ALLIANCE FOR ELECTRIC SCHOOL BUSES

Equity Framework
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About the Alliance

The Alliance for Electric School Buses is a diverse partnership of nonprofit organizations united by our commitment to an equitable transition to zero-emission school buses. We fight for electric school buses because of our collaborative commitment to justice, especially for low-income communities and Black, Indigenous, Latinx, Asian and other communities of color who for too long have been forced to breathe dirtier air and are disproportionately impacted by climate change. We believe an electrified school bus fleet will not only improve air quality, but can also create good-paying careers for our communities in the manufacturing and deployment of electric school buses.

Purpose and Audience

The purpose of this framework is as a tool to further our core mission—equity in the transition to electric school buses. As an alliance of diverse organizations with both technical expertise and lived experiences, we highlight best practices and recommendations for equitable electric school bus deployment as well as challenges. We are at the beginning of the journey of electric school bus advocacy. Therefore this framework serves as both a codification of our equity principles and as a living document where we update best practices, recommendations, data sets, and more. At this stage it is informed primarily by federal policy, but that will change as an increasing number of school districts and state governments become more active.

Our intended audience includes fellow advocates as well policy-makers at the local, state, and federal level. This framework will serve as a base for new alliance members and as a resource for external allies. It can also be used as an educational document for manufacturers, utilities, and regulatory commissions. We hope that this framework serves as a guide and resource to promote electric school bus deployment that addresses, rather than worsens, existing racial and economic inequality.

Principles

Our coalition is guided by principles of racial, economic, and social justice. These principles include:

1. Promoting a rapid transition to pollution-free, electric transportation for all students who ride in school buses.

2. Ensuring that low-income communities, people of color and other underrepresented communities who bear the greatest burden of pollution are the first to benefit from electric school bus technology.

3. Ensuring low-income communities, people of color and other underrepresented communities are part of the decision making process to deploy this new technology and play an active role in advancing the transition to electric models.

4. Promoting high-paying jobs with family-sustaining benefits and safe, inclusive workplaces that provide career opportunities for displaced workers and low-income communities, people of color and other underrepresented communities. In order to
ensure a successful transition of the nation’s bus fleet, school bus workers should receive the training and support they need to thrive in an electrified student transportation system.

Equity as Our Northstar

The transition to electric school buses is urgent, because the cumulative effects of air pollution cause harm and perpetuate inequality in our communities and the climate crisis poses a massive threat to all people, especially those whom society continues to exclude and exploit. At the same time, the transition will disproportionately affect vulnerable communities and has the potential to exacerbate or address existing inequities. Working families often shoulder the burden of technological change, or are left behind. Stakeholders must assess and address the potential for job losses, wage decreases, and decreased equity—while at the same time taking advantage of any opportunities to create better, more equitable careers for incumbent workers and workers from underrepresented communities.

The electrification of the nation’s school bus fleet would have far reaching positive effects on our environment, health, education, and overall life outcomes. However, people of color continue to bear the brunt of the climate burden and face higher exposure to pollution. Due to a legacy of white supremacy and systemic racism, people of color continue to experience growing health disparities and lower overall life outcomes (education, access to affordable and efficient transportation, wealth, access to opportunities) than their white counterparts. For example, people of color are 61% more likely to live in a county with unhealthy air than white people.1 Children of color and children living in poverty are especially vulnerable to these disparities as they are more likely to ride diesel school buses and live near school bus depots, and they are disproportionately exposed to additional sources of harmful air pollution.2,3 Black and Latinx children in particular are more likely to be hospitalized due to asthma.

Electrification of school transportation, and also the greening and transition to renewables of the power grid, will reduce and eventually end dependency on petroleum extraction which has provoked wars, environmental damage, and worker exploitation. But mineral extraction for batteries and motors also poses serious risks for communities around the world. Equity includes listening to impacted communities, promoting responsible and sustainable mining practices, and taking serious steps to reduce, reuse, and recycle minerals.

The environmental injustices associated with race and income are at the heart of this framework because it is critical that in the transition to electric school bus fleets, we focus our work on racial and economic inequities. Moreover, to achieve the transformational change

needed, government agencies and school districts must prioritize equity as a process and an outcome. This means creating a community-led process to ensure people of color are engaged early and are playing a leading role, as well as electrifying school bus fleets first in the communities that need them most.

**Recommendations**

**Challenge 1: Access to ESB-related funding, particularly for high-need, underserved communities**

Despite increased electric school bus funding, local and state school funding has generally declined due to recession-era cuts, historic disinvestments, and marginalization. COVID-19 has further burdened school districts. Significant funding disparities persist with Black and economically disadvantaged students receiving $400 less per pupil, while Latinx students receive about $1,200 less than their white peers. Additionally, short-term projections indicate a potential decrease of $21 billion to $57 billion in education budgets and possibly 750,000 teaching positions eliminated. Title I funding, reserved for school districts serving low-income families, accounts for just 2% of total K-12 education revenues, further deepening funding disparities. We know students of color are overrepresented in high-poverty schools and are often the ones facing more dire consequences as a result of this legacy of disinvestment, including health and academic performance issues. This underscores the urgency for prioritizing funding for these communities.

Low-income communities of color are also less likely to have matching funds available. Without matching funding, low-income school districts might be excluded from funding sources where this is a requirement. This would further exacerbate existing inequities and delay a successful transition of those school bus fleets.

**Recommendation: Prioritize Funding for Low-Income Schools Serving Predominantly Communities of Color**

*Identifying high-need schools*

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We recommend using a tiering system to target investments, acknowledging the varying levels of need. For these categories, we suggest using the following indicators:

- Income, such as targeting Title 1 schools;
- Race, such as focusing on historically and systemically marginalized racial and ethnic groups;
- Air pollution from diesel exhaust; and
- Health impacts disparities caused by diesel pollution.

Even if the data isn’t readily available, we encourage using these indicators as best as possible to help underserved communities invest in cleaner school buses quickly. For school districts large enough to serve both low-income and affluent communities, we recommend entities ensure funds are dedicated for buses serving their underserved students and communities.

In order to determine which school districts should be prioritized for funding, we recommend designing a metric or formula which incorporates the above indicators, based on student population, to identify the school districts with the highest needs, and ranking schools according to this metric. Funding can be distributed at three levels according to the following table:

<table>
<thead>
<tr>
<th>Tier</th>
<th>Percentile</th>
<th>Percent of funding</th>
<th>Program costs provided by EPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Most disadvantaged</td>
<td>100-75%</td>
<td>40%</td>
<td>- Full cost of vehicle purchase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Make-ready and EVSE ($40,000 / bus)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Technical assistance ($10,000 / 5 buses)</td>
</tr>
<tr>
<td>2 - Moderately disadvantaged</td>
<td>75-40%</td>
<td>40%</td>
<td>- Incremental cost of vehicle purchase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- 80% of make-ready and EVSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Technical assistance ($8,000 / 5 buses)</td>
</tr>
<tr>
<td>3 - Less disadvantaged</td>
<td>40–0%</td>
<td>20%</td>
<td>- 80% of incremental cost of vehicle purchase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- 50% of make-ready and EVSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Technical assistance ($3,000 / 5 buses)</td>
</tr>
</tbody>
</table>

*Design equitable funding mechanisms*

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8 This percentile could be derived from a number of possible data sets (federal poverty levels, SAIFE, environmental justice screening tools, etc.). This is not a comprehensive list and advocates should work with local communities to determine the most accurate and effective data sets.
We encourage the adoption of funding mechanisms, be at the national, state and local level, that provide funding upfront to ensure that districts are not denied access to clean school buses due to funding limitations.

We also recommend not adopting a “first-come, first-served” policy for applications, as this presents a barrier to entry for disadvantaged school districts and will prevent equitable distribution of funds.

If funding programs decide to use rebates, we urge corresponding entities to investigate whether for private companies, a direct reduction in the price of the bus provided directly to the manufacturer could have tax implications. This should be followed by an assessment of what those implications might be and how they will influence equitable deployment of electric school buses.

**Allow stackable, but not requiring matching, funds**

We support the use of stackable funds, allowing school districts to pair any funding with other federal, private, state and/or local funding or financing provided by green banks, utilities and other financial entities. However, in order not to disadvantage low-income school districts that are less likely to have other funds available, having existing additional or matching funds should not be required in order to receive funding from any federal and/or state program.

**Challenge 2: Navigating Complex Funding Sources And Programs**

Technical and application preparation assistance is particularly important for low-income school districts who may not have the personnel or capacity to do this. The aforementioned persistent lack of funding leads school districts officials to get by on the bare minimum, making it less likely that schools will have the available resources, staffing, and technical assistance necessary to navigate often complex government programs and funding sources.

Additionally, rebates pose a problem for disadvantaged school districts that cannot afford the upfront cost of electric school buses and required infrastructure. Competitive grants with significant technical qualifications also disadvantage low-income school districts who may lack the internal capacity to apply to complicated labor-intensive grants. Furthermore, a “first-come, first-served” policy inadvertently prioritizes wealthy well-resourced school districts and disadvantages poor schools thus preventing an equitable distribution of funds.

**Recommendation: Provide Adequate Technical Support**

We strongly recommend providing appropriate funding and programs for grant preparation as well as technical assistance for school bus charging, operations, maintenance, training, and disposal. Having technical assistance covered is critical for low-income school districts with fewer personnel. While there may be other stakeholders, including NGOs and other advocate groups, that may be able to support school districts, the granting entity should provide technical support and/or funding to cover associated costs. This should be included in an application process that is easy, accessible, and streamlined for eligible recipients. If in the
application school districts need to include an analysis of the bus routes, energy needs for those routes, numbers of buses, numbers of chargers, charging schedule, etc., school districts may not have that information and might need to calculate or develop it. Having adequate technical assistance would facilitate a smooth application process.

**Challenge 3: Lack Of Opportunities to Provide Community Input, Disproportionate Awareness, and Educational Opportunities**

Impacted communities, i.e. low-income communities of color bearing the brunt of the climate burden, are often left out of policy decision-making processes because of inadequate outreach, inaccessible systems, and language barriers. For example, although the EPA’s current system of engagement is an effective means of reaching some interested parties, it is not an effective means for all, particularly those who are of color, younger, and with lower levels of socioeconomic status. Historically marginalized communities face greater barriers to engagement, and as a result, the government must go beyond its system of engaging with “traditional stakeholders” to center the participation of people most impacted by the policies and decisions it means to address. These historically neglected schools are also less likely to have access to awareness and educational opportunities as their staff may be having to play multiple roles and have limited bandwidth and capacity to be connected to key resources and information. For example, a Zoom webinar conducted only in English with limited outreach and during inaccessible times across different time zones may not be the best format for soliciting concerns from and engaging members of low-income communities, people of color, immigrants, parents, people with disabilities, and other vulnerable populations. Additionally, outreach materials are often only available in English and inaccessible to limited English/monolingual speakers.

**Recommendation: Lead With Meaningful Community Engagement**

We recommend the following best practices to ensure robust participation and leadership from impacted, disadvantaged communities:

- Expand outreach beyond the “traditional stakeholders;”
- Engage in culturally and linguistically appropriate ways;
- Make the process accessible;
- Be proactive and engage early in the process;
- Build relationships with community-based organizations and community leaders; and
- See communities as experts.

Effective public engagement takes into account the racial, cultural, and socioeconomic complexities of a community. This should be achieved through the implementation of racially and culturally sensitive outreach strategies, such as partnering with trusted messengers to invite residents to participate. It should also be achieved through engagement formats that
are suitable for and accessible to the target audience. Additionally, the engagement process should be broadly accessible in terms of location, time, and language. Government officials, and other stakeholders, should also consider how they might accommodate the different needs of residents. For example, interpretation and accessibility support should always be provided at every meeting without prior request needed. Government officials should also consider partnering with community-based organizations and community leaders who can provide public officials with insight into the cultural norms of a particular community. They are also more likely than government officials to have more credibility and trust with members of marginalized communities. Because these organizations and/or individuals are already seen as trusted messengers, residents are more likely to respond to their calls for participation.

Although community members, school district leaders and contractors all require a different type of outreach, we strongly believe that the aforementioned best practices will lead to authentic and sustained community engagement in this critical issue, while also ensuring high-need communities and school districts are receiving the information they need to apply for and receive priority funding.

**Challenge 4: Workforce Wages, Training, and Retention**

Electrifying the nation’s school bus fleets may have unintended consequences including job losses due to outsourcing. School districts may sometimes choose to outsource as a way of dealing with the complexities of electrification and charging infrastructure. This outsourcing may be a way of cutting costs and laying off school bus employees, particularly if the proper training and support systems are not set up.

**Recommendation: Design Equitable Workforce Policies**

We recommend the following measures to center equity for the student transportation workforce:

- Electric Vehicle Supply Equipment installation projects must employ EVITP-certified electricians in order to ensure safe and proper installation and maintain high standards in the electrical contracting industry. Include requirements, funding, or incentives to create electrical pre-apprenticeship and apprenticeship opportunities for workers from communities that have traditionally been excluded from or under-represented in the electrical workforce, workers with barriers to employment, and displaced workers.

- Engage manufactures to incentivize/require them to provide continuous training for dealers and/or recipients, to ensure that technical staff have the highest level of training available to successfully maintain and repair electric buses. Similarly, programs can encourage recipients to procure adequate training, including continued training as best practices develop.

- Provide grants for educational institutions to develop training programs for medium/heavy-duty EV maintenance and repair with collaboration from OEMs, workforce organizations, and worker organizations.
• Prohibit grant recipients from outsourcing operators or laying off employees as a result of receiving funding. As an example, the Clean Commute for Kids Act (2021) included the following provision:
  ○ “The Administrator shall require as a condition of receiving an award ... that an award recipient does not, as a result of receiving an award, lay off, transfer, or demote any employee; or reduce the salary or benefits of any current employee or worsen the conditions of work of any employee; and [shall provide] current employees with training to effectively operate, maintain, or otherwise adapt to new technologies relating to clean school buses.”

To the extent possible, we urge the creation of high-wage, domestic, union careers through program investments, especially for workers from communities that have traditionally been excluded from or under-represented in the manufacturing workforce, workers with barriers to employment, and displaced workers. This could be accomplished through one or more of the following measures:

• In applications for school bus makes/models to be eligible for purchase using program funding, require manufacturers to provide public, enforceable commitments on the creation of well-paid jobs in the U.S., which can be scored and used to provide higher incentives for school bus models that create good U.S. manufacturing careers with inclusive hiring practices.

• In solicitations for contracts with eligible contractors to provide rebates for the replacement of old school buses, require OEMs to provide public, enforceable commitments on the creation of good U.S. manufacturing careers with inclusive hiring practices, which can be scored and used as a factor in evaluating bids.

• Encourage eligible recipients to procure buses using best value solicitations where possible, which may include manufacturing job quality as a factor in evaluating bids.

Challenge 5: Potentially Negative Impacts on Manufacturing Supply Chains and Procurement

ESBs will also have an impact on U.S. manufacturing and it could lead to job losses, low wages, and dangerous working conditions, particularly for communities of color who continue to be occupationally segregated and face lower wages, limited to no benefits, and no safety net. Additionally, the raw materials needed for EV batteries and zero-emissions technology pose a significant threat to environmental and racial justice within the nations where these materials are extracted. Responsible procurement practices should not be negotiated or traded away under any circumstances.

Recommendation: Support Responsible Manufacturing Supply Chains and Procurement

To incentivize a sustainable supply chain with responsible procurement practices, we recommend:

• Incorporating policies to promote the development of the domestic supply chain and create good U.S. jobs in the medium and heavy duty electric vehicle sector.

• Adding reporting requirements for battery sourcing and recycled content.
Additionally, regulatory policy changes are needed to ensure that the collection, recycling, and safe disposal of these critical materials is socially and environmentally sustainable across the supply chain. The United States must also update its mining laws, so that when mining does occur it is environmentally sustainable, respects the rights of Indigenous communities, avoids perpetuating environmental racism, and employs high safety and job quality standards.

**Challenge 6: Insufficient Data Collection**

To effectively center equity and high-need communities in this transition, we must utilize a data-driven approach to co-create policy solutions that build on previous successes and address gaps. However, ESB-related data is limited, and there is no central database measuring progress, best practices, nor lessons learned. The lack of available data may pose challenges to creating policies that address current and emerging needs. There are also challenges with using data sets at federal level (census tracts to inform decisions at local level) given the nuisance and complexity of any set of indicators that measure inequities (health burden, air pollution, poverty, access to opportunities, etc)

**Recommendation: Strengthen Data Collection**

We recommend the following data be collected to design and update funding programs:

- Specific locations where buses will be parked (e.g., depots, lots);
- Information on routes of buses: mapped and/or areas served by them; and
- Health pollution data for the bus locations, routes and areas served.

We recommend the federal government create a publicly-accessible, user-friendly, central database to measure progress and standardize practices across the country. This data can support policy development to address current and emerging needs.

**Challenge 7: High-Cost Bus Pricing**

An electric school bus can cost up to three times more than a polluting diesel bus. In order to make the urgent transition to an all-electric school bus fleet, it is crucial to eliminate the massive price differential between electric and fossil fuel school buses. Critical investments can help build the scale needed to reduce bus prices—especially if most or all funds are dedicated to electric school buses—but program design decisions can also have a major impact on how quickly prices fall, which is especially important to low-income school districts.

**Recommendation: Help ESBs Reach Cost Parity**

The federal government and its agencies, such as the EPA, must work with states with electric school bus funding programs (e.g. California, New York) to negotiate with manufacturers better pricing on school buses. California has allocated $450 million for electric school bus deployments over the next three years in its Clean Transportation Investment Plans, and proposed another $1.5 billion in the Governor’s 2022-23 budget. These are sufficiently large programs that manufacturers should negotiate reduced wholesale
prices for standard models and equipment. The EPA is in a better position than school districts to aggregate demand and receive wholesale prices, leading the program to purchase more buses at a lower cost. Aggregating demand in this way would also provide an opportunity for the EPA and/or leading states to incentivize the creation of good, U.S. manufacturing jobs throughout the Medium and Heavy Duty EV supply chain. If this is not possible, the EPA should provide information to applicants on the different school bus models offered, including detailed pricing information and opportunities for joint solicitations such as the Climate Mayors EV Purchasing Collaborative.

Challenge 8: Adapting to a New Technology Powered by the Electric Grid and Managed by Utility Companies

The transition to electric buses requires the planning, financing and installation of new infrastructure to charge the buses at the schools’ bus depots. This infrastructure has to be designed to meet the needs of the schools’ routes based on the type of bus, mileage, terrain, AC/heating needs, etc. Schools have to interact directly with utilities serving their depots to bring the required infrastructure, plan for managed charging and any other demand response or programs the utility has for their rates. These infrastructure costs are another capital expense that adds to the overall cost of the new bus. Electric utilities go from just being the provider of electricity to the sites (buildings and depots) to the main suppliers of fuel for the buses. The electricity bill will go high (although savings will be realized overall) as the main operating expense for the fleet, after transitioning from diesel or fossil-fuel buses.

Recommendation: Support Equitable and Inclusive Utility Programs for ESBs and Charging Infrastructure

We recommend that all the utility investments for ESBs on charging infrastructure are guided by equity principles. Utilities are main actors in providing charging infrastructure on both sides of the meter and they are regulated by Energy Commissions to ensure policies are not regressive for customers. There are inclusive utility investments in charging infrastructure, batteries or buses to reduce the upfront costs. These types of investments, approached with robust consumer protections, are financing mechanisms where utilities make site-specific investments and recover their costs with fixed charges, no increase in rates, and the charges are still within the savings between operating diesel and electric buses for school districts. These mechanisms known as Tariff on Bill Programs or Pay as You Save® have been identified by the Energy Star EPA’s program as emerging models to expand the scale and deployment of the zero-emissions technologies to everyone.

Challenge 9: Propane False Narratives

Other fossil fuels, such as propane, are being marketed as “clean” alternatives to diesel and included in clean school bus funding programs. However, propane school buses emit tailpipe pollution that is dangerous for health and the environment -- at levels generally comparable to or higher than current diesel models. As cities, states and nations transition away from fossil fuels, propane school buses will be transitioned out of service -- like leaded gasoline and diesel before them. School districts run the risk of taking on buses that will become stranded.
assets once this happens, locking them into air pollution for the lifetime of the bus. Propane is a false solution. Replacing diesel school buses with propane buses is just swapping out one dirty fuel for another, and doesn't advance our climate or health goals. The only benefit propane buses have over electric school buses is their upfront cost -- which is a temporary benefit.

**Recommendation: Champion 100% Electric Solutions**

Propane, like other fossil fuels, costs lives. Electric school buses, meanwhile, are the cleanest technology available and provide cleaner air for students, drivers and attendants. They also allow school districts to future-proof their fleets. Even accounting for the emissions created in manufacturing them, electric school buses have a significantly smaller carbon footprint, and will get even cleaner in their lifecycle as the U.S. electric grid transitions to renewable energy. Electric school buses have also been found to perform well in all weather conditions, from snow in Alaska to heat in Arizona. Students, drivers and our communities deserve to breathe clean air, and this means investing in the only zero tailpipe emission fuel available: electric school buses.
## Best Practices for Community-Led School Bus Electrification

### Prioritize Funding for Low-Income Schools Serving Predominantly Communities of Color
Use a data-driven approach to create a metric or formula, using race, income, environmental and health indicators, to identify the school districts with the highest needs. Funding should be provided upfront, allow for stackable funds, and avoid matching funds requirements and a first come, first served approach.

### Provide Adequate Technical Support
We strongly recommend providing appropriate funding for grant preparation as well as technical assistance for school bus charging, operations, maintenance, training, and disposal. Having technical assistance covered is critical for low-income school districts with fewer personnel.

### Lead With Meaningful Community Engagement
Disadvantaged and impacted communities who would most benefit from the electrification of school buses should be at the forefront and included in decision-making processes. The following strategies will help support this critical work:
- Expand outreach beyond the “traditional stakeholders;”
- Engage in culturally and linguistically appropriate ways;
- Make the process accessible;
- Be proactive and engage early in the process;
- Build relationships with community-based organizations and community leaders; and
- See communities as experts.

### Design Equitable Workforce Policies
The student transportation workforce must have job security from outsourcing threats as a result of receiving funding, training and apprenticeship opportunities, and access to high-wage, domestic, union careers, especially for workers from communities that have been excluded from or underrepresented in the manufacturing and electrical workforces, workers with barriers to employment, and displaced workers.

### Support Responsible Manufacturing Supply Chains and Procurement
An equitable transition must include policies that promote the development of the domestic supply chain, creating good U.S. jobs in the medium and heavy-duty electric vehicle sector and adding reporting requirements for battery sourcing and recycled content.

### Strengthen Data Collection
The collection of relevant data can support policy development to address current and emerging needs. This can also help measure progress and standardize practices across the country. We recommend the following data be collected to design and update funding programs:
- Specific locations where buses will be parked (e.g., depots, lots);
- Information on routes of buses: mapped and/or areas served by them; and
- Health pollution data for the bus locations, routes and areas served.

### Help ESBs Reach Cost Parity
The federal government must work with states with electric school bus funding programs (e.g., California, New York) to negotiate with manufacturers better pricing on school buses. Reaching cost parity will expedite the electrification process across the nation and particularly in high-need communities.

### Support Equitable and Inclusive Utility Programs for ESBs and Charging Infrastructure
Utility investments in electric school buses and charging infrastructure should be guided by equity principles. Utilities are indispensable players in transport electrification and there are good practices they can follow to support affordable transition to electric school buses.

### Champion 100% Electric Solutions
Propane, like other fossil fuels, costs lives. Electric school buses, meanwhile, are the cleanest technology available and provide cleaner air for students, drivers and attendants. They also allow school districts to future-proof their fleets. Our communities deserve to breathe clean air, and this means investing in the only zero tailpipe emission fuel available: electric school buses.