

NGVAMERICA

Natural Gas Vehicles for America

Clean Transit / FTA Low-No Webinar

March 11, 2021



About NGV America

NGV America is the national organization dedicated to the development of a growing, profitable, and sustainable marketplace for vehicles powered by natural gas and biomethane and for promoting the use of more natural gas in transportation... trucks, trash, transit, and even off-road uses like HHP marine, rail, and construction/mining applications.

200+

NGV America represents 200+ companies, LDCs, fleets, OEMs, environmental and government organizations.



NGVAMERICA



NGVAmerica Members



South Jersey Gas



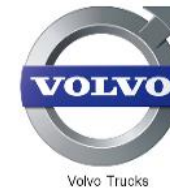
Clean Energy



A Sempra Energy utility



NW Natural



Note: Slide not inclusive of all NGVA members



Federal Transit Administration Low-No Emission Bus Funding Program



FY 2021 FTA Low-No

Summary:

- \$180 million in FY 2021 funding
- The purpose of the Low-No Program is to support the transition of the nation's transit fleet to the lowest polluting and most energy efficient transit vehicles.

Funded activities:

- The Low-No Program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses, including acquisition, construction, and leasing of required supporting facilities (e.g., refueling, maintenance facilities).
- Additionally, recipients are permitted to use up to 0.5 percent of their requested grant award for workforce development activities eligible under federal public transportation law (49 U.S.C. 5314(b)) and an additional 0.5 percent for costs associated with training at the National Transit Institute.

FY 2021 Appropriations Language

The FY21 Conference Agreement “directs the FTA to implement 49 U.S.C. 5339(c) in a manner that encourages a variety of different fuel types and consider procurements that reduce an agency's overall greenhouse gas emissions.”

U.S. House of Representatives, 166 Cong Rec H 8311, at 8821, December 21, 2020. Available at: <https://www.congress.gov/congressional-record/2020/12/21/house-section/article/H8311-1>.

FY 2021 FTA Low-No

Timeline:

- [Notice of Funding Opportunity \(NOFO\): Solicitation of Project Proposals for the Low or No Emission Program \(Low-No\) Program](#) released on **February 11th**
- FTA held a webinar on **March 4th**
- Proposals must be submitted electronically through Grants.gov website by 11:59 PM Eastern Time on **April 12th** (it is recommended that applications be submitted **72 hours in advance** in case there are any issues that need to be resolved)

FTA Low-No Page:

- <https://www.transit.dot.gov/notices-funding/low-or-no-emission-program-low-no-program-fy2021-notice-funding>

FY 2021 FTA Low-No

Eligible Applicants:

- An Eligible Applicant is a designated recipient of FTA grants, states, local governmental authorities and Indian Tribes (previously FTA has funded university transit agencies and state DOT's)

Application Details:

- Synopses and full announcement are posted on Grants.gov site as opportunity [FTA-2021-001-LowNo](#)
- Applications MUST be submitted electronically through GRANTS.Gov. Instructions for applying can be found on FTA's [NOFO page](#) and in [GRANTS.GOV](#) (funding opportunity FTA-2021-001-LowNo).
- Link and Instructions for attaching the supplemental form to the SF-424: All applicants must complete the attached [supplemental form](#) and attach it to their submission in GRANTS.GOV.

Requirements & Guidance

- Bus replacements for existing service buses and buses for new service lines are allowed
- Scrappage is not required – replaced buses can be put in spare fleet
- Replaced buses must have satisfied FTA minimum useful life requirement
- Cannot use funds to reimburse for expenses incurred prior FTA award of a grant agreement
- Funding 85 percent for buses if CAA compliance applies, 90 percent for bus related facilities if CAA compliance; most other cases funding is limited to 80 percent (rural fleet purchases, workforce development, training)
- Must demonstrate how buses are part of long-term integrated fleet management plan
- No minimum or maximums specified – can request federal funding for 80/85 percent of full cost of bus or limit request to incremental cost
- Maximum awarded to date is \$7 million for single awardee, average amount awarded is \$2 million
- Transit agencies, qualifying entities can combine formula grant money with Low-No money
- Funds awarded must be obligated within 3 fiscal years after fiscal year in which awards announced
- Capital acquisitions must be competitively awarded unless manufacturer is part of the application
- Buses cannot be prototype and must have successfully completed FTA bus testing

Recommendations for Applicants

- Identify transit agency or state DOT that is committed to NGVs – this is of course a MUST
- Placement of buses in non-attainment areas and focus on reducing emissions affecting environmental justice communities will improve prospects of project
- Replacement of older, higher mileage buses should increase the environmental benefit of projects
- Limiting funding request to portion of the incremental cost should improve prospects
- PM emission benefits for replacement projects are based on new bus emissions versus older bus emissions, so the older the bus replaced the more emission benefit
- Direct carbon emission benefit also is based on comparison of replaced bus versus new bus emissions
- Carbon emission benefit is based on tailpipe' emissions but we are recommending that applicants also submit emission data on well-to-wheel carbon dioxide equivalent emissions for projects involving RNG
- CNG vehicles regardless of whether RNG is used qualify under this program and it is not yet clear whether FTA will provide credit for RNG use (we are seeking that clarification)
- Regional goals – if RNG is used and locally sourced it would be useful to highlight how this fits in with other regional and local air quality and environmental goals by including support letters from other relevant authorities

Legislative Funding Opportunities



FY 2022 Appropriations

Member earmarks poised to return as “Community Project Funding”

Limited Approach

- Ban on For-Profit Recipients: There will likely be a ban on directing Community Project Funding to for-profit grantees. Members may request funding for State or local governmental grantees and for eligible non-profits.
- Cap on Overall Funding: The Committees will limit Community Project Funding to no more than 1 percent of discretionary spending, a recommendation of the bipartisan House Select Committee on the Modernization of Congress.
- Member Requests Capped: The Committee will accept a maximum of 10 community project requests from each member, though only a handful may actually be funded.

Access House Appropriations Committee memo at:

https://appropriations.house.gov/sites/democrats.appropriations.house.gov/files/documents/Community%20Project%20Funding%20-%20Fact%20Sheet%20on%20Reforms_0.pdf

FY 2022 Appropriations

Member earmarks poised to return as “Community Project Funding”

Rigorous Vetting

- Mandatory Audit: The Committees will require the Government Accountability Office to audit a sample of enacted community project funding and report its findings to Congress.

Community Support

- Demonstrations of Community Engagement: Members must provide evidence of community support that were compelling factors in their decision to select the requested projects. This policy was recommended by the bipartisan House Select Committee on the Modernization of Congress.

FY 2022 Appropriations process underway – Members will have application deadlines soon

- House Republicans have yet to overturn their internal conference ban on earmarks
- Senate has not formally indicated what it will do just yet, but expect agreement

Access House Appropriations Committee memo at:

https://appropriations.house.gov/sites/democrats.appropriations.house.gov/files/documents/Community%20Project%20Funding%20-%20Fact%20Sheet%20on%20Reforms_0.pdf

Surface Transportation Reauthorization Bill

Expect a Push for Zero Tailpipe Only Requirements:

- Bus, Bus Facility Grants, and the Low or No Emission Bus Program
- Alternative Fuel Corridors Grant Funding
- DERA
- CMAQ
- Clean School Bus Program

Surface Transportation Reauthorization Bill

In the House, the Committee will require all Member submissions to include the following information for each project requested:

- Project phase (e.g. Planning, Final Design, Construction)
- Information related to NEPA category and status of environmental review
- Whether the project has received Federal funding previously, and if so the source and amount
- Certification that the Member, their spouse, and other immediate family members do not have a financial interest in the project
- Sources of funding for the full share of the cost of the project beyond the amount requested
- Local letter(s) of support; processes for public comment on the project

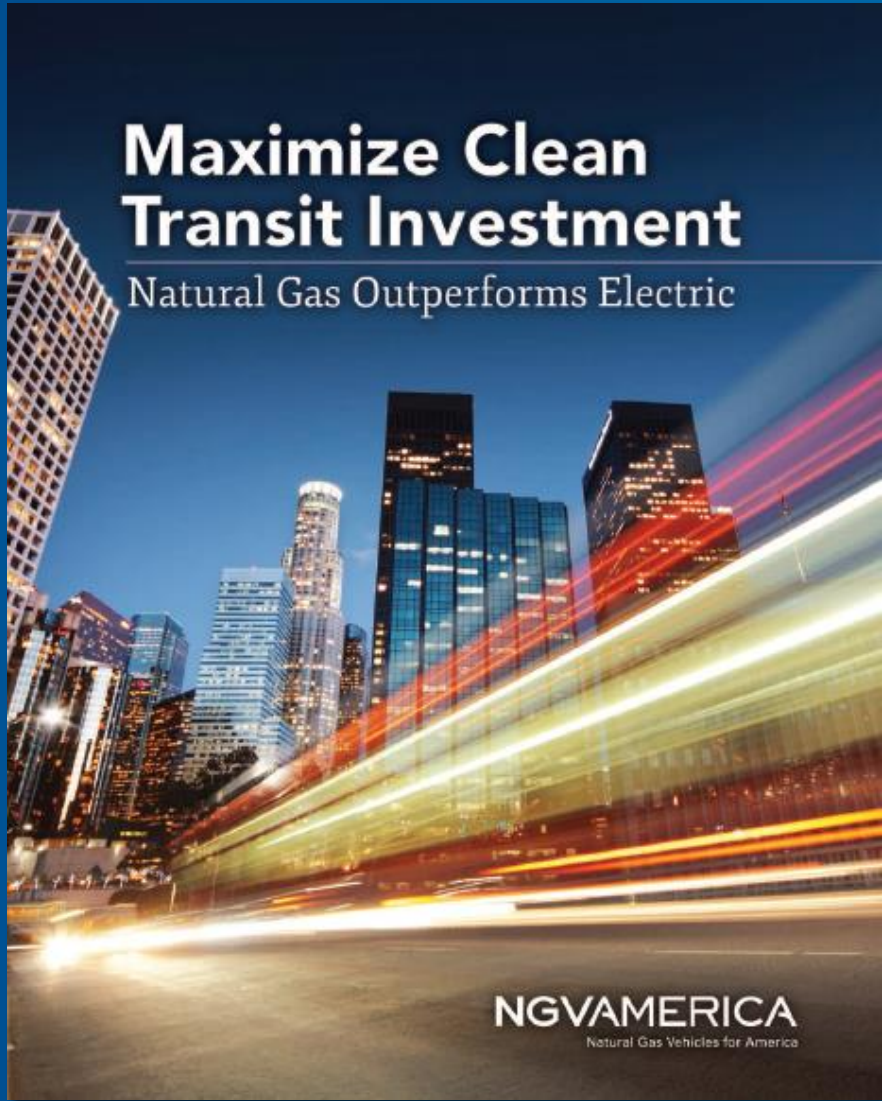
Surface Transportation Reauthorization Bill

Timing

- House Committee on Transportation and Infrastructure announced on March 3rd that the Committee will provide an opportunity for Members of Congress to submit requests for highway and transit project designations.
- Details on the formal process to be announced later this month.
- The Committee will also hold a Member Day hearing on April 14th to receive testimony from Members of Congress about their policy priorities.
- Senate deadline for offices to submit requests is March 19
 - Some individual office deadlines may have passed
- Senate has an aggressive timeline; several Committees have jurisdiction, including EPW, Commerce (Transit), Finance

Advised Immediate Actions

- **Communicate with Member of Congress and Senators about project and interest**
 - Likely a transportation or appropriations staffer in DC; community liaison, grants coordinator, or even District Director in district
 - Office-specific processes for receiving project requests still in development
 - Turnaround will be quick
- **Gather project details and budget together**
- **Begin securing letters of support from local officials, community organizations, and targeted user groups**
- **Develop a proposal narrative that addresses these concerns:**
 - Sustainability and environmental justice
 - Public health
 - Jobs and local economy
 - Access equity / service expansion and benefits



NGVAMERICA's Transit Study: *NG vs. BEB*

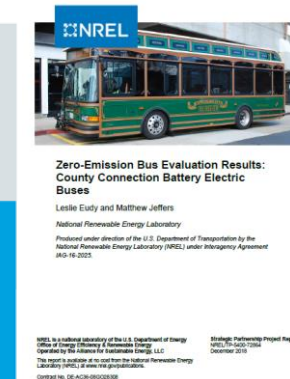
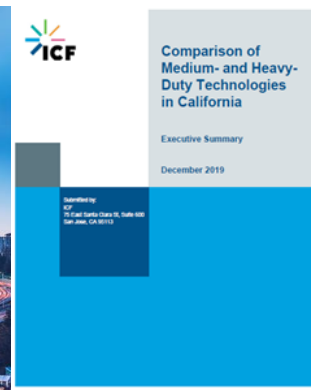
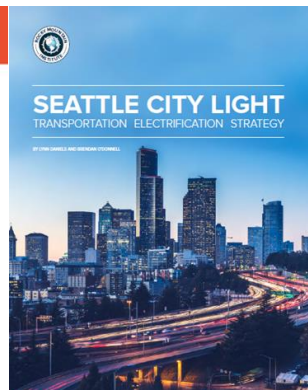
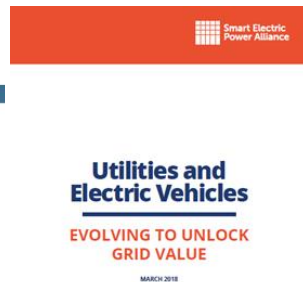


About This Report



Compiled from independent analysis from reliable and reputable third-party sources

- 96 source citations
- 38 tables and charts



Key Takeaways

- NREL's Foothill Transit study

Table 1

| | CNG | BEB | Results |
|-------------------------------|-----|-----|--|
| Cost | | | |
| Unit Cost | X | | Electric bus purchase price 57 – 67 percent higher than CNG bus (based on Foothill cost and average 2019 bus prices reported by APTA) |
| Fuel Purchase Cost | X | | Electricity on an energy equivalent basis costs 6x more than CNG at Foothill |
| Fuel Cost Per Mile | X | X | Efficiency considerations can make this a tossup, but it is important that all relevant costs are considered including cost of maintaining and operating fueling equipment, which is often omitted in reported electricity costs |
| Repair and Maintenance Costs | X | | \$0.41/mile (CNG) vs. \$0.68/mile (BEB) |
| Total Cost Per Mile | X | | Overall, BEB cost 1.5x more than CNG to operate |
| 1-to-1 Replacement for Diesel | X | | Takes more than one new BEB to replace one diesel/CNG bus when considering range, capacity, and performance |
| Reliability | | | |
| Days Available for Service | X | | 93 percent (CNG) vs. 63 percent (BEB) |
| Miles Between Road Events | X | | CNG performance exceeded BEB by 18,000-20,000 miles between road calls |
| Resiliency | X | | CNG can be refueled quickly and returned to service, BEB needs multiple hours of charging to return to full readiness – difficult during times of emergency or longer-term loss of power |
| Performance | | | |
| Route/Deployment | X | | BEB deployed only on carefully selected routes; no such limitations for CNG |
| Range | X | | CNG buses do not require mid-route refueling |
| Vehicle Efficiency | | X | BEB vehicle energy efficiency is higher than CNG, though ratings often do not reflect actual in-use results or sizable energy losses associated with BEB charging |
| Weather Impact | X | | BEB efficiency suffers in extreme cold; no like impact on CNG |
| Passenger HVAC | X | | BEBs have difficulty with battery-powered heating and cooling, requiring a fuel-powered solution |

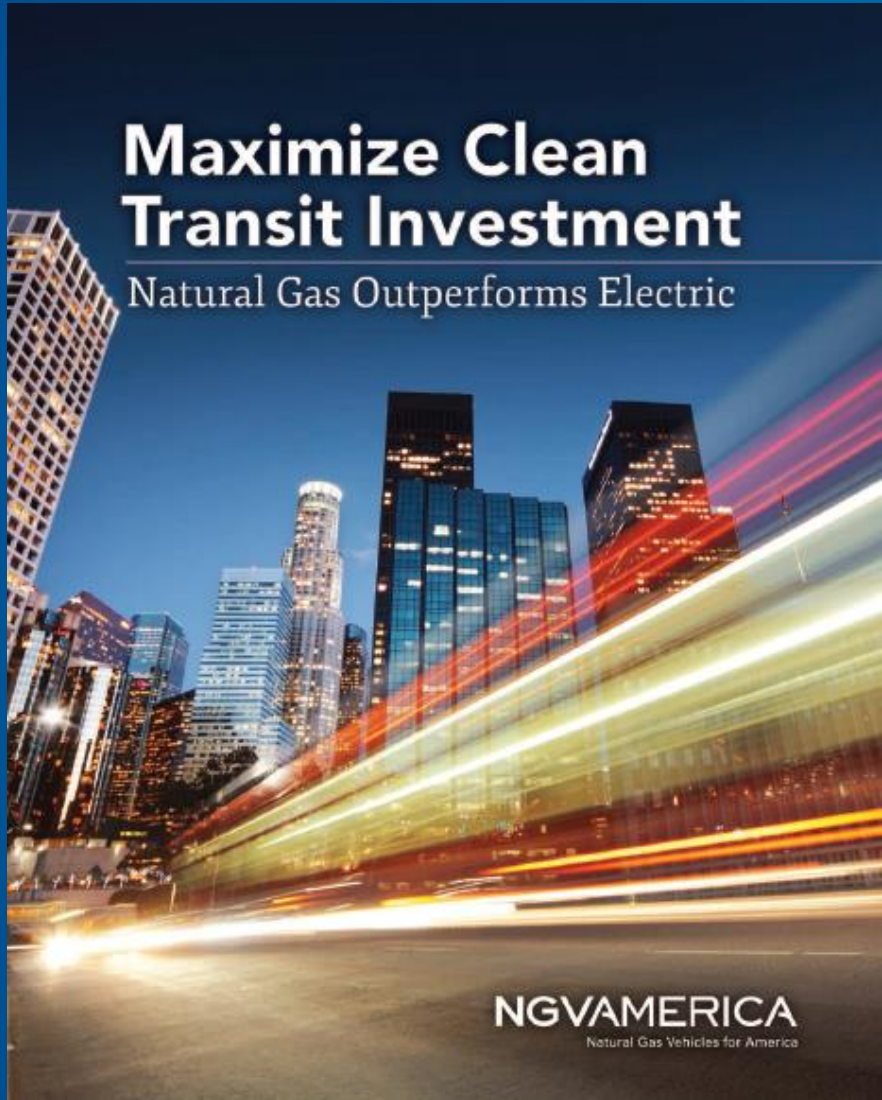
Source:
<https://www.nrel.gov/transportation/fleetttest-electric-foothill.html>

Key Takeaways

- NREL's Foothill Transit study

| Made in America | | | |
|---------------------------------------|---|---|--|
| Fuel/battery components | X | | 100 percent domestic fuel vs. foreign-sourced and controlled battery components (i.e. cobalt) |
| Technology | X | X | FTA-funded buses required by law to be assembled in USA |
| Infrastructure | X | | CNG refueling contributes to the Federal Highway Trust Fund which supports transportation infrastructure funding including FTA funding for transit buses; EV charging does not, undermining funding to maintain transportation infrastructure and FTA new bus funding programs |
| Environmental Impact | | | |
| Zero tailpipe | X | X | Zero (BEB) vs. 0.02 g/bhp-hr NO _x (CNG), a negligible difference, as new CNG buses reduce emissions by 99 percent (NO _x) and 96 percent (PM) than pre-2010 transit buses |
| Well-to-Wheel NO _x | X | | When considering full well-to-wheel emissions, in most cases CNG buses fueled with RNG beat BEBs on NO _x impact due to how power is produced in electric grid mix |
| Carbon intensity of fuel | X | X | Up to -400 EER-adjusted CI (CNG) vs. up to zero (BEB) if all renewable solar or wind electricity is used |
| Net-carbon negative | X | | When fueled with RNG, CNG bus can offer an emissions result 400 percent better than electric bus, even when BEB powered by 100 percent renewable solar or wind |
| Delivered Emissions Reductions | | | |
| \$ for \$ | X | | \$105 per lb. of NO _x reduced (CNG) versus \$159 (BEB) based on acquisition cost of comparable size buses |
| More Buses and More Emissions Reduced | X | | Replace more buses, get more emissions reductions with same \$ investment |

Source:
<https://www.nrel.gov/transportation/fleettest-electric-foothill.html>



Where to Access

Online Resource Center at:

www.ngvamerica.org

Website Vehicles Tab at:

www.ngvamerica.org/vehicles/transit/





Fuel a Greener Future

Achieve Carbon Negative Transportation Today

Waste Reimagined

The United States... and our world... have a growing waste management problem. And as that waste breaks down, it emits methane.

This naturally occurring methane is a potent greenhouse gas (GHG) and the second biggest contributor to human-caused global warming after carbon dioxide (CO₂).

Confronting climate change requires capturing these methane emissions, redirecting this energy for positive use and supporting the transition to a circular, carbon-neutral economy.



Investing in commercially available NGVs fueled by RNG is the most cost-effective and immediate climate positive change policymakers can affect. Learn more at NGVAmerica.org.

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What is RNG?



Renewable Natural Gas (RNG), or biogas, is gas produced from methane emitted through the decomposition of animal manure, food waste, forest management waste, wastewater sludge, and garbage.

RNG projects capture this methane and redirect it away from the environment, repurposing it as a clean, green energy source.

Unlike other renewables, RNG is easily stored, distributed, and replenished. Once scrubbed of its impurities, RNG can be injected into the existing global natural gas distribution network. While other sources of green and renewable energy require significant infrastructure buildout in order to be implemented, RNG is affordably and easily used in existing systems and vehicles today.



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The RNG Vehicle Value Proposition

Reimagine Waste



Naturally occurring methane is a potent GHG and the second biggest contributor to human-caused global warming after CO₂



RNG projects capture this methane and redirect it away from the environment, repurposing it as a clean, green energy source

Impact Immediately



Heavy-duty RNG-fueled trucks and buses are commercially available, scalable and on the road now



RNG vehicles offer a 1:1 replacement of diesel technology with similar power, torque, and range capabilities as diesel regardless of terrain or weather

Amplify Impact



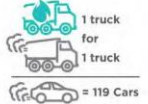
RNG holds a lower carbon intensity than on-road vehicle fuel from renewable electric derived from solar or wind



RNG motor fuel use has been verified in the State of California as carbon-negative



RNG is zero-emission equivalent when it comes to smog-forming tailpipe pollutants like NOx



Big Trucks = Big Impact: replacing one aging diesel truck with one new natural gas-powered truck is the clean air equivalent of removing 119 cars from our roadways

Maximize Investment



RNG transport and transit are considerably less expensive than battery electric or hydrogen options



Nationwide refueling infrastructure is in place, storm resilient, and growing; no massive buildout of charge connections or transmission capacity is needed

Green Sustainably



Unlike certain renewables, RNG is easily stored, distributed, and replenished for motor fuel use



RNG is domestically, sustainably, and responsibly sourced, produced without child labor.

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Where to Access – Online Resource Center at: www.ngvamerica.org



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Questions?

