

Transit Signal Priority 101

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What is Transit Signal Priority (TSP)?

TSP creates a *communication system* between **traffic signals** and **buses** to reduce bus delay at signalized intersections



This system lets the **traffic signal** know when a **bus** is approaching so it can prepare to optimize bus movements – similar to how traffic signals have detected emergency vehicles for many years

The level of priority that a bus receives at each intersection is defined in coordination with the city traffic engineer

TSP is a win-win-win

TSP helps **all users move through the intersection smoothly.**

It allows signals to know when the bus is coming so it can clear the intersection for bus movements.

TSP increases SAFETY.

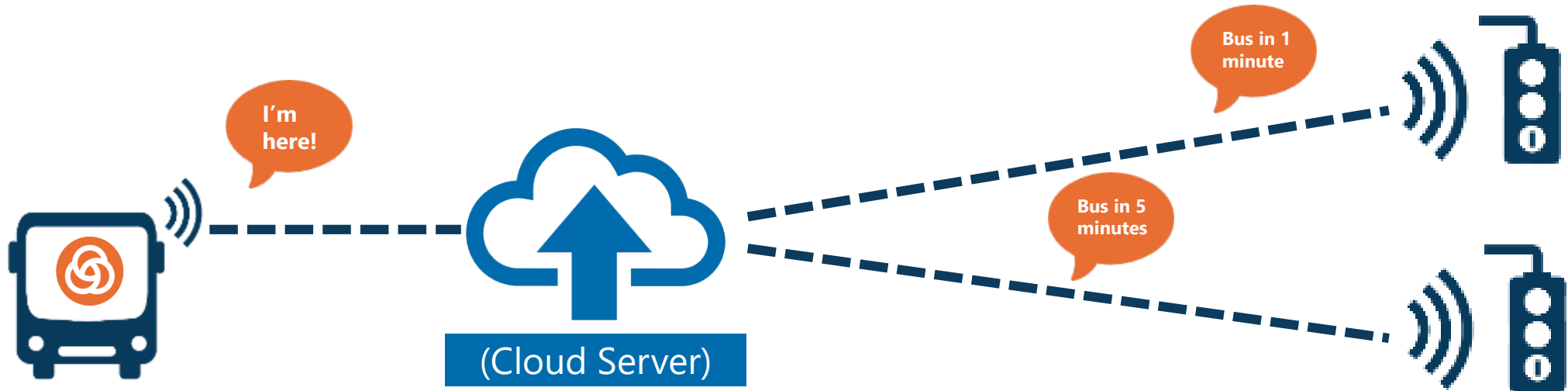
It **prevents the bus from blocking turning movements** and reduces situations where a driver might want to unsafely pass a bus.

TSP does NOT
cause delay for
drivers, cyclists,
and **pedestrians.**

TSP reduces
greenhouse gas
emissions

by reducing vehicle
idling and lowering
fuel consumption

How does NextGen TSP work?



TriMet buses use cell signal technology to let a cloud server know their speed and location.

The communication network can use this data to estimate when the bus will arrive at certain signals

The cloud server then sends this information to the signals

This allows the signals to adapt to let the bus pass through.

For example, by extending a green light if the bus is about to approach.

How does NextGen TSP work?

NextGen TSP is smarter than before

The old system relied on optics to detect buses visually as they approached a light; these sight lines could be blocked by trees and dirty lenses.

Instead, new LYT systems track buses using cell signals



LYT also learns on the job. Every time the bus runs with NextGen TSP the cloud server and communications network get better at estimating bus arrival time and predicting travel behavior.

Regional partners can decide how their network grants signal priority to other modes.

For example, PBOT uses TSP to give pedestrians enhanced service at intersections in their pedestrian districts

This system gives traffic engineers **more tools to ease roadway congestion.**