

## SR 539, I-5 TO KELLOGG ROAD

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### **CHARACTERISTICS**

#### **Segment Description:**

This SR 539 corridor begins at MP 0.00 (I-5 Interchange) and ends at MP 0.87 (Kellogg Road)

**County/Counties:** Whatcom

**Cities/Towns Included:** This entire section is in the City of Bellingham

**Number of lanes in the corridor:** 4 to 5

**Lane width:** 11 to 12 feet.

**Speed limit:** 35 to 35 mph.

**Median width:** 0 to 13 feet.

**Shoulder width:** 0 to 0 feet.

#### **Highway Characteristics:**

SR 539 is a Highway of Statewide Significance.

It is an NHS route.

It carries a T-2 freight designation with 7,030,000 tons hauled annually.

State Functional Classification is U1 (Urban-Principal Arterial)

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

There are two-way left turn lanes at various points along the corridor.

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

Controlled access at the interchange with I-5 (SRMP 0.00-0.10).

Non Limited Access less restrictive for the remainder of the corridor.

#### **Terrain Characteristics:**

Rolling.

#### **Natural Features:**

This route gives access to the northeast part of NW Washington as well as British Columbia, Canada via two border crossings; 1) full commercial 24 hr. crossing at Sumas; and 2) limited hours and limited commercial crossing at Lynden/Aldergrove.

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

This section of SR 539 is all dense retail and is zoned for "commercial" development (mall, big box, master planned residential/commercial community, and community college).

#### **Environmental Issues:**

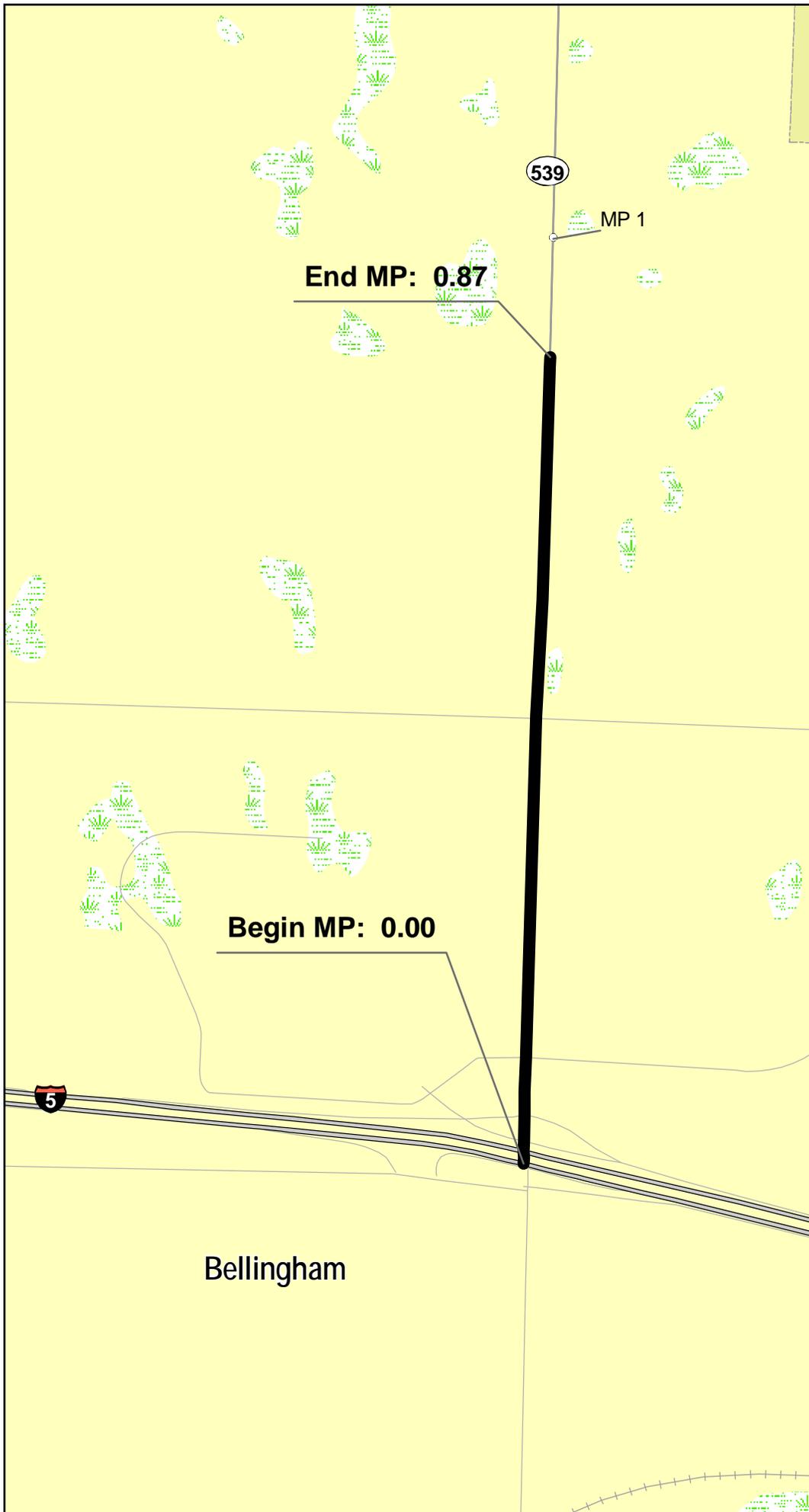
A tributary of Squalicum creek flows just to the right of the westbound sidewalk of the SR 539 but is not documented to support protected species. Squalicum Creek, which supports populations of Chinook salmon and steelhead, confluences with this tributary about 3,300 feet from the southern corridor terminus. This is not considered sufficiently close to expect harm, but it must be considered in any corridor project analysis. There are no other GIS-mapped points of sensitive habitat or species. Need appropriate tribal consultation during planning, design and construction of projects in this corridor.

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

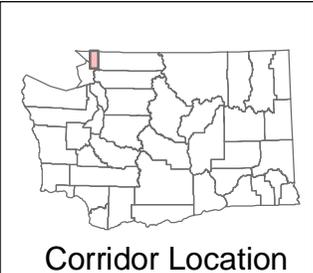
This is the main access road for Bellis Fair Mall as well as most of the big box and other retail in the City. This is a busy truck freight corridor for local deliveries as well as a route which long-haul truckers travel for shipments to and from Canada. Whatcom Community College staff and students use this corridor as a primary route to the college. Intense growth in this corridor is also coming from other service sectors of the economy such as medical, professional and lodging to name a few.

# 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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## **SR 539, I-5 TO KELLOGG ROAD**

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### ***ASSETS***

#### **Pavement:**

There are 4.35 lane miles of Hot Mix Asphalt on this segment of SR 539.

#### **Signal:**

There are six signalized intersections within this corridor. At the following locations: I-5 NB Ramps, Telegraph Road, E Bellis Fair Pkwy, Bakerview Rd, Westerly Road and Kellogg Road.

#### **Structures:**

There are no state owned structures identified in this corridor.

(Ramps, and locally owned structures (if any exist) are not identified in this section and may not be reflected on maps.)

#### **Features Crossed:**

There are no features crossed.

#### **ITS Facilities:**

Full tilt zoom video camera is located on I-5 near the NB off-ramp to SR 539.

#### **Railroad Crossings:**

There are no at-grade rail crossings within this route segment.

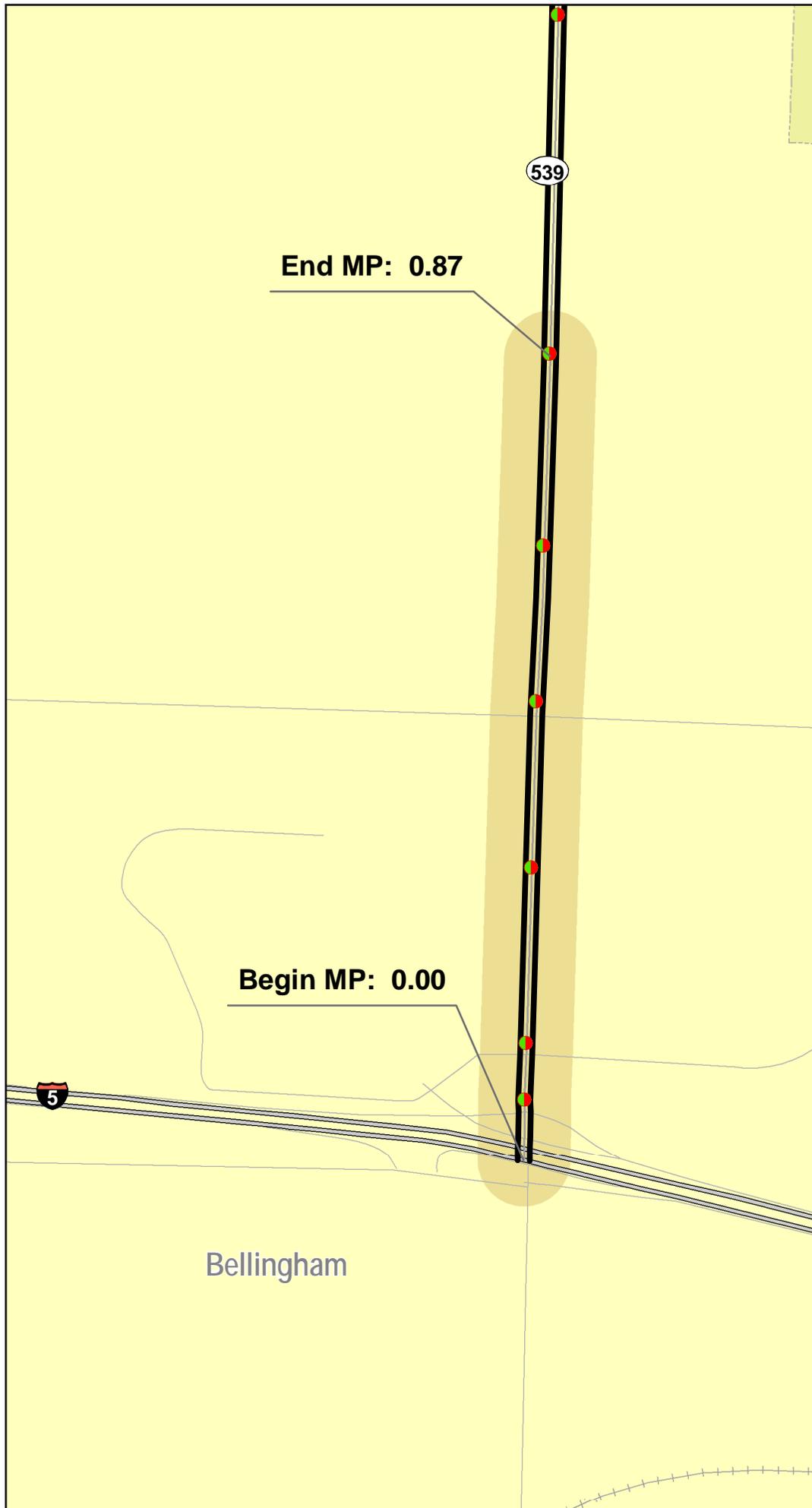
#### **Asset Other:**

None Identified.

# HSP Congested Corridor Analysis

## Assets

- HSP Corridor Location
- Assets**
  - Signalized Intersection
  - At Grade Railroad Crossings
  - Bridge
  - Ferry Terminals
  - Ferry Route
  - 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
  - Railroad
  - Military Reservation
  - Tribal Lands
  - City Limits
  - Urban Area
  - Airport
  - County Line



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## SR 539, I-5 TO KELLOGG ROAD

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### *USAGE*

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

Over 50% of all trucks/buses and 60% of cars on SR 539 have either an origin or destination within the limits of this corridor. Data collected in 2003 as part of the SR 539/I-5 Improved Access Project (Interchange Justification Report). This is the single largest regional trip generator in Whatcom County.

#### **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 32,000 to 35,000.

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

Increase of holiday traffic because of big box retail and mall location.

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

There are none identified.

#### **Freight:**

**Freight Classification:** T2

**Yearly Tonnage:** 7.0M

**Truck Percentage of Annual Average Daily Traffic:** Approx. 8%

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

There are no additional comments.

**Average Annual Societal Cost of All Collisions:** Approximately \$1,234M

#### **Collisions:**

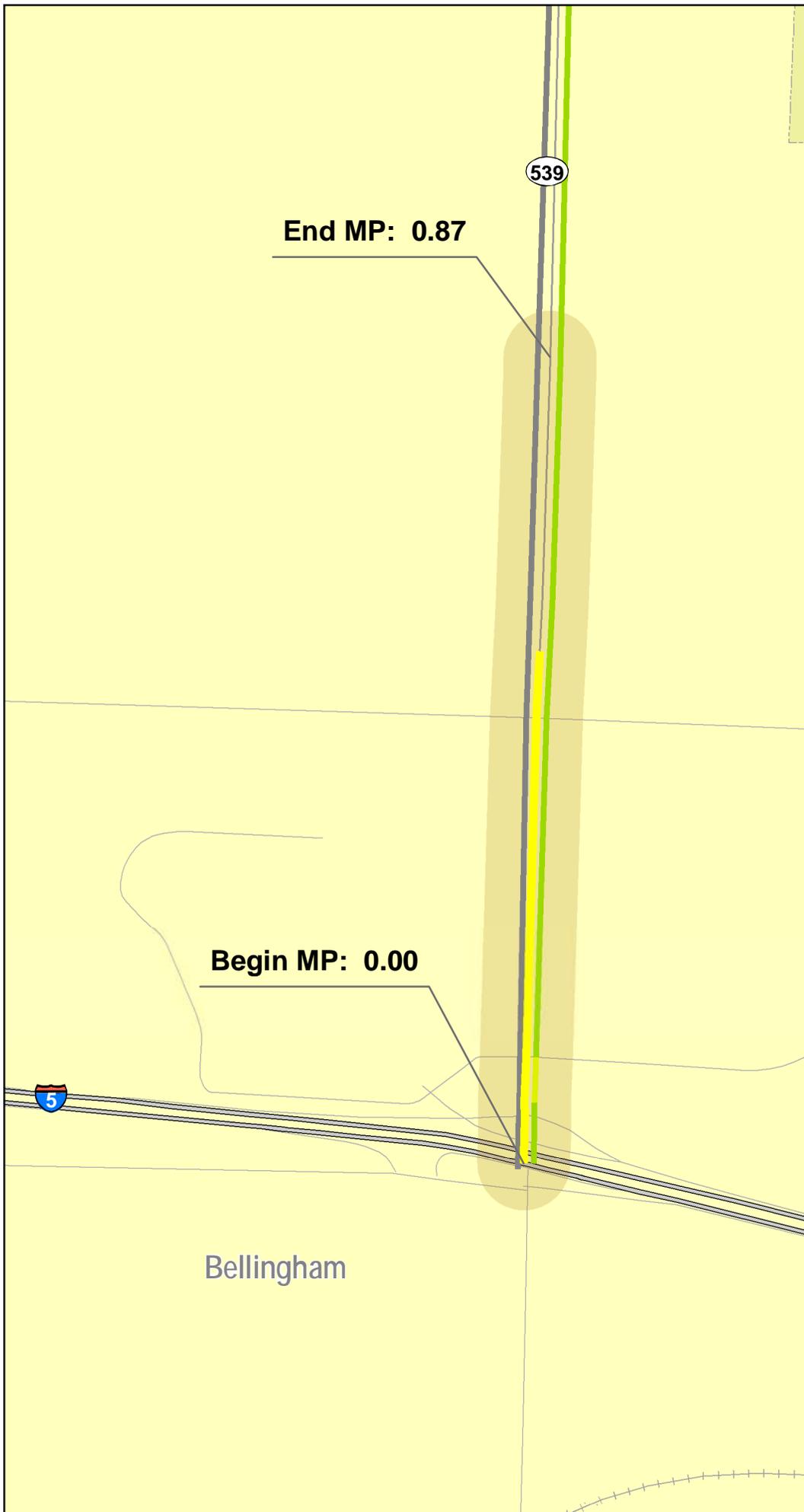
**Severe No of Collisions:** 3

**Less Severe No of Collisions:** 406

**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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## SR 539, I-5 TO KELLOGG ROAD

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### **NEEDS AND STRATEGIES**

#### **Preservation**

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

This corridor section's pavement type is hot mix asphalt (HAM) of which 40% was last resurfaced in 1997 and the remaining 60% resurfaced in 2005. The older pavement is located near the interchange with I-5, experiencing the highest traffic volume in the corridor. It is rough and worn but it is not rutting nor showing signs of structural deficiencies.

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

Pavement is expected to remain hot mix asphalt (HAM) for the next 20 years during which one resurfacing of the entire corridor is expected in 2011 per the Washington State Pavement Management System.

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

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

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

There are none identified.

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

Periodic failing storm sewer system (lane closures on I-5 and SR 539 due to failure of Spring Creek and Baker Creek culverts)  
Maintenance of all systems (storm sewers, signals, striping, signage, illumination, etc.) is underfunded for future needs.

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

This fix will be part of the next Capital Improvement Project on the South end of SR 539.

#### **Improvement**

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

Failing intersection level of service at Telegraph Road and Bakerview Road.  
Lack of access management.  
Archaic operational geometrics.  
All contribute to:  
Routine 1/2 mile backup on NB off-ramp.  
High level of congestion on the Guide southbound and NB.  
LOS is poor (congestion) from AM and lasts all day until 7pm. Seven days a week.

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

Access Management  
Interchange modifications (or rebuild) and freeway widening. (To be determined in the Freeway Master Plan and Interchange Justification Report (IJR). See SR 539/I-5 Improved Access).

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

Reoccurring High Accident Locations within the corridor.  
NB off-ramp HAL  
I-5 to N. of Bakerview Rd HAL  
Kellogg Road HAL

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

Access Management. (To be determined in the 539/I-5 Improved Access Project; Freeway Master Plan and Interchange Justification Report (IJR)).

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

Failing culverts that are fish bearing.

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

Fish friendly stream restoration. (To be determined in the (2006-2008) Freeway Master Plan and Interchange Justification Report (IJR)).

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### **Restrictions:**

None Identified.

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

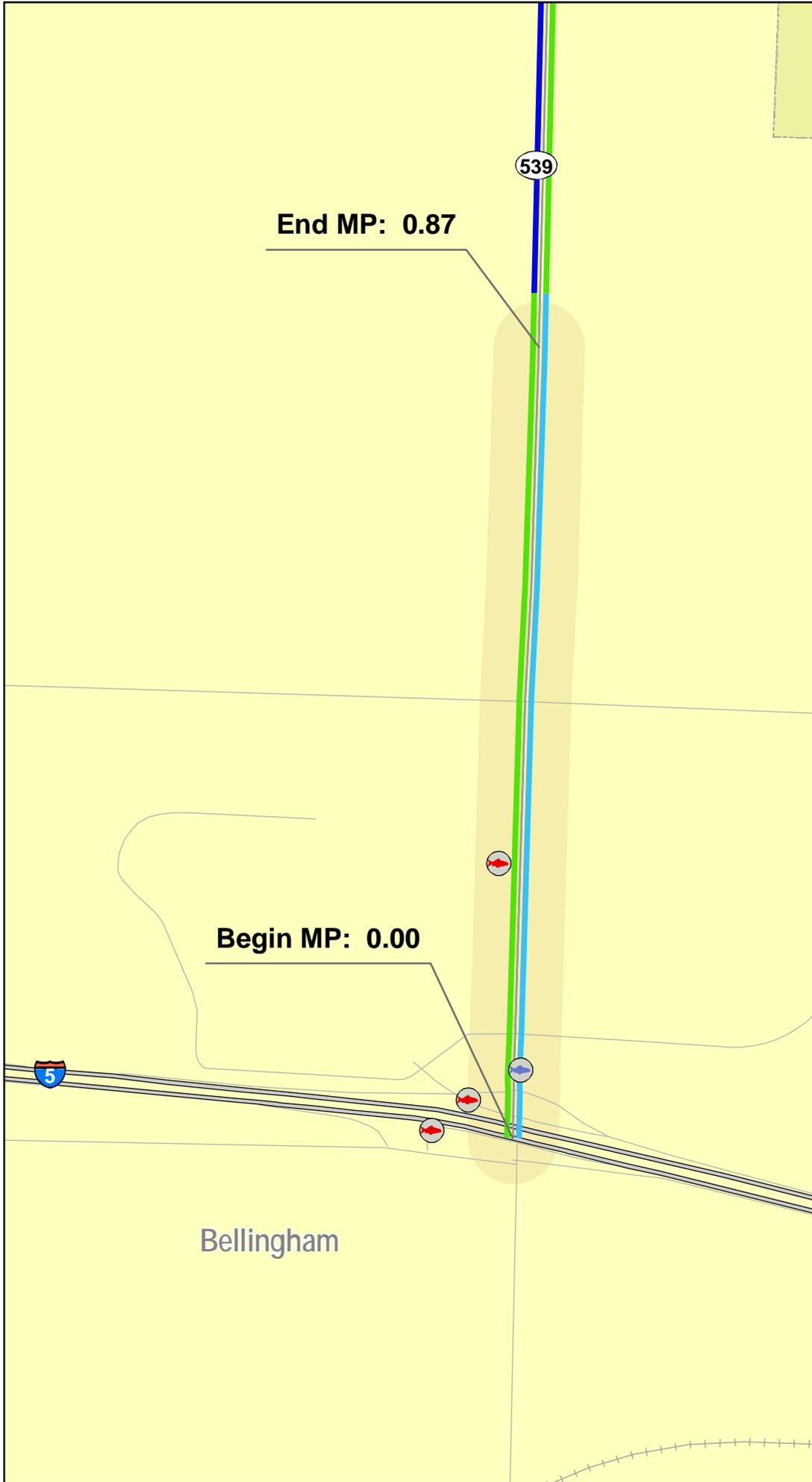
To be determined in the (2006-2008) Freeway Master Plan and Interchange Justification Report (IJR) plus ongoing regional planning with the Whatcom Council of Governments to determine if additional state highway and or county roads will be feasible connecting existing highways and roadways. Bridging of the Nooksack River northeast of Ferndale is an ongoing issue that will increase circulation north of this corridor ultimately relieving some of the growth pressure within this congested corridor.

Additional East-West Capacity will be an issue in 50 years (such as: extension of SR 544 west to I-5 as a freeway spur). Whatcom county will be an area of high population growth (statewide) for the next 50 years. Urbanization as far as Ten-mile road. Could likely be a larger border crossing, if so, 539 north of Badger Rd. could be limited access with grade-separated interchanges.

The area of British Columbia Canada, just north of the SR 539 border crossing is also an area of high growth as Vancouver B.C. expands to the East.

Commercial and residential development in rural areas to the north.

# 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

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***TIERED PROPOSED SOLUTIONS***

**Minimum Fix**

**Description:**

Incorporating access management strategies in the corridor will help to reduce accidents and delays caused by the many driveways which exist here. Intelligent Transportation Systems (ITS) strategies will help to make the corridor more efficient by providing real-time information to drivers, as well as the traffic management center. Transportation Demand Management will help to reduce the demand of vehicles using the corridor. The pavement in this corridor will need to be rehabilitated, based on data from the Washington State Pavement Management System (WSPMS).

**Delay Reduction:** None identified.

**Collision Reduction:** 10%

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

**Total Estimate Cost:** \$40 M

**Cost Estimate Explanation:**

Access Management Strategies approximately \$5M, ITS approximately \$10M, TDM approximately \$20M, Pavement Rehab approximately \$5M.

**Minimum Fix Benefits:**

Better flow of traffic using existing facilities as much as possible. Eliminating left turns out of driveways will reduce accidents.

**Moderate Fix**

**Description:**

Incorporating access management strategies in the corridor will help to reduce collisions and delays caused by the many driveways which exist here. Intelligent Transportation Systems (ITS) strategies will help to make the corridor more efficient by providing real-time information to drivers, as well as the traffic management center. Transportation Demand Management will help to reduce the demand of vehicles using the corridor. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route. Reconstruction of the interchange with I-5 and widening of I-5 will be required to address mobility and traffic operation issues. Some minor widening of SR 539 will be required to alleviate mobility issues.

**Delay Reduction:** None identified.

**Collisions Reduction:** 28%

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

**Total Estimate Cost:** \$145 M to \$185 M

**Cost Estimate Explanation:**

Access Management Strategies approximately \$5M, ITS approximately \$10M, TDM approximately \$20M, Pavement Rehab approximately \$5M, Local streets approximately \$20-40M, Rebuild interchange and widen section of I-5 to accommodate interchange approximately \$60-80M, Minor widening of SR 539 approximately \$25M.

**Moderate Fix Benefits:**

Better flow of traffic using existing facilities as much as possible. Eliminating left turns out of driveways will reduce accidents.

**Maximum Fix**

**Description:**

Intelligent Transportation Systems (ITS) strategies will help to make the corridor more efficient by providing real-time information to drivers, as well as the traffic management center. Transportation Demand Management will help to reduce the demand of vehicles using the corridor. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route. Reconstruction of the interchange with I-5 and widening of I-5 will be required to address mobility and traffic operation issues. Capacity improvements to the highway will be required, as well as a change to a limited access facility.

**Delays Reduction:** None identified.

**Collisions Reduction:** 31%

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

**Total Estimate Cost:** \$205 M to \$245 M

**Cost Estimate Explanation:**

Access Management Strategies approximately \$5M, ITS approximately \$10M, TDM approximately \$20M, Pavement Rehab approximately \$5M, Local streets approximately \$20-40M, Rebuild interchange and widen section of I-5 to accommodate interchange approximately \$60-80M, Widening of SR 539 approximately \$25M, Change SR 539 to a limited access facility approximately 60M (one new interchange, R/W, frontage or backage roads).

**Maximum Fix Benefits:**

Better flow of traffic by creating a limited access, free-flow situation.

**Off-System Solutions:**

Numerous City of Bellingham projects designed to accommodate infill development and some rerouting of traffic from SR 539.

**Special Studies/Reports:**

SR 539/I-5 Improved Access Project.

**Required Studies**

There is an ongoing, funded SR 539 Improved Access Study that will perhaps answer these questions

**Start/Completion Date of Study:**

January 2003 - Spring 2008

**Expected Results**

SR 539/I-5 Improved Access Project Report. Freeway footprint (both horizontal and vertical alignment changes), number of freeway lanes, corresponding improvements to up/down stream interchanges, access point modifications and system improvements along the SR 539 corridor from I-5 to Kellogg.

**Funded Projects within Corridor Limits**

| Project No | Title                                     |
|------------|---|
| A53900F    | SR 539/I-5 I/C Vic. to Horton Rd - Paving |
| A53900G    | SR 539/Spring Creek Culvert Replacement   |

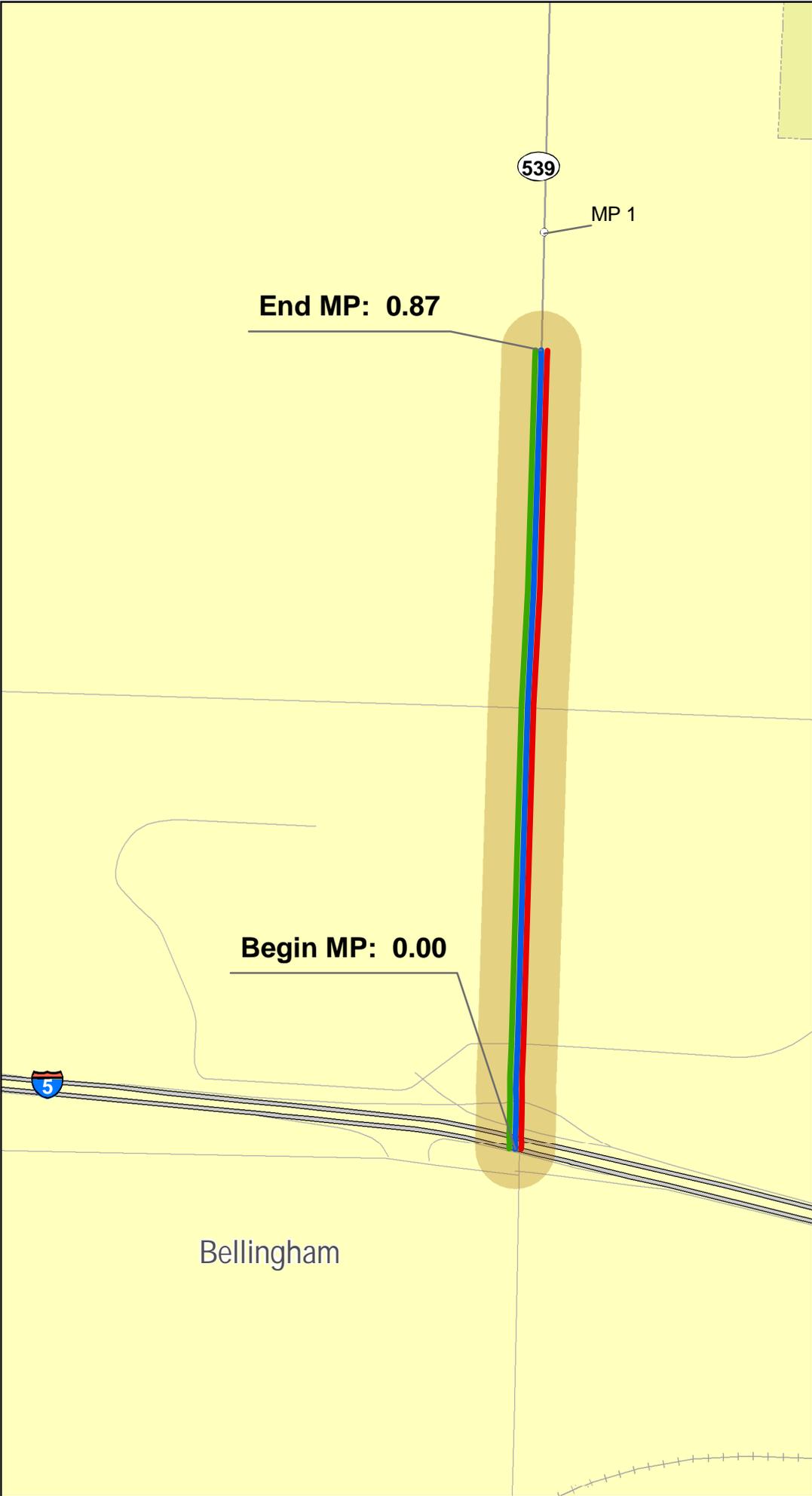
**Additional Comments:**

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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