

Reducing the Carbon Footprint of Public Transit Agencies

Environmentally-Friendly ITS Solutions from Clever Devices

Climate change is a global emergency. Reducing our carbon footprint is one of the most important ways we can mitigate the effects of climate change and help protect the environment.

Studies have shown that communities with strong public transit can reduce carbon emissions by 37 million metric tons yearly¹. A single individual commuting 20 miles round trip can lower their carbon footprint by 4800 pounds annually by switching to public transportation. Some of the largest transit agencies in North America, including New York and California, have committed to going 100% electric by 2045, setting the example that many other agencies have begun to follow.

But, realistically, 2045 is quite a ways away, and public transit must map a blueprint today that outlines the actions they will take during this transition. Between now and then, there is much that we must do. Clever Devices is committed to delivering environmentally friendly Intelligent Transportation solutions to help transit agencies reduce their carbon footprint today and well into the future.



¹ The Center for Climate and Energy Solutions. [Reducing Your Transportation Footprint.](#)

REDUCING ROAD CONGESTION

More cars on the road directly correlate to increased congestion and elevated levels of air pollution. Increased road congestion also leads to poor fuel efficiency and unnecessary idling. Our suite of environmentally-conscious business intelligence and dispatch tools enables transit agencies to diagnose areas of inefficiencies and make the necessary changes needed to reduce congestion and improve overall performance levels.

CleverCAD

CleverCAD helps operations control centers reduce congestion and bus bunching by providing dispatchers with the real-time location and on-time performance of every vehicle in the fleet so they can make the necessary adjustments needed to keep service moving efficiently.

Disruption Management

The Disruption Management module lets dispatchers react quickly to make schedule and route adjustments to avoid congestion-causing service interruptions such as road closures or traffic jams.

Idle Monitor

Idle monitor helps combat the chronic problem of avoidable bus idling by identifying and reporting all idle monitoring events and calculating the fuel consumed and the carbon emission generated per event so an agency can take corrective measures.



INCREASED **FUEL EFFICIENCY**

Until the transition to Battery Electric Buses (BEBs) is complete over twenty years from now, most of the vehicles on our roads will continue to be powered by environmentally unfriendly diesel fuel. As such, we must continue to implement measures to maximize fuel efficiency to reduce greenhouse gas emissions, the leading cause of climate change.

AVM

When vehicles are properly maintained, they run up to 10% cleaner and more efficiently than those that are not. AVM lets an agency pre-emptively measure, monitor, and maintain all systems to keep the fleet operating in peak operating condition.

Ecodrive

Provides meaningful fuel efficiency information by analyzing the context of the users' operations by examining operator, vehicle type, route, and other variables that may impact fuel usage.

REDUCING PRIVATE CAR USAGE BY MAKING TRANSIT **RELIABLE & ENJOYABLE**

Reliable, safe public transit – the kind that people actually want to use - can help reduce the number of private vehicles on our roads. However, if people don't enjoy taking public transit or feel unsafe or frustrated by it, they will default to using personal cars and rideshare apps. Clever Devices offers a variety of solutions designed to help make riding public transit a more enjoyable experience, directly leading to increased ridership and fewer single-occupant personal vehicles on the roads.

BusTime Real-Time Information

Provides riders with real-time arrival information via the web, mobile devices and electronic signage onboard while waiting at a stop making planning your journey more convenient.

CleverVision Digital Signage

Onboard digital signage lets an agency deliver real-time information, public service announcements, and other video content to help make the onboard experience informative and enjoyable.



THE MOVE TO ELECTRIC VEHICLES

The ultimate goal is to have every public transit vehicle on the road powered by battery electric power by 2040. Making that transition will be a challenge; it's not as simple as swapping a diesel bus for an electric one. There is a lot to consider, such as increased energy costs, new maintenance skillsets requirements, battery management concerns, charging considerations and the impact all this has on the power grid. Add vehicle assignment and block optimization along with "range anxiety" – the fear that a vehicle doesn't have enough power to complete its assigned work – and the task of injecting electric vehicles can feel overwhelming.

Electric Vehicle Monitoring Solutions (EVMS)

EVMS is a powerful solution that simplifies the process of adding electric vehicles into an agency's fleet by minimizing what an agency needs to consider as they transition to electric vehicles. EVMS grows smarter as it continues to learn more about an agency's specific considerations.

Seamless Electric Vehicle Operations

- Energy Assessments
- Work Assignments
- Charging Management
- Service Day Management
- Monitoring
- Reporting



Clever Devices is committed to creating the environmentally friendly ITS solutions our clients need to do their part to reduce the disastrous impact global warming has on our planet and in our lives.

Learn more at cleverdevices.com

 **Clever Devices**
Where Mobility Matters