



OFFICE OF PLANNING AND BUDGET

Brian P. Kemp
Governor

Richard Dunn
Director

July 14, 2026

Michael Bochanski Jr.
Vice President | Wilmington Trust, N.A.
Rodney Square North
1100 North Market Street
Wilmington, DE 19890-0001

Dear Mr. Bochanski,

As the approved Lead Agency for the State of Georgia, the Governor's Office of Planning and Budget is submitting the attached D-4 application form requesting \$15,546,917 of its share of the Volkswagen Mitigation funds. The funding request is the fifth request to fund the projects described in the state's Beneficiary Mitigation Plan.

Prior funding issued from the trust was used for the replacement of aging diesel transit buses with new diesel and electric buses for the state's Xpress transit system. This draw will fund the replacement of 155 aging diesel school buses across the state for local school districts. This project was added to our updated Beneficiary Mitigation Plan submitted to Wilmington Trust in October 2024.

Please feel free to reach out to Nic Matthews, Division Director, at (470) 886-0005 if you have any questions or require additional information on this request.

Regards,

A handwritten signature in cursive script, appearing to read "Richard Dunn".

Richard Dunn

BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION

Beneficiary State of Georgia

Lead Agency Authorized to Act on Behalf of the Beneficiary Governor's Office of Planning and Budget
(Any authorized person with delegation of such authority to direct the Trustee delivered to the Trustee pursuant to a Delegation of Authority and Certificate of Incumbency)

Action Title:	Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)
Beneficiary's Project ID:	VW Settlement Funds - Project ID 66VWM
Funding Request No.	(sequential) Five (5)
Request Type: (select one or more)	☐ Reimbursement ☒ Advance ☐ Other (specify): _____
Payment to be made to: (select one or more)	☒ Beneficiary ☐ Other (specify): _____
Funding Request & Direction (Attachment A)	☒ Attached to this Certification ☐ To be Provided Separately

SUMMARY

Eligible Mitigation Action	☒ Appendix D-2 item (specify): <u>Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)</u>
Action Type	☐ Item 10 - DERA Option (5.2.12) (specify and attach DERA Proposal): _____
Explanation of how funding request fits into Beneficiary's Mitigation Plan (5.2.1): This funding request is for the replacement of aging, higher-polluting school buses owned and operated by local school districts in the state of Georgia. This project was included in the State's 2024 Mitigation Plan update.	
Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2): On April 30, 2018, the U.S. Environmental Protection Agency designated seven counties in the Atlanta Metropolitan Area as nonattainment for the 2015 National Ambient Air Quality Standards (NAAQS) for ozone. In 2022, the Atlanta Metropolitan Area was found to be in compliance with the 2015 standards and upgraded to maintenance status. Funding the Transit replacement project will continue to benefit the Atlanta Metropolitan Area, and the state generally, by reducing NOx emissions from school buses. NOx, when combined with volatile organic compounds (VOCs) and sunlight, reacts to form ground level ozone (See attachments for additional detail).	
Estimate of Anticipated NOx Reductions (5.2.3): NOx emissions reductions of 81.2 percent are expected. (See attachments for additional detail).	
Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1): Governor's Office of Planning and Budget (OPB). The Environmental Protection Division (EPD) assisted in the estimate of anticipated NOx reductions.	
Describe how the Beneficiary will make documentation publicly available (5.2.7.2). Documents submitted by Georgia to the Trustee will be available to the public on the OPB VW Mitigation Website, including those submitted in support of each funding request.	
Describe any cost share requirement to be placed on each NOx source proposed to be mitigated (5.2.8). The state will be providing 100% of funding to local school districts for replacement buses based on the cost of buses under statewide contracts. School districts will be responsible for any additional costs and operations beyond the purchase cost of the replacement bus.	
Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9). OPB provided email correspondence to the Department of Interior and Department of Agriculture with its Mitigation Plan.	

If applicable, describe how the mitigation action will mitigate the impacts of NO_x emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10).

As of the State of Georgia's 2024 Mitigation Plan Update, 43.6% of buses eligible for replacement are located inside of the seven counties in the Atlanta Metropolitan Area that were originally designated "Non-Attainment" for the 2015 NAAQS.

ATTACHMENTS **(CHECK BOX IF ATTACHED)**

- ☒ **Attachment A** **Funding Request and Direction.**
- ☒ **Attachment B** **Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4).**
- ☒ **Attachment C** **Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11).**
- ☒ **Attachment D** **Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding \$25,000 (5.2.6). [Attach only if project involves vendor expenditures exceeding \$25,000.]**
- ☐ **Attachment E** **DERA Option (5.2.12). [Attach only if using DERA option.]**
- ☐ **Attachment F** **Attachment specifying amount of requested funding to be debited against each beneficiary's allocation (5.2.13). [Attach only if this is a joint application involving multiple beneficiaries.]**

CERTIFICATIONS

By submitting this application, the Lead Agency makes the following certifications:

1. This application is submitted on behalf of Beneficiary Georgia, and the person executing this certification has authority to make this certification on behalf of the Lead Agency and Beneficiary, pursuant to the Certification for Beneficiary Status filed with the Court.
2. Beneficiary requests and directs that the Trustee make the payments described in this application and Attachment A to this Form.
3. This application contains all information and certifications required by Paragraph 5.2 of the Trust Agreement, and the Trustee may rely on this application, Attachment A, and related certifications in making disbursements of trust funds for the aforementioned Project ID.
4. Any vendors were or will be selected in accordance with a jurisdiction's public contracting law as applicable. (5.2.5)
5. Beneficiary will maintain and make publicly available all documentation submitted in

support of this funding request and all records supporting all expenditures of eligible mitigation action funds subject to applicable laws governing the publication of confidential business information and personally identifiable information. (5.2.7.2)

DATED: 07/14/2026



[NAME]

[TITLE] Director

Governor's Office of Planning and Budget

[LEAD AGENCY]

for

Georgia

[BENEFICIARY]

Supplemental D-4 Form Summary Document

1. **Explanation of How the Funding Request Fits into Beneficiary's Mitigation Plan (5.2.1):** This funding request is the fifth and final allocation request to fund the project described in the Beneficiary Mitigation Plan for the State of Georgia. This funding request is for the replacement of aging, higher-polluting diesel school buses. As stated in the updated Beneficiary Mitigation Plan for the State of Georgia issued on October 22, 2024, the overall goals of the plan are to:
 - Reduce overall NOx emissions in the State;
 - Implement Eligible Mitigation Actions in areas not meeting the National Ambient Air Quality Standard for ozone or in an ozone maintenance area;
 - Implement Eligible Mitigation Actions that further Georgia's energy, environmental, and economic development goals, including those that support improved mobility;
 - Implement Eligible Mitigation Actions with SMART (Specific, Measurable, Attainable, Realistic, and Timely) emissions reductions;
 - Implement Eligible Mitigation Actions by working with entities that have administrative and programmatic structures in place for implementing diesel emissions reduction projects;
 - Implement Eligible Mitigation Actions that can be completed within three years of request date; and
 - Implement Eligible Mitigation Actions requiring no administrative costs from the State Trust funds for implementation.

The project described in this allocation request meets all the goals stated above.

2. **Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):** On April 30, 2018, the U.S. Environmental Protection Agency (EPA) designated seven counties in the Atlanta Metropolitan Area (Bartow, Clayton, Cobb, DeKalb, Fulton, Gwinnett, and Henry) as nonattainment for the 2015 National Ambient Air Quality Standard (NAAQS) for ozone. On October 17, 2022, the EPA determined those seven counties had reached attainment status, but this redesignation left the Metropolitan Area as a Maintenance Area. This requires the counties to operate under a maintenance plan to keep adequate ozone levels maintained in the area until 2042. NOx, when combined with volatile organic compounds (VOCs) and sunlight, reacts to form ground level ozone. Ground level ozone adversely impacts the respiratory system and cardiovascular health.

Funding Georgia school bus replacements will benefit the Atlanta Metropolitan Area by reducing NOx emissions from existing, aging school buses. NOx emissions reductions of approximately 81.2 percent are expected, depending on the age of the buses replaced. As of 2025, Georgia has 2,361 buses eligible for replacement under the Volkswagen Settlement Agreement operating in the seven counties in the Atlanta Metropolitan Maintenance Area. Bus replacement will not be limited to those seven counties but will improve air quality in the

Supplemental D-4 Form Summary Document

maintenance area given the high number of buses eligible for replacement.

3. **Estimate of Anticipated NOx Reductions (5.2.3):** The NOx emissions reductions for replacing older, higher-emitting transit buses with new, clean diesel transit buses to date were calculated using EPA's Diesel Emission Quantifier (DEQ)¹. This table includes a representative sample of buses based on the current bus replacement list. As the Department of Education selects local school districts and buses for replacement, the estimated emissions may vary based on the number of buses replaced across each model year.

Bus Model Year (155)	Est. Sum of NOx Reduced per Year (short tons)	Est. Sum of Lifetime NOx Reduced (short tons)	Est. Average of Percent NOx Reduced (%)
1990 (1)	0.283	1.415	94%
1997 (1)	0.222	1.109	93.7%
1999 (5)	0.572	2.858	88.3%
2000 (1)	0.060	0.299	88.3%
2001 (1)	0.080	0.399	88.3%
2002 (18)	2.068	10.338	88.3%
2003 (9)	0.562	2.810	84%
2004 (3)	0.217	1.085	84%
2005 (15)	1.231	6.155	84%
2006 (25)	1.865	9.324	84%
2007 (26)	0.78	3.90	68%
2008 (28)	0.816	4.078	68%
2009 (22)	0.581	2.903	68%
Total Est. to Date	9.335	46.673	81.2%

4. **Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4).**

¹ <https://www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq>

Supplemental D-4 Form Summary Document

Period of Performance: 11/16/2018 through 7/14/2026				
Budget Category	Total Approved Budget – Draw #1-4	Propose Budget – Draw #5	Share of Total Budget to be Funded by the Trust	Cost-Share To Date (Atlanta-Region Transit Link Authority)
1. Equipment Expenditure	\$51,564,707	\$15,546,917	\$63,604,643	\$3,506,981
2. Contractor Support	\$206,066.00	\$0.00	\$20,082.00	\$185,984
3. Subrecipient Support	\$0.00	\$0.00	\$0.00	\$0.00
4. Administrative (15% Cap)	\$0.00	\$0.00	\$0.00	\$0.00
Project Totals	\$51,770,773	\$15,546,917	\$63,624,725	\$3,692,965

5. **Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1):** The Governor's Office of Planning and Budget (OPB) will be responsible for reviewing and auditing expenditures of eligible mitigation action funds. OPB will require state agencies to submit payment requests along with supporting documentation before releasing payments. All funds are tracked by identifiers necessary to maintain accounting records as required by budgetary statutes and by generally accepted accounting principles. At a lower level, funds will be tracked by fund source and project. The fund source identifies the source or origin of the funds whereas the project identifies the intended purpose of the funds. The Georgia Environmental Protection Division will review estimates of NOx emission reductions for funded projects.

6. **Describe How the Beneficiary Will Make Documentation Publicly Available (5.2.7.2):** Section 4.2.7 of the State Trust Agreement describes Georgia's obligations with regard to consideration of public input on the Beneficiary Mitigation Plan for the State of Georgia, and for providing the public with access to all documentation and records submitted to the Trustee, including those submitted in support of each funding request made by OPB for State Trust funds. The public input plan and public access plan is contained in Certification Form D-3, which was submitted by Georgia to the Trustee on October 13, 2017, and is described below. OPB created the OPB VW Mitigation Webpage, which can be found at <https://opb.georgia.gov/vw-settlement-agreement>. The OPB VW Mitigation Webpage provides information regarding the State Trust Agreement and the State Trust. Documents submitted by Georgia to the Trustee will be available to the public on the OPB VW Mitigation Webpage including those submitted in support of each funding request. Information will also be available to the public on the Trustee's website at

Supplemental D-4 Form Summary Document

<http://www.vwenvironmentalmitigationtrust.com>. The OPB VW Mitigation Webpage will be updated as needed.

7. **Describe Any Cost Share Requirement to be Placed on Each NOx Source Proposed to be Mitigated (5.2.8):** Local school districts own and operate the assets associated with the current request. The Georgia Department of Education provides funding to local school districts for bus replacements based on the cost of buses on statewide contracts. The funds will be used to fully execute the replacement of aging buses with newer diesel buses. All ongoing maintenance will be the responsibility of school districts utilizing their annual allotment of state funds and their locally generated funding.
8. **Describe How the Beneficiary Complied with Subparagraph 4.2.8, Related to Notice to U.S. Government Agencies (5.2.9):** Georgia and the Governor's Office of Planning and Budget (as the lead Agency) received beneficiary notice on Monday, January 30, 2018. On February 21, 2018, OPB provided email correspondence to the Department of Interior and Department of Agriculture with its Mitigation plan to ensure compliance with section 4.2.8 of the Consent Decree.
9. **If Applicable, Describe How the Mitigation Action Will Mitigate the Impacts of NOx Emissions on Communities that have Historically Borne a Disproportionate Share of the Adverse Impacts of Such Emissions (5.2.10):** New school buses funded by this allocation will be deployed, in part, within the seven-county Metro Atlanta Maintenance Area. This Maintenance area is disproportionately affected by NOx emissions from Volkswagen defeat devices and continue to bear disproportionate share of the NOx burden in Georgia for the following reasons:
 - NOx emissions contribute to ground level ozone formation. The Atlanta Metropolitan Area is the only area of the state that has counties in a maintenance plan to keep ozone levels in attainment;
 - The Atlanta Metropolitan Area is disproportionately impacted by mobile source NOx emissions: 81.6% of the NOx emissions in the Atlanta Metropolitan Area come from mobile sources versus 66.7% statewide; and
 - Seven of the top ten counties in Georgia with the highest number of affected VW diesel vehicles are in the Atlanta Metropolitan Area.

ATTACHMENT B – ELIGIBLE MITIGATION ACTION MANAGEMENT PLAN
INCLUDING DETAILED PROJECT BUDGET AND IMPLEMENTATION
EXPENDITURES TIMELINE

PROJECT MANAGEMENT PLAN
PROJECT SCHEDULE AND MILESTONES FOR DRAW #5

Milestones for Draw #5 Funding	Date
Lead Agency Provides Notice of Availability of Mitigation Action Funds	2/1/2018
Lead Agency Identifies Project Sponsor's Potential Project in Updated Mitigation Plan	10/23/2024
Project Sponsor Submits Project and Cost Information to Lead Agency for Draw #5	9/1/2025
Lead Agency Certifies Project Sponsor's Proposal and Cost Information for Draw #5	1/18/2026
Lead Agency Transmits Funding Request to Trustee for Draw #5	7/14/2026
Trustee Acknowledges Receipt of Project Certification and Funding Direction for Draw #5	TBD
Project Sponsor selects local school districts for funding	10/1/2026
Project Sponsor provides detailed invoices for all claimed project costs and required certification documents to Lead Agency	10/1/2027
Lead Agency reimburses Project Sponsor for project amount	10/31/2027
Project Sponsor Certifies Project Completion	12/31/2027
Lead Agency Reports Project Completion	12/31/2027

PROJECT BUDGET FOR DRAW #5

Period of Performance: 11/16/2018 through 7/14/2026				
Budget Category	Total Approved Budget – Draw #1-4	Total Approved Budget – Draw #5	Share of Total Budget to be Funded by the Trust	Cost-Share if Applicable (Atlanta-Region Transit Link Authority)
1. Equipment Expenditure	\$51,564,707	\$15,546,917	\$63,604,643	\$3,506,981
2. Contractor Support	\$206,066	\$0	\$20,082	\$185,984
3. Subrecipient Support	\$0	\$0	\$0	\$0
4. Administrative (15% Cap)	\$0	\$0	\$0	\$0
Project Totals	\$51,770,773	\$15,546,917	\$63,624,725	\$3,692,965

PROJECTED TRUST ALLOCATIONS:

	Draw #1-4	Draw #5	Subsequent Draws	Totals
1. Anticipated Project Funding Request to be paid through the Trust	\$48,077,808	\$15,546,917	\$4,847,746	\$68,472,471
2. Anticipated Cost Share	\$3,692,965	\$0	\$0.00	\$3,692,965
3. Anticipated Total Project Funding by Draw	\$51,770,773	\$15,546,917	\$0.00	\$72,165,436
4. Trustee Payments Made to Date Against Cumulative Approved Beneficiary Allocation	\$48,077,808	---	---	\$48,077,808
5. Current Beneficiary Project Funding to be paid through the Trust (Draw #5)	---	\$15,546,917	---	\$15,546,917
6. Remaining Beneficiary Project Funding to be paid through the Trust (Subsequent Draws)	---	---	\$4,847,746	\$4,847,746
7. Total Funding Allocated to Beneficiary, inclusive of Current Action by Year	\$48,077,808	\$15,546,917	\$0.00	\$63,624,725
8. Beneficiary Share of Estimated Funds Remaining in Trust	---	\$20,394,663	\$4,847,746	---
9. Net Beneficiary Funds Remaining in Trust after Project Funding is Requested	---	\$4,847,746	\$0.00	---

ATTACHMENT C**Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11).**

Georgia's lead agency, the Governor's Office of Planning and Budget, has created the OPB VW Mitigation Webpage at <https://opb.georgia.gov/vw-settlement-agreement>. Documents submitted by Georgia to the Trustee in accordance with paragraph 7 of the Beneficiary Certification will be available to the public on the OPB VW Mitigation Webpage, including Appendix D-4 "Beneficiary Eligible Mitigation Action Certification Form" and the semi-annual reporting required by Section 5.3, "Beneficiary Reporting Obligations" in Attachment A of the Environmental Mitigation Trust Agreement for State Beneficiaries. The semi-annual reports shall include the following information for each project:

1. Number of new buses deployed during the semi-annual reporting period and during the project (rolling total);
2. Number of new buses currently on order;
3. Number of buses disposed during the semi-annual reporting period and during the project (rolling total);
4. Any changes to the project plan during the semiannual period;
5. VW mitigation funds utilized to accomplish the project, to date; and actual/projected date for completion of the project.

APPENDIX D – DETAILED COST ESTIMATES FROM SELECTED OR POTENTIAL VENDORS FOR EACH PROPOSED EXPENDITURE EXCEEDING \$25,000

Base Bus Price No Delivery

	Endera Motors	Model 1 Commercial Vehicles	Peach State Truck Centers	Rush Bus Centers of Georgia	The Bus Center of Atlanta	Yancey Bros Co
Type A-1 - No A/C						
Base Unit Price - No Lift						
Bus Type/Capacity				Price		
16 Design Capacity	\$ 85,263	\$ 93,843	\$ 79,751		\$ 102,306	\$ 97,665
24 Design Capacity	\$ 90,270	\$ 101,645	\$ 79,901		\$ 105,314	\$ 98,096
30 Design Capacity	\$ 94,341	\$ 98,846	\$ 83,871		\$ 107,171	\$ 98,641
Base Unit Price - With Lift						
Bus Type/Capacity				Price		
24 Design Capacity	\$ 100,024	\$ 107,321	\$ 86,651		\$ 116,396	\$ 111,442
30 Design Capacity		\$ 108,520	\$ 90,621		\$ 117,283	\$ 111,442
Type C-2 - No A/C						
Base Unit Price - No Lift						
Bus Type/Capacity				Price		
14 Design Capacity			\$ 110,286	\$112,000.00		
36 Design Capacity			\$ 111,345	\$115,000.00		\$ 112,635
48 Design Capacity			\$ 112,971	\$117,780.00		\$ 114,649
54 Design Capacity			\$ 115,252	\$120,335.00		\$ 116,268
60 Design Capacity			\$ 118,139	\$120,901.00		\$ 117,112
66 Design Capacity			\$ 122,017	\$121,920.00		\$ 117,345

72 Design Capacity				\$ 125,498	\$123,940.00		\$	118,450
77 Design Capacity				\$ 129,067	\$126,442.00		\$	118,983
81-83 Design Capacity				\$ 129,774	\$128,000.00		\$	119,989
Base Unit Price - With Lift								
Bus Type/Capacity	Price							
14 Design Capacity				\$ 118,352	\$120,000.00			
36 Design Capacity				\$ 118,617	\$129,700.00		\$	124,474
48 Design Capacity.				\$ 119,721	\$125,860.00		\$	125,200
54 Design Capacity				\$ 122,002	\$126,415.00		\$	127,567
60 Design Capacity				\$ 124,889	\$126,970.00		\$	129,301
66 Design Capacity				\$ 128,767	\$128,485.00		\$	129,632
72 Design Capacity				\$ 132,248	\$133,030.00		\$	130,588
77 Design Capacity				\$ 135,817	\$132,980.00		\$	131,928
81-83 Design Capacity				\$ 136,524	\$134,000.00		\$	133,254
Type D Front Engine (FE) - No A/C								
Base Unit Price - No Lift								
Bus Type/Capacity	Price							
54 Design Capacity							\$	123,269
60 Design Capacity							\$	124,289
66 Design Capacity							\$	126,499
72 Design Capacity							\$	128,996
78 Design Capacity				\$ 136,751			\$	137,558
84 Design Capacity				\$ 138,978			\$	140,191
90 Design Capacity				\$ 141,151			\$	144,701
Base Unit Price - With Lift								
Bus Type/Capacity	Price							

54 Design Capacity									\$	132,751
60 Design Capacity									\$	134,005
66 Design Capacity									\$	134,899
72 Design Capacity									\$	135,729
78 Design Capacity							\$	143,501	\$	152,160
84 Design Capacity							\$	145,728	\$	154,009
90 Design Capacity							\$	147,901	\$	157,654
Type D Rear Engine (RE) - No A/C										
Base Unit Price - No Lift										
Bus Type/Capacity	Price									
66 Design Capacity									\$	151,750
72 Design Capacity									\$	153,262
78 Design Capacity							\$	148,485	\$	155,650
84 Design Capacity							\$	151,384	\$	156,897
90 Design Capacity							\$	152,552		
Base Unit Price - With Lift										
Bus Type/Capacity	Price									
72 Design Capacity									\$	169,617
78 Design Capacity							\$	160,285		
84 Design Capacity							\$	163,184	\$	172,918
90 Design Capacity							\$	160,202		

DEQ Summary and Detailed Reports

Project Name: 155 buses

Run Date: 05/06/2026

User Name: Abby Peters

User Email: abby.peters@opb.georgia.gov

Total Project Funding: \$ 15,546,917

Summary Emission Results¹ for Project:

<u>Annual Results (short tons)²</u>	NO _x	PM2.5	HC	CO	CO ₂	Fuel ³
Baseline for Project	11.498	0.661	1.604	5.023	2,390.3	212,469
Amount Reduced After Upgrades	9.335	0.649	1.545	3.780	717.0	63,730
Percent Reduced After Upgrades	81.2%	98.1%	96.3%	75.3%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline for Project	57.490	3.307	8.019	25.113	11,951.4	1,062,345
Amount Reduced After Upgrades	46.673	3.243	7.726	18.900	3,584.8	318,651
Percent Reduced After Upgrades	81.2%	98.1%	96.3%	75.3%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness ⁴ (unit & labor costs only)	\$333,103	\$4,793,664	\$2,012,341	\$822,571	\$4,337	
Total Cost Effectiveness ⁴ (includes all project costs)	\$333,102	\$4,793,649	\$2,012,335	\$822,569	\$4,337	

¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Detailed Emission Results¹ for 1990:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	0.301	0.016	0.031	0.069	19.6	1,743
Amount Reduced After Upgrades	0.283	0.016	0.030	0.058	5.9	523
Percent Reduced After Upgrades	94.0%	99.3%	98.4%	85.0%	30.0%	30.0%
<u>Lifetime Results (short tons)²</u>						
Baseline of Group	1.506	0.081	0.154	0.343	98.0	8,715
Amount Reduced After Upgrades	1.415	0.080	0.151	0.292	29.4	2,615
Percent Reduced After Upgrades	94.0%	99.3%	98.4%	85.0%	30.0%	30.0%
<u>Lifetime Cost Effectiveness (\$/short ton reduced)</u>						
Capital Cost Effectiveness⁴ (unit & labor costs only)	\$70,866	\$1,251,618	\$663,020	\$343,979	\$3,410	

¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

1990:

Type: Onroad

Target Fleet: School Bus

Quantity: 1

Engine Model Year: 1990

Upgrade Year: 2020

Remaining Life: 5

Fuel Type: ULSD (diesel)

Annual Fuel Gallons: 1,743

Diesel-equivalent Gallons: 1,743

Annual Miles Traveled: 12,200

Annual Idling Hours: 349

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)

New Engine Model Year: 2020

New Fuel Volume: 1,220

New Diesel-equivalent Gallons: 1,220

Upgrade Cost per Unit: \$100,303 **Labor Cost per Unit:** \$0

Percent Reduction: NO_x: 94% PM2.5: 99.3% HC: 98.4% CO: 85% CO₂: 30%

Detailed Emission Results¹ for 1997:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	0.237	0.015	0.026	0.058	16.6	1,473
Amount Reduced After Upgrades	0.222	0.015	0.026	0.049	5.0	442
Percent Reduced After Upgrades	93.7%	99.4%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Results (short tons)²</u>						
Baseline of Group	1.183	0.077	0.130	0.290	82.9	7,365
Amount Reduced After Upgrades	1.109	0.076	0.128	0.247	24.9	2,209
Percent Reduced After Upgrades	93.7%	99.4%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Cost Effectiveness (\$/short ton reduced)</u>						
Capital Cost Effectiveness⁴ (unit & labor costs only)	\$90,482	\$1,312,990	\$784,457	\$406,509	\$4,035	

¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

1997:

Type: Onroad

Target Fleet: School Bus

Quantity: 1

Engine Model Year: 1997

Upgrade Year: 2026

Remaining Life: 5

Fuel Type: ULSD (diesel)

Annual Fuel Gallons: 1,473

Diesel-equivalent Gallons: 1,473

Annual Miles Traveled: 10,311

Annual Idling Hours: 295

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)

New Engine Model Year: 2026

New Fuel Volume: 1,031

New Diesel-equivalent Gallons: 1,031

Upgrade Cost per Unit: \$100,303 **Labor Cost per Unit:** \$0

Percent Reduction: **NO_x:** 93.7% **PM2.5:** 99.4% **HC:** 98.4% **CO:** 85.1% **CO₂:** 30%

Detailed Emission Results¹ for 1999:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	0.647	0.045	0.131	0.292	83.5	7,420
Amount Reduced After Upgrades	0.572	0.044	0.129	0.248	25.0	2,226
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	3.237	0.224	0.654	1.460	417.4	37,100
Amount Reduced After Upgrades	2.858	0.222	0.644	1.242	125.2	11,130
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$175,462	\$2,262,685	\$778,963	\$403,642	\$4,005
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

1999:

Type: Onroad

Target Fleet: School Bus

Quantity: 5

Engine Model Year: 1999

Upgrade Year: 2026

Remaining Life: 5

Fuel Type: ULSD (diesel)

Annual Fuel Gallons: 1,484

Diesel-equivalent Gallons: 1,484

Annual Miles Traveled: 10,385

Annual Idling Hours: 297

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)

New Engine Model Year: 2026

New Fuel Volume: 1,039

New Diesel-equivalent Gallons: 1,039

Upgrade Cost per Unit: \$100,303 **Labor Cost per Unit:** \$0

Percent Reduction: NO_x: 88.3% PM2.5: 99% HC: 98.4% CO: 85.1% CO₂: 30%

Detailed Emission Results¹ for 2000:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	0.068	0.005	0.014	0.031	8.7	777
Amount Reduced After Upgrades	0.060	0.005	0.013	0.026	2.6	233
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Results (short tons)²</u>						
Baseline of Group	0.339	0.023	0.068	0.153	43.7	3,885
Amount Reduced After Upgrades	0.299	0.023	0.067	0.130	13.1	1,165
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Cost Effectiveness (\$/short ton reduced)</u>						
Capital Cost Effectiveness⁴ (unit & labor costs only)	\$335,265	\$4,325,432	\$1,488,803	\$771,100	\$7,650	

¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2000:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 777
Quantity: 1	Diesel-equivalent Gallons: 777
Engine Model Year: 2000	Annual Miles Traveled: 5,440
Upgrade Year: 2026	Annual Idling Hours: 155
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 544	New Diesel-equivalent Gallons: 544
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 88.3% PM_{2.5}: 99% HC: 98.4% CO: 85.1% CO₂: 30%

Detailed Emission Results¹ for 2001:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	0.090	0.006	0.018	0.041	11.6	1,034
Amount Reduced After Upgrades	0.080	0.006	0.018	0.035	3.5	310
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	0.451	0.031	0.091	0.204	58.2	5,170
Amount Reduced After Upgrades	0.399	0.031	0.090	0.173	17.4	1,551
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$251,698	\$3,245,896	\$1,117,436	\$579,010	\$5,748
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2001:

Type: Onroad

Target Fleet: School Bus

Quantity: 1

Engine Model Year: 2001

Upgrade Year: 2026

Remaining Life: 5

Fuel Type: ULSD (diesel)

Annual Fuel Gallons: 1,034

Diesel-equivalent Gallons: 1,034

Annual Miles Traveled: 7,240

Annual Idling Hours: 207

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)

New Engine Model Year: 2026

New Fuel Volume: 724

New Diesel-equivalent Gallons: 724

Upgrade Cost per Unit: \$100,303 **Labor Cost per Unit:** \$0

Percent Reduction: **NO_x:** 88.3% **PM_{2.5}:** 99% **HC:** 98.4% **CO:** 85.1% **CO₂:** 30%

Detailed Emission Results¹ for 2002:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	2.342	0.162	0.473	1.056	301.9	26,838
Amount Reduced After Upgrades	2.068	0.160	0.466	0.899	90.6	8,051
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Results (short tons)²</u>						
Baseline of Group	11.708	0.810	2.366	5.281	1,509.6	134,190
Amount Reduced After Upgrades	10.338	0.801	2.328	4.494	452.9	40,257
Percent Reduced After Upgrades	88.3%	99.0%	98.4%	85.1%	30.0%	30.0%
<u>Lifetime Cost Effectiveness (\$/short ton reduced)</u>						
Capital Cost Effectiveness⁴ (unit & labor costs only)	\$174,645	\$2,252,631	\$775,431	\$401,723	\$3,987	

¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2002:

Type: Onroad

Target Fleet: School Bus

Quantity: 18

Engine Model Year: 2002

Upgrade Year: 2026

Remaining Life: 5

Fuel Type: ULSD (diesel)

Annual Fuel Gallons: 1,491

Diesel-equivalent Gallons: 1,491

Annual Miles Traveled: 10,438

Annual Idling Hours: 298

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)

New Engine Model Year: 2026

New Fuel Volume: 1,044

New Diesel-equivalent Gallons: 1,044

Upgrade Cost per Unit: \$100,303 **Labor Cost per Unit:** \$0

Percent Reduction: NO_x: 88.3% PM2.5: 99% HC: 98.4% CO: 85.1% CO₂: 30%

Detailed Emission Results¹ for 2003:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	0.669	0.057	0.096	0.359	118.4	10,521
Amount Reduced After Upgrades	0.562	0.057	0.093	0.298	35.4	3,146
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	29.9%	29.9%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	3.345	0.286	0.480	1.795	591.8	52,605
Amount Reduced After Upgrades	2.810	0.283	0.466	1.488	177.0	15,729
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	29.9%	29.9%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$321,274	\$3,187,787	\$1,936,949	\$606,612	\$5,102
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2003:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,169
Quantity: 9	Diesel-equivalent Gallons: 1,169
Engine Model Year: 2003	Annual Miles Traveled: 8,185
Upgrade Year: 2026	Annual Idling Hours: 234
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 819	New Diesel-equivalent Gallons: 819
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 84% PM2.5: 98.9% HC: 97% CO: 82.9% CO₂: 29.9%

Detailed Emission Results¹ for 2004:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	0.258	0.022	0.037	0.139	45.7	4,065
Amount Reduced After Upgrades	0.217	0.022	0.036	0.115	13.7	1,219
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	1.292	0.111	0.186	0.693	228.7	20,325
Amount Reduced After Upgrades	1.085	0.109	0.180	0.575	68.6	6,097
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$277,266	\$2,751,496	\$1,671,783	\$523,552	\$4,387
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2004:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,355
Quantity: 3	Diesel-equivalent Gallons: 1,355
Engine Model Year: 2004	Annual Miles Traveled: 9,485
Upgrade Year: 2026	Annual Idling Hours: 271
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 948	New Diesel-equivalent Gallons: 948
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NOx: 84% PM_{2.5}: 98.9% HC: 97% CO: 82.9% CO₂: 30%

Detailed Emission Results¹ for 2005:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	1.466	0.125	0.210	0.786	259.4	23,055
Amount Reduced After Upgrades	1.231	0.124	0.204	0.652	77.8	6,916
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	7.328	0.627	1.052	3.932	1,296.8	115,275
Amount Reduced After Upgrades	6.155	0.620	1.021	3.259	389.1	34,582
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$244,427	\$2,426,426	\$1,474,126	\$461,614	\$3,867
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2005:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,537
Quantity: 15	Diesel-equivalent Gallons: 1,537
Engine Model Year: 2005	Annual Miles Traveled: 10,762
Upgrade Year: 2026	Annual Idling Hours: 307
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 1,076	New Diesel-equivalent Gallons: 1,076
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 84% PM_{2.5}: 98.9% HC: 97% CO: 82.9% CO₂: 30%

Detailed Emission Results¹ for 2006:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	2.220	0.190	0.319	1.191	392.9	34,925
Amount Reduced After Upgrades	1.865	0.188	0.309	0.987	117.9	10,478
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	11.100	0.950	1.594	5.955	1,964.5	174,625
Amount Reduced After Upgrades	9.324	0.939	1.546	4.937	589.4	52,388
Percent Reduced After Upgrades	84.0%	98.9%	97.0%	82.9%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$268,946	\$2,669,843	\$1,622,007	\$507,921	\$4,255
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2006:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,397
Quantity: 25	Diesel-equivalent Gallons: 1,397
Engine Model Year: 2006	Annual Miles Traveled: 9,781
Upgrade Year: 2026	Annual Idling Hours: 279
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 978	New Diesel-equivalent Gallons: 978
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 84% PM2.5: 98.9% HC: 97% CO: 82.9% CO₂: 30%

Detailed Emission Results¹ for 2007:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	1.147	0.006	0.089	0.359	405.7	36,062
Amount Reduced After Upgrades	0.780	0.004	0.079	0.148	121.7	10,819
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	5.735	0.032	0.445	1.795	2,028.5	180,310
Amount Reduced After Upgrades	3.900	0.021	0.396	0.739	608.5	54,093
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$668,688	\$126,236,019	\$6,586,831	\$3,527,310	\$4,285
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2007:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,387
Quantity: 26	Diesel-equivalent Gallons: 1,387
Engine Model Year: 2007	Annual Miles Traveled: 9,711
Upgrade Year: 2026	Annual Idling Hours: 277
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 971	New Diesel-equivalent Gallons: 971
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 68% PM_{2.5}: 65.4% HC: 88.9% CO: 41.2% CO₂: 30%

Detailed Emission Results¹ for 2008:

<u>Annual Results (short tons)²</u>	NO_x	PM_{2.5}	HC	CO	CO₂	Fuel³
Baseline of Group	1.199	0.007	0.093	0.375	424.3	37,716
Amount Reduced After Upgrades	0.816	0.004	0.083	0.155	127.3	11,315
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	5.997	0.033	0.466	1.877	2,121.5	188,580
Amount Reduced After Upgrades	4.078	0.022	0.414	0.773	636.5	56,574
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$688,670	\$130,004,596	\$6,783,493	\$3,632,651	\$4,413
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2008:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,347
Quantity: 28	Diesel-equivalent Gallons: 1,347
Engine Model Year: 2008	Annual Miles Traveled: 9,429
Upgrade Year: 2026	Annual Idling Hours: 269
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 943	New Diesel-equivalent Gallons: 943
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 68% PM_{2.5}: 65.4% HC: 88.9% CO: 41.2% CO₂: 30%

Detailed Emission Results¹ for 2009:

<u>Annual Results (short tons)²</u>	NO_x	PM2.5	HC	CO	CO₂	Fuel³
Baseline of Group	0.854	0.005	0.066	0.267	302.0	26,840
Amount Reduced After Upgrades	0.581	0.003	0.059	0.110	90.6	8,052
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

<u>Lifetime Results (short tons)²</u>						
Baseline of Group	4.269	0.024	0.332	1.336	1,509.8	134,200
Amount Reduced After Upgrades	2.903	0.015	0.295	0.550	452.9	40,260
Percent Reduced After Upgrades	68.0%	65.4%	88.9%	41.2%	30.0%	30.0%

Lifetime Cost Effectiveness (\$/short ton reduced)

Capital Cost Effectiveness⁴ (unit & labor costs only)	\$760,103	\$143,456,671	\$7,485,608	\$4,008,930	\$4,872
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¹ Emissions from the electrical grid are not included in the results.

² 1 short ton = 2000 lbs.

³ In gallons; fuels other than ULSD have been converted to ULSD-equivalent gallons.

⁴ Cost effectiveness estimates include only the costs which you have entered.

Inputs:

2009:

Type: Onroad	Fuel Type: ULSD (diesel)
Target Fleet: School Bus	Annual Fuel Gallons: 1,220
Quantity: 22	Diesel-equivalent Gallons: 1,220
Engine Model Year: 2009	Annual Miles Traveled: 8,541
Upgrade Year: 2026	Annual Idling Hours: 244
Remaining Life: 5	

Vehicle Replacement:

Upgrade: Vehicle Replacement - ULSD (diesel)	
New Engine Model Year: 2026	
New Fuel Volume: 854	New Diesel-equivalent Gallons: 854
Upgrade Cost per Unit: \$100,303	Labor Cost per Unit: \$0
Percent Reduction:	NO_x: 68% PM2.5: 65.4% HC: 88.9% CO: 41.2% CO₂: 30%

Bus Type	(Multiple Items)	
Bus Use	(Multiple Items)	
Row Labels	Average of Daily Miles	Count of Engine
1989		21
1990	61	16
1991		1
1992		3
1993		2
1994	18	15
1995		34
1996	52	73
1997	52	50
1998	19	29
1999	53	143
2000	39	208
2001	36	233
2002	51	648
2003	48	550
2004	53	383
2005	57	481
2006	50	741
2007	49	613
2008	50	608
2009	49	555
Grand Total	50.0938943	5407