Missouri Geographic Information Office
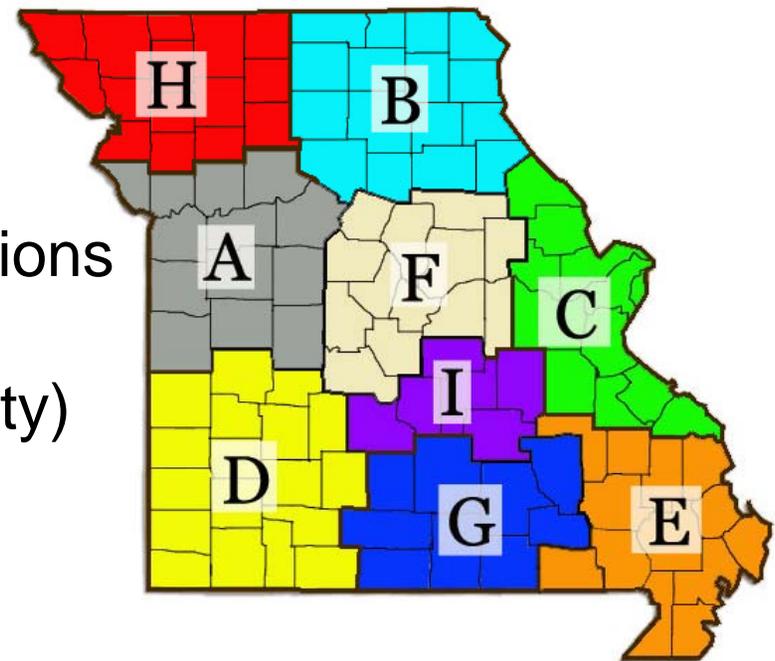## Spatially enabling the State of Missouri

Using Local Review for Critical Facility Collection and Validation

Tim Haithcoat

Geographic Information Officer

Information Technology Services Division

Tim.Haithcoat@oa.mo.gov

Demographics

- Population: 5,800,310
- Area: 69,704 sq miles (18th)
- Population Density: 81.2 (27th)
- By the Numbers:
  - 114 counties
  - 1 incorporated place
  - 19 regional planning commissions
  - 9 homeland security regions
  - 2 UASIs (St. Louis, Kansas City)

Methods

- Regionalized local review
  - Parallels roles – transportation plans, homeland security plans, economic development plans, etc. (multipurpose)
  - Targeted layers and attributes derived from local review and EOC input (maintenance)
  - Incentives – data, standards, tools, and $
  - State Homeland Security Grant funding
  - Built on existing relationships and data development partnering from prior FGDC CAP and USGS Partnership grants

Data Layers Reviewed

Commercial/Retail
– Wal-Mart Locations – Wal-Mart Corporate

Educational
– Public Schools – Health / DESE
– Private Schools - Health / DESE
– Higher Education Institutions - Health / DESE
– Handicap Public Schools - Health / DESE

Emergency Response / Law Enforcement
– Correctional Facilities – Adult – HSIP Freedom
– Correctional Facilities – Youth - HSIP Freedom
– EMS separate from Fire Stations – TechniGraphics (TGS)
– Fire Stations - TechniGraphics (TGS)
– Law Enforcement Agencies - TechniGraphics (TGS)

Data Layers Reviewed

Health / Medical
- Daycare – Adult - Health
- Daycare – Child - Health
- Dialysis Clinics - Health
- Hospitals – Health / TechniGraphics (TGS)
- Nursing Homes - Health
- Pharmacies - Health

Public Attractions
- Houses of Worship – Geographic Resources Center

Water
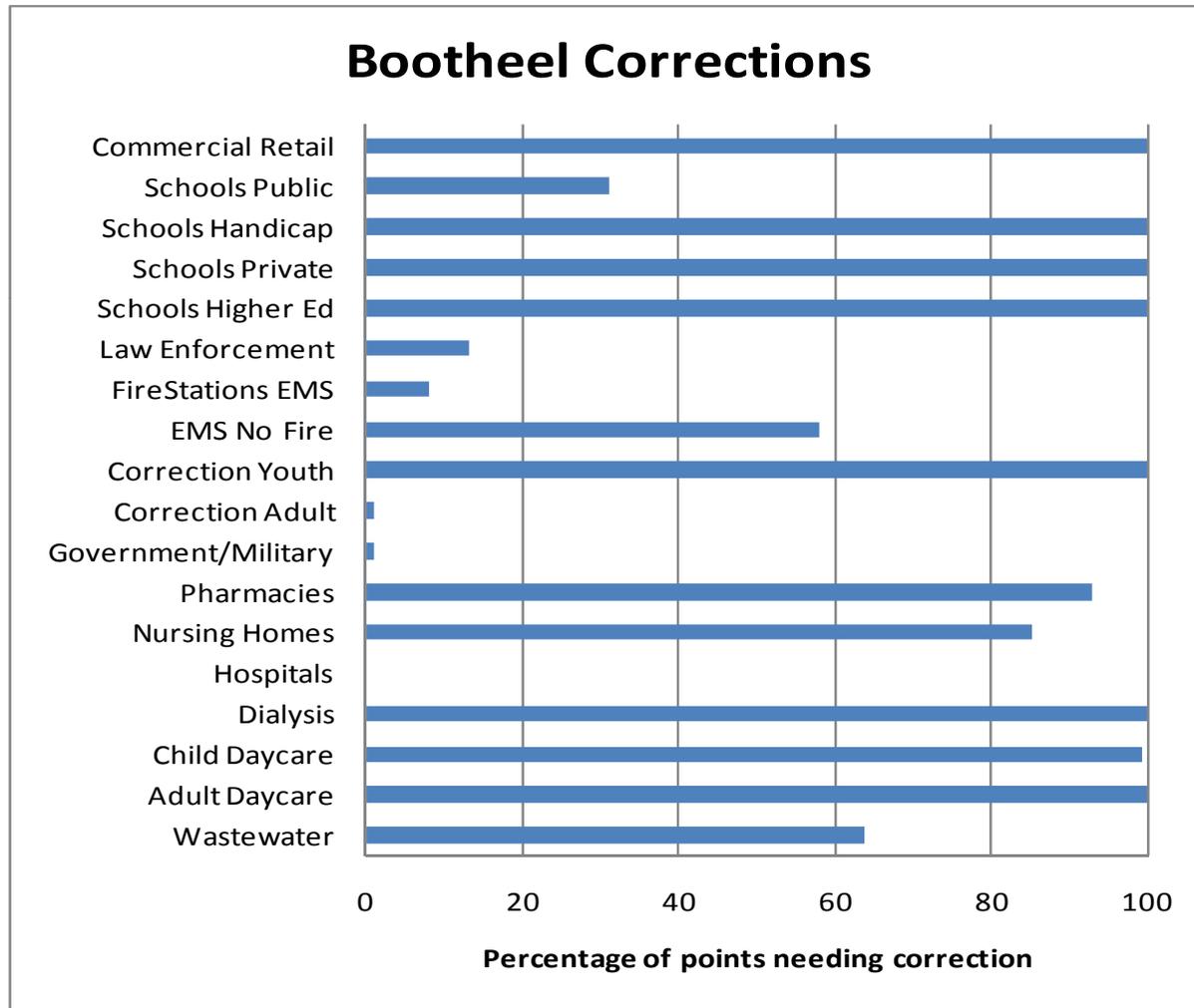- Wastewater Facilities – Dept of Natural Resources

Active Participants

- Pilot – 2 Regional Planning Commissions
  - 13 counties in rural SE Missouri (New Madrid Seismic Zone)
- Rolling out to 3 more RHSOCs now – 28 counties
- Developing a separate IJ for State HSGP
  - Inventory
  - Data Layer Review
- Reviewed 14 data layers in seven months

Results

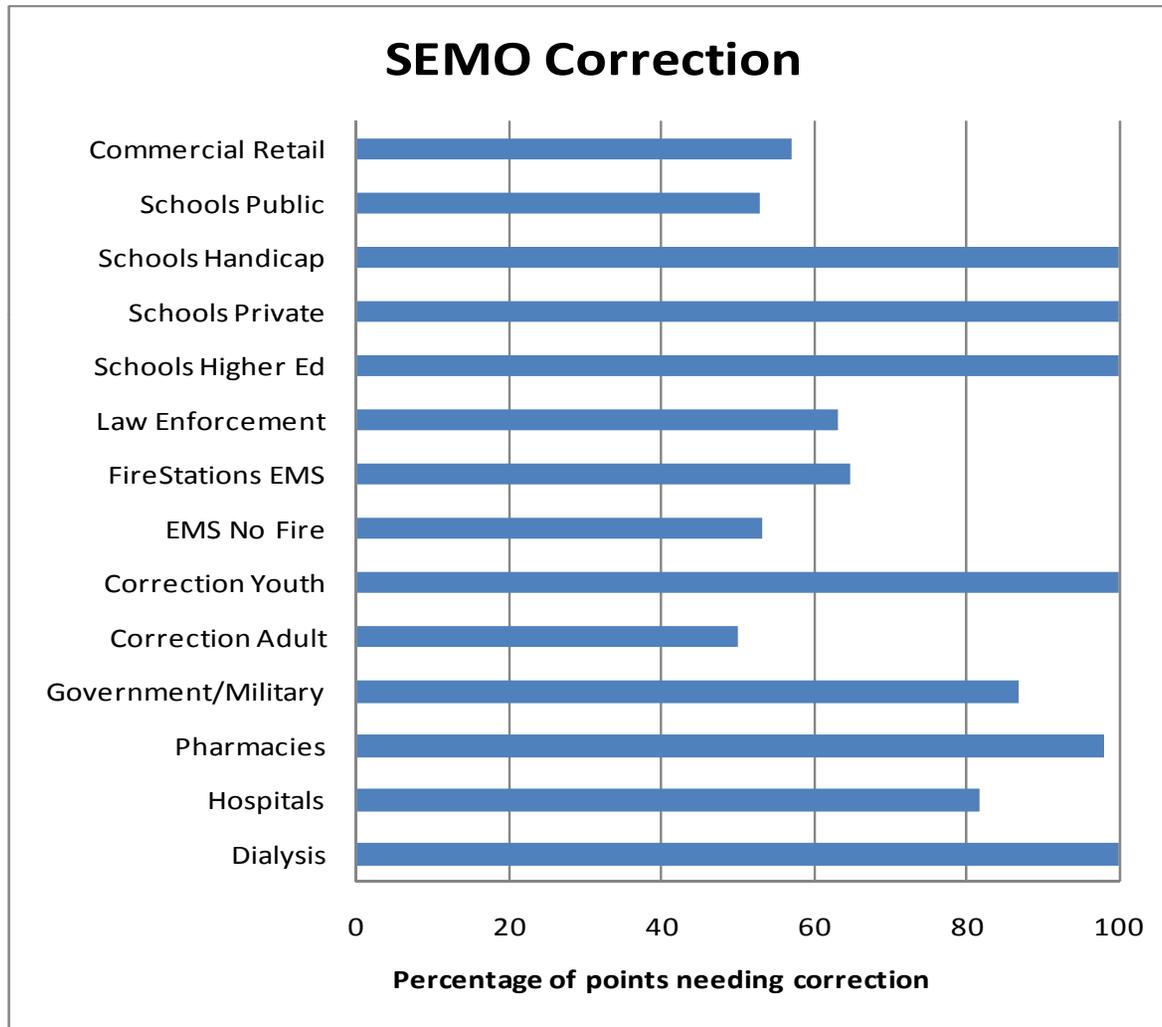| ORIG	Added	RETURN				Verified	Corrected	Remove	Average(m)	Max(m)
	Bootheel									
69	0	69		Wastewater		69	44		172	1970
565	1	566		Houses of Worship		49	5		137	3391
3	0	3		Adult Daycare		3	3	0	1042	1577
160	-1	159		Child Daycare		151	150	4	386	5917
3	1	4		Dialysis		4	4	0	269	378
4	0	4		Hospitals		4	0	0	0	0
45	-1	44		Nursing Homes		41	35		340	4135
42	0	42		Pharmacies		42	39		148	1203
6	17	23		Government/Military			1			
1	0	1		Correction Adult		1	0	0	0	0
2	0	2		Correction Youth		2	2	0	5968	6334
15	4	19		EMS No Fire		19	11	0	35	233
64	1	65		FireStations EMS		61	5	2	15	724
51	0	51		Law Enforcement		45	6	0	13	217
0	8	8		Schools Higher Ed		8	8			
13	1	14		Schools Private		12	12		318	2097
3	0	3		Schools Handicap		3	3		135	176
100	3	103		Schools Public		100	31		116	6737
5	0	5		Commercial Retail		5	5	0	6	23

Bootheel Corrections

Bootheel Corrections

Percentage of points needing correction

Category	Value
Commercial Retail	100
Schools Public	31
Schools Handicap	100
Schools Private	100
Schools Higher Ed	100
Law Enforcement	13
FireStations EMS	8
EMS No Fire	58
Correction Youth	100
Correction Adult	1
Government/Military	1
Pharmacies	93
Nursing Homes	85
Hospitals	0
Dialysis	100
Child Daycare	99
Adult Daycare	100
Wastewater	63

Results

SEMO				Layers			Verified	Corrected	Remove	Average(m)	Max(m)
ORIG	Added	RETURN									
152	0	152		Wastewater				0			
501	0	501		Houses of Worship				0			
6	0	6		Adult Daycare				0			
159	0	159		Child Daycare				0			
5	0	5		Dialysis			5	5	0	127	281
11	0	11		Hospitals			11	9	0	24	111
93	0	93		Nursing Homes				0			
52	0	52		Pharmacies			50	49	0	381	4030
7	23	30		Government/Military			30	26			
2	0	2		Correction Adult			2	1	0	2.5	5
2	0	2		Correction Youth			2	2	0	44	45
10	5	15		EMS No Fire			15	8		1611	15059
82	9	91		FireStations EMS			91	59	1	117	2032
38	0	38		Law Enforcement			38	24	0	168	3170
2	3	5		Schools Higher Ed			5	5	0	573	986
23	4	27		Schools Private			26	26		902	16037
2	0	2		Schools Handicap			2	2		188	190
82	1	83		Schools Public			83	44		97	3874
7	0	7		Commercial Retail			7	4	0	4	10

SEMO Correction

Data Shared & Access

- Data sharing agreement with CIO sign-off for the State

- Still obtaining 'interpretations' from legal counsels

- Provided on CD or disk to lead RPC for each RHSOC for this review

- Once built it goes back to the region along with other geospatial data and - when completed - new 7.5 min 'USGS Quad-like' Geo-pdfs.

Funding

- State Homeland Security Grant funds
  - Initially from State 20%
  - Transferring to Local 80%
- USGS Partnership funds
- FGDC CAP grants
- University of Missouri – CASH programs
- Broadband Mapping – Community Anchor Points

Pros

- Regionalization
- Determined through local input
  - Data layers of importance
  - Attributes of importance
- Tied to multi-purpose uses – it is relevant
- Locals know their areas and sites better
- Know that they will be using what THEY collected
- 'It is where it is'
- 'Unique ID' built on National Grid
- Coding to USGS Structures best practice model
- Reasonable costs and time investments
- Temporal accuracy – decrease lag time of federal program

Cons

- Training requirements
- Incentives based
- Some errors will enter the process – still need comprehensive review
- Always more layers need reviewing than are willing to be dealt with
- Not clean crosswalk from USGS to CI/KR
- Not total agreement on 'definitions' – EMS between the State and the HSIP
- Tried web-based – too many issues

Lessons Learned

- Cookbook and web-based training (GoToMeeting – see what they were doing on their computer)
- All data layers for an area at once
- 'Corrected' –vs- 'Improved'
- Data collection specifications – HSIP, TGS, State, other ('within block', 'block face', 'on entity', etc.) – huge rural issues.
- State data is being assembled to meet state needs – not necessarily to be easily uploaded or updated back into national framework (didn't belong in that layer, unique IDs)
- Data resubmission back to the state – issues with process
- Expectations of HSIP partnership – how formal
- Cycle of updates and State time

The 'ONE THING'

Goal is to provide to emergency responders, managers and planners the <u>best</u> possible data for their use – that's the bottom line.

In my opinion 90% of the time that will be local (or locally reviewed) data.

That review should be part of the process!