# Building a National Address Database

**Presented by**

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# Topics

❖ Building the NAD

❖ FGDC Address Theme

# Building the NAD

# First Step:  The National Address Database Summit

❖ Held April 8-9, 2015 at the Maritime Institute in Linthicum, MD

❖ Funded by DOT/Bureau of Transportation Statistics

❖ Objective:  To identify and discuss possible options for developing a National Address Database (NAD)

❖ Broad stakeholder representation
  ❖ Government (Federal, State, Local, and Tribal)
  ❖ Private Sector
  ❖ Non-Profits and Trade Organizations

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# How the NAD Would Work
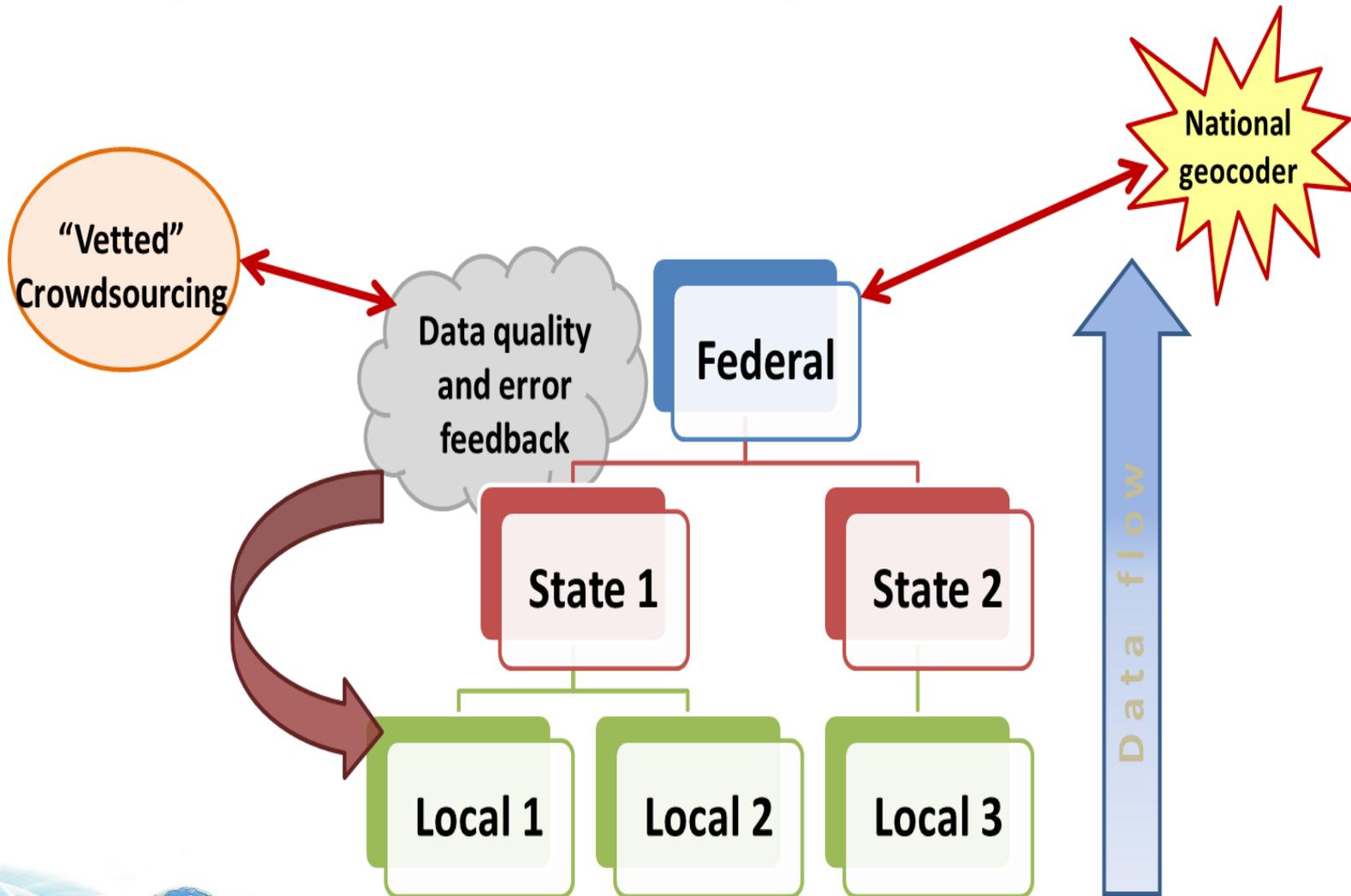
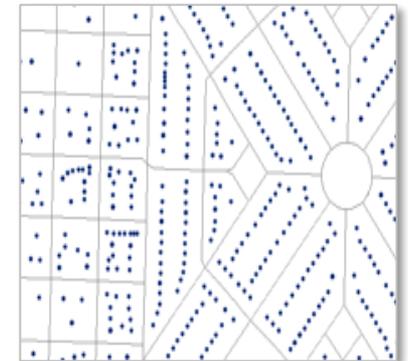# Pilot Launch October 2015

❖ DOT Funded

❖ Included State and Local Partners
- Arizona
- Arkansas
- Boone County, Missouri
- Jackson County, Arkansas ("have not" partner)

❖ Goals
- Identify the "haves" and the "have nots"
- Explore workflows and understand best practices for address roll-up
- Compare Data Schemas
- Develop minimum content guideline and associated data schema
- Explore geocoding options for "have nots"



| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | Name | Address | Address2 | City | State | Zip |
| 2 | John Doe | 123 Anystreet | | Anycity | MN | 12345 |
| 3 | Betty Johnson | 456 That Road | #108 | Sometown | KY | 67890 |
| 4 | Tom Anderson | 789 Broad Street | | Dullsville | CA | 23456 |
| 5 | Sally Stevens | 1011 Main Street | Unit 3 | Pleasantville | NY | 17890 |
| 6 | Richard Townsend | 1213 Mulholand Drive | | Anywhere | WA | 34567 |
| 7 | Maria Sanchez | 1415 Circle Road | Apt. 2 | Sometown | NV | 28901 |
| 8 | Antoine Dodson | 1617 Oregon Trail | | Nowhere | FL | 45678 |
| 9 | Jane Doe | 456 Anystreet | Unit 7 | Anycity | MN | 12345 |
| 10 | Bart Johnson | 123 That Road | | Sometown | KY | 67890 |

# NAD Minimum Content Guidelines

## The Address Itself

- Address Number
- Street Name
- Subaddress
- City/Town/Place
- County
- State
- Zip

## Geographic Location of the Address

- Lat/Long
- National Grid Coordinates

## Metadata About the Address

- Address authority
- Address source
- Address date
- Unique ID
- Type
  (residential, commercial, etc.)
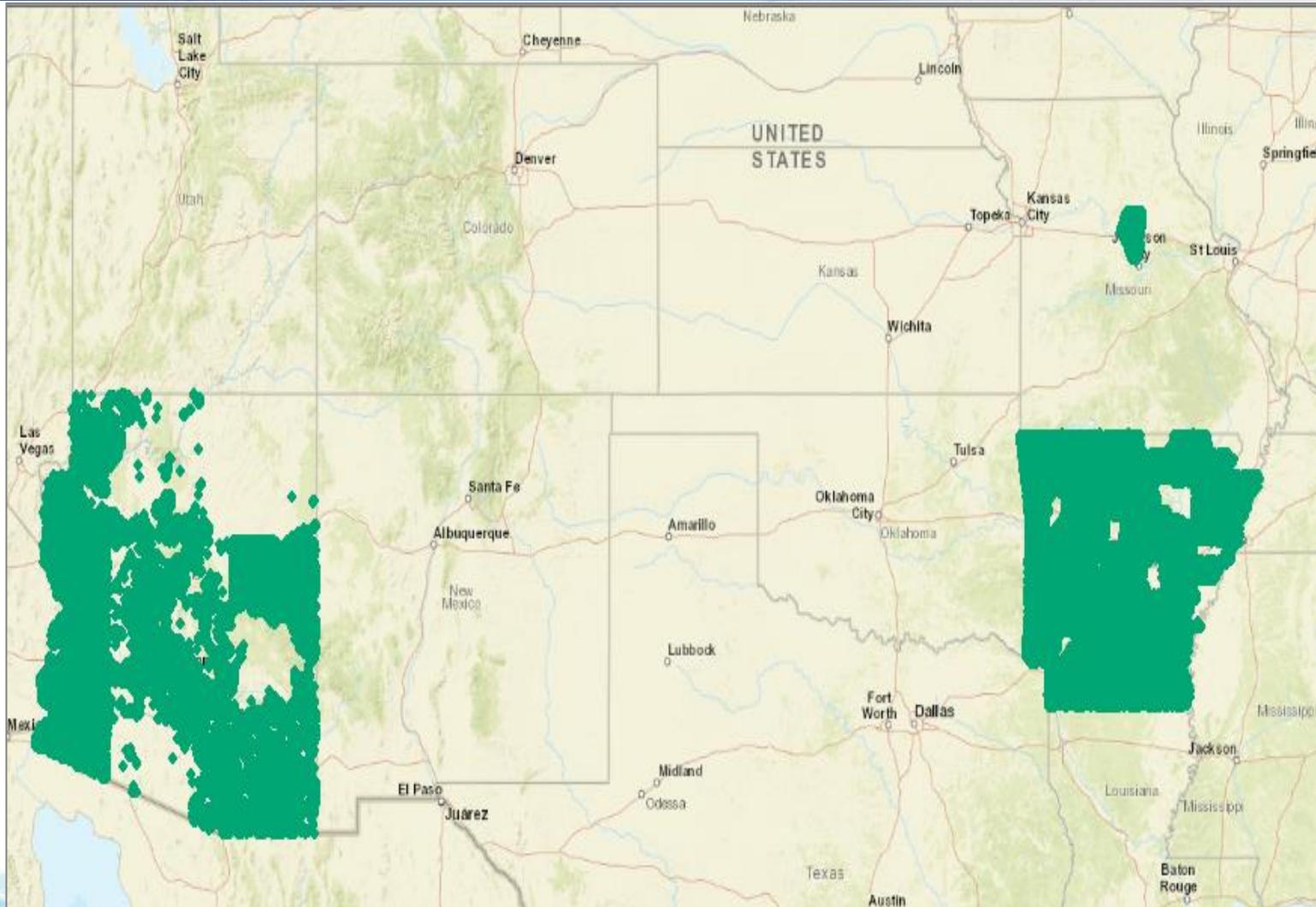- Placement
  (rooftop, driveway access, etc.)

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# NAD Schema

# Pilot Participants Compiled Into NAD Schema

# Jackson County, AR Geocoding Approach

❖ Multiple geocoding sources were used:
  • Melissa Data (commercial geocoding service)
  • County parcels
  • County road centerlines
  • Census road centerlines

❖ If an address wasn't matched in one source, the next source was used

❖ Achieved a 77% overall match rate from the 18,469 records

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# Final Jackson County Geocoding Results

| Source | Total Records Matched | % Matched | Cumulative % Matched |
|---|---|---|---|
| Melissa Data | 7,073 | 38% | 38% |
| Parcel centroids | 1,700 | 9% | 47% |
| County centerline | 4,112 | 23% | 70% |
| Census/TIGER centerlines | 1,347 | 7% | 77% |
| **Totals** | **14,232** | | |

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**Jackson County, AR**
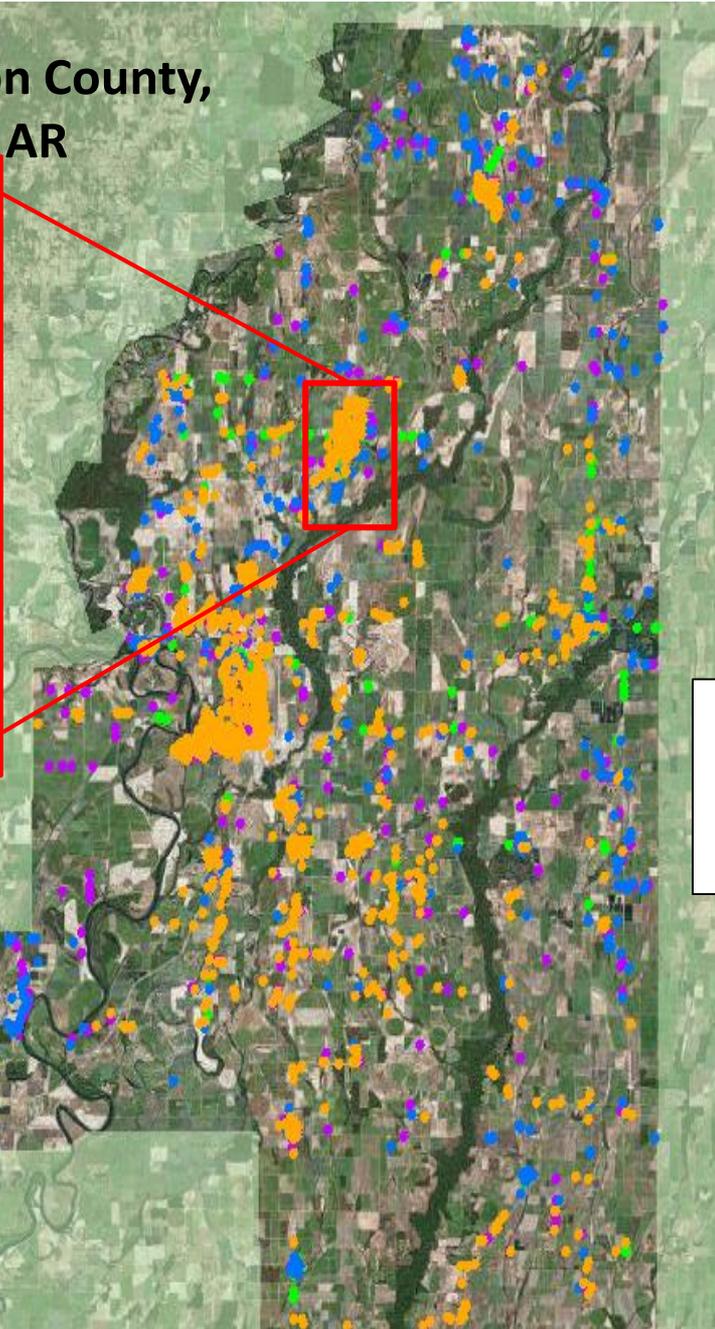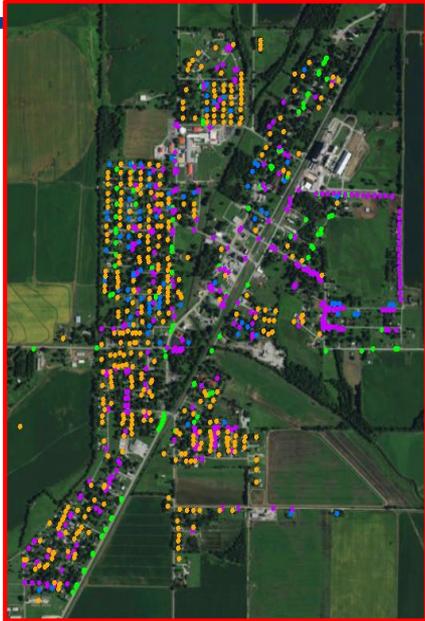
GeoCode Source
- MelissaData
- ParcelCentroid
- Centerline
- Census/Tiger

# Pilot Findings

❖ **Tribal participation** is going to be a **challenge**

- Lots of outreach, no explicitly contributed data

❖ Data sharing agreements to make data **publically available could be a challenge**

❖ **Aggregating existing statewide collections was straight forward**

❖ **The schema will likely evolve**, but needs to remain consistent with leading address schemas to allow for streamlined ETL

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# From Pilot to Coalition of the Willing

❖ Since the release of the minimum content guidelines and schema, 15 additional address programs volunteered to develop their own ETLs
  - District of Columbia
  - New Jersey
  - Ohio
  - Utah
  - Virginia
  - 9 additional counties and 1 city from Missouri (Locals Helping Locals)

❖ Recently received data from Colorado, Indiana and Montana (not yet loaded into NAD)

❖ Maryland, Massachusetts, New Mexico, New York, North Carolina, Tennessee, and Washington are in the queue
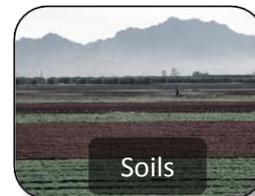
❖ Seeking other volunteers through NSGIC

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# 22.3 Million Addresses



**Legend**

- •    Data from NAD Pilot
- •    Data Recieved, Not Integrated
- ▢   States in Queue
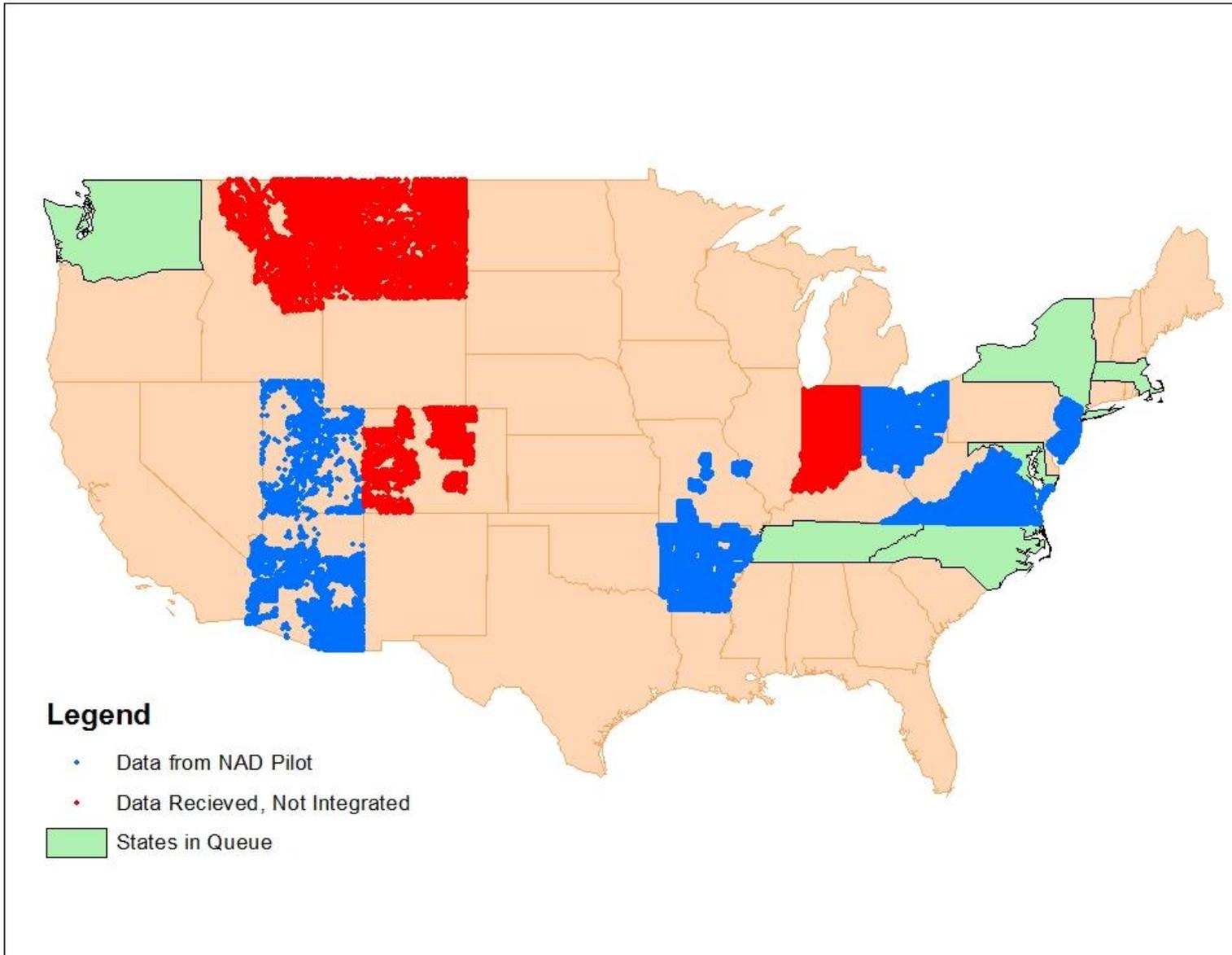
# What's Next

❖ Continue the Coalition of the Willing

❖ Choose platforms for development and production

❖ Identify funding for continued development

- NHTSA has provided funding to hire a contract developer resource
- Still no dedicated, sustained funding

❖ Make the data available!

❖ Launch Data Challenge for "have nots"

# FGDC Address Theme



Addresses

Biodiversity & Ecosystems

Cadastre

Climate & Weather

Resources

Elevation

Geodetic Control

Geology

Governmental Units

Imagery

Land Use – Land Cover

Real Property

Soils

Transportation

Utilities

Water - Inland

Water - Oceans & Coasts
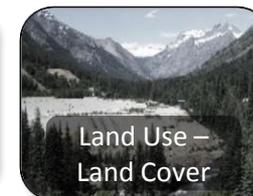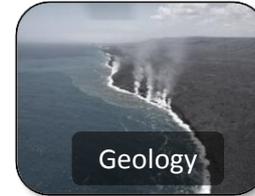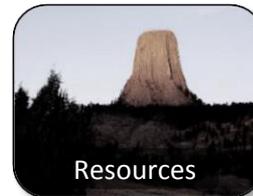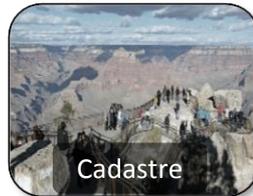
# Federal Geographic Data Committee (FGDC)
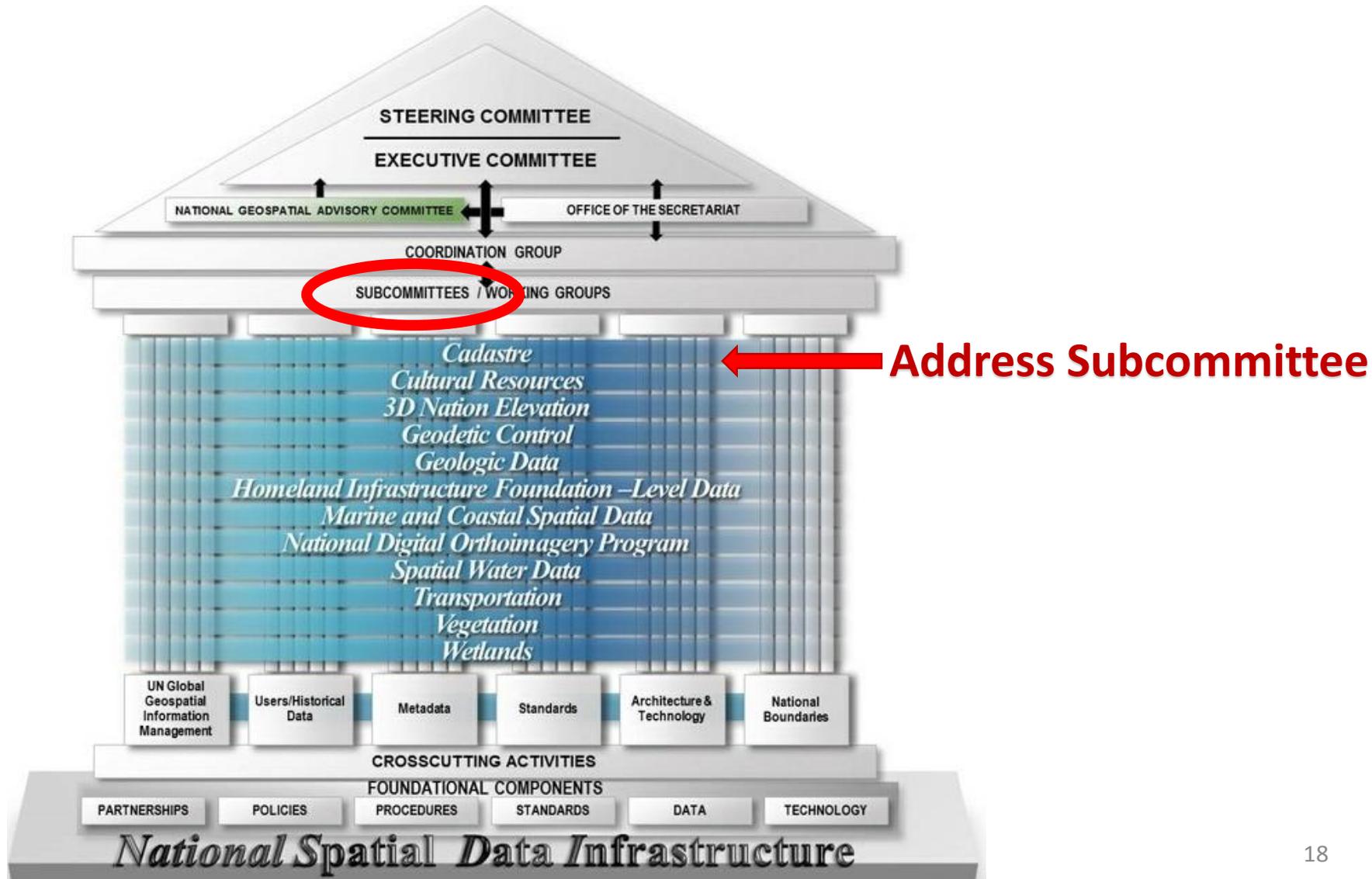
# Address Theme Roles and Responsibilities

❖ **Executive Champions**
> DOT – *Steve Lewis*
> Census Bureau – *Tim Trainor*

❖ **Theme Leads**
> DOT - *Steve Lewis*
> Census Bureau – *Lynda Liptrap*

❖ **Theme Subcommittee**
> DOT – *Steve Lewis*
> Census Bureau – *Mark Lange*

❖ **NAD Dataset Manager**
> Census Bureau – *Matt Zimolzak*

❖ **NAD Technology Operations Manager**
> DOT - *Steve Lewis*

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# Address Theme Subcommittee

## 16 Federal Members

Census Bureau*
Consumer Financial Protection Bureau
Department of Education
Department of Energy
Department of Homeland Security
Department of Housing and Urban Dev.
Department of the Interior
Department of Justice
Department of Labor
Department of Transportation*
Department of Veterans Affairs
Federal Emergency Management Agency
National Technical Information Service
Office of Management and Budget
U.S. Postal Service
Social Security Administration

* = Co-chair

## 19 Non-Federal Partners

State of Arkansas
Boone Co., Missouri
State of California
District of Columbia
Commonwealth of Massachusetts
State of Michigan
State of Minnesota
State of Montana
National Association of State 911 Admins.
NENA
State of New Jersey
State of North Carolina
State of New Hampshire
National States Geographic Info. Council
State of Oregon
Oakland County, Michigan
City of Philadelphia
URISA
State of Vermont

# Address Theme and NAD Goals

❖ Establish Address Subcommittee - <span style="color:red">done</span>

❖ Develop Theme Definition – <span style="color:red">done</span>

❖ Finalize Subcommittee Charter – <span style="color:red">in progress</span>

❖ Gather and Refine NAD User Requirements – <span style="color:red">done</span>

❖ Establish Theme Community on the
  GeoPlatform – <span style="color:red">done</span>

❖ Developing plan to assess the Pilot NAD Database

❖ Develop a Theme Strategic Plan

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# Address Theme and NAD Team Contacts

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cms.geoplatform.gov/a16address-home

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