Applying GIS to Dog Rescue

Developing GIS Data for New Spirit 4 Aussie Rescue in Order to Visualize Trends and Aid in Daily Operations

ESRI 2013 Mid-Atlantic User Conference

December 11, 2013

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www.ns4ar.org

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Agenda

1. Overview of the Project
2. Background on Aussies & New Spirit 4 Aussie Rescue
3. Data & Mapping Examples
4. Method
5. What is Next?
6. Conclusion

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Objective

(If dog is man's best friend, maybe GIS can be dog's best friend)

Create a New Spirit 4 Aussie Rescue GIS and use it to better illustrate trends, as well as, aid in helping people and dogs.

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Herding Volunteers & Other Resources

- Quickly identify volunteers in close proximity to dogs, transportation routes, events, and adopters
- Data presentation for grant proposals
- Identify gaps in NS4AR coverage

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The Tale of the Tailless Dog

Ø A general purpose stock and farm dog created in the American West.

Ø The Australian Shepherd Club of America (ASCA) Breed Standard:

- **GENERAL APPEARANCE-** He is attentive and animated, showing strength and stamina combined with unusual agility.
- **CHARACTER**- Primarily a working dog of strong herding and guardian instincts. He is an exceptional companion. He is versatile and easily trained, performing his assigned tasks with great style and enthusiasm. He is reserved with strangers but does not exhibit shyness. Although an aggressive, authoritative worker, viciousness toward people or animals is intolerable."

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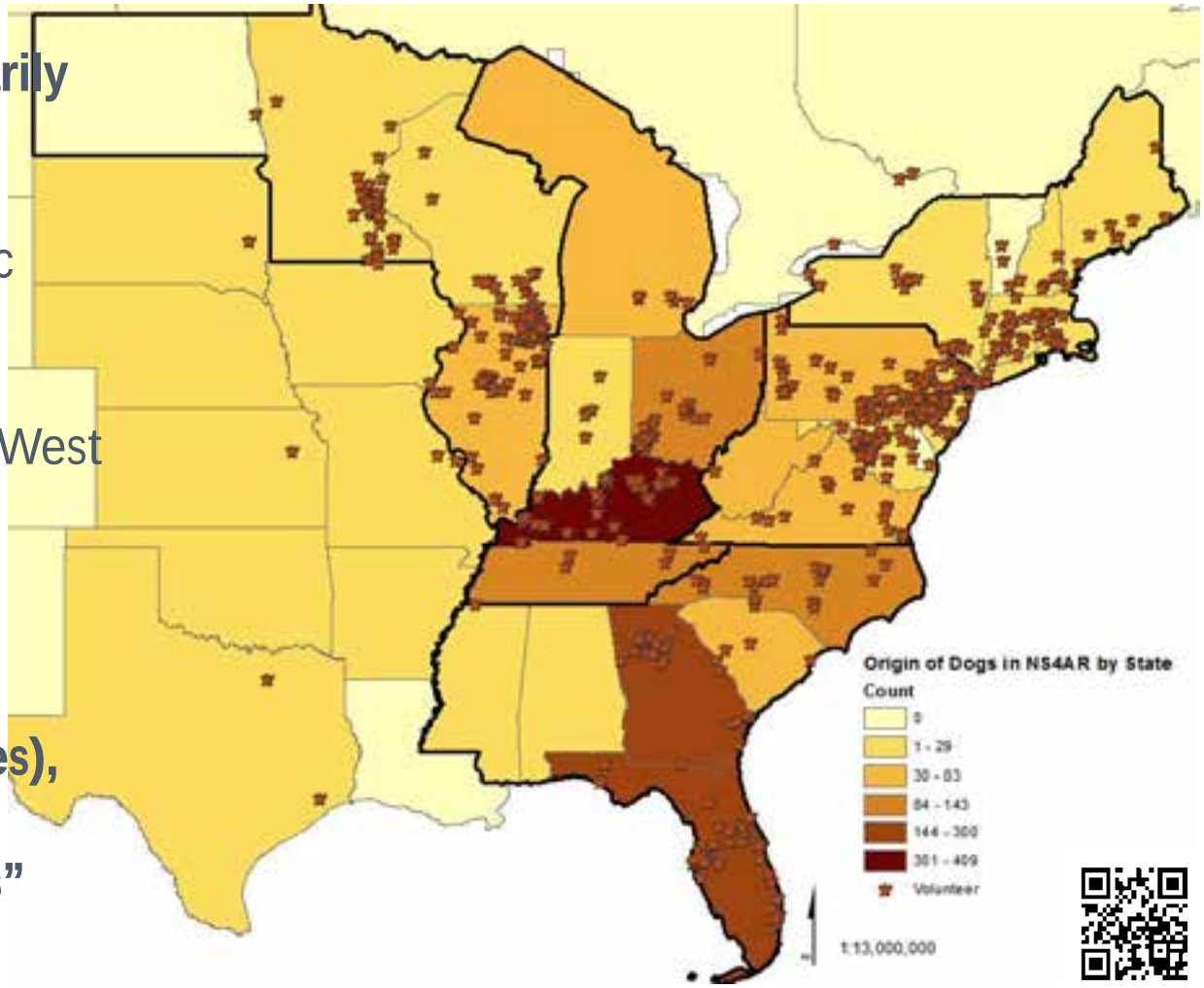
- **Operates in primarily five regions**
  - North East
  - Mid Atlantic
  - South East
  - Heartland
  - Upper Mid West
- **600+ Volunteers**
- **1,900+ Australian Shepherds (Aussies), Aussie mixes, and honorary "Aussies"**



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NS4AR Meet GIS, GIS Meet NS4AR

- Large enough geographic area to warrant the use of GIS
- Small, easily managed database
- Incremental updates
- Project expansion possibilities

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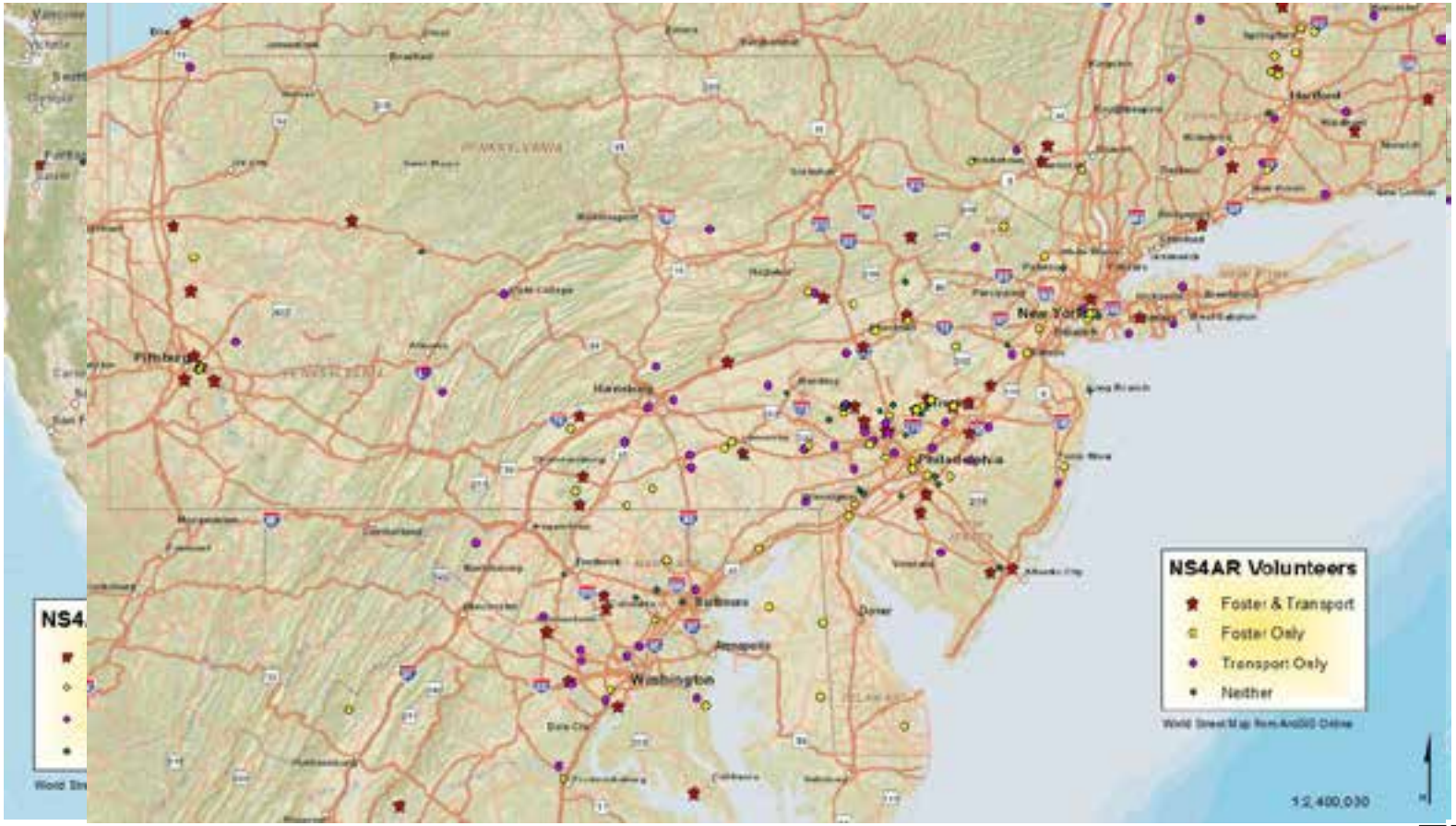
The NS4AR Data

Volunteers



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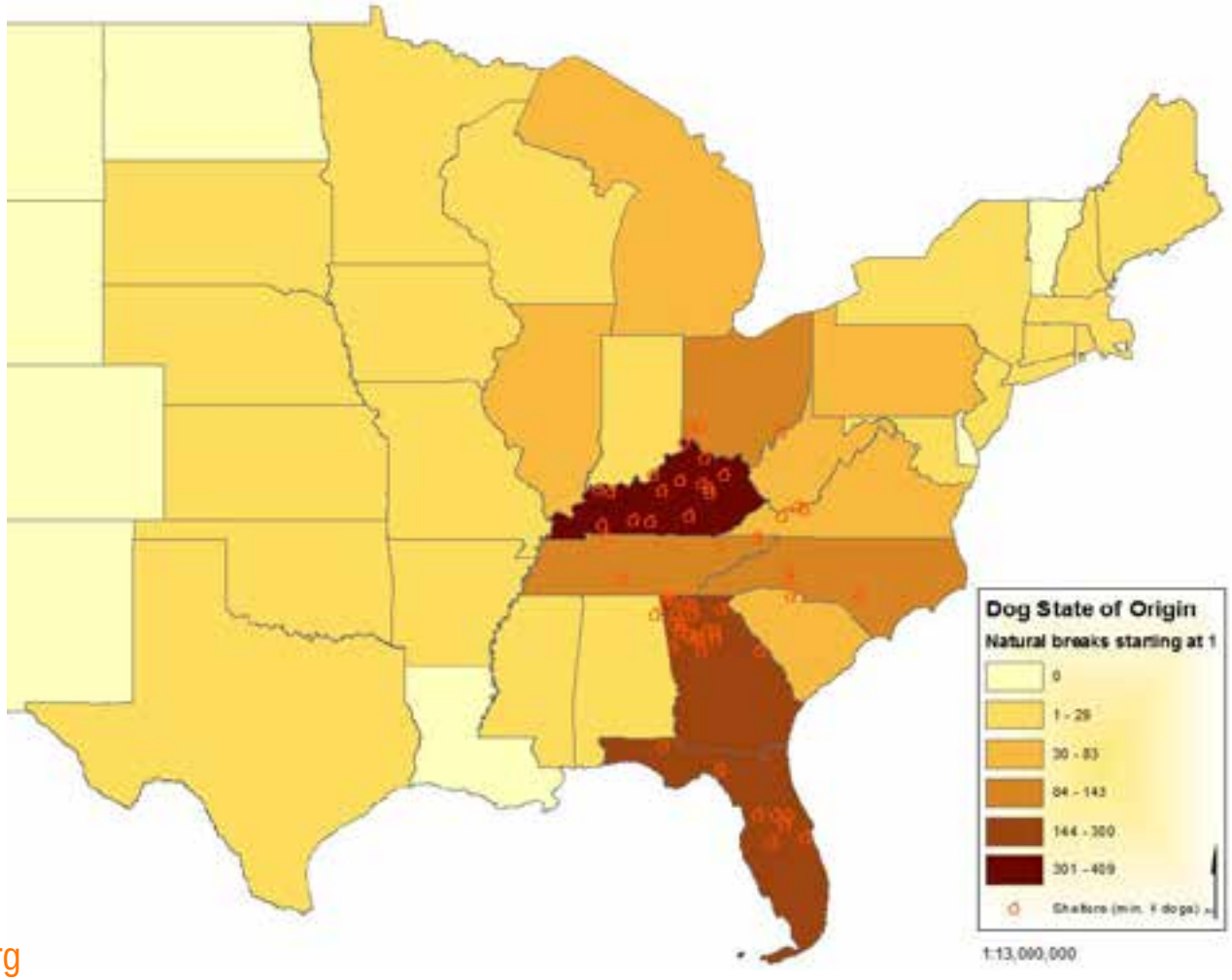
The NS4AR Data

Dogs & Cooperating Shelters



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The NS4AR Data

Adopters

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The NS4AR Data

Events & Fund Raisers

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Method

1. Identify operational needs
2. Define objective
3. Determine data requirements
4. Acquire data
5. Database design
6. Populate database
7. Define update process

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NS4AR Data

Tables

Name	Author	Records	Actions
Acronyms Commonly used Acronyms	katmdnu		
Volunteers			
Transport Contacts Everyone we know or have used to move dogs			Edit Delete
Donors ($$ silly, not "parts")		203	Edit Delete
Dog Database MM New database 09/07/10		1790	
Adoption Fee Payment DB Lori's Special DB (This DB is not to be			Edit Delete
Adopter Database MM New 11/23/10	banditdixie02	9	
Adoption Applications Last Updated: 02/09/2013	doug_kunucz	5204	

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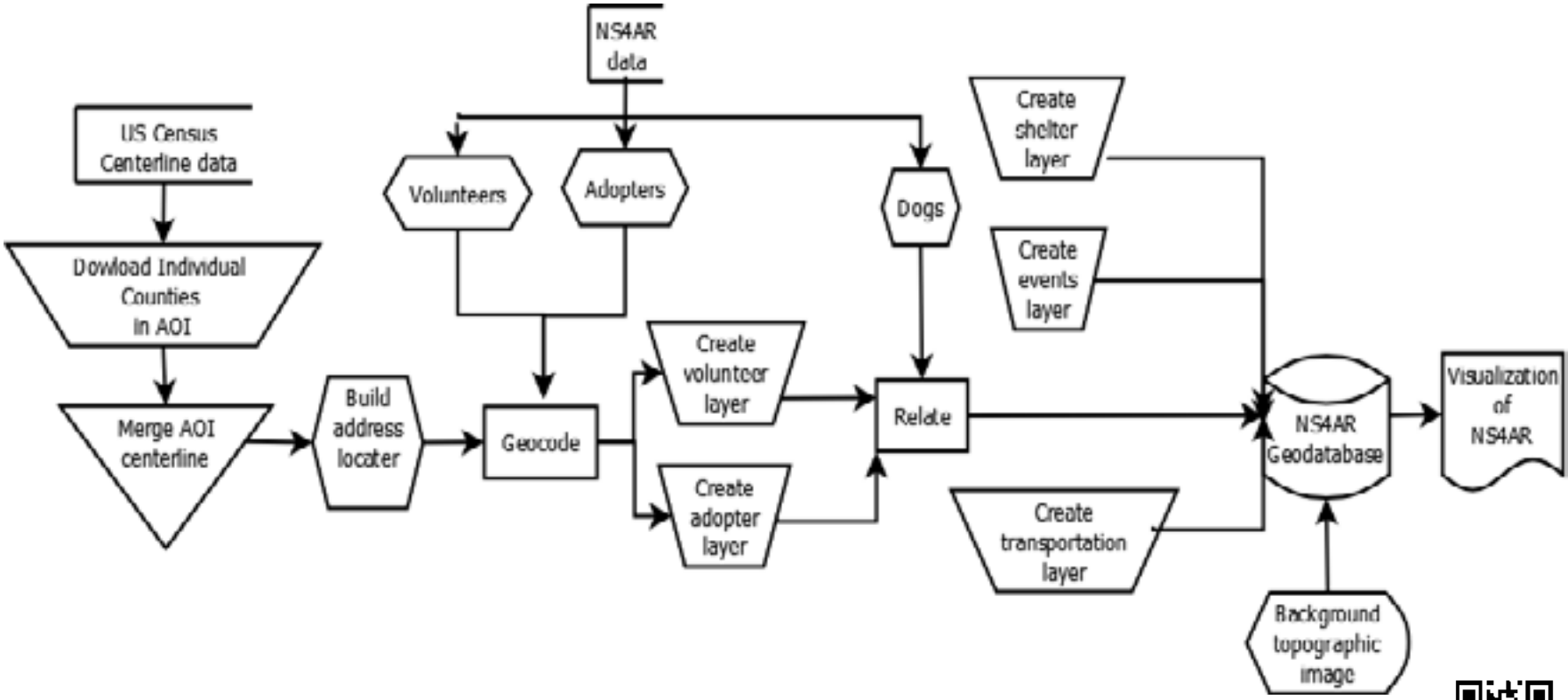
Original Workflow



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Schema

New Spirit 4 Aussie Rescue Database

Volunteers

+LAST_FIRST_NAME: String (40)
+LAST_NAME: String (20)
+FIRST_NAME: String (20)
+STREET_ADDRESS: String (50)
+CITY: String (25)
+ZIP: String (5)
+EMAIL: String (40)
+PHONE_H: String (12)
+PHONE_M: String (12)
+PHONE_W: String (20)
+FOSTER: Yes/No
+TRANSPORT: Yes/No
+EVAL: Yes/No
+LIMITS: Yes/No
+LIMITS_COMMENT: String (50)
+GEN_COMMENT: String (50)

Adopters

+NS_NUMBER: Short Integer
+NS_DOG_NAME: String (30)
+ADOPTER_LAST_FIRST: String (40)
+ADOPTER_LAST: String (20)
+ADOPTER_FIRST: String (20)
+STREET_ADDRESS: String (50)
+CITY: String (25)
+ZIP: String (5)
+FEE_PAID: Short Integer
+ADOPTED_DATE: Date
+PHONE: String (20)
+EMAIL: String (40)

NS4AR_Dogs

+NS_NUMBER: Short Integer
+NS_DOG_NAME: String (30)
+GENDER: Male/Female
+SPEUTER: Altered/Intact
+COLOR: BM/RM/B-Tri/R-Tri/B-Bi
+Weight_Llbs: Float
+AGE: Float
+BREED: Pure/Mix
+STATUS: Available/Placed/PTS
+SOURCE: ?
+STATE: domain?
+HEALTH_EXPENSES: Double
+IN_DATE: Date
+OUT_DATE: Date
+FOSTER_NAME_LAST_FIRST: String (40)
+ADOPTER_NAME_LAST_FIRST: String (40)
+NOTE: String (50)

Transp[illegible]outes

+NAME: St[illegible]
+NOTE: [illegible]

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Database Conversion

Tables

Domain Name	Description
Gender	Gender of dog
Speuter	Altered or intact upon entry
Color	Coat color pattern
Breed	Pure breed Aussie or mix
Status	Status

Tag# / Dog n / inc. Al

x or | Status Avail/Placed /Euth'd | Source | State | Contact NS Vol/FH | IN date/OUT date

Dogs

Number	Name	Gender	Speuter	Color	Weight	Age	Breed or mix	Status	Source
1650	Mate	Male	Altered	Blue Merle	45	9999	Pure breed	Placed	Tin Woof Inn More
1651	Candy	Female	Altered	Red Merle	45	3	Pure breed	Placed	OTI
1653	Teddy the Bear	Male	Altered	Blue Merle	30	7	<Null>		<Null>

1652 Teddy Bear | Placed | Taylor City Shelter | FL | Jan Sebald | in 8-18-12 out 10-20-12

Coded Values:

Code	Description
BM	Blue Merle
RM	Red Merle
B Tri	Black Tri
R Tri	Red Tri
B Bi	Black Bi

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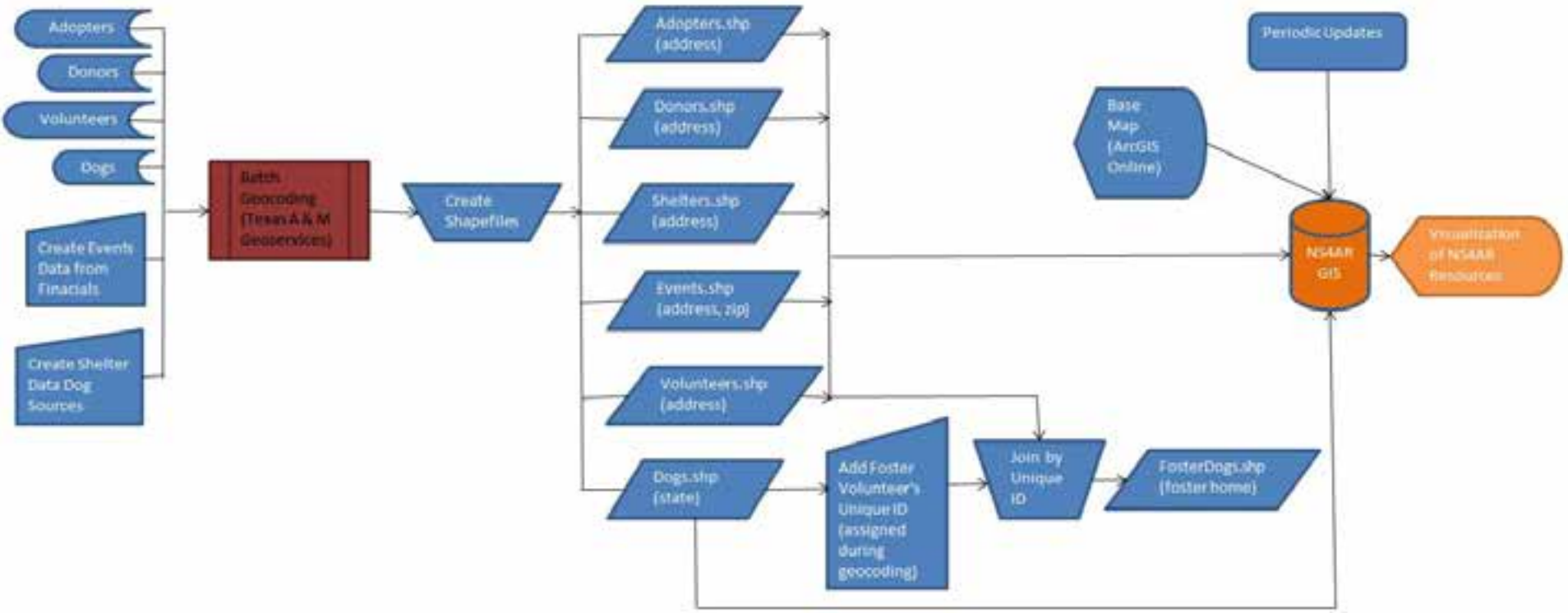
Revised Workflow



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Geocoding

TEXAS A&M GEOSERVICES

Search TAMU GeoServices | About | Services | Pricing | Support | News | Kathryn Chaney

- Account Settings
- Payments & Credits
- Processes
- Databases
- **Transaction History**
  - All Transactions
  - Address Parsing
  - Address Validation
  - Census Intersection
  - **Geocoding**
  - k Nearest
  - Reverse Geocoding
  - Shortest Path
- Logout

Usage History

User Services › Transaction History

On this page you can view the history of the geocoding transactions you have performed on this site.

Notes
- Only data for the last few days will be displayed. For historical data, please contact us.

50 Results

Added	Medium	Time	Quality	Match
11/20/2013 3:01:34 PM	batch	0.0625032	AddressRangeInterpolation	Exact
11/20/2013 3:01:34 PM	batch	0.0156258	AddressRangeInterpolation	Exact
11/20/2013 3:01:34 PM	batch	0	USPSZipAreaCentroid	Exact
11/20/2013 3:01:34 PM	batch	0	USPSZipAreaCentroid	Exact
11/20/2013 3:01:34 PM	batch	0.0937548	USPSZipAreaCentroid	Exact
11/20/2013 3:01:34 PM	batch	0	USPSZipAreaCentroid	Exact
11/20/2013 3:01:34 PM	batch	0.0468774	AddressRangeInterpolation	Relaxed
11/20/2013 3:01:33 PM	batch	0	USPSZipAreaCentroid	Exact
11/20/2013 3:01:33 PM	batch	0.1093806	USPSZipAreaCentroid	Exact
11/20/2013 3:01:33 PM	batch	0.078129	USPSZipAreaCentroid	Exact

Online - Questions? Click here to

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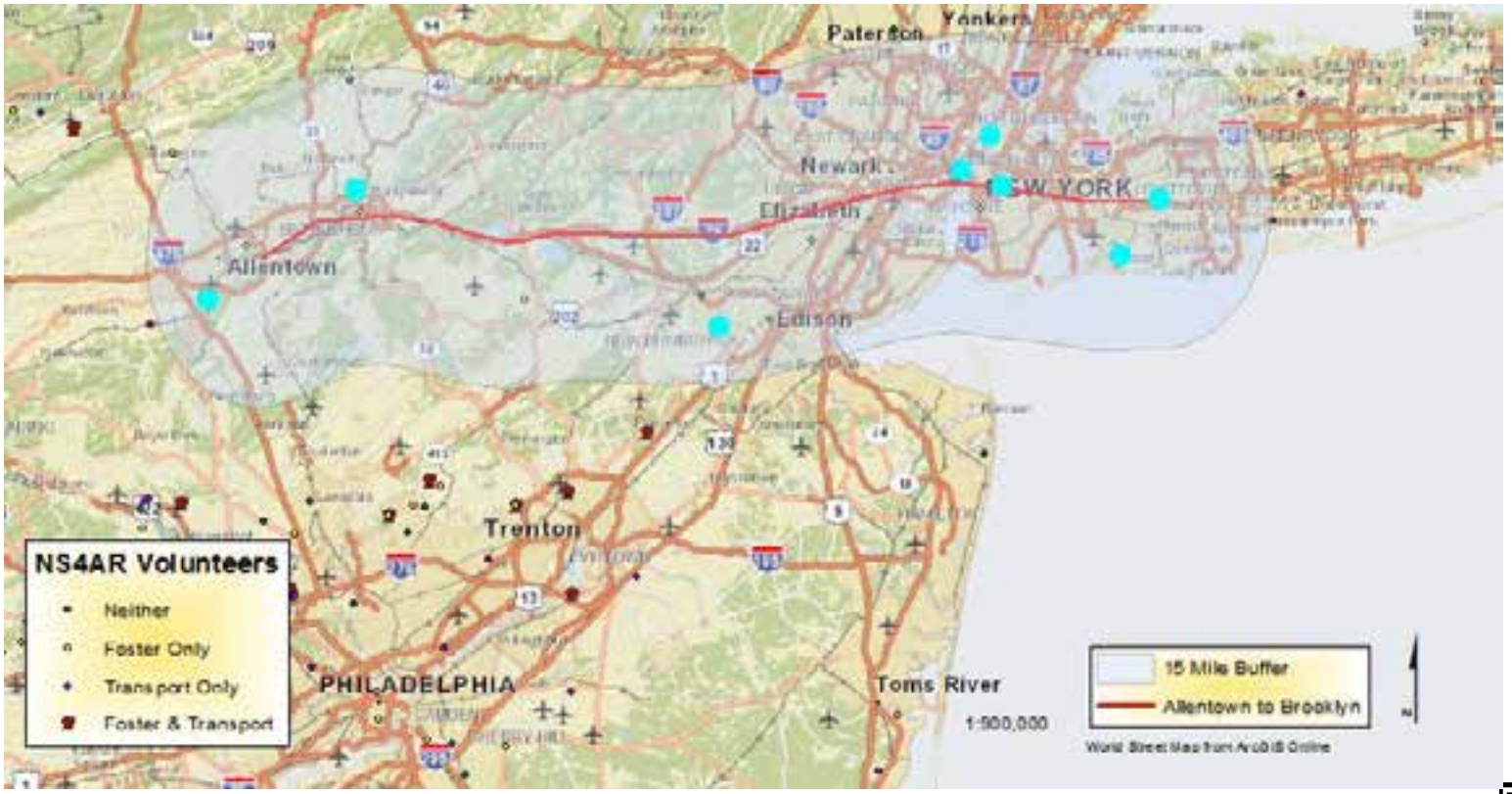
Transport Example

(Nice map, but how does this help?)



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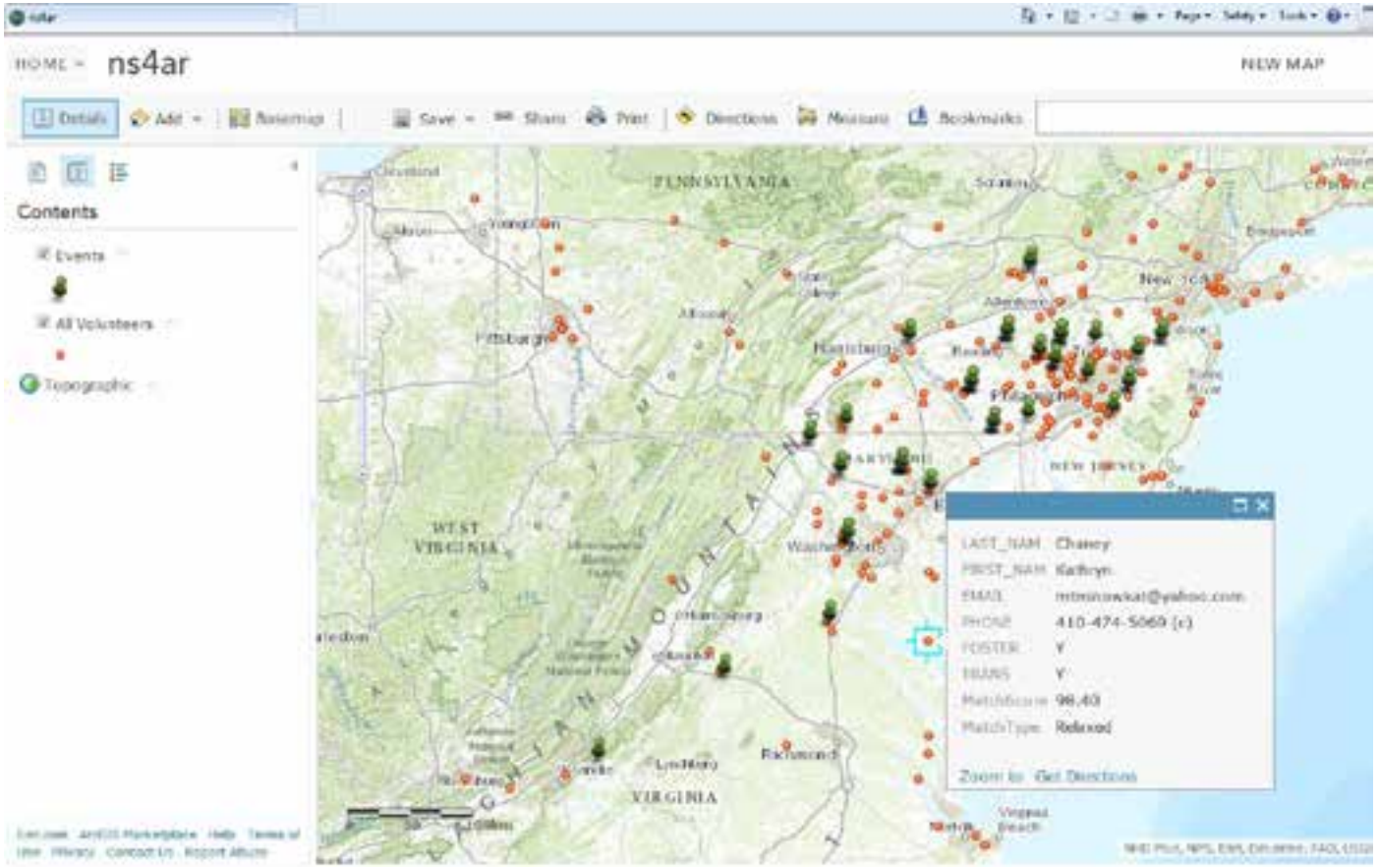
What is Next?

ArcGIS Online



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Conclusion

Ongoing Challenges

1. Volunteers updating statuses
2. Expense of a web application for volunteer use

Attained Goals

1. Consistent and transferable data model for NS4AR
2. Geospatially enabled NS4AR data for NS4AR of the distribution and movement of animals and volunteers

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Questions?

Outside of a dog, a book is man's best friend. Inside of a dog, it is too dark to read. – Groucho Marx

Computing is not about computers any more. It is about living. – Nicholas Negroponte

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Example?

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