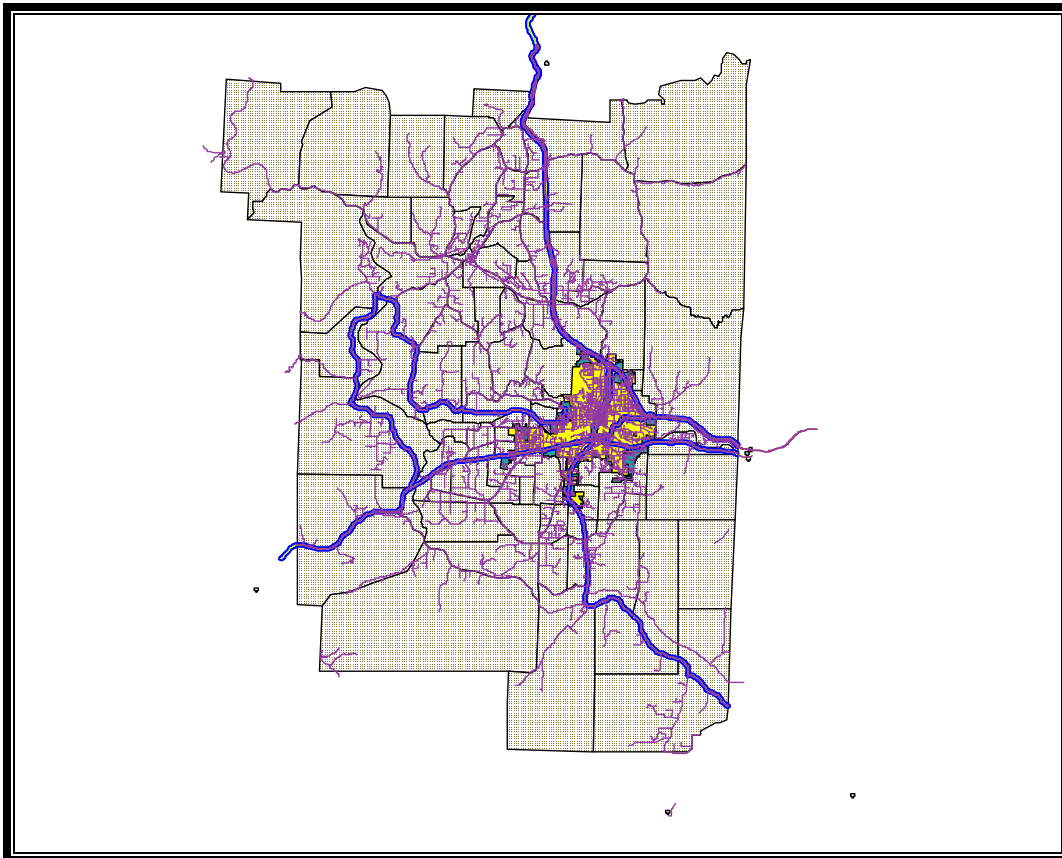


## HERS-ST in Grants Pass A Brief Introduction

We currently have a dataset that contains all state roadway segments for Josephine County. Eventually, we intent to develop a HERS-ST dataset that covers the entire roadway network defined in the Grants Pass Travel Demand Model, and tie the two models together for analysis. With the two models, we can run various policy and application scenarios through the travel demand model and output sectional volumes for the different roadways within the network, and then apply those volumes to the HERS-ST model to identify potential long range deficiencies and improvements on the roadway system, associated with a specific scenario. This will provide an additional tool that can be used for decision-makers.

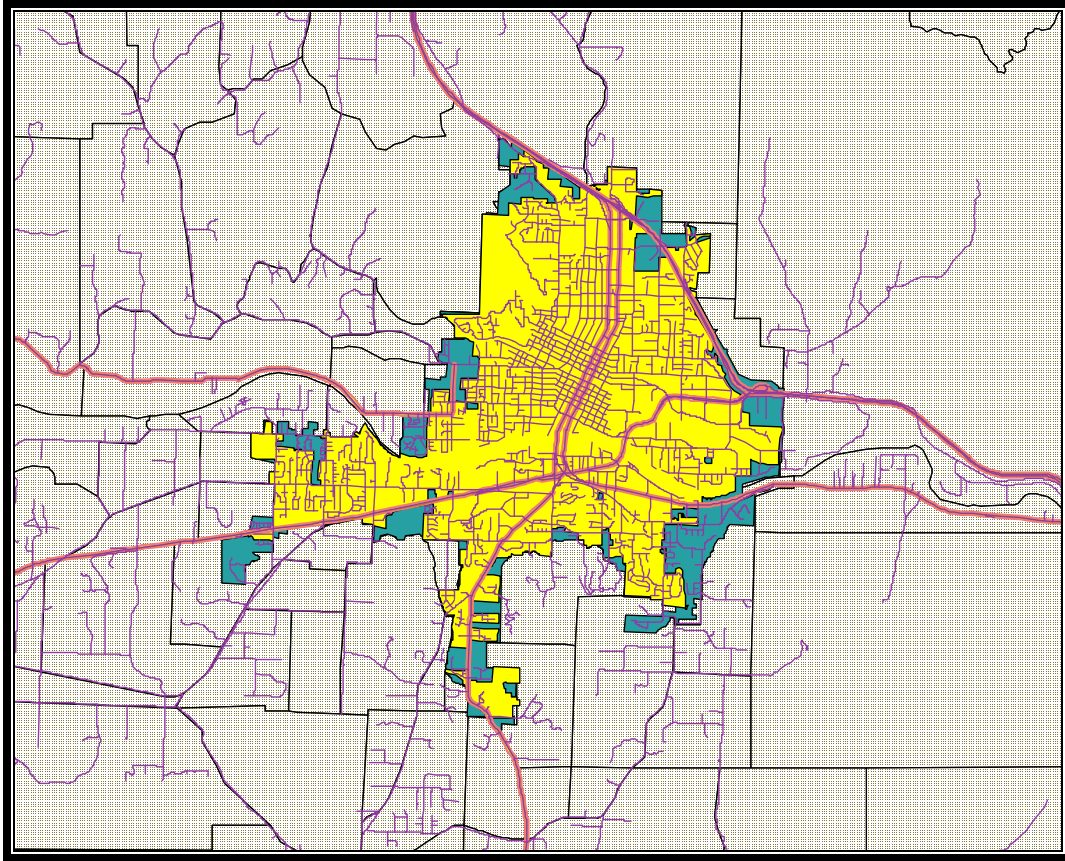
As a test, the existing CMS dataset (base year 2006), was used to identify deficiencies and improvements from the HERS-ST model. Though there are four types of analysis process that HERS-ST can perform (see Users Guide), the Full Needs Analysis was selected for this test as a base for highlighting the HERS-ST model. Note, HERS-ST identifies long-range deficiencies on the system and selects improvements based on economic benefit-cost analysis; a number of parameters can be adjusted by the Analyst but default values were used in for this example. Again, the CMS dataset is not currently tied to the Grants Pass model; the results here were simply superimposed over the model area.

Figure 1 – General Grants Pass Travel Demand Model Area, with HERS-ST dataset superimposed (in Blue).



## HERS-ST in Grants Pass A Brief Introduction

Figure 2 – City of Grants Pass Modeling Area, with HERS-ST dataset superimposed (in Light Purple).



There is a considerable amount of information that can be gathered from the HERS-ST data, both from the data input and output. The purpose of the paper is to simply highlight the modeling tool, and to generate interest. Additional information will be provided in the near future; it was our intent to highlight this during the recent Grants Pass Model Outreach, but was not able to do so at that time because of scheduling issues.

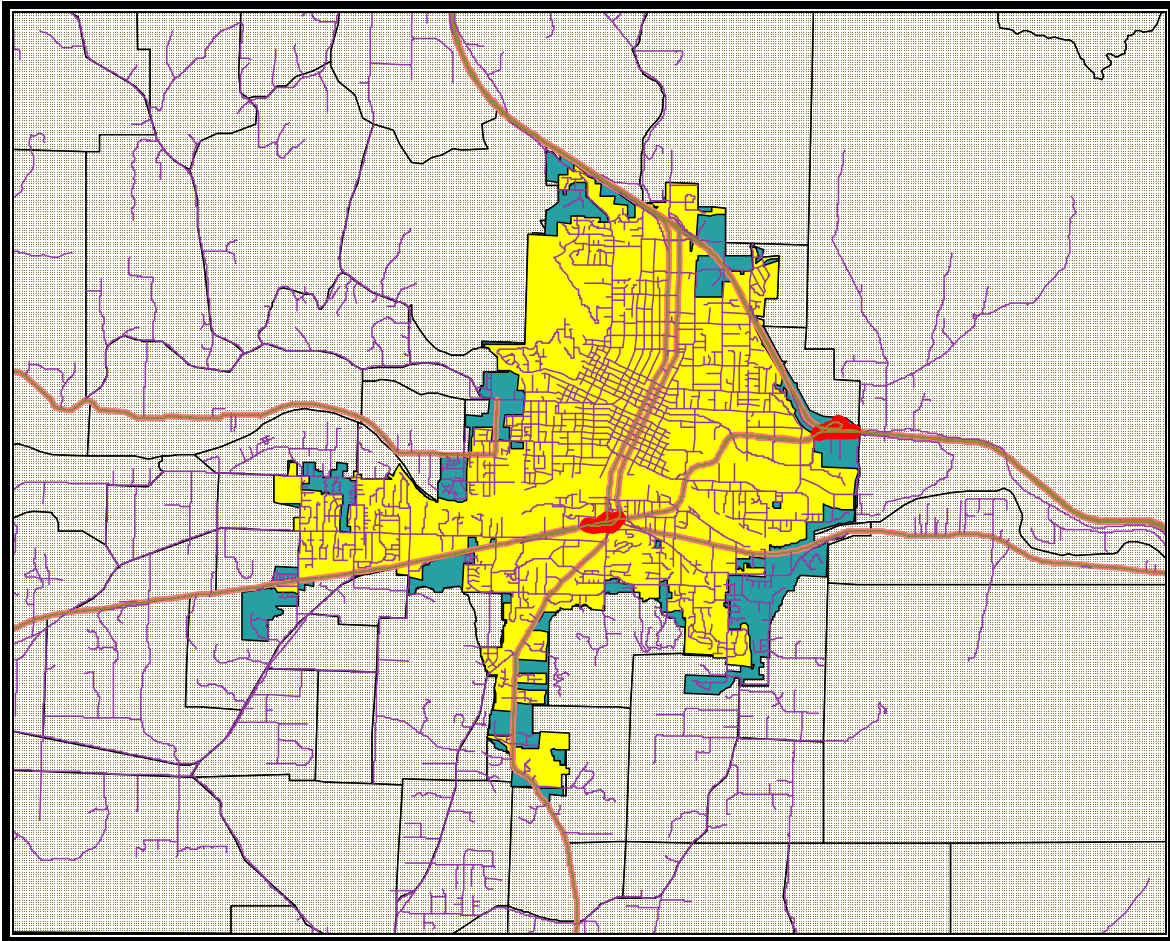
Note that we have developed a data tie between HERS-ST and the RVMPO travel demand model, and are currently utilizing the joined model analysis for several projects in the RVCOG area. Our eventual intent is to make this tool available for all modeling areas covered under TPAU travel demand models.

For this test, the HERS-ST model evaluated four 5-year Funding Periods, covering a 20-year Analysis Period:

- FP #1 – 2006 – 2011,
- FP #2 – 2012 – 2016,
- FP #3 – 2017 – 2021,
- FP #4 – 2022 – 2026.

## HERS-ST in Grants Pass A Brief Introduction

Figure 3 – First Funding Period improvements defined from HERS-ST, superimposed (in Red).

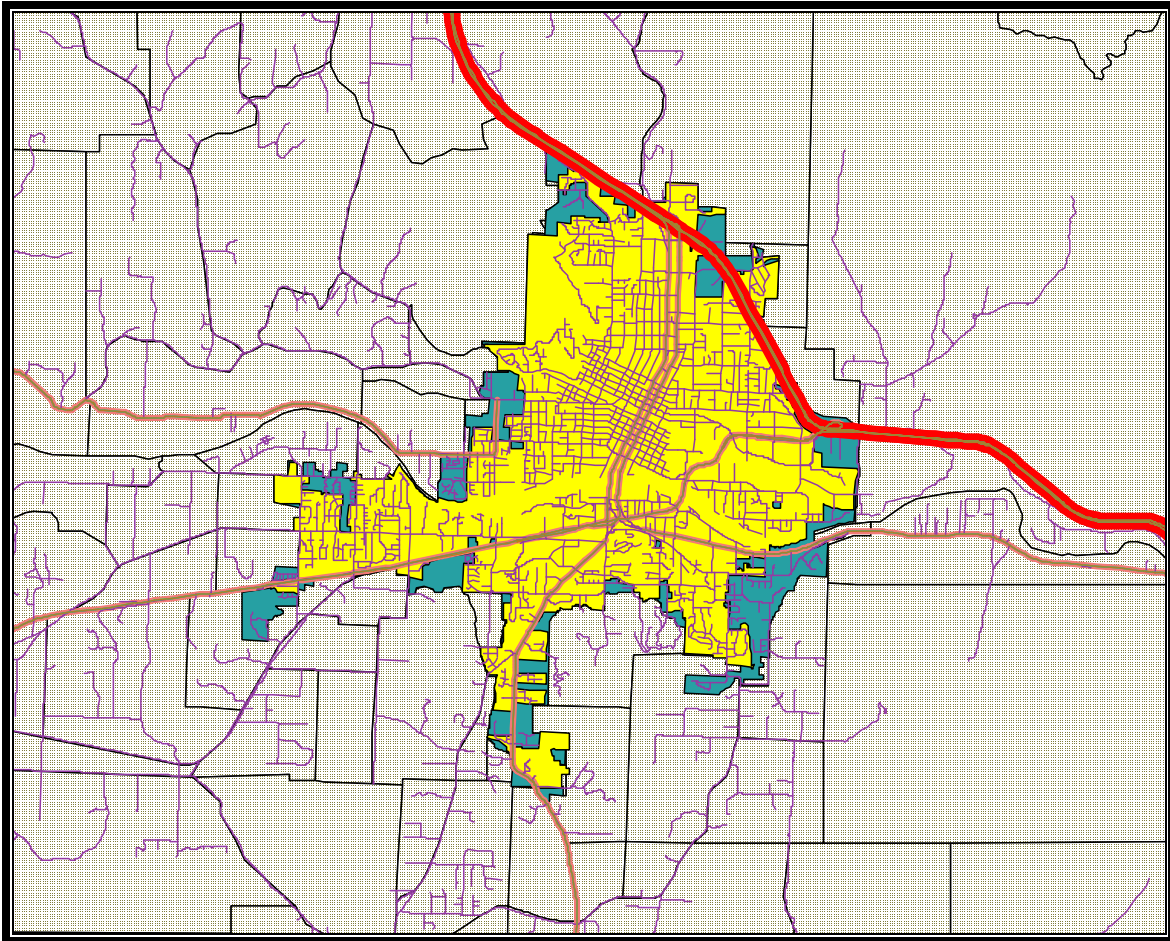


For the first funding period, HERS-ST identified several projects within the greater Grants Pass area, as shown in Figure 3. A detailed evaluation would show the type of improvement.

Note that HERS-ST model simulates these improvements at this point and continues on with the analysis in subsequent funding period, as if these improvements had been made. Future performance measures, such as pavement condition, v/c, speeds, congestion and delay analysis, all assume that the system has been updated to reflect these improvements.

## HERS-ST in Grants Pass A Brief Introduction

Figure 4 – Second Funding Period improvements defined from HERS-ST, superimposed (in Red).

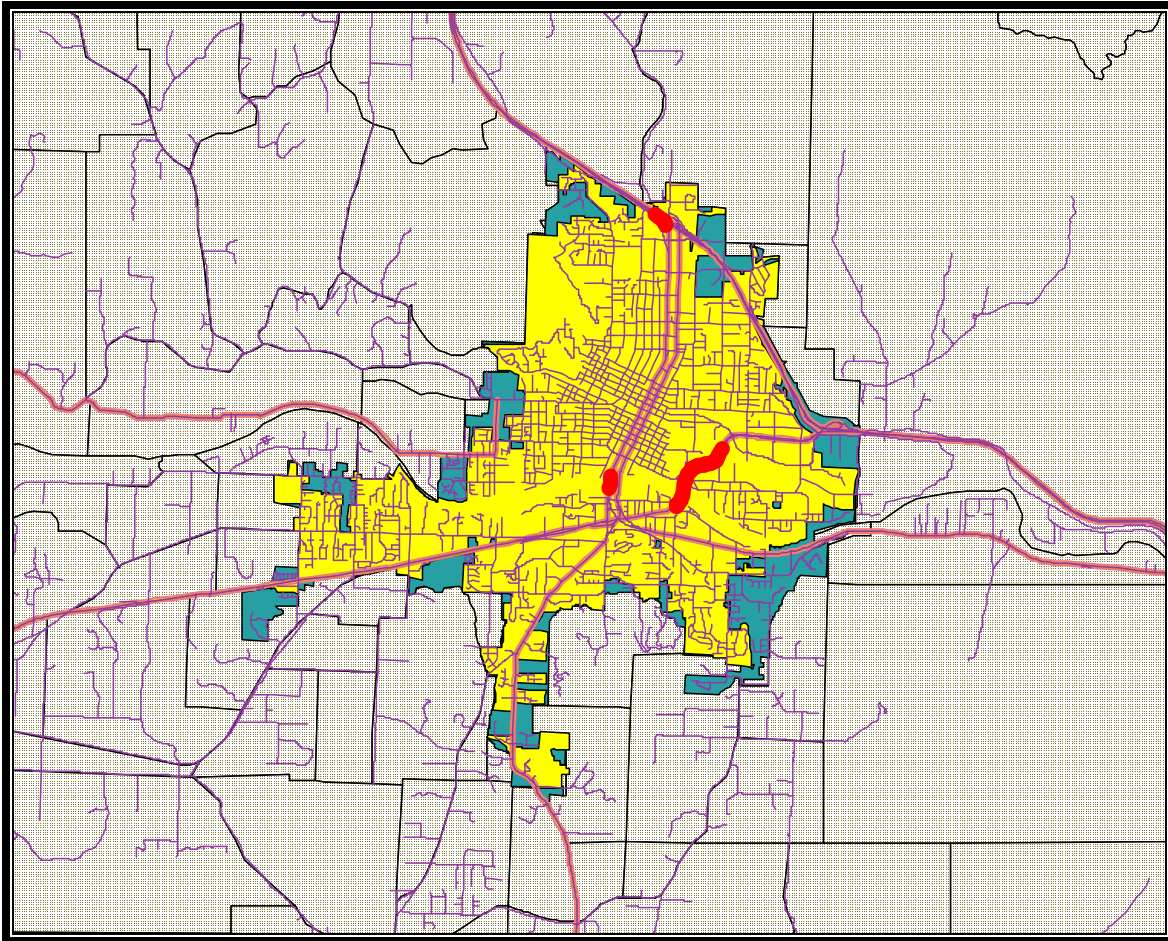


For the second funding period, HERS-ST identified a number of improvements for the Interstate 5 system, as shown in Figure 4.

Note that based on the criteria used within this modeling scenario, there were no improvements identified within the Grants Pass Travel Demand Model area for the third funding period.

## HERS-ST in Grants Pass A Brief Introduction

Figure 5 – Fourth Funding Period improvements defined from HERS-ST, superimposed (in Red).



For the fourth funding period, HERS-ST identified several projects within the greater Grants Pass area, as shown in Figure 5.

### **Conclusion:**

We will provide more information on the analysis as time permits. Several points that are useful for City and County personnel are:

- There are a number of key system performance measures that can be pulled out of the HERS-ST model and used in the decision-making process,
- The data currently exists for the state highway system, and can be provided upon request,
- There are several great advantages for tying the HERS-ST model with the Grants Pass Travel Demand model – write-ups are available from TPAU,
- The software is developed for FHWA, has national acceptance, and is available for FREE. Support is available for FREE too.