

Verizon

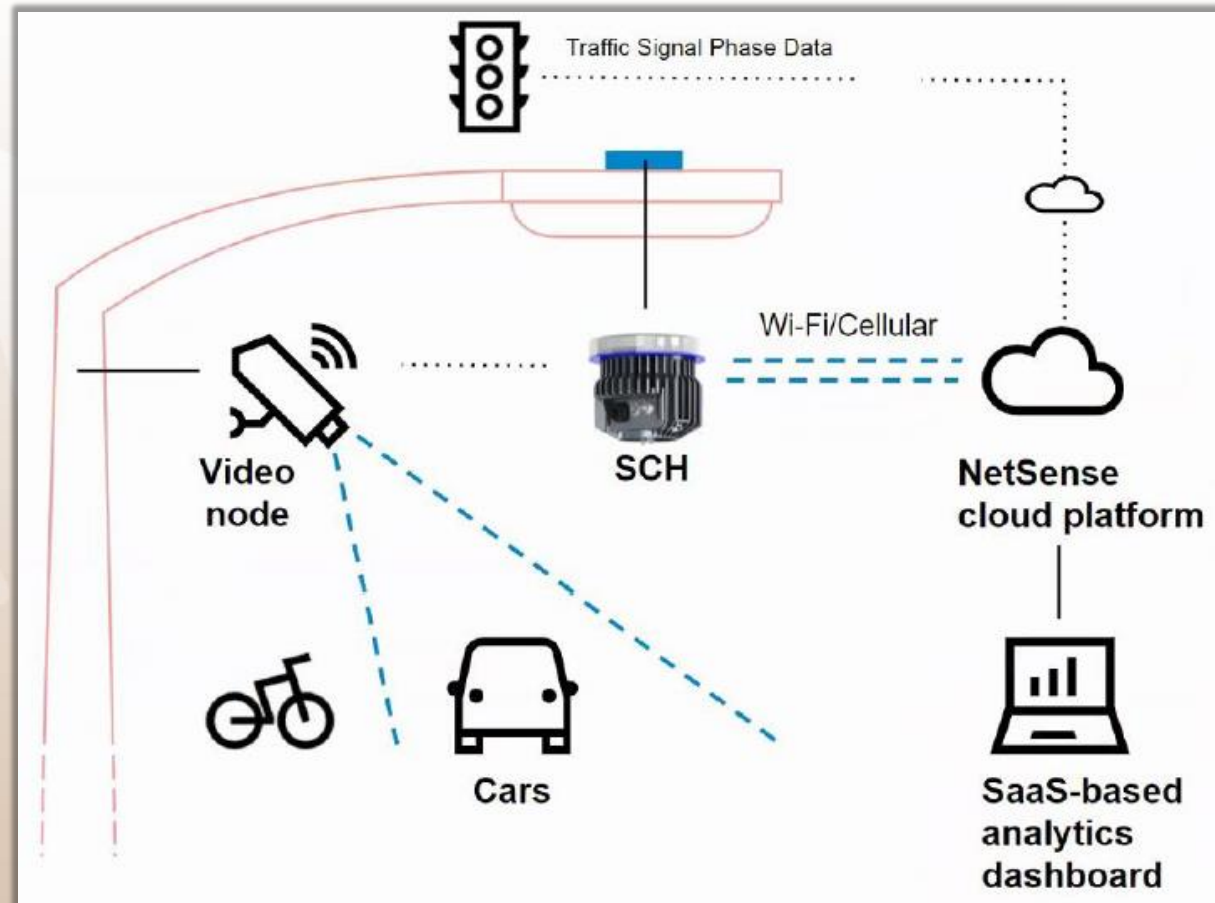
Intersection Safety Analytics

by
Ho Nguyen, ITS Manager
3/24/2021

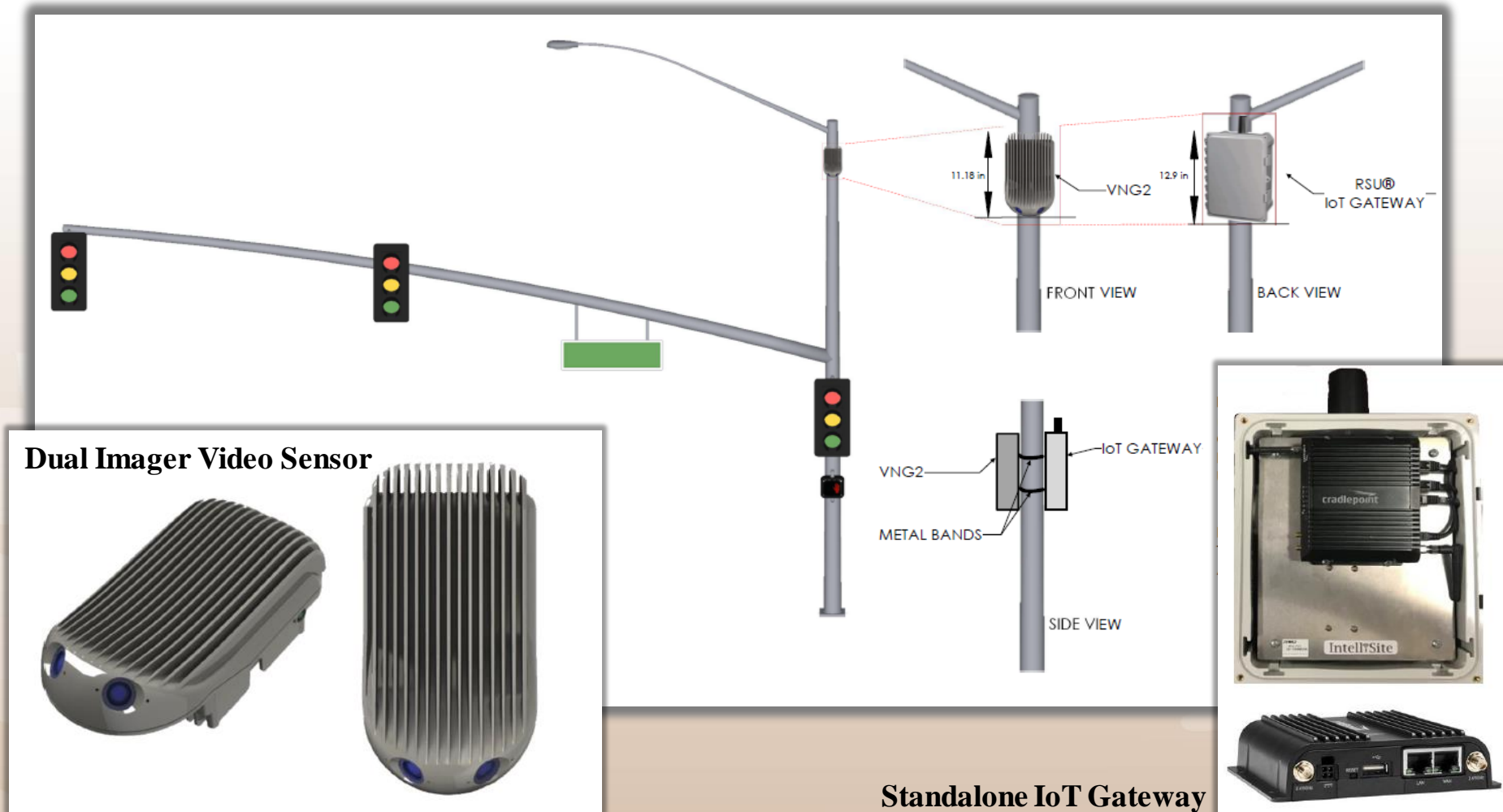
ISA Architecture

System Components

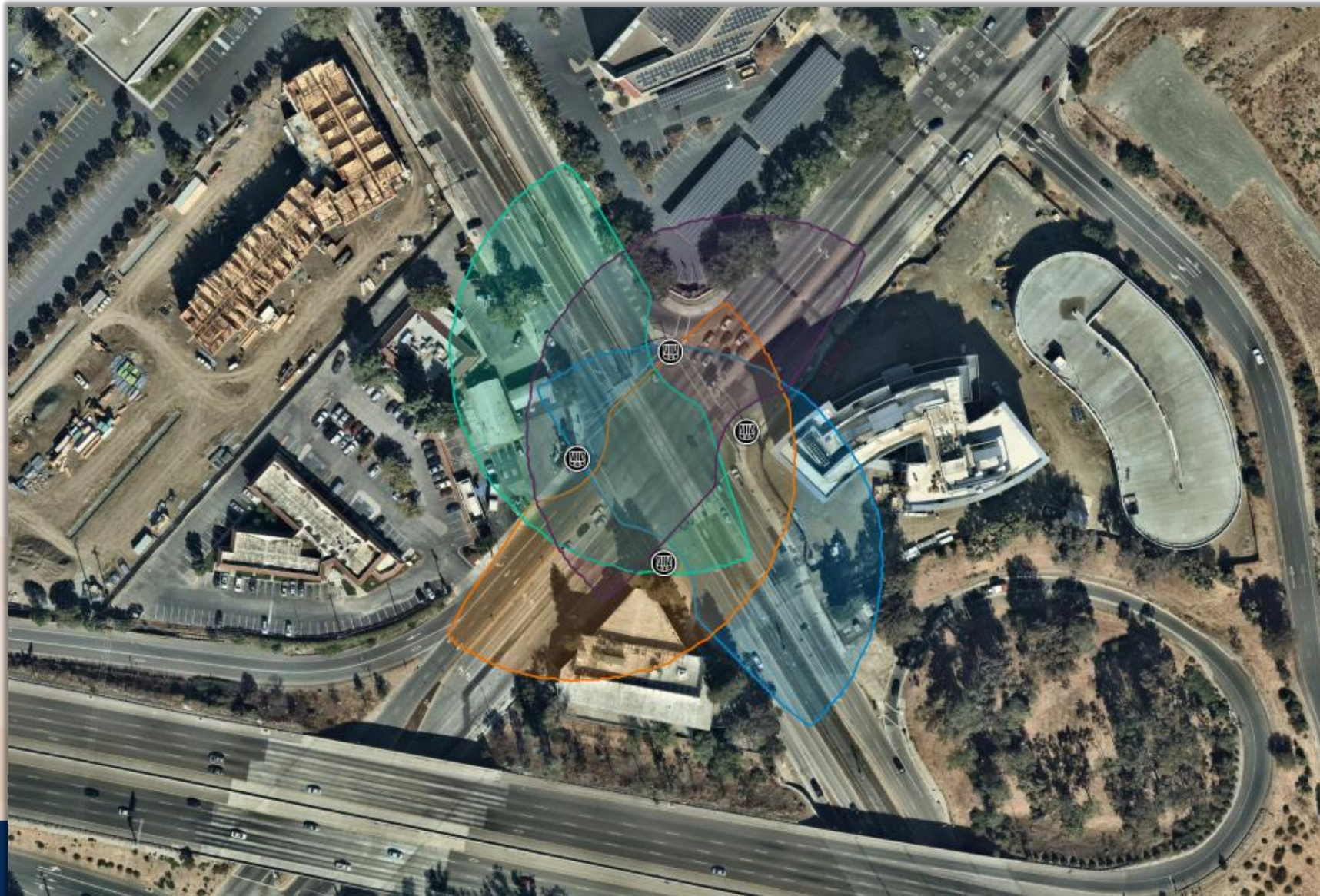
- Video sensors
- Signal phase info integrated with system data
- System performs edge-based video analytics: counts, near misses, and jaywalking
- Object attributes: classification, color, velocity, vector, geo-location



San Jose ISA System Installation



Camera FOV (North 1st St/Brokaw Rd)



Verizon

Traffic Data Services (TDS)

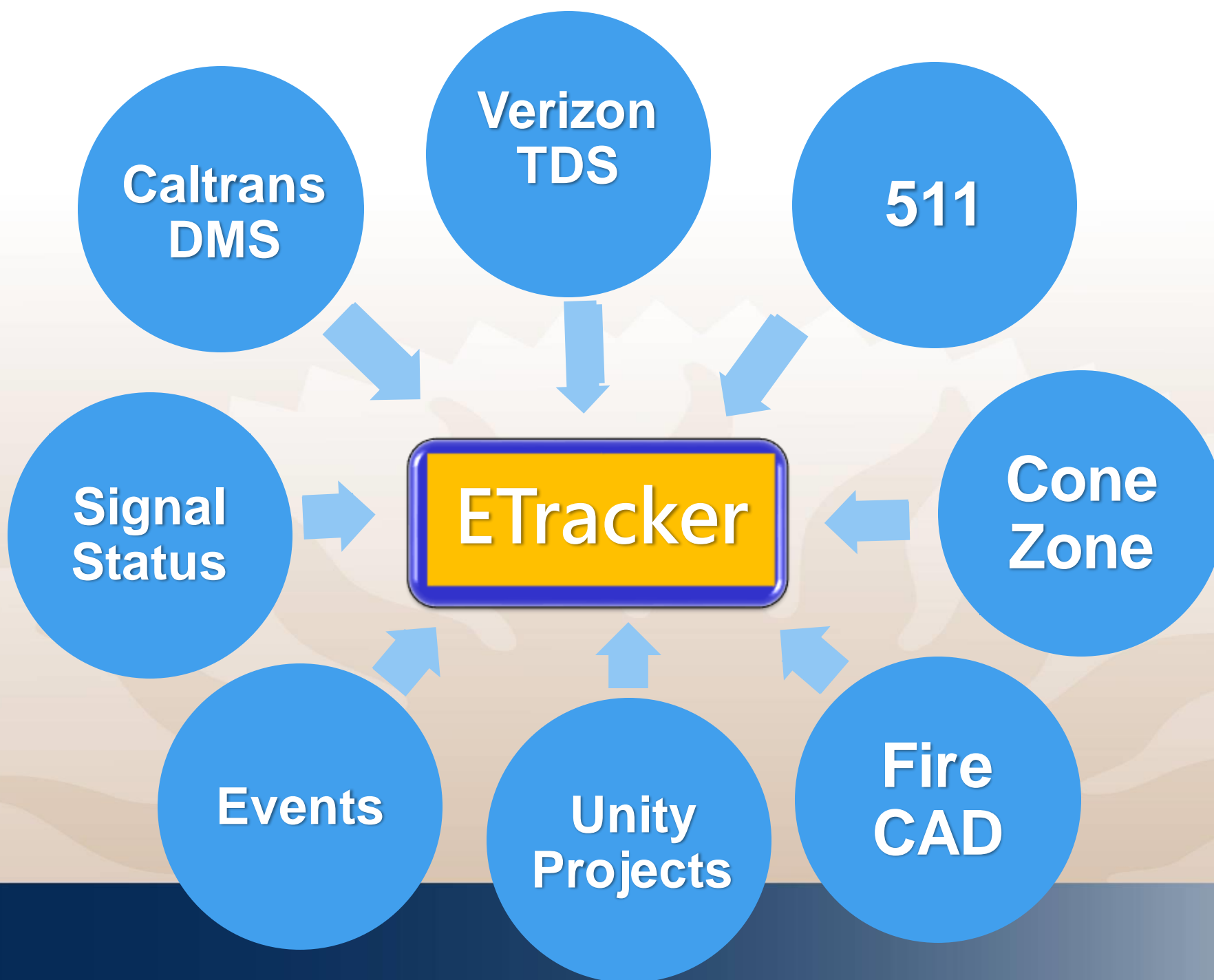
by
Renee Zhou, Signal Operations
3/24/2021

Verizon Traffic Data Services

- What problem we try to solve
- What does Verizon TDS offer
- What's the process
- Things we learned

Verizon Traffic Data Services

- **The problem we try to solve:** Not able to proactively mitigate congestion
 - Rely on customer phone calls and emails
 - Only know planned events & construction projects
- **Event Tracking Platform (eTracker)**
 - with integrated and reliable data sources to **proactively** mitigate congestion
 - Catch congestions sooner, figure out the causes, and implement changes in traffic management.



Verizon Traffic Data Services

Traffic Data Services measures traffic using Verizon's network data



The Verizon network infrastructure communicates with phones nationwide to provide reliable data services

In Verizon data centers, de-identified network data is processed into road-level traffic measurements

Aggregated traffic measurements are stored in the cloud and delivered through APIs and UIs

Transportation managers and planners use traffic analytics to measure problems and drive new projects

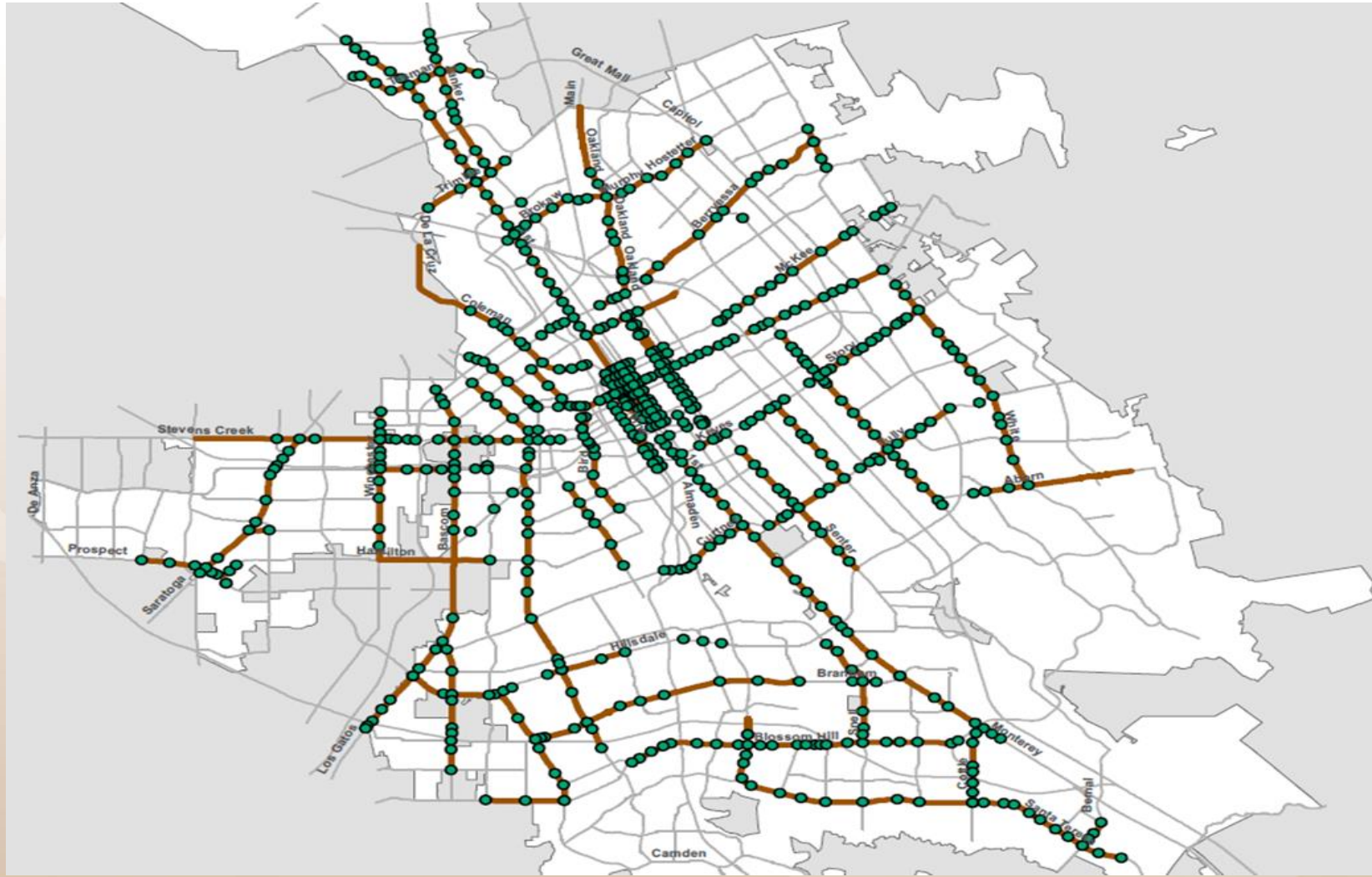
Verizon Traffic Data Services

- What does Verizon TDS offer
 - Value-trade with the small cell project, Two-year use.
 - Aggregated and anonymized cell data.
 - Vehicle Speed & Travel time
 - Near real-time data: update every 2.5 min
 - Roadway Segments: about 0.25 miles
 - API Development
 - Quarterly volume insights (not yet received)
 - Historic traffic data since 2019

What's the process

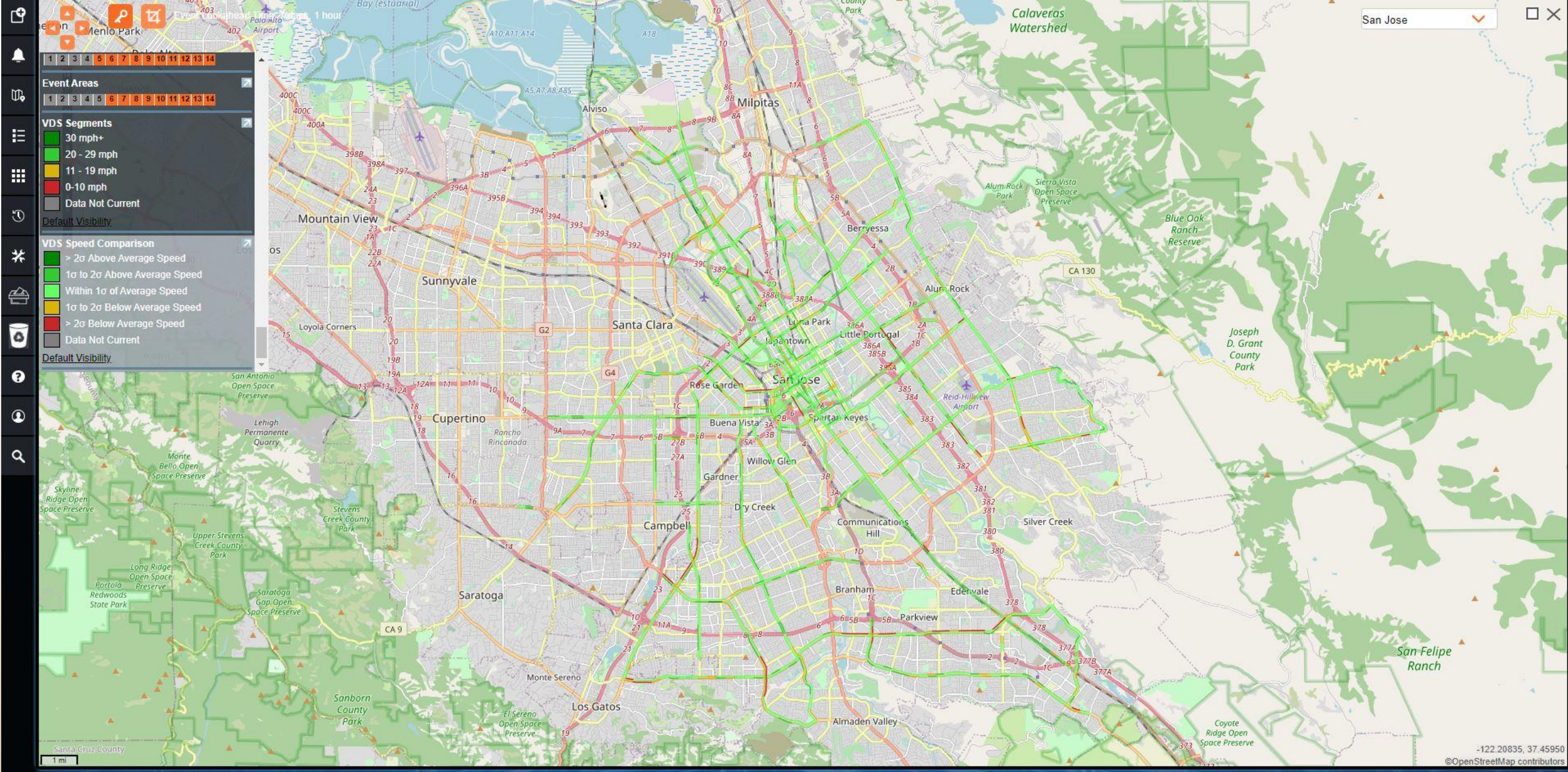
Scoping:

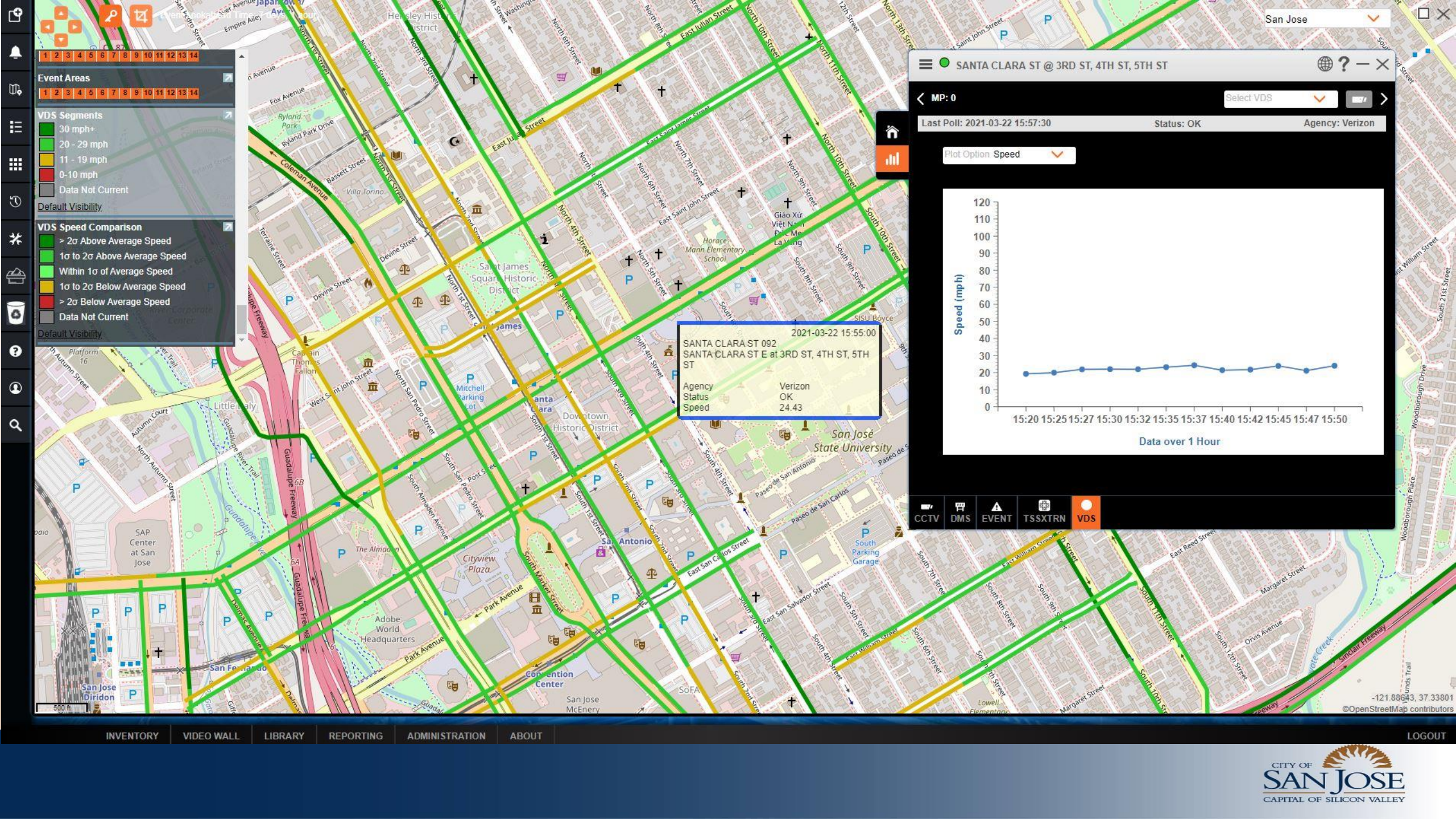
- Roadway scope – 380 bi-directional miles
- What TDS offers and what eTracker needs

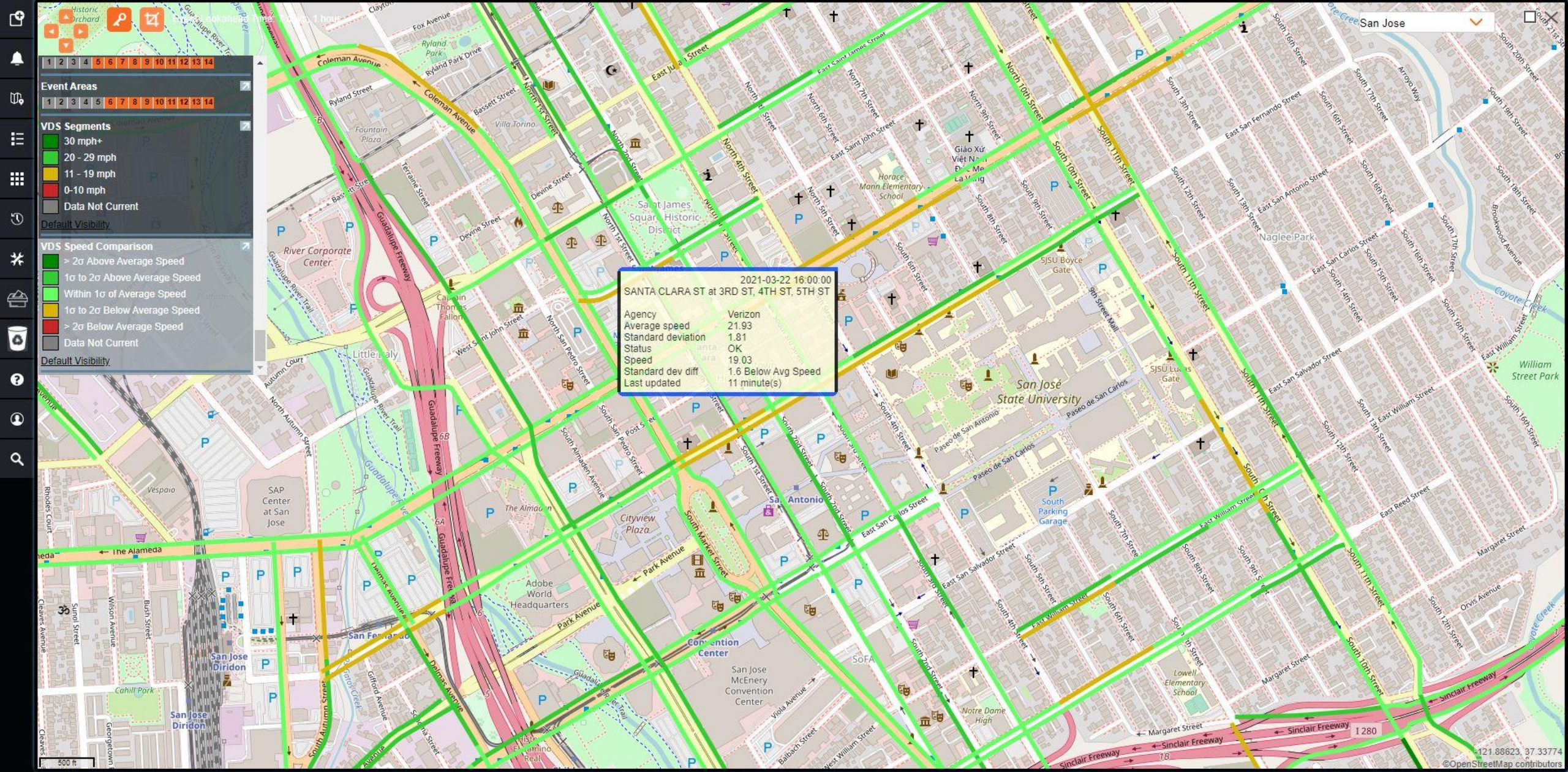


What's the process

- Roadway Cellular Signature Development and calibration
- Collection of traffic-related data since Jan 2019
- API development
- Data Integration

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Verizon Traffic Data Services

- Things we learned
 - It's a pilot.
 - Data Latency
 - Data issues (historic data download, data format, data gaps, etc)
 - Coordination between vendors on data changes