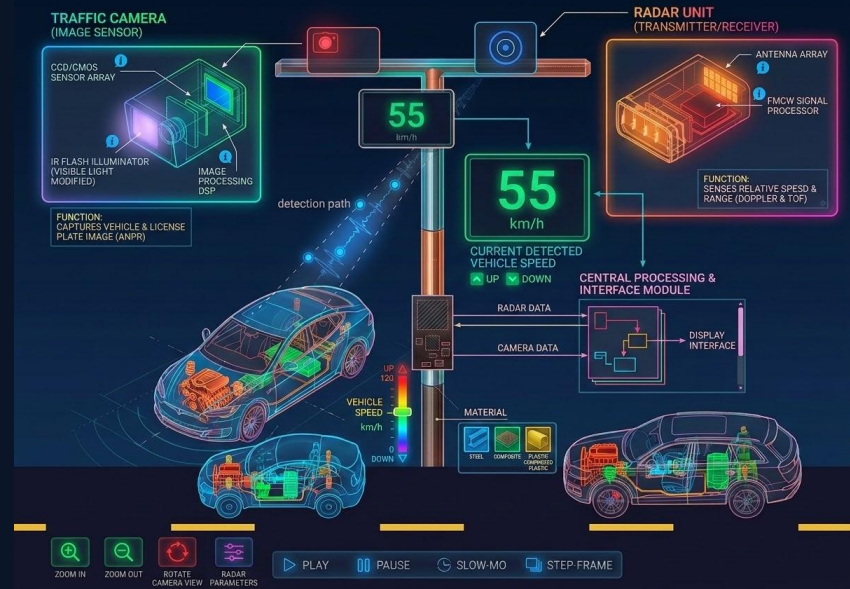




RADAR · VISION · EDGE AI FOR TRAFFIC

Traffic, Seen. In Real Time.

VariPhi builds radar, camera, and edge-AI systems that watch every lane measuring speed, reading plates, and catching violations the moment they happen.



PRODUCT FAMILY **Traffic Monitoring**

SOLUTIONS **3 Hardware Bundles**

DEPLOYMENT **Highway · City · Toll**



THE OPPORTUNITY

Every road already has eyes.

They just aren't watching the right things.

Speed surveys, violations, and lane behaviour are still captured by static cameras, manual counts, and after-the-fact reports. VariPhi closes the gap — radar measures, vision identifies, edge AI decides, all on-site, in real time.

< 1s

End-to-end
latency

98%+

ANPR
accuracy

24/7

Unmanned
operation

Three solutions. One traffic platform.



01 · SPEED DISPLAY

Driver-Feedback Speed Display

A radar-and-display sign that shows drivers their real-time speed — the simplest, most effective way to slow a road.

RADAR

LED DISPLAY



02 · SPEED VIOLATION ANPR

Speed Violation & ANPR

Detects over-speed, captures the plate, builds the evidence packet, and pushes it to the challan system — no operator in the loop.

RADAR

DISPLAY

CAMERA



03 · TRAFFIC MONITORING

Multi-Violation Traffic Monitoring

One gantry watches every lane — wrong-lane, seat-belt, ANPR, vehicle counts, and classification, all on a single edge box.

RADAR

CAMERA

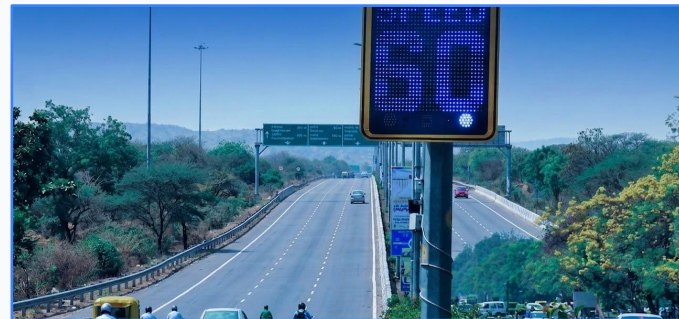
EDGE AI



SOLUTION 01 · SPEED DISPLAY

Show drivers their speed. Watch it drop.

A doppler radar pairs with a high-brightness LED display to show approaching drivers exactly how fast they're going. Studies consistently show 10–20% drops in mean speed after install.



01 Real-time speed readout

Sub-second update; configurable units & thresholds.



02 Smiley / frown / flash modes

Color and pattern change above set speed limit.



03 Solar or AC powered

Pole, mast or trailer mount; off-grid capable.



04 Logging & reports

Per-vehicle speed log uploaded over LTE / Wi-Fi.

RANGE Up to 200 m

ACCURACY ± 1 km/h

POWER Solar · 90-240V AC



SOLUTION 02 · SPEED VIOLATION ANPR

From over-speed to evidence packet — in under a second.

Radar detects a violation, the camera captures plate and context, edge AI builds the evidence packet, and the display warns the driver. The challan goes out unattended.



01 Over-speed detection

Per-lane thresholds, day & night profiles, vehicle-class limits.



02 ANPR with evidence packet

Plate + close-up + wide context, signed and timestamped.



03 Driver-facing display

Live speed feedback paired with the enforcement record.



04 Challan integration

Push to RTO / e-challan / VMS over secure API.

PLATE ACCURACY > 98% (day & IR night)

LANES Up to 4 per unit

LATENCY < 800 ms end-to-end



SOLUTION 03 · TRAFFIC MONITORING

One gantry. Every violation. Every count.

A single VariPhi unit replaces a stack of single-purpose cameras — running every model on one edge device, in parallel, per lane.



USE CASE 01

Wrong Lane / Wrong Way

Detects vehicles in HOV, dedicated, or opposite-direction lanes.



USE CASE 02

No Seat Belt

Driver and front-passenger seat-belt detection through windshield.



USE CASE 03

ANPR

Plate read on every vehicle, every lane — day, night, rain.



USE CASE 04

Counting & Classification

Per-lane vehicle counts split by class — car, bus, truck, two-wheeler.

PLATFORM All running on one edge device, in parallel. Add helmet detection, triple-riding, signal jumping, queue length — same hardware, new model.



HOW IT WORKS

Radar. Vision. Edge.

A three-stage pipeline that lives on the gantry — not in a server room.

SENSE



Radar & camera

Doppler radar gives the speed and the trigger. The vision camera gives the plate, the scene, and the context.

- 24 GHz Doppler radar
- 4K / IR ANPR camera
- Per-lane sync



DECIDE



Edge AI

Models run on the gantry — ANPR, seat-belt, lane, classification, counting — in parallel, per lane. No cloud round-trip.

- Multi-model inference
- Signed evidence packet
- Local store-and-forward



ACT



Display & back-office

Drivers see live feedback on the LED display. Violations and counts go to your challan system or traffic dashboard.

- LED driver display
- e-Challan / RTO API
- ATMS · VMS · SCADA

Real-time traffic intelligence.



- ✓ Live violation feed with evidence
- ✓ Speed distribution & trend charts
- ✓ Vehicle classification breakdowns
- ✓ Export to CSV, PDF, or API push



WHERE IT DEPLOYS

Built for every kind of road.

From village school zones to multi-lane expressways — the same three solutions, scaled to the site.



01

Highways & Expressways

Multi-lane speed enforcement, ANPR, incident detection.



02

City Junctions

Signal jumping, wrong-lane, helmet, seat-belt enforcement.



03

Toll Plazas

Free-flow ANPR, axle & class counting, queue analytics.



04

School & Work Zones

Driver-feedback speed signs, temporary deployments.



05

Bridges & Tunnels

Lane discipline, height & class checks, incident detection.



06

Industrial & Port Roads

Plate-based access, on-site speed limits, count-by-class.



07

Smart City Corridors

City-wide counts, OD studies, real-time traffic dashboards.

One stack

Same radar, same camera family, same edge platform — mix and match per location.



NEXT STEP

See it on *your road.*

Pick one corridor, one junction, or one school zone. We install a VariPhi unit, run it for 30 days, and hand you the data. Then you decide.



REQUEST A DEMO

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TALK TO US

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MORE

<https://variphi.com>

[Schedule a 30-Day Road Pilot](#)