

FALCON: OVERHEIGHT WARNING SYSTEM

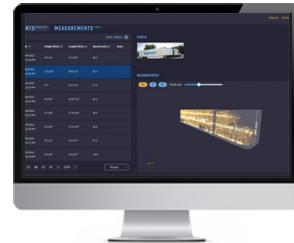
ABOUT FALCON

Falcon is a warning system used to alert over-height vehicles of an upcoming restrictive vertical clearance. This single high-resolution sensor can scan multiple lanes with higher accuracy than traditional sensors.



SENSORS

A LiDAR sensor and camera can be mounted on existing DOT maintained poles to capture vehicles across multiple lanes as they travel at highway speeds.

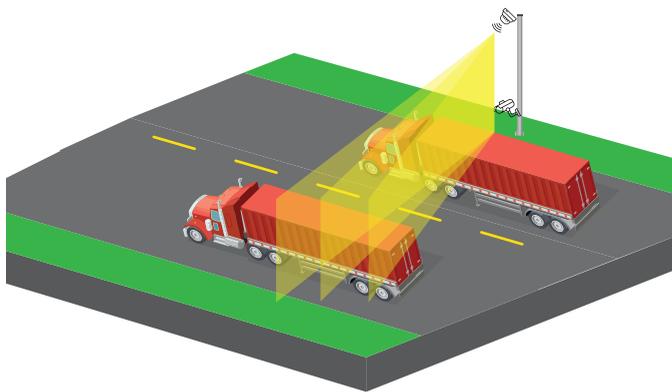


SOFTWARE

A web-based dashboard displays transactions in real-time. The displayed data includes the vehicle's height and length, images of the vehicle, 3D dimensioning, a time stamp, axle count, axle position, and vehicle classification.

FALCON'S SOLUTION SYSTEM

The Falcon solution replaces less accurate solutions using a three-line scan to warn oversized vehicles of a potential collision with an upcoming overhead structure. Falcon consists of a 3D LiDAR sensor and camera to accurately measure vehicles as they travel at highway speeds. A dynamic message board is used to immediately signal over-height vehicles to exit before the upcoming bridge.



SYSTEM SPECIFICATIONS

Max Detection Range	200m at 30% reflectivity
Angular Resolution (H) ²	0.35°
Frame Rate	380 Hz; 1140 lines/sec
Range Accuracy	± 3 cm
Laser Wavelength	905 nm
Laser Safety	Class 1 (eye safe)
Operating Temperature	-40°C to +65°C
Environmental Protection	IP67
Points per Second	315K (single return)



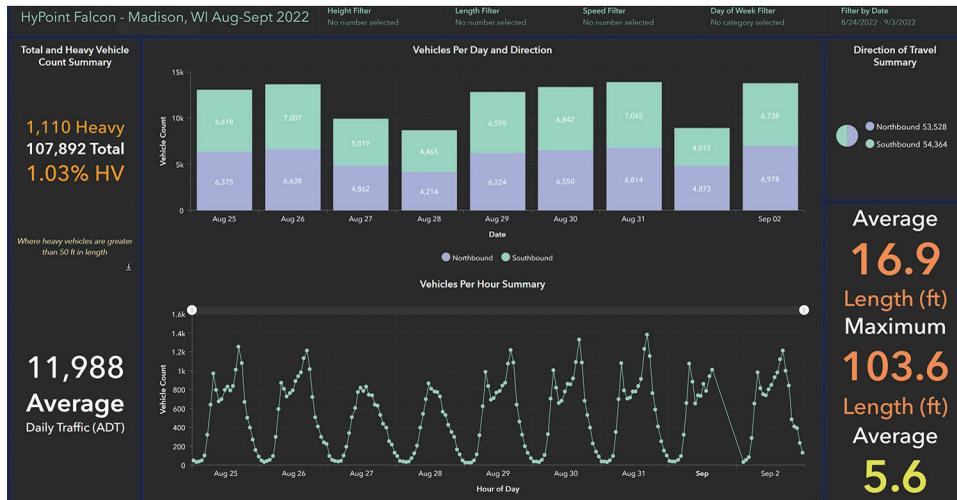
ACCURATE, REAL-TIME TRAFFIC COUNT

Transportation agencies need accurate data to forecast budgeting for highway maintenance. Falcon replaces traditional traffic count systems and provides accurate, up-to-date traffic counts with additional data available that older traffic systems cannot provide. The traffic can be filtered by date, height, length and speed. Once installed, Falcon will provide constant traffic count data.



IMMEDIATELY AVAILABLE DATA

Multiple data sets are instantly available to agency users. There is no need to lay temporary count cables or install traffic count devices in the pavement roadbed. Falcon can easily be remounted along different roadways wherever existing DOT-maintained poles exist.



ESRI Dashboard



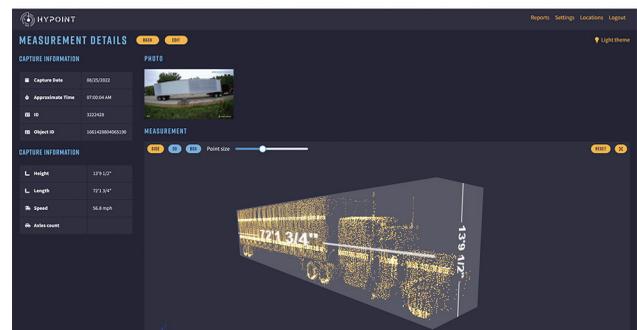
INTUITIVE SOFTWARE AND DASHBOARD

Falcon clients access live or archived data using an ESRI ArcGIS Dashboard. Summarized data can be viewed using custom filters. Each individual vehicle data point can be viewed by clicking on the **Falcon** link in the Traffic tab. An image of each vehicle is captured along with 3D LiDAR scan which provides accurate dimension measurements.

Date/Time	ID	Length (ft)	Height (ft)	Speed (mph)	Travel Direction	Falcon Link
08/25/2022 06:08	3222028	17.11	6' 8"	12.485108	SB	Falcon Link
08/25/2022 06:08	3222012	14.82	4' 8"	12.757564	NB	Falcon Link
08/25/2022 06:08	3222815	14.11	5' 2"	10.530203	NB	Falcon Link
08/25/2022 06:08	3222417	33.8'	9' 3"	10.764874	SB	Falcon Link
08/25/2022 06:08	3222418	14.12	5' 2"	14.232426	NB	Falcon Link
08/25/2022 06:08	3222409	17.71	4' 10"	14.765002	NB	Falcon Link
08/25/2022 06:08	3222403	14.92	5' 2"	10.020347	SB	Falcon Link
08/25/2022 07:08	3222405	13.0'	4' 7"	10.413104	SB	Falcon Link
08/25/2022 07:08	3222407	14.11	4' 8"	14.763606	NB	Falcon Link
08/25/2022 07:08	3222409	17.2'	13.06'	10.874576	SB	Falcon Link
08/25/2022 07:08	3222408	14.11	5' 8"	14.827799	SB	Falcon Link
08/25/2022 07:08	3222405	14.82	4' 10"	11.524891	SB	Falcon Link
08/25/2022 07:08	3222446	10.11	5' 10"	14.872182	SB	Falcon Link
08/25/2022 07:08	3222448	10.11	3' 4"	14.732626	NB	Falcon Link
08/25/2022 07:08	3222400	7.71	2' 0"	14.778175	SB	Falcon Link
08/25/2022 07:08	3222402	11.2'	6' 8"	14.764318	NB	Falcon Link
08/25/2022 07:08	3222405	31.4'	4' 8"	14.343444	NB	Falcon Link
08/25/2022 07:08	3222469	14.8'	5' 8"	11.074606	NB	Falcon Link
08/25/2022 07:08	3222461	14.1'	5' 8"	10.103144	SB	Falcon Link
08/25/2022 07:08	3222463	30.9'	5' 8"	14.236276	NB	Falcon Link
08/25/2022 07:08	3222464	13.1'	5' 2"	14.827792	NB	Falcon Link
08/25/2022 07:08	3222467	14.11	3' 8"	14.763703	NB	Falcon Link
08/25/2022 07:08	3222469	11.11	5' 8"	14.763703	NB	Falcon Link

Direction of Travel Summary
 Northbound 53,528
 Southbound 54,364

Average
 16.9 Length (ft)
Maximum
 103.6 Length (ft)
Average
 5.6



Single vehicle selected for view on ESRI Dashboard