◆ Verkada

Extend Campus Safety to Buses with Verkada Cameras

Resolve incidents faster, and keep students and drivers safe. Remotely access every bus camera from a single dashboard and instantly pinpoint the footage you need with AI-powered tools.

Key benefits

Quickly locate missing individuals

When a concerned parent calls in, act fast. Upload a student's photo, or enter a description of their appearance to conduct a fleet-wide search from boarding to drop-off.
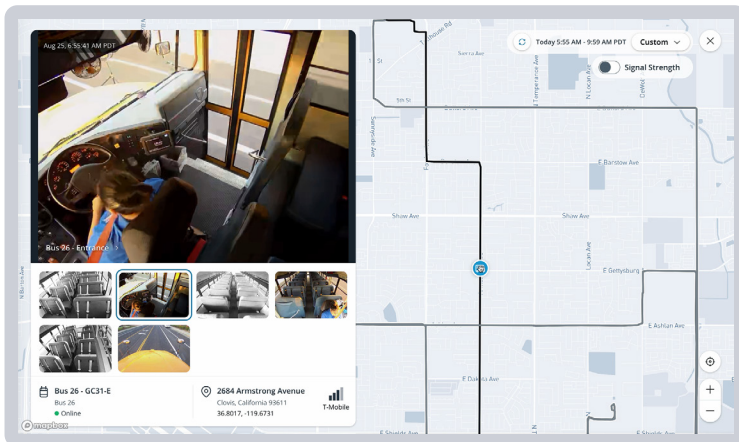
Audit claims with video evidence

Easily find incident footage with filters for bus, location, date, and time, whether it's a reported altercation or a driver's alleged comment.

Protect passenger privacy

Share footage with administrators and external parties while selectively blurring out faces to protect the privacy of surrounding passengers.

Why IT and transportation choose Verkada

- **Access video remotely** without pulling a hard drive from the bus, even when the vehicle is off.

- **Investigate in real time** with access to live and historical footage while buses are on route.

- **Locate missing people** by searching for a face or description of a person across all buses.

- **Quickly find footage** by incident location, even without knowing the bus or exact time.

- **Instantly share footage** via SMS or direct link and auto-generate incident reports.

- **Eliminate NVRs and DVRs** with built-in storage on each camera, coupled with a first-party cellular gateway for remote access.
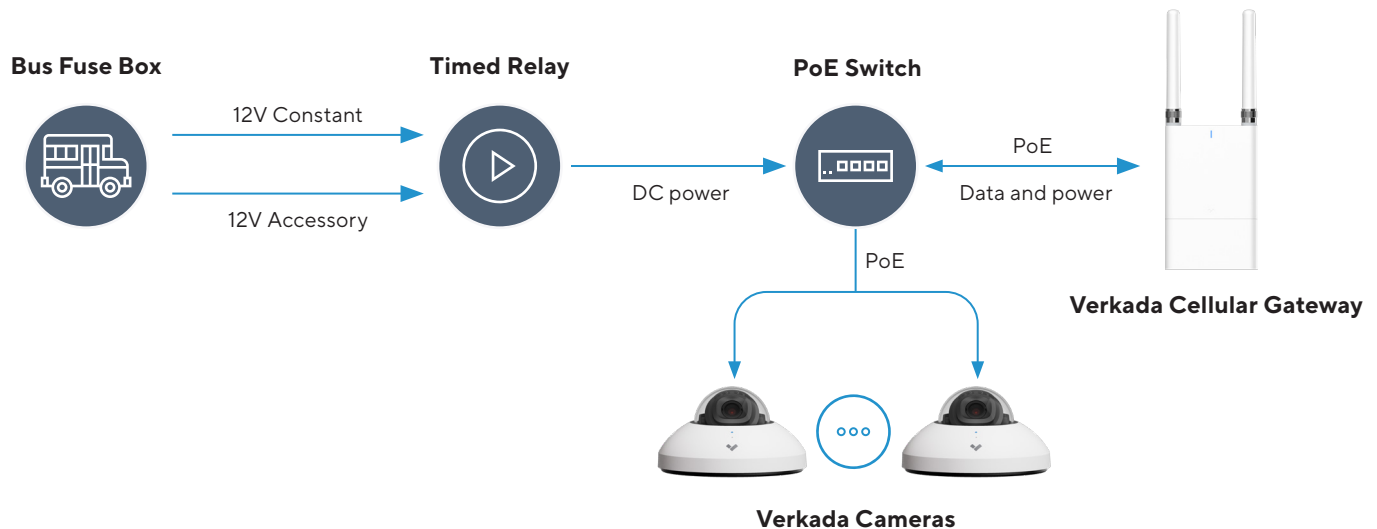

> ❝ A parent might call and say, 'Something happened at the corner of Herndon and Fowler today.' Now we can go straight to that intersection and find out which bus was there and what happened. ❞
>
> - **Raj Nagra,** CTO,
> Clovis Unified School District

Solution architecture

Bus Fuse Box → 12V Constant → 12V Accessory → **Timed Relay** → DC power → **PoE Switch** → PoE / Data and power → **Verkada Cellular Gateway**

PoE → **Verkada Cameras**

Verkada Cameras

The [CM42](#) and [CM41-E](#) Mini Domes are recommended for the interior and exterior of the bus, respectively. Both models are low-profile and designed to withstand the vibrations of transit environments. Full-sized buses typically have up to 6 cameras.

Verkada Cellular Gateway

The GC31-E Cellular Gateway provides LTE connectivity for the camera system for live viewing, historical video streaming, GPS location, and cloud backup while in transit. The gateway can be powered by a PoE switch or directly via 12V DC from the vehicle. For optimal performance, use an external surface-mounted antenna (e.g. [Panorama LP[G]AM-BC3G-26](#)) with the gateway.

Ruggedized PoE Switch

Use an industrial-grade PoE switch (e.g. [Linovision 8-port](#)) with 12V DC input and sufficient power budget for the gateway and cameras. A switch is not needed for 1-2 camera deployments as the gateway itself supports 12V DC input and 2 PoE outputs.

Timed Relay Device

Install a timed relay (e.g. [GRT8-M1](#)) between the vehicle battery and PoE switch to delay power shutoff. This lets the cameras stay on for a period of time after ignition is shut off — allowing for continuous recording during stops and time to upload footage at the bus yard.

Key deployment considerations

Cloud backup

Cloud backup enables users to access footage after the vehicle and camera system are shut off. We recommend enabling cloud backup on a prioritized subset of cameras to ensure critical footage is always accessible while balancing data usage and available bandwidth.

Cellular data plan

An unlimited data plan is often the most cost-effective choice for bus deployments, as each camera consumes roughly 20GB/month with average use (not including cloud backup). Many schools and public authorities have access to discounted data plans through partnerships (e.g. AT&T FirstNet and Verizon Frontline).