VRNE Product Proposal

October, 2021

Contents

Background

As children, our founders were influenced by the literature of Jules Verne. We hope our company's ethos reflects the creativity, adventure, and vision of his legacy.

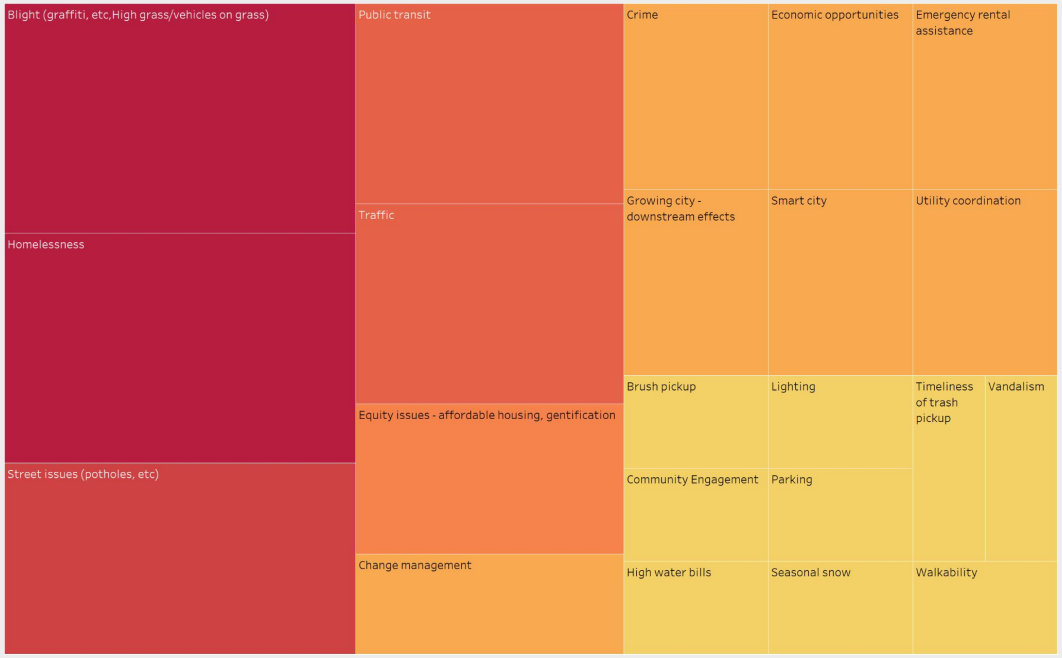
- Our team formed in 2020 with the goal of bringing the power of Data and AI to municipal governments
- Our goal is to enable government to efficiently steward public resources
- We leverage a diverse and complementary set of skills and professional experiences

Values

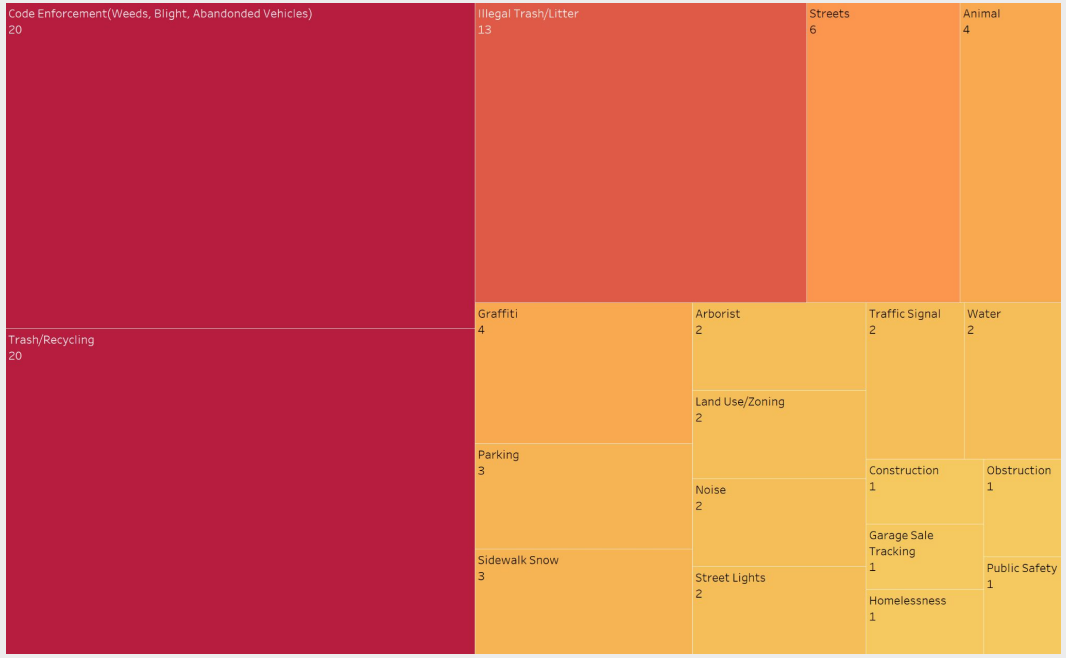
- Innovation should drive efficiency
- The transparent and ethical use of AI is a governing principle
- The community-informed and equitable application of new technology should benefit all

Research

Qualitative Priorities (13 Cities)



Quantitative Complaints (24 Cities)



Data Sourced from 311 through Open Data sites.

Problems

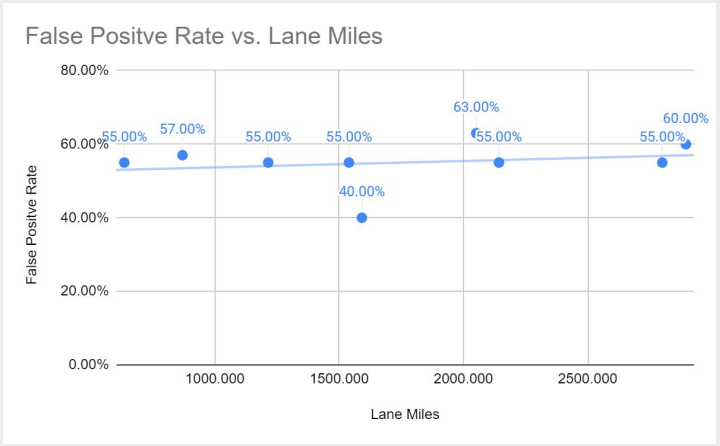
- City Code Enforcement have a false positive complaint rate of at least forty percent.
- City Engineering relies on data - at most once a year - to monitor street condition.
- Homelessness has seen recent growth.

B2G Problem

Municipal Resource Management

- Cities are required to respond and resolve community complaints.
- Unfortunately, most cities have a false positive rate of over 50%.
- This means most of the cases reviewed don't require an on site inspection.
- City ordinance only requires an inspection if there is an issue.

City	Lane Miles	Nuisance Count	Cost per Nuisance	Budget	False Positlve Rate
Little Rock	869.920	12,239.00	$17.51	$214,324.00	57.00%
Dallas	2800.000	88,000.00	$10.19	$897,000.00	**55.00%**
Kansas City	2143.109	30,000.00	$51.31	$1,539,412.38	**55.00%**
Virginia Beach	1539.758	20,000.00	$23.16	$463,151.30	**55.00%**
Seattle	1214.781	5,000.00	$87.53	$437,634.91	**55.00%**
Boston	635.663	35,000.00	$13.29	$465,202.88	**55.00%**
Austin	2051.768	38,180.00	$98.36	$3,755,283.18	63.00%
Tulsa	1591.630	10,000.00	$55	$550,000.00	40.00%
OKC	2894.968	8,291.00	$105	$867,610.00	60.00%

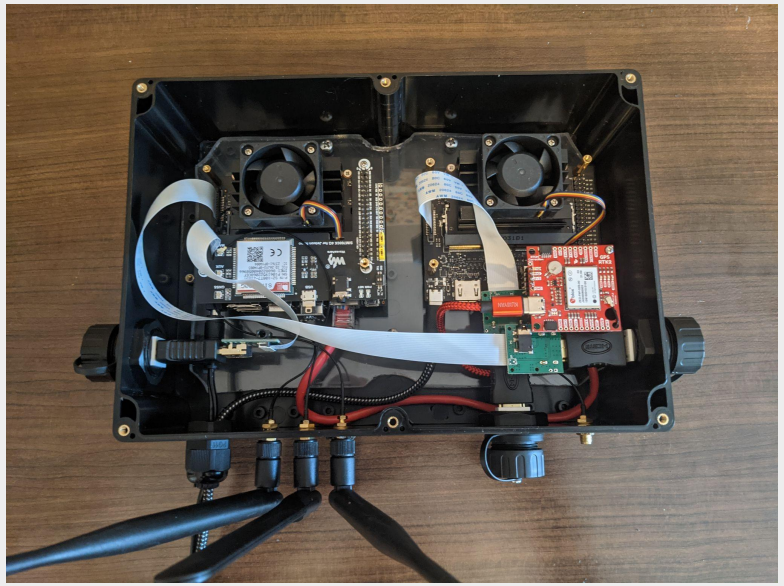


**Bolded text are estimates based on known false positive rates.

Solution

- VRNE combines open source mobile camera technology with proprietary algorithms to gather publicly available data.
- We then use machine learning and geospatial databases to compile and translate the data.
- Finally, we provide accurate, intuitive, secure, and reliable applications to streamline your processes.

Hardware



An example of a camera solution VRNE uses to collect publicly available data. Combining open source hardware such as HD cameras and precise GPS, and 3D printed parts allows VRNE to keep product quality high and costs low.

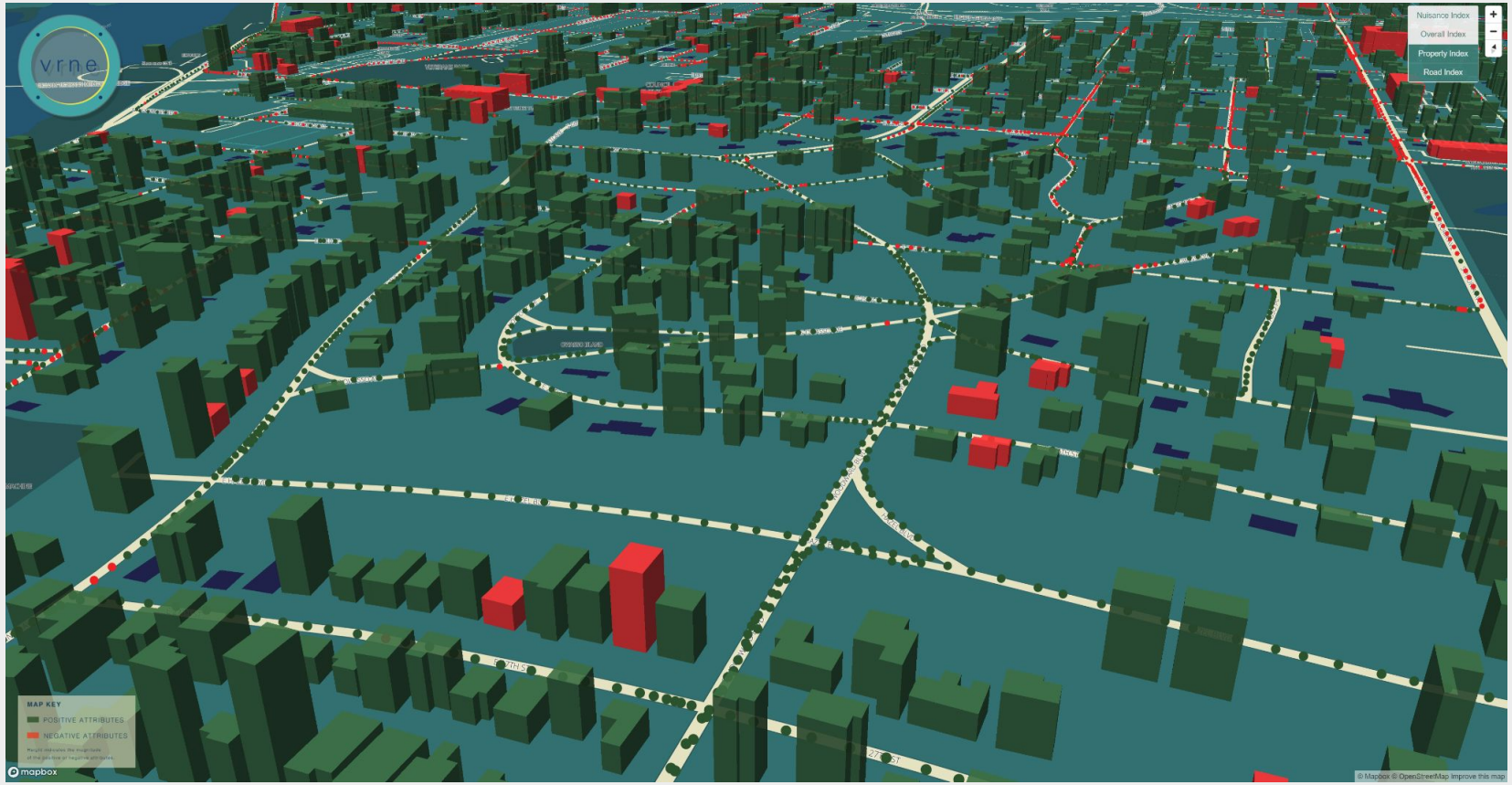
Algorithm Results

Using the proprietary techniques and models in a test case, VRNE algorithms were used to detect 32 indicators of neighborhood and home condition. In this photo it is detecting a low condition home and other construction indicators of a distressed home.

Algorithm Results (continued)

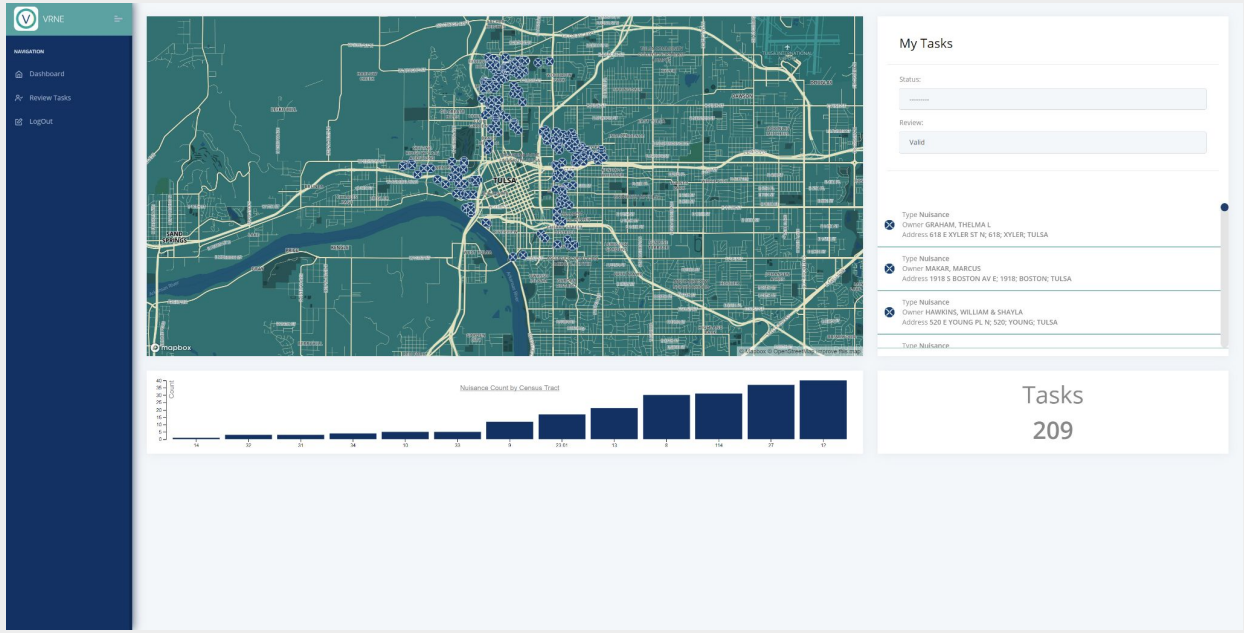
In this photo our model identifies pavement quality issues.

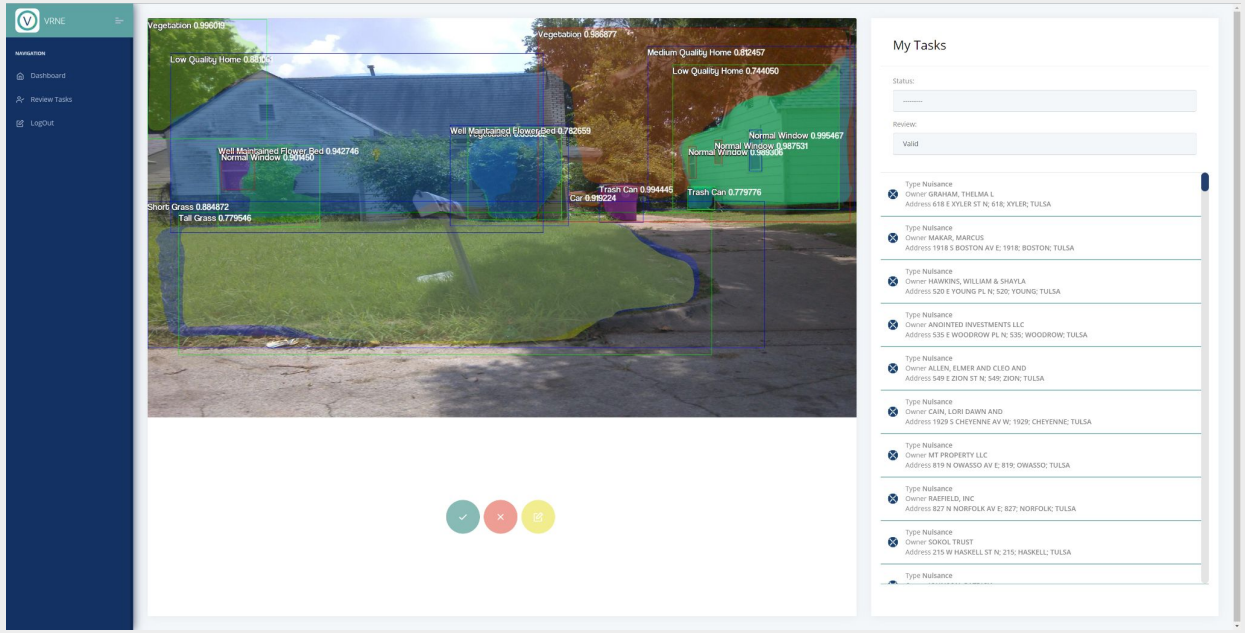
Algorithm Results: Public Map



The individual results can be compiled and accessed through an interactive map which enables the identification and assessment of neighborhood, district and city level trends

Dashboard / Application





Our app allows a team to quickly review their tasks.

Solution: B2G

Municipal Resource Management

- Through our app, city employees can remotely review complaints.
- False positives can be identified digitally, savings significant time and resources.
- Instead of taking days to respond, a city can keep up with issues near real time, improving their customer service.
- In addition to the savings, our product covers 100% of a city's lane miles, ultimately improving the reach of a city.

City	Lane Miles	Nuisance Count	Cost per Nuisance	Budget	False Positlve Rate	Road Analysis Cost	Potential Savings	Potential Savings w/ Road Analysis
Little Rock	869.920	12,239.00	$17.51	$214,324.00	57.00%	$130,487.96	$121,197.52	**$251,685.47**
Dallas	2800.000	88,000.00	$10.19	$897,000.00	55.00%	$420,000.00	$493,350.00	**$913,350.00**
Kansas City	2143.109	30,000.00	$51.31	$1,539,412.38	55.00%	$321,466.35	$815,888.56	**$1,137,354.91**
Virginia Beach	1539.758	20,000.00	$23.16	$463,151.30	55.00%	$230,963.70	$208,418.09	**$439,381.79**
Seattle	1214.781	5,000.00	$87.53	$437,634.91	55.00%	$182,217.15	$240,699.20	**$422,916.35**
Boston	635.663	35,000.00	$13.29	$465,202.88	55.00%	$95,349.41	$246,557.53	**$341,906.93**
Austin	2051.768	38,180.00	$98.36	$3,755,283.18	63.00%	$307,765.20	$2,350,543.67	**$2,658,308.87**
Tulsa	1591.630	10,000.00	$55	$550,000.00	40.00%	$238,744.50	$220,000	**$458,744.50**
OKC	2894.968	8,291.00	$105	$867,610.00	60.00%	$434,245.20	$520,566	**$954,811.20**

Why now?

- Affordable Embedded Hardware
- Affordable Cloud Services
- Emerging Vision Research
- The emerging “Smart City”
- Ubiquitous Street View

Market Size

- 691 US cities with a population over 50k.
- Estimated 50M/year market

Competition

Competition

- Traditional 311 Software
- RoadAI
- hayden.ai

Advantages

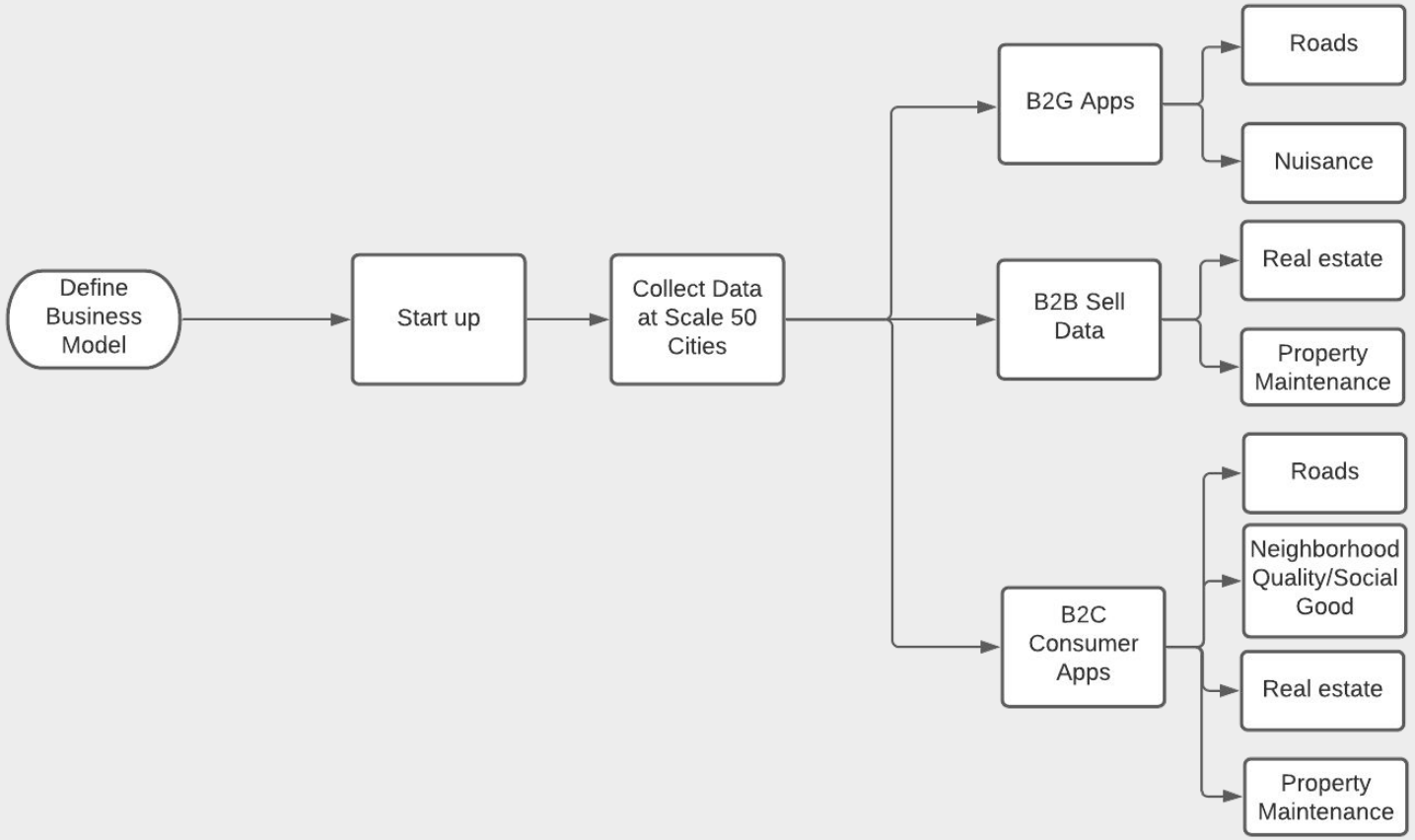
- No AI companies focused on Code Enforcement
- Code enforcement justifies capturing data weekly/bi-weekly, much more frequent than competition.
- Our product encourage proactive maintenance.
- Multiple city needs are addressed by our product.

Business Model

Revenue Model
Subscription

Pricing
Depends on land area,frequency required, and number of drivers.
$50k-$300k/year

Product Roadmap



Team

Ben Harris

AI, Data, & Tech

- Five years ML and AI experience
- Founder, Tulsa Data Science
- BS, Uni. of Oklahoma

Alexander Mansour

Science & Operations

- Public Health Evaluation, Oregon Health and Science University
- MPH, Portland State University
- BS, Uni of Central Oklahoma

Josiah Shaw

Engineering

- Ovintiv Inc., Devon Energy, OG&E
- PE, State of Oklahoma
- BS, Uni. of Oklahoma

Wesley Stringer

Visual Communications

- Branding, Digital Asset Management, Photography Production
- Amazon, Calvin Klein
- BFA, Uni. of Oklahoma

Scott Nason

Business & Finance

- Investment Banking, Tudor, Pickering, Holt & Co
- MA, Uni. of Chicago
- BA, Uni. of Oklahoma

Questions?