

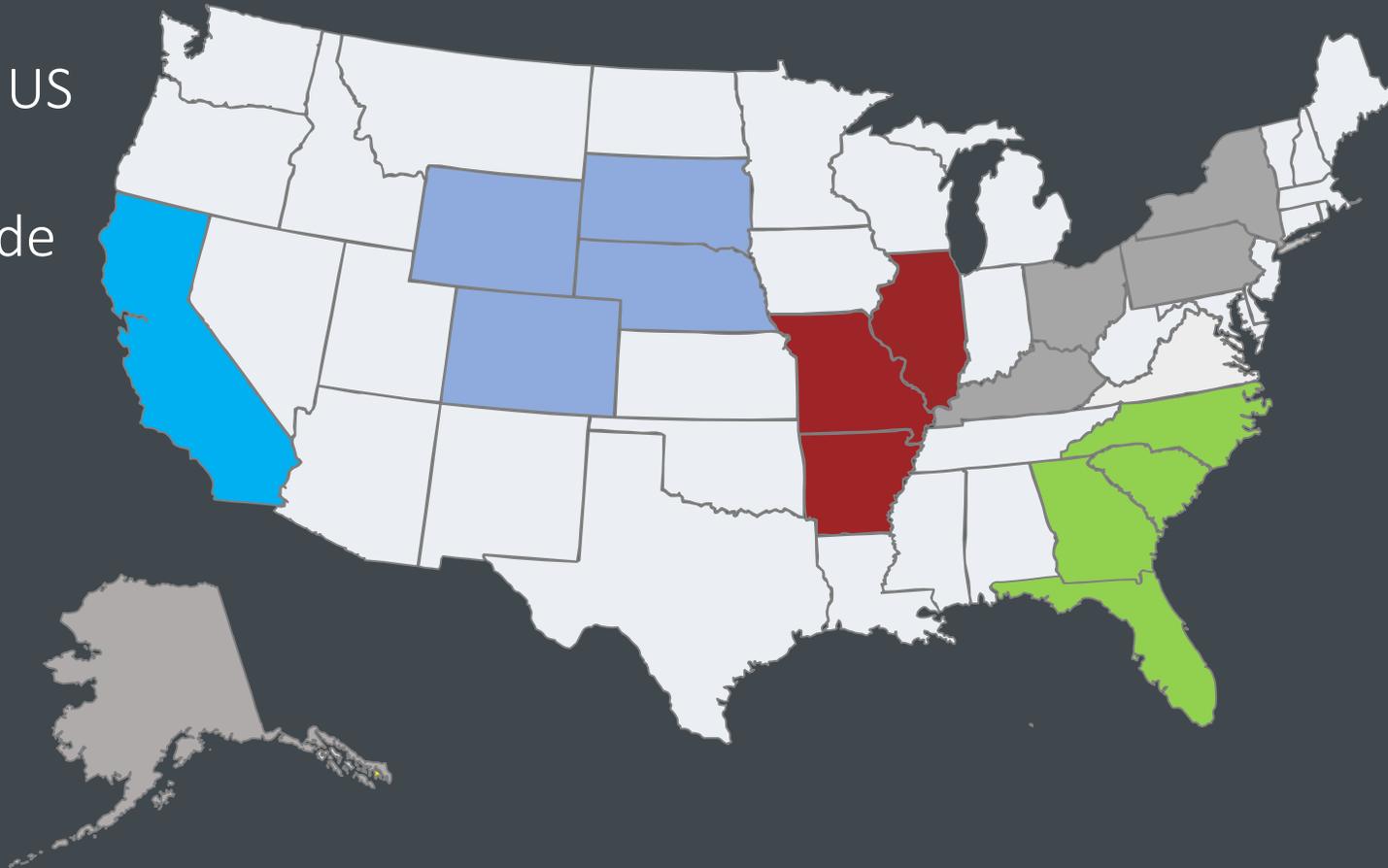


INNOVATION & DIGITAL TRANSFORMATION AT COLAS INC.

IAPA March 2019

Colas Inc.

- Vertically integrated road and infrastructure construction company
- 7 companies in the US
- Operation Worldwide



Why are we innovating?

Making our team's life

- Safer
- Easier
- More efficient
- Better

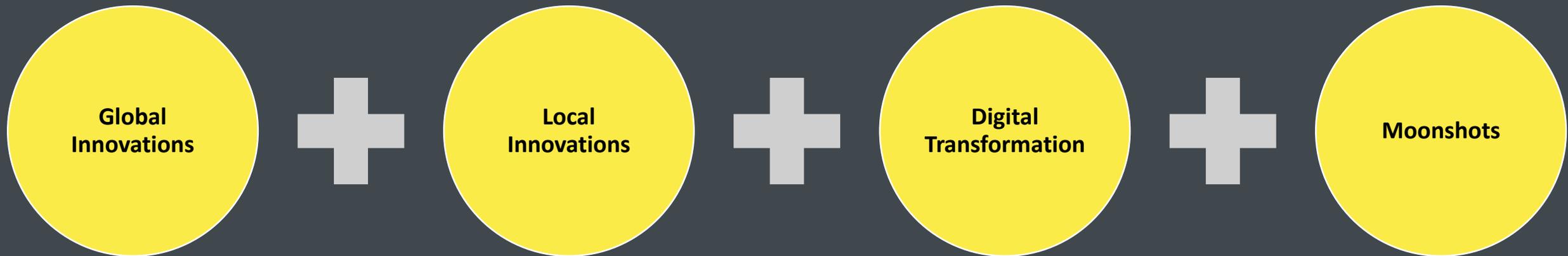
Savings

New ventures and revenues



Our Strategy

Divided into 4 segments:



Global Innovations







WattWay

Solar panels on which cars & trucks can drive

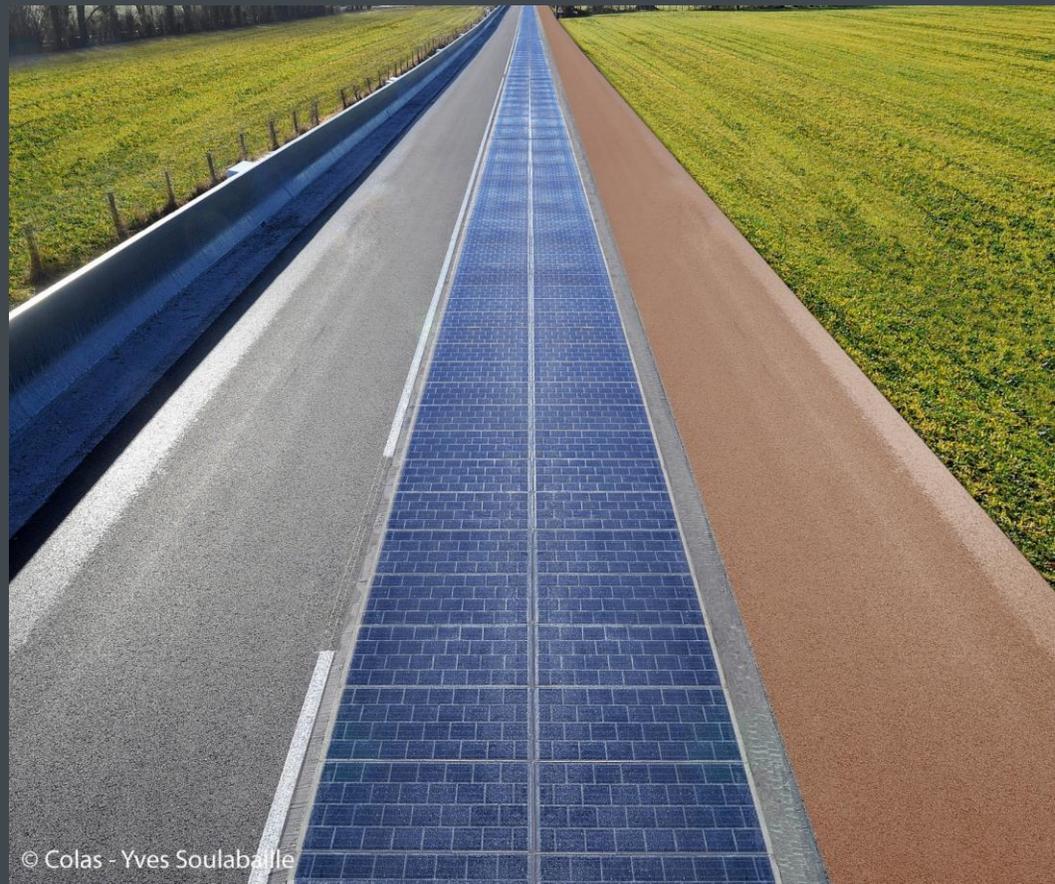
Very thin

Between 40 and 140 Kwh / m² per year

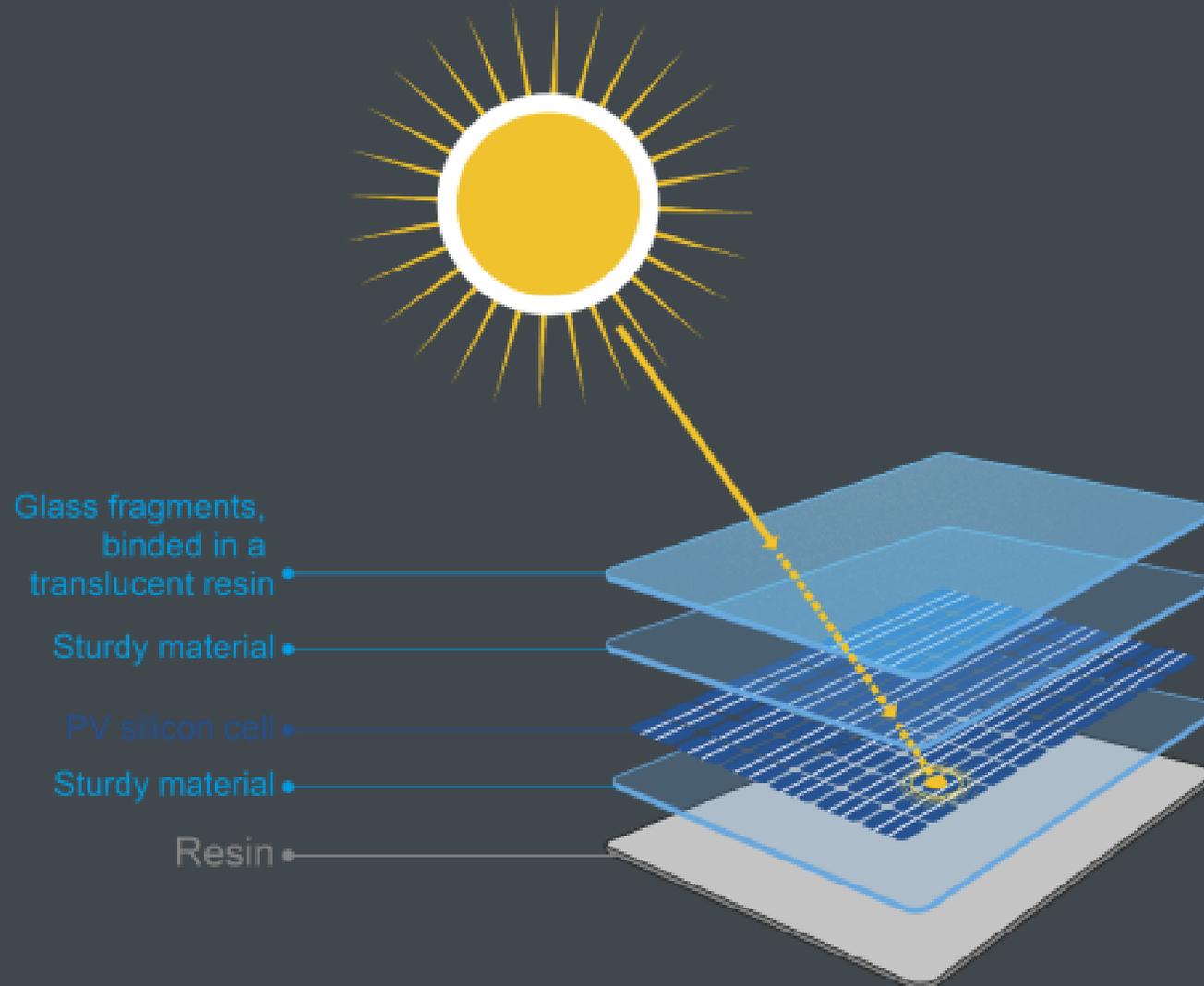
Over 37 experimental installations around the world

Not competing with roof PV

Autonomous Generator (camera, signs, counting devices...)



WattWay



West Point, Georgia (USA)



Tourovre (France)



Reunion Island



Sagamihara (Japan)



Utrecht (Netherlands)



Bettembourg (Luxemburg)





Flowell, a Colas innovation to foster
more mixed use









Local Innovations

(products)



Automatic Flagger System

Safety first

Video recordings for liability / insurance

But not yet connected to the cellular network

High ROI



Digital Transformation



Truck logistic optimization



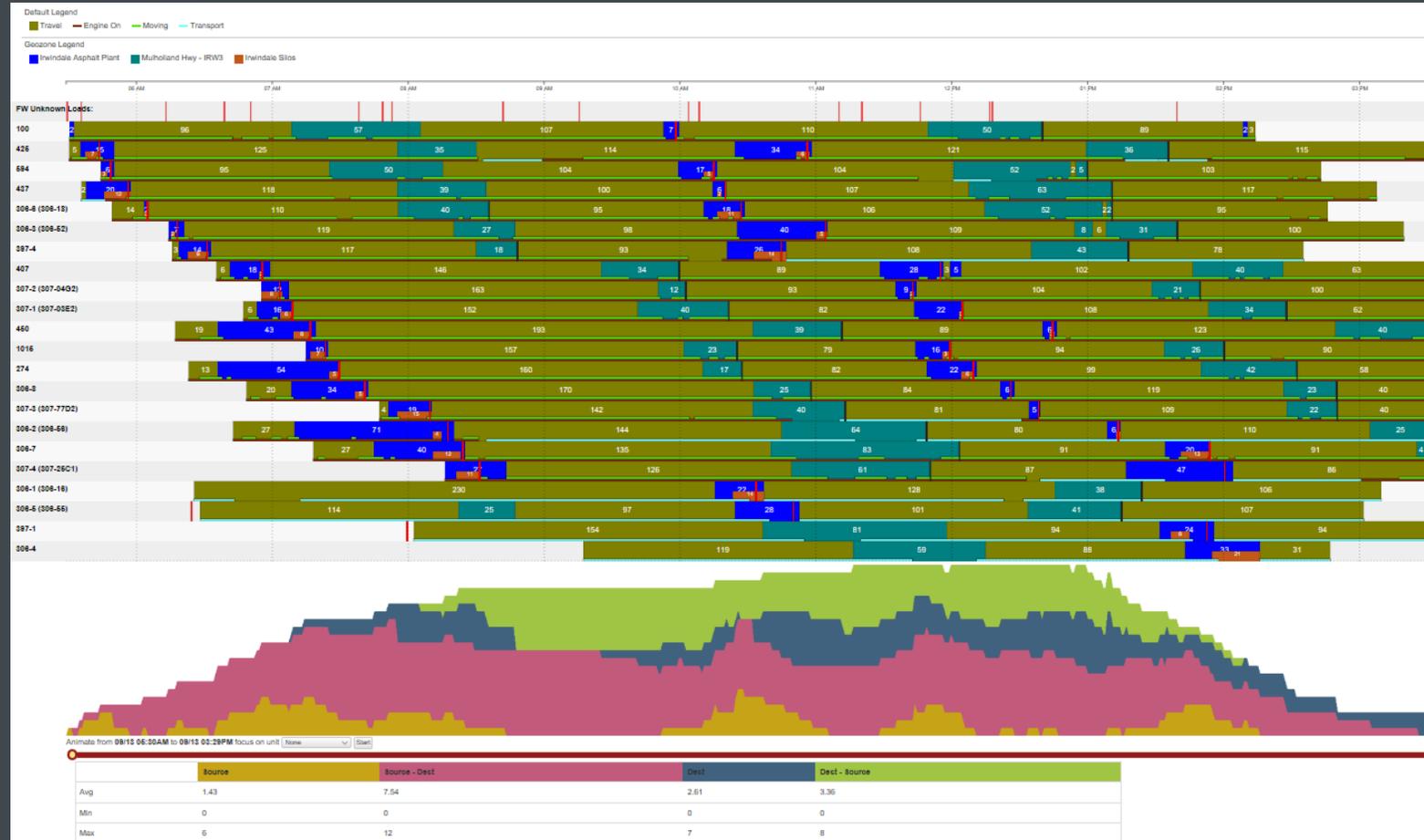
Truck logistic optimization

For our own trucks and 3rd party

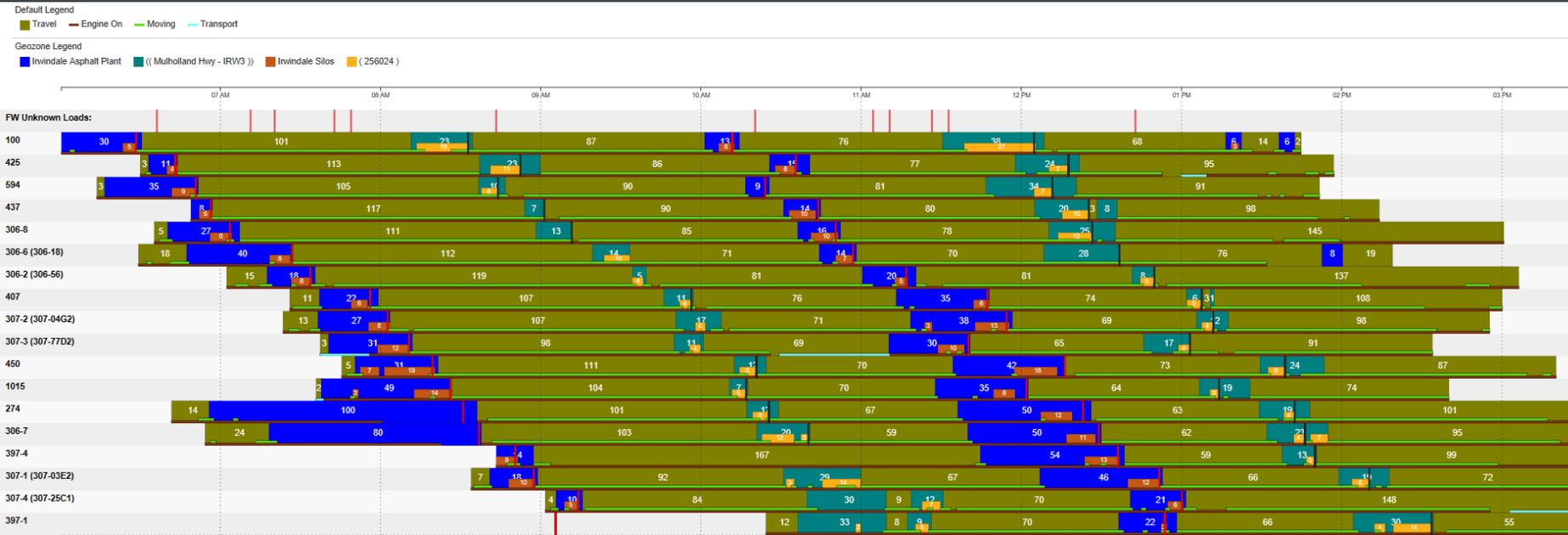
Teaming up with the 3rd party

For all divisions

Better communication



Truck logistic optimization



Project: Mulholland Hwy - IRW3 (edit) LCA Graph

Project Number: 10200016 Scale Tickets

Source: Irwindale Asphalt Plant TcP Report

Destination: 256024

Load Count: 48

Total Tons: 1,000.27

Material Type: -

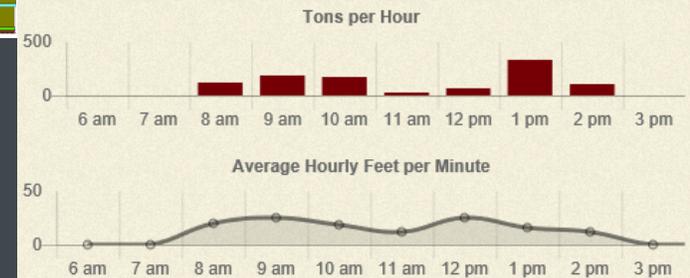
Phase Code: -

Shift Note: Add

First Ticket: Truck # 100 at 6:28 with 20.61 tons of ARHM GG C. First At Paver: 8:19.

KPI	Shift Ave	Target	Shift %
TpH: Crew	107.39	No benchmark target available.	
TpH: Truck	117.12	No benchmark target available.	
FpM	20.10	No benchmark target available.	
Cycle	177.5	No benchmark target available.	
TcP	S 0	No benchmark target available.	

Material	Loads	Tons
ARHM GG C	48	1000.27



Truck logistic optimization

Saving of 10% to 15%

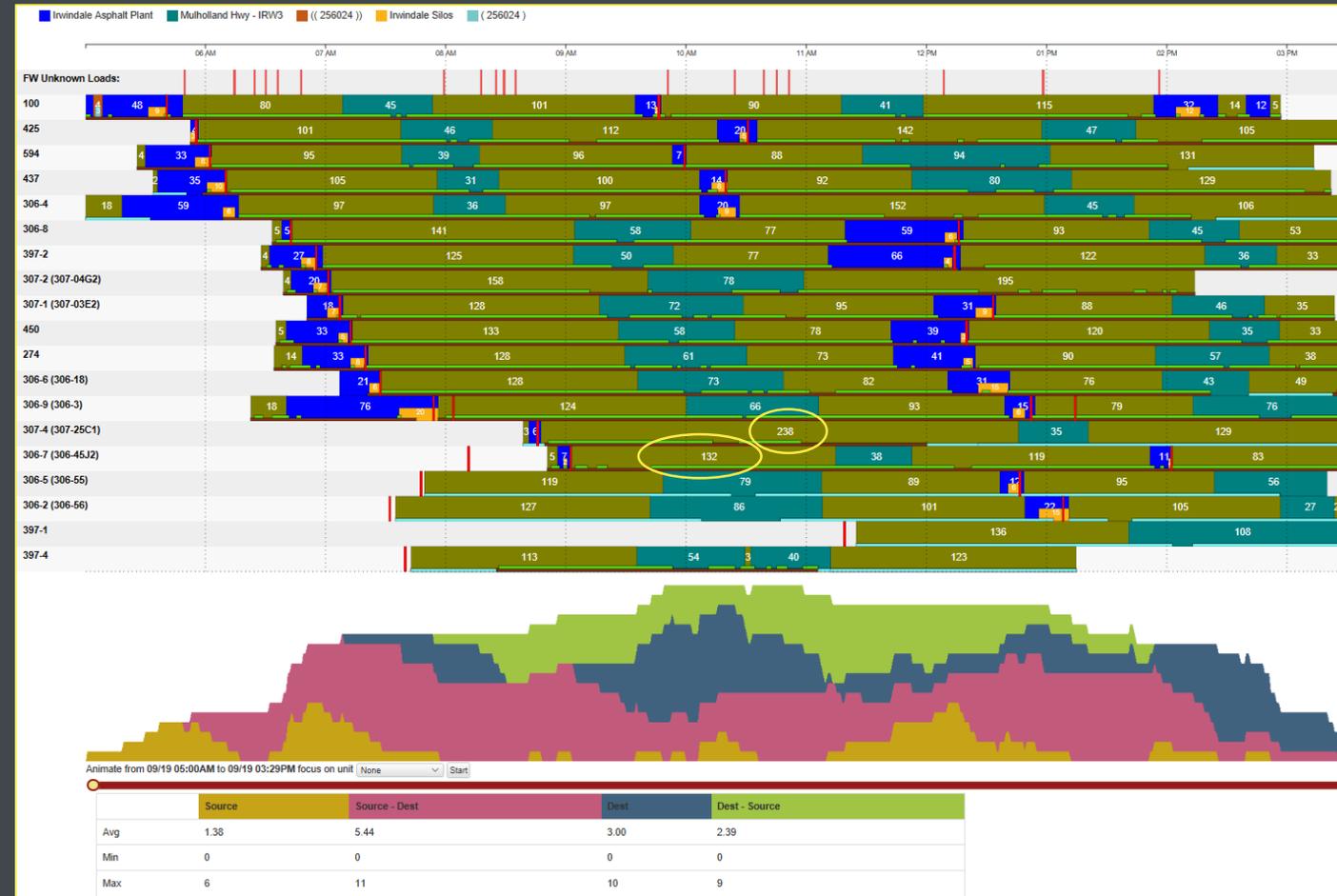
Works for either /ton or /hour

Excess charge tickets

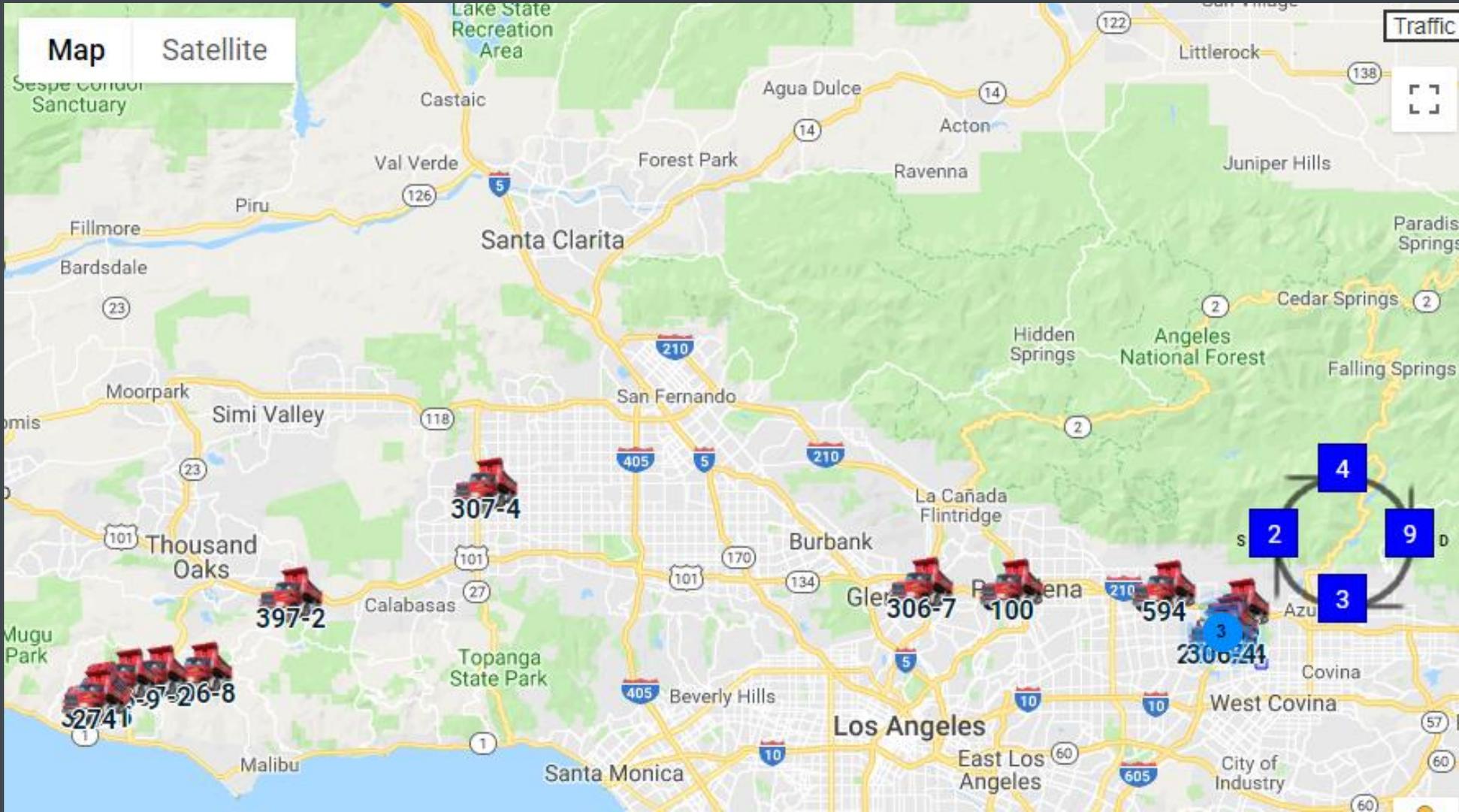
The key for success is a new organization

We are bringing on board logistic people

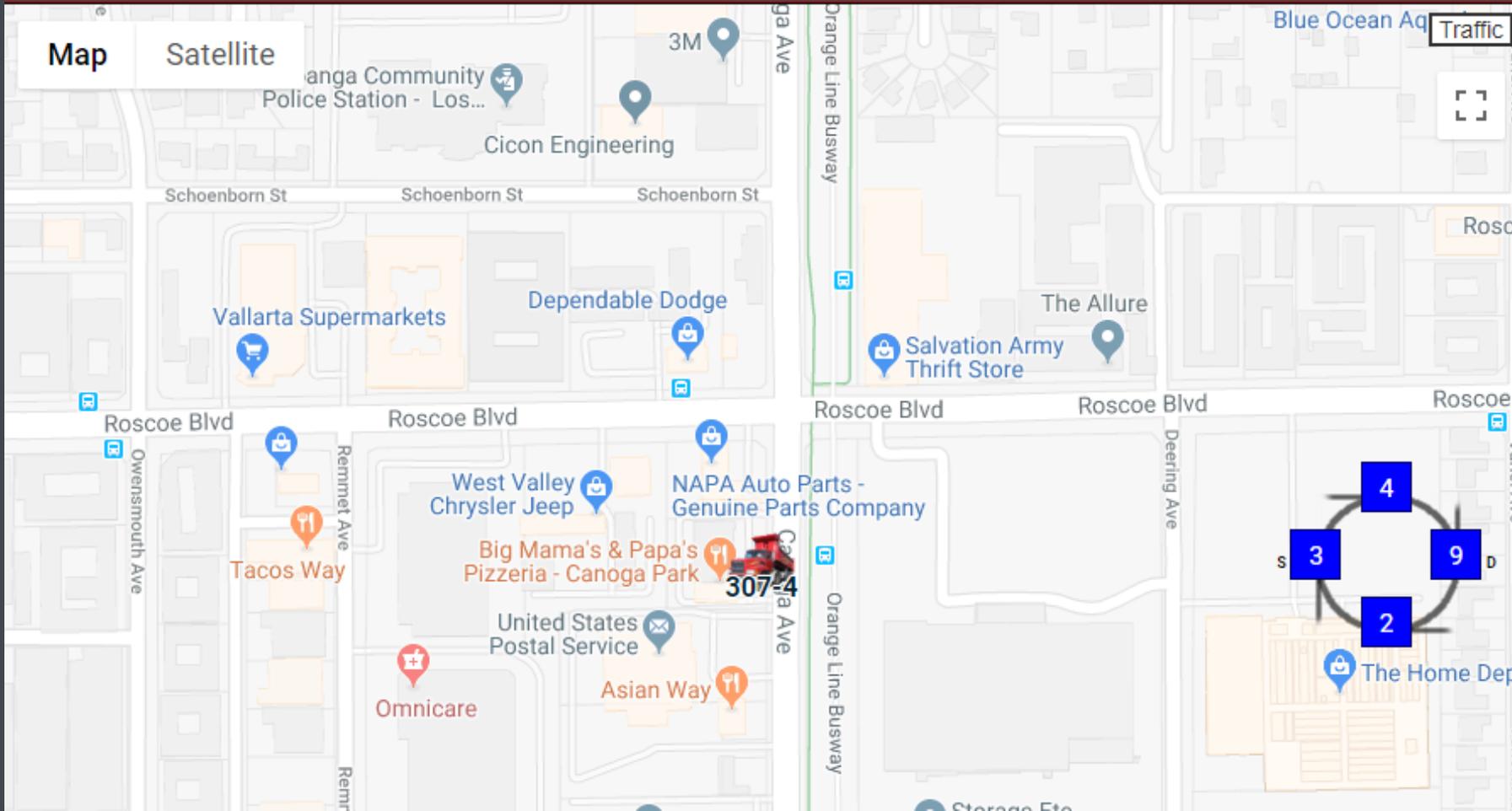
Looking into the « Uber for trucks »



Real Time Data



Real Time Data

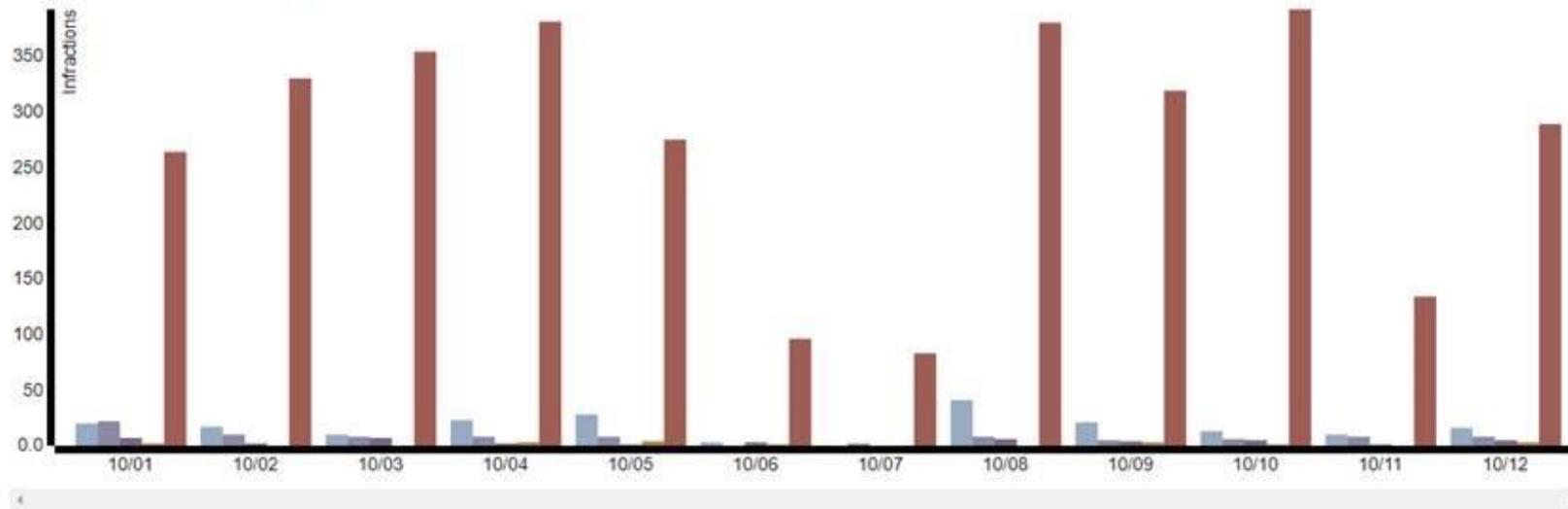


The software is not enough

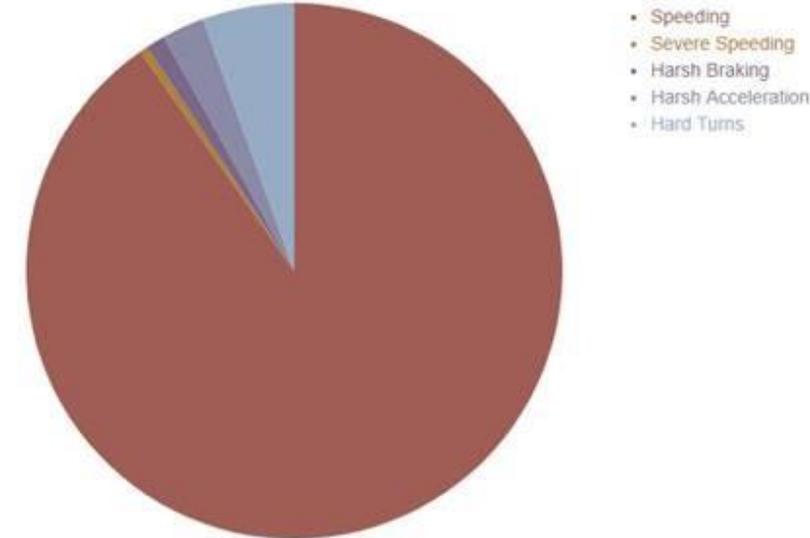
New skills were needed

Truck driver scorecard

Infractions for all drivers by Type per Day:



Type breakdown for this period:



Truck driver scorecard

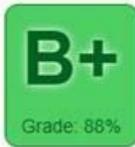


Truck driver scorecard

Driver Safety Details:

[Back to Leaderboard](#)

Ranked 32 out of 91 by Infractions per Mile for period of 10/01/2018 to 10/12/2018



Driver*

Start

[Get Summary](#)

Range

End

Total Miles: 753.19 | Total Hours: 41.08 | Idle Hours: 16.44 | Idle %: 40% | Total Infractions: 14 | Trucks Driven:

Date	Driver Name	Approximate Location	Event	Vehicle	Posted Speed	Max Speed	MPH Over	Average Speed
2018/10/08 09:04		36.3536116, -82.3285907	Speeding	S2275	30.0	42.0	12.00	39.4
2018/10/08 09:26		36.369254, -82.3047089	Speeding	S2275	30.0	35.0	5.00	32.65
2018/10/08 09:32		36.3380166, -82.3404402	Speeding	S2275	30.0	37.7	7.70	37.7
2018/10/08 10:07		36.2280781, -82.6887059	Speeding	S2275	55.0	64.0	9.00	63.4333
2018/10/10 07:12		36.228695, -82.6844552	Speeding	S2275	55.0	60.1	5.10	60.1
2018/10/10 08:00		36.3414438, -82.33669	Speeding	S2275	30.0	37.2	7.20	36.3833
2018/10/10 08:48		36.3690346, -82.3071564	Speeding	S2275	30.0	37.0	7.00	33.76

Center Map around chosen row in Table | [Clear Table Selection](#)



Filter Table by what's currently showing in Map | [Reset Map to All](#)



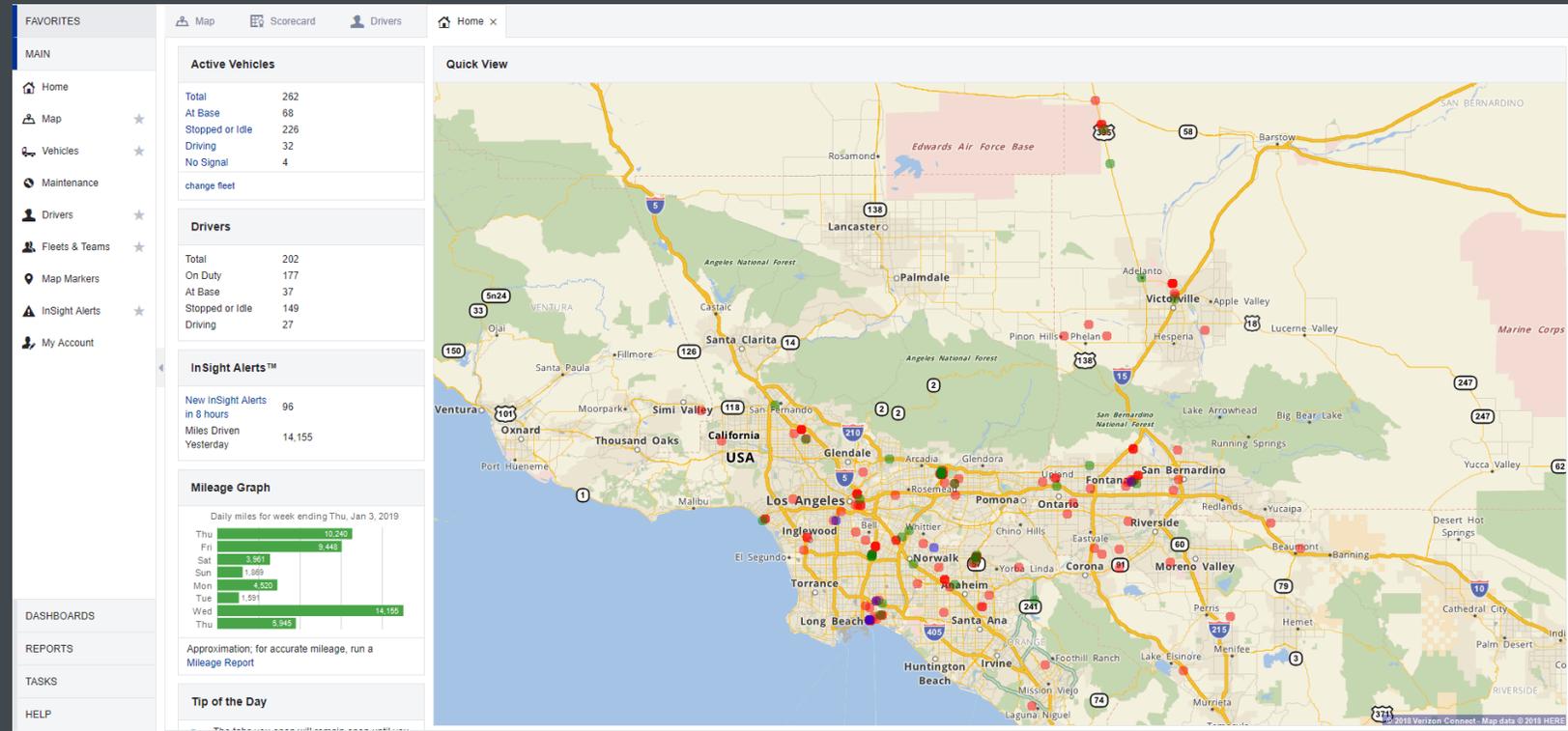
Driver scorecard

For truck drivers but also light vehicles

For safety, fuel efficiency, speed, idle time, seat belt, ...

Safety Team notification

Mobile “Coach App”



Digital Forms to gather data

Too many paper forms

With extra work for an admin to fill the information in Excel

Nothing done that data

Labor Force	(A)	(B)		(A) x (B)	JOB NO _____				
	Total Hrs ST/OT	Hrly Rate ST & OT	ST & OT	Total Labor Cost	FOREMAN _____				
Opr Frmn w/pu		\$97.63 (ST)			Costcode	(A) Qty	Unit	(B) Budget UP	(A) x (B) Budget E
		\$126.40 (OT)							
Lbr Frmn w/pu		\$90.26 (ST)							
		\$118.49 (OT)							
Operator		\$80.78 (ST)							
		\$108.23 (OT)							
Laborer		\$62.78 (ST)							
		\$84.30 (OT)							
Cement Mason		\$64.56 (ST)							
		\$85.56 (OT)							
Cement Mason Frmn w/pu		\$92.11 (ST)							
		\$119.35 (OT)							
(1) Total Labor Force Cost									
Equipment	(A) Total Hrs	(B) Avg Rate		(A) x (B) Total Equip Cost					
		BARE	OPER						
Skip		\$31	\$125						
Backhoe (Medium)		\$32							
Backhoe (Large)		\$52	\$170						
Blade		\$87	\$175						
Loader		\$67	\$139						
Roller (Small)		\$33							
Roller (Large)		\$57							
Crew trk		\$29							
10 whlr			\$80						
Super 10			\$80						
Strong Arm			\$85						
T&T			\$95						
Btm dump			\$95						
Scraper		\$84	\$172						
Sweeper		\$35	\$145						
Wtr trk		\$26	\$80						
Saw		\$33	\$140						
(1) Total Budget									
					(1) Total Budget _____				
					(2) Total Labor & Equip Cost _____				
					Profit or -Loss _____				



Digital Forms to gather data

Mobile friendly forms

Real-time information collection

Real-time creation of dashboards

Sharing dashboards across management

For Safety, Pre-Check, Production, ...

The “1 min enterprise”

A screenshot of a mobile application interface for a cab inspection. At the top, there is a blue header with the number "7" in a white square. Below the header, the text "Cab *" is displayed. A central image shows a yellow loader with a red circle on the cab. Below the image, there are several sections: "Seat" with an upward arrow and two radio button options: "Pass" and "Warning: requires attention"; "Seatbelt" with a downward arrow; "Pedals" with a downward arrow; and "Mirrors" with a downward arrow. The interface is clean and user-friendly, designed for quick data entry on a mobile device.

Daily Concrete report

* Required

1. Your complete name (ex: Joe Smith) *

2. Job number *

3. How many cubic yard of concrete did you pour today? *

Submit



the amount of concrete and the job number? (ex: [40 - 10196770](#))

46 - 19283884

Thank you! Keep the Goal Zero Attitude! And have a terrific day!!

Yesterday 5:01 PM



Hello, if you poured concrete today could you please tell me the amount of concrete and the job number? (ex: [40 - 10196770](#))

22-105

Thank you! Keep the Goal Zero Attitude! And have a terrific day!!

Text Message





Have you ordered your trucks for tomorrow? If not please call Richard at [7147029409](tel:7147029409)

Today 5:52 PM

REMINDER: Please ensure that all your timecards are submitted successfully in HeavyJob, by end of shift(s) Saturday. Thank You, Payroll Team [714-412-2087](tel:714-412-2087)

Text Message

Mobile keyboard with various function icons (App Store, Apple Pay, etc.) and standard QWERTY keys.

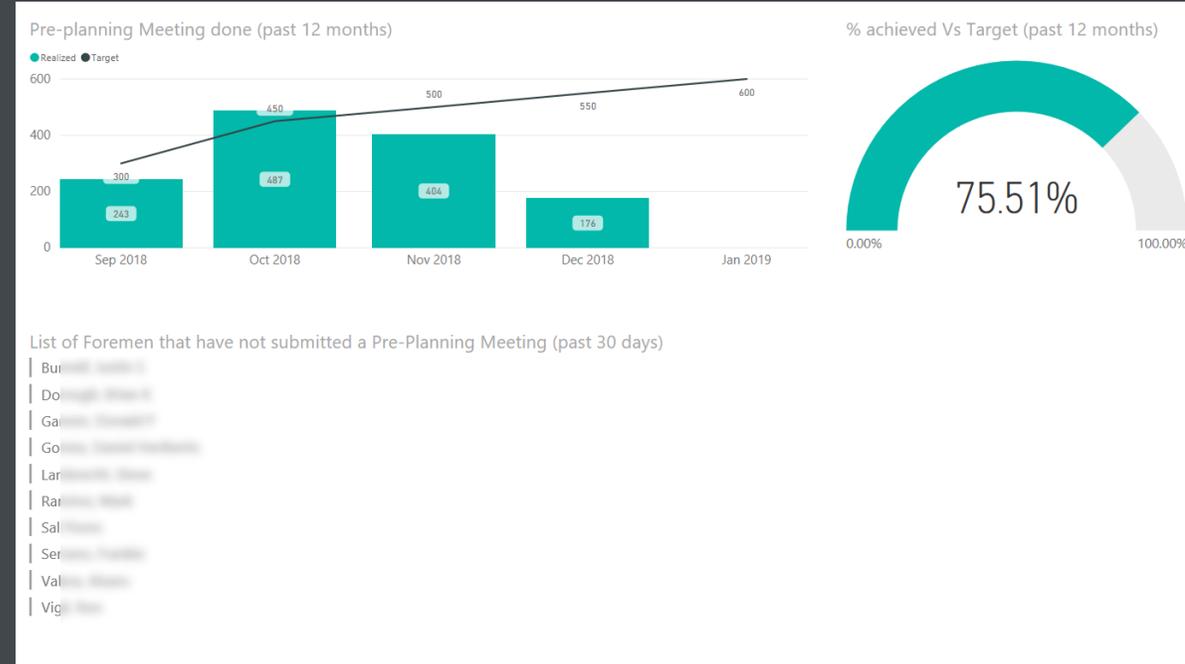
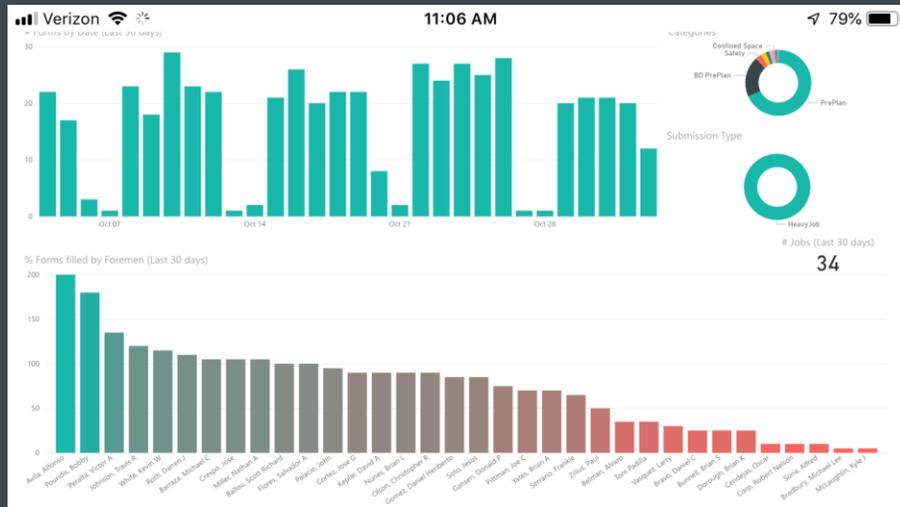


Actionable data

Simple dashboards with few KPI

From collect to action in one click

Accessible on PC, iPhone and iPad



Drones for more than stockpiles

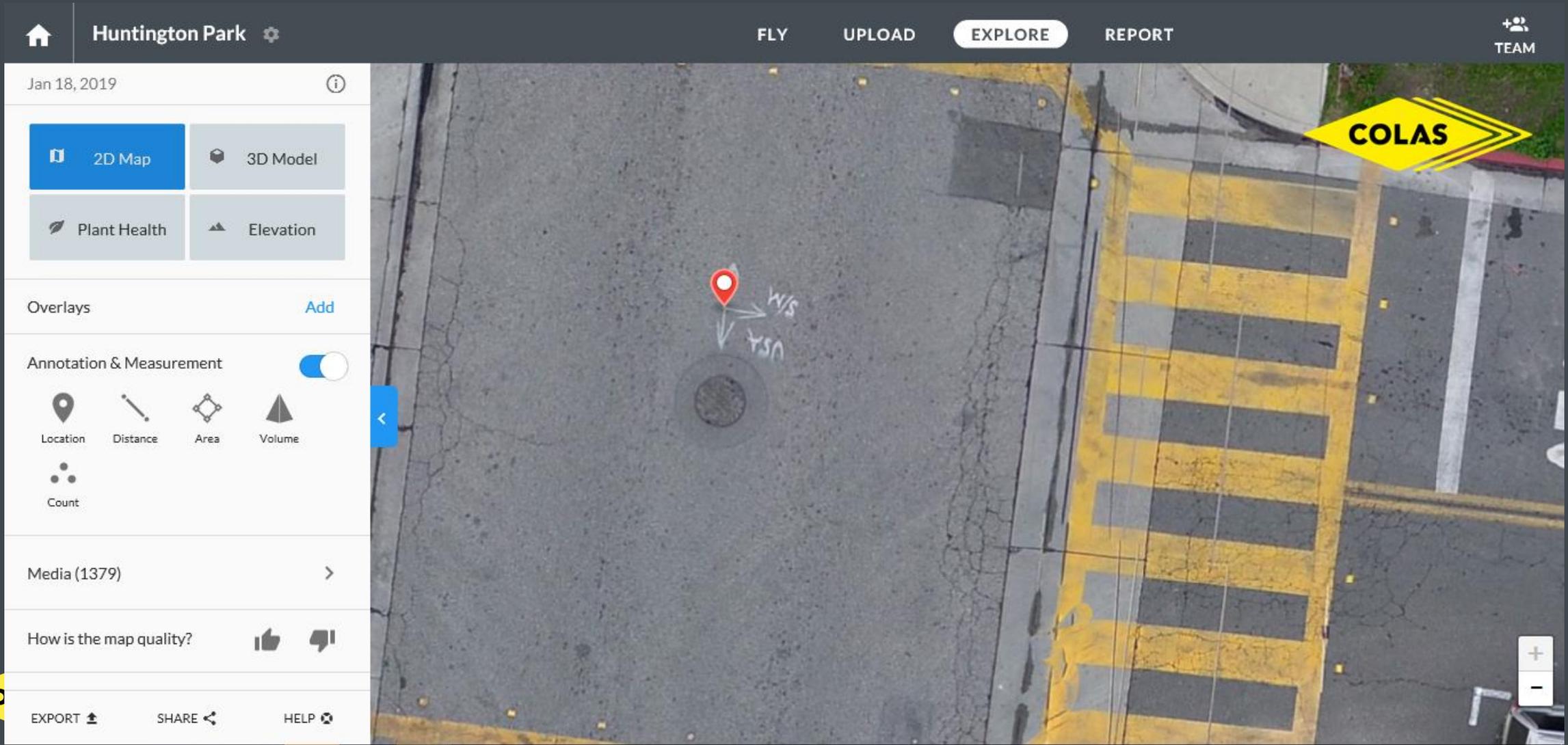
We have been using drones for stockpile measurement for 5+ years

Drones for project management, for better communication, takeoff, progress and insurance

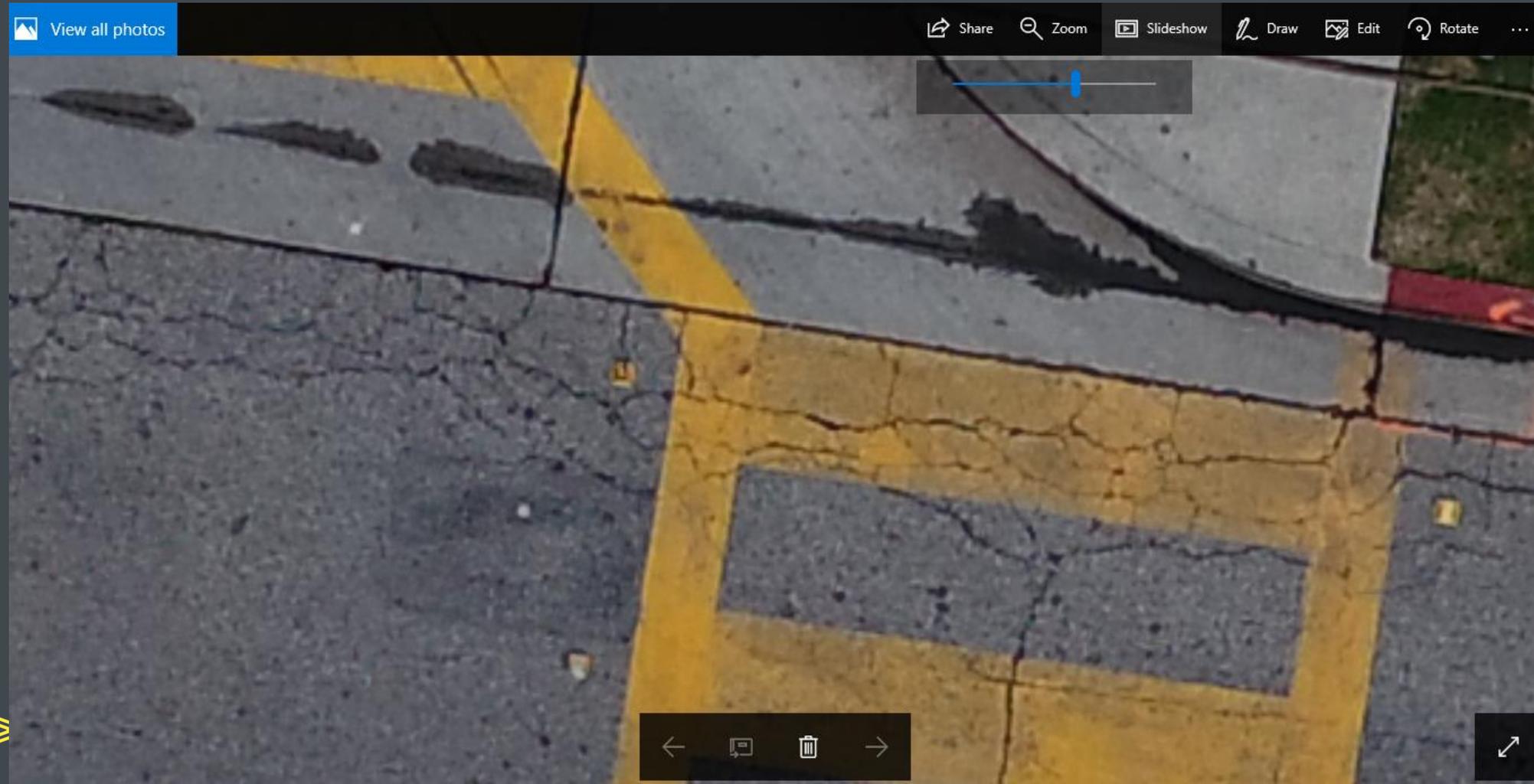
On demand 3rd party pilots



2D Map



High Quality Pictures



3D Map

The screenshot displays a 3D map application interface. The main view shows a perspective view of a road with yellow and white lane markings, set against a rugged, brown, rocky terrain. The interface includes a top navigation bar with a home icon, the text "I 395 - January 2019", and buttons for "FLY", "UPLOAD", "EXPLORE", and "REPORT". A "TEAM" icon is visible in the top right corner. On the left side, there is a sidebar menu with options for "2D Map" (selected), "3D Model", "Plant Health", and "Elevation". Below these options are controls for "Save view as default 3d view" (with a "Save" button), a "Point Cloud" toggle switch, and a "Media (914)" link. At the bottom of the sidebar, there is a "How is the map quality?" section with thumbs up and down icons. The bottom of the application features "EXPORT", "SHARE", and "HELP" buttons. A yellow "COLA" logo is partially visible in the bottom left corner.



A picture is worth a 1000 words

What's the value of that 3d model?



Try, fail FAST, learn, repeat

Try, succeed, learn, improve



We don't want to be those guys



Questions?



Thank you!

