

## **Effecting Operational Efficiencies for Safe Travel in the Beltline-Delta Highway Corridor, Eugene-Springfield Metro Area, OR.**

### **Purpose:**

To alleviate congestion and alleviate unsafe conditions in the Delta Highway – Beltline Highway corridor and particularly at the Delta/Beltline interchange.

### **Problem:**

Both the Delta Highway and the Beltline Highway are limited-access freeways for the majority of their length. The Beltline Highway is heavily utilized during peak travel periods with slowed traffic and weaving in the vicinity of the River Rd, Delta Highway, and Coburg Rd interchanges. Traffic movement onto and from Beltline Highway is impacted, particular with the formation of queues on the ramps. At the Beltline/Delta interchange, these queues routinely spill over onto the mainline Delta Highway. These queues create unsafe conditions which have been the cause of at least one pedestrian fatality, as well as many vehicle collisions.

The Beltline Highway also carries the majority of traffic crossing the Willamette River, and connecting western Lane County to I-5. The bridge crossing between the Delta Highway and River Road interchanges is a critical link in the event of a regional emergency.

The Beltline Facility Planning Study, currently underway, will assess deficiencies on Beltline Highway between River Road and Coburg Road and recommend long-term solutions, including adding capacity, to address those deficiencies. The capacity expansion has been identified in 2031 Regional Transportation Plan financially constrained project list. However, these projects may take several years to develop and many years to fund. ITS solutions can help address the more immediate needs by improving the efficiency of traffic operations in the corridor, and optimizing the use of the existing facilities.

### **Proposed Solution:**

Deploy ITS assets in the corridor, at the interchanges, and on the major arterials connecting the state highway system to the local roadway system. These assets will

- Reduce incident response time and thereby ease incident-related congestion
- Disseminate traveler information to the public thereby allowing intelligent choices to be made as to routes to be used
- Collect roadway performance data
- Improve travel time and reduce crashes.

ITS components that adjust traffic flow require expert operational monitoring and adjustments. By controlling and adjusting operations, both throughput and safety within the corridor will be much improved. By utilizing ITS assets, improved level-of-service will be obtained at much lower cost than by adding additional lanes.

### **Components:**

The project will implement at least part of several technology modules that are described within the Regional ITS Plan for the Eugene/Springfield Area. Each module contains multiple components from which to select in order to optimize system

performance. Note that not all components listed here can or will be deployed due to cost considerations, existing conditions or system effectiveness. The initial engineering/project development phase of the project will determine those that best achieve the objectives without adverse effects on other parts of the road system.

Project No	Reg. Architecture Project Title	Potential Components	Estimated Costs
ES-TM-02B	Beltline Highway Freeway Surveillance and Management	<ul style="list-style-type: none"> <li>Install system wide ramp meters and system detection from River Rd. to I-5</li> <li>Install CCTV cameras</li> <li>Install system detectors to collect volume, occupancy and speed information</li> <li>Install VMS signs and provide real-time traveler information</li> <li>Install and implement communications</li> </ul>	\$2 million
ES-TM-02E	Delta Hwy Freeway Surveillance and Management	<ul style="list-style-type: none"> <li>Install traffic sensors, CCTV, VMS and communications on Delta Hwy</li> </ul>	\$700,000
ES-TM-03B	River Road Arterial Surveillance and Management	<ul style="list-style-type: none"> <li>Install CCTV cameras at key intersections</li> <li>Install system detectors</li> <li>Implement Signal Timing Coordination</li> <li>Install and implement communications for transmission of data back to the City of Eugene and others</li> </ul>	\$150,000
ES-TM-03C	Coburg Road Arterial Surveillance and Management	<ul style="list-style-type: none"> <li>Install CCTV cameras at key intersections</li> <li>Install system detectors</li> <li>Implement Signal Timing Coordination</li> <li>Install and implement communications for transmission of data back to the City of Eugene and others</li> </ul>	\$500,000
ES-TM-05	Gateway Area Traffic Response Signal Timing	<ul style="list-style-type: none"> <li>Install CCTV cameras at key intersections</li> <li>Install system detectors</li> <li>Implement Signal Timing Coordination</li> <li>Install and implement communications for transmission of data back to the City of Springfield and others</li> </ul>	\$150,000
	Communication improvements	<ul style="list-style-type: none"> <li>Improve City of Eugene traffic communication infrastructure, including controllers, server and software upgrades as needed</li> </ul>	\$1 million
	Communication improvements	<ul style="list-style-type: none"> <li>Improve City of Springfield traffic communication infrastructure, including controllers, server and software upgrades as needed</li> </ul>	\$500,000
<b>Total</b>			<b>\$5 million</b>

An integral part of this project also includes:

a) *Interagency Agreements* –

Agreements will be established between the agencies providing, using and controlling the system components, so that regional partnerships will be effective and long-lasting.

b) *Engineering Design and Study* –

This project will adhere to the Regional ITS Architecture as defined and described by USDOT. ODOT engineers and consultant engineers will design the system in collaboration with the project partners. The analysis will consider various deployment scenarios with different component configurations to ensure that adjacent portions of the road system are not adversely affected. In particular, there will be an engineering study of the impacts of Beltline ramp metering on the adjacent local arterials.

*c) System plans and documentation -*

All assets will be geo-referenced, mapped, and attributed so that future expansion or sharing of assets acquired and deployed in this project can be easily assessed.

The Regional ITS Plan and the regional architecture will be amended and updated as needed.

**Benefits:**

- Improves efficiency of existing system at low cost
- Prolongs the effective use of the freeways before major upgrades are needed
- Improves safety thereby reducing vehicle and person accident costs
- Provides motorists with information enabling route and mode choices
- Provides transportation planners with data to enhance planning and project prioritization

**Partners:**

- Oregon DOT (ODOT)
- Lane County
- City of Eugene
- City of Springfield
- Central Lane MPO
- Public Access Network (PAN) and partners (including EWEB)

**Ancillary benefits:**

- Project incorporates state and local facilities in a regional collaboration
- Project benefits both state and local systems
- Project is a strategic investment, providing congestion relief and mobility improvement, as well as safety and freight mobility.
- Has strong support from local governmental bodies and from State Representative.
- There is an assemblage of existing parts which will be built upon to develop the project. There are no known environmental concerns.
- The project is timely and ready to begin in the 2010/2011 timeframe.
- Project can be scaled and implemented in phases to match the amount of funding available with the ability to add new phases as \$ become available.