



**EMOBILITY FOR TRANSITS**

# Moving Public Transit Forward

**[usa.siemens.com/eMobility](https://usa.siemens.com/eMobility)**

The transportation sector is evolving rapidly – from clean air mandates, state, local and federal incentives and funding, to lowering electric vehicle battery costs and aggressive sustainability goals, many cities and state transit agencies are quickly moving to all-electric mass transit systems. Electrified public transit systems will not only help reduce carbon emissions to improve public health and environment, but it also opens the opportunity for advancement in bus transit operations. However, as bus transits electrify, they need to plan to support the critical EV charging infrastructure. Siemens is helping transits easily deploy, manage and reduce their overall cost of ownership of their charging systems while also assisting reduce energy consumption. We are shaping the market with innovative charging technology solutions, powering the infrastructure across various sectors as well as planning and implementing secure grid connections to enable a smoother transition to electrified transport.

**SIEMENS**



## Getting started

Whether looking to deploy a pilot project or make the commitment in electric bus operations, having a solid plan is crucial. Battery electric buses (BEBs) require a unique operational setup. Not only are transit agencies challenged with location and space constraints for charging infrastructure, but they also must have the right stakeholders involved in the planning process to ensure a smooth transition. These stakeholders include local utility, engineering, vehicle OEMs and the charger manufacturer. Transits will need to look beyond the vehicle and evaluate the entire infrastructure and operational needs, including the bus chargers, the power requirements, the location and routes so they can make the most cost-effective implementation decision to best optimize the investment.

- Engage with the local utility as early as site planning for your bus depot. Some utilities require interconnection studies that can be time consuming.
- Evaluate operations to determine the charging infrastructure requirements.
- Conduct a breaker coordination study to determine the correct load curve.
- Consider site locations from an electrical need perspective (proximity to local substation is key).
- Ensure the buses are fully interoperable with the charging equipment. They must be able to effectively communicate with one another for optimal charging.
- Select a dedicated cloud-solution with smart charging capabilities that help you easily manage your electrified bus fleet to help reduce cost.

To help support this planning process, Siemens' expert engineers can analyze site location, project cost comparisons between various charging options, power requirements, the amount of chargers needed to optimize operations and vehicle charging schedule needs. They can assess the fleet and facility/depot to find potential cost savings and help future-proof the facilities as you scale up your electric fleet operations.





### **Funding the project**

Nowadays, there are a lot of financial incentives from both state and federal funding available to aid the transition to an electrified public transit fleet, including but not limited to the Low or No Emissions program and the Grants for Buses and Bus Facilities Competitive Program. Siemens can guide you through those complexities when filing for grant funding. Siemens also provides additional financing options to help you reach your decarbonization and sustainability goals.





### Finding the right partner

Electrifying transit bus operations is not as simple as buying the bus and installing a charger; it requires a partner who can support you from the beginning of your electrification journey and throughout. Siemens is shaping the market with innovative charging technology solutions, powering the infrastructure across various sectors, as well as planning and implementing secure grid connections to enable the growth of transit electrification. We can support you on various project levels with various solutions.

Siemens is here to support whether you're looking for site planning consultation and interconnection studies grant submittal support and the entire EV charging infrastructure in general. This would include chargers, electrical supply, flexible options like renewable integration, fleet management software-as-a-service and other services to keep your operations running smoothly. We also have established good relationships with bus manufacturers and other network providers to ensure interoperability with our equipment. Siemens will help you successfully deploy and manage your electric transit bus fleet with PlugtoGrid™.

# | eMobility<sup>®</sup> solutions



## **SICHARGE UC™**

- Fast, secure charging – Up to 150 kW with 200-950 Vdc range
- Sleek, compact dispenser and power cabinet designs
- Low installation costs with multiple dispenser design
- Support for up to four remote dispensers with one power cabinet
- Charges in sequential fashion
- Compatible with Combined Charging System (CCS1) charging standards
- 25 foot power cable
- Floor or wall mount dispenser options
- NEMA 3R design



## **Smart charging fleet management**

- Remote diagnostics and monitoring
- Load management & control
- Detailed reporting
- Operational planning and scheduling
- Charging optimization
- Energy cost management



## **Planning and consulting**

- Site assessment and planning
- Grid stress test
- Forecasting
- Grant support



## **Asset services**

- Onboarding
- Financing
- O&M management
- Maintenance and service contracts
- Warranty and Extended Warranty



## **Electrical and energy equipment**

- Panel boards
- Meters
- Breakers
- Safety switches
- Transformers
- Switchgear
- Renewable integration



## **Renewable integration**

- Solar PV inverters and skid solutions
- Distributed energy systems
- Energy storage solutions
- Microgrids and controllers
- Solar PPA
- Renewable energy procurement





Transits all over the U.S. are transitioning to an all-electric bus fleet due to the lowering cost of battery-powered electric buses, available funding and local mandates. But these changes will require an electric charging depot that operates efficiently with reliable integration into the grid. Choosing the right partner throughout your journey is critical to the successful deployment of an electrified transit bus fleet.

### Notes:

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