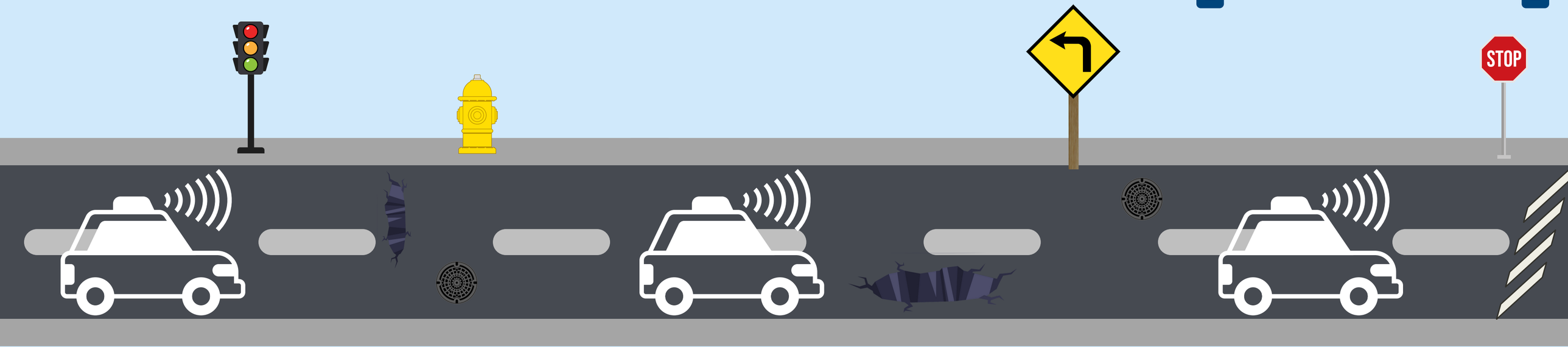
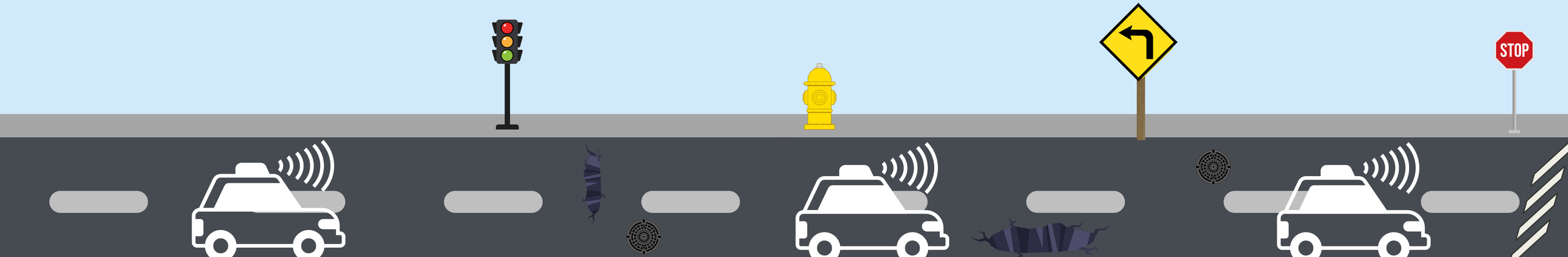
SmartScan:

Status Update & Phase 2 Discussion



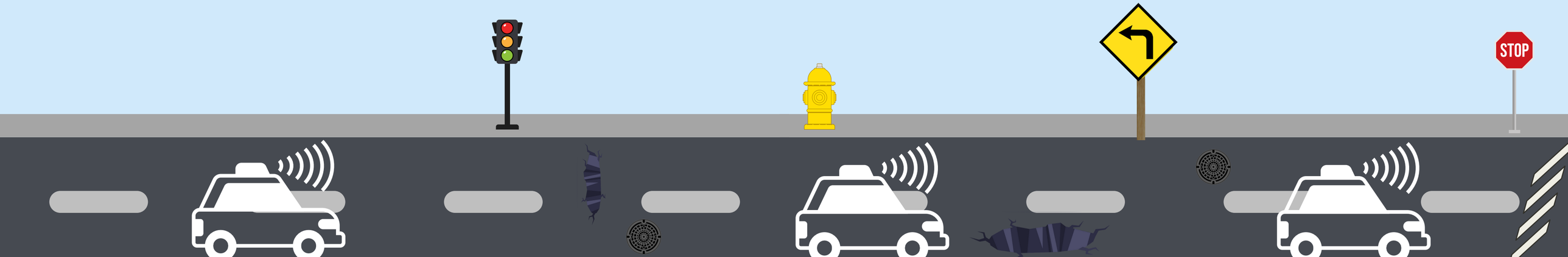
Smart Scan - Background

- Roadway and pedestrian assets are managed through asset-specific, periodic, and reactive data.
- Condition data is limited and largely driven by inspections and resident reports.
- Emerging camera- and sensor-based tools enable continuous, vehicle-based monitoring.
- Commercial solutions vary in accuracy, reliability, and integration readiness.
- Phase 1 creates a ground-truth evaluation to guide future scale-up.



Progress Summary

- US DOT SMART Grant Summit
- Kick-off & Partnership with VA Tech
- Create Data Management and Evaluation Plans
- Hired project management and technical support
- Develop Call for Innovation (CFI) & Launched
- Evaluated proposals
- Selected vendors and began procurement



Smart Scan - Approach

Vendor Assessment & Procurement

- Define system requirements & evaluation framework
- Develop & release CFI questionnaire
- RFI responses & evaluation
- Procurement

In-Vehicle Systems Integration & Validation

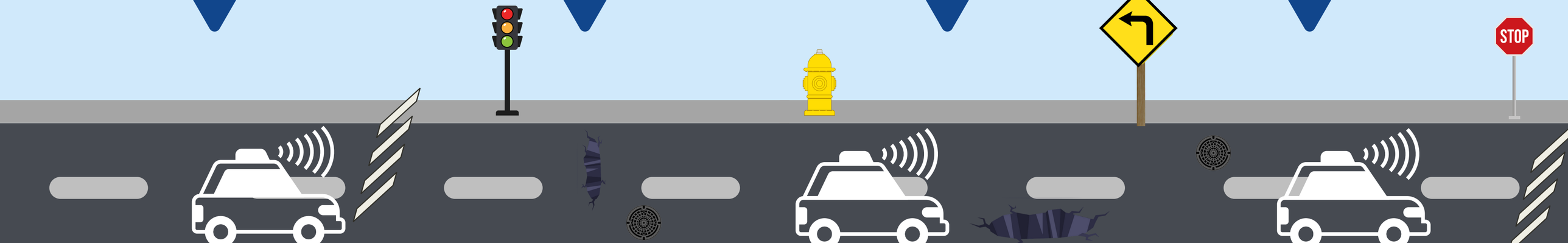
- Fleet outfitting
- Vendor and ground truth installation
- Systems validation testing
- Vendor API to Cityworks integration

Route Selection & Data Collection

- Route identification
- Pilot route assessment in West End & Old Town
- Collect data

Vendor Evaluation

- Ground truth vendor-to-vendor comparison
- Performance analysis rankings
- Vendor operational use and scalability assessment for Phase 2



Vendor Assessment & Procurement: Call for Innovation (CFI)

- Developed Questionnaire
- Issued a CFI via Marketplace.city
- CFI to capture vendor capabilities and pilot readiness.
- Evaluated solutions
- Structured the CFI to inform Phase 1 vendor shortlisting and future scale-up decisions.

Vendor Assessment & Procurement: Evaluation Criteria

Evaluation Criteria

- Technology maturity and approach
- Data accuracy and reliability
- Asset coverage and functionality
- System integration readiness
- Data governance, security, and cost

Key Selection Drivers

- Proven real-world performance
- Seamless integration with City systems
- Scalable, continuous deployment models
- Clear City data ownership and portability
- Readiness for Phase 1 pilot and Stage 2 scale-up

Submission Summary 1

Company	Solution	One Page Solution Overview	Pavement Condition Assessment	Technology Type Used	Which types of hardware does your solution use?	Please list up to 5 implementations.	Pricing Model	1 page pilot overview
Bentley Systems	Blyncsy	One Page Solution Overview	Pothole Detection Road deterioration trend analysis Surface roughness/ IRI measurement Overall Pavement Condition Index score (PCI) Cracking- Transverse Rutting Cracking- Longitudinal Cracking- Alligator [ALL]	LiDAR AI/Machine Learning Computer Vision	Can integrate data from multiple collection methods simultaneously Vendor-neutral data processing Sensor Agnostic Hardware Accepts Third-Party Sensor Inputs Proprietary Hardware Required Open Hardware Standards Supported Other	Hawaii DOT: Automating weekly surveys of 1,013 miles across 4 islands for assets like guardrail damage and vegetation. 95% reduction in need for manual surveys. Port Authority of NY & NJ: Replacing over 70% of physical surveys and analyzing retroreflectivity for new FHWA mandates, estimated 45% savings over 5 years with Blyncsy. NYCDOT: Scoring crosswalks by "percent remaining" to track historical change over time. Plano, TX: Generating in-depth pavement data for PASER rating analysis.	Per Lane Mile	
BizzTech	OptikHAL	One Page Solution Overview	Pothole Detection Road deterioration trend analysis Surface roughness/ IRI measurement Overall Pavement Condition Index score (PCI) Cracking- Transverse Cracking- Longitudinal Cracking- Alligator Rutting	AI/Machine Learning Mobile Sensors (vehicle-mounted or hand held)	Open Hardware Standards Supported Proprietary Hardware Required Accepts Third-Party Sensor Inputs Sensor Agnostic Hardware Can integrate data from multiple collection methods simultaneously Vendor-neutral data processing Other	This is a new product line for our company. We are leveraging our deep expertise in AI and computer vision to bring this innovative solution to market. The City of Alexandria represents an opportunity to be a foundational partner in its deployment.	Annual Subscription Project-based Other	Pilot Overview
CITYROVER INC	CITYROVER	One Page Solution Overview	Pothole Detection Road deterioration trend analysis Surface roughness/ IRI measurement Overall Pavement Condition Index score (PCI) Cracking- Transverse Rutting Cracking- Longitudinal Cracking- Alligator [ALL]	Computer Vision AI/Machine Learning Mobile Sensors (vehicle-mounted or hand held)	Proprietary Hardware Required Sensor Agnostic Hardware Accepts Third-Party Sensor Inputs Open Hardware Standards Supported Can integrate data from multiple collection methods simultaneously Vendor-neutral data processing Other	CITYROVER provides road based AI technologies to cities across the united states, ranging from small cities to large. Some examples of current implementations/contracts are noted below: City of Columbus, OH - (population 933,000) City of Santa Clarita, CA - (population, 221,000) City of Commerce City, CO - (population 70,000) City of Oregon City, OR - (population 37,000) City of Hendersonville, NC - (population, 15,000)	Per Lane Mile Annual Subscription Project-based Other	Pilot Overview
ConeLabs Inc.	ConeLabs	One Page Solution Overview	Pothole Detection Road deterioration trend analysis Overall Pavement Condition Index score (PCI) Cracking- Transverse Rutting Cracking- Longitudinal Cracking- Alligator Surface roughness/ IRI measurement	Computer Vision AI/Machine Learning Mobile Sensors (vehicle-mounted or hand held) Satellite Imagine LiDAR	Sensor Agnostic Hardware Accepts Third-Party Sensor Inputs Open Hardware Standards Supported Can integrate data from multiple collection methods simultaneously Vendor-neutral data processing Other Proprietary Hardware Required	Hart Bridge, Jacksonville FL. one of the longest truss bridges in the world. Blue Water Bridge, MI/ON - twin-span international bridge Multiple assets across FL and OK, and others	Annual Subscription Project-based	

Vendor Assessment & Procurement: Responses & Evaluation

- 24 CFI submissions
- Interviews and technical discussions with 7 vendors
- Final selections
- Selected 4 vendors for deployment:
  - Vaisala (Smartphone based)
  - Vialytics (Smartphone based)
  - Cyvl (Cameras + LiDAR)
  - RMT (Cameras + RADAR)

In-Vehicle Systems Integration & Validation: Progress

- Integrate vendor detection systems
- Ground-truth data
- Conduct functional testing and validation
- Verify system performance
- Provide training to City staff