

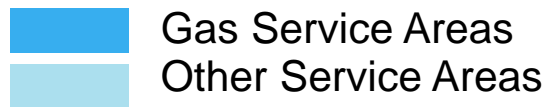
# **Natural Gas Leak Detection and Prevention**

Rick Trieste

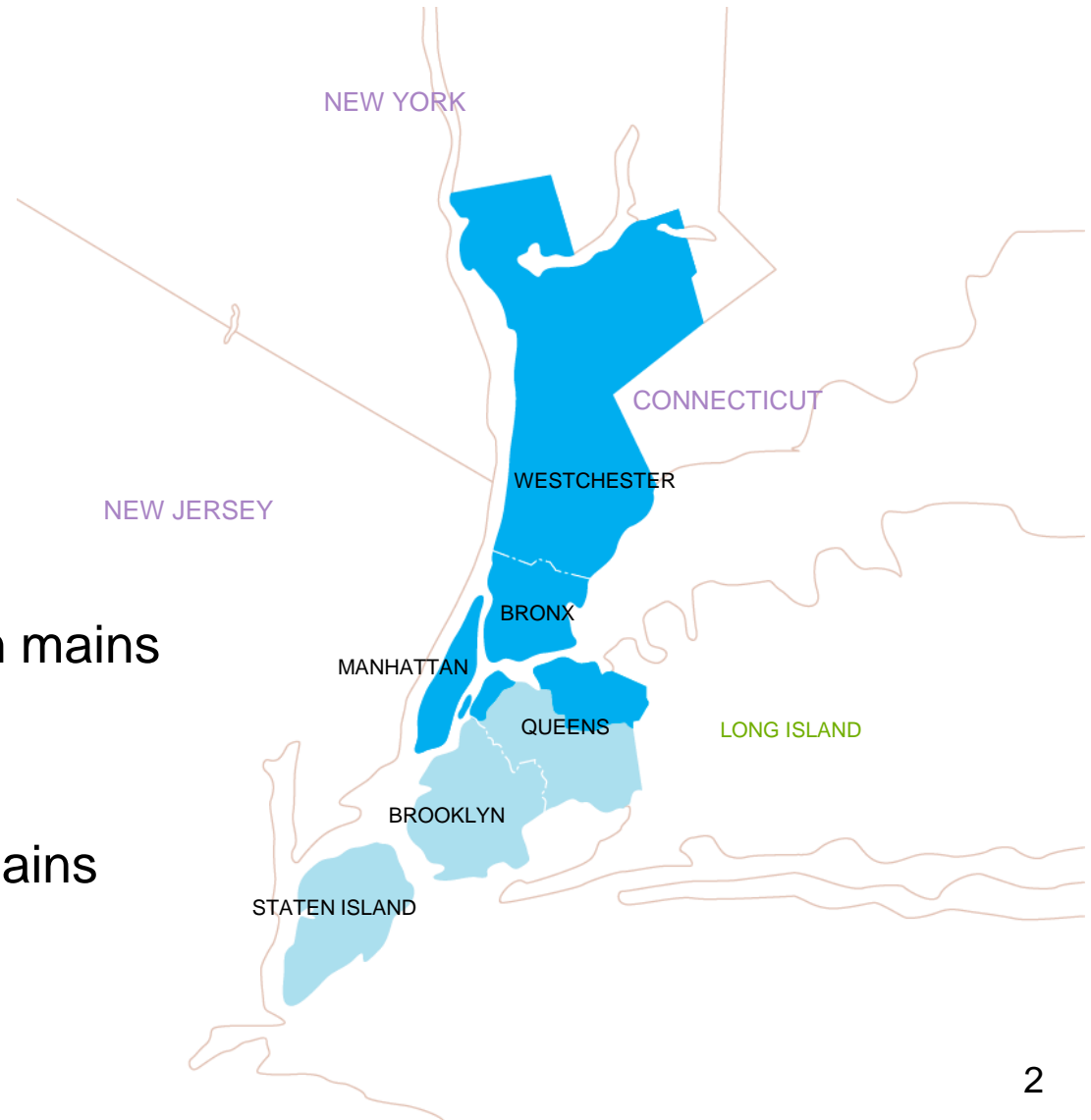
Department Manager - Research, Development &  
Demonstration

Consolidated Edison Company of New York

# CECONY Gas Franchise



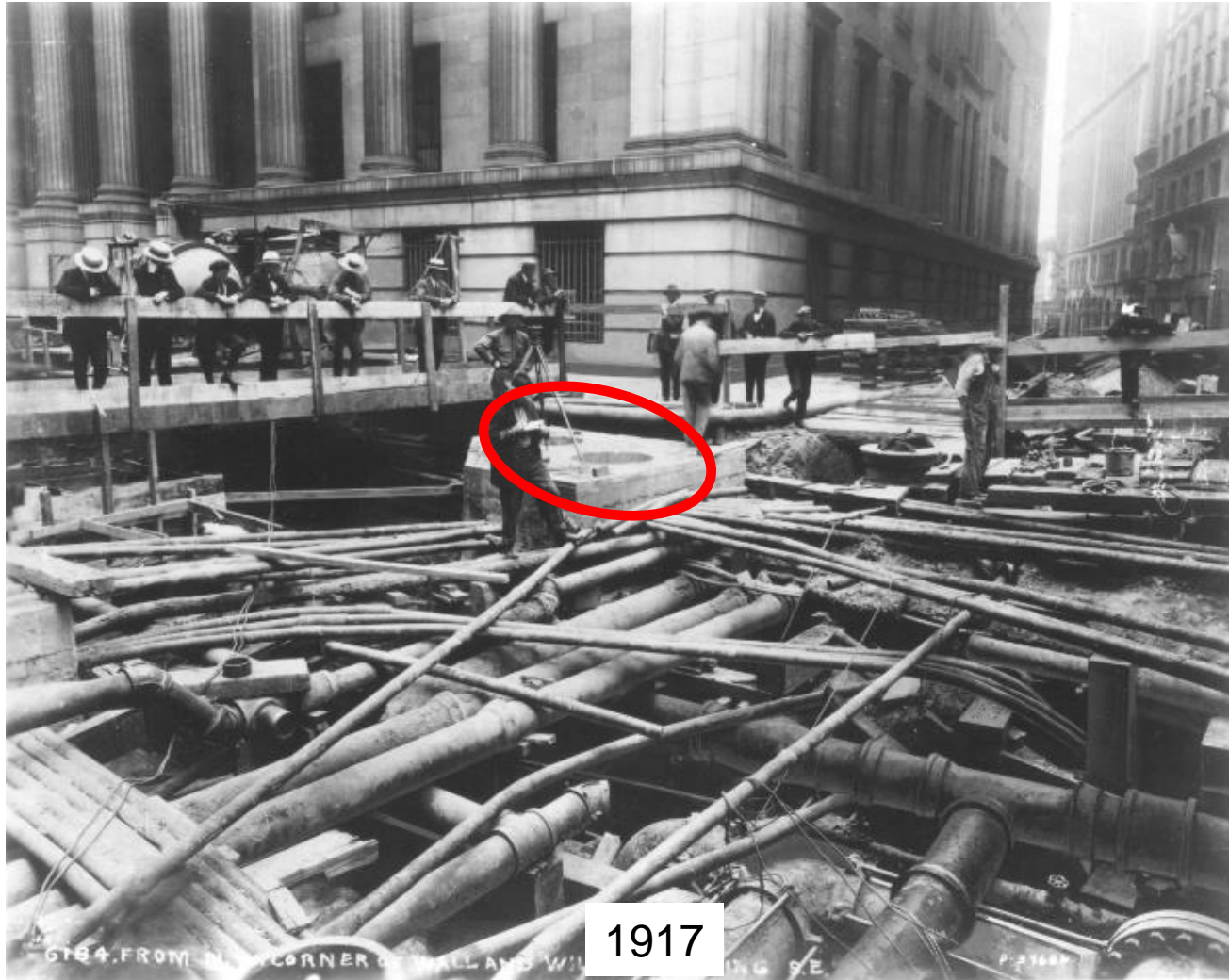
- 1.1 M customers
- ~4,400 miles of distribution mains
- ~375,000 services
- 94 miles of transmission mains



# Application of Technology In Urban Environments Pose Challenges

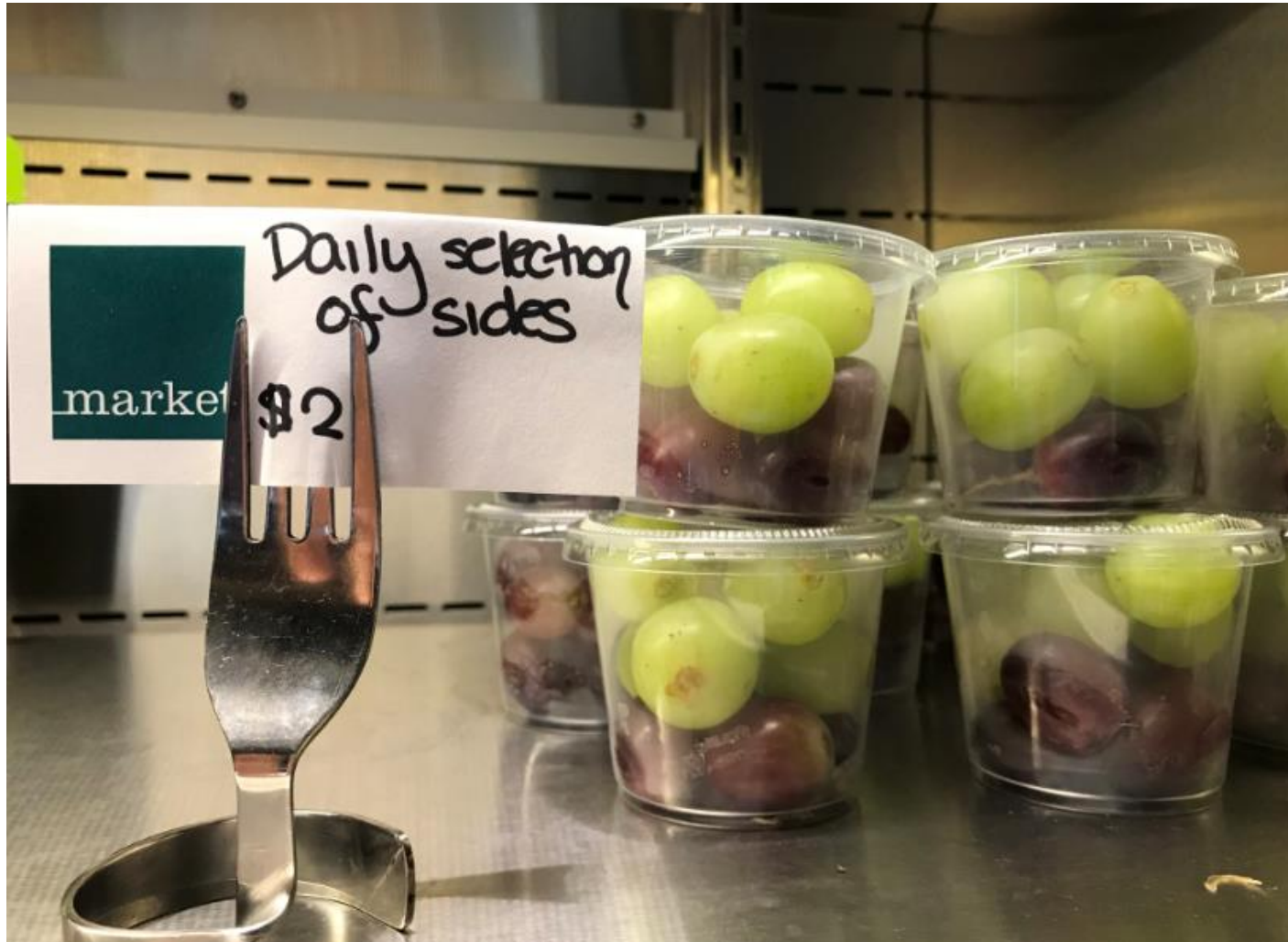


# Application of Technology In Urban Environments Pose Challenges





# Project Goals and Objectives Need to be Realistic



# Gas Leak Management Requires Multi-Faceted Approach

## Prevention

### Efforts:

- Main replacement program leak prone pipe
- One-call, Dig safe
- Work coordination with city utilities

## Detection

### Efforts:

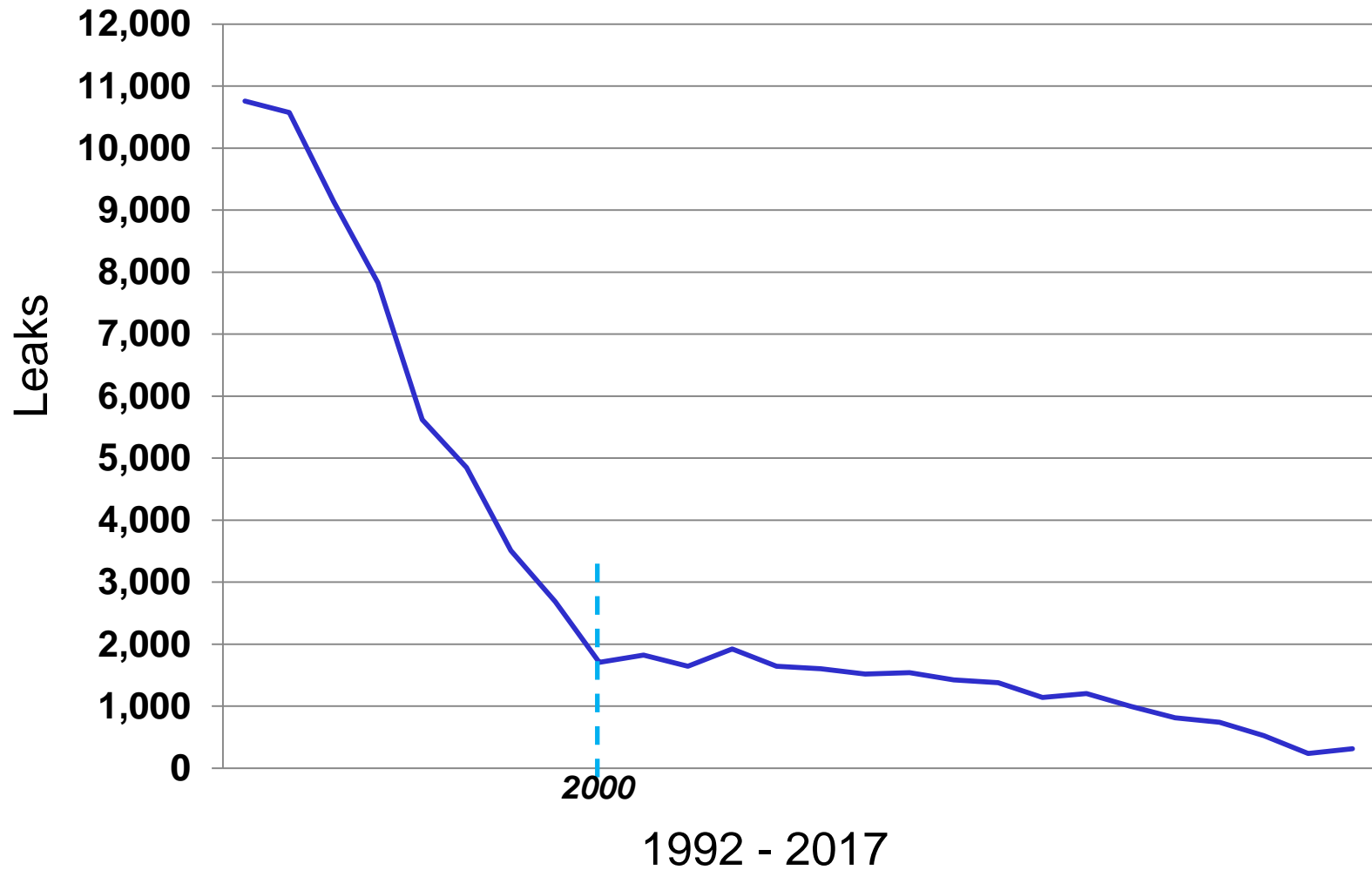
- *Monthly* mobile leak survey
- Public awareness campaigns
- Residential methane detectors development and deployment

## Response

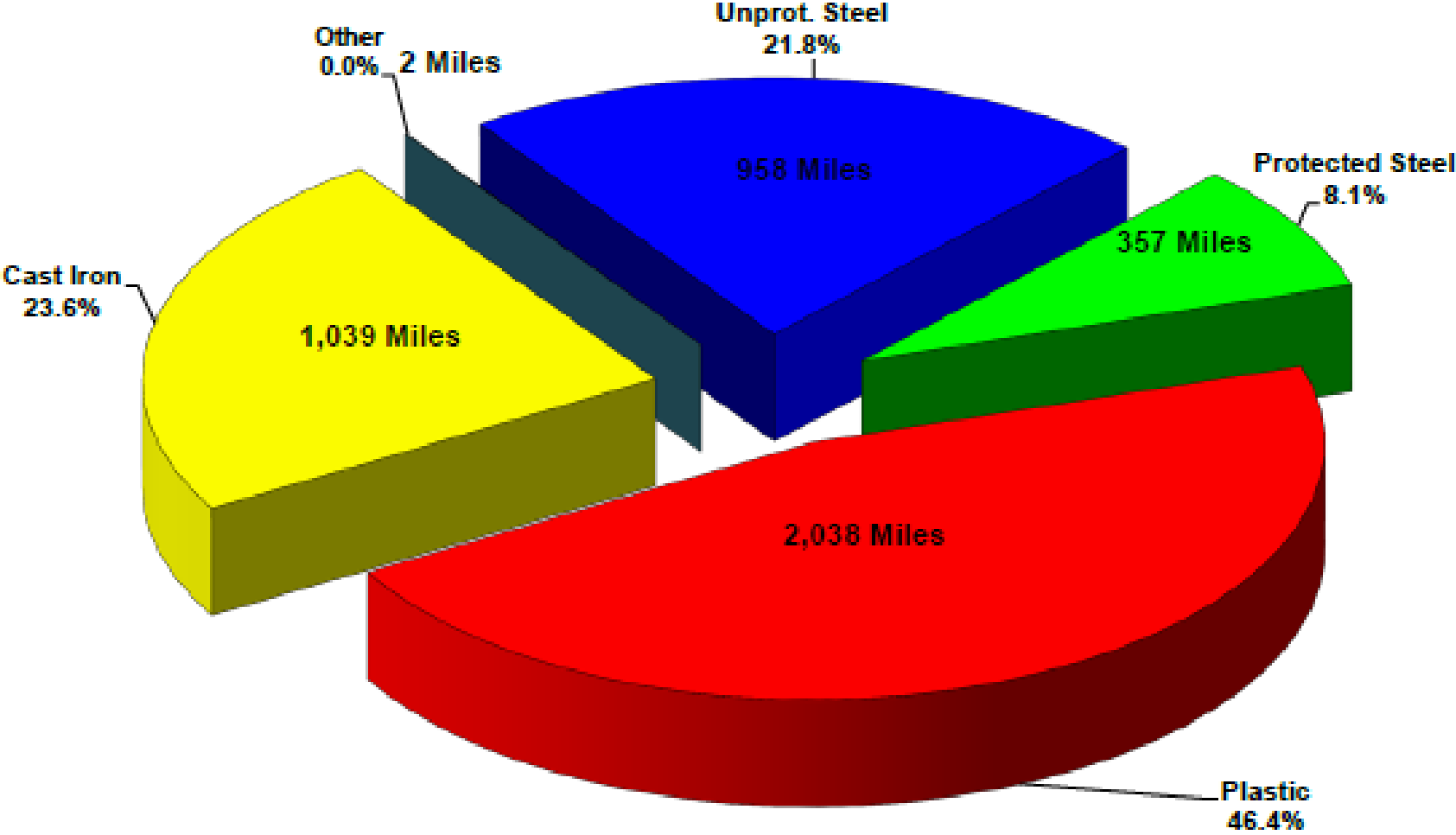
### Efforts:

- Code MuRRE
- Isolation valve installation program
- Repair Type 3 leaks

# Response: Gas Leak Backlog Management

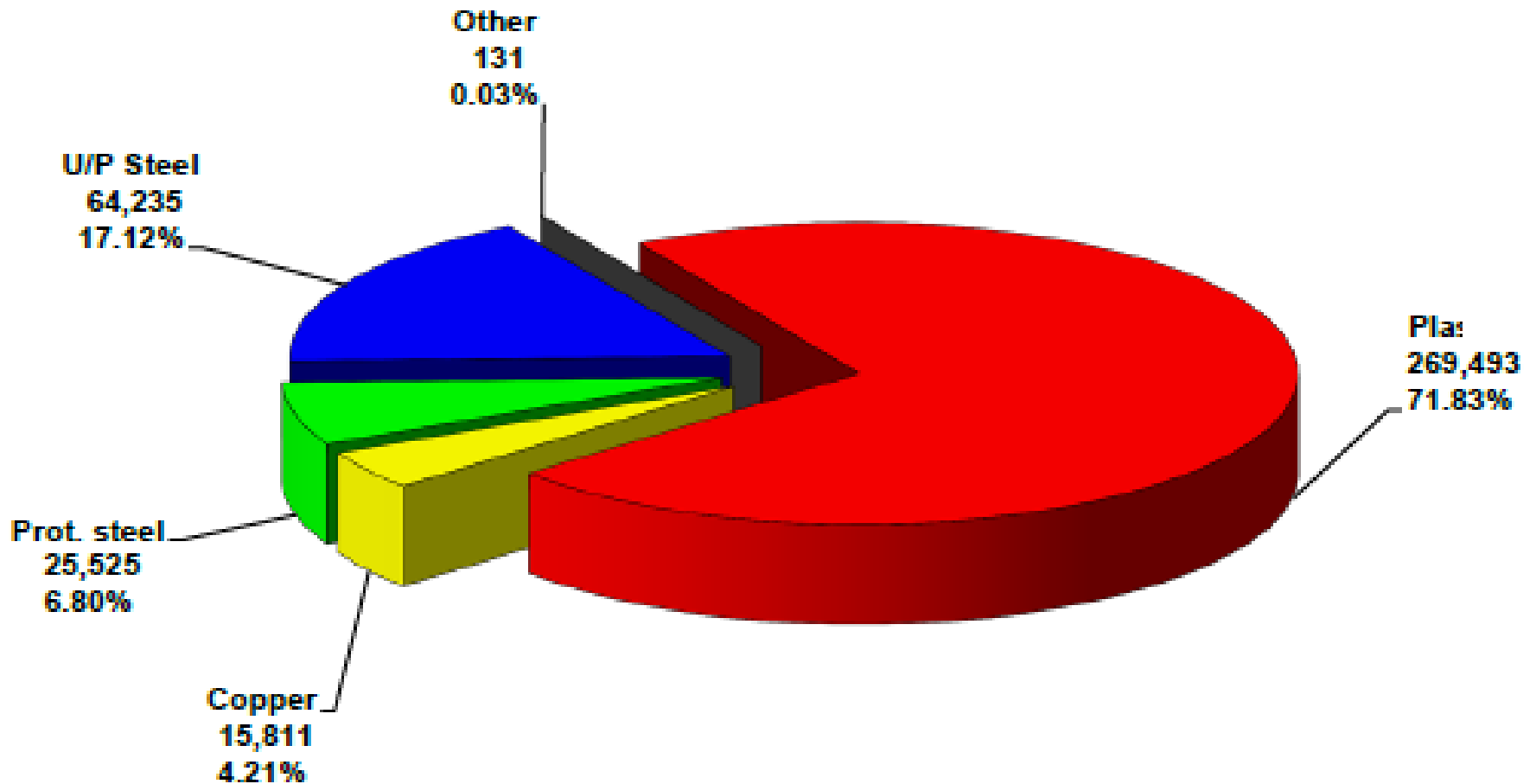


# Prevention: Main Replacement Program





# Prevention: Service Replacement Program



# Detection: Public Awareness Campaigns

Don't assume someone else will make the call.

[View Online](#)

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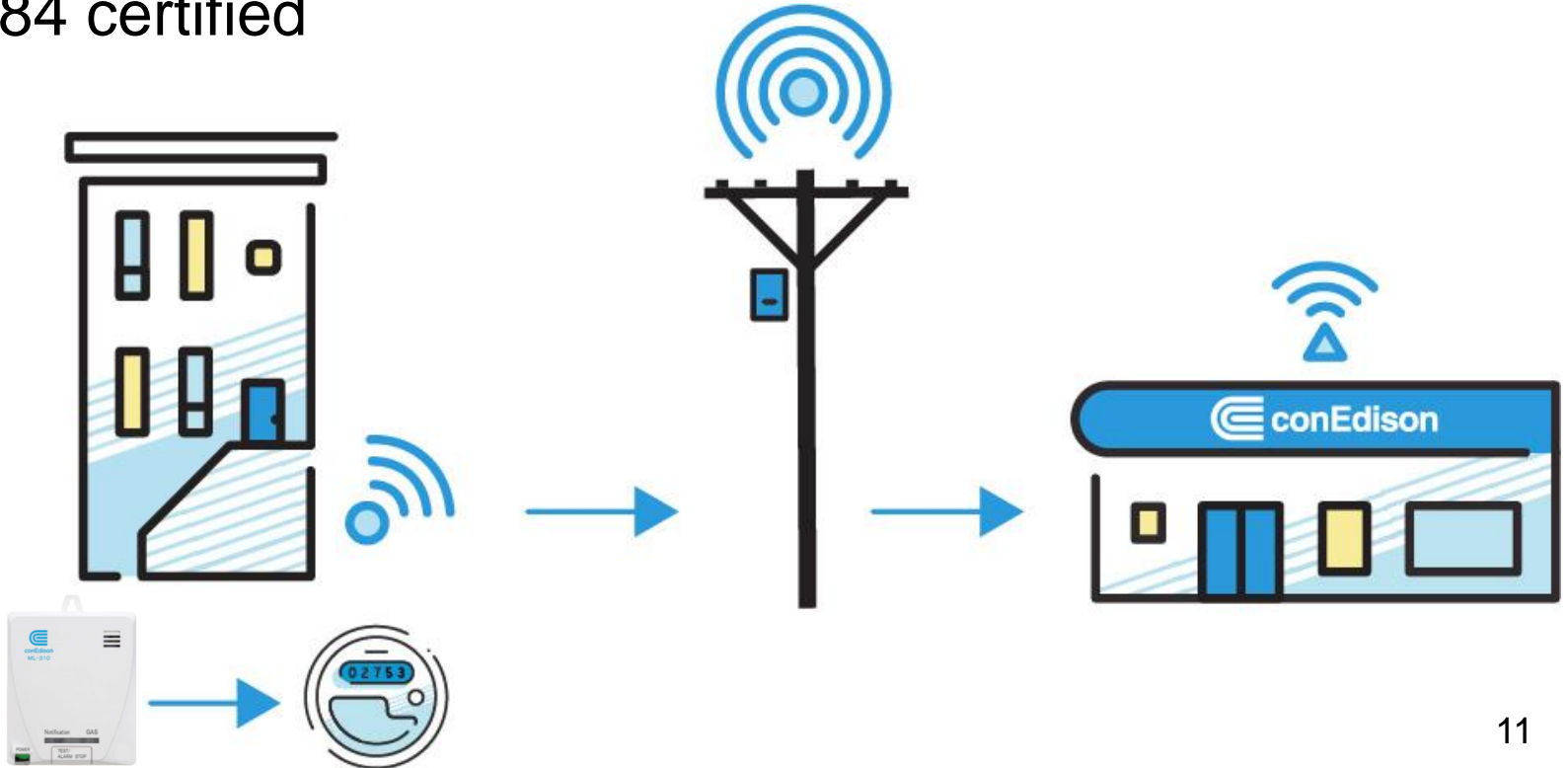
## Smell Gas. Act Fast.

Gas leaks can create  
fires and explosions.


[Learn More](#) ⓘ

# Detection: Residential Natural Gas Detector – New Cosmos

- Battery powered - 5 yrs.
- Tested by GTI
- UL 1484 certified
- 10% LEL alarm (0.5% gas-in-air)
- Device Company owned




# Detection: Residential Natural Gas Detector – Sparrow Detect

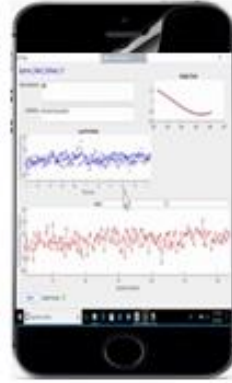


THE FUTURE OF GAS DETECTION  
for  
Every Home, Every Building, Everywhere

## Natural Gas Detection



6" x 6" x 1½"



Applications

# Detection: Residential Natural Gas Detectors– Sparrow Detect



**It's about Safety, Services & the Environment**

**ONLY Sparrow provides:**

**THE EARLIEST WARNING**

Rate of Change and Time Trending Detection  
Ability to detect gas at very low levels  
Unparalleled performance

**NO FALSE POSITIVES**

Intelligent Risk Assessment  
Ability to detect common contaminants  
Molecular specificity

**“KNOWN” DEVICE STATUS**

Built in diagnostics  
Status available on demand

**FREE RUNNING**

Self monitoring and correcting

**LARGEST COVERAGE AREA**

1 Sparrow protects single story home

**PREVENTATIVE**

Early identification of leaks  
More reliable than “odor calls”  
Ability to turn off gas at smart meter

# Detection: Leak Survey Enhancement Project with Colorado State University

- Mobile leak survey performed with Heath DP-IR
- Objective is to evaluate tools and process to seek improvements of mobile leak survey
  - Evaluate application of an anemometer
  - Operate an LGR in parallel to:
    - Optimize alarm set-point of DP-IR
    - Minimize false positives
- Evaluate leak investigation process once an indication warrants
- Evaluate use of hand-held devices to zero in on leak location



# Detection: Advanced Leak Detection Technologies

- Picarro Surveyor
  - Areas clear of urban canyons
  - Pre-pave surveys
  - New construction quality control
  - Written procedures
- Project begun to evaluate ABB MobileGuard™

# Methane Emissions Avoidance – ZEVAC, TPE Midstream



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