



# PEOPLE COUNTING IN PUBLIC BUSES WITH A MOBILE ROUTER

## HIGHLIGHTS

- ✔ With growing awareness of how fuel-powered vehicles affect the environment, more people are hopping on sustainable travel options, like public buses.
- ✔ However, busy commutes may require adjusting the number of buses. People-counting data from sensors and cameras can help determine the needed buses, but a networking device is essential for transmitting this data.
- ✔ With many buses needing reliable connectivity, Teltonika's RUT956 mobile router is ideal. Featuring 4G LTE with failover and a flexible operating system, RutOS, it seamlessly connects sensors, cameras, and monitoring software, ensuring smooth data flow.

## THE CHALLENGE – UNFORTUNATELY, PUBLIC BUSES AREN'T BALLOONS

As environmental awareness increases and the drawbacks of fossil fuel-powered vehicles become clearer, more people are choosing public transportation for their commutes. This shift is undoubtedly great, but it raises concerns of matching public transportation capacity with passenger demand.

Public transportation, for all its virtues, cannot stretch like a balloon. With limited seats and available space, ensuring a safe and comfortable ride requires clever strategies. The most effective approach involves using real-time data to analyse passenger traffic.

While real-time data processing alone doesn't resolve this concern, it's the precise tool for making informed operational decisions.

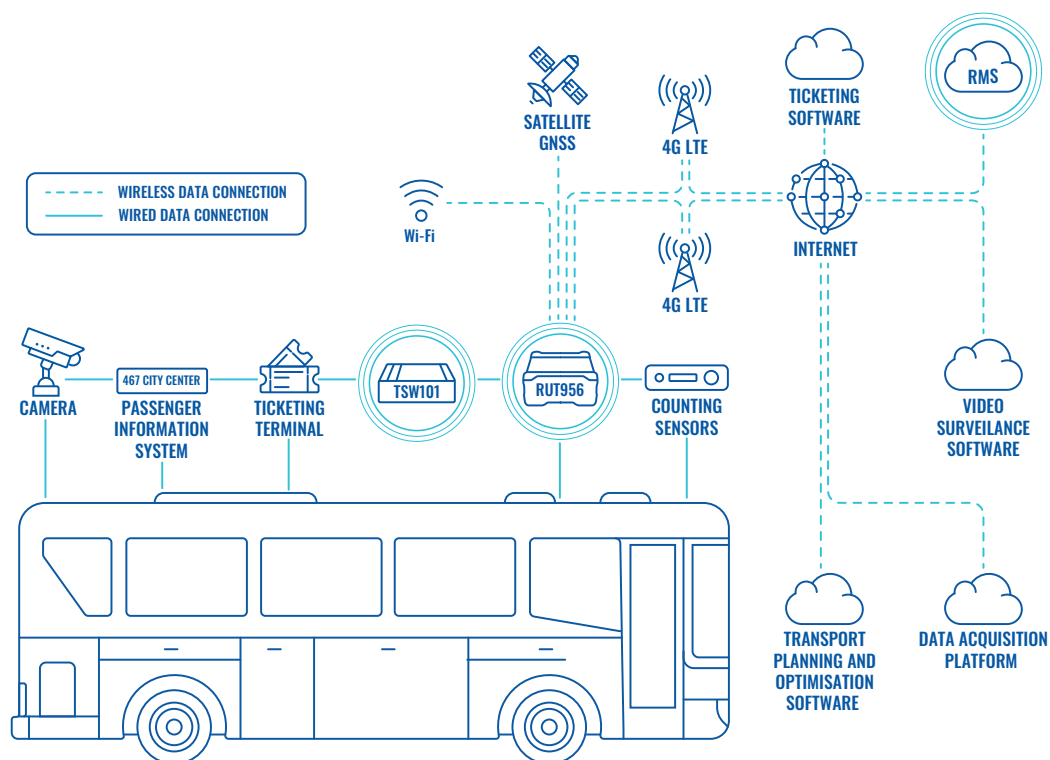
This data is gathered from systems with automatic passenger counting technology, which use sensors and a data acquisition platform to monitor passenger commuting patterns and density. The information is then relayed to traffic control personnel, enabling dispatchers to optimise routes, frequencies, and schedules to adapt to fluctuating demands.

A networking device is required to bridge the connectivity gap between physical endpoints and the monitoring software, essential for creating a unified network infrastructure. However, not just any type will suffice.

The device must provide reliable connectivity for immediate data transfer, regardless of location. Additionally, it must be flexible and adhere to the specific requirements of a data acquisition platform. With the high volume of public buses, cost-effectiveness is also a critical factor.

The solution? Teltonika's RUT956 mobile router.

## TOPOLOGY



## THE SOLUTION – LUCKILY, THERE’S NO NEED FOR THEM TO BE BALLOONS

The Teltonika RUT956 mobile router, paired with the [TSW101 Ethernet switch](#), serves as the centrepiece of this solution, seamlessly meeting all its connectivity needs.

The RUT956 is a 4G LTE router that’s backward compatible with 3G and even 2G to ensure uninterrupted connection and prevent data loss. Additionally, it has GNSS technology, essential for precise GPS tracking of all public buses.

This mobile router includes four RJ45 ports, with the TSW101 Ethernet switch connected to one of them. The router also features Wi-Fi, which is used for data transmission at designated bus stops.

This ensures quick and reliable data transmission from all connected end devices within the network infrastructure, such as IP cameras, passenger information systems, and [ticketing terminals](#).

If the primary mobile connection of the RUT956 4G LTE router falters, it uses its nifty feature – failover. With failover, the router switches to a backup WAN connection, which, in this case, is a second SIM card.

But among all these great features, the true beauty of the RUT956 springs from its core: its operating system, RutOS. It’s an essential part of making the data acquisition platform work efficiently.

Built on OpenWRT, RutOS offers extensive customisation and configuration capabilities, making it a highly flexible networking device that can adapt to specific data transmission needs.

By configuring this mobile router based on the application’s needs, the RUT956 can collect all data from sensors, IP cameras, and its GPS tracking, and transmit it to the data acquisition platform, equipping dispatchers with essential data to make informed decisions about adjusting transport capacity as needed.

Finally, a truly important aspect of the RUT956 is its competitive pricing. Given the vast number of vehicles in public transportation systems, all requiring reliable connectivity, affordability is a significant consideration in this exact solution, and the RUT956 is sure to promise that.

If you want a true connectivity gem with lots to give, the RUT956 mobile router is a confident choice.

