

## SR 24 - SR 240 TO THE COLUMBIA RIVER

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### **CHARACTERISTICS**

#### **Segment Description:**

SR 24 - SR 240 to the Columbia River from milepost 38.71 to 43.60.

**County/Counties:** Benton

**Cities/Towns Included:** None identified.

**Number of lanes in the corridor:** 2 to 4

**Lane width:** 12 to 12 feet.

**Speed limit:** 60 to 65 mph.

**Median width:** 0 to 0 feet.

**Shoulder width:** 8 to 8 feet.

#### **Highway Characteristics:**

This rural minor arterial is not designated as HSS or NHS. It carries a T-2 freight designation carrying 4,900,000 tons annually.

#### **Special Use Lane Information (HOV, Bicycle, Climbing):**

None identified.

#### **Access Control Type(s):**

Established Partial Control.

#### **Terrain Characteristics:**

This section of SR 24 begins in relatively flat terrain then proceeds into mountainous as it drops down to the Columbia River where it returns to flat.

#### **Natural Features:**

This section is flanked on both sides by United States Department of Ecology (Hanford) property. Access to these properties is not allowed at this time. The route section ends at the Columbia River and is used as a pathway to the Hanford Reach of the river by fishermen and recreationists. The route has access to many scenic views.

#### **Adjacent Land Description:**

The Hanford reservation and The Saddle Mountain Wildlife area.

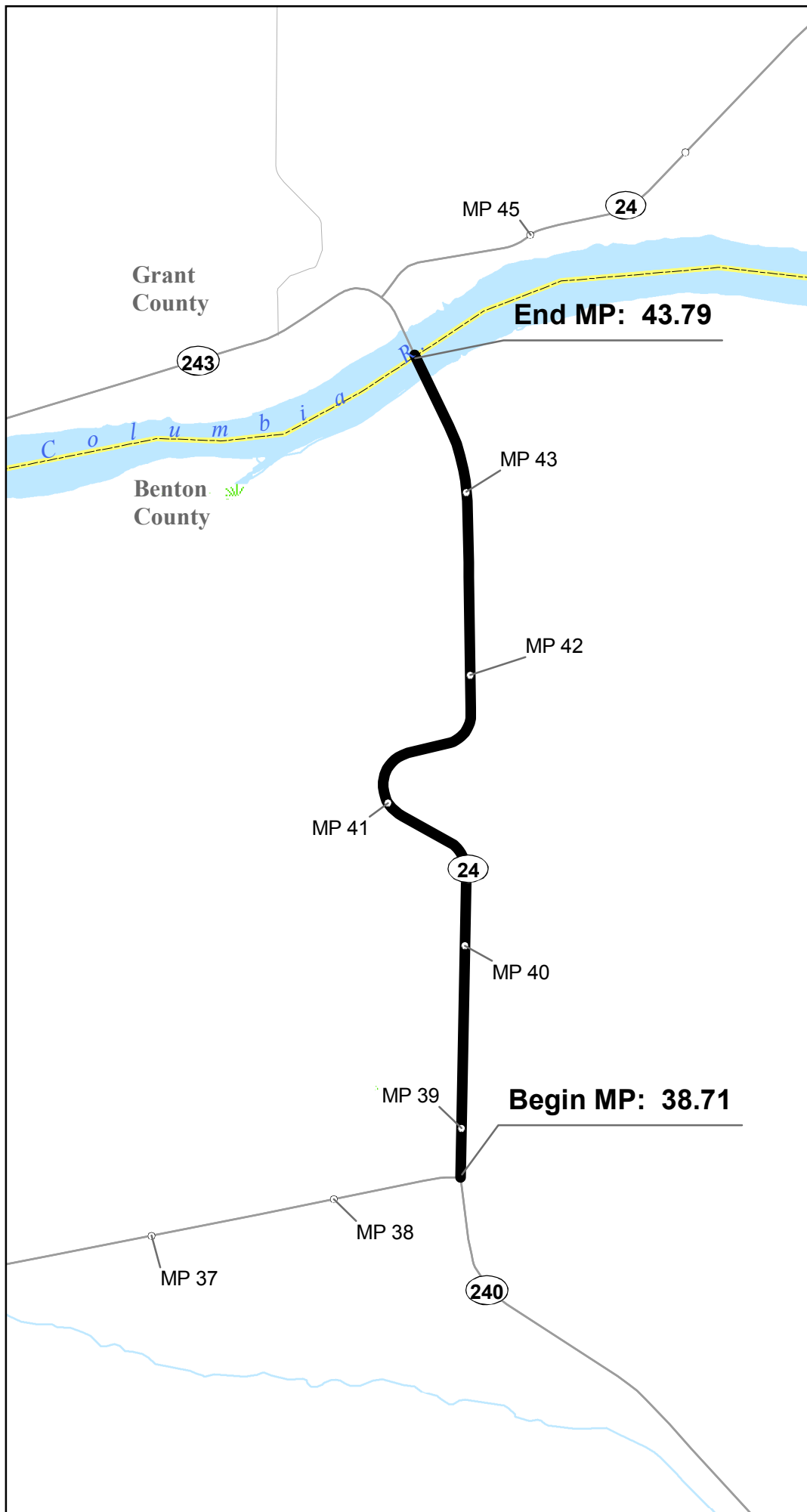
#### **Environmental Issues:**

This route segment is rural in nature and remote. The surrounding area of this route section are considered to be semiarid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endangered. There are few if any wetland issues in this area.

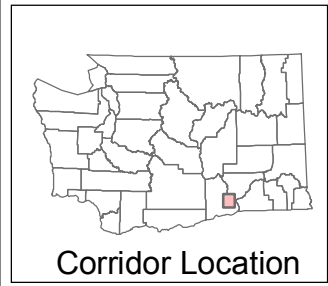
#### **Major Economic Issues:**

There are approximately 20% trucks using this route. These are predominately pass through trips carrying produce to and from the Columbia Basin area.

# HSP Congested Corridor Analysis Characteristics



- Milepost Markes
- █ HSP Corridor Location
- ══ U.S. Interstate
- ══ U.S. Highway
- ══ State Route
- ══ Local Roads
- +++ Railroad
- Wetlands
- Military Reservation
- Tribal Lands
- City Limits
- Urban Area
- County Line



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### **ASSETS**

#### **Pavement:**

There are 10.16 lane miles of Bituminous Surface Treatment on this segment of SR 24.

#### **Signal:**

There is one at the intersection with SR 240.

#### **Structures:**

There is one structure in this corridor that consists of a Steel Truss Pre-Tensioned Concrete Beam.  
(Ramps, and locally owned structures (if any exist) are not identified in this section and may not be reflected on maps.)

#### **Features Crossed:**

This route segment ends at the Columbia River. No other features are crossed.

#### **ITS Facilities:**

None identified.

#### **Railroad Crossings:**

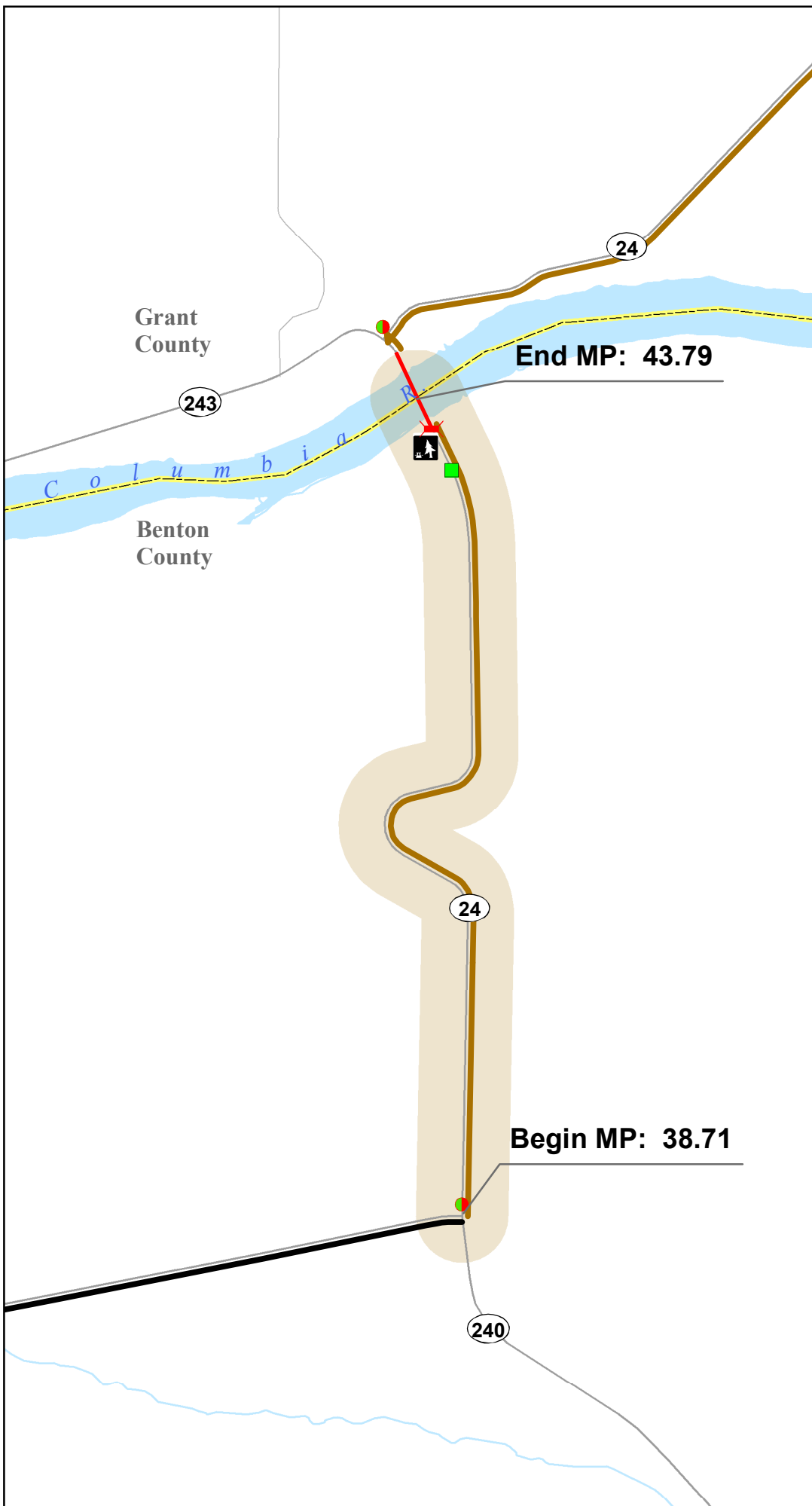
None identified.

#### **Asset Other:**

One permanent weigh station at MP 43.36.

# HSP Congested Corridor Analysis

## Assets



HSP Corridor Location

### Assets

- Signalized Intersection
- At Grade Railroad Crossings
- Bridge
- Ferry Terminals
- Park and Ride
- Weigh Stations
- Rest Area Sites

### Corridor Pavement Type

- HMA
- BST
- PCCP

### Other Features

- U.S. Interstate
- U.S. Highway
- State Route
- Local Roads
- Ferry Route
- Railroad
- Military Reservation
- Tribal Lands
- City Limits
- Urban Area
- Airport
- County Line

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## SR 24 - SR 240 TO THE COLUMBIA RIVER

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### *USAGE*

#### **General Origin and Destination Travel Characteristics:**

This section of highway is used mainly as a recreational route and a transport route for freight.

#### **Snow/ice Issues:**

There are no sections within this corridor which present a problem for normal snow/ice control.

#### **Annual Average Daily Traffic:**

Ranges from 2,900 to 3,500.

#### **Significant Seasonal Average Annual Daily Traffic Changes:**

Because of the minimal amount of snow and ice there is little variation in annual average daily traffic throughout the year.

#### **General Description of Major Average Annual Daily Traffic Locations:**

Approximately 3,500 at the intersection of SR 240 to the end of the segment.

#### **Freight:**

**Freight Classification:** T2

**Yearly Tonnage:** 4.9M

**Truck Percentage of Annual Average Daily Traffic:** 20%

#### **Additional Usage Comments:**

None identified.

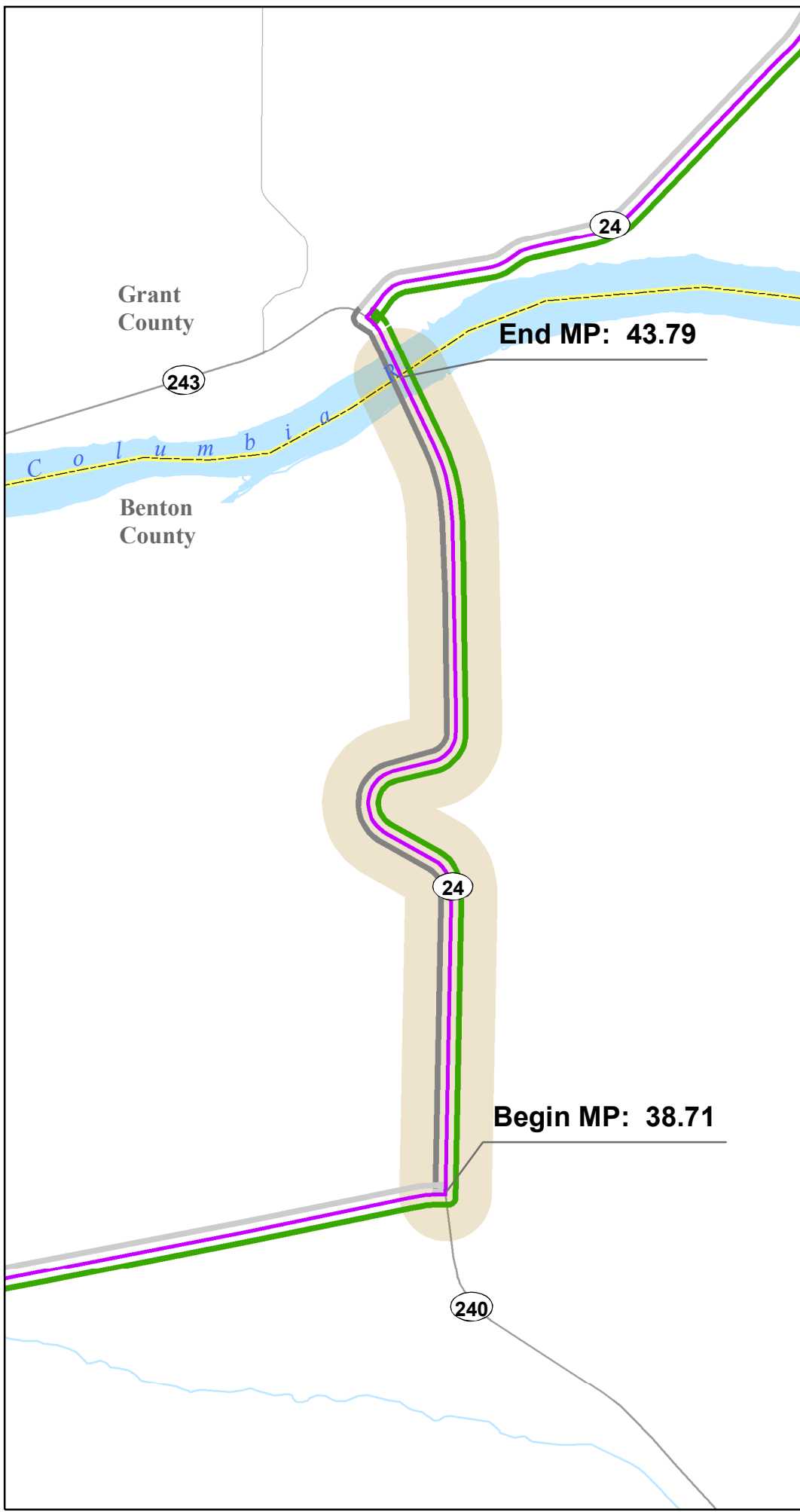
**Average Annual Societal Cost of All Collisions:** Approximately \$2.78M

#### **Collisions:**

**Severe No of Collisions:** 2

**Less Severe No of Collisions:** 17

**List Data Years:** 2003 to 2005



### HSP Congested Corridor Analysis Usage

- HSP Corridor Location
- Safety Analysis Areas**
- PAL Spot 07-09
- PAL Corridor 07-09
- HAC 07-09
- HAL Corridor 07-09
- HAL Spot 07-09
- Freight Classification**
- T-1
- T-2
- T-3
- Traffic Sections AADT**
- < 3,000
- 3,001 - 10,000
- 10,001 - 20,000
- 20,001 - 40,000
- 40,001 - 80,000
- 80,001 - 100,000
- 100,001 - 120,000
- > 120,000
- Trucks 10% and Over
- Other Features**
- U.S. Interstate
- U.S. Highway
- State Route
- Local Roads
- Railroad
- Tribal Lands
- Military Reservation
- City Limits
- Urban Area

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## ***NEEDS AND STRATEGIES***

### **Preservation**

#### **Pavement Condition and Needs:**

This route segment is currently bituminous surface treatment (BST) with a total pavement depth of 0.20' over 0.50' of untreated base. The last (BST) was applied in 2000.

#### **Pavement Management Strategies:**

This segment is scheduled for additional bituminous surface treatment (BST) in 2008. In the event that the pavement is widened (truck climbing lane), the pavement type would likely be changed to hot mix asphalt (HMA) with a 0.25' overlay of the existing lanes and a total of 0.65' to 0.75' pavement depth on the climbing lane.

#### **Structures Condition and Needs:**

There are none identified. (This may include ramps and locally owned structures if any exist.)

#### **Structures Management Strategies:**

There are none identified.

#### **Additional Condition and Needs:**

There are none defined.

#### **Additional Management Strategies:**

There are none defined.

### **Improvement**

#### **Mobility Condition and Needs:**

This section of roadway experiences congestion at times as trucks climbing up the hill from Vernita are slowed due to the steepness of the slope. This also causes other vehicles to be slowed due to the winding nature of this section.

#### **Mobility Management Strategies:**

By adding 2.2 miles of truck climbing lane, traffic would no longer backup behind slow moving trucks.

#### **Safety Condition and Needs:**

There are none identified.

#### **Safety Management Strategies:**

There are none identified.

#### **Environmental Condition and Needs:**

There are none identified.

#### **Environmental Management Strategies:**

There are none identified.

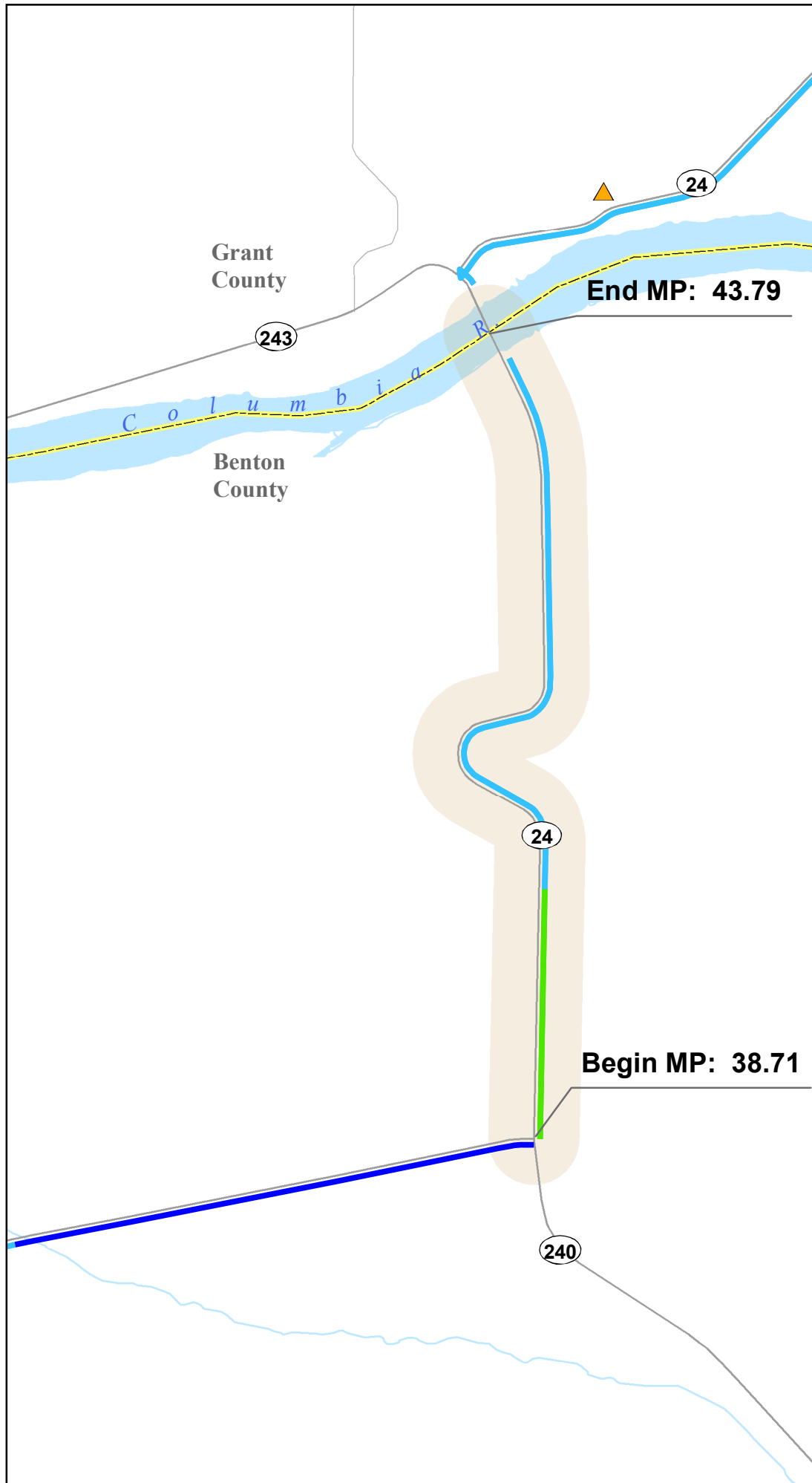
#### **Restrictions:**

There are none identified.

#### **50-Year Configuration:**

Due to the make up of the surrounding lands and the expected future land uses and zoning options for the area this route segment is expected to remain rural long into the future. The route as a whole will change but the changes will occur in zones or areas rather than throughout the corridor. The portion between Yakima and Moxee will likely continue to infill with residential and commercial uses and become increasingly more urban. From Moxee (Milepost 5.60) to Milepost 21.00 will likely remain Ag land and from Milepost 20.19 to Milepost 30.19 the nature of the route as well as the location will likely change due to the proposed construction of the Black Rock Reservoir. This segment will become prime recreational property. From Milepost 30.19 to Milepost 38.50 will remain rural remote.

# HSP Congested Corridor Analysis Needs



- HSP Corridor Location
- Bridge Priorities**
  - Replacement
  - Special
  - Seismic
  - Scour
  - Painting
  - Miscellaneous
  - Bridge Deck
- Other Bridge Issues**
  - 2 Lane BW Narrow Bridge
  - Restricted Bridge
  - Posted Bridge
  - Vert. Clearance < 15.5'
- Unstable Slope**
  - Debris Flow
  - Erosion
  - Landslide
  - Rockfall
  - Settlement
- Fish Passage Barriers**
  - Require Repair
  - Little Gain
  - Undetermined
- Paving Due**
  - Past Due
  - 2005 - 2007
  - 2008 - 2009
  - 2010 - 2011
  - 2012 - 2026
- Other Features**
  - U.S. Interstate
  - U.S. Highway
  - State Route
  - Local Roads
  - Railroad
  - Military Reservation
  - Tribal Lands
  - City Limits
  - Urban Area
  - County Line

## SR 24 - SR 240 TO THE COLUMBIA RIVER

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### ***TIERED PROPOSED SOLUTIONS***

#### **Minimum Fix**

**Description:**

None Identified.

**Delay Reduction:** None identified.

**Collision Reduction:** None identified.

**Deficient Concrete Lane Miles:** None identified.

**Total Estimate Cost:** None identified.

**Cost Estimate Explanation:**

None Identified.

**Minimum Fix Benefits:**

None identified.

#### **Moderate Fix**

**Description:**

The fix for this section of the corridor is to construct a truck climbing lane. This will move the high percentage of trucks out of the Southbound through lane and allow traffic to maintain speed.

**Delay Reduction:** 10%

**Collisions Reduction:** 10

**Deficient Concrete Lane Miles:** None identified.

**Total Estimate Cost:** \$4.5 M

**Cost Estimate Explanation:**

The cost estimate for this segment is based on adding a truck climbing lane and associated work.

**Moderate Fix Benefits:**

This project is proposed to help maintain SR 24 as a free flow higher speed facility by reducing congestion and delay in this section of steeply graded highway. There are \$806,006 in climbing lane benefits associated with this fix in addition to 6,432,595 in Safety benefits.

#### **Maximum Fix**

**Description:**

This high cost fix would re-align this section of SR 24 and add 2 general purpose lanes from the junction of SR 240 to the Columbia River.

**Delays Reduction:** None identified.

**Collisions Reduction:** None identified.

**Deficient Concrete Lane Miles:** None identified.

**Total Estimate Cost:** \$8.7 M

**Cost Estimate Explanation:**

This estimate is based on a realignment of the roadway, reducing the overall grade and adding two general purpose lanes. The cost is based on the total buildout but this would be reduced somewhat if the moderate fix of constructing a truck climbing lane were constructed first.

**Maximum Fix Benefits:**

This solution will do the most to ensure that SR 24 will remain a high speed free flow facility by reducing delay in this section of steeply graded highway. There are 1,162,179.00 in general purpose lane benefits associated with this project in addition to 7,494,883.00 in Safety benefits.

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### **Off-System Solutions:**

None identified.

### **Special Studies/Reports:**

None identified.

### **Required Studies**

None identified.

### **Start/Completion Date of Study:**

None identified.

### **Expected Results**

None identified.

### **Funded Projects within Corridor Limits**

<b>Project No</b>	<b>Title</b>
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502401P/XL2854	SR 24/SR 240 Intersection Improvements (Channelization)
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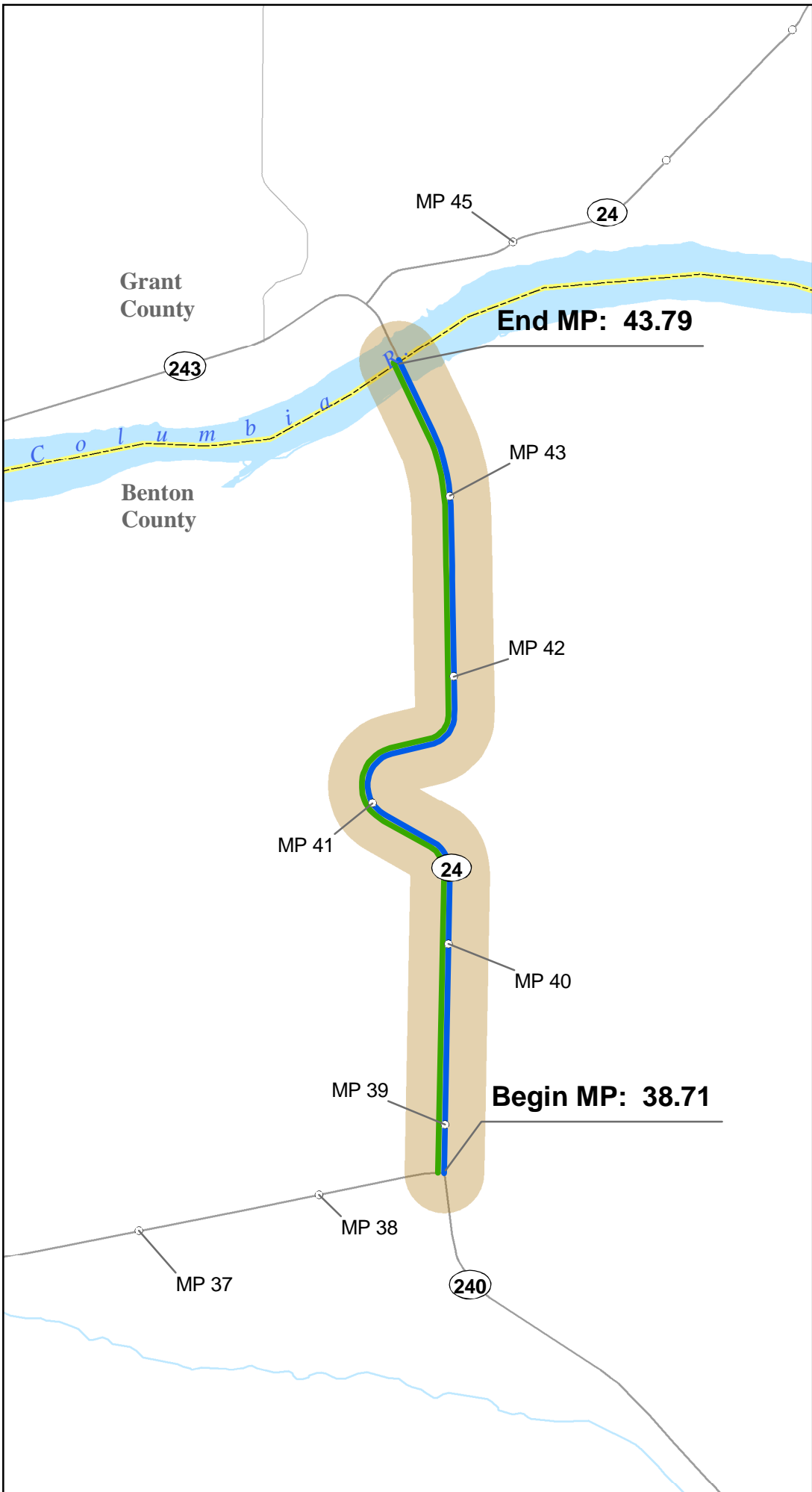
### **Additional Comments:**





None identified.

### **Data Sources and Contacts used:**

None identified.

# HSP Congested Corridor Analysis Solutions



-  HSP Corridor Location
- Solutions**
-  Tier 1
-  Tier 2
-  Tier 3
-  U.S. Interstate
-  U.S. Highway
-  State Route
-  Milepost Marker
-  Local Roads
-  Railroad
-  Military Reservation
-  Tribal Lands
-  City Limits
-  Urban Area
-  County Line

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