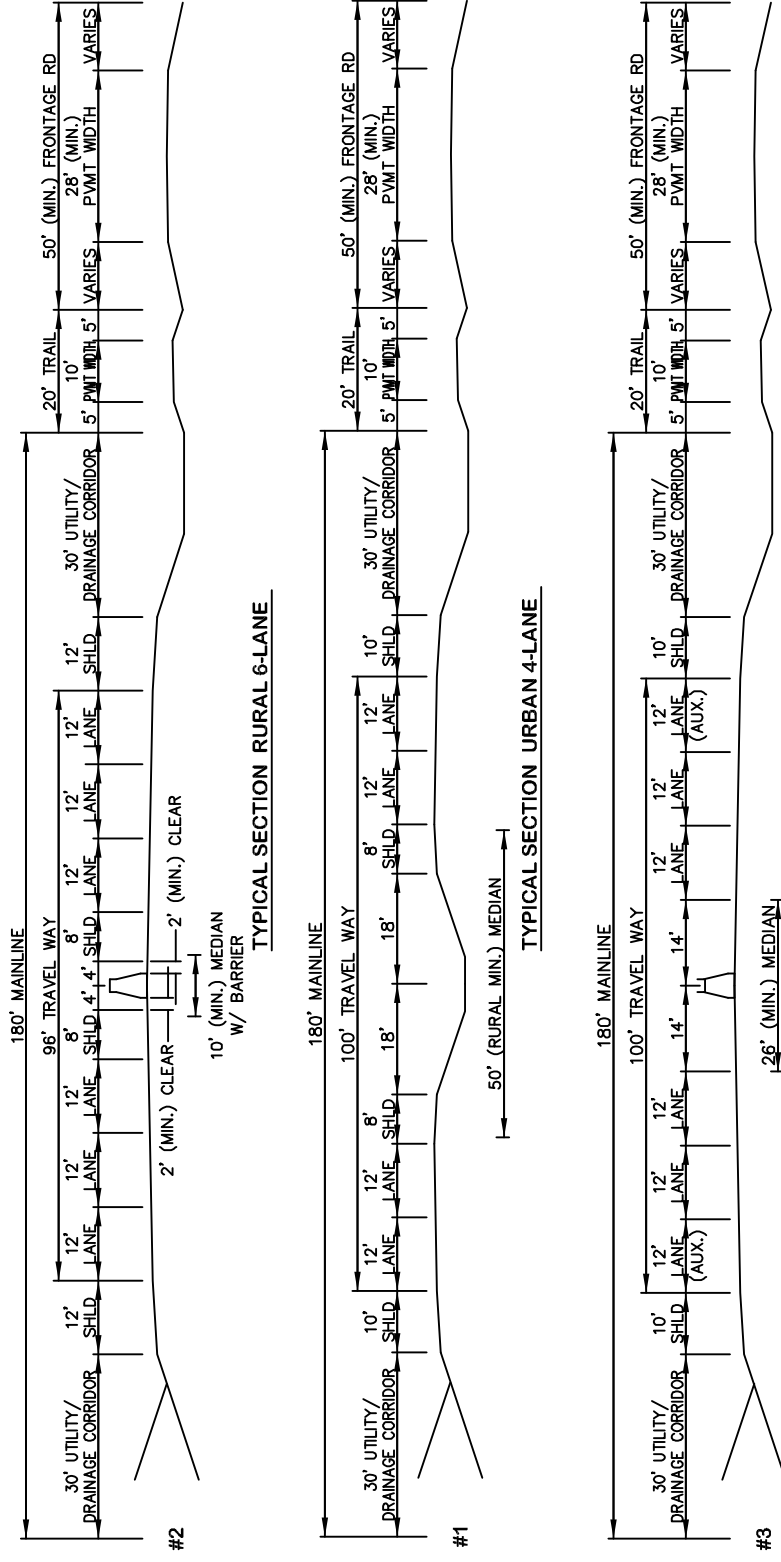


Figure 10

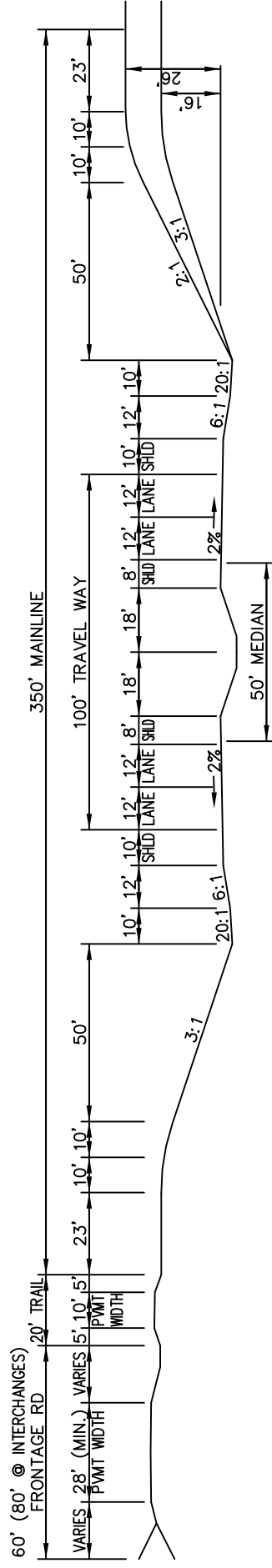


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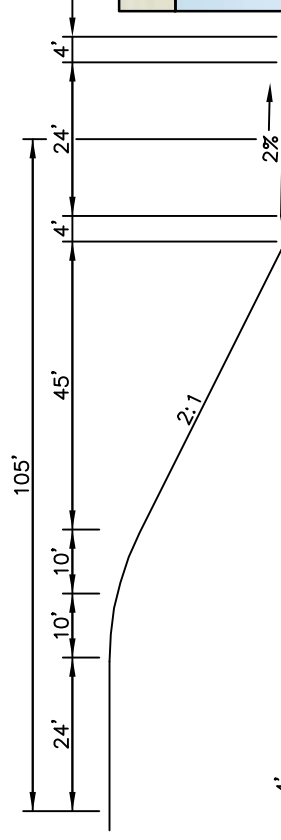
- NOTES:
1. TO ILLUSTRATE WIDEST COMBINED—TYPICAL SECTIONS ANTICIPATED, WIDTHS (EXCLUDING MEDIAN AND FRONTAGE ROAD PAVEMENT WIDTHS) ARE EQUAL TO OR APPROACH AASHTO, ITD AND KOOTENAI COUNTY ASSOCIATED HIGHWAY DISTRICTS WIDTH STANDARD MAXIMUMS.
  2. FRONTAGE ROAD IS ASSUMED TO BE CLASSIFIED AS A RURAL COLLECTOR OR FUTURE ARTERIAL AND CAN VARY IN RIGHT OF WAY WIDTHS DEPENDING ON NUMBER OF LANES.
  3. DESIRED FRONTAGE ROAD RIGHT OF WAY WIDTH IS 60'–120' AND INCLUDES THE FRONTAGE ROAD (50' MIN.), TRAIL (20') AND JOINT UTILITY/DRAINAGE CORRIDOR (30') USE.



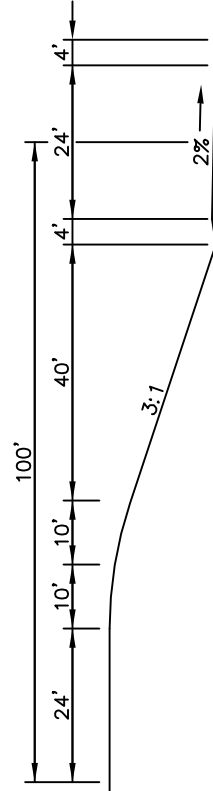
## Huetter Corridor Typical Section



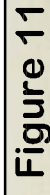
**TYPICAL SECTION URBAN 4-LANE**  
**16' AND 26' BELOW EXISTING GROUND**



**TYPICAL SECTION RAMP**  
**26' BELOW EXISTING GROUND @ 2:1 SLOPE**



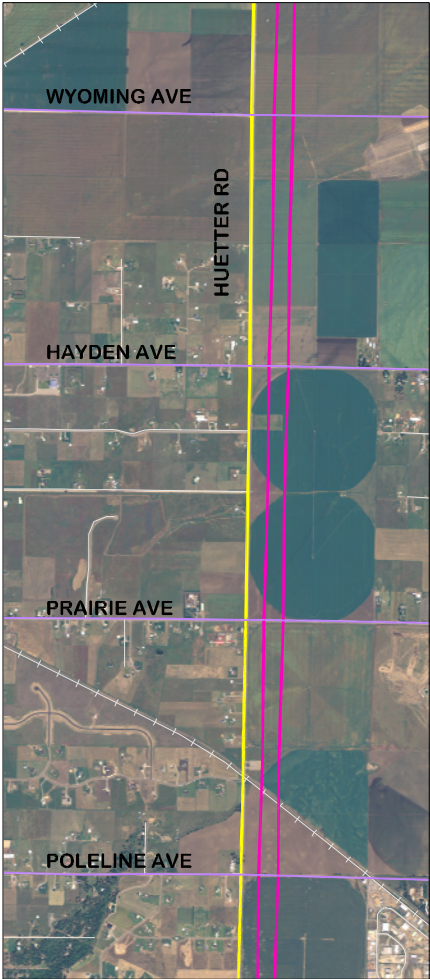
**TYPICAL SECTION RAMP**  
**16' BELOW EXISTING GROUND @ 3:1 SLOPE**



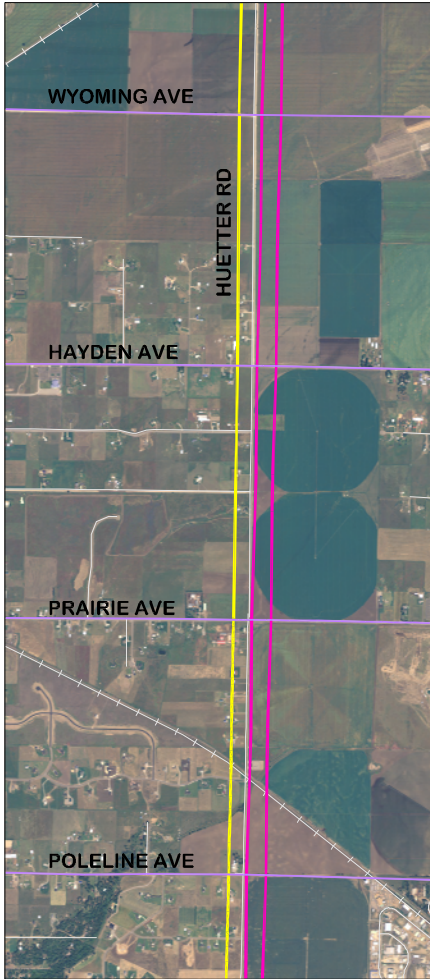
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# Huetter Corridor

## Screening of Frontage Road and Diamond Interchange Configuration Options



MAINLINE OFFSET EAST FROM  
EXISTING HUETTER ROAD  
RIGHT OF WAY  
WITH STRAIGHT  
WEST FRONTAGE ROAD



MAINLINE ON HUETTER ROAD  
RIGHT OF WAY  
WITH STRAIGHT  
WEST FRONTAGE ROAD

### WEST FRONTAGE ROAD OPTIONS

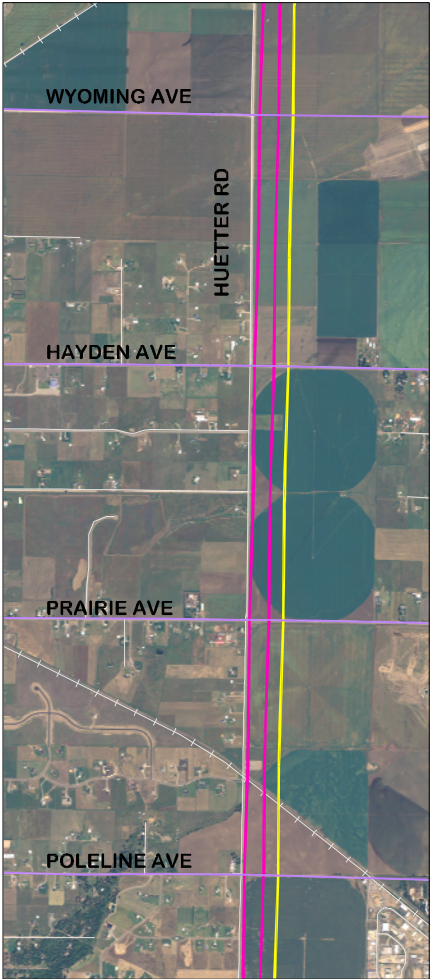
Figure 12



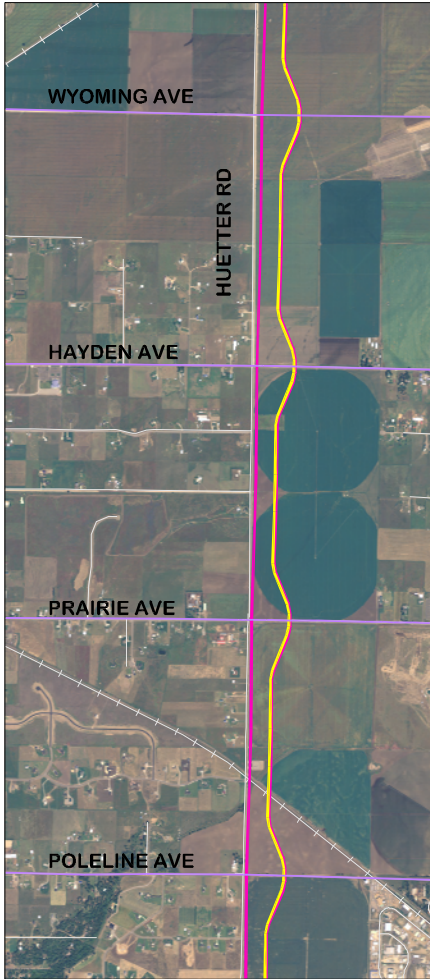


# Huetter Corridor

## Screening of Frontage Road and Diamond Interchange Configuration Options



MAINLINE ON HUETTER ROAD  
WITH STRAIGHT  
EAST FRONTAGE ROAD



MAINLINE ON HUETTER ROAD  
WITH NON-LINEAR  
EAST FRONTAGE ROAD

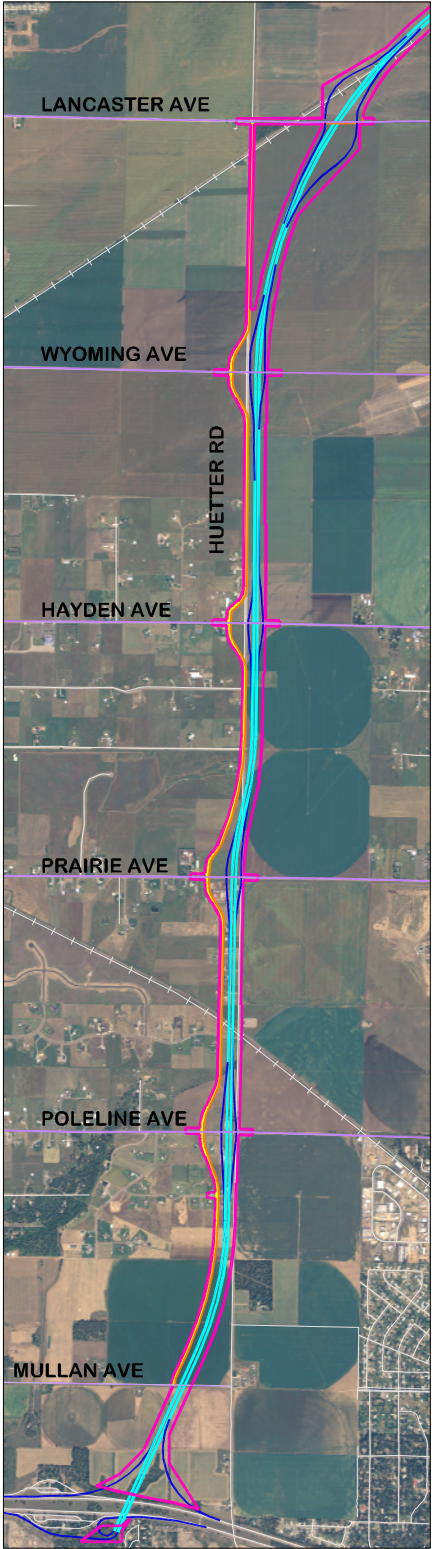
### EAST FRONTAGE ROAD OPTIONS

Figure 13



# Huetter Corridor

## Screening of Frontage Road and Diamond Interchange Configuration Options



MAINLINE ON HUETTER ROAD  
WITH NON-LINEAR  
WEST FRONTAGE ROAD

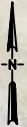
**NON-LINEAR OPTION**

Figure 14



**LEGEND**

- HUETTER FACILITY
- RAMP
- FRONTAGE ROAD
- INTERSECTION ARTERIAL
- TRAIL-PED/BIKE
- RIGHT OF WAY



NOT TO SCALE

North of Mullan Avenue, existing Huetter Road would either terminate as a public road and become a private road to serve existing residences east of Huetter Road, or remain as a public road, but terminate approximately .5 mile north of Mullan Avenue.

The transition from the current Huetter Road right of way (south of Mullan Avenue) to the new relocated Huetter right of way (west of Huetter Corridor facility) will need to be reviewed for traffic flow and operations. Under the “minimized footprint” for the right of way, the transition of “old” and “new” Huetter Roads is shown with two 90 degree turns at its Mullan Avenue intersections.

### **Other Facilities**

Within the proposed future right of way, a pedestrian / bicycle trail and utility corridor (meeting ITD, City, or Associated Highway Districts of Kootenai County standards) will be provided. Figure 10 illustrates the widest three typical sections anticipated for the Mainline, Frontage Road, utility corridor, and pedestrian / bicycle trail.

The potential for multiple use of the Corridor by public agencies exists. The side slopes of the mainline facility could be used as a location for land application of treated effluent wastewater. The mainline corridor could serve as mitigation for noise attenuation and visual impact mitigation. The Huetter Corridor right of way will be secured with right of way limits fencing, and the areas utilized for land application could serve as a “*green corridor*” thereby maximizing public lands and resources. In an era of increased public cost of infrastructure maintenance and limited availability for public funds for land acquisition, opportunities for maximizing public funds is critical.

### **Seltice Way Connection - Preliminary Feasibility Review**

Early in the Huetter Corridor study, interest in providing a connection between the Huetter Corridor Mainline and existing Seltice Way was expressed. The review included facility description, facility need, roadway geometric design, constructability, and operability.

### **Facility Description**

Two potential Seltice Way connection scenarios were examined:

- A north-south connection between the Huetter Corridor Mainline and Seltice Way without a direct connection to Interstate 90.
- A north-south connection between the Huetter Corridor Mainline and Seltice Way with an interchange that provides full access from Huetter Road and Seltice Way to Interstate 90.

For the Seltice Way connection to be feasible, the Huetter Corridor Mainline needs to connect with Interstate 90 at the Huetter Rest Area / Port of Entry (Figure 15). The proposed route would continue on the Huetter Corridor alignment south to Seltice Way. At this location, Interstate 90 is a four lane, divided highway and Seltice Way is a four lane, divided roadway intersecting Huetter Road.

The horizontal distance between Interstate 90 and Seltice Way is approximately 1,000 feet with the interstate elevated approximately 100 feet above Seltice Way (Figure 16). The topographic



# Huetter Corridor Seltice Way Connection Plan

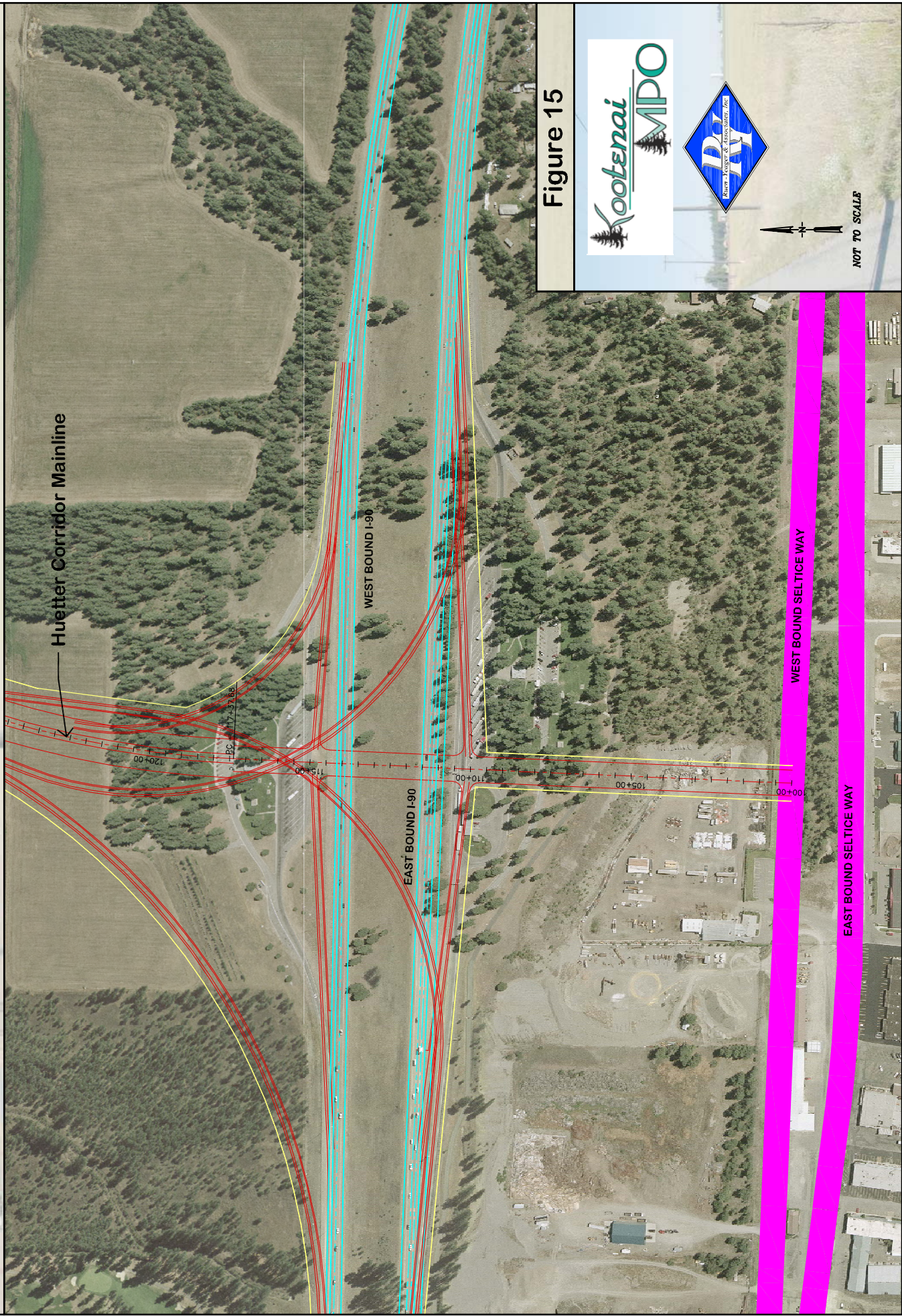
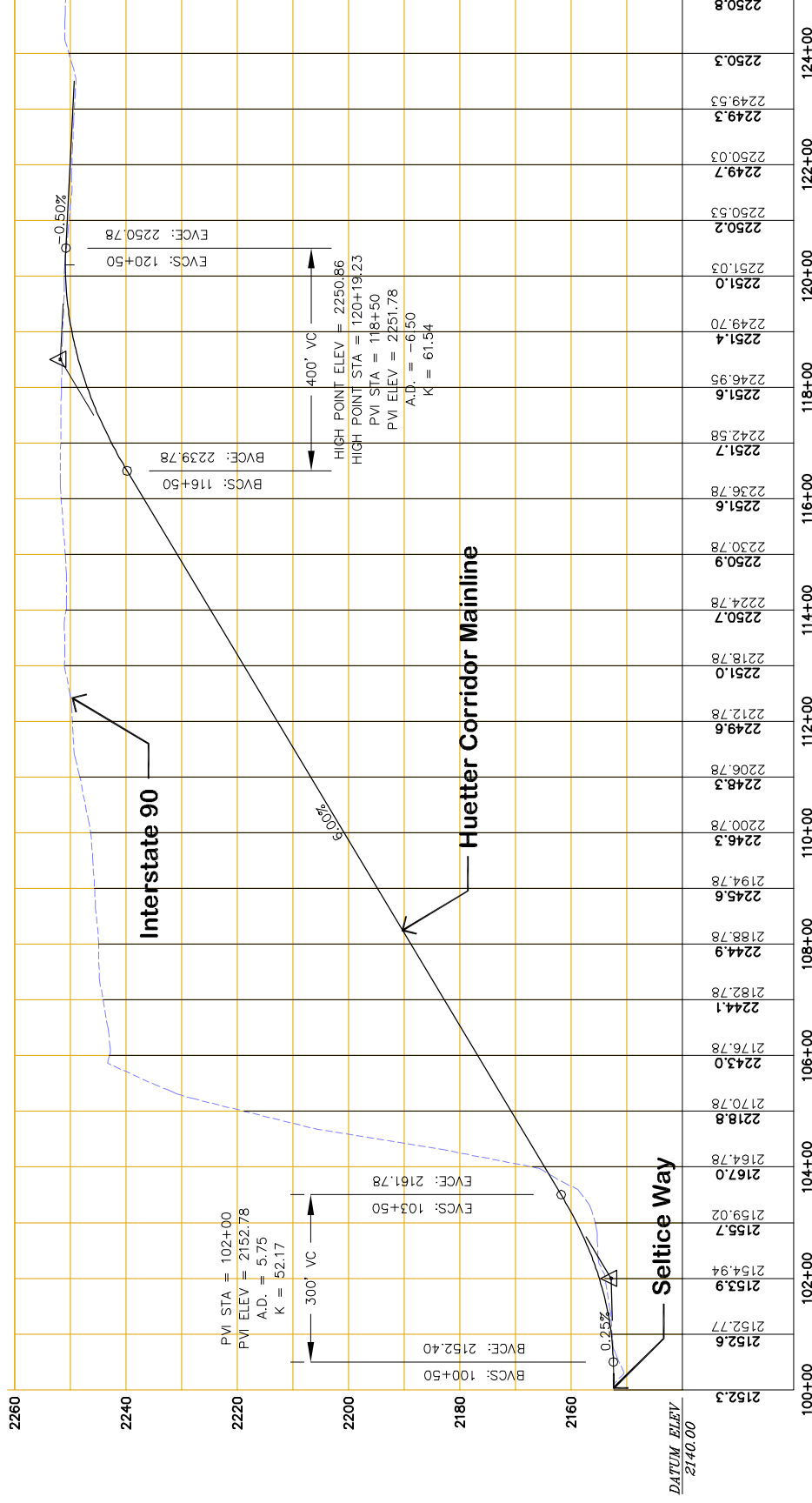


Figure 15





# Huetter Corridor Seltice Way Connection Profile



difference is configured, such that two general benches are formed in the slope. The interstate sits on the higher bench and Seltice Way sits on the lower bench. The soils in the area are a sandy loam. A cemetery and sparsely spaced light industrial businesses exist on the lower bench between the Interstate and Seltice Way. The upper bench has a few single-family homes.

During the feasibility review, it was assumed that no changes to the existing Interstate 90 location and alignment would occur nor changes to the Seltice Way alignment. The Seltice Way connection would need to conform to the Associated Highway Districts of Kootenai County standards, support up to five travel lanes, a pedestrian / bicycle trail, and a drainage / utility corridor. Roadway slopes cannot exceed six percent. It is further assumed that various Interstate 90 to Huetter Mainline interchange types could provide compatibility with the connection, and for the purposes of this review; a fully directional Multi-Level with Two-Stacked Structures interchange is assumed. Figure 17 illustrates the potential interchange types.

### **Facility Need**

In the early stages of the study, land use near the Seltice Way and Huetter Road intersection was anticipated to continue with generally industrial growth and the need for Seltice Way connection to Huetter Corridor Mainline appeared to be warranted. In concept, goods and freight generated from an industrial/commercial area would require direct and easy access to Interstate 90 and the new Huetter Corridor facility.

During the study process, the need for direct Interstate 90 and Huetter Corridor facility access from Seltice Way was not supported. Land use in the area has changed. Light industrial uses exist, but are not growing at the rate anticipated. Instead, these projected industrial uses are being replaced with rapidly growing residential developments or local commercial uses not depending on direct interstate access. In the end, the need for a Seltice Way connection diminished for two reasons:

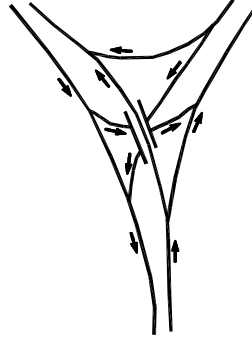
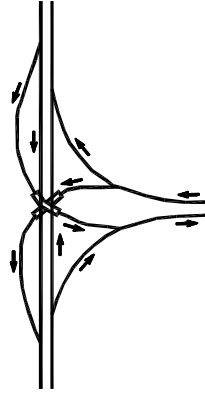
- The full build-out scenario south of Interstate 90, near Seltice Way does generate new trips but, in most cases, not the type of trips that require direct and easy access to the interstate and the proposed Huetter Corridor facility.
- Alternate accesses are or would be available: Interstate 90 at SH 41, Interstate 90 at Northwest Boulevard, and at the new proposed interchange for the Huetter Corridor mainline at Poleline Avenue.

### **Roadway Geometric Design**

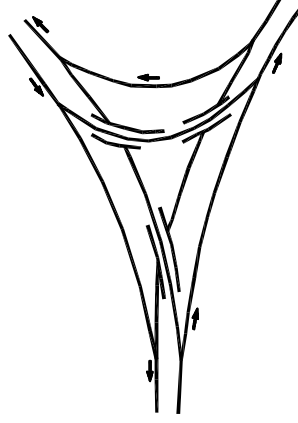
Based on preliminary review of roadway geometrics, the Seltice Way Connection is feasible. A subsurface structure (tunnel) underneath the Huetter Corridor Mainline and Interstate 90 interchange will be required. The depressed roadway will require significant cuts and use of retaining walls as the connection descends to Seltice Way south of Interstate 90. Right of way needs south of the interstate would be at least 550 feet in width. The roadway slope cannot exceed the Associated Highway Districts of Kootenai County standards of six percent. The Seltice Way connection is further complicated by the divided Seltice Way roadway and grade difference between the couplet. The two intersections are approximately 100 feet apart and could create queuing issues unless coordinated signals would be installed at both Seltice Way intersections and the south ramp terminal location at Interstate 90. The Seltice Way connection will also be a low speed entrance to the Huetter Corridor or Interstate 90 due to the six percent



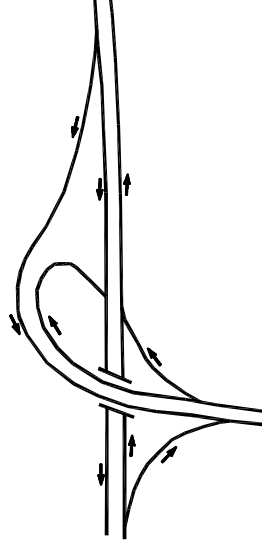
# Huetter Corridor Interstate 90 Junction Structure Types



Multi-Level  
Two-Stacked Structures



Three-Offset Structures



Trumpet  
(One multi-lane) Structure

Figure 17



NOT TO SCALE

up-slope from vehicle stopped positions followed by a left or right turn to the Huetter facility. Thus, there will be no “running start to make the hill”. Conversely, the six percent down-slope may create a higher accident potential in winter conditions.

The addition of an Interstate 90 direct access is also feasible from the standpoint of roadway geometrics. A conventional tight diamond interchange with ramp offsets from Interstate 90 of approximately 80 feet is feasible. The ramps north of the interstate are at one to two percent grade and are approximately 850 to 1,200 feet in length. For ramps south of the interstate, catch points with the Seltice Way connection are slope sensitive. Connection slopes less than six percent are not recommended. With lesser slopes, the ramps become longer. Assuming that the ramps south of the interstate are at a six percent grade, the eastbound exit ramp would be approximately 1,200 feet in length and the westbound on ramp would be approximately 3,500 feet in length. To achieve the required ramp length at the above mentioned slopes, the footprint of the ramp pairs south of Interstate 90 would be nearly 5,000 feet.

### **Constructability**

The existing Seltice Way intersections and the Seltice Way connection and Interstate 90 interchange are both constructable. Due to soil types in the area, multiple standard pile structure supports are likely. Large *lay-backs* or temporary shoring will be required for excavations. All ramps will require multiple, low percent battered retaining walls. To minimize right of way impacts, retaining walls would likely be required for the Seltice Way connection south of Interstate 90. A cut and cover tunnel is likely for the connection tunnel under the interstate interchange. Thus, staged construction that includes temporary re-alignment and detour of Interstate 90 will be required.

### **Operability**

Operational items of concern include alignment compatibility with the existing Seltice Way intersections and potentially low Huetter Corridor facility entrance speeds. Maintenance items of concern revolve around providing adequate consideration for winter conditions, snow storage, and drainage.

The existing Huetter Road / Seltice Way intersection will require improvement and realignment. In its current configuration, the existing intersection has higher speed limits (45 MPH) and skewed intersection angles. Potential improvements could include signalization or construction of a roundabout and increased roadway lighting.

From a driver’s standpoint, low Huetter Corridor facility entrance speeds may be observed. The most likely configuration will have northbound traffic from Interstate 90 entering the Huetter Corridor Mainline in the right lane. Entrance speeds (i.e. for trucks) may be low due to the up-slope and an extended merge distance would be required. Low speed entrances are not desirable.

Similarly, the Interstate 90 westbound on-ramp from the Huetter Corridor facility will also be long (approximately 3,500 feet). This will likely provide low merge speeds for truck traffic entering the highway. Currently, this condition exists for the SH 41 and Interstate 90 eastbound on-ramp. On-going studies on Interstate 90 are finding this condition is not desirable.

Winter safety and maintenance considerations will be an issue if the Seltice Way connection is built. Some of the Seltice Way connection and ramps could be shaded during the winter months.

Anti-icing and snow removal for the facility will need to be anticipated in the design or require specialized maintenance equipment.

### **Seltice Way Recommendations**

The Seltice Way connection and combined Seltice Way connection and Interstate 90 interchange can be designed, constructed, and remain functional given the existing topographic conditions and design constraints. However, based on the preliminary feasibility review performed, implementation of the Seltice Way connection and combined Seltice Way connection and Interstate 90 interchange is not recommended without re-examination of the need. Other routes to access the Huetter Corridor facility would be available and resolution of the operational and maintenance concerns needs to be completed.

### **Interchange Preliminary Review**

A review of the mainline preliminary interchanges for the Preferred Alternative was performed to:

- Determine appropriate range of interchange types for analysis.
- Identify interchange general parameters (limiting and non-limiting).
- Provide interchange(s) footprints that are included in the Right of Way Needs Map development process.

Interchanges were analyzed at the following locations:

- Interstate 90.
- Major east-west intersecting arterials at Poleline Avenue, Prairie Avenue, Hayden Avenue, Wyoming Avenue, and Lancaster Avenue).
- Junction of US Highway 95 and State Highway 53.

### **Interstate 90 Interchange**

As determined by the Preferred Alignment, the Interstate 90 interchange would be located near the ITD Huetter Rest Area and Port of Entry. The interchange configuration would include three-legs providing east-west Interstate 90 access and a north-south route based on the existing and forecast travel demand model for Kootenai County. Five major movements (east to north, south to west, east to west, west to east, and west to north) and one minor movement (south to east) would be provided. Based on design year peak hour volumes provided by the regional travel demand model, each movement is assumed to require single-lane ramps.

### **Additional Interchanges to the Interstate System Policy**

Any new or revised access to Interstate 90 requires the completion and acceptance of an Access Point Decision Report under the Federal Highway Administration guidelines. It is in the national interest to maintain the Interstate System to provide the highest level of service in terms of safety and mobility. Adequate control of access is critical to providing such service. Therefore, new or revised access points to the existing Interstate System should meet the following requirements:

1. The existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to satisfactorily accommodate the design-year traffic demands while at the same time providing the access intended by the proposal.



2. All reasonable alternatives for design options, location and transportation system management type improvements (such as ramp metering, mass transit, and HOV facilities) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.
3. The proposed access point does not have a significant adverse impact on the safety and operation of the Interstate facility based on an analysis of current and future traffic. The operational analysis for existing conditions shall, particularly in urbanized areas, include an analysis of sections of Interstate to and including at least the first adjacent existing or proposed interchange on either side. Crossroads and other roads and streets shall be included in the analysis to the extent necessary to assure their ability to collect and distribute traffic to and from the interchange with new or revised access points.
4. The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" for special purpose access for transit vehicles, for High Occupancy Vehicles (HOVs), or into park and ride lots may be considered on a case-by-case basis. The proposed access will be designed to meet or exceed current standards for Federal-aid projects on the Interstate System.
5. The proposal considers and is consistent with local and regional land use and transportation plans. Prior to final approval, all requests for new or revised access must be consistent with the metropolitan and/or statewide transportation plan, as appropriate, the applicable provisions of 23 CFR part 450 and the transportation conformity requirements of 40 CFR parts 51 and 93.
6. In areas where the potential exists for future multiple interchange additions, all requests for new or revised access are supported by a comprehensive Interstate network study with recommendations that address all proposed and desired access within the context of a long-term plan.
7. The request for a new or revised access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.
8. The request for new or revised access contains information relative to the planning requirements and the status of the environmental processing of the proposal.

### **Application**

This policy is applicable to new or revised access points to existing Interstate facilities regardless of the funding of the original construction or regardless of the funding for the new access points. This includes routes incorporated into the Interstate System under the provisions of 23 U.S.C. 139(a) or other legislation.

Routes approved as a future part of the Interstate system under 23 U.S.C. 139(b) represent a special case because they are not yet a part of the Interstate system and the policy contained herein does not apply. However, since the intention to add the route to the Interstate system has been formalized by agreement, any proposed access points, regardless of funding, must be coordinated with the FHWA Division Office. This policy is not applicable to toll roads incorporated into the Interstate System, except for segments where Federal funds have been expended, or where the toll road section has been added to the Interstate System under the provisions of 23 U.S.C. 139(a).

For the purpose of applying this policy, each entrance or exit point, including "locked gate" access, to the mainline is considered to be an access point. For example, a diamond interchange configuration has four access points.

Generally, revised access is considered to be a change in the interchange configuration even though the number of actual points of access may not change. For example, replacing one of the direct ramps of a diamond interchange with a loop, or changing a cloverleaf interchange into a fully directional interchange would be considered revised access for the purpose of applying this policy.

All requests for new or revised access points on completed Interstate highways must be closely coordinated with the planning and environmental processes. The FHWA approval constitutes a Federal action, and as such, requires that the National Environmental Policy Act (NEPA) procedures are followed. The NEPA procedures will be accomplished as part of the normal project development process and as a condition of the access approval. This means the final approval of access cannot precede the completion of the NEPA process. To offer maximum flexibility, however, any proposed access points can be submitted in accordance with the delegation of authority for a determination of engineering and operational acceptability prior to completion of the NEPA process. In this manner, the State highway agency can determine if a proposal is acceptable for inclusion as an alternative in the environmental process. This policy in no way alters the current NEPA implementing procedures as contained in 23 CFR part 771.

The FHWA policy is provided in the Appendices of this report.

The future interchange and its' associated roadway transitions between Interstate 90 and the Huetter Corridor mainline needs to provide a layout that:

- Provides fully directional access.
- Minimizes impacts to private property and accesses.
- Does not change the current alignment of Interstate 90.

Following a review of a wide range of interchange types, three interchange structures, were determined to be most appropriate for application (see Figure 17): Multi-Leveled with Two-Stacked Structures, Three-Offset Structures, and a Trumpet (one multi-lane) Structure. Two Multi-Level with Two-Stacked Structure configurations fit the overall layout for the Interstate 90 and Huetter Corridor Mainline interchange while providing the smallest footprint.

The Multi-Level with Two-Stacked Structures (both configurations) retains the existing eastbound and westbound at/or very near existing grade with 70 MPH design speed for Interstate 90. The structures provide three right hand exit ramps, west to north, east to north, and south to west. The remaining ramps are subsurface or can be elevated above grade.

The Three-Offset Structures retain the existing eastbound and westbound at/or very near existing grade with 70 MPH design speed for Interstate 90. A left hand exit, crossing two structures or a single structure with an at-grade ramp, is established for the south to east movements. A second left hand exit, crossing a single structure with an at-grade ramp or a single subsurface structure with an at-grade ramp, is established for the south to east movement. The west to north and

south to east ramps can have ramp design speeds ranging from 40 to 50 MPH. North to west movements are accommodated by at-grade, right hand exiting ramp with 50 to 60 MPH design speeds.

The Trumpet (one multi-lane) Structure also retains the existing eastbound and westbound at/or very near existing grade with 70 MPH design speed for Interstate 90. The west to north movement is a right hand exiting ramp on a single-shared bridge structure or a single-shared structure below Interstate 90. Design speed for this movement is up to 50 MPH. The south to east movement is a left hand exiting ramp onto or under the single-shared structure followed by a southwest quadrant tight loop ramp. Design speeds for the loop ramp do not exceed 35 MPH. The south to west and west to north movements are established by right hand, at-grade exiting ramps with 50 to 60 MPH design speeds.

Based on the study of existing right of way and topography near the interchange location, two highly suitable interchange sites were found. For the purposes of this report, the sites are referenced as Sub-Options to the Preferred Alternative (Option 1d) and are designated as “*ITD Right of Way Sub-Option*” and “*Ravine Sub-Option*” (Figure 18).

The *ITD Right of Way Sub-Option* locates the Interstate 90 interchange within the area of the existing ITD Huetter Rest Area / Port of Entry / Centennial Trail. This site includes a large amount of ITD right of way that generally conforms to the layout of all interchange types analyzed. The area also has some native trees, which may have planted as part of Ladybird Johnson’s program for highway beautification or other federally funded beautification projects. The right of way in the vicinity has a scenic easement on the titles of the adjoining properties which, governs the type of advertising and structures which are allowed within the easement. A future interchange at

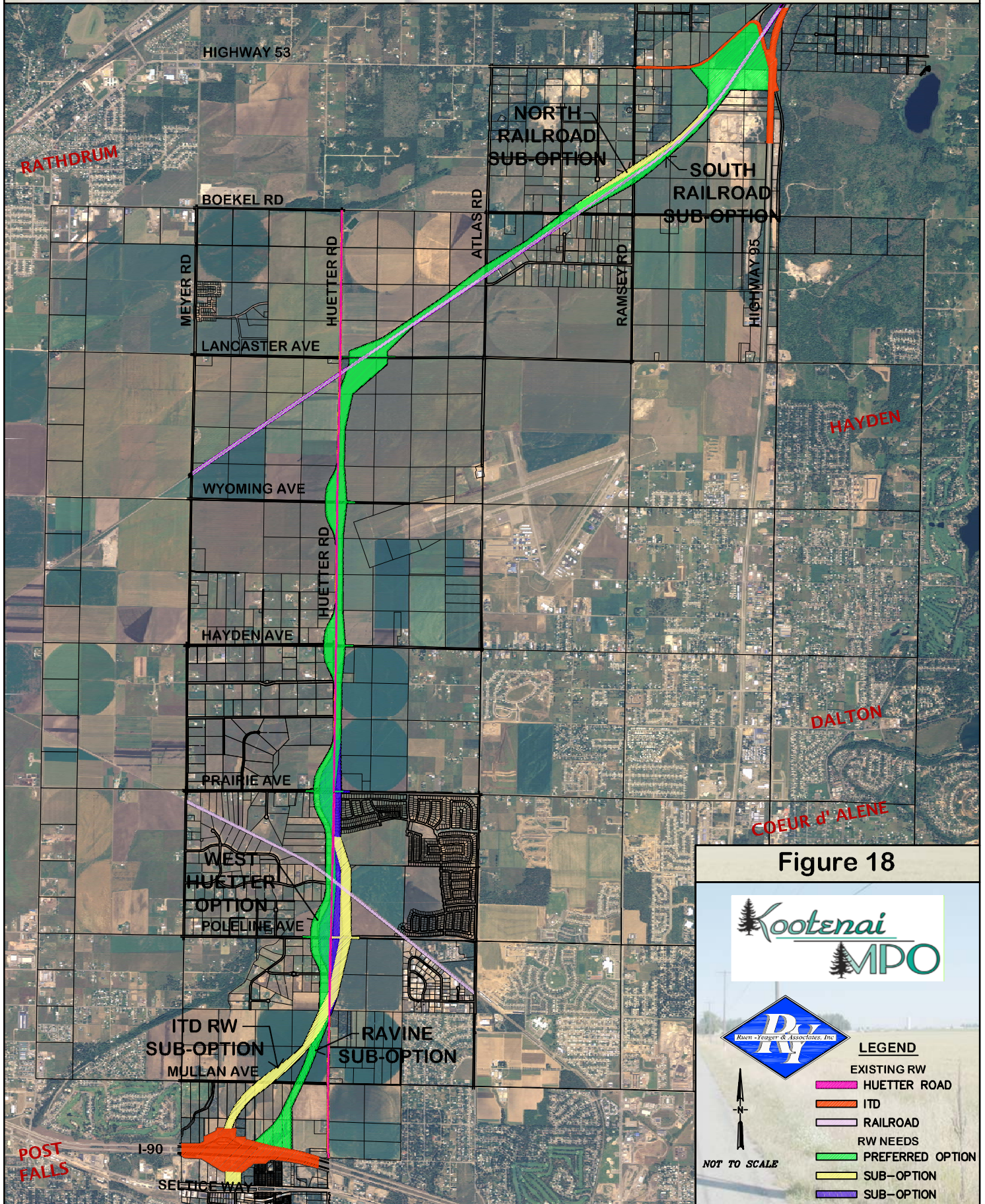


Interstate 90 proposed interchange location just east of the Huetter Rest Area and Port of Entry

Interstate 90 should be designed with landscaping that retains the existing scenic quality. The State owns a block of land directly south of the rest area that has the Pioneer Cemetery on it. The Centennial Trail location will also be a consideration in the siting and construction of an interchange. The trees and trail are potential candidates to be a 4(f) resource (park property, historic, or cultural resource) as defined by the FHWA. If this site is used, it is assumed that the ITD Huetter Rest Area (including both sides of Interstate 90), the Port of Entry, and the trail will require removal and/or relocation, and a “use” of 4(f) resources may be encountered and require mitigation. Due to proximity of the existing westbound rest stop off ramp, an interchange at this location may require grade separated ramp braiding (non-intersecting ramp crossing) in order to maintain free flow ramp operations.



# Huetter Corridor Alignment Options





The second option, *Ravine Sub-Option*, is located approximately 2,000 feet to the east of the *ITD Right of Way Sub-Option* site. This site has exceptionally favorable topographic characteristics. At this location, Interstate 90 crosses a ravine at an approximate 90 degree angle with the ravine carrying up-slope immediately north of the interstate. Although this site does not have adequate existing right of way, the ravine is not viewed as desirable property to develop. Therefore, if this site is used, it is assumed that acquisition of right of way within and potentially adjacent to the ravine will be required. Due to the proximity of the existing west bound rest stop off ramp, an interchange at this location may require some ramp braiding in order to maintain free flow ramp operations.

As summarized in Table 5, nine evaluating criteria were used to analyze the three interchange types.

- **Interstate 90 Impact Minimization.** As determined early in the Right of Way Needs Map development process, the selected interchange type must retain the existing eastbound and westbound interstate 70 MPH design speed at/or very near the existing grade. With this understanding, this criterion is defined as “significant” in terms of analyzing the interchanges.
- **Major Movement Connection Speed.** Providing a High-Speed to High-Speed facility interchange that is operationally efficient is also considered “significant” in terms of analyzing interchanges. Because it is assumed that the design year peak hour volumes are sufficiently provided for via single-lane ramps, ramp design speed is this criteria’s controlling factor.
- **Minor Movement Connection Speed.** Similar to the Major Movement Connection Speed, this criteria hinges upon ramp design speed. However, because the interchange only supports one minor movement, this criterion is dissimilar in the fact that it is considered “non-defining” in terms of analyzing interchanges.
- **Right Hand Exits.** As outlined by AASHTO, right hand exits are desirable (but not required) for high-speed to high-speed, controlled access facilities of this type. Thus, this criterion is considered “moderately” defining in terms of analyzing interchanges.
- **Right of Way Footprint Minimization.** This criterion is the third criterion considered “significant” in terms of analyzing interchanges. Interchange size relates directly to the costs required to acquire right of way. In the case of the ITD Right of Way site, the goal is to minimize the need for additional right of way outside the existing ITD Huetter Rest Areas and Port of Entry and the interstate right of ways. In the case of the Ravine site, the goal is to minimize right of way needs outside of the existing interstate right of way.
- **Huetter Rest Area / Port of Entry Impact.** The criterion appears to not hinder the implementation of structures for the Ravine Sub-Option. Conversely, the criterion appears to work against all structures analyzed for the ITD Right of Way Sub-Option because if the Sub-Option is implemented, the Huetter Rest Area and Port of Entry will need to be relocated. However, due to projected growth and changes in the interstate use, long-range plans (20+ years) for the rest areas and port of entry are uncertain and may include relocation or removal, regardless of the new interchange impact.
- **4(f) Trees and Trail Impact.** If the ITD Huetter Rest Area / Port of Entry site is used, it is assumed that a “use” of these 4(f) resources will be encountered and mitigation may be

required. Thus, this criterion is considered “non-defining” in terms of analyzing interchanges.

- **Seltice Way Connection Compatibility.** This criterion is considered “moderately” defining in terms of analyzing interchanges based on the recommendation to not include a Seltice Way connection. The criterion is only applicable for the *ITD Right of Way Sub-Option*.
- **Relative Cost.** Project cost, at this early stage, relates directly to the overall cost of construction (i.e. number of structures) and costs associated with acquiring additional right of way. The Relative Cost criterion is considered “moderately” defining in terms of analyzing interchanges because costs associated with acquiring additional right of way is included within the Footprint Minimization criterion.

Using these criteria to rank the two sub-options: ITD Right of Way and the Ravine, there are three rankings for the three interchange structure (two-stacked, three offset, and trumpet) types:

**Significantly Defining Criteria** indicates that using the structure for this sub-option is favorable.

**Moderately Defining Criteria** indicates that the criteria is desirable, but not required for an interchange type.

**Non-defining Criteria** indicates that the criteria does not impact the choice of structural types for the interchange.

The analyses utilized a + and – rating method for judging each criterion. A + indicates that implementing the structure under the criterion is favorable; and, a – indicates that implementation under the criterion is not favorable. Using Relative Cost as an example, a + indicates that the interchange type is the most cost effective to implement, a +/- indicates less cost effective, and a – indicates least cost effective to implement.



Table 5. Interstate 90 Interchange Analysis Summary						
CRITERIA	Interchange Type					
	Multi-Level Two Stacked Structures		Three Offset Structures		Trumpet	
	Sub Options					
	ITD R/W	Ravine	ITD R/W	Ravine	ITD R/W	Ravine
Interstate 90 Impact Minimizing	+	+	+	+	+	+
Major Movement Connection Speed	+	+	+	+	+	+
Minor Movement Connection Speed	+	+	+	+	—	—
Right Hand Exit(s)	+/-	+/-	+/-	+/-	+	+
Right of Way Footprint Minimizing <sup>1</sup>	+	+	+/-	+/-	+/-	+/-
Huetter Rest Area / Port of Entry Impact	—	+	—	+	—	+
4(f) Tree and Trail Impact (near rest area)	—	+/-	—	+/-	—	+/-
Seltice Way Connection Compatibility <sup>1</sup>	+	N/A	+/-	N/A	+/-	N/A
Relative Cost (number of structures)	—	—	+/-	+/-	+	+
<div>N/A = Not applicable for this location.</div> <div><div></div>Significantly Defining Criteria</div> <div><div></div>Moderately Defining Criteria</div> <div><div></div>Non-Defining Criteria</div>						

All three interchange types provide minimal impact to Interstate 90. Major and Minor Movement Speeds are best supported by the Multi-Level with Two-Stacked Structures interchange type. The Trumpet interchange provides the lowest Minor Movement Speed due to its inclusion of a tight loop ramp for the minor movement. The Three-Offset Structure interchange type provided the least number of right hand exits. The most expensive to least expensive interchange types are the Two-Stacked Structures, then the Three-Offset Structure, followed by the Trumpet Structure.

If the *ITD Right of Way Sub-Option* is implemented, all three interchanges require the relocation of the ITD Huetter Rest Area / Port of Entry and potentially impact the adjacent 4(f) resources. Although all interchange types are compatible with the Seltice Way connection (if implemented), the Multi-Level with Two-Stacked Structures is preferred due to the long crossing ramps provided by the dual flyover configuration.

If the *Ravine Sub-Option* is implemented, relocation of the ITD Huetter Rest Area and Port of Entry is not required and the 4(f) resource may not be impacted. The Seltice Way connection cannot be constructed if the *Ravine Sub-Option* is implemented. The Sub-Option may require some ramp braiding with the westbound Interstate 90 ramps.

Based on the preliminary review of interchange types for the Huetter Mainline at Interstate 90, the following are recommended for the *ITD Right of Way Sub-Option*:

- If *Seltice Way connection* is not implemented, then the Trumpet interchange type is recommended. The Trumpet provides the most cost effective configuration, minimizes impacts to the interstate, maintains acceptable operational speeds for all major movements, and provides a smaller right of way footprint.
- If the *Seltice Way Connection* is implemented, then the Multi-Level with Two-Stacked Structures interchange type is recommended. Although this is the most expensive interchange type, it provides the most compatibility with a Seltice Way connection, minimizes impacts to Interstate 90, maintains high operational speeds for all movements, and provides a smaller right of way footprint.

Also, based on the preliminary review of interchange types for the Huetter mainline at Interstate 90, the Trumpet interchange type is recommended for the *Ravine Sub-Option*. The Trumpet provides the most cost effective configuration, minimizes impacts to the interstate, maintains acceptable operational speeds for all major movements, and provides a smaller footprint that fits with the topography. The Multi-Level with Two-Stacked structures interchange type is not required for the *Ravine Sub-Option*.

The *West Huetter Sub-Option* is a later alignment refinement to the recommended *Ravine Sub-Option*. The *West Huetter Sub-Option* was identified by the local jurisdictions based on current approved developments proximal to Poleline Avenue. This sub-option minimizes impacts to those approved residential developments and would be more cost effective for future right of way acquisitions based on the urban densities of the developments.

### **East-West Arterial Interchanges**

For the east-west arterials from Poleline to Lancaster Avenues, four-leg interchanges are required to provide full movement access between the Huetter Mainline and the arterials. Arterial intersections are at approximate one mile spacing and located at Poleline, Prairie, Hayden, Wyoming, and Lancaster Avenues.

Growth along the Huetter Corridor is occurring rapidly. Land values are currently high and are projected to continue to increase. The existing rural, large acre lots and agricultural uses are giving way to smaller lot subdivisions. As such, minimizing right of way impacts is a single evaluation criteria utilized during the review of east-west arterial interchange types.

Following a review of a wide range of interchange types, the four-leg conventional Tight Diamond interchanges were determined to be most appropriate in their application for all east-west arterials, with the exception of Lancaster Avenue. The Tight Diamond provides a small footprint thereby minimizing the need for additional right of way.

North of Lancaster Avenue, the Huetter Mainline changes its north-south alignment along Huetter Road and begins a parallel northeast-southwest alignment along the Spokane International and Union Pacific Railroad right of way. With this change of alignment, a modified Tight Diamond is recommended. The interchange would include modified tight diamond ramps off of the Huetter mainline and a sub-surface crossing Spokane International and Union Pacific Railroad right of way. In the event of the Bridging the Valley (BTV) project implementation, the crossing may not be required and the Huetter facility could use the abandoned rail right of way. If the BTV project is not implemented the facility will parallel the rail right of way on the north side from Lancaster Avenue to SH 53.

Using the minimization of right of way impacts as the dominant evaluation criteria, the following are recommended:

- A four-leg Tight Diamond interchange type is recommended for all east-west arterial interchanges, excluding Lancaster Avenue.
- A modified Tight Diamond interchange is recommended for Lancaster Avenue.

### **US Highway 95 / State Highway 53 Interchange**

The US 95 / SH 53 interchange provides, at this time, the most uncertainty. As currently outlined with the ITD Garwood to Sagle project, US 95 north of SH 53 will become a four lane, divided median, High-Speed facility with Type V access control. The connection of SH 53 to US 95 and the use of existing US 95 right of way south of SH 53 are currently being determined by this and other projects (i.e. Bridging the Valley project which includes portions of SH 53 near US 95, or the expansion of US 95 south of SH 53 to a four lane facility). To this end, a few assumptions are made based on what is known to date. These assumptions include the following:

- The Huetter Corridor Mainline connects to US 95 just north of the SH 53 junction maintaining a through north-south, four lane, divided, High-Speed roadway with Type V access control continuity.
- A fully directional and/or semi directional, single-lane ramp interchange for connection to the Huetter Corridor Mainline and US 95 north of SH 53 and connection with the SH 53 eastern terminus remaining near its current location along US 95.
- US 95 south of SH 53 becomes a “business loop” requiring a semi-directional or terminal, single-lane ramp interchange.

No analysis was completed through the Right of Way Needs Map development effort for the US 95 and SH 53 interchange. The assumptions above are to be carried forward as recommendations for the US 95 and SH 53 interchange.

The recommendation is for a fully directional Huetter Corridor Mainline from Interstate 90 to SH 53 with a US 95 / SH 53 interchange, and a fully directional interchange to US 95 north and a US 95 business loop from SH 53 to Interstate 90.



## Alignment Refinement

Utilizing the Preferred “Option 1d” alignment, the Poleline Avenue to Lancaster Avenue segment was analyzed. A range of alignment options with the advantage and disadvantages identified was developed to determine a Preferred Refined Alignment.

## Parameters

Three major alignment parameters factors were found that aided in the Preferred Refined Alignment determination:

- Facility cross-sectional width
- Frontage Road location
- ITD Type V Access Control Huetter Mainline to Frontage Road offset

As summarized in Table 6, facility element widths vary depending on location on the alignment. The widths are generated from the typical sections to meet horizontal and vertical clearance requirements for similar facilities. For the portion in which the refinement of the mainline alignment was performed, the facility predominantly consists of a mainline, frontage road, utility corridor, and a Pedestrian / bicycle trail. Given that certain intersections may require more travel lanes, the width of the footprint is given at a minimum width. Each jurisdiction may require a larger footprint for the local access roadway to accommodate local traffic needs.

**TABLE 6. Facility Cross-sectional Minimum Dimension Summary**

Facility	Width in Feet <sup>1</sup>
Mainline including Side Slopes	350
Mainline and Trail	370
Mainline, Frontage Road (60 - 80 feet minimum at interchange), and Trail	430 - 450
Mainline Right of Way Separation from Local Access Roadway	300
Interchange Ramp and Required Facility Separation	80
Mainline over/under Local Road or Railroad	350
Tight Diamond Interchange	400
Tight Diamond Interchange, Frontage Road, and Pedestrian / Bicycle Trail	800

<sup>1</sup> Typical width of each section. Frontage road can vary at interchanges.

Based on the facility need, a Frontage Road will be provided paralleling the Huetter Corridor Mainline. The location of the Frontage Road with respect to the mainline is significant in terms of reducing impacts to right of way and avoiding potential impact mitigation with existing and planned developments. The existing Huetter Road would be relocated from Mullan Avenue north to approximately 0.25 miles north of Wyoming Avenue where the road would resume its' current alignment. Existing properties west of Huetter Road would have access to the relocated Huetter Road. Existing properties on the east side of Huetter Road would be accessed off the current Huetter Road alignment, which would terminate approximately 0.5 miles north of Mullan Avenue. Other properties on the east side of the facility would be served by new roads as part of development or through access easements to the utility substations. Due to access needs from

the south on Seltice Way for the Mainline facility at Mullan Avenue, intersection improvements will be required at Seltice Way and Huetter Road intersection. These improvements would include signalization or roundabout, and lighting. Huetter Road from Seltice Way to Mullan Avenue would further require roadway widening and intersection improvements at Mullan Avenue / Huetter Road and at Mullan Avenue / Relocated Huetter Road.

At the interchanges, ITD policy for Type V, Full Access Control is applicable. The policy prescribes that a separation of at least 300 feet between the freeway facility ramp and intersection with a frontage road. Therefore, the facility's widest point is at the arterial interchanges where the full section includes a Tight Diamond Interchange, the Frontage Road, and Trail with a minimum width of 800 feet, depending on the width of the frontage road.

### **Obstructions**

Obstructions were identified within the Huetter Corridor study area. The major obstructions include areas of development, existing power substations, pipelines, electrical transmission lines, and effluent pipelines. Areas of development were identified by interviews with local jurisdictions, property owners, and developers. Areas of development included existing and planned, large and small lot subdivisions. Construction of the Huetter Corridor facility will need to address these issues. Future land uses within the Corridor footprint should be reviewed and designed to be compatible with the future facility and help preserve the right of way.

### **Preferred Huetter Corridor Alignment**

Minimization of impacts to right of way and maintaining existing Huetter Road accesses were considered the two primary criteria for refining the facility alignment. Avoidance of identified obstructions was utilized as a secondary criterion. Collectively, the three criteria guided the refinement and selection of the Preferred Alignment.

The Preferred Alignment is the non-linear Frontage Road located west of the Huetter Mainline. This alignment provides the least impact to existing Huetter Road accesses and has the smallest overall right of way footprint.

The Huetter Corridor Summary is provided in the Appendices of this report.