

MIND THE GAP

Identifying Missing Sub-Addresses
for Next Generation 911

INTRODUCTION



Nick DiPaolo JMT Technology Group

- More than 20 years of experience working on Technology and Geospatial Information Systems (GIS) projects
- Volunteer fire fighter of over 18 years with three different departments
- Including 4 years of service in Fort Mill, SC with mutual aid calls in Mecklenburg County, NC

RECENT 911 PROJECTS

- Montgomery County, PA
 - Create NENA Format Address Point GIS Layer for entire county
 - Over 300K address points
- Berks County, PA
 - Update addressing data to include sub-address points in City of Reading
 - 27k address points before project, added 13k points (50% increase)
- BWI Airport, Baltimore, MD
 - Over 2100 sub-address points
 - Includes kiosks (no fixed location)
- Hanover County, VA
 - Created regional scale dependent ArcGIS Server basemaps (including address points, parcels, streets) for the county's (CAD) system
- City of Virginia Beach, VA
 - Prepared a custom app for address field verification and validation



JMT ADDRESSING APPROACH



WHY is NEXT GEN 911 NEEDED?



Delivery and service-oriented apps can find your location more quickly and accurately than emergency services – that's a problem.

WHAT IS A SUB-ADDRESS?

- NENA refers to as a “unit” within a building or structure

NENA Standard for NG9-1-1 GIS Data Model
NENA-STA-006.1.1-2020, February 18, 2020

4.138 Unit

Description: A group or suite of rooms within a building that are under common ownership or tenancy, typically having a common primary entrance.

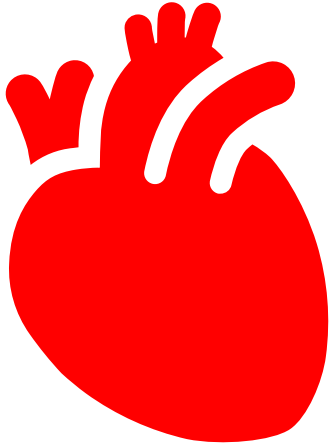
Domain: None

Example: Apartment C2; Penthouse; Suite 710

- Popular examples:
 - Apartments
 - Shopping centers
 - Office Complexes
- Each unit requires a unique point within the Site Structure Address Point Layer
- Not always reflected in ALI



IN AN EMERGENCY – EVERY SECOND COUNTS



According to the American Heart Association, chance of survival decreases by 7% - 10% for every minute without defibrillation.

Reference: <https://pubmed.ncbi.nlm.nih.gov/8214853/>

SUB-ADDRESSES ASSIST EMERGENCY RESPONDERS

- Locating the incident
- Improved Dispatch and Routing
 - One route significantly shorter



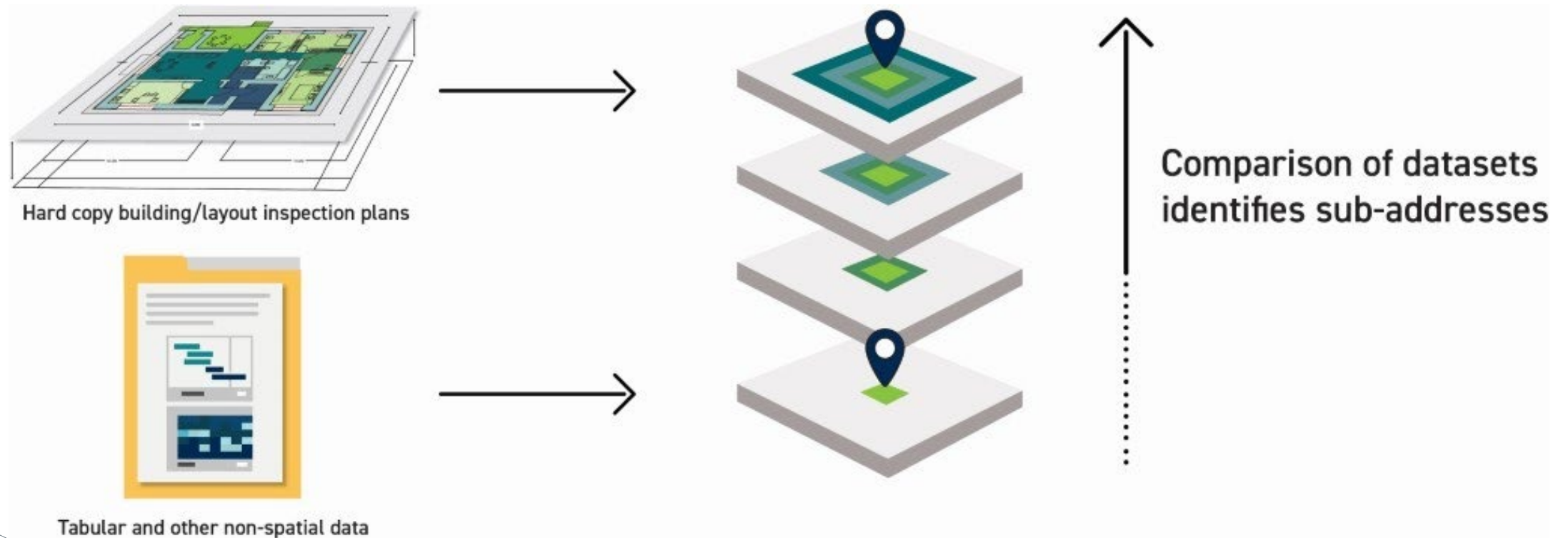
CAST A WIDE NET

- No one data source will provide all sub-addresses
- Identify all Local Stakeholders
 - Police
 - Fire
 - Public Works
 - Zoning/Code Enforcement
 - Voter Registration
 - USPS
 - Utilities (water, sewer, gas and electric)
 - ALI (Telcom)
 - Housing Authority
 - Tax Board
 - Property Managers
- Get people talking
 - Many local departments still operate independently in silos
 - Hold workshops
 - Online Surveys
- Help make connections between them
- Stay connected but be patient
 - May be extremely busy w/ increase work due to COVID-19



OVERLAY to IDENTIFY PATTERNS

- Identify where multiple data sources are consistent
- Discrepancies in datasets may identify other concerns



STAKEHOLDER COORDINATION

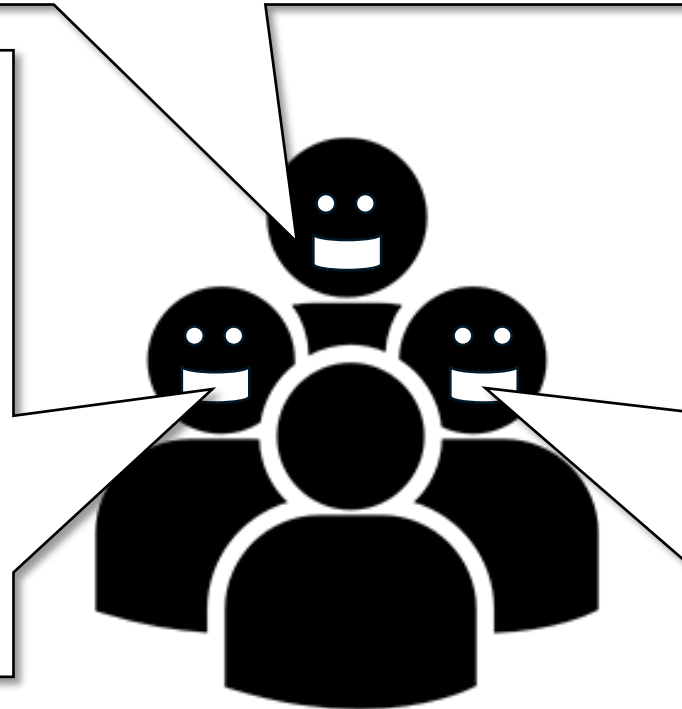
Municipal Data

BU_UNIT#	BU_ADDRESS	BU_TYPE	BLDG_ADDRESS	MODULE	PIN	MAIL_BUSINESSNAM
APT 110	100 CYPRESS CT APT 110 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 111	100 CYPRESS CT APT 111 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 114	100 CYPRESS CT APT 114 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 116	100 CYPRESS CT APT 116 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 117	100 CYPRESS CT APT 117 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 115	100 CYPRESS CT APT 115 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 210	100 CYPRESS CT APT 210 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 211	100 CYPRESS CT APT 211 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 212	100 CYPRESS CT APT 212 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 213	100 CYPRESS CT APT 213 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 214	100 CYPRESS CT APT 214 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 215	100 CYPRESS CT APT 215 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 216	100 CYPRESS CT APT 216 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 217	100 CYPRESS CT APT 217 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 310	100 CYPRESS CT APT 310 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 311	100 CYPRESS CT APT 311 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 312	100 CYPRESS CT APT 312 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 313	100 CYPRESS CT APT 313 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 314	100 CYPRESS CT APT 314 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 315	100 CYPRESS CT APT 315 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	
APT 316	100 CYPRESS CT APT 316 Apartment	100 CYPRESS CT	rental	370001621007	Westfield 41	

Property Management

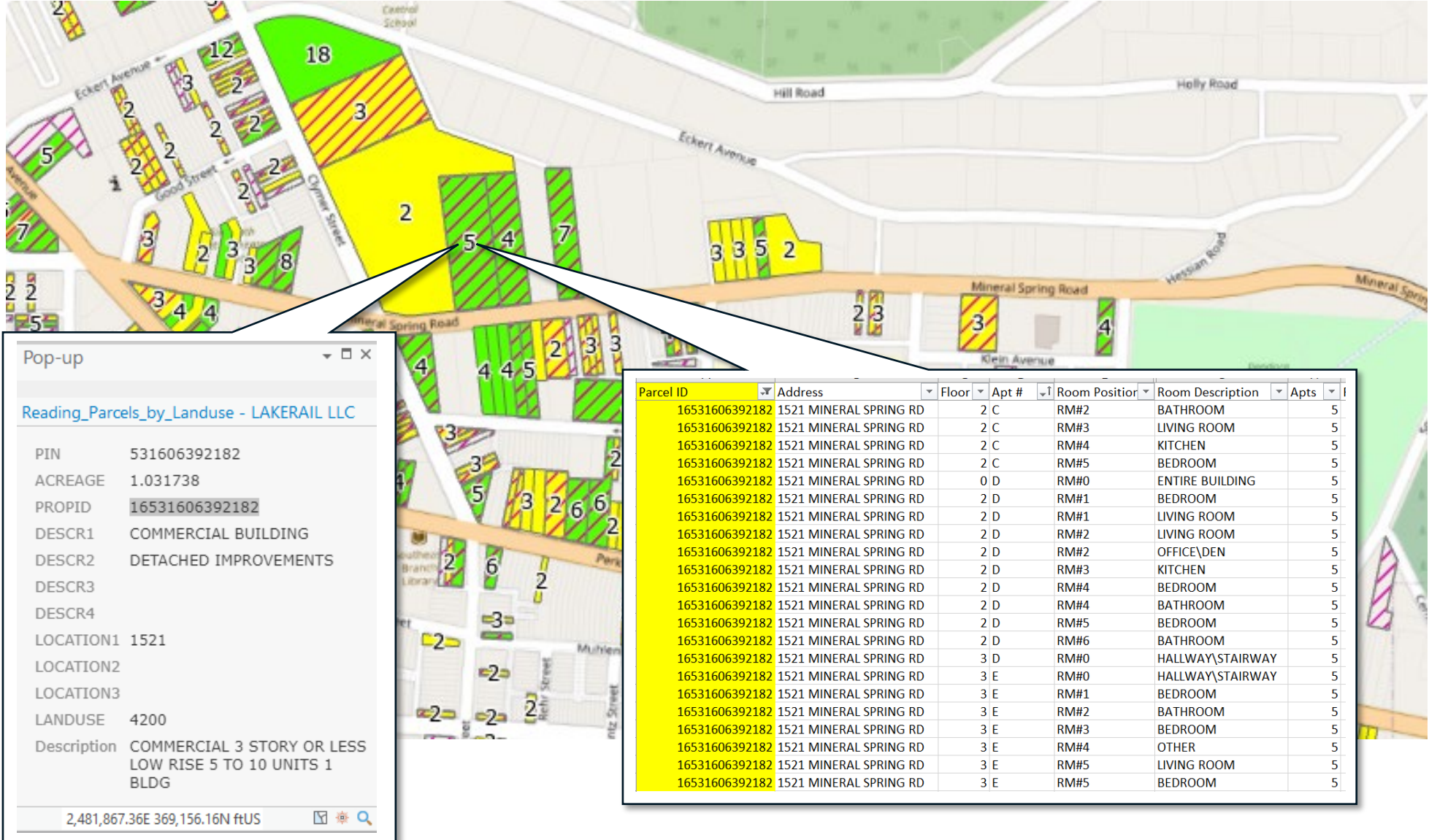


USPS

[illegible]

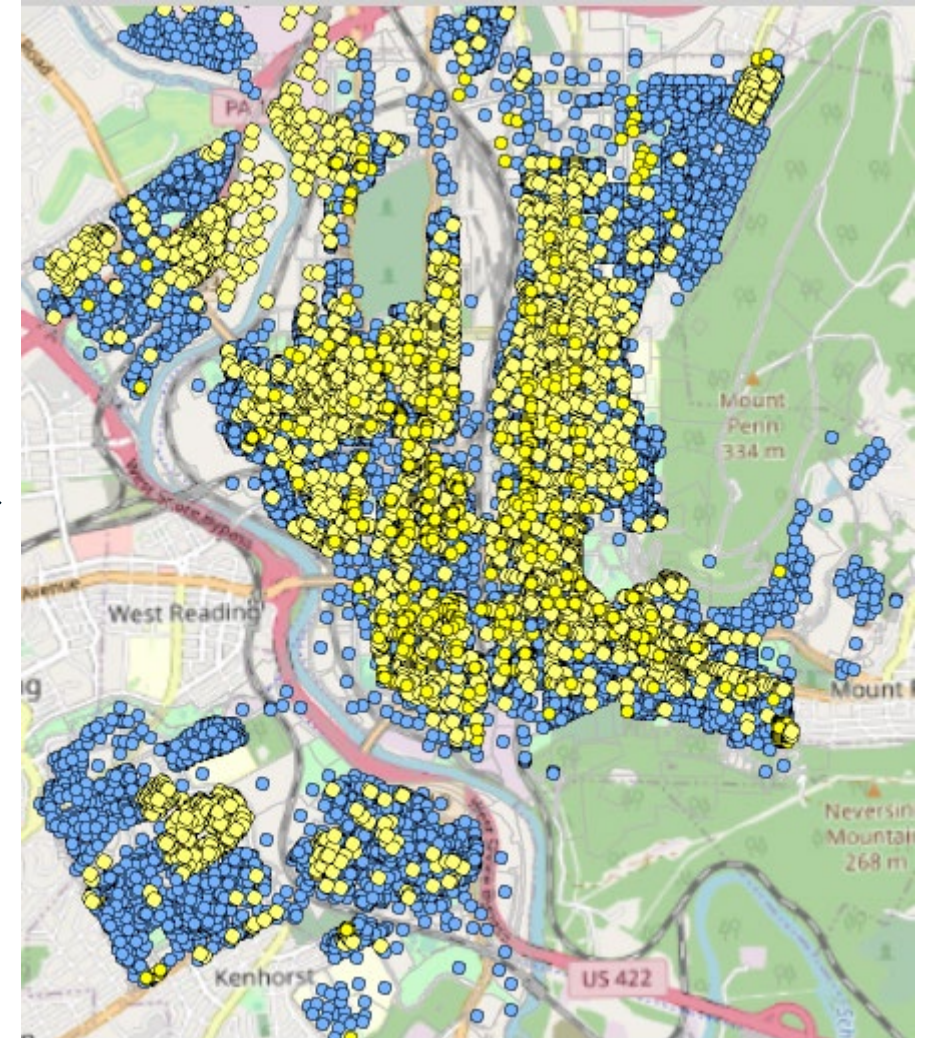
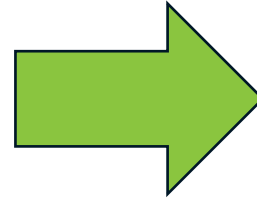
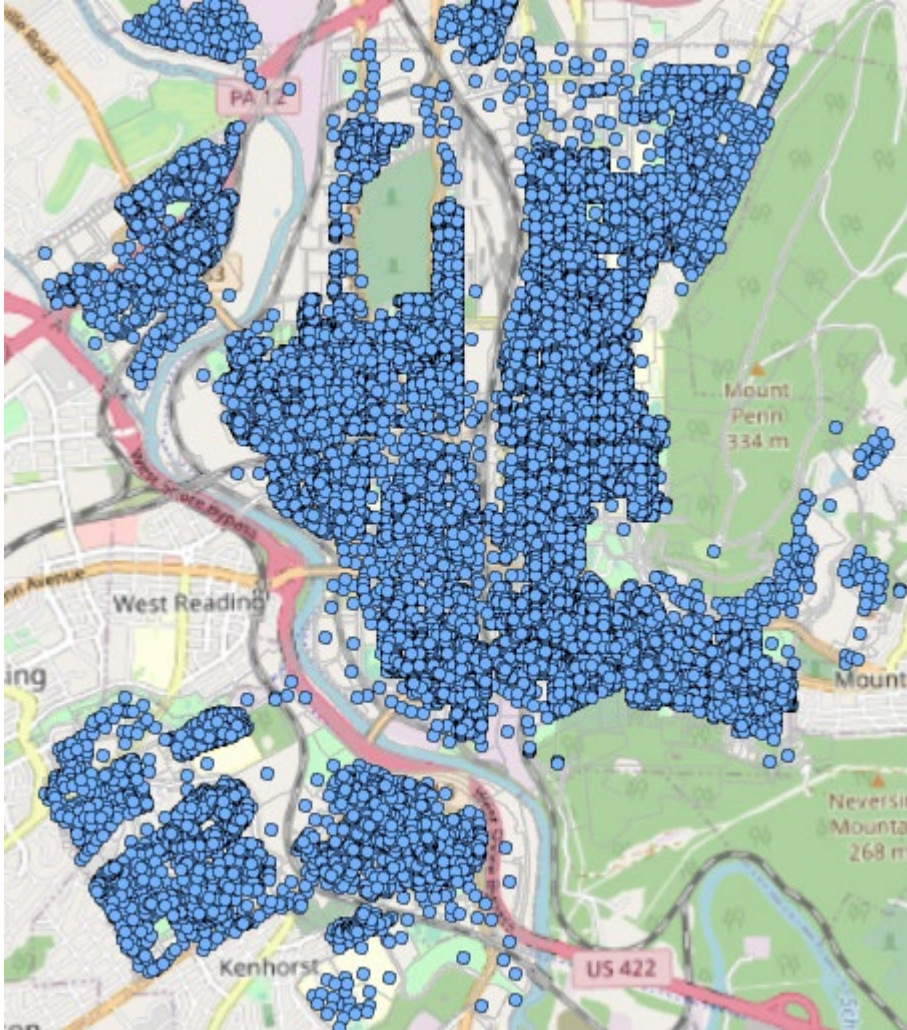
FINDING the PATTERNS

- ☒ Parcels by Landuse
☐ Not Expected
☐ Vacant
☒ Yes
- ☒ Parcels by Units
 totalUnits
☐ ≤3
☐ ≤96
☐ ≤201
☐ ≤392
☐ ≤526



- Example: Using Parcel and other Municipal sources

RESULTS in CITY of READING, PA

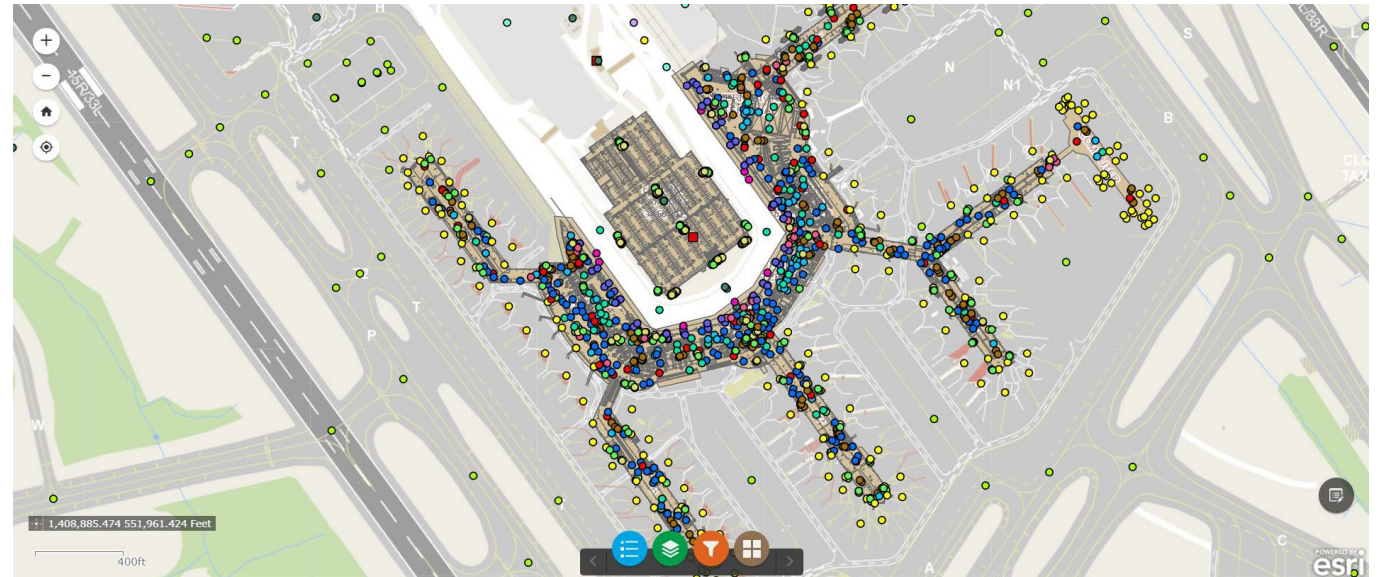
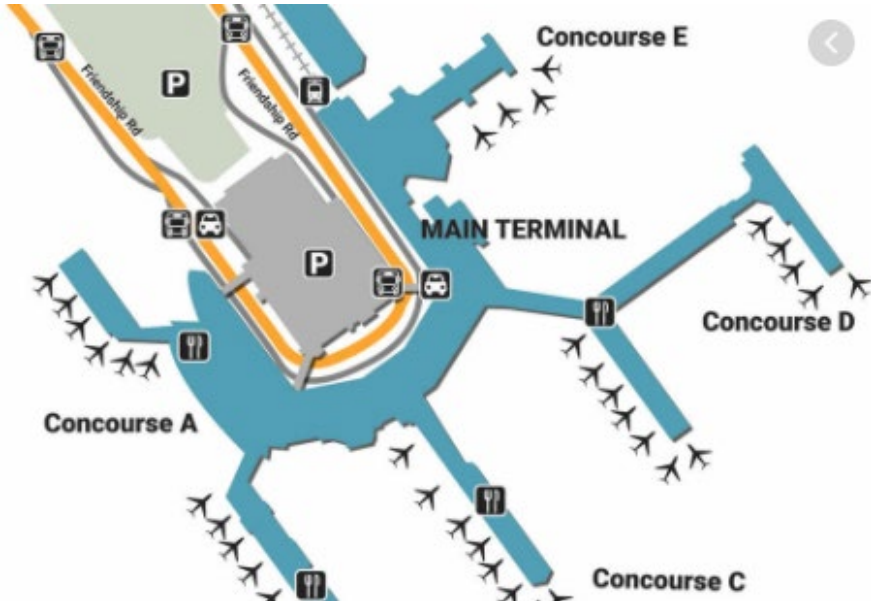


- Initially 26K address points
- 28k unique ALI records
- 98% match rate to Street Centerlines

- Created 10K sub-addresses
- Updated 5K addresses with unit details

SUB-ADDRESSES WITHIN LARGE COMPLEXES

- BWI Airport over 2,100 units
- Including kiosks with temporary locations
 - Requires permitting process and routine updates



THANK YOU



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Nick DiPaolo JMT Technology Group

Be sure to book time at our booth if you would like to further discuss NG 911 Sub-addressing or any services that JMT Technology Group provides.

JMT has a contract with the North Carolina Department of Information Technology for **IT Services – GIS Services** that can be used by government agencies throughout the state

Sign up to get periodic updates from JMT Technology Group
<http://bit.ly/3tZcdlF>

QUESTIONS?