

JOINT FLORIDA
Model Task Force & Transportation
Data and Analytics Workshop



Innovative Data Collection

AI & Computer Vision





Agenda

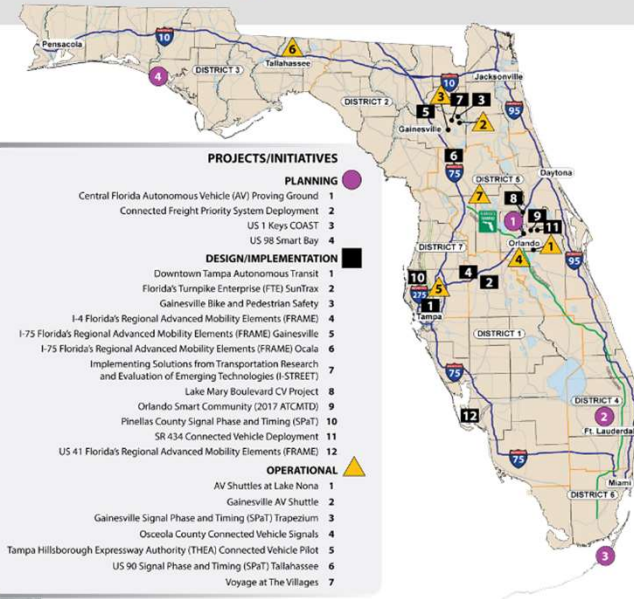
- Technology is Changing the Transportation Industry
- Innovative Data Collection
- iPaaS – InNovo Platform as a Service
- Benefits of iPaaS in Data Collection
- New Insights with iPaaS
- Additional iPaaS Opportunities
- Use Case Demonstrations
- Next Steps?
- Questions?



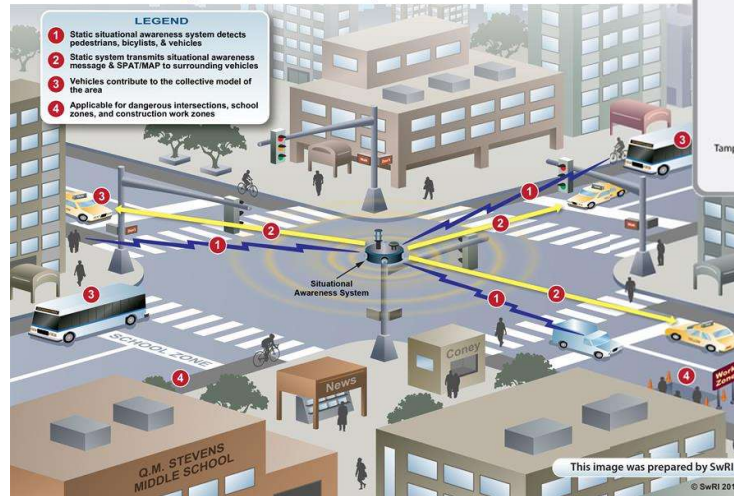


Technology is changing the Transportation Industry!

- Auto industry pushing Tech
- Opportunities with Emerging Tech
- Emphasis on finding efficiencies
- FDOT initiatives



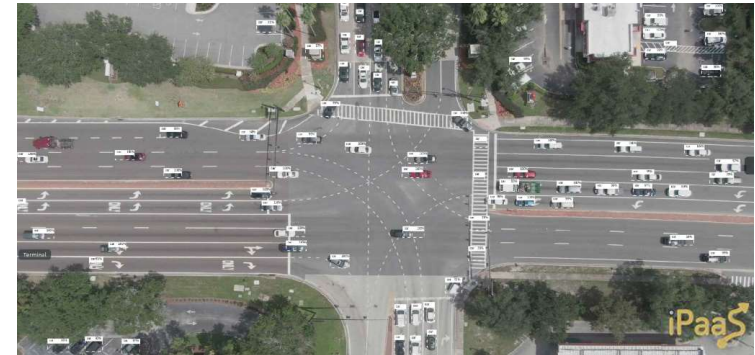
Cooperative Vehicle-Infrastructure Situation Awareness High-Traffic Intersection, Work Zone & School Zones





Innovative Data Collection

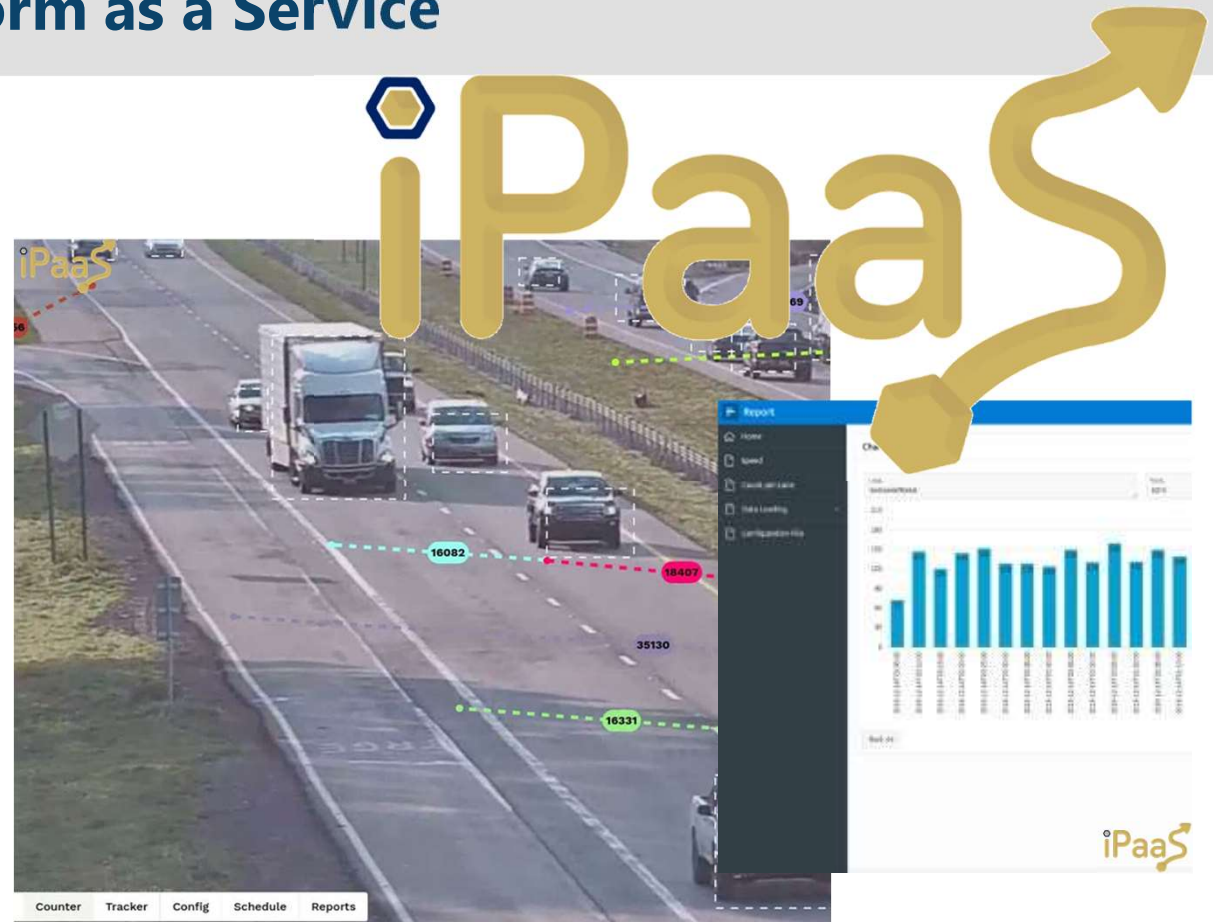
- Emerging Tech for data collection
- Deployed hardware data (ITS)
- Hardware updates to include data and analysis
- Computer vision is changing data collection





iPaaS – InNovo Platform as a Service

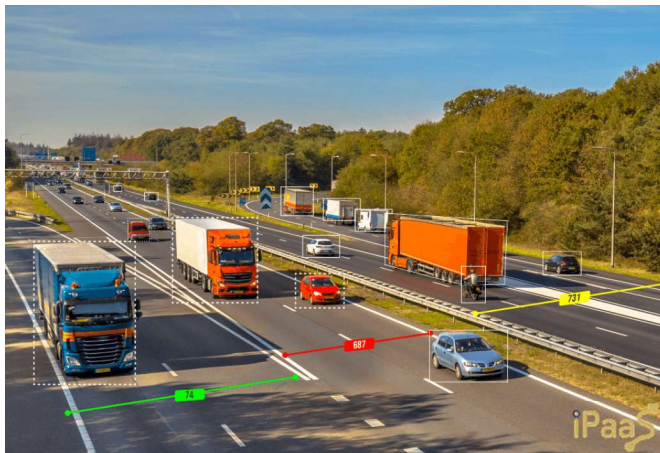
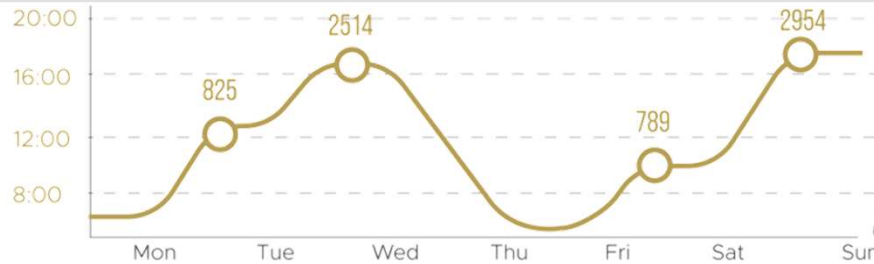
- iPaaS is an Analytics tool
- Uses AI Machine Learning Computer Vision
- Traffic Volumes
- Vehicle Classification
- Turning Movement Counts
- Trajectory
- Occupancy
- Speed
- Headway





Benefits of iPaaS in Data Collection

- Vendor agnostic
- Works with multiple image resolutions
- Intersection Turning Movement Counts
- Analytics for Bikes & Peds
- Data in congested, low speed, or stop and go conditions

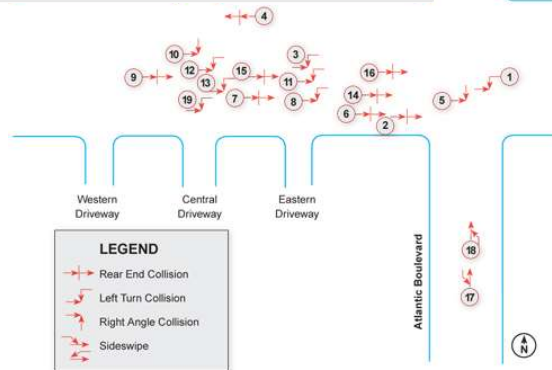
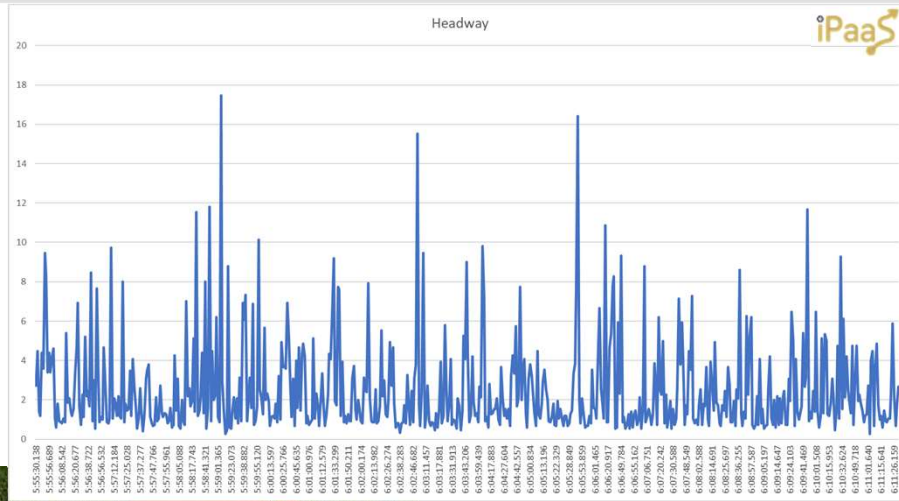


- Improve safety – reduce exposure time for field crew
- Improved accuracy over manual counting process
- Reduce turnaround time to deliver data
- On demand real time analytics
- 98-99% Accuracy with specialized algorithms behind scenes*





New Insights with iPaaS



- Unique identifier for each object
 - Trajectory per object
 - Speed per object
 - Headway in near real time
- Freight
 - Detail Trajectory
 - Detailed truck classification
 - More accurate freight volumes
- Alternative Equipment Audit
- Real Time Traffic Volume

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Additional iPaaS Opportunities

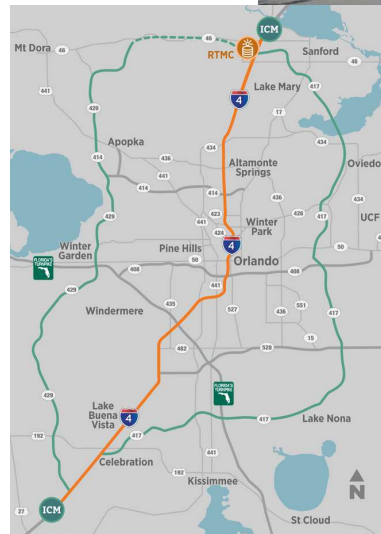
- Maximize use of infrastructure / ROI
- Improvements in Safety
 - Trajectory – design and near miss
 - Detect mid block crossing
 - Understanding freight movements
- Real time data for modeling
 - Micro modeling
- Truck Taxonomy
- Transit Ridership / Activity



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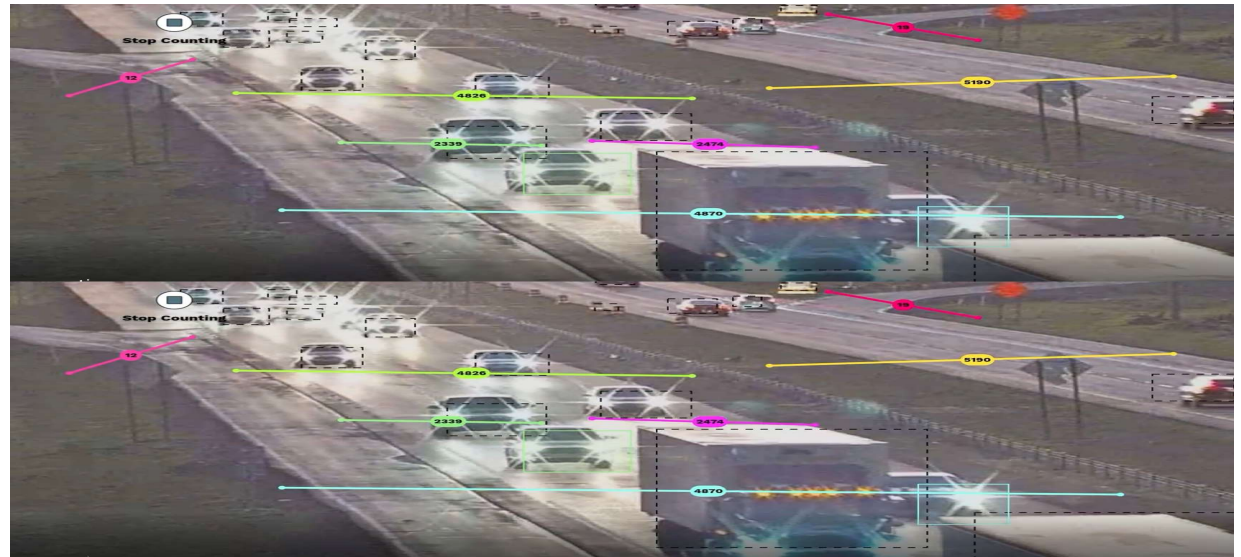
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Use Case Demonstrations

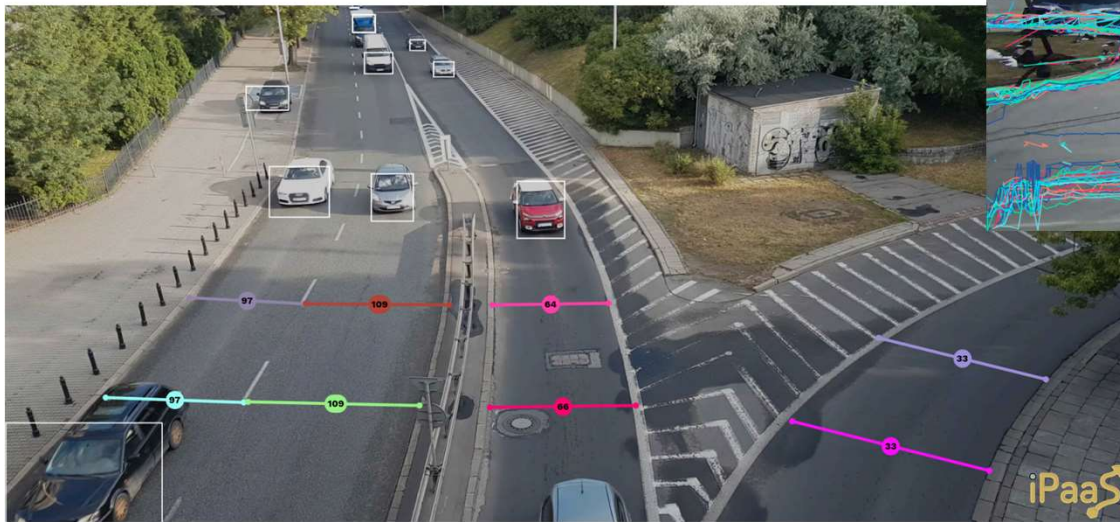
- CFX at SR 528
- UAV TMC
- Congested / Stop and Go Conditions
- California Beach Trail
- Report





Next Steps?

What would you do with more analytics?



How can these core data generate additional analytics?





Questions?

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Credits

<https://www.gmtu.gov.uk/surveys.html>

Drone video – Metric Engineering - <http://www.metriceng.com/>

https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwas12004/

https://ops.fhwa.dot.gov/trafficanalysistools/tat_vol4/sec2.htm

<https://safety.fhwa.dot.gov/hsip/resources/fhwas09029/sec3.cfm>

<https://www.governmenteuropa.eu/connected-autonomous-vehicles/94726/>

<https://www.fdot.gov/traffic/its/projects-deploy/cv/connected-vehicles>

<https://www.fdot.gov/traffic/its/projects-deploy/cv/connected-vehicles>

<http://www.suntraxfl.com/self-driving-vehicle-test-facility-suntrax-completes-first-phase-underway-on-next-steps-photos/>

* Accuracy depends on camera placement and conditions

