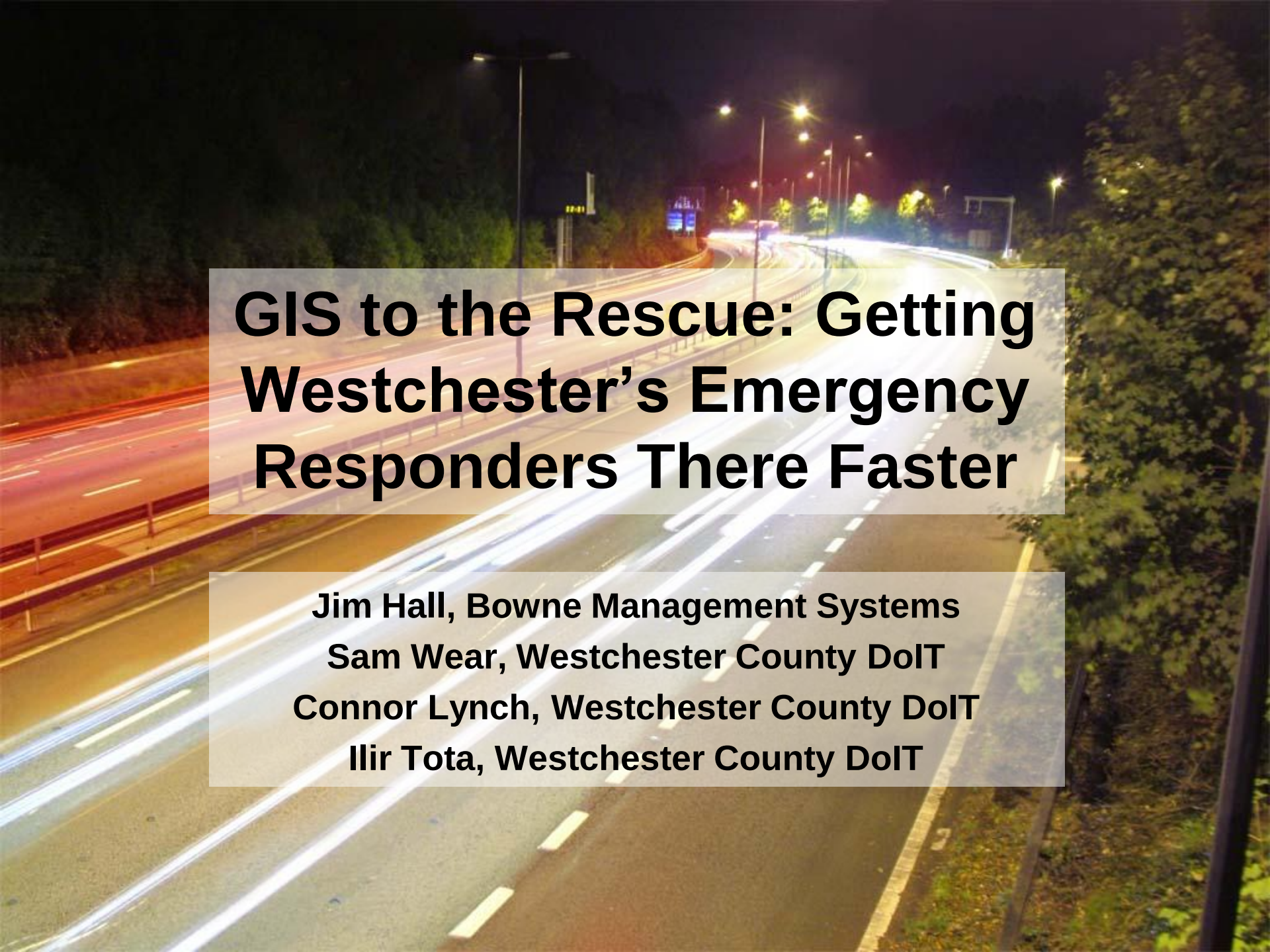

GIS to the Rescue: Getting Westchester's Emergency Responders There Faster

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Agenda

1. The Background & the Need
2. The Solution
3. The Project
4. Current Status
5. Looking Ahead

Background

- Westchester County government maintained several street and address datasets:
  - Department of Emergency Services' (DES) CAD streets dataset
  - Department of Information Technology's (DoIT) street centerline and address points

The Need

- DES' Intergraph system dispatches for Fire & EMS
- The DES street data was a Navteq cut from 10+ years ago
- The DoIT street data was current Navteq

Project Goals

1. Improve quality and completeness of the geographic data made available to DES
2. Eliminate redundant data entry

2. The Solution

- Reconcile geometry:
  - DES street centerlines
  - DoIT street centerlines
- Align geometry to basemap
- Analyze and fix attribution
- Align geometry to ESZ boundaries
- Validate with incident data

3. The Project

- DoIT and DES defined the scope
- A competitive procurement was completed
- Bowne Management Systems was selected to work with the County to complete the project

Bowne Management Systems

- Based in NYC area
- GIS/IT consulting and implementation firm
- Founded in 1982
- Staff of approximately 40 professional staff
- We have worked with Westchester County government since 2004
- Sister company is RouteSmart

Goal: Create Best Available Dataset

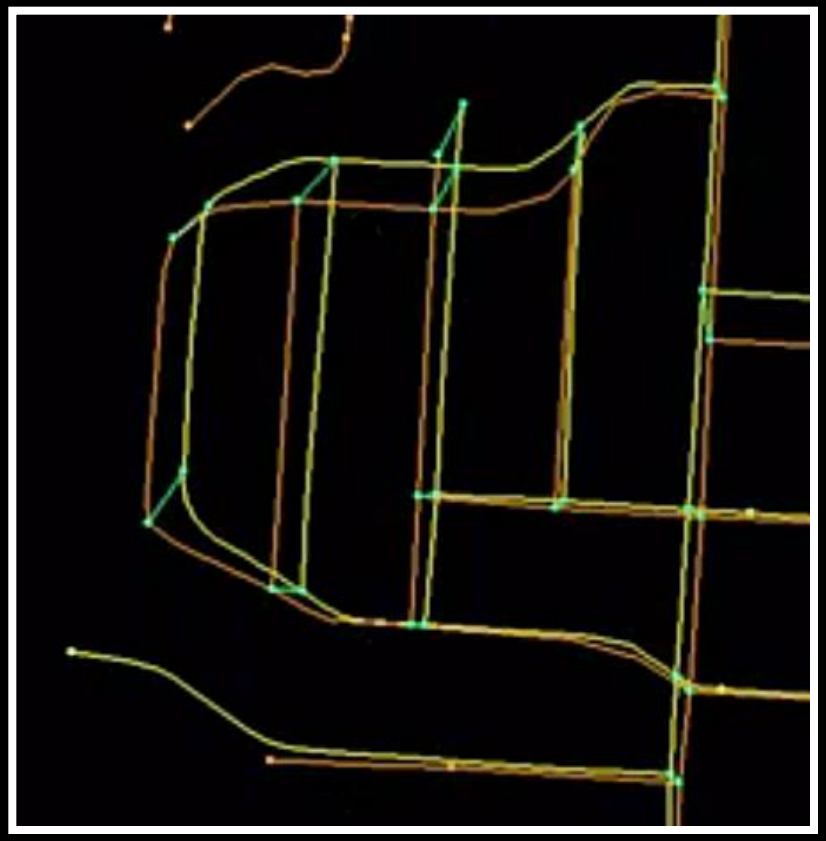
- Completeness
- Absolute horizontal positional accuracy
- Topology
- Address ranges
- Street names and types
- Alias street names and types
- Municipalities
- Traffic direction

The Realities of the Data

- Strengths of the CAD data:
  - Address ranges
  - Address/ESZ relationship
- Strengths of the GIS data:
  - Horizontal positional accuracy
  - Ability to update, analyze, manage and move the data

Based on Common Points

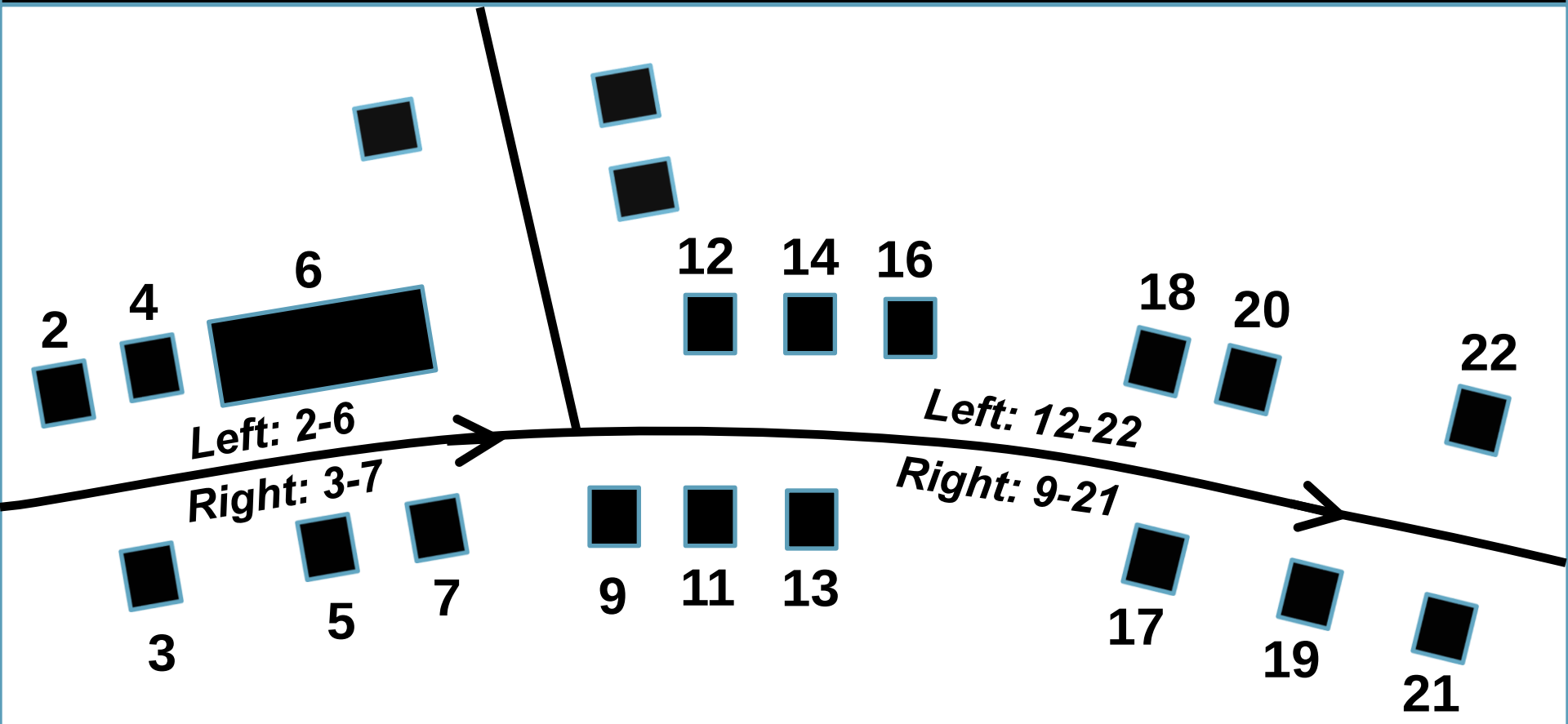
- Operator picks some pairs
- System suggests others
- Operator validates & adjusts
- Operator runs process
- Operator QCs results



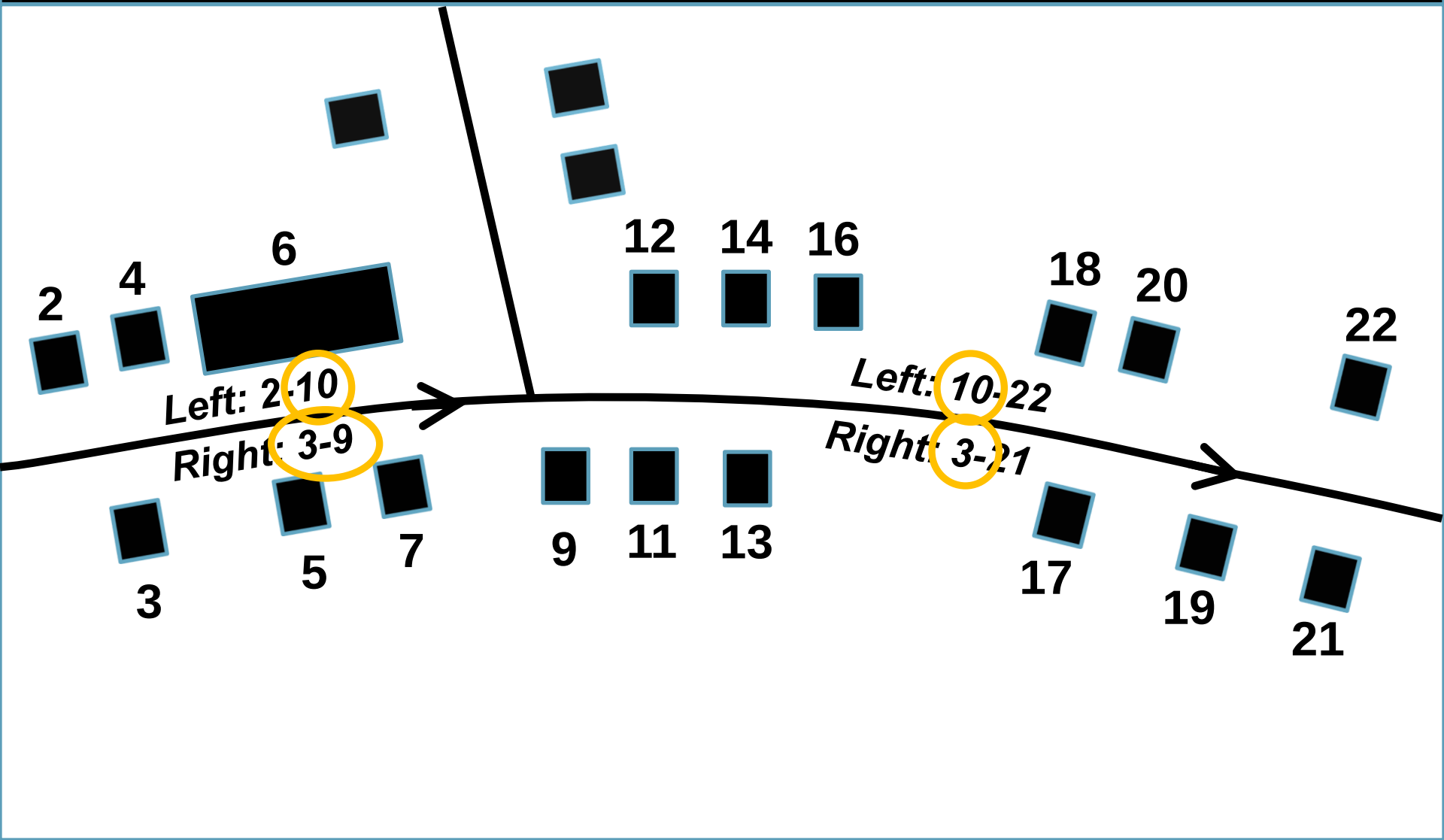
Issues Worked Through

- Overlapping address ranges
- Address range gaps
- Scrambled ranges
- Mixed parity
- Directionality
- Logical vs. actual ranges
- Non-numeric addresses

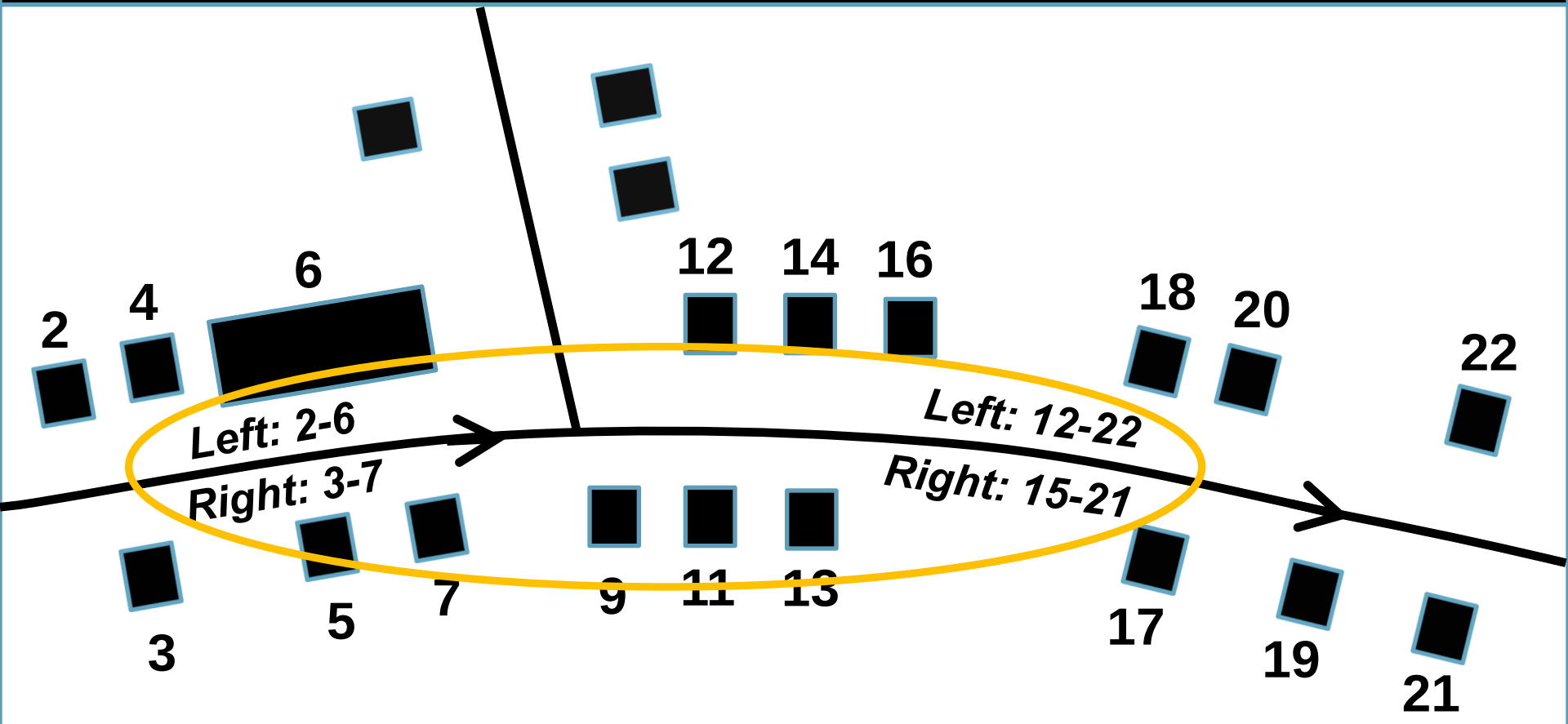
“Normal” Addressing



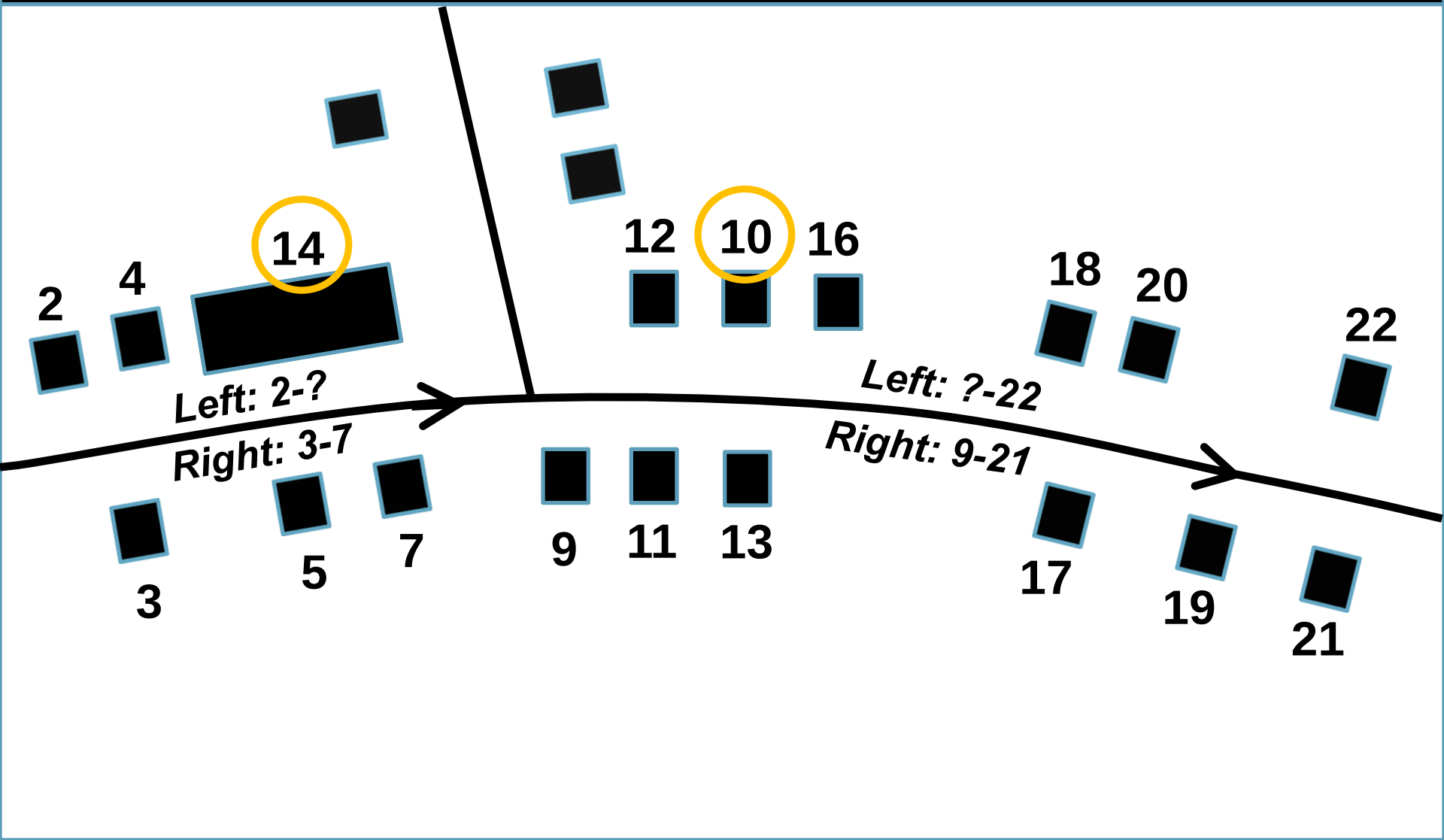
Overlapping Address Ranges



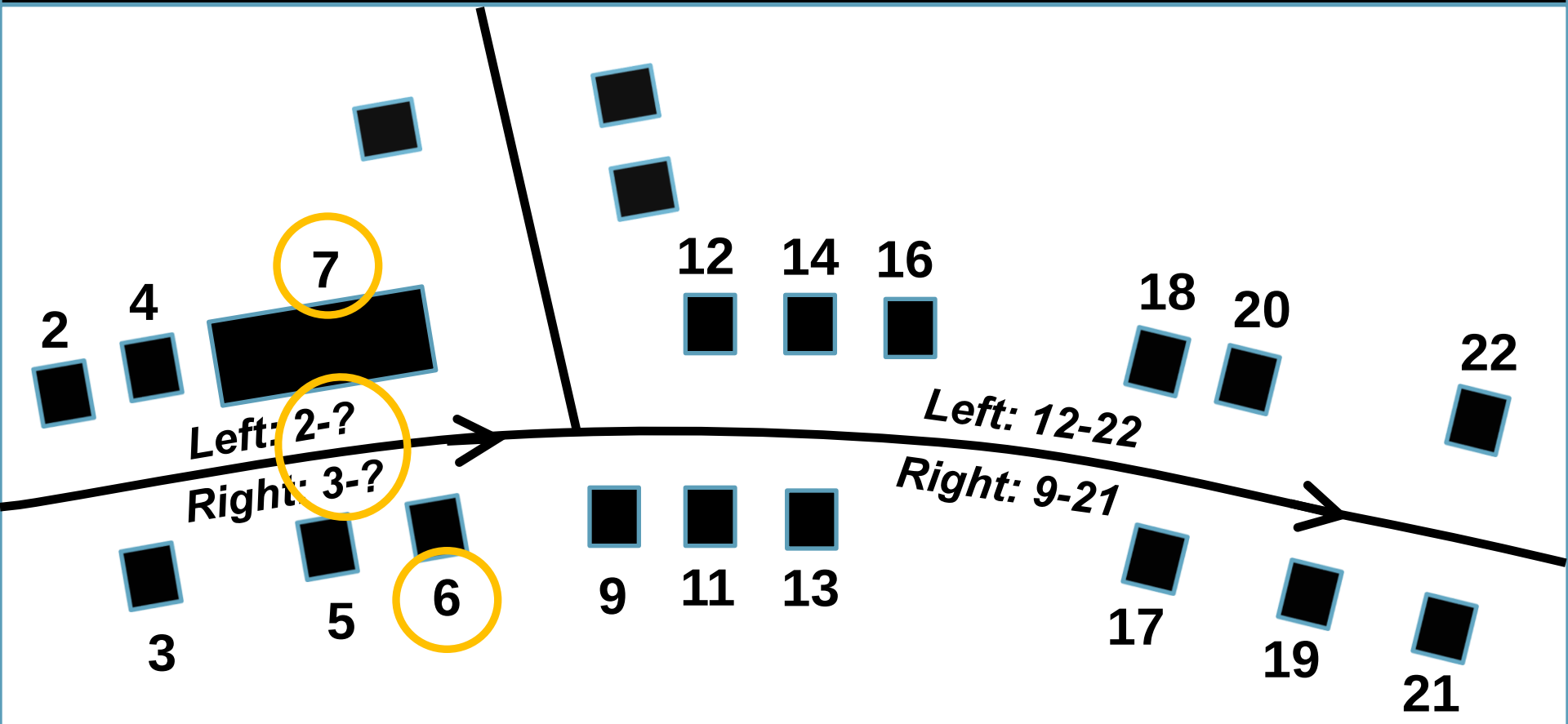
Address Range Gaps



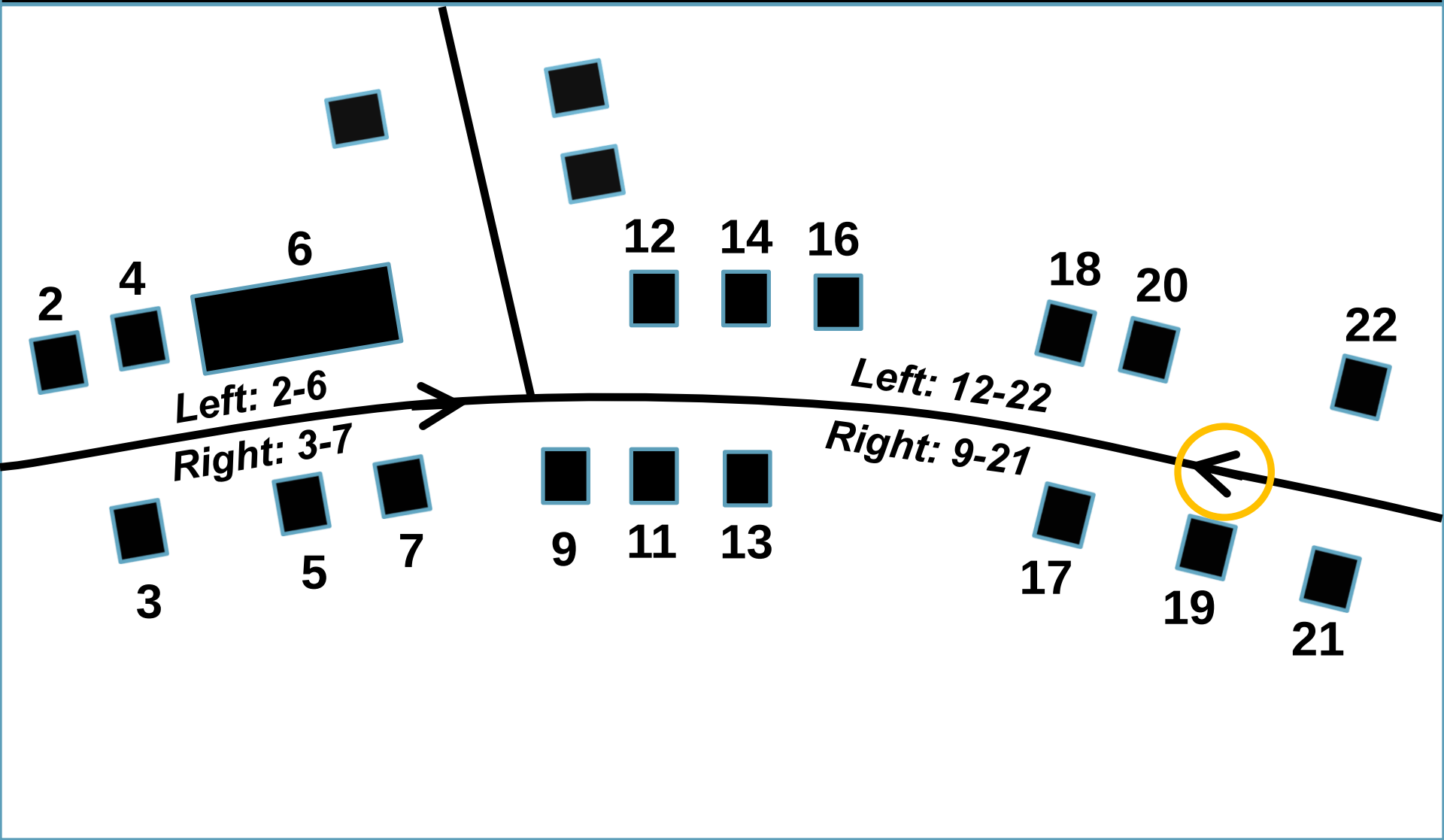
Scrambled Addresses



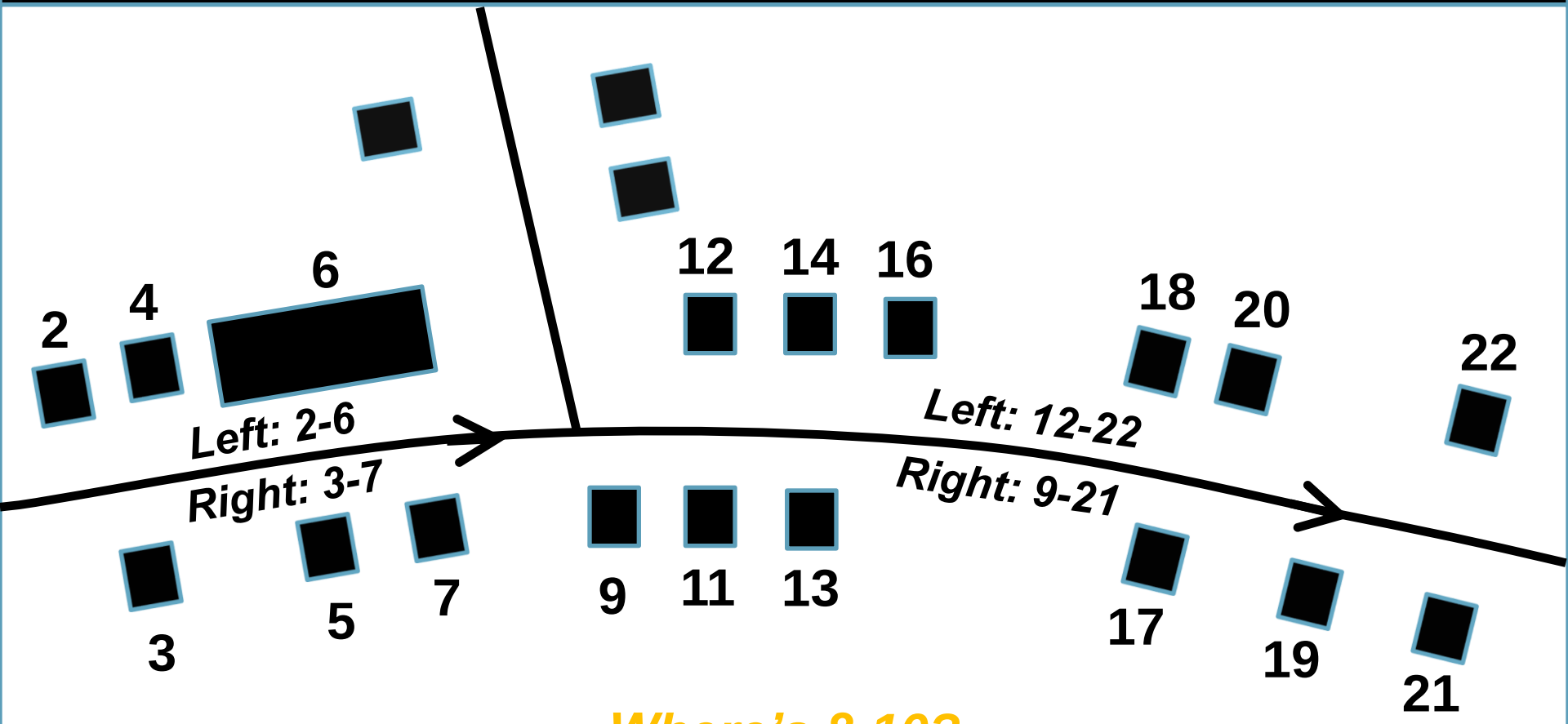
Mixed Parity (odd/even)



Directionality

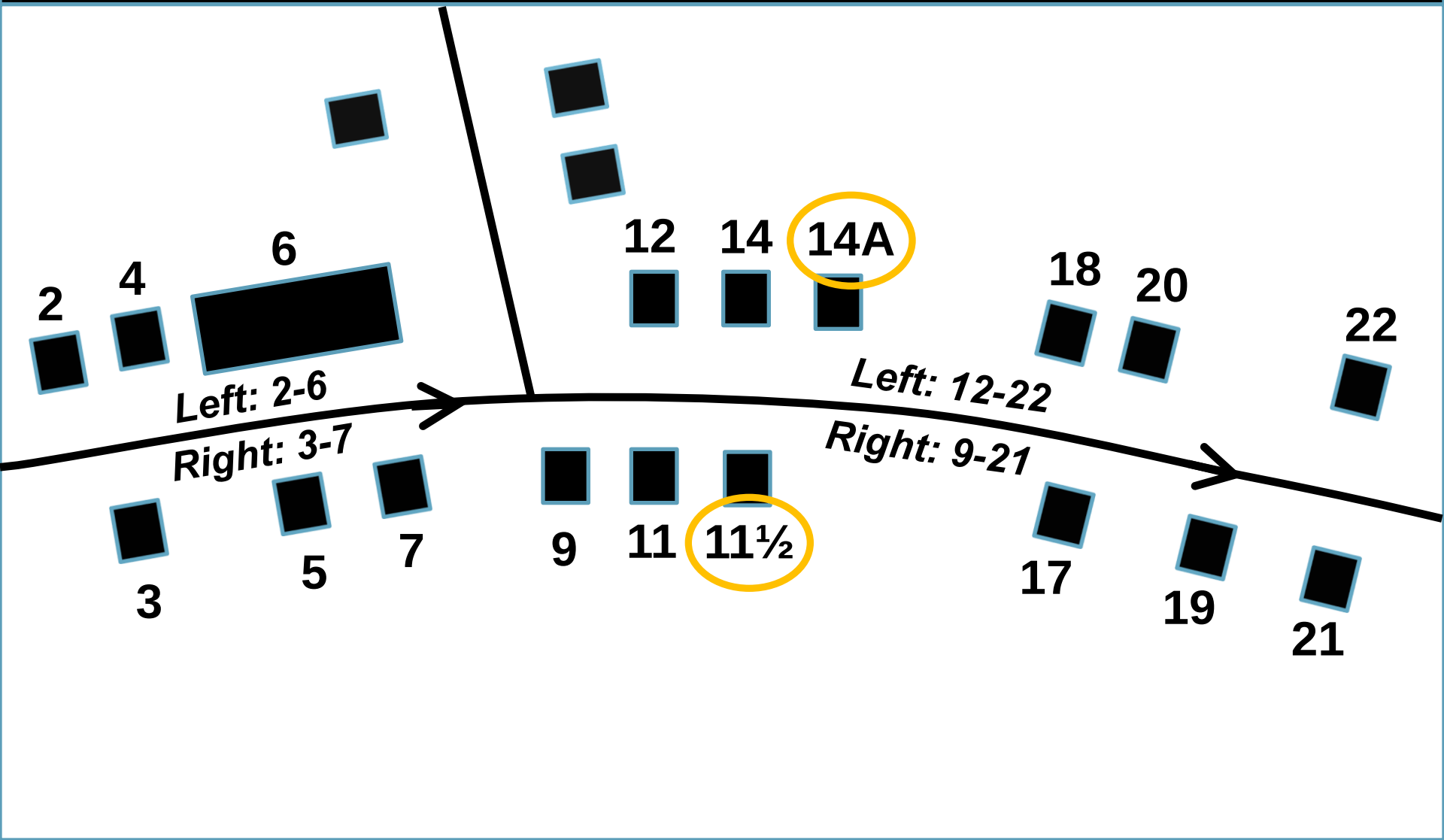


Logical vs. Actual Ranges



Where's 8-10?

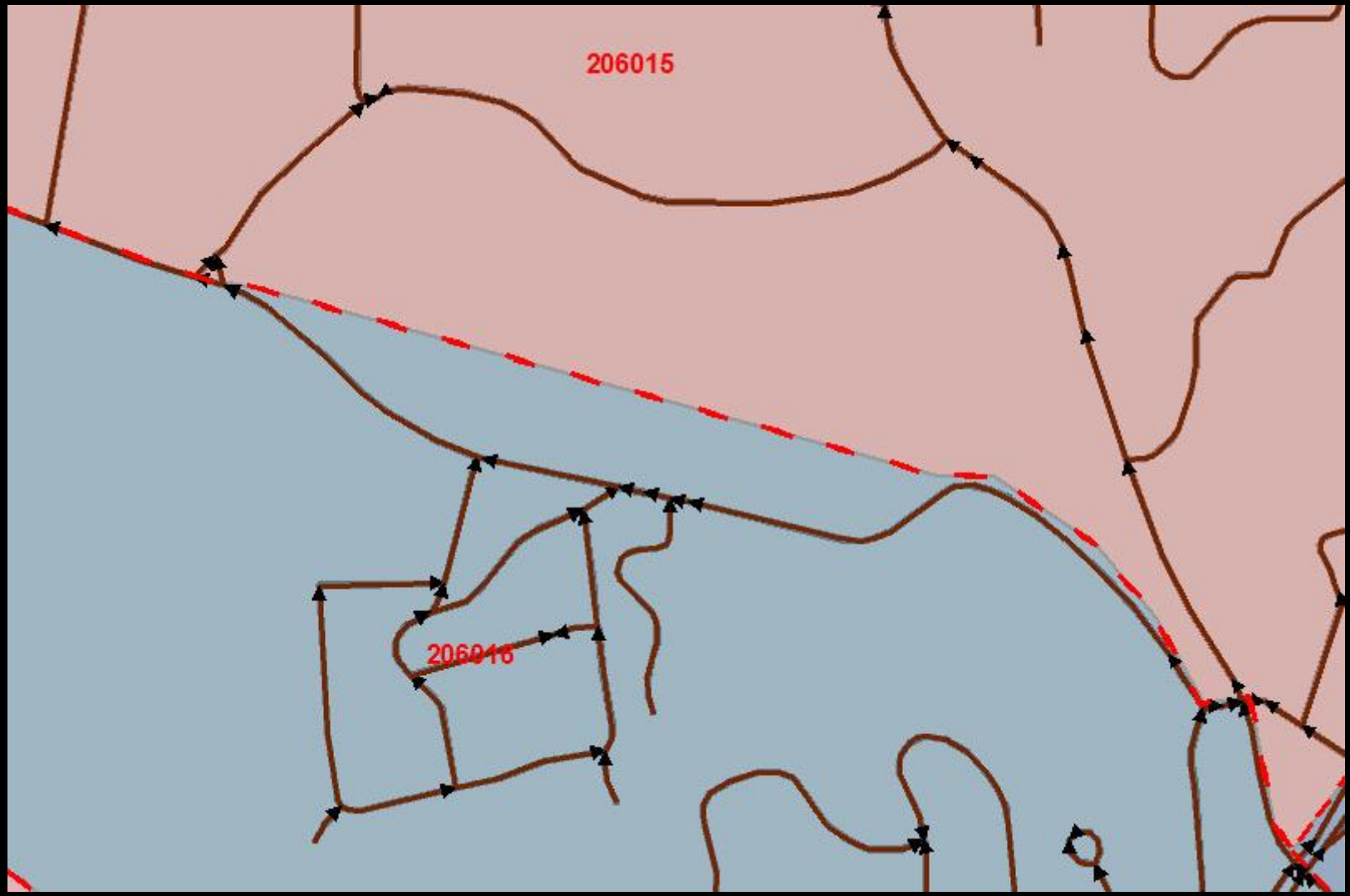
Non-numeric & Non-integer Addresses



Segment Breaks

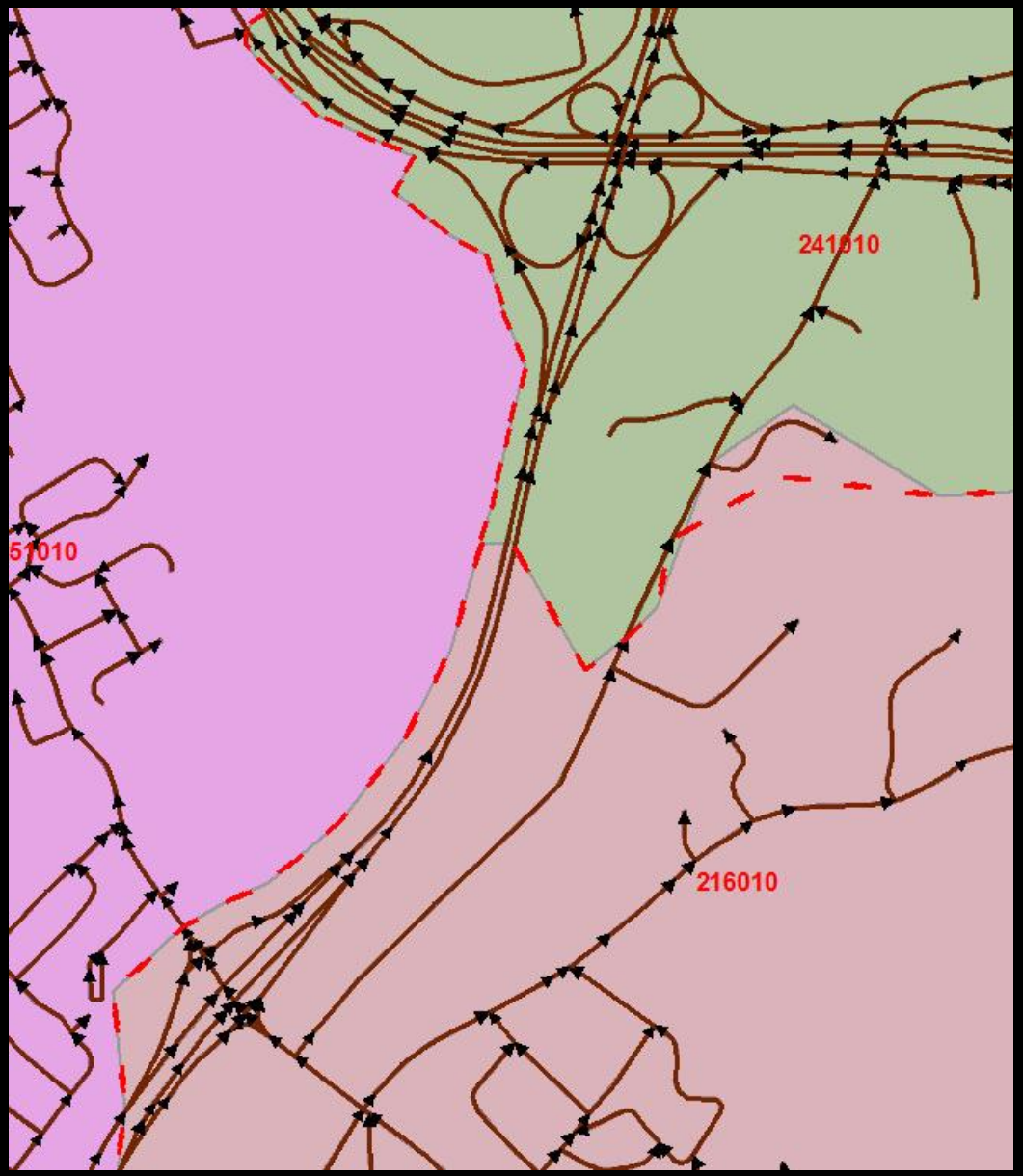
- Address issues
- ESZ boundaries
- Street name/type issues
- Directionality changes
- Attribute changes

Re-aligning ESZ Boundaries



More Details, Details …

- e.g. Limited access highways & ESZ boundaries



Validated with Real Incident Data

- Used 25,000+ records
- Checked ESZ returned
- Investigated errors
- Modified GIS data

Repeated until no errors were found …

4. Current Status

- System went live with GIS-maintained data in June 2013
- Updating by GIS specialists with ArcGIS and GeoMedia
- The CAD data is re-loaded periodically via a “map roll”
- Other GIS layers and new cartography have been added to the CAD

Maintenance - Sources

- Municipalities
- Public safety agencies
- Photogrammetry

Street geometries

Maintenance Workflow

- County GIS updates the data once
- The single definitive dataset is published to:
  - County's enterprise geodatabase
  - DES' CAD system (via extract)
  - County's GIS websites
  - County's Web Map services

5. Looking Ahead

- Prepare to support dispatching for Police with same data
- Prepare for Enhanced 9-1-1:
  - Address points
  - EGS integration
  - Cell phones
- Other:
  - Reverse geocoding

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Questions?

Thank you.

NY GeoCon