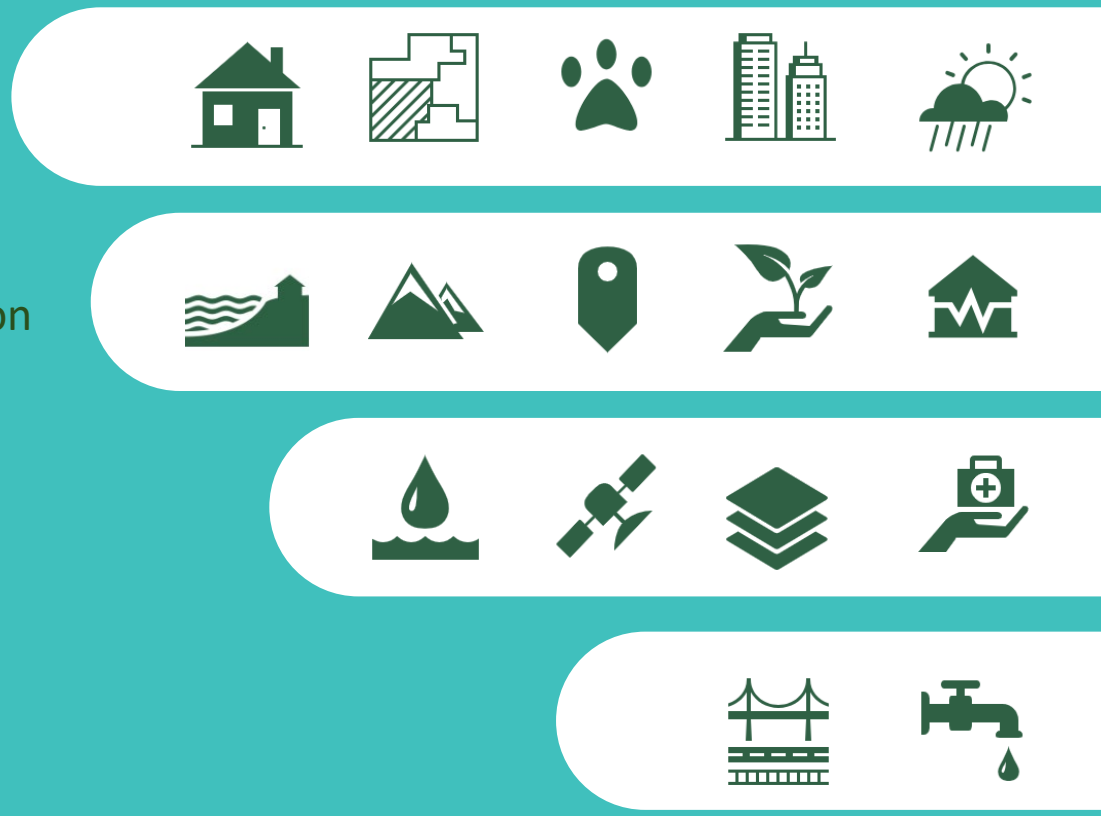
# Addresses & Buildings Framework Implementation Team

Tom Elder, FIT Lead

*April 25, 2024*

**Oregon Framework**

16 themes that form the foundation for an authoritative seamless statewide GIS



# Addresses and Buildings Theme

- New Theme to the Framework Program
- Formed from Two Related Major Framework Elements
  - Address Points
  - Building Footprints
- Both Need –
  - Standards
  - Statewide Public Datasets
    - Statewide Oregon Address geocoder


# Statewide Public Datasets

- A parcel can have multiple buildings
- A building can have multiple addresses
- An address can have multiple locations

# FIT At a Glance

- FIT Listserv – 24 members
- Held the first Meeting on 3/18/2024 with 20 attendees
  - Address Points
- Membership is always open to *anyone* who has an interest in address points or building footprints – State, Local, Private
- Two co-leads (to be voted on at the next meeting)
  - Tom Elder - Address Points
  - Matt Williams – Building Footprints
- FIT Hub page
  - Sign up for the listserv
  - Listen and view the meeting recordings and handouts
  - Become familiar with the address standards

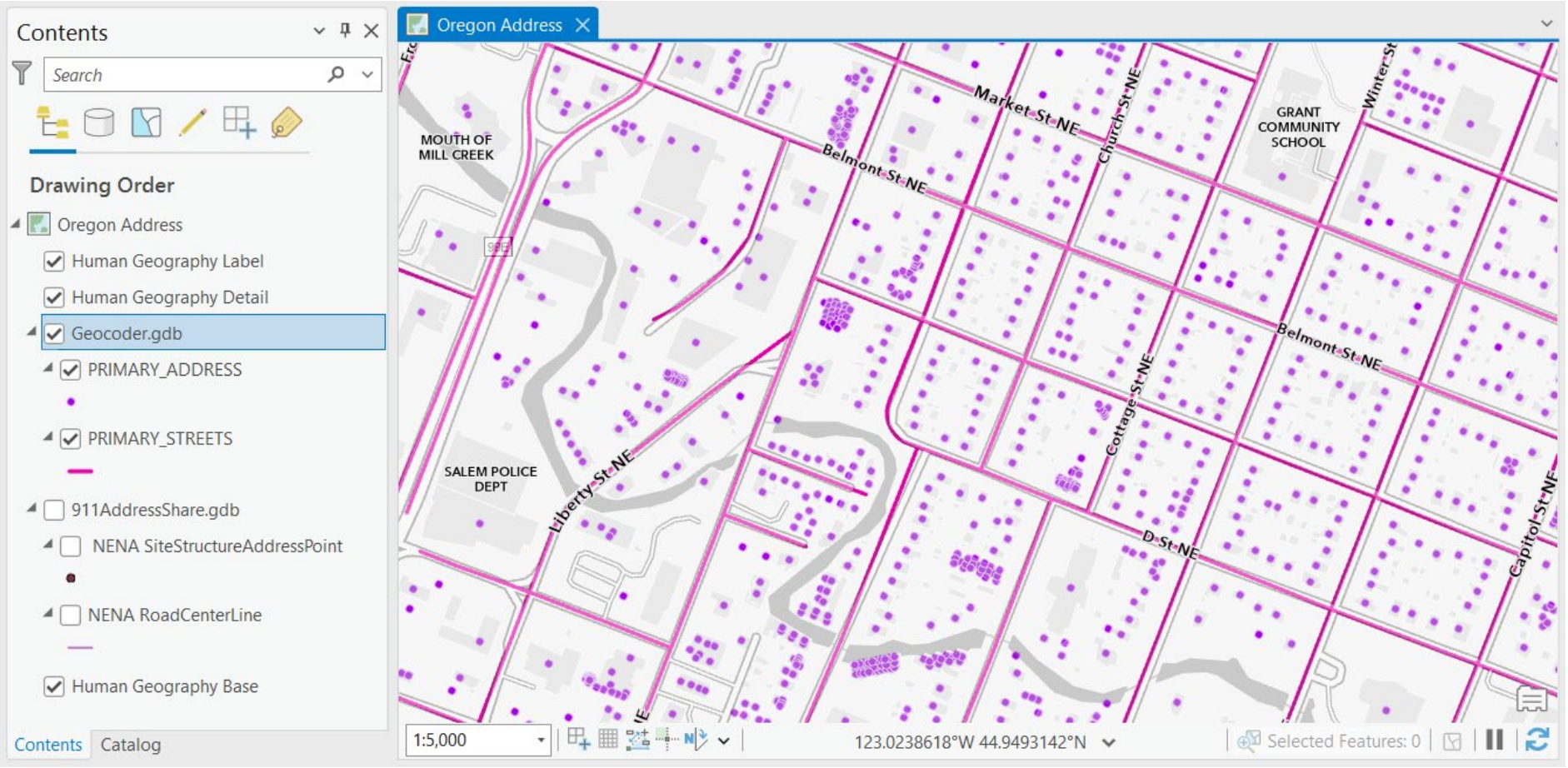
# GEOHub FIT Hub Page

https://geohub.oregon.gov – Framework Program heading

# So Far…

- OEM has removed previous restrictions for sharing 911 address points
- Over two million address points collected statewide
- Published and maintain the Oregon Address statewide geocoder service
- Statewide building footprints

# Oregon Address Locator




**April 2024**

Over Two Million Address Points

Over 288,000 Street Centerlines

Addresses and Buildings Theme

# What's Next

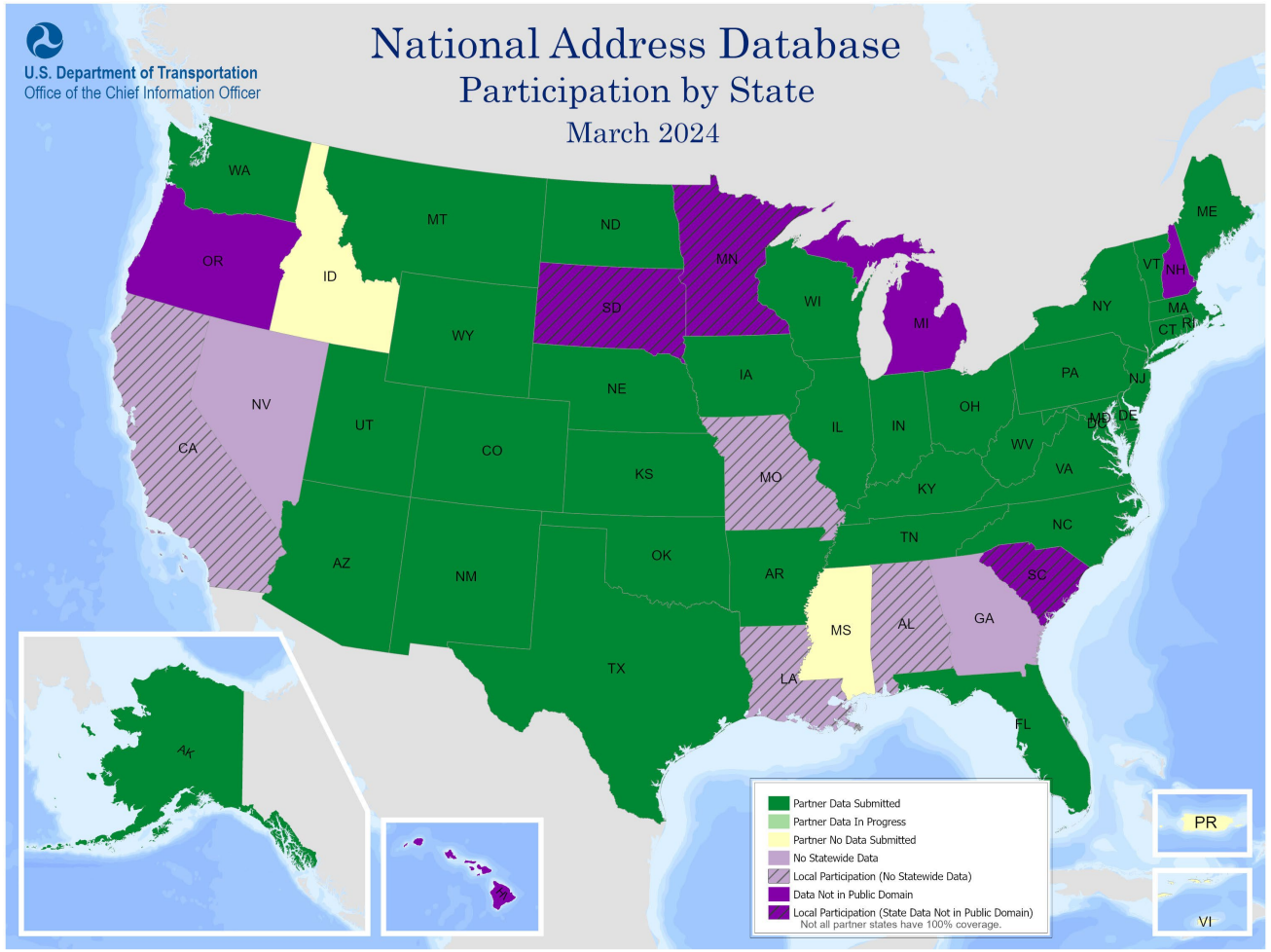
- Hold the second FIT meeting of the year
  - In May/June
  - Vote on co-leads
  - Building Footprints
- **Standards**
  - Workplans
  - Workgroups



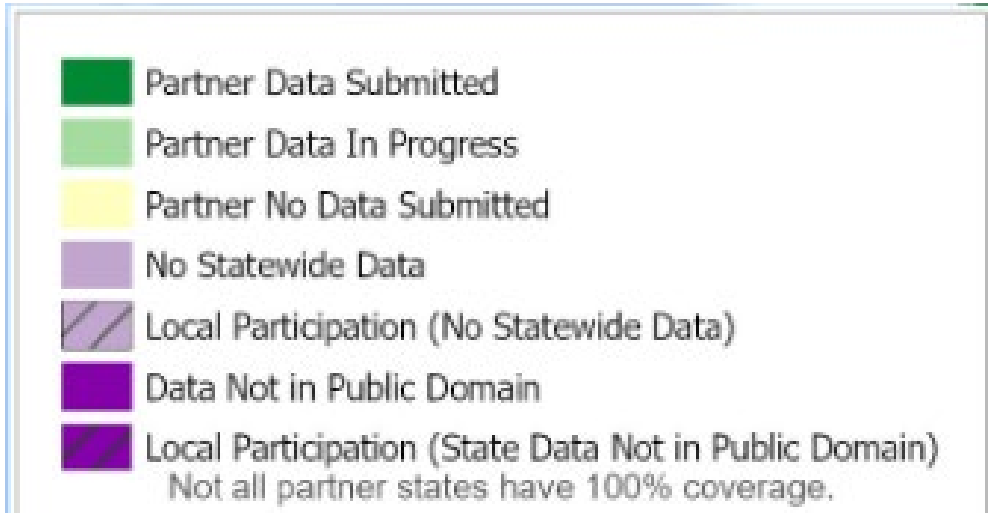
# Goals for 2024

- OGIC endorsed address standard
- Publish authoritative public address point datasets
- Contribute statewide address points to the National Address Database
- Building Footprints standard

# National Address Database (NAD)




**7** of 53 states/territories are <u>not</u> in the Public Domain including Oregon



# Partnerships & Collaborations

- Oregon Geographic Information Council
- Oregon Next Generation 911 Technical Advisory Committee
  - Adopt NENA Standard for all Public Safety Answering Points
- National
  - NSGIC National States Geographic Information Council
  - FGDC Address Subcommittee
  - National Address Database
- Other Related Framework Themes
  - Cadastral, Preparedness, Transportation, Administrative Boundaries



# Goals – Authoritative, Reliable, Convenient Data

- Complete Seamless Statewide Coverage
- Publicly Available – No Cost
- Sustainable Maintenance
- Accurate – Address and Location
- Flexible Design – Multi-Purpose
  - Offer Many Products  Basic, Enhanced, Specialized
  - In  Many Formats  NENA, NAD, USPS, Census, others or custom
  - For  Many Uses



# Many Uses

- Census
- Elections & Voting
- Public Safety & Emergency Management
- Housing
- Broadband
- Outreach & Mailing
- Public Health
- Many others



# Four Major National Address Standards

- **FGDC** Federal Geographic Data Committee
- **NENA** National Emergency Number Association
- **NAD** National Address Database

FGDC, NENA, NAD
Are related and have
a similar format

- **USPS** US Postal Service

- Links for each standard are on the GEOHub Addresses and Buildings Framework page.



# FGDC Standard

- National
- Oldest (2011)
  - OGIC Endorsed in 2014
- Covers *Several* Address Classes
  - **Numbered Thoroughfare** (123 E Main St Unit 4)
  - Intersection
  - Unnumbered Thoroughfare
  - Landmark
  - Address Ranges
  - Postal Delivery, PO Boxes, Rural Route Boxes
- Any spatial standard – Specify the Spatial Reference
  - Also latitude and longitude
- Formats the Street Number, Street Name, City into separate elements



# FGDC Standard

- Formats the Street Number into separate Elements
  - Address Number Prefix
  - Address Number
  - Address Number Suffix

- Formats The Street Name into separate elements
  - Street Name Pre Modifier
  - Street Name Pre Direction
  - Street Name Pre Type
  - Street Name Pre Separator
  - Street Name
  - Street Name Post Type
  - Street Name Post Direction
  - Street Name Post Modifier

- City/Jurisdictions stored in separate elements
  - Incorporated Municipality
  - Unincorporated
  - Neighborhood
  - Postal
  - MSAG – Master Street Address Guide



# FGDC Standard

- Pros
  - Most Comprehensive
  - Already OGIC Endorsed (2014)
- Cons
  - Most Abstract, Most Complicated, Most Difficult to Implement



# NENA Standard

- National, International
- Based on FGDC
- Covers Two Address Classes
  - Site Structure Address Points
  - Landmark
- WGS84 (4326) latitude and longitude spatial standard
- Formats the Street Numbers and Names the same way as FGDC

# NENA Standard

- Pros
  - Current used for most NG911 input address datasets for Oregon
  - Used by at least 13 other states
  - Less Abstract, Less Complicated, Easier to Implement than FGDC
- Cons
  - Specialized for 911 public safety answering points
  - Unit not required nor conditionally required



# NAD Standard

- National
- Based on NENA
- Two Address Point Classes
  - Numbered Thoroughfare
  - Landmark
- WGS84 (4326) spatial standard
- Formats the Street Numbers and Names the same way as FGDC

# NAD Standard

- Pros
  - Broader applicability, Less specialized than NENA
  - Format needed to contribute Oregon addresses to the NAD
  - Less Abstract, Less Complicated, Easier to Implement than FGDC
- Cons
  - Only used by one other state and the NAD

# USPS Standard

- National
- *Not* Based on FGDC, NENA, or NAD
- Single Address Class
  - Authoritative source for ZIP Code, ZIP+4 add-on
- Full Street Name (not parsed)
  - Full Street Number (not parsed)
  - Abbreviations for pre/post direction, street type
  - Separate Unit Type, Unit Number
  - Single City Field - Based on preferred city name assigned to the ZIP Code



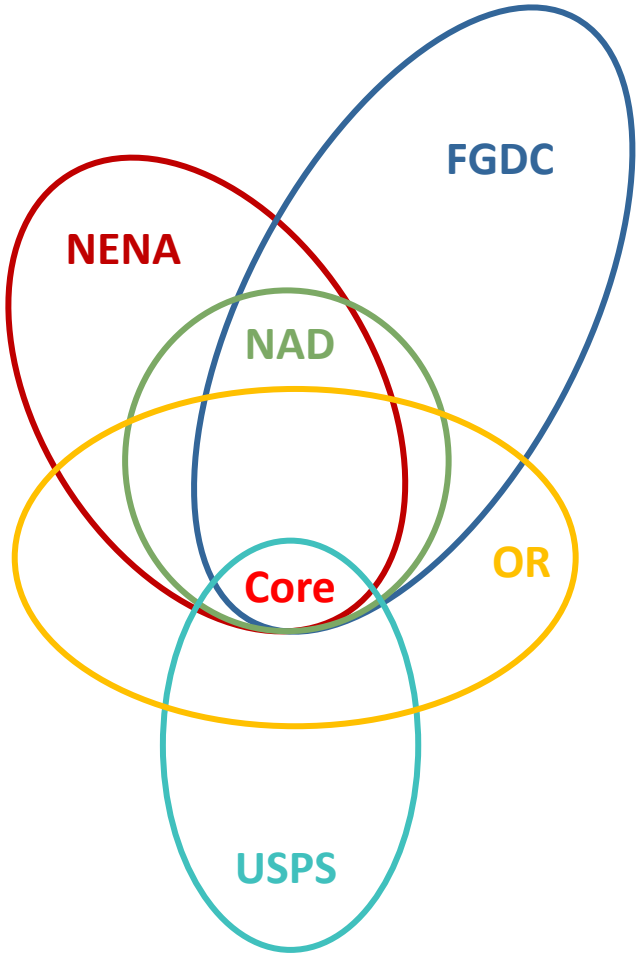
# USPS Standard

- Pros
  - Most Familiar, Simple to Implement
  - Well established, Most widespread use
  - Source – Local Address Authorities
  - Validate with known authoritative source data (CASS)
- Cons
  - Attributes only, not a spatial standard
  - Not every address receives mail



# Custom Standard

- Combination of all four major standards
  - 60% match
    - 40% match on three fields
    - 20% match on two fields
- Most states still use custom formats
- Most flexible to accommodate many
  - Input formats
  - Output formats



# In General, Oregon Addresses Are…

- Vast majority are not complicated and are very typical
- Do not need a complicated standard
- Very few variant street naming exceptions
  - Very few foreign names – Only 54 have Spanish, Italian, French spellings
  - Very few parsed street name elements (FGDC, NENA, NAD)
    - Only 0.8% of all street names (0.4% are “Highway ##”)
- Do not need to accommodate every national regional variation



# Address Standards – Consider All Options

- Keep current OGIC-Endorsed FGDC standard
- Select another standard
  - Many states use NENA or custom, a few use others
  - Possibly with additional fields
- Select elements from multiple standards
- Combine elements from all standards
- Create a completely new and unique Oregon standard
- Other options??

# Address Standards - Priorities

- Compare Major Standards
- Identify the priorities for the address elements in each standard

| | | |
|---|---|---|
| 1. | Core | *Most* important or mandatory minimum fields, must be *supplied*<br>*Street Number, Street Name, Unit Number, City, X, Y* |
| 2. | Important | Recommended, can be derived from core |
| 3. | Useful | Optional or nice to have, can be derived from core or location |
| 4. | Not important nor relevant | |

- Add any other necessary fields



# Schedule - 2024

- FIT Meetings – TBD *Minimum* of twice a year
- Workgroup Meetings - TBD
- Framework Forums – Spring (4/25) and Fall
- OGIC Meetings - Quarterly

# *Thank You!*

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Framework data is available at:

geohub.oregon.gov