

Memorandum 1.7

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CC: Marc Butorac, PE, PTOE, and Susie Wright, Kittelson & Associates

From: Seth Gallant, OBEC

Date: January 15, 2016

Subject: **Task 1.7 Project-Specific GIS Data Inventory & Gap Identification Memo**

The purpose of this memorandum and the other early anchoring activity memorandums in Phase 1A of the project is to inform the Draft Problem Statement and guide further development of the project.

Introduction

This memorandum summarizes the anticipated GIS data needs for the I-5 Medford Viaduct project and the expected data sources, identifies the data that the project team has, data that has not yet been obtained, but is readily available, and identifies data that may not be readily available. The primary sources of mapping data will be Jackson County, the City of Medford, and the ODOT GIS Unit. Other sources will include the Rogue Valley Metropolitan Planning Organization, U.S. Bureau of the Census, Pacific Power, and natural resource databases.

Needs, Data Sources, and Data Gaps by Use and Subject

The following table summarizes all of the GIS data that the consultant team anticipates would be needed to complete the I-5 Medford Viaduct project facility plan and NEPA phase.

Table 1: GIS Data Inventory

Item	Source	Status	Comments
<i>Base Mapping</i>			
Streets	Jackson County GIS Website	Acquired Oct. 2015.	
City limits	Jackson County GIS Website	Acquired Oct. 2015.	
Urban growth boundaries	Jackson County GIS Website	Acquired Oct. 2015.	
Rivers/streams	Jackson County GIS Website	Acquired Oct. 2015.	
Topography	Jackson County GIS Website	Acquired Oct. 2015.	

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<i>Transportation</i>			
Existing Medford Viaduct footprint	ODOT	Gap	OBEC has some info from previous bridge inspection work. Does not contain coordinate info that matches GIS data. ODOT may have better data.
Roadway functional classification (see Figure 1)	Jackson County GIS Website	Acquired Oct. 2015.	
Identified roadway deficiencies in Jackson County		Gap	Consultant team would need to produce.
Existing sidewalks and bicycle lanes	Jackson County GIS Website	Acquired Oct. 2015.	
Transit lines	Jackson County GIS Website	Acquired Oct. 2015.	
Area projects in the financially constrained RTP		Gap	Consultant team would need to produce.
Other planned and funded transportation improvements		Gap	Consultant team would need to produce.
Medford Airport Runway Protection Zone	City of Medford	Acquired Oct. 2015.	
<i>Land Use and Planning</i>			
Existing land use	Jackson County GIS Website	Acquired Oct. 2015.	Have existing land use for the County from the Jackson County TSP data set. Existing land use in the City of Medford needs to be developed from property codes in tax lot data.
City Zoning (see Figure 2)	Jackson County GIS Website	Acquired Oct. 2015.	
County Zoning	Jackson County GIS Website	Acquired Oct. 2015.	
City Comprehensive Plan Designations	Jackson County GIS Website	Acquired Oct. 2015.	
County Comprehensive Plan Designations	Jackson County GIS Website	Acquired Oct. 2015.	
Urban reserve areas	Jackson County GIS Website	Acquired Oct. 2015.	
Goal 5 resources		Gap	Would need to come from City and County Comp Plans. May not exist as shapefiles. There is a shapefile showing Areas of Special Concern, but it is incomplete and out-of-date per the Jackson County GIS website metadata.
<i>Right-of-Way</i>			
Taxlots/property boundaries (see Figure 2)	Jackson County GIS Website	Acquired Oct. 2015.	
Property ownership	Jackson County GIS Website	Acquired Oct. 2015.	
Building footprints	Jackson County GIS Website	Acquired Oct. 2015.	

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Driveway/access information	Jackson County GIS Website	Acquired Oct. 2015.	Shapefile shows locations of driveways. Limited information about them.
Utilities			
Underground utility locations	Jackson County TSP data set, City of Medford, and other individual utility providers	Gap	Have Stormwater and Sewer within City of Medford, Rogue Valley Sewer service lines, gas pipelines (Avista Corp. and Gas Transmission NW) from Jackson County TSP data set. Do not have water service lines. There may be other underground utilities present, such as electrical or communication lines.
Aerial utility locations	from individual utility providers	Gap	Have Pacificorp high voltage transmission lines from Jackson County TSP data set. Would need to obtain other local electrical and communication utility info.
Environmental Justice/Socioeconomics			
Demographic data from U.S. Census Bureau American Community Survey	2010 Census and 2013 ACS	Acquired	By the time demographic data is needed, there will likely be more current ACS data available.
Enumeration district boundaries	2010 Census and 2013 ACS	Acquired	
Community facilities (schools, libraries, hospitals, police stations, fire stations, churches, parks)	Jackson County GIS Website	Acquired Oct. 2015.	
Parks/Recreation/Wildlife Areas			
Existing parks, wildlife areas, and multi-use paths (see Figure 3)	Jackson County GIS Website	Acquired Oct. 2015.	
Proposed/planned parks and wildlife areas		Gap	Consultant team would need to produce.
Planned Trails/Multi-Use Paths	Medford GIS	Acquired Oct. 2015.	
Cultural Resources			
Identified historic and cultural resources, including archaeological resources		Gap	Consultant team would need to produce based on cultural resources inventory/evaluation. Confidential archaeological resource locations would not be mapped.
Potential historic resources		Gap	Consultant team would need to produce based on cultural resources inventory/evaluation.
Historic districts (see Figure 3)	Jackson County GIS Website	Acquired Oct. 2015.	
Water Resources			
Streams (base)	Jackson County GIS Website	Acquired Oct. 2015.	
Streams (detailed)	USGS and BLM hydrography datasets	Gap	Base streams layer from Jackson Co. GIS is adequate as a base layer. For more detailed information on streams, USGS and BLM datasets should be acquired.

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Floodplains/floodways (see Figure 4)	Jackson County GIS Website	Acquired Oct. 2015.	
ODOT stream crossing culverts, if available	ODOT	Gap	Have some culvert information from Jackson Co. TSP data set. Does not appear to include locations inside Medford city limits or ODOT facilities.
ODFW fish passage barrier locations	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
Local Wetland Inventory	City of Medford	Acquired Oct. 2015.	
National Wetland Inventory	USFWS	Acquired Oct. 2015.	
Water Quality	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
DEQ 301d listed stream layers	DEQ	Acquired Oct. 2015.	
Natural Systems/Habitats/Threatened and Endangered Species			
Vernal Pool Critical Habitat	Jackson County GIS Website.	Acquired Oct. 2015.	
Conservation opportunity areas	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
Wildlife Habitat areas	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
Wildlife linkages	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
Vegetation Type	Jackson County GIS Website	Acquired Oct. 2015.	
ESA-designated critical habitat	USFWS	Gap	Available from USFWS website: http://www.fws.gov/gis/data/national/index.html
DSL-designated Essential Salmonid Habitat data	USFWS or DSL	Gap	Should be readily available from USFWS or DSL.
ODFW fish distribution data	ODFW	Gap	Available from ODFW website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259
Threatened and Endangered Species in Jackson County	NMFS	Gap	Available from NMFS website: http://www.westcoast.fisheries.noaa.gov/maps_data/maps_and_gis_data.html
	USFWS	Gap	Available from USFWS website: https://ecos.fws.gov/ipac/
Geology			
Soil Types	Jackson County GIS Website	Acquired Oct. 2015.	
Geological features		Gap	Not clear if this is readily available. Consultant team may need to produce based on Geological evaluation.
Geological hazards		Gap	Not clear if this is readily available. Consultant team may need to produce based on Geological evaluation.
HazMat			
DEQ LUST and UST data (see Figure 4)	Jackson County TSP data set	Acquired Oct. 2015.	GIS data should be cross-checked against latest DEQ database to ensure it is up-to-date. Database information is available at DEQ website: http://www.deq.state.or.us/lq/tanks/lust/LustPublicLookup.asp
State Hazardous Waste System ECSI data (see Figure 4)	Jackson County TSP data set	Acquired Oct. 2015	GIS data should be cross-checked against latest DEQ database to ensure it is up-to-date. Database information is available at DEQ website: http://www.deq.state.or.us/lq/ECSI/ecsidownload.htm

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Discussion of GIS Data Gaps

The following provides additional discussion of the GIS data that has not been obtained.

Transportation

The footprint of the existing viaduct would be needed for purposes of understanding changes that would result from different proposed project alternatives. The consultant team (OBEC) has some CAD work from previous inspection work on the viaduct structure. It is not in a coordinate system that relates with the GIS data set. Therefore, extensive work would be needed in order to convert it to the appropriate coordinate system. ODOT may have better CAD data for the existing viaduct footprint.

Identified roadway deficiencies, RTP projects, and other planned projects in the project are all readily available information, but GIS shapefiles would need to be created in order to map them.

Land Use and Planning

Goal 5 resources probably do not exist as a single discrete GIS dataset. This information would need to come from the City and County Comprehensive Plans. A fair amount of research may be required in order to determine all of the resources that are included and develop a GIS shapefile showing them. An existing shapefile called Areas of Special Concern appears to show some Goal 5 Resources. However, the metadata description for this shapefile states that it is incomplete and out-of-date.

Utilities

Underground sewer and stormwater lines have been obtained for the City of Medford and for the Rogue Valley Sewer service areas. The Jackson County TSP data includes underground gas pipelines. The consultant team does not have data for underground water service lines. This may need to come from the City's water service provider. There may be other underground utilities present, such as electrical or communication conduits. More research would be needed to determine if other underground utilities are present.

Overhead utility information is limited. The Jackson County TSP data set includes Pacificorp high voltage transmission lines. The consultant team does not have GIS data on other electrical and communication service lines. These may be available from the individual utility providers.

Parks/Recreation/Wildlife Areas

The consultant team has obtained a shapefile for planned trails. Planned parks do not appear to exist as GIS data, but can be created relatively quickly.

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Cultural Resources

Project-specific historic and cultural resources would need to be inventoried. Historic resources in the project area would be mapped based on the inventory results. Archaeological resource locations are confidential and would not be included in these maps.

Water Resources and Natural Systems/Habitats/Threatened and Endangered Species

There are several items under Water Resources and Natural Systems/Habitats/Threatened and Endangered Species that are readily available from their respective resources agencies and can be downloaded from their websites. The analysts responsible for evaluation of these disciplines should retrieve their own data, since they will be most familiar with what is needed.

Geology

The consultant team has shapefiles showing soil type, but does not have shapefiles showing geological features and hazards. This would most likely need to be produced as part of a geological analysis.

HazMat

The consultant team has GIS shapefiles for DEQ LUST and UST data and State Hazardous Waste System ECSI from the Jackson County TSP data set. Additional research should be done to cross check this data against the current online databases to confirm that it is up-to-date.