

Introduction to WVDOT Enterprise GIS

Yueming Wu, Ph.D., PMP, GISP

Division Director

Information Technology Division

West Virginia Department of Transportation

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Agenda

- Introduction
- WVDOT Enterprise GIS
- Ongoing Major Projects
- Questions & Answers



Introduction

What is Enterprise GIS?

Enterprise GIS refers to a geographic information system that integrates geographic data across multiple departments and serves the whole organization. The basic idea of an enterprise GIS is to deal with departmental needs collectively instead of individually. Due to extensive interaction and work-flow between departments, many organizations have in recent years switched from independent, stand-alone GIS systems to more integrated approaches that share resources and applications.

https://en.wikipedia.org/wiki/Distributed_GIS

What is Enterprise GIS?

A component type of Distributed GIS

- One Central GIS System
- Related Components
 - Web GIS
 - Mobile GIS
- Various Consumers
 - Applications
 - Systems
 - Etc.



https://en.wikipedia.org/wiki/Distributed_GIS

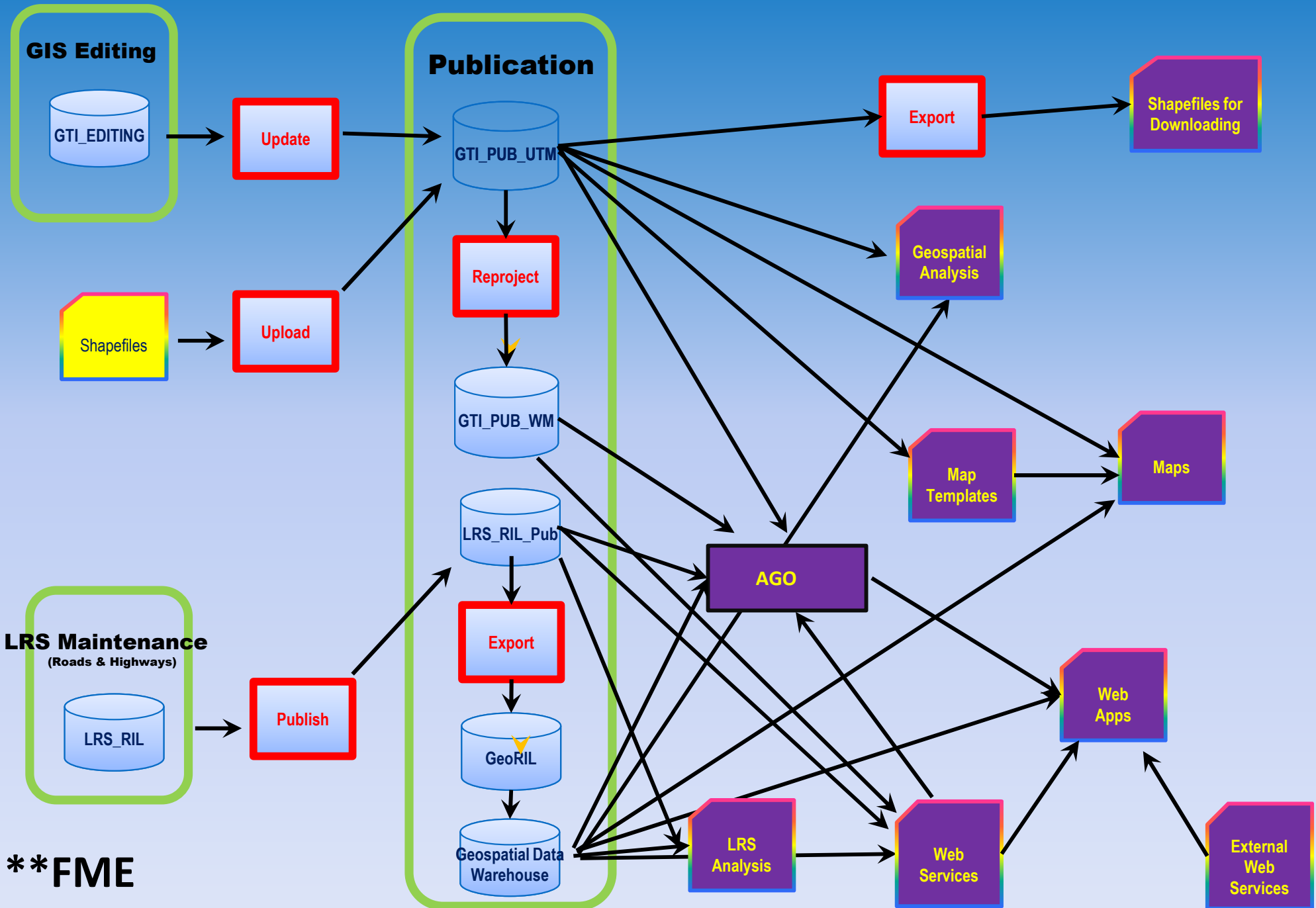
GIS at WVDOT

- Esri Shop
- GIS Program
 - Started in 2005
 - >15 Fulltime GIS Professionals
 - GIS Technicians at Districts
- Core Functions/Units
 - GIS (GIS Infrastructure & Analysis) Service
 - LRS (Linear Referencing System) Service
 - Mapping Service

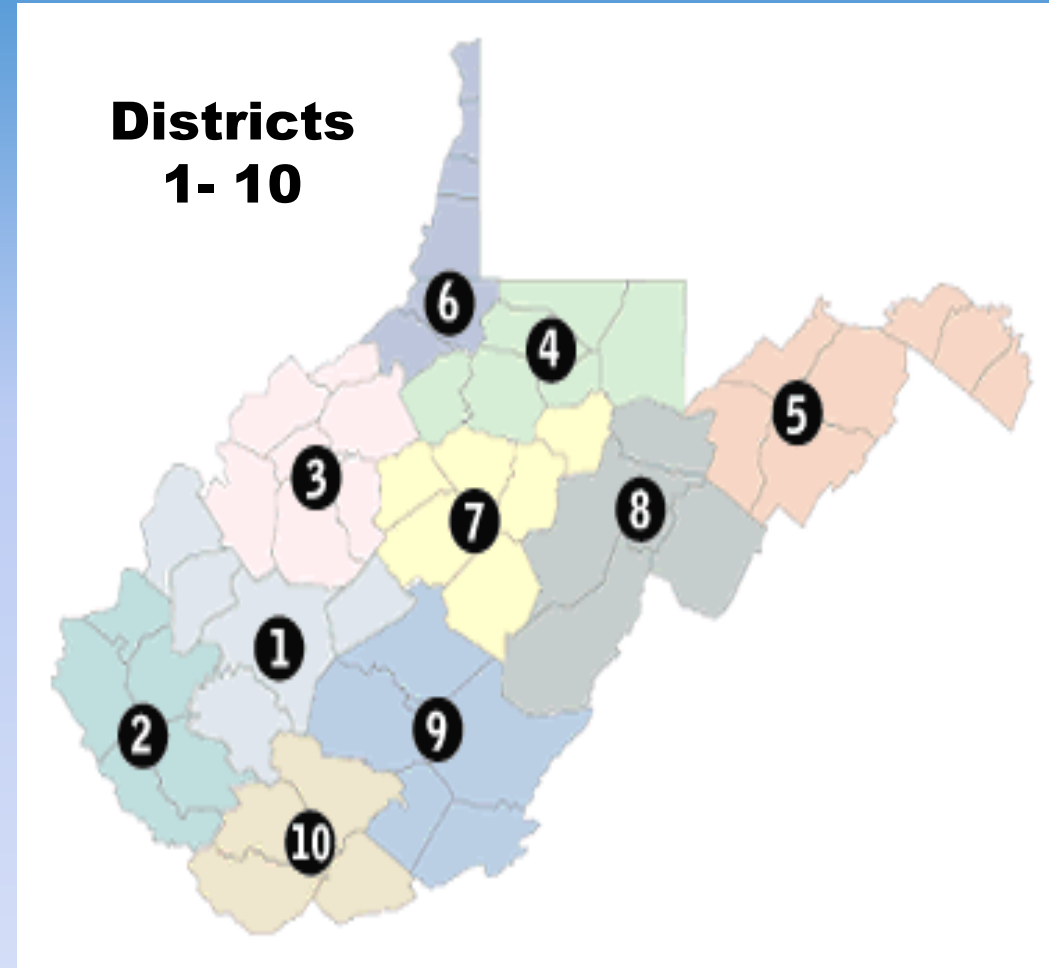
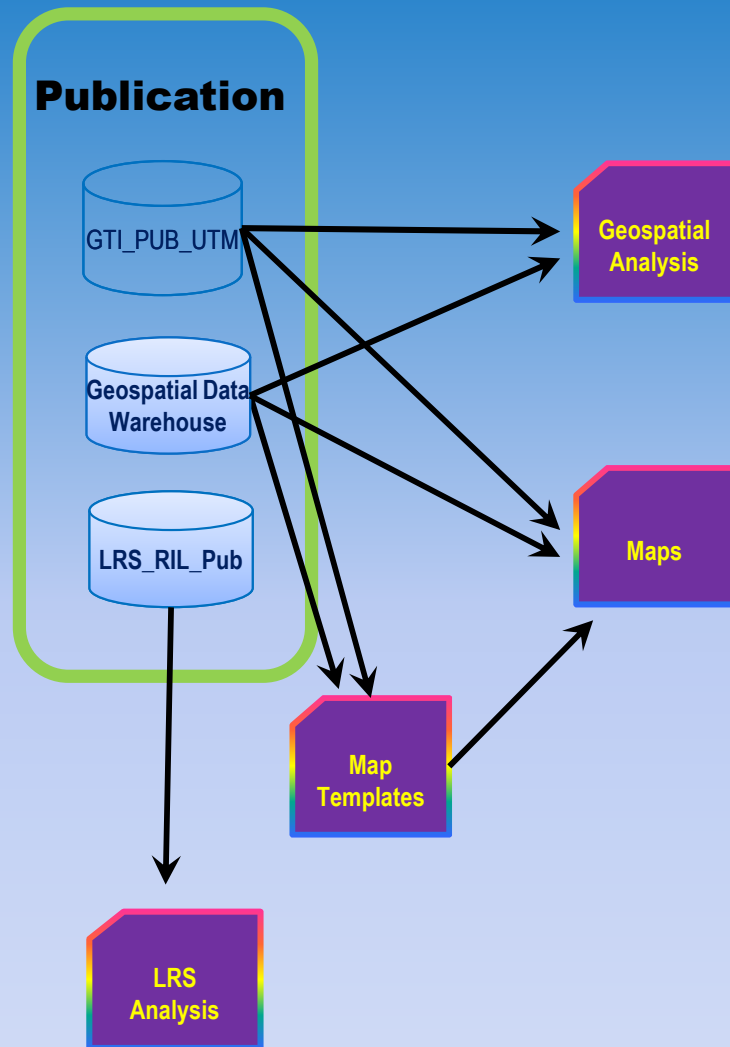


WV DOT Enterprise GIS

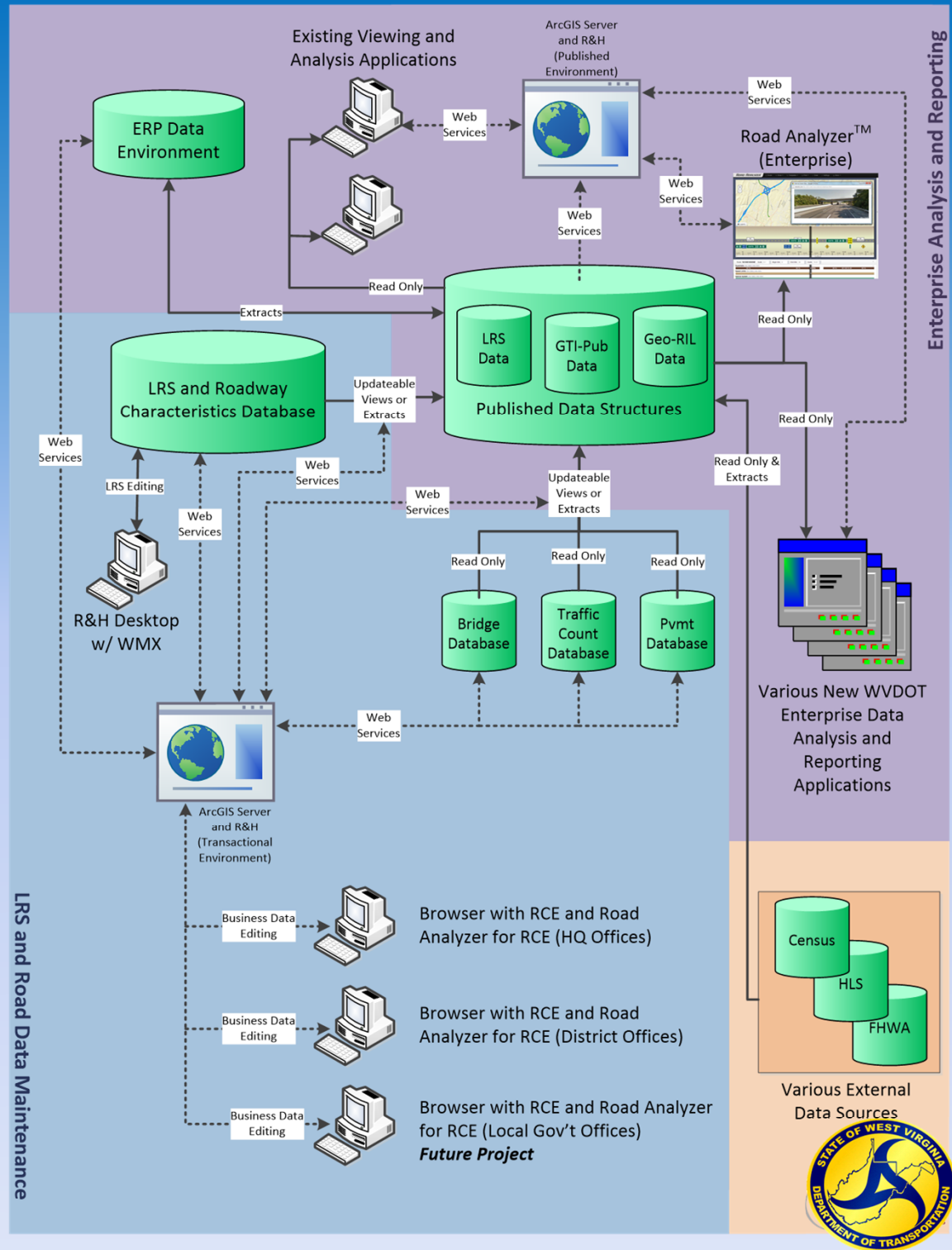
WVDOT Enterprise GIS Architecture



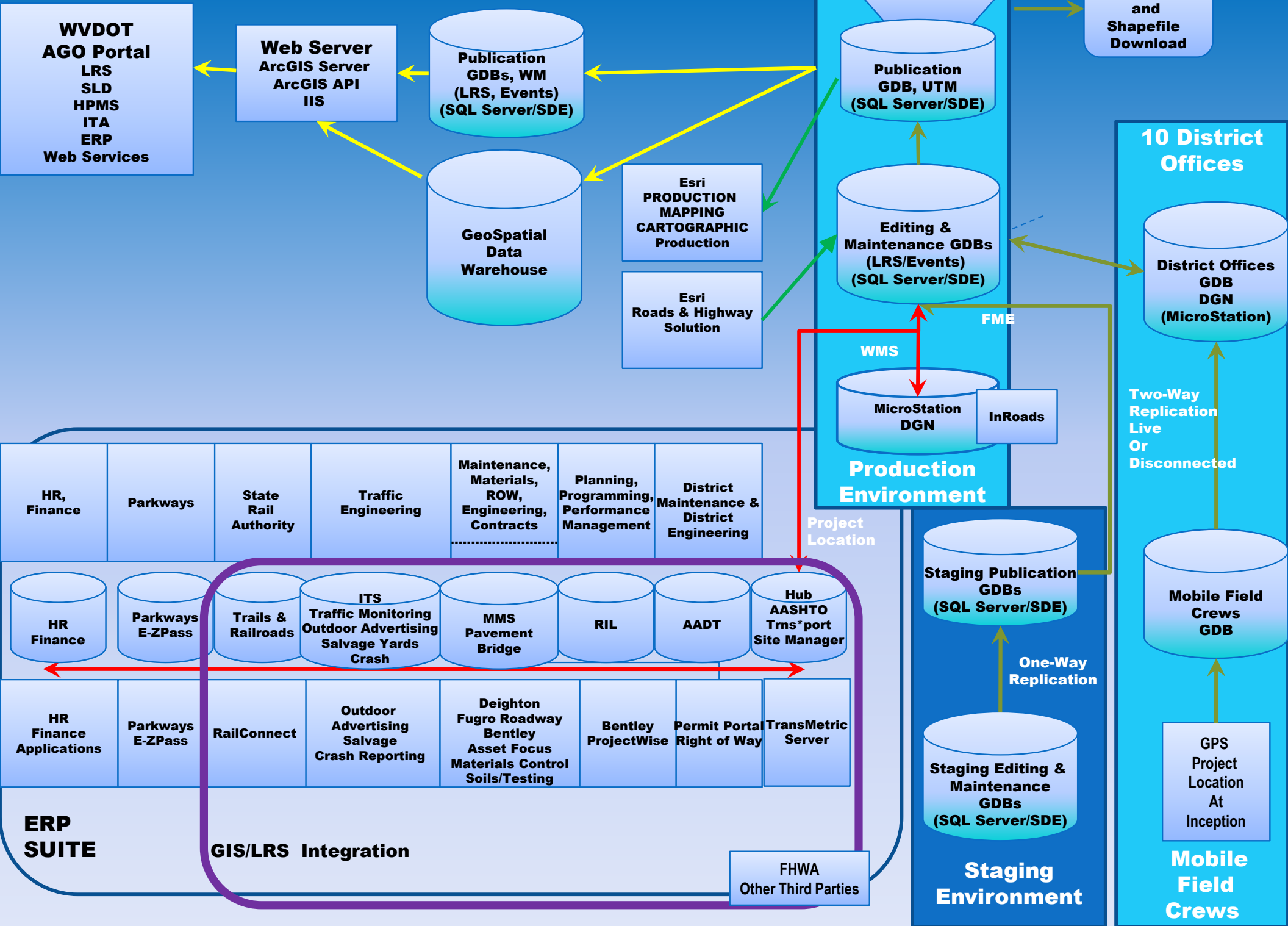
WVDOT District Enterprise GIS Architecture



- LRS Maintenance Environment
- LRS Publication Environment



WVDOT Enterprise GIS Conceptual Architecture (Vision)

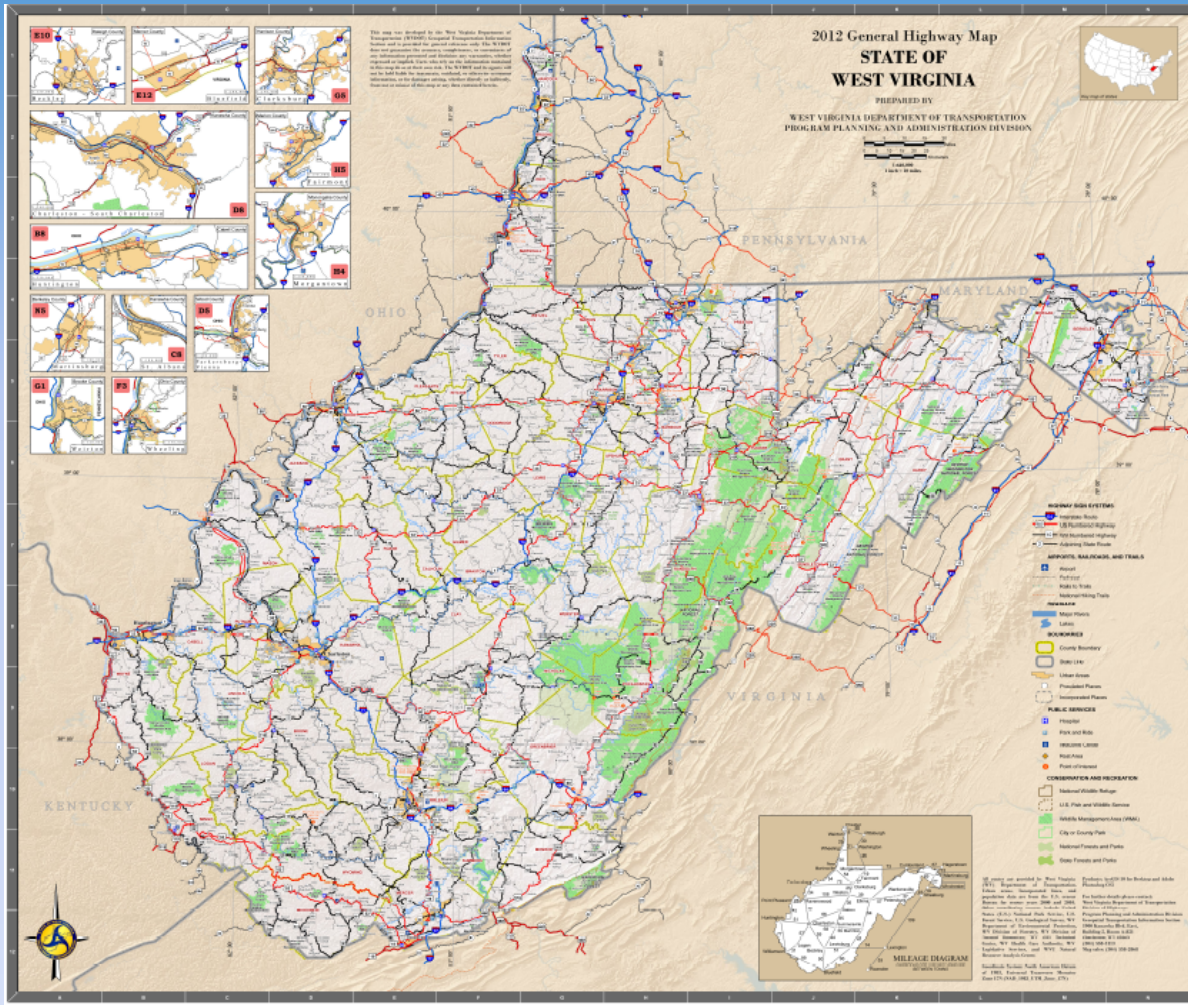


Application Examples



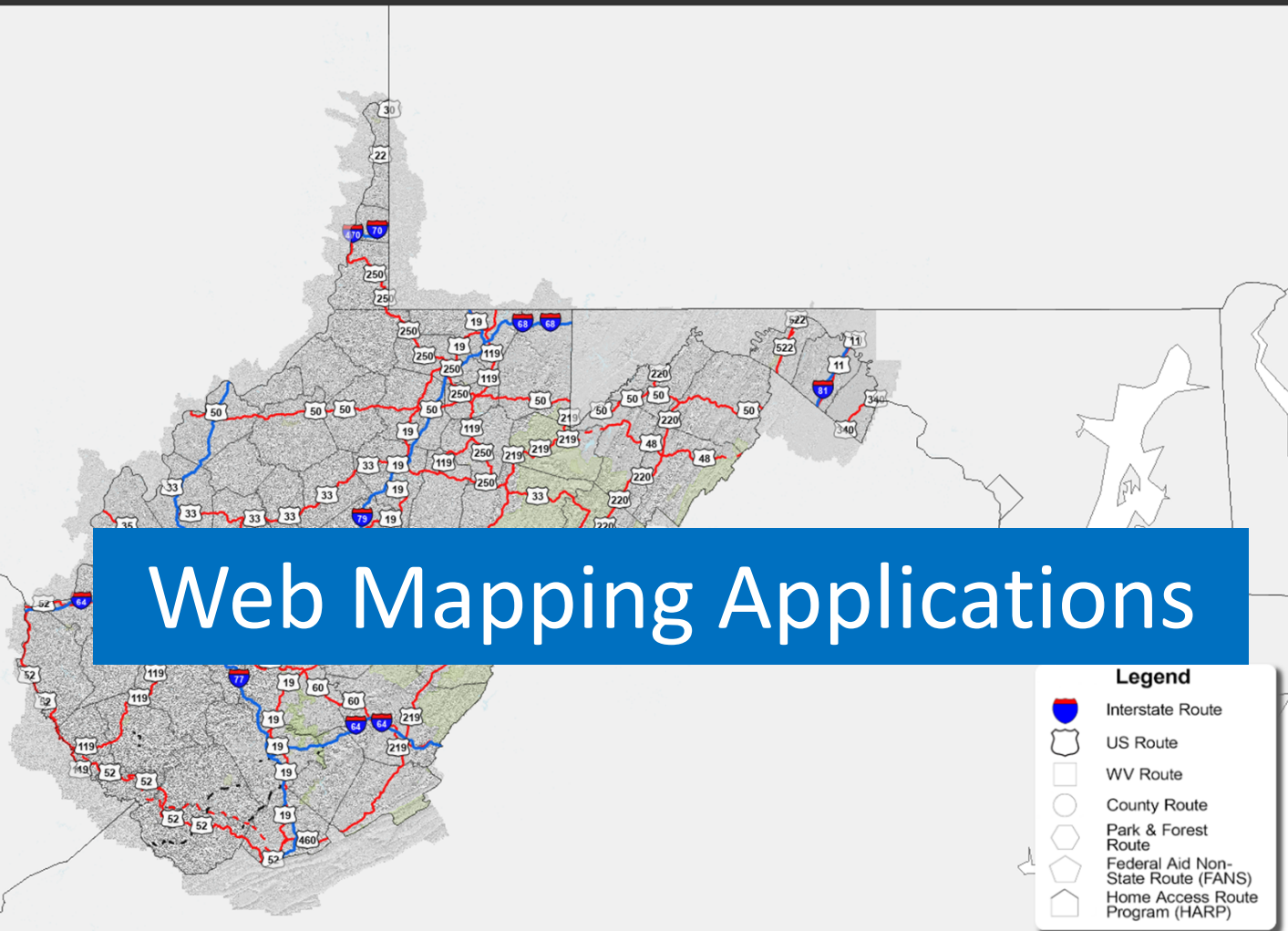
Geospatial/LRS Analysis

Mapping



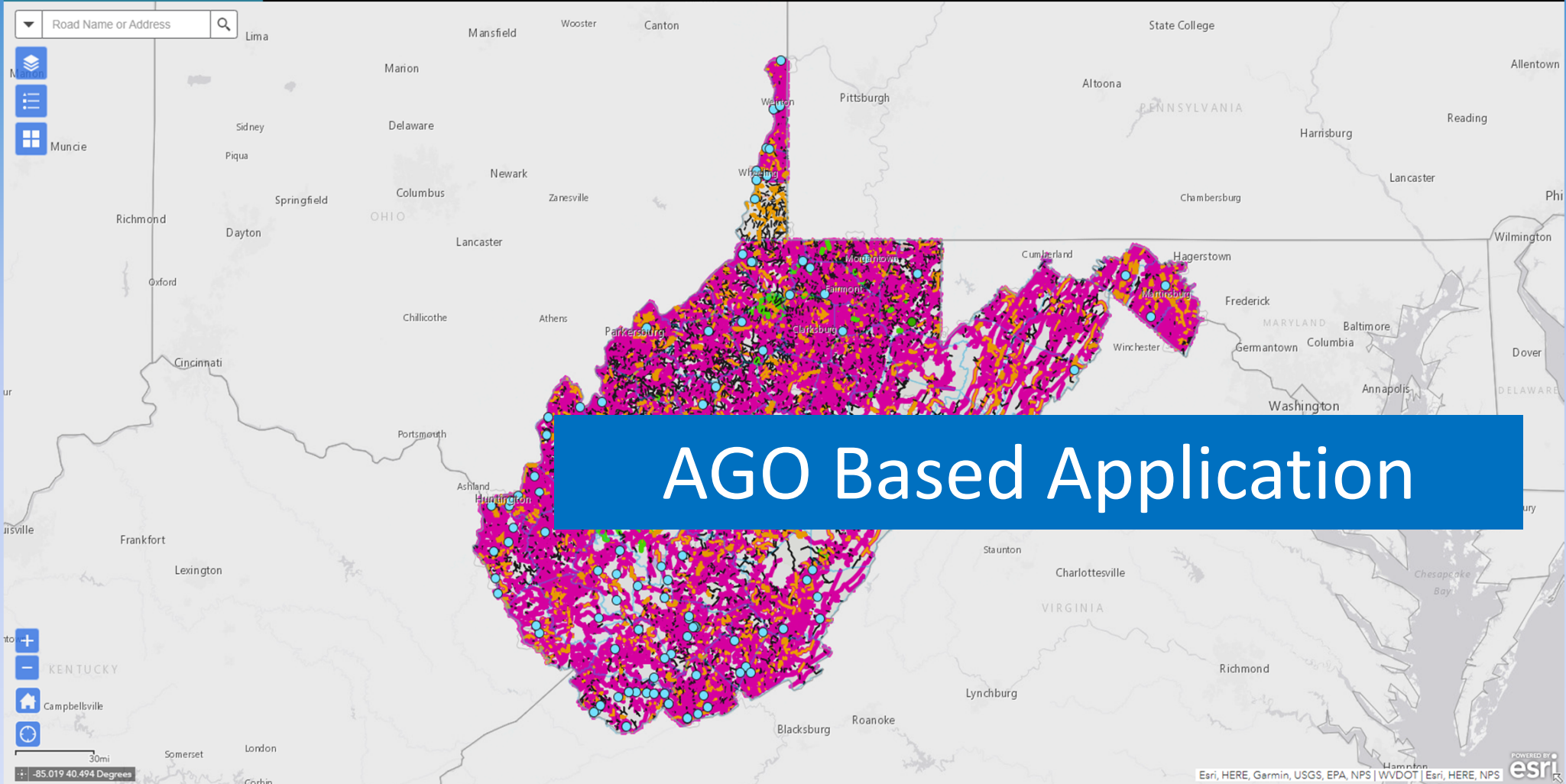
- Highway Maps

Find address or place 🔍



SEARCH

Road Name or Address



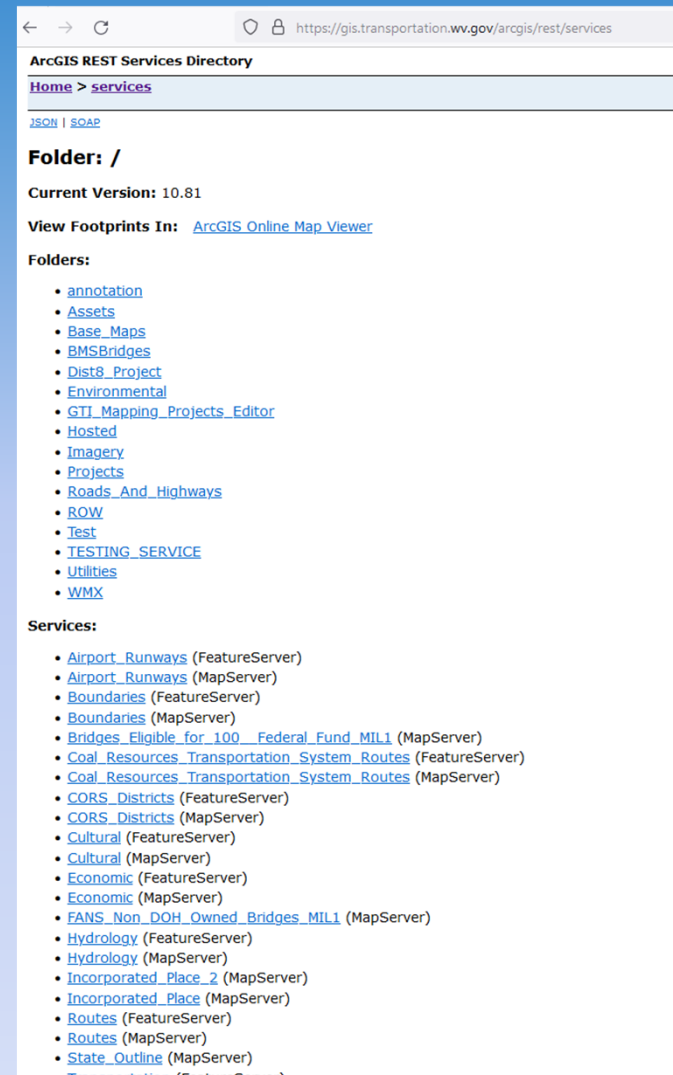
AGO Based Application

GIS Data Exchange

- REST Services


Becomes more important as we move to ArcGIS Pro and increased mobile collection.

ArcGIS Desktop enters mature support and will not receive updates.





West Virginia Department of Transportation Open Data Portal

 Search for Data

Welcome to the West Virginia Department of Transportation Open Data Portal. Our goal is to provide the necessary datasets, apps, and maps for an informed look at West Virginia's Transportation Network and Infrastructure. With it, let's make our transportation system even better!

Ongoing Major Projects

System Integration – Deighton dTIMS

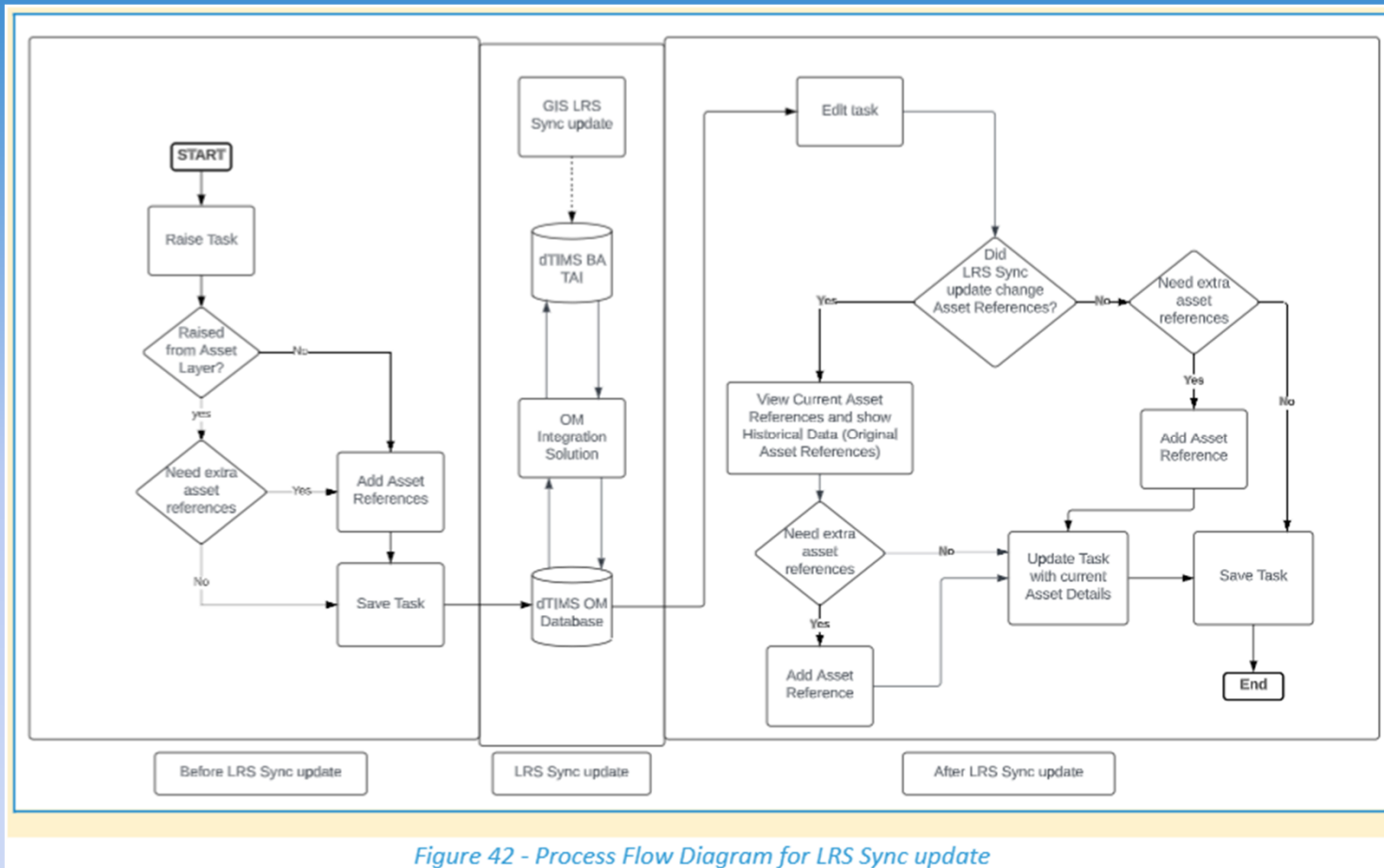
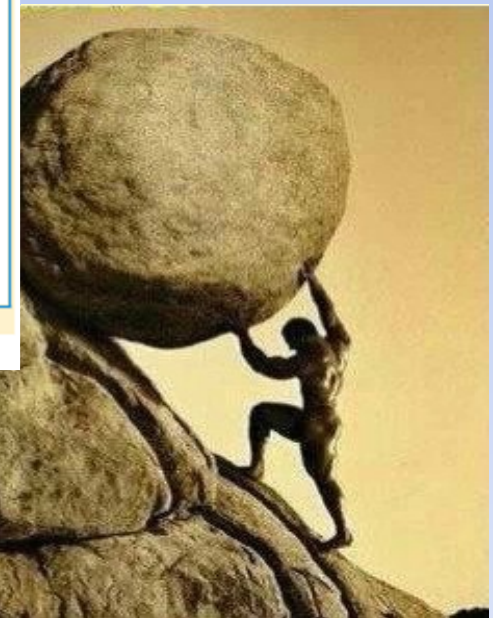
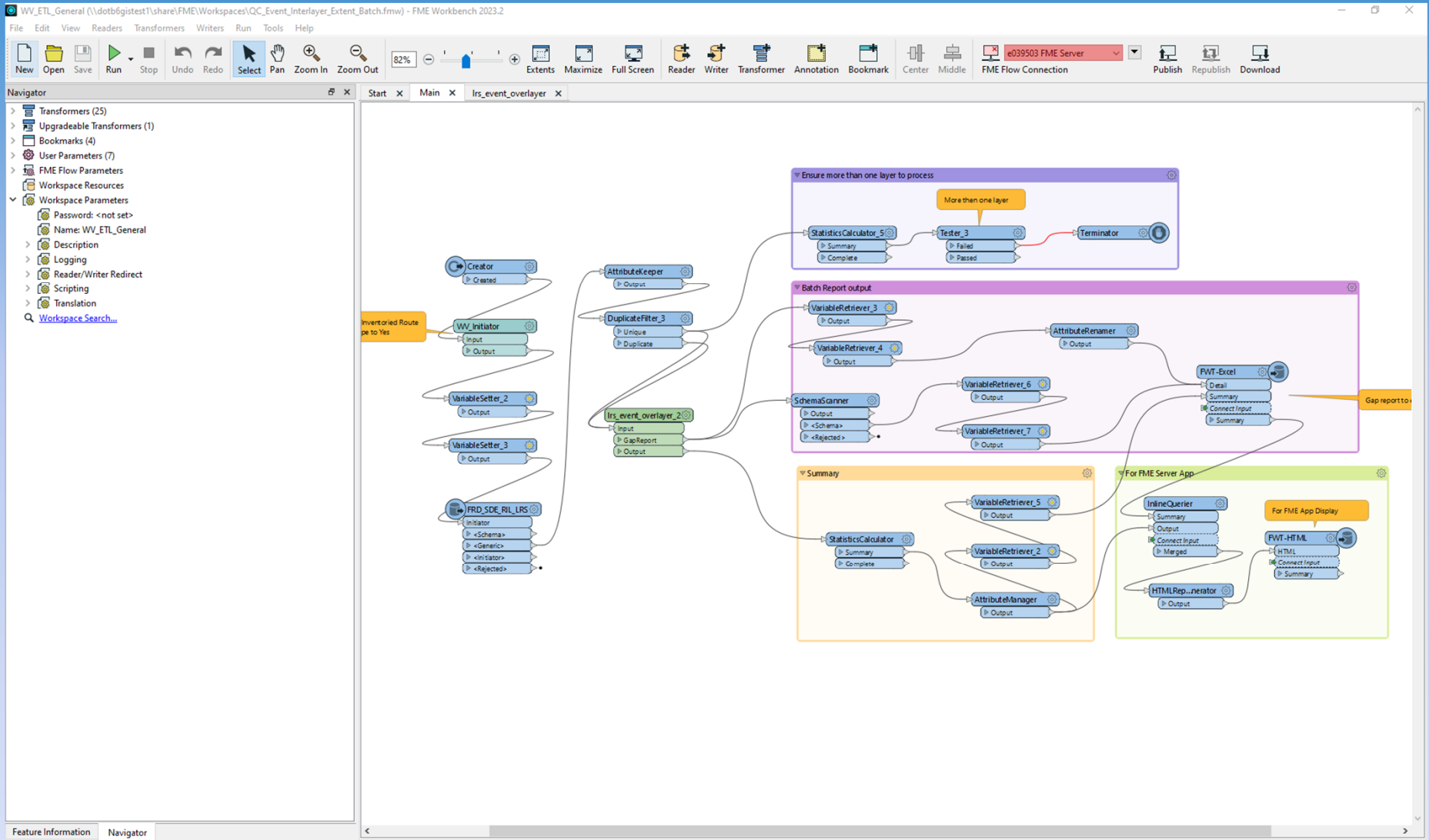


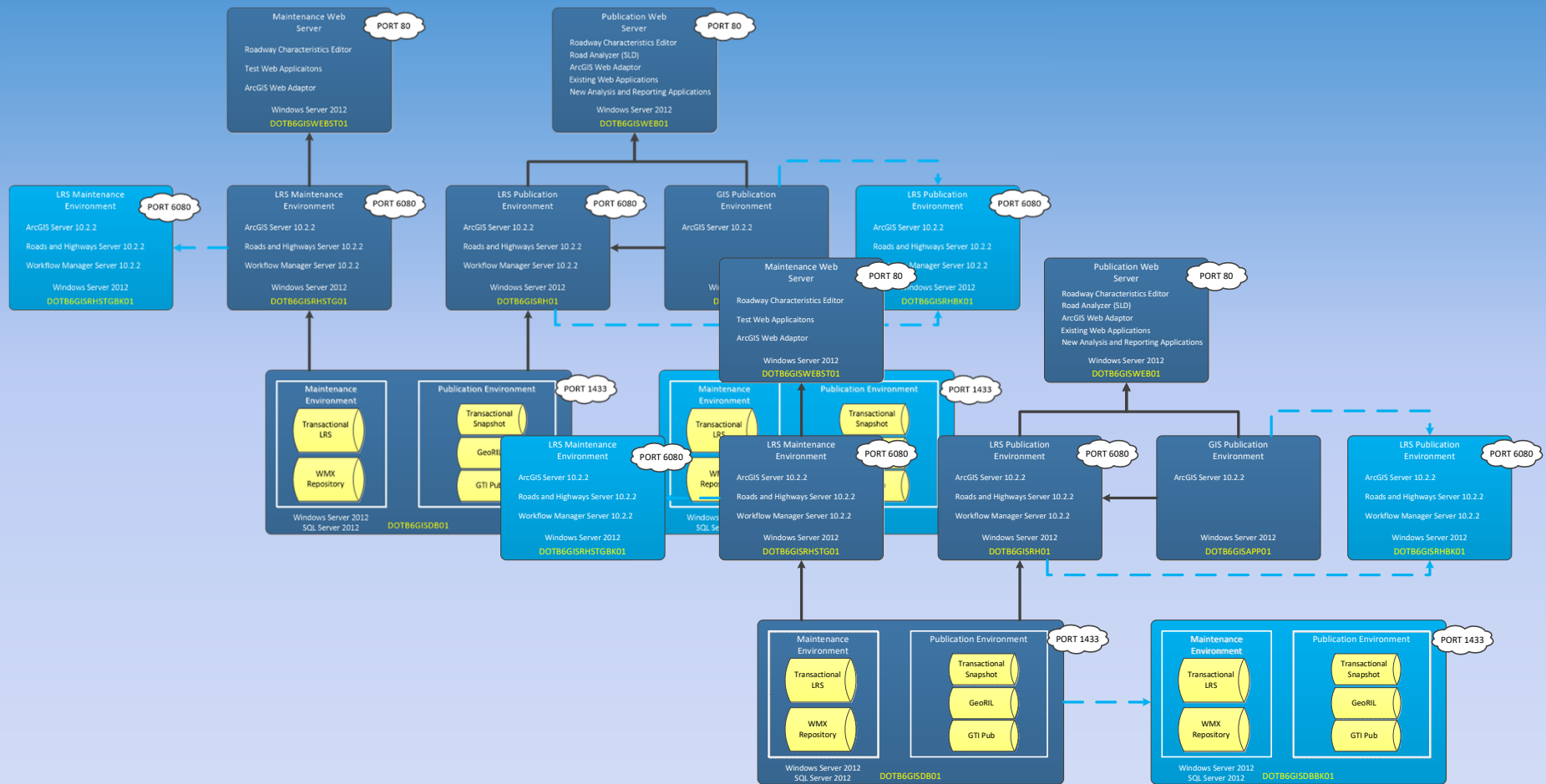
Figure 42 - Process Flow Diagram for LRS Sync update



Continued FME Adoption & Development



Server Migration



WVDOT GIS Physical Servers migration to Virtual Servers on WVOOT Datacenter 2.0

Roads & Highways Migration

HPMS1

Attribute	Value
HPMS_SAMPLE_NO	200130003000
WIDENING_POTENTIAL	0
WIDENING_OBSTACLE	D
D_TERRAIN_TYPE_ID	3 Mountainous Terrain

Route ID	From Measure	To Measure	HPMS_SAMPLE_NO	D_TERRAIN_TYPE_ID	WIDENING_OBSTACLE	WIDENING_POTENTIAL
234C013000300	0	0.77	200130003000	3 - Mountainous Terrain	D	0

Location: 408289.726618, 4252881.721211 Meters

Network	Routelid	Measure	Min	Max	F
County_Milepoint	40200600000EB	0.055	0	9.01	1

- County_Milepoint
- Interstate
- U.S.
- WV State Route
- County Route
- State Park and Forest Route
- Federal Aid Non State
- Harp Route
- Other
- Municipal Non-State
- Railroad
- Trail
- United State Forest Road





Questions & Answers

Yueming Wu, Ph.D., PMP, GISP

Division Director

Information Technology Division

WVDOT

(304) 414-6947

yueming.wu@wv.gov

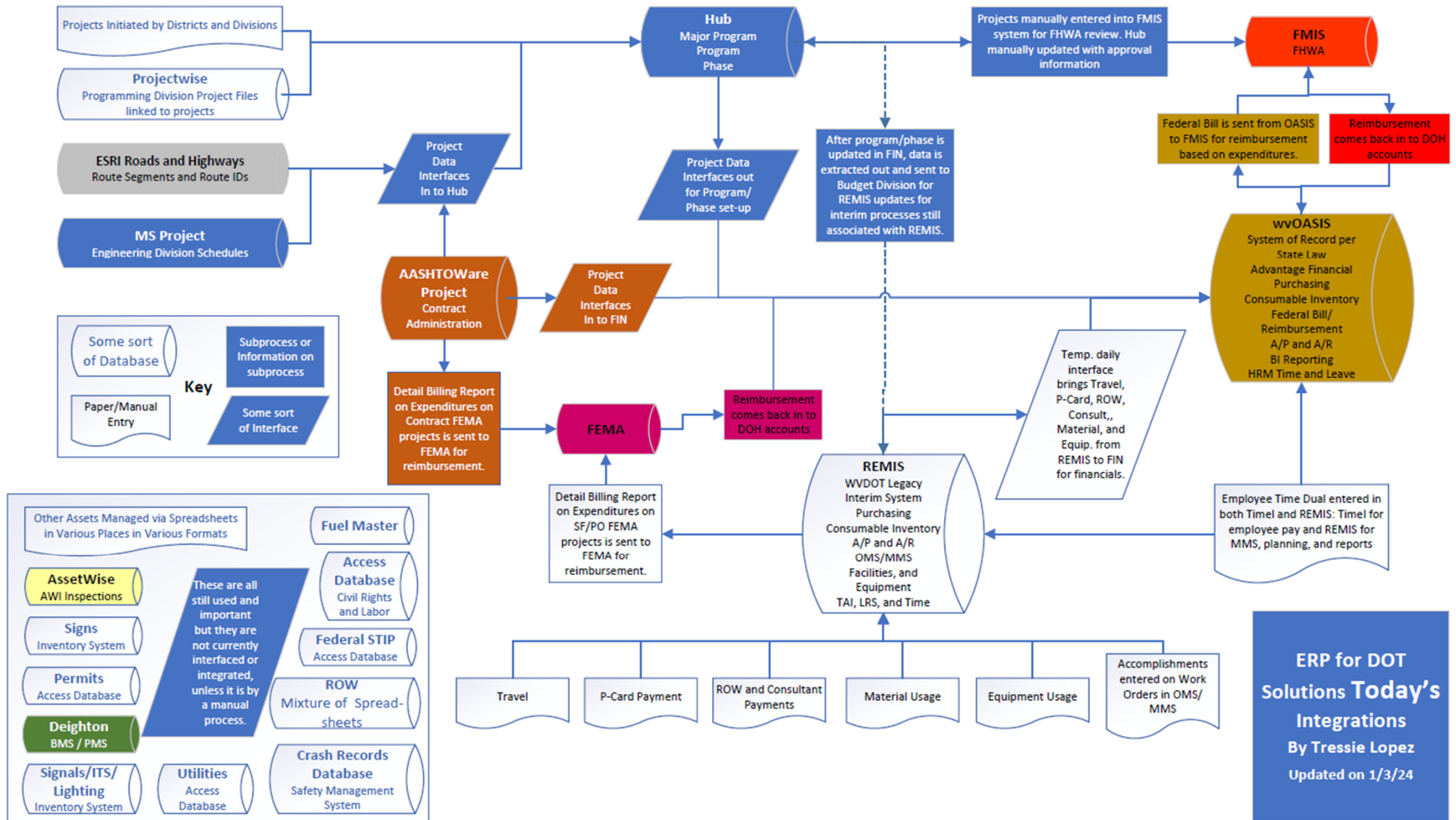


wvOASIS (ERP)

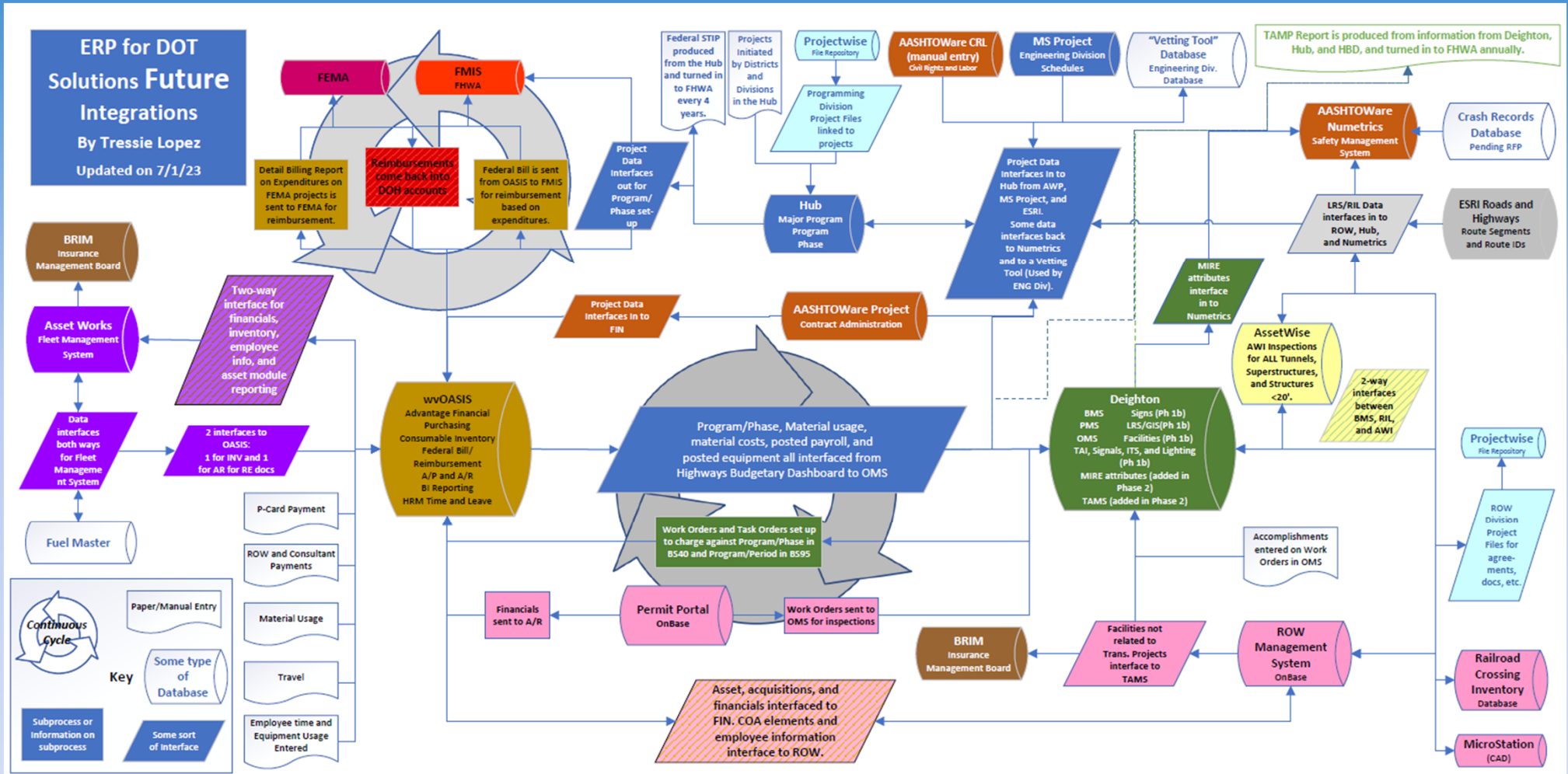
- Our Advanced Solution w/ Integrated Systems
- Goals
 - Replace multiple outdated, stand-alone system w/ one integrated ERP System
 - Standardize business processes & practices across the state
 - Facilitate timely access to information for daily business



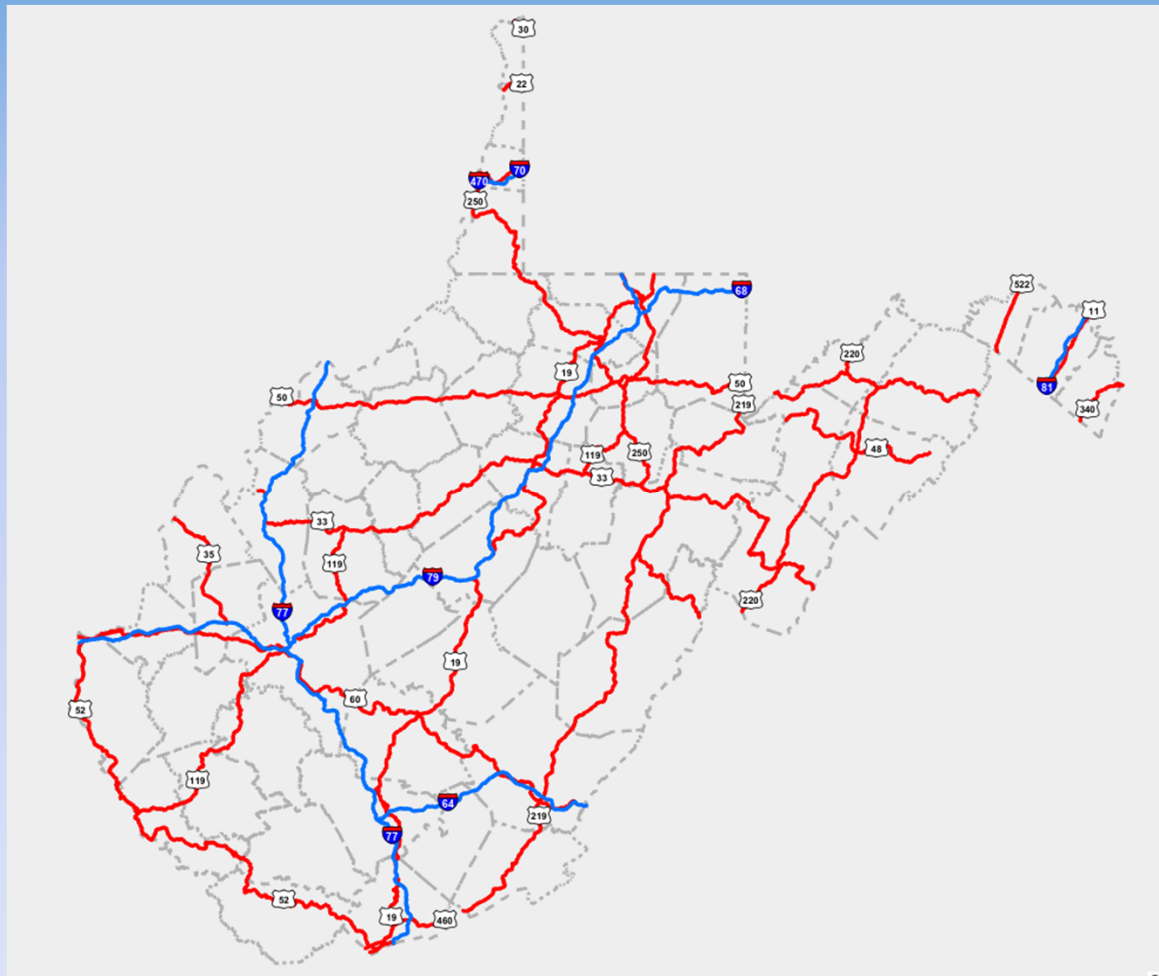
Today's ERP



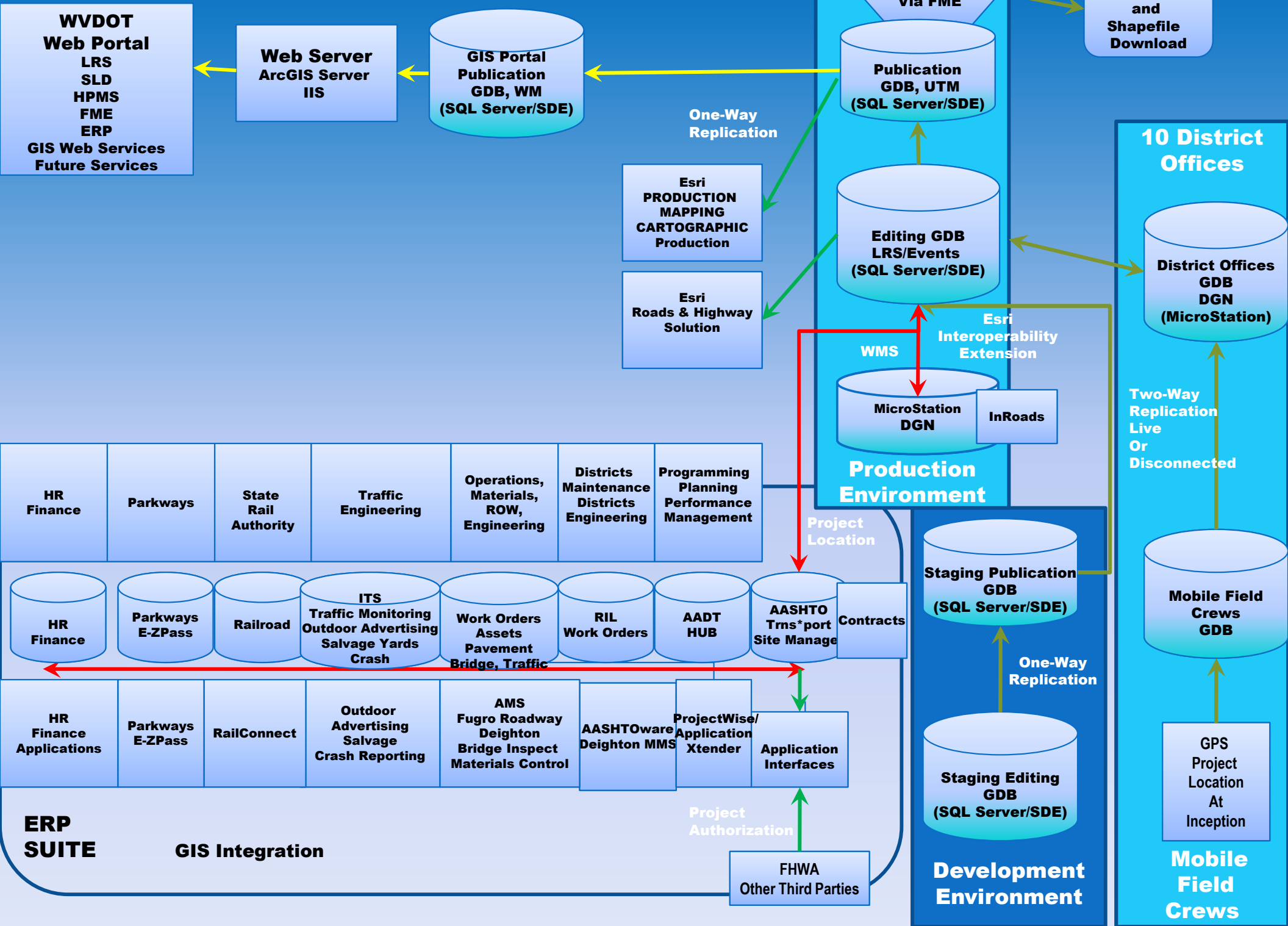
“Tomorrow’s” ERP



Enterprise LRS



WVDOT Enterprise GIS Conceptual Architecture (Vision)



Lessons

Lessons

- Know What to Do (Strategic/Business Plan)
- Leverage External Resources
- Adopt Proper Project Management Strategy
 - Prioritize Projects
- Be Adaptable

