



## Vizalytics Technology

### The Vizalytics Knowledge Graph

Behind all Vizalytics Smart Cities solutions are the power and economies of patent-pending “contextual insights” accessed through the secure cloud-based Vizalytics Knowledge Graph. The Knowledge Graph analyzes a continuous stream of data from hundreds of public and private open data sources, then feeds insights to our users, in real time, via notifications, alerts, analysis, visualizations, and maps.

Vizalytics clients – local businesses, neighborhoods, governments, enterprises, and individuals – receive predictive insights, facts, and trends about our changing world, saving money and time, increasing efficiency, and uncovering opportunities. They also avoid risk with their data securely protected in international data centers that meet U.S., European Union, and other global data protection standards.

### Changing Urban Landscape

The Vizalytics Knowledge Graph is a living, continuously updating and evolving spatio-temporal knowledge base that maps relationships in real time. A municipality, for example, might have a dozen distinct data streams – inspections, traffic, transit, construction, health department, 311 complaints, permitting, crime. Each stream monitors its own discrete set of events, often hundreds of them – rodent reports in restaurants, rodent reports in residences, water leaks, planned construction, emergency traffic rerouting, and many more, in granular detail.

But these independent data streams exist in isolation until the Knowledge Graph’s semantic analysis breaks down the walls between them. The Knowledge Graph maps the discrete events – upwards of 500 distinct event types for a large urban application – and relationships among them against time and location. Then, using context-driven analytical “lenses,” the Knowledge Graph produces audience-focused alerts about those events and pushes them to users, adding tips, background, and suggestions based on their needs. A collection of disconnected data sources becomes, through the Knowledge Graph, a unified portal to a fast-changing cityscape.

### Creating Solutions

Building on the Knowledge Graph’s automated, scalable insight pipeline, Vizalytics customizes open data solutions via three basic offers:

**Vizalytics enables Smart Cities by unlocking the potential of untamed Open Data, connecting governments that create it to the citizens and businesses who need it.**

Vizalytics was born in the aftermath of Hurricane Sandy in 2012, along the U.S. eastern seaboard. The storm affected thousands of small businesses and shopkeepers and underscored two huge unmet challenges: The need for fast access to government data for shopkeepers struggling to survive and recover, and the need for governments to learn how to analyze, coordinate, and distribute information from disparate data sources to their many constituencies. Today, Vizalytics solutions bridge the digital divide between the public and government data for cities and publics around the world, tapping the potential of open data to help you cope, communicate, collaborate, and grow.

**What do you and your constituencies need to take full advantage of Open Data?**





- The Vizalytics [\*Mind My Business\*](#)<sup>™</sup> mobile app for shopkeepers. We collect information from government and public data sources and alert our users about construction, traffic, regulatory issues, health and safety concerns, fines, events, and 311 information. The app helps shopkeepers make more informed decisions, creating opportunities and saving them time and money while improving compliance.
  - Through Mind My Business<sup>™</sup>, the Knowledge Graph alerts a restaurant to a nearby rodent report, and warns of potential health department inspections and fines.
- A Vizalytics “*neighborhoods*” website. The prototype is New York City’s [\*neighborhoods.nyc\*](#) site, which provides hyper-local information and a connection to city services for communities and residents in more than 300 neighborhoods. It uses Vizalytics Knowledge Graph analytics to provide traffic, transit, quality of life, health, inspection, event, and other information about each neighborhood in the city. A “neighborhoods” site is both a resource for residents and a catalyst for community organizing and change.
  - The Knowledge Graph tells neighborhood users about the rodent report, adds a link to information about preventing infestation, and provides an opportunity to share the report with neighbors.
- **Vizalytics Local Insight**, an enterprise-level dashboard for governments and enterprises. Local Insight aggregates information from multiple sources of governmental and public data, generating custom insights for each user, producing a multi-layered view of conditions, events, and changes within a specified geography. Local Insight helps governments pull siloed data sets together, multiplying the value of the data for internal use while opening new opportunities to connect with their constituencies. Institutions and enterprises can tap open data relevant to their operations with real time views of the areas where they operate.
  - A total Local Insight solution can include Mind My Business<sup>™</sup> and “neighborhoods” elements as required – in addition to receiving the rodent report, a Local Insight user can also draw from the Knowledge Graph a report on frequency and distribution of reports over time.

How can Vizalytics support your Smart Cities goals? What do you and your constituencies need to take full advantage of Open Data? Contact us to see how the Vizalytics Knowledge Graph transports you to Open Data 2.0.

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