



ODOT GIS

RESOURCE & RESTRICTED AREA ZONES

(RES / RAZ MAPPING)

Background: Resource & Restricted Area Zones

ODOT, in consultation with ODFW (Oregon Department of Fish and Wildlife) and other state and non-state agencies, identified the following needs to be addressed by the RES/RAZ maps:

An inventory of selected environmental resources and sensitive areas

Maps that locate, identify, and describe the resources and sensitive areas, and the restrictions to **maintenance activities** that will minimize impacts to these resources

Information that allows ODOT to schedule maintenance and construction around sensitive areas/times

Critical information for ODOT personnel that assures regulatory compliance

A worker in a red safety suit and hard hat is positioned on a blue scissor lift, working on a large steel structure. The background is a dense forest of green trees. The entire image has a blue tint.

A BRIEF LOOK-BACK AT RES / RAZ MAPS

Region 5, District 13
Union/Baker County, June 2018
Mile Point 285-288

OLD OREGON TRAIL HIGHWAY HWY 006 / I-84 US-30

Crew 5306 / 5301
La Grande / Baker

Oregon Department
of Transportation



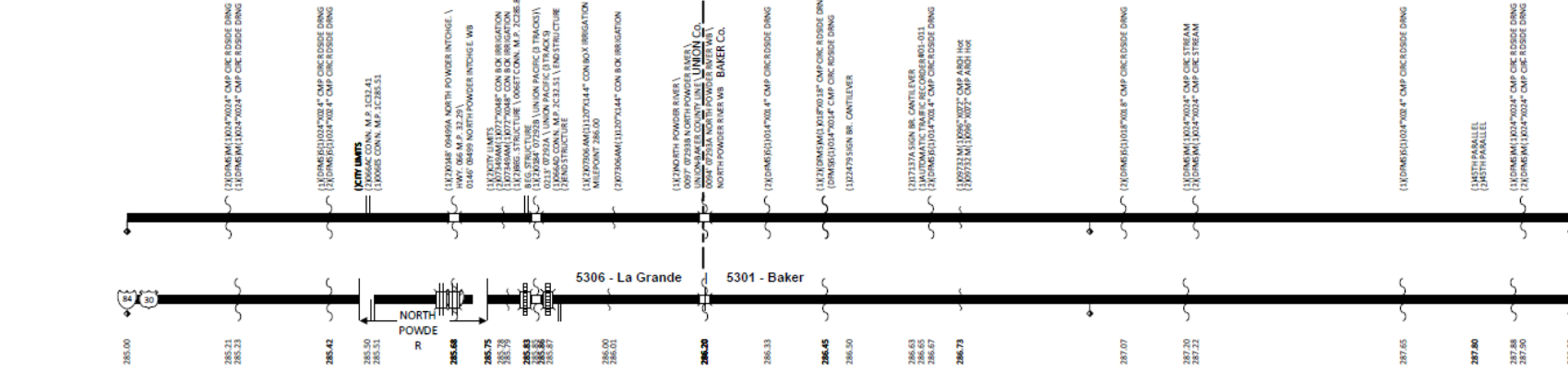
RESOURCE LEGEND

- ◆ Bridge
- ▨ Sensitive Species
- ▭ SMA
- ▭ Biology Mitigation
- ▭ Wetland Mitigation
- ~ Hydrology
- ▭ Wetlands

1:12,000 0 500 1,000 1,500 Feet

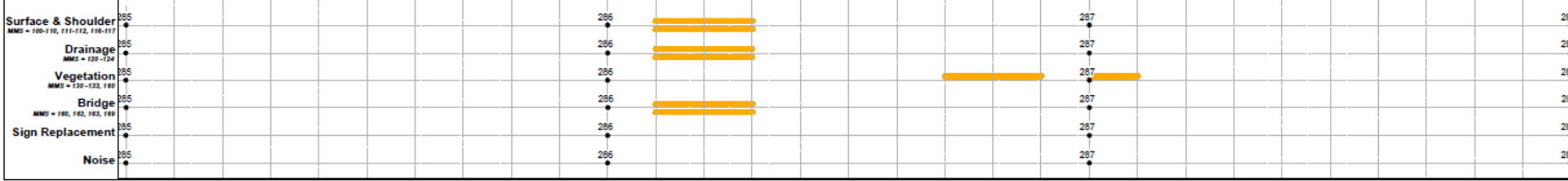


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RESTRICTED ACTIVITY ZONE LEGEND

- ▭ Caution
- ▭ Restricted



CONSIDERATIONS

heavy, 11x17

costly, labor intensive,

involved maintenance,

update cycle significant,

3 mile 'sections' /
8,905+ miles highway

= 2,968 map
/ 76 crews

averages to 40-page map books
(varies)

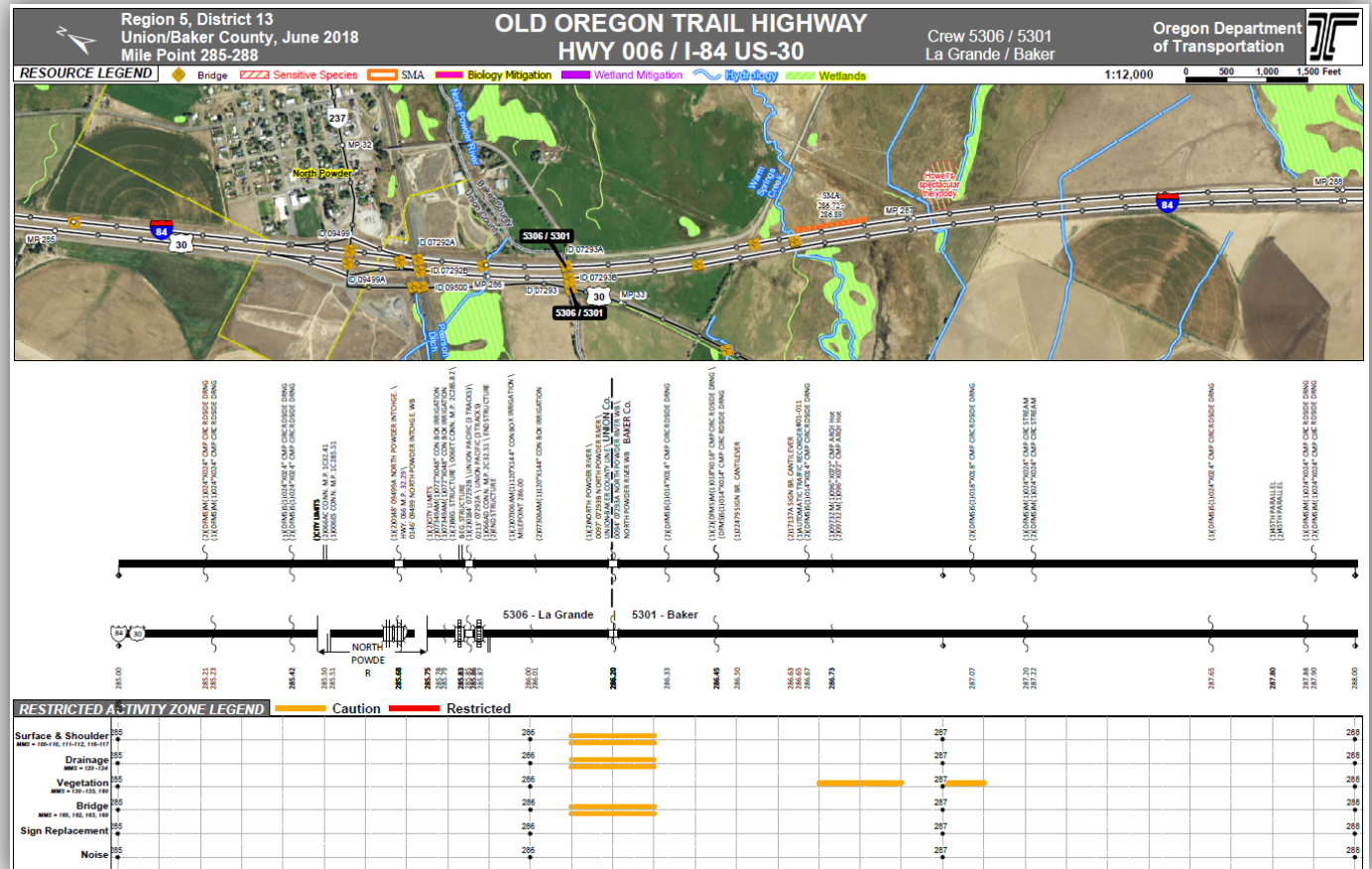


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So, we piloted this:

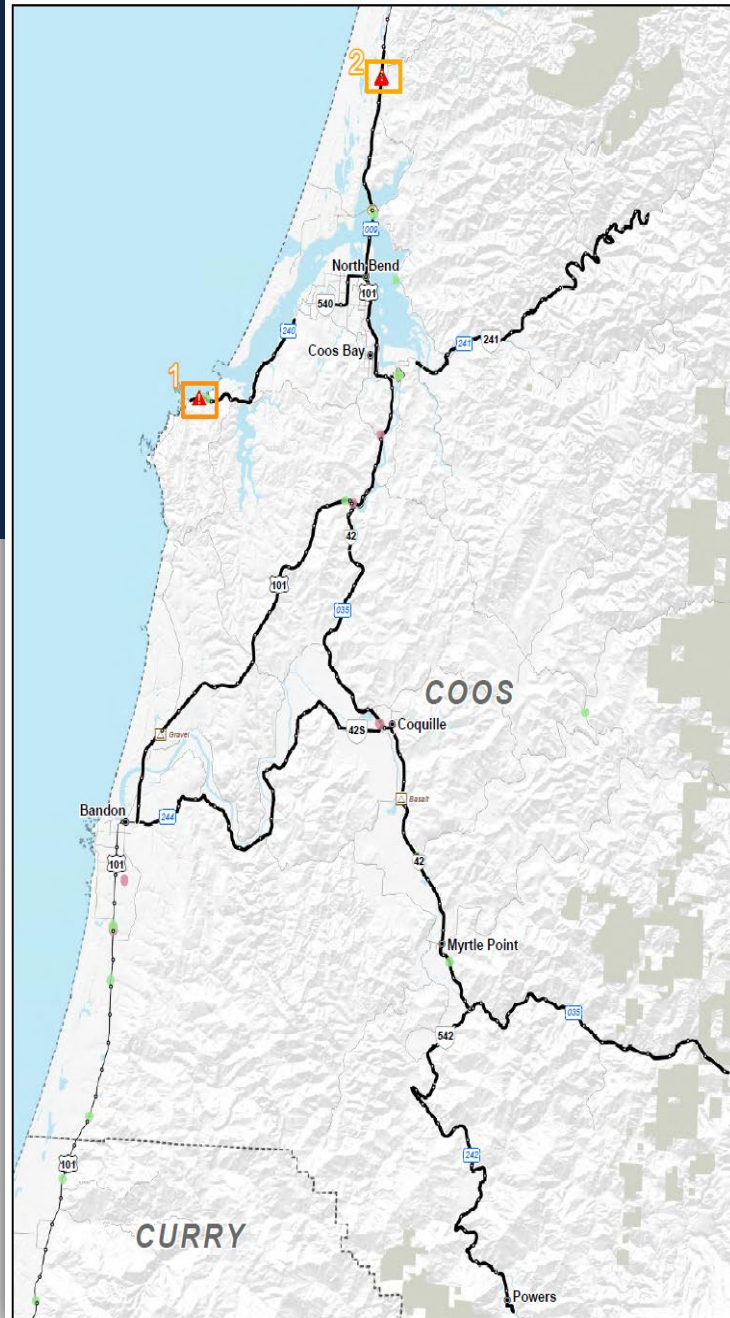
Work shops allow for different perspectives and are a great way to receive feedback and gather input.

We found that the insets were taking valuable map real estate with little added value.

Latest imagery, seasonality, etc.

We liked the concept of notes*

Consensus was that 1-pager wall maps are a favored alternative to the series.



Caution	Aggregate Sites	Highway Mile Markers
Restricted	Stormwater Facility (Complete)	Maintenance Units
SMA	Stormwater Facility (Under Dev.)	Signed Routes
Biology Mitigation	Notes - Lines	District Boundary
Wetland Mitigation	Notes - Points	County Boundary
Avian Critical Habitat	District Offices	ODOT HWY Num.
Hydrology	City	

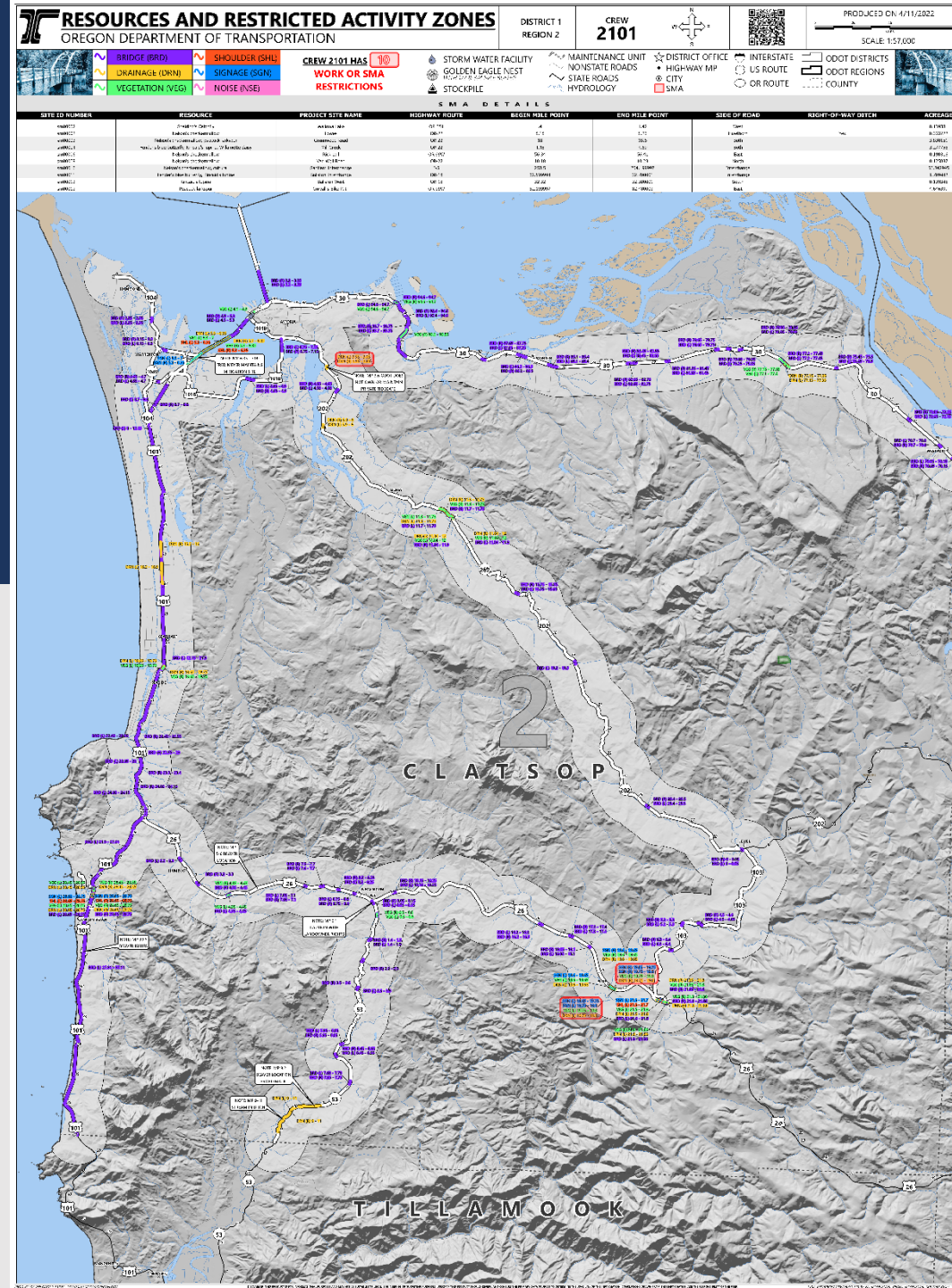
0 1.25 2.5 5 7.5 10 Miles

NOTES

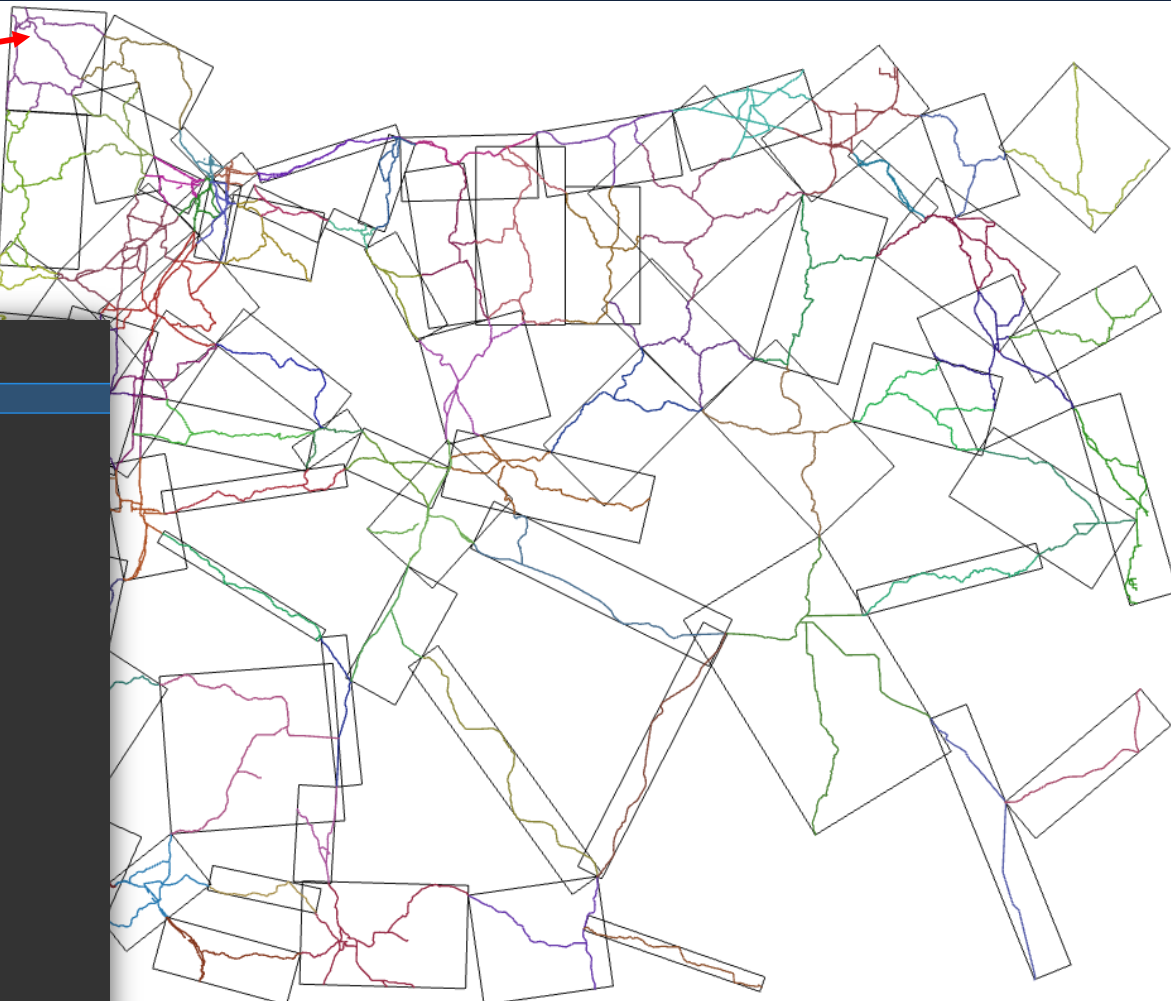
DISCLAIMER: This product is for informational purposes and may not be suitable for legal engineering or environmental claims. This product should review and consult the primary data sources to determine the quality of the information. Conclusions drawn from this information are the responsibility of the user.

SCAN FOR WEB MAP

ArcGIS Pro



2101
REG.
DIST.
CREW



Map Series Pages

Layout_Template_Portrait

1	1201
2	1202
3	1203
4	1204
5	1206
6	1302
7	1303
8	1305
9	1306
10	1307
11	2101
12	2103
13	2104
14	2105
15	2201
16	2203
17	2204
18	2206
19	2301
20	2302
21	2303
22	2305
23	2306
24	2501
25	2502
26	2503
27	2504
28	2506
29	3202

1

Layout Properties

General
Metadata
Page Setup
Map Series
Color Management

Enable [Help with map series](#)

Spatial
Define a series of pages that span a range of map extents.

Index Layer

Map frame

Layer

Name Field

Sort Field

Sort Ascending

> Optional Fields

> Map Extent

OK Cancel

Utilizing Map Series in ArcGIS Pro

Map frame extent based on bounding polygons

Dynamic text based on querying the bounding polygon

SMA auto-populating chart by extent

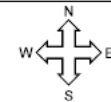
Accomplishes what the previous maps accomplished

RESOURCES AND RESTRICTED ACTIVITY ZONES

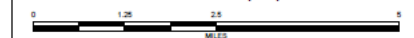
OREGON DEPARTMENT OF TRANSPORTATION

DISTRICT 1
REGION 2

CREW
2101



PRODUCED ON 3/16/2022



SCALE: 1:57,000



- BRIDGE (BRD)
- DRAINAGE (DRN)
- VEGETATION (VEG)
- SHOULDER (SHL)
- SIGNAGE (SGN)
- NOISE (NSE)

CREW 2101 HAS 10 WORK OR SMA RESTRICTIONS

- STORM WATER FACILITY
- GOLDEN EAGLE NEST WITH 1/2 & 3/4 MILE BUFFER
- STOCKPILE

- MAINTENANCE UNIT
- NONSTATE ROADS
- STATE ROADS
- HYDROLOGY

- DISTRICT OFFICE
- HIGHWAY MP
- CITY
- SMA

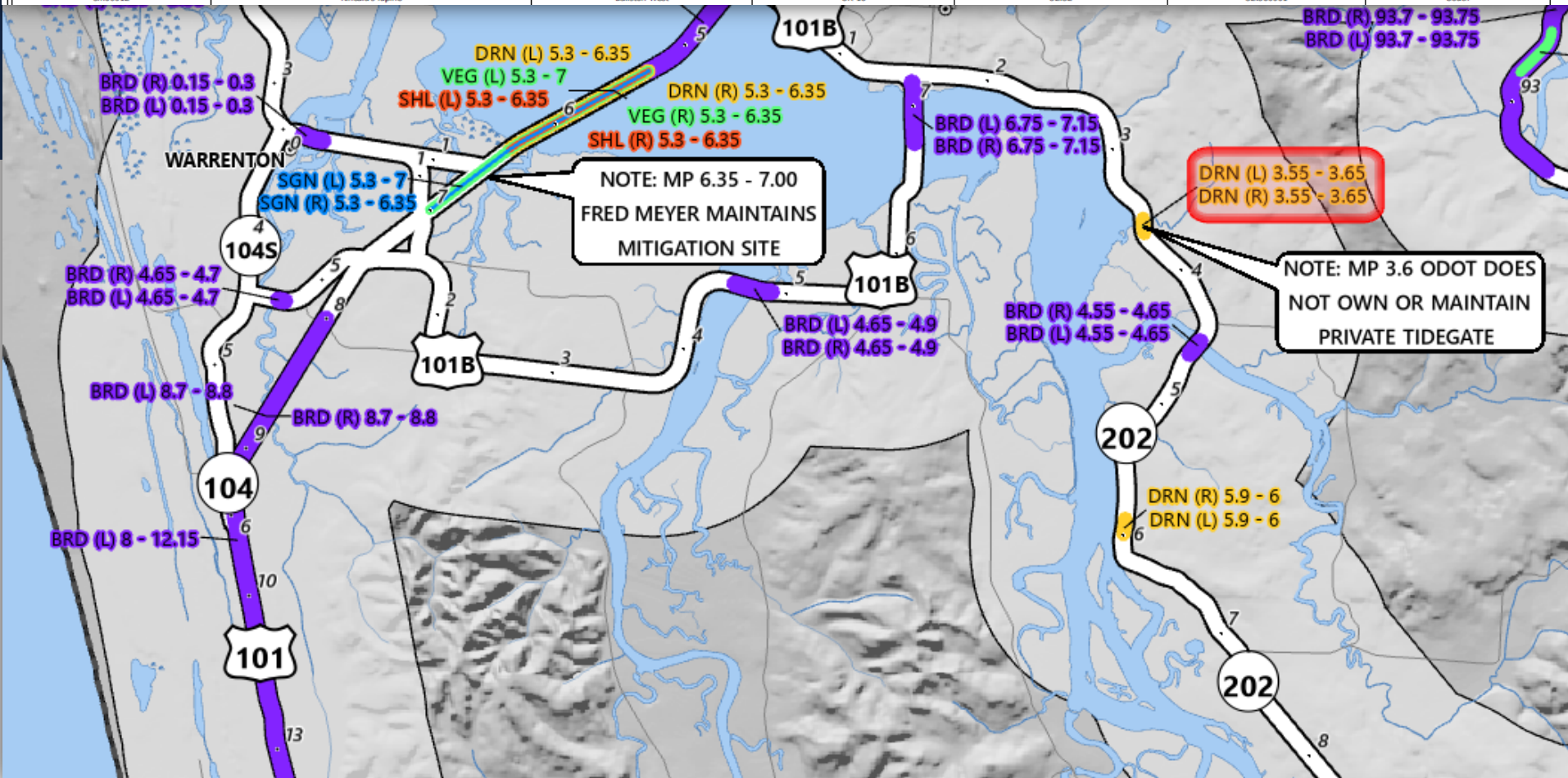
- INTERSTATE
- US ROUTE
- OR ROUTE

- ODOT DISTRICTS
- ODOT REGIONS
- COUNTY



SMA DETAILS

SITE ID NUMBER	RESOURCE	PROJECT SITE NAME	HIGHWAY ROUTE	BEGIN MILE POINT	END MILE POINT	SIDE OF ROAD	RIGHT-OF-WAY DITCH	ACREAGE
sm00002	Spalding's Catchfly	Wallowa Lake	OR 351	1.41	1.42	West		0.139381
sm00002	Nelson's checkermallow	Loves	OR-22	8.18	8.23	Hawthorn	Yes	0.333722
sm00003	Nelson's checkermallow, peacock larkspur	Greenwood Road	OR-22	18	18.6	Both		3.830151
sm00004	Fender's blue butterfly, Kincaid's lupine, Willamette daisy	Mill Creek	OR-22	4.48	4.59	Both		3.277755
sm00006	Nelson's checkermallow	Rickreal	OR-99W	56.34	56.41	East		0.190316
sm00009	Nelson's checkermallow	Van Well Road	OR-22	10.18	10.23	North		0.125837
sm00010	Nelson's checkermallow, cultural	Santiam Interchange	I-5	253.5	254.199997	Interchange		56.842945
sm00011	Fender's blue butterfly, Kincaid's lupine	Ballston Interchange	OR-18	32.599998	32.700001	Interchange		1.709482
sm00012	Kincaid's lupine	Ballston West	OR-18	32.32	32.380001	South		0.139345



Color vision deficiency

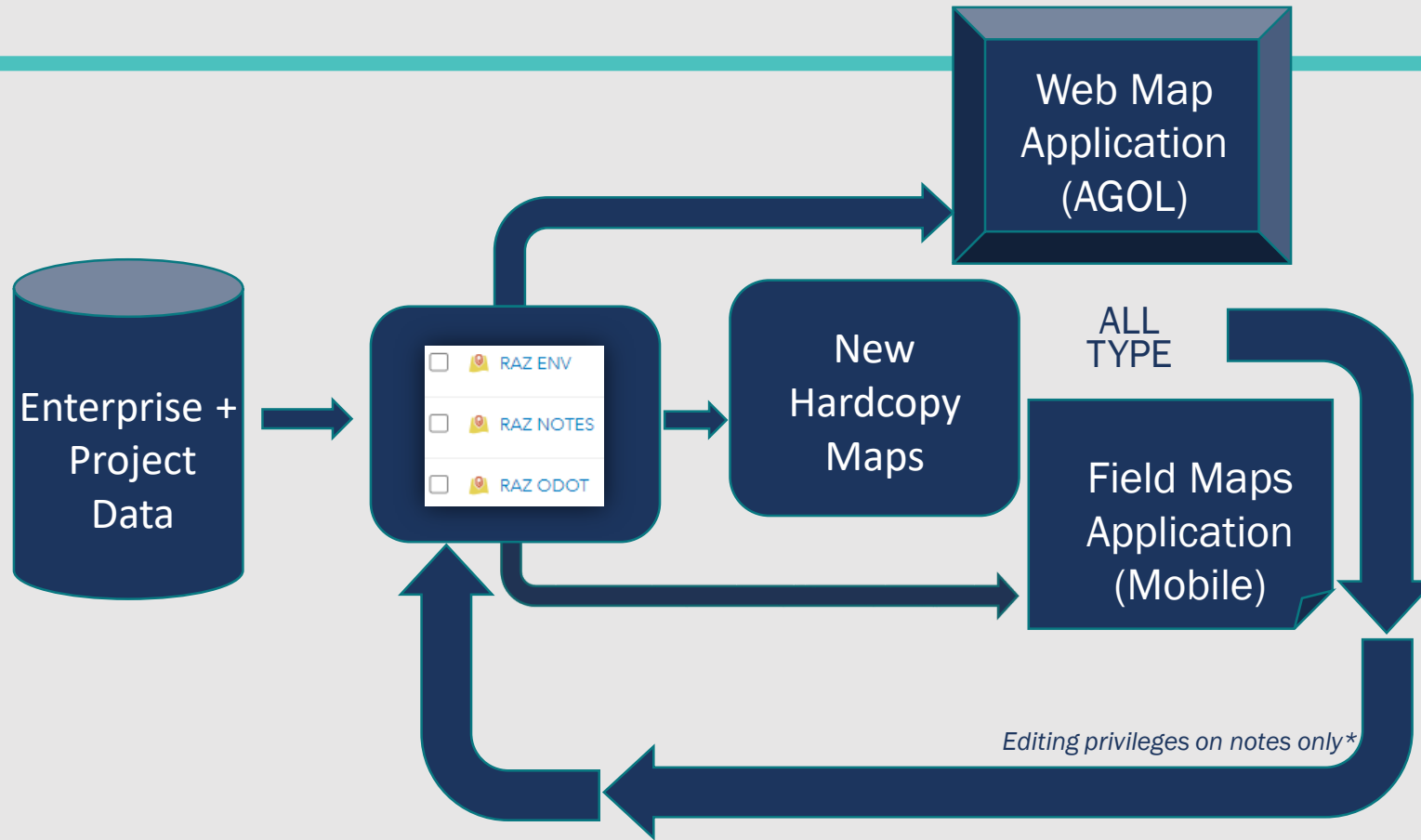
Notes as callouts*

QR Code

Aiming for simplicity

Tie in to [Blue Book](#)
RRM, BMP

DATA STRUCTRE



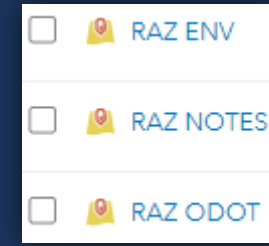
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RES2.gdb	11/30/2021 1:35 PM	File folder

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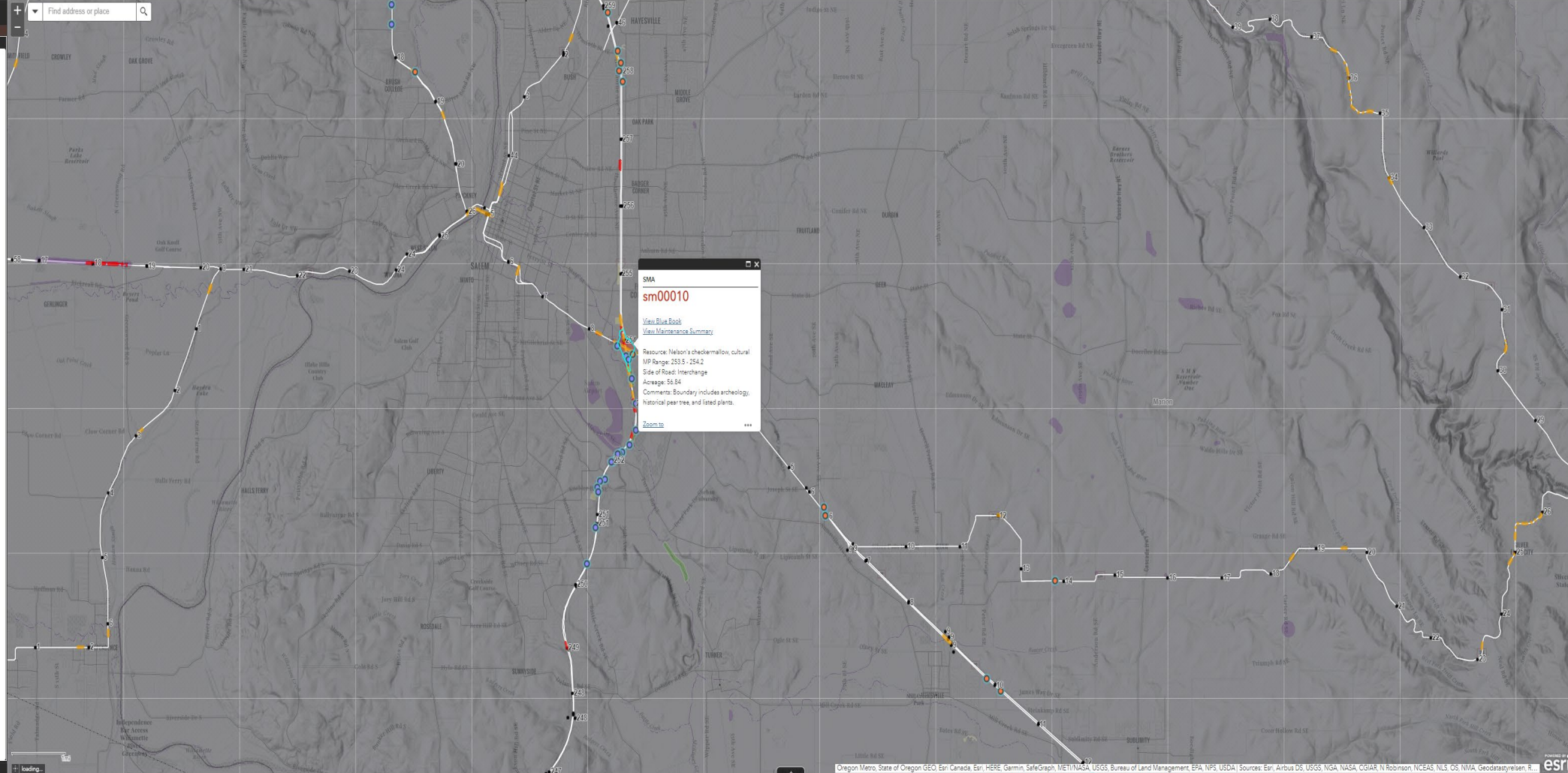
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RES / RAZ WebMap

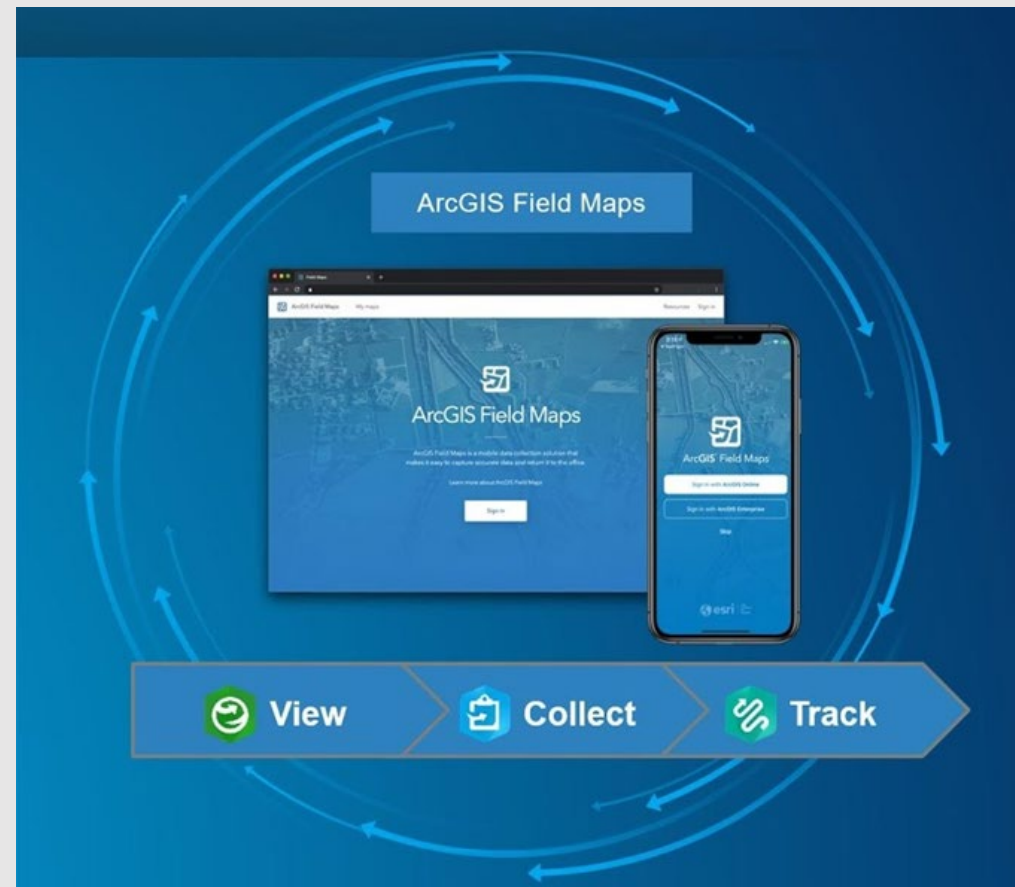
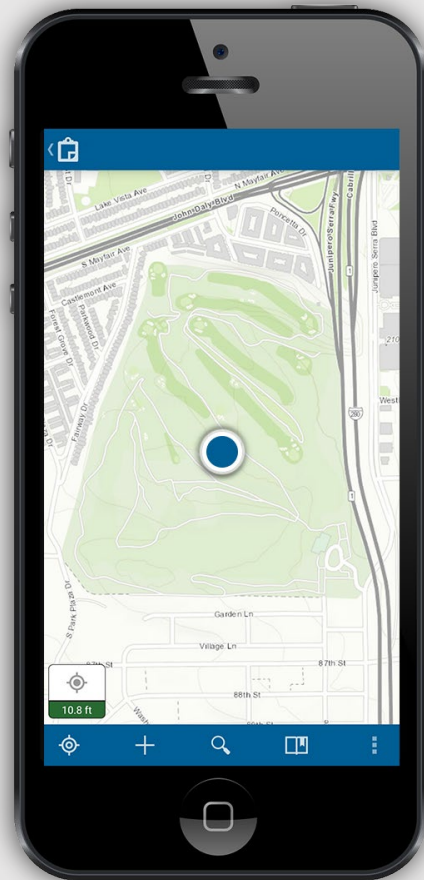
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Wetland Mitigation	compensatory_mit_pygon		\\gis_resources\gis\data\FGDB\PROD\VECTOR\ODOT.gdb	Y	2020	Here	Bradley Livingston	
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SMA	sma_boundary		\\gis_resources\gis\data\FGDB\PROD\VECTOR\ODOT.gdb	Y	2013-2015*	NA	Cash Chesselet	
Stormwater Management Facilities	stormwater_management_facilities		\\gis_resources\gis\data\FGDB\PROD\VECTOR\ODOT.gdb	Y	2018	Here	Travis Burrier	
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Notes Points	Notes_Points		Final location TBD (project geodatabase, not enterprise)	Y				
Notes Lines	Notes_Lines		Final location TBD (project geodatabase, not enterprise)	Y				
Golden Eagle	golden_eagle		\\gis_resources\gis\data\FGDB\PROD\VECTOR\ODOT.gdb	Y				

- Legend
- Notes Points
- Notes Lines
- Crew Switch Points
- Aggregate Sites
 - Stoopie
- Stormwater Management Facilities
 - Under-Development
 - Complete
- RES-RAZ
 - Caution
 - Restriction
- SMA Boundary
- Biology Mitigation
- Wetland Mitigation
- Highway One Mile Markers
- Sensitive Species
- Maintenance Units
- Nonstate Highways
- City Points
- Districts
- County
- World Hillshade (Dark)
- World Hillshade Dark





FIELD MAPS (formally Collector for ArcGIS)



8:43

26%



ArcGIS® Field Maps

Sign in with ArcGIS Online

Sign in with ArcGIS Enterprise

Skip

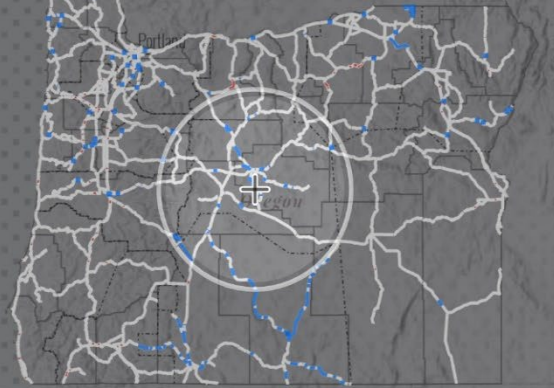


8:55

24%



GPS accuracy 13.9 ft



Notes Points

- Notes_Points

Notes Lines

- Notes_Lines



9:04

20%



GPS accuracy 10.8 ft

- Basemap
- Bookmarks
- Edit multiple
- Legend
- Measure
- Markup
- Share map



9:02 21%

Legend

Notes Lines

Crew Switch Points

Aggregate Sites

- Stockpile

Stormwater Management Facilities

- Under-Development
- Complete

RES RAZ

- Caution
- Restriction

SMA Boundary

Biology Mitigation

9:01 21%

Oregon City

Oregon City
975.6 mi

Address
Oregon City

Coordinates
45.341371°N 122.592809°W

- Collect here
- Directions
- Compass
- Add to my places

8:57 23%

GPS accuracy 9.3 ft

8:55 📶 24%

Layers

- Map layers
- Notes Points
- Notes Lines
- Crew Switch Points
- Aggregate Sites
- Stormwater Management Facilities
- RES RAZ
- SMA Boundary
- Biology Mitigation
- Wetland Mitigation
- Highway One Mile Markers
- Highway Hundredth Mile Markers
- Sensitive Species
- Maintenance Units

8:58 📶 23%

✕ Collect ✓

GPS accuracy 9.3 ft

Notes_Lines: ⋮

Length 0 ft

ADD POINT

TAKE PHOTO ATTACH

Notes

LRS

Hwy

BEGMP

8:56 📶 24%

← 📶 🔍 ⋮

GPS accuracy 12.3 ft

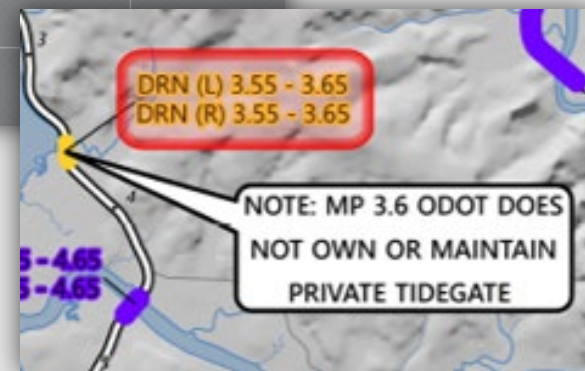
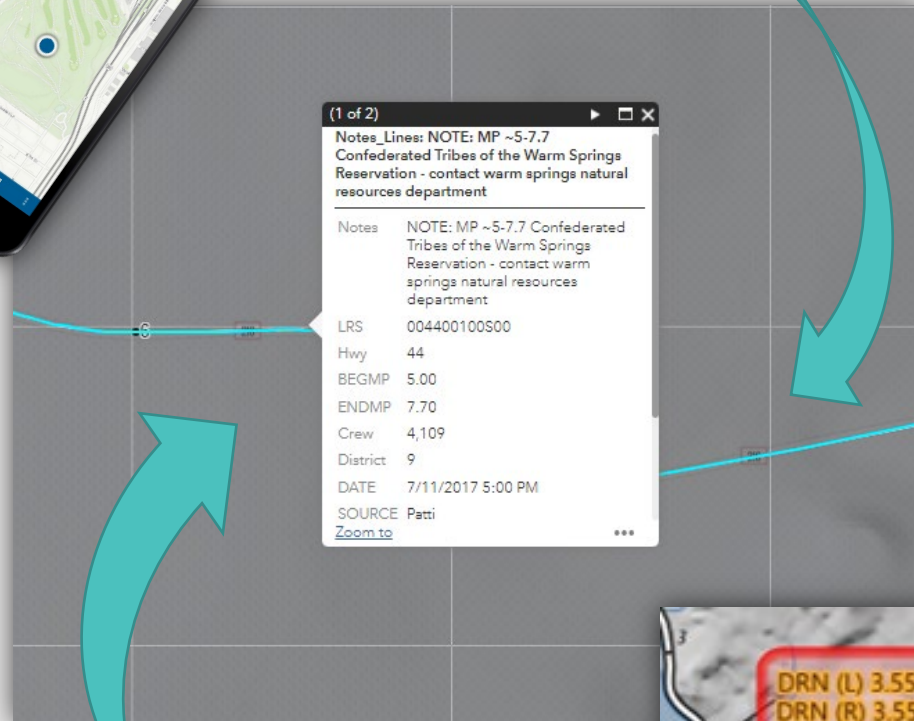
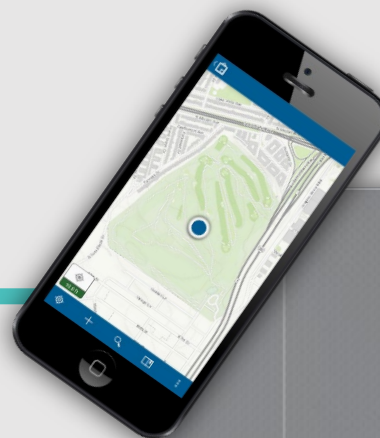
Notes_Lines: NOTE: MP 54... +

Length 7.6 mi 851.8 mi

Created by
kyle.marenger_ODOT • Apr 29, 2021

Notes
NOTE: MP 54.6-62.2 Golden Eagle - Contact REC for Work Jan 1 - July 31

LRS
001900100500



SECURITY

Oregon DOT RES/RAZ Maps

Group membership

Who can be in this group?

My organization's members only

Partnered collaboration and my organization's members only

Any organization's members

How can people join this group?

By invitation

Who can view this group?

Only group members









All organization members

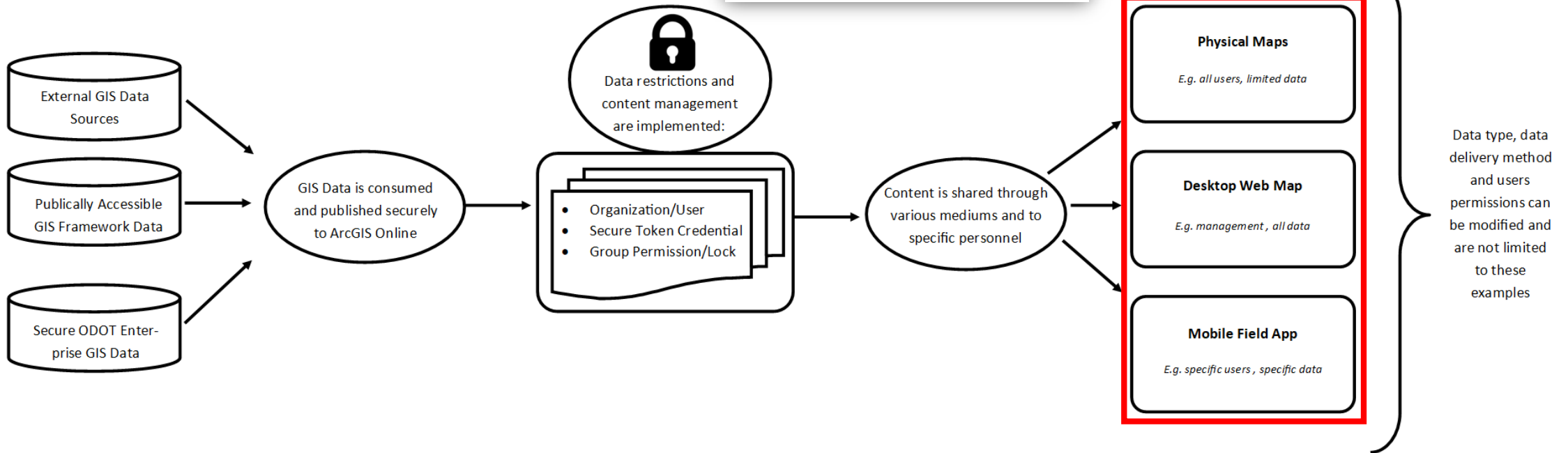
Everyone (public)

Who can contribute content?

All group members

Group owner and managers

<input type="checkbox"/>	 Cash Chesselet cash.chesselet_ODOT	Member	My Organization
<input type="checkbox"/>	 Brad Livingston Bradley.Livingston_ODOT	Member	My Organization
<input type="checkbox"/>	 Jennifer Lanzarotta jennifer.lanzarotta_ODOT	Member	My Organization
<input type="checkbox"/>	 Kyle Marenger kyle.marenger_ODOT	Owner	My Organization
<input type="checkbox"/>	 Jerry Vogt jerry.vogt_ODOT	Member	My Organization
<input type="checkbox"/>	 ODOT RES/RAZ ODOTRAZMaps	Member	My Organization
<input type="checkbox"/>	 Casey Ragain casey.ragain_ODOT	Group Manager	My Organization
<input type="checkbox"/>	 Phil Smith phil.smith_ODOT	Member	My Organization



TAKEAWAY

No major lessons learned to share just yet!

Field Maps is simple to setup and deploy*

Use separate projects for data publishing and carto

All 3 map products consume and display the same data

Update cycle for hard copy maps can now be done annually!

Offline maps may need special consideration



A worker in a red safety suit and hard hat is positioned on a blue aerial lift bucket, working on a steel bridge structure. The background is a dense forest of green trees. The entire image has a blue tint.

Thank You!

Questions?

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