

SIMPLIFYING Zero-Emission Transit Bus Procurement: Lessons from Statewide Contracts

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SIMPLIFYING Zero-Emission Transit Bus Procurement: Lessons from Statewide Procurements

Executive Summary

Public transportation employees are continuously stretched thin in many of their affairs, including the procurement of new vehicles due to limited resources and bandwidth. Contract development using federal guidelines for the purchase of new vehicles is time and resource demanding, and with advances in zero emission bus technology, the time and effort required to understand these new technologies further attenuate resources. Recognizing the stress of new zero-emission bus procurement on transit operations, the centralized procurement departments of four states have stepped in to help. California's Department of General Services (DGS), Georgia's Department of Administrative Services (DOAS), Virginia's Department of General Services (DGS) and Washington State's Department of Enterprise Services (DES) are leaders in the effort to alleviate the encumbrance of contract development as the first to create state statewide contracts for the purchase of zero-emission vehicles.

This document shares the unique experiences of each state and the processes they underwent to achieve a state-wide zero emission bus contract. It is intended to provide perspective, methods to success, and lessons to learn for states interested in initiating their own statewide contracts. An analysis of the Federal Transit Administration guidelines and Fixing America's Surface Transportation Act found statewide contracts eligible for use by transit agencies across the country.

It is recommended for all agencies looking to utilize these contracts to consult state and local laws prior to purchase of vehicles. Purchasers interested in procuring a bus through one of the current statewide contracts are encouraged to examine the contracts and [pricelists](#).

Background

There are more than 2,000 public transit agencies across the US, and more than half of those agencies are designated as Rural Public Transit Systems¹. These rural agencies typically have limited staff and may not have the funds or bandwidth available to access resources that larger agencies possess. Even larger agencies designated Small Urbanized Areas (population size of 50,000 to 200,000) may not have the resources that Urbanized Areas have access to due to larger budgets of an internal staff.

With the precipitous advancements in zero-emission technologies, specifically in rolling stock such as transit buses where Hydrogen Fuel Cell and Battery Electric buses are increasing in popularity, it can be difficult for agencies to prepare and adapt their operations to leverage these technologies.

The purpose of this document is to share the unique experiences and recommendations of individuals who took part in developing zero-emission bus statewide contracts (synonymous with state cooperative

¹ <https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/FactBook/2018-APTA-Fact-Book.pdf>

purchase contract) for their respective states. It is intended to promote the currently available statewide contracts and encourage future contract developments for the benefit of transit agencies across the country.

This data was collected by CALSTART (calstart.org), a national 501c.3 non-profit that focuses on accelerating the commercialization of clean and efficient transportation technologies through innovative approaches, policies, and programs and creating sustainable jobs through technological advances both domestically and abroad.

Data Collection Procedure

Currently there are only four states that either have a zero-emission bus statewide contract (California, Georgia and Virginia) or are in the process of awarding the contracts (Washington). CALSTART conducted interviews with representatives from Georgia’s Department of Administrative Services (DOAS), Virginia’s Department of General Services (DGS) and Washington State’s Department of Enterprise Services (DES) in the winter of 2019-2020. While the state of California’s Department of General Services (DGS) was invited to participate, the timing was not conducive as their statewide contract had yet to be awarded. Since the conclusion of the interview period, California awarded their contracts and shared them with CALSTART to be included in this document. For continuity purposes, the four different state departments will be generally referred to as the “contracting departments”.

CALSTART’s analysis of the Federal Acquisition Regulations² (FAR), Federal Transit Administration (FTA) Regulations³ and Fixing America’s Surface Transportation (FAST) Act⁴ shored up the rules and allowances for state cooperative purchase contracts.

The following information represents the guidance and experience of the representatives who gave feedback on behalf of their respective state agencies.

Defining Statewide Contracts

With a zero-emission statewide contract, purchasing agencies are free to select a bus from a menu of vehicles and proceed with the vehicle purchase without the process of procurement and contract negotiations. The work leading up to a purchase agreement (research, request for proposal, proposal evaluation and negotiations) are completed by the state contracting departments.

The contracting departments have done the preliminary contracting work to develop the specifications, RFP, and awards to OEMs, however transit agencies are still able to customize the vehicles with a transparent base price of the vehicle. A list of basic vehicle units with their prices are provided in the statewide contracts. Some contracts offer an “a la carte” menu of options, featuring the base units plus add-ons such as a heating or air conditioning system to eliminate time spent contacting the supplier if an

² <https://www.acquisition.gov/sites/default/files/current/far/pdf/FAR.pdf>

³ <https://www.transit.dot.gov/funding/procurement/third-party-procurement/best-practices-procurement-manual>

⁴ <https://www.govinfo.gov/content/pkg/BILLS-114hr22enr/pdf/BILLS-114hr22enr.pdf>

agency is interested in finding out the price of the add-on. These contracts are available for use not only to all the transit agencies within the state responsible for the contract, but any transit agency in the country so long as their own [state laws](#) will allow it.

Formation of the Contract: The Process

Gather the Experts

A common thread that ran through each state's interview was the importance of constant communication with regional FTA representatives. This was to make sure each state was adhering to the FTA's procurement guidelines. Beyond the FTA, each state referenced the need to bring in industry experts when developing a procurement through a centralized procurement department. Though the state contracting departments are experts in writing contracts, they required guidance from transit experts such as transit agency professionals, key stakeholder groups, and state DOT representatives. In accordance with FAST Act regulation, state contracting departments developed statewide contracts intended to serve the majority of their transit agencies by involving transit representatives from agencies of varying sizes and geographies.

In addition to transit experts, OEM's were consulted for their technical bus expertise. Being a particularly unacquainted technology, zero-emission bus manufactures provided feedback on bus specifications which offered guidelines as to what can be expected from the technology.

While California, Georgia and Virginia involved their state DOTs, Washington went a step beyond.

Regional Coalitions

Washington State DES formed a coalition of transit agencies, about 15-16 agencies of various sizes, OEMs, Washington State DOT, and DOTs from surrounding states. This allowed the state of Washington the ability to include various specifications, should they choose to do so, that may make the contract more applicable and attractive to regional partners.

Application Process for OEMs

In order to maximize OEM success in the bidding processes, and in return maximize vehicle options in the final contract, one state aided manufacturers through the application process. Virginia put in place a series of workshops for OEMs that guided them through the application process and procedures. This is a benefit to OEMs, and Virginia's DGS received a maximum number of eligible applications.

California created an incentive for bidding OEMs by increasing the score on their applications if they offered enhancements to the base vehicle at a minimal cost to the purchaser. In doing so, bidding OEMs competed for the contract with California and California pushed for the best prices they could obtain for their transit agencies.

Formation of the Contract: The Hurdles

California DGS

There were concerns from California's DGS that pricing from OEMs would factor in current state incentives, such as [HVIP](#)⁵. This would allow OEMs to artificially inflate prices knowing the incentive amounts each agency could receive. However, an analysis was done that verified these incentives were not factored into the base unit prices.

Georgia DGS

Georgia's biggest challenge was convincing their transit agencies of the benefits of a statewide contract. Contract creators were met with opposition, stemming from a resistance to a change in the way things were previously done. However, they had a successful statewide contract for school buses that was initially met with skepticism and doubt as well, but now the statewide contracts are sought after by school districts across the state. Georgia DOAS believed the transit contract would follow this same path of initial resistance to great success, which increasingly appears to be the case.

Virginia DGS

When drafting the solicitation, Virginia struggled with the decision to include infrastructure, and whether charging suppliers could bid. The importance of having infrastructure in place was not lost on the contract development team, however the scope was dialed back and charging hardware supplies were encouraged but not required by the bus OEM bidders.

Washington DES

In efforts to align their contract with FTA guidelines, Washington found that the guidelines applied specifically to transit agencies. The rules established in the FTA guidelines were written for contracts developed by transit agencies, which Washington DGS had to interpret and apply to a contract developed as a state led purchase agreement rather than a transit agency led agreement.

Another major obstacle experienced by the state of Washington was determining whether a cooperative or a joint contract was the best choice for their transit agencies. Specifically, would it benefit their transit agencies to have specifications that were incorporated based on other state DOTs' input? Because they are still in the process of developing their contract, Washington has not made a final decision.

Formation of the Contract: Advice and Recommendations

With contract development still fresh in each of their memories, the central contracting department representatives from Georgia, Virginia and Washington reflected on their previously mentioned

⁵ <https://www.californiahvip.org/>

challenges. Each provided advice based on their struggles and successes experienced throughout the contract development process:

1. Reach out to the FTA for help on contract framework and brainstorming
2. The state contracting department should be responsible for a contract like this, rather than the state's DOT. Engage the centralized state purchasing element and help them understand where this contract creates tremendous efficiency to the state
3. Read through the most current FTA Guidelines thoroughly
4. Incorporate as many purchase options into the contract as possible, negotiate prices, and involve the transit agencies in development of the contract
5. Hire a consultant to aid in contract development
6. Identify in the solicitation where the manufacturer has efficiencies and where values can be gained
7. Specifications are going to be as good as your experts, which determine how good your prices are. Incorporate the best experts you can find
8. Include electric utility companies operating within the state in the discussions as these vehicles use large amounts of electricity. It is best practice to get them involved early

Centralized Procurement at the State Level

It is recommended the department responsible for statewide contracts be utilized for this type of contract rather than a state's Department of Transportation (DOT). A state DOT's contract for vehicle purchases functions differently than that of a centralized contracting department's. The state's cooperative purchase contract does not require a cap on vehicles purchased, unlike a state's DOT contract. This allows for greater contract utilization.

The FAR⁶ and FTA Procurement Best Practices⁷ provide deference to these state contracting departments, as their basic mission is to provide contracts on an enterprise level. The fundamental requirement of these procurement rules concerning statewide contracts are the state must use the same procedures they use when developing other statewide contracts, must not provide geographical preferences, and are not required to identify minimums and maximum quantities. In contrast, a state agency contract such as the state DOT is not designed for the enterprise and are singularly focused on a specific agency's needs.

Leaving the procurement process to the state rather than the transit agency reduces the potential of a purchasing bias. One of the reasons for involving the state contracting department is to ensure a thorough procurement with as little scrutiny from the FTA as possible. By avoiding manufacturer or technology favoritism, the state agencies evade criticism from the FTA.

Also, transit agencies and state DOTs from across the country can purchase from Georgia and Virginia's contract without having to get approvals from OEM nor the issuing state's contract department, unlike purchasing from a DOT contract which does require approval from the OEM and DOT. The same can be done through California's state contract, however, they do require purchasers to contact the (OEM) prior

⁶ <https://www.acquisition.gov/sites/default/files/current/far/pdf/FAR.pdf>

⁷ <https://www.transit.dot.gov/funding/procurement/third-party-procurement/best-practices-procurement-manual>

to purchase for a Pre-Production meeting. The decreased red tape streamlines the process of procurement and allows the transit agency or DOT to take advantage of a larger purchasing power contract.

One factor to be considered is there may be limited OEM availability due to a state's centralized procurement specifications and contract awardees which can lead to fewer OEM choices for transit agencies looking to utilize the contract.

One myth, which is false, that is circulated about these contracts is the vehicle configuration and options are static within the boundaries of the contract. The awardee OEMs have a contract price for a "base bus". However, this bus can be altered from the original specification through the OEM. This allows agencies to get the options they want, while lowering the starting price of the bus.

FAST Act and the Regulations

Prior to the FAST Act, an agency could only use a statewide contract to purchase buses if the agency was located within that state. However, after the passage of the FAST Act in 2015⁸, transit agencies can use state cooperative purchase contracts located outside of the state they are located according to Section 3019 (Innovative Procurement)⁹. These are some requirements for this section:

1. The state schedule in question must be managed by a state, not another entity
2. The state schedule must permit out of state entities to buy off the state schedule
3. The transit agency buying must not have any prohibitions against buying from another state's contract (i.e., agency rules, state law, etc. must not prohibit out of state purchases)
4. The out of state contract may be for an initial term of not more than 2 years and may not include more than 3 optional one-year extensions

ONLY statewide contracts compliant with these requirements can be used by an out of state agency.

Upon reading into the FAST Fact Sheet¹⁰, the following language appears:

...Under the FAST Act, a grantee may purchase rolling stock and related equipment from any State's cooperative procurement contract or schedule.

Procurement Evolution

Speaking with each state's procurement department, there were variants to how each state incorporated items which may not have been considered prior to the development and solicitation of previous contracts. One of the items that Washington State DES noted was the inclusion of a larger number of options for their vehicles on the contract. They are making the contract more "a la carte", with over 300 options for transit agencies to choose from.

⁸ <https://www.govinfo.gov/content/pkg/BILLS-114hr22enr/pdf/BILLS-114hr22enr.pdf>

⁹ <https://www.transit.dot.gov/funding/grants/innovative-procurement-leasing-fact-sheet-section-3019>

¹⁰ <https://www.transit.dot.gov/funding/grants/innovative-procurement-leasing-fact-sheet-section-3019>

Moving forward, it is believed that more regional contracts will be developed which incorporate geographic and climatic similarities to produce a contract unique to a region rather than just one state. As it stands, a state such as Washington has wide ranging topography and meteorological diversity moving from west to east - so much so the transit agencies on either side of the state could have entirely different needs in their specifications. Thus, a regional approach may make more sense with a single state tasked with the development and issuance on behalf of the collective.

There have also been discussions of a **nationwide procurement** that focuses on the standardization of a transit bus. While this approach may not specifically target a region, it would likely be a scaled down contract that would standardize certain components and operational elements. What could be thought of as a “base model bus” would become a national standard for those not needing to operate within certain extreme climates and fringe cases.

Conclusion

Opportunities to reduce the stresses of vehicle procurement on limited transit agency resources are currently made available by four states that have developed their own “one for all” cooperative purchase contract. Each contract has its own uniqueness, from 300 add-on options to the base model to training opportunities for OEM’s bidding on the solicitation, yet the same recommendation was heard from each state – involve the FTA. California, Georgia, Virginia, and Washington have established the foundation for statewide contracts and from there, the possibility of regional, and possibly national, cooperation’s in the future. Finally, the FAST Act has allowed transit agencies and State DOTs to enjoy the tremendous efficiencies in manpower and dollar savings by purchasing from these types of contracts, as long as they were conducted in accordance with federal requirements.

Appendix

Georgia, Virginia and California Contract Pricelists*

***NOTE THAT PRICES REFLECT DIFFERENT OPTIONS AND WARRANTIES, AND MAY NOT INCLUDE VOLUME ORDER DISCOUNTS THAT HAVE BEEN EMBEDDED INTO THE BIDS. IT IS RECOMMENDED THAT EACH INTERESTED PARTY OBTAIN A COPY OF EACH CONTRACT TO REVIEW ALL PERTINENT DETAILS CONTAINED WITHIN THE BID SPECIFICATION.**

Table 1: California Bus Contract Pricelist¹¹²

State Contract	Manufacturer	Vehicle Model Name	Line Item Description	Length	Cost
California	New Flyer Industries	XCELSIOR XE 35'	35 ft Low Floor Battery Electric Bus with 311 kWh battery pack	35'	\$732,618
California	Proterra, Inc	Proterra 35' Catalyst XR	35 ft Low Floor Battery Electric Bus with 220 kWh battery pack	35'	\$689,000
California	New Flyer Industries	XCELSIOR XE 40'	40 Foot Standard Low Floor Battery Electric Bus 311 kWh battery pack	40'	\$741,768

¹¹

https://www.caleprocure.ca.gov/PSRelay/ZZ_PO.ZZ_CTR_SUP_CMP.GBL?Page=ZZ_CTR_SUP_PG&Action=U&SETID=STATE&CNTRCT_ID=1-19-23-17C

¹²

https://www.caleprocure.ca.gov/PSRelay/ZZ_PO.ZZ_CTR_SUP_CMP.GBL?Page=ZZ_CTR_SUP_PG&Action=U&SETID=STATE&CNTRCT_ID=1-19-23-17B

California	Proterra, Inc	Proterra 40' Catalyst XR	40 ft Low Floor Battery Electric Bus with 220 kWh battery pack	40'	\$699,000
California	Proterra, Inc	Proterra 40' Catalyst XR	40 Foot Coach Low Floor Battery Electric Bus, 220 kWh battery pack	40'	\$699,000
California	New Flyer Industries	XCELSIOR XHE 40'	40 Foot Low Floor Fuel Cell Electric Bus 100 kWh battery pack	40'	\$1,014,979
California	New Flyer Industries	XCELSIOR XHE 60'	60 Foot Articulated Fuel Cell Electric Bus 150 kWh battery pack	60'	\$1,463,934
California	New Flyer Industries	XCELSIOR XE 60'	60 ft Articulated Electric Heavy Duty Bus with 466 kWh battery pack	60'	\$1,225,483

Table 2: Georgia Bus Contract Pricelist¹³

State Contract	Manufacturer	Vehicle Model Name	Line Item Description	Length	Cost
Instructions for accessing Statewide Contracts at DOAS.ga.gov					
1. Click STATEWIDE CONTRACTS under STATE PURCHASING					

¹³ <https://solutions.sciquest.com/apps/Router/ContractSearch>

2. Follow login instructions under GENERAL PUBLIC					
3. Click on CONTRACTS and search 99999-001-SPD0000138-0007 for the Proterra Inc contract or 99999-001-SPD0000138-0008 for the BYD Motors Inc contract					
Georgia	BYD Co.	BYD C6M	23 ft Battery Electric Coach High Floor Coach	23'	\$325,000
Georgia	BYD Co.	BYD K7M	30 ft: 30 ft to 34 ft, 11 in Electric Heavy Duty Low Floor Transit Bus	30'	\$498,000
Georgia	BYD Co.	BYD K9S	35 ft: 35 ft to 39 ft 11 in Electric Heavy Duty Low Floor Transit Bus	35'	\$698,000
Georgia	BYD Co.	BYD C8M	35 ft: 35 ft to 39 ft 11 in. Electric High Floor Coach	35'	\$500,000
Georgia	Proterra, Inc	Proterra 35' Catalyst XR	35 ft: 35 ft to 39 ft 11 in Electric Heavy Duty Low Floor Transit Bus	35'	\$613,885
Georgia	BYD Co.	BYD K9M	40 ft: 40 ft to 44 ft 11 Electric Heavy Duty Low Floor Transit Bus	40'	\$741,000

Georgia	BYD Co.	BYD K9M	40 ft: 40 ft to 44 ft 11 Electric Heavy Duty High Floor Transit Bus	40'	\$741,000
Georgia	BYD Co.	BYD C9M	40 ft: 40 ft to 44 ft 11 Electric Heavy Duty High Floor Coach	40'	\$800,000
Georgia	Proterra, Inc	Proterra 40' Catalyst XR	40 ft: 40 ft to 44 ft 11 Electric Heavy Duty Low Floor Transit Bus	40'	\$653,885
Georgia	BYD Co.	BYD C6M	45 ft: 45 ft to 47 ft 11 in. Electric Heavy Duty High Floor Commuter Coach	45'	\$325,000
Georgia	BYD Co.	BYD C10M	45 ft: 45 ft to 47 ft 11 in. Electric Heavy Duty High Floor Commuter Coach	45'	\$850,000
Georgia	BYD Co.	BYD C10M	45 ft: 45 ft to 47 ft Electric Heavy Duty High Floor Coach	45'	\$850,000

Georgia	BYD Co.	BYD K11M	60 ft Articulated Electric Heavy Duty: 59 to 65 ft Low Floor Transit Bus	60'	\$1,140,000
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Table 3: Virginia Bus Contract Pricelist¹⁴

State Contract	Manufacturer	Vehicle Model Name	Line Item Description	Length	Cost
Virginia	GILLIG	GILLIG Low Floor 35'	35 ft Low Floor Battery Electric Drive System	35'	\$810,780
Virginia	New Flyer Industries	XCELSIOR XE 35'	35 ft XCELSIOR XE All-Electric Transit Bus	35'	\$700,725
Virginia	Proterra, Inc	Proterra 35' Catalyst XR	35 ft Low Floor Battery Electric Bus with 220 kWh battery pack	35'	\$654,757
Virginia	GILLIG	GILLIG Low Floor 40'	40 ft Low Floor Battery Electric Drive System	40'	\$814,980

¹⁴ https://logi.epro.cgipdc.com/External/rdPage.aspx?rdReport=Public.Reports.Report9008_Data

Virginia	New Flyer Industries	XCELSIOR XE 40'	35 ft XCELSIOR XE All-Electric Transit Bus	40'	\$705,725
Virginia	Nova Bus	LFSe		40'	\$687,842
Virginia	Proterra, Inc	Proterra 40' Catalyst XR	40 ft Low Floor Battery Electric Bus with 220 kWh battery pack	40'	\$669,757
Virginia	New Flyer Industries	XCELSIOR XE 60'	60 ft Articulated Electric Heavy Duty Bus with 466 kWh battery pack	60'	\$1,144,929