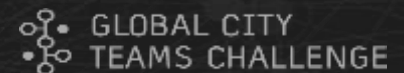




Illuminating Smart Cities

Kansas City Runs on IoT Platform

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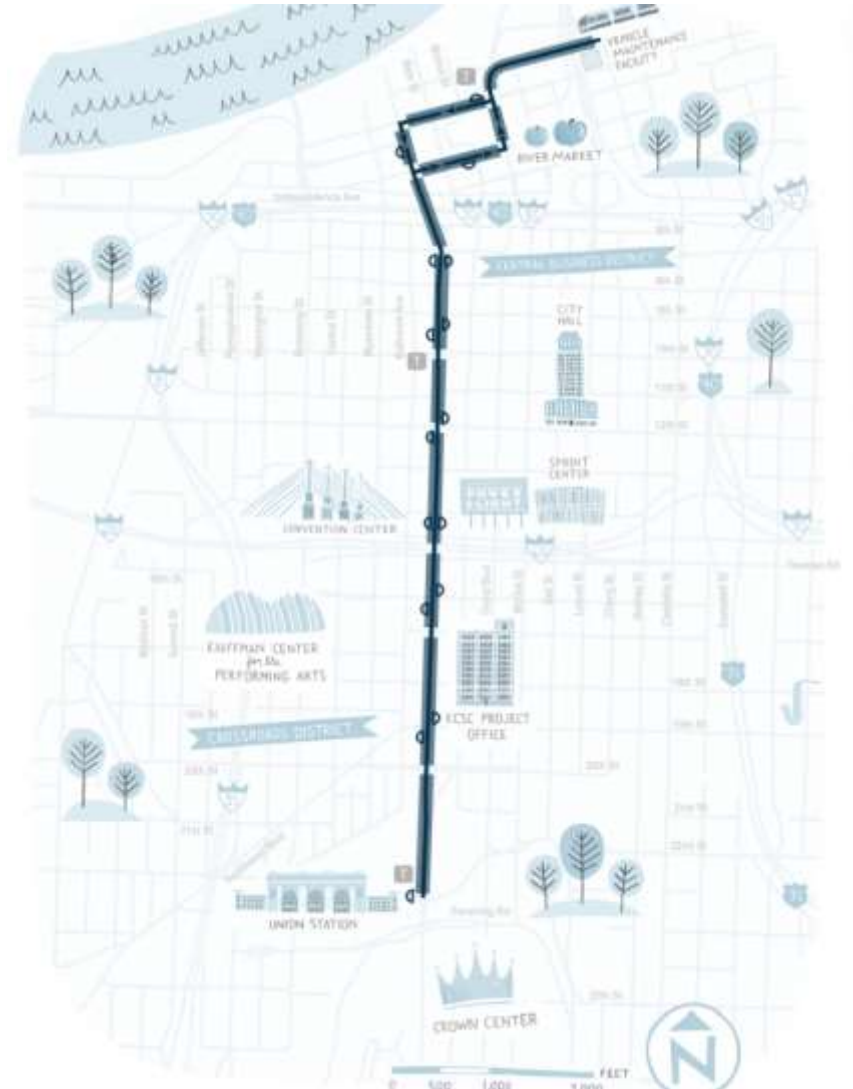
An integrated system of smart technologies deployed in Kansas City's downtown.

Streetcar Line features Wi-Fi coverage from River Market to Union Station. Citizens also have access to 25 KCity Posts at all Streetcar Stops.

Wi-Fi Zone with over 300 transmitters provides coverage beyond the Streetcar line. Approximate coverage area highlighted.

KCity Post Kiosks give citizens point access to city data, commercial content for nearby businesses and hyper-local wayfinding and event information.

Traffic Signals and Streetlights solution deployed with 121 sensors in LED street lighting for smart light management and video based security and computer vision

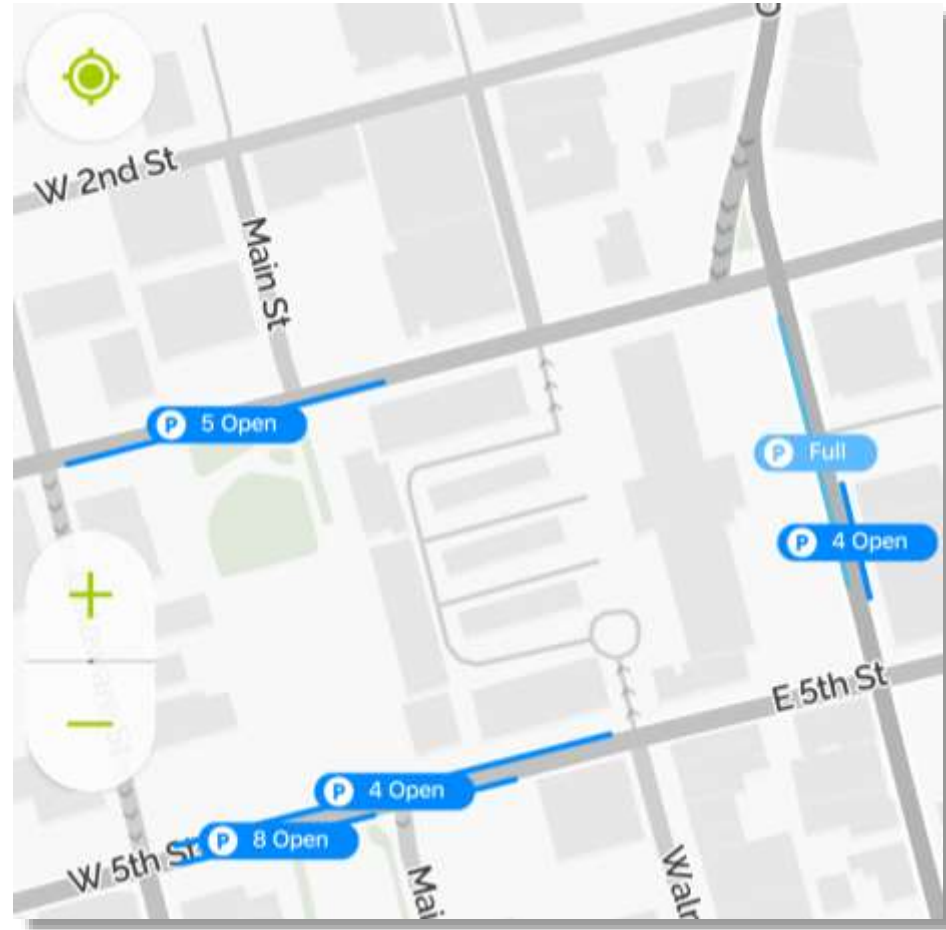


Smart Streetlights





Parking Wayfinding



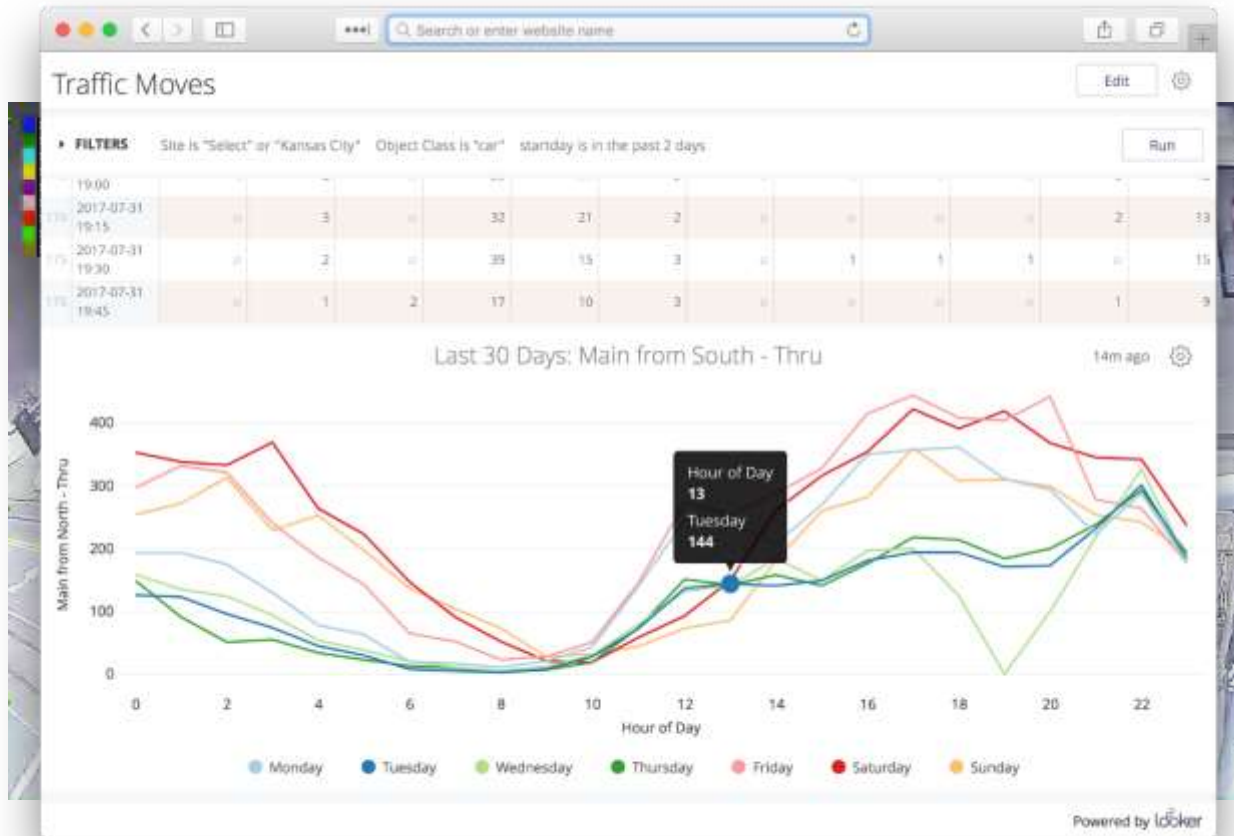
Smart City Operations



- Real-time traffic
- Street car tracking
- Parking enforcement
- Pothole prediction
- Open data integration



Traffic Automation



- 24/7 turning movements
- Ped and bike counts
- Hadoop data warehouse
- BI Visualization



Street Car Safety



- Automated blockage detection
- Machine vision based
- Edge video retrieval
- Real-time alerting

Genetec

Computer Vision for Intersection Safety Analytics



Cybersecurity – Smart & secure lighting

Traditional video solutions require significant investment to get cameras at the edge and storage aligned.

- Cameras record high-quality video at the edge
- Data is stored on local storage devices sized for short-term needs. All long-term storage goes to the cloud
- Edge analytics spot unusual or abnormal behaviors and trigger alerts
- Only relevant video clips are sent over the 4G LTE network to the cloud
- Our cloud-based Intelligent Video Management System both archives video and shares it with authorized personnel at a desk or on the go
- Authorized personnel can watch video remotely—in near real time—enabling better decisions, shorter response times and effective interventions

Cybersecurity

- Sensity, a Verizon company, is now part of one of the world's largest security organizations and a world leader in cyber security, using intelligence we've gathered about the latest breaches and threat patterns, with over 70 contributing organizations worldwide and access to the largest share of the internet backbone.
- Three security operations centers (SOCs) in the U.S. (one serving only government customers), two in Europe and four in the Asia/Pacific region (one serving government customers).
- **Security Professional Services:** Focuses on tackling security compliance and strategy to mitigate risk
- **Network and Gateway Security:** Implements protection at the network edge to help detect and prevent advanced threats, intrusions and other exploits before they reach a company's network
- **Security Monitoring and Operations:** Manages devices and certificates, helps maintain compliance and offers threat intelligence
- **Incident Response:** Responds to data breach incidents. Verizon's Research, Investigations, Solutions and Knowledge (RISK) Team investigates hundreds of breaches each year.
- **Managed Security Services (MSS)** analytics platform uses a Unified Security Services Portal for customers. Verizon's log event collector (LEC) feeds security data to a big data-based analytics platform

Transforming Data Into Actions & Benefits

Lighting

- Auto dimming
- Fault detection

Benefits:

- Energy savings
- Safer streets
- Decreased maintenance
- CO2 reduction

Traffic

- Traffic planning
- Signal timing

Benefits:

- Reduced congestion
- Time savings
- Reduced pollution

Parking

- Parking wayfinding
- Optimized enforcement

Benefits:

- Less time-to-park
- Increased labor-to-revenue efficiency

Safety

- Detection PPV
- Video streaming to agencies

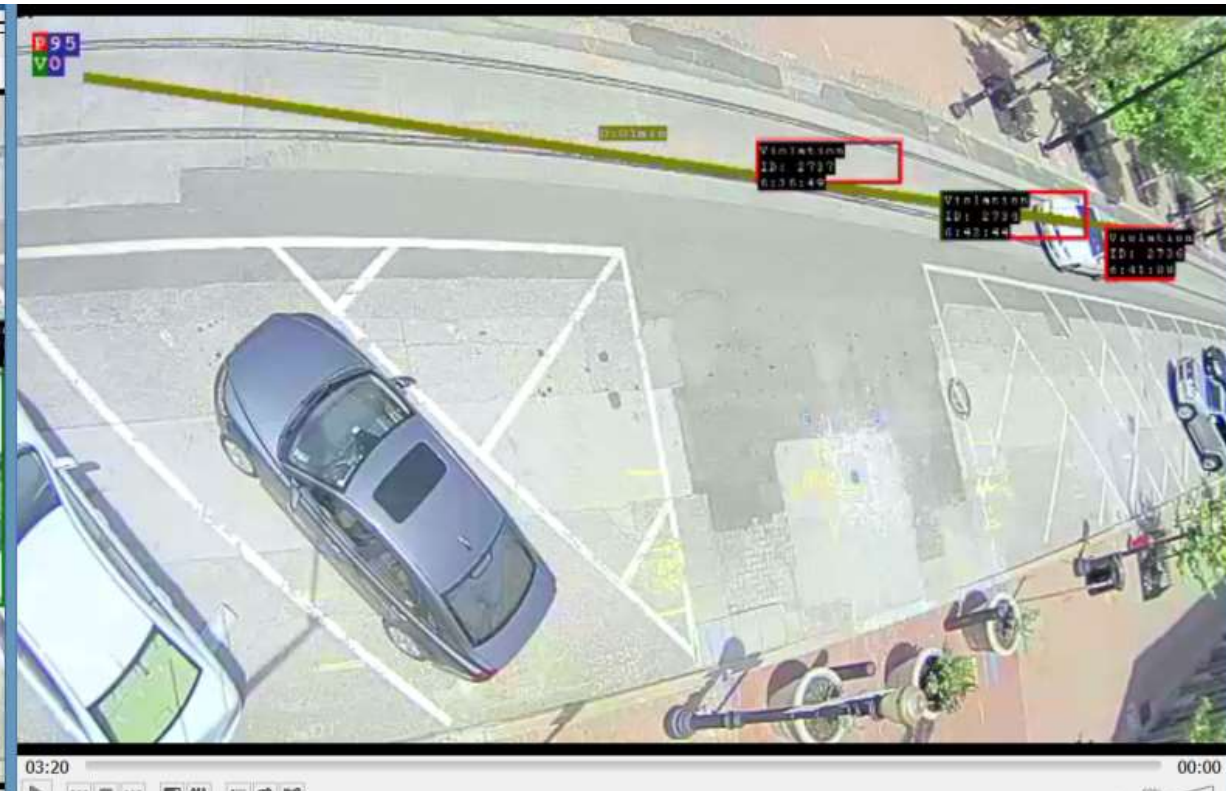
Benefits:

- Street car safety
- Vision Zero
- Forensic investigation

THANK YOU



Sample Image from Video Node



Core Nodes & Video Nodes on Cobra Head Fixtures

