





# Transitioning to an Electric School Bus Fleet

Presented by











## Agenda





- Key Funding Updates for Florida School Districts
- Takeaways and Lessons Learned from South Shore Clean Cities and Carmel Clay Schools
- Virtual Demonstration of the Blue Bird Type C
   Vision Electric Bus
- Q&A Session



## Today's Speakers





Alexander
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Tampa Bay
Clean Cities



Ryan Lisek
South Shore
Clean Cities



Ron Farrand, Jr.
Carmel Clay
Schools



Christopher Rustman FTS



Hinton Harrison
Blue Bird
Corporation



#### Clean Cities



- National network of coordinators
- Peer-to-peer learning
- Problem solving
- Technical Response Service
- Tools, resources, publications

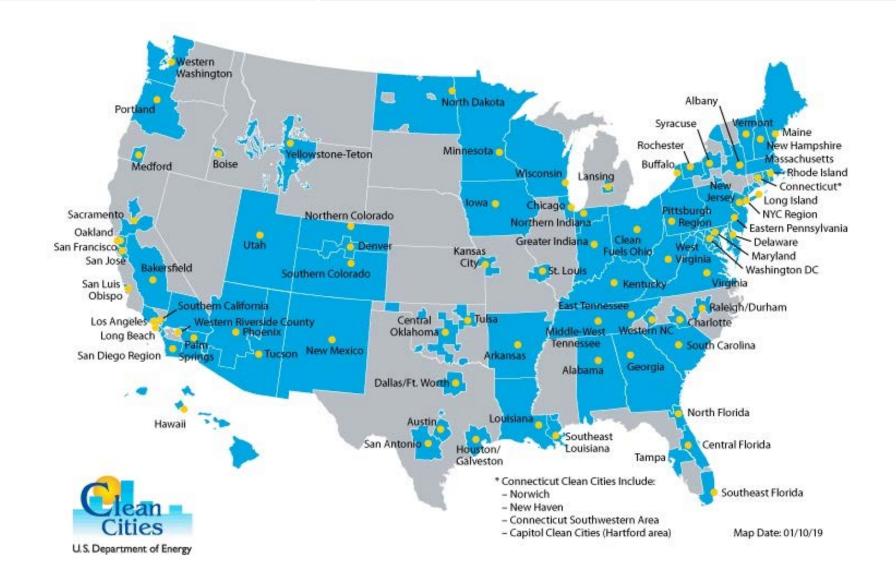






#### Clean Cities







### Funding: Florida Diesel Emissions Mitigation Program



# Florida Diesel Emissions Mitigation Program: \$166 million share from VW Settlement Funding

Eligible Mitigation Action	Allocation
School, Transit, and Shuttle Buses	70%
Light-Duty ZEV Supply Equipment	15% (Maximum Allowable)
Diesel Emissions Reduction Act (DERA)	15%





## Funding: EPA DERA School Bus Rebates



**DERA:** Rebates in addition to grants to reduce harmful emissions from older diesel vehicles

- Eligible entities include regional, state, or tribal agencies (school districts and municipalities); private school bus operators
- Selection Process lottery system, with at least one applicant selected from each state/territory
- Eligible Old Diesel Buses for Replacement Used to transport 10+ students; driven 10k or more miles; Class 3 8 diesel buses; powered by 2006 or older MY engines; engine and chassis must be scrapped before rebate payment
- Eligible Replacement Buses 2017 or newer MY engine; diesel/gasoline/battery electric/alternative fuels; rebate amount is \$15k for replacement buses up to 19,500 lbs and \$20k for buses 19,501 lbs or higher







## **About South Shore Clean Cities**

- SSCC -- headquartered in St. John, Indiana
   -- is a 501(c)(3) nonprofit organization
- Designated as the 71<sup>st</sup> Clean Cities coalition on June 15, 1999, SSCC is one of the U.S. DOE's nearly 100 Clean Cities coalitions across the country.
- In the last decade alone, South Shore Clean Cities members have reduced greenhouse gas emissions by 607,000 tons and displaced over 93 million GGE.





# Northern Indiana Green Fleet Program

- SSCC manages the Northern Indiana Green Fleet
   Program including fleets within the MACOG and NIRPC territories.
- Goal of the program: To improve the environmental performance of public, private and nonprofit vehicle fleets in Northern Indiana.
- SSCC currently guides over 170 municipal, county, school & university member fleets to help mitigate barriers associated with sustainable transportation adoption while creating policies supporting vehicle emission & petroleum use reductions.





# How does the Green Fleet program work?

- Educational opportunities including fuel & technology workshops, trainings & seminars
- Recognition & certification for fleet leaders taking steps to improve environmental performance & efficiency
- Branding & promotional tools to help fleets leverage earned certification status
- Informational resources including current technology options, market conditions, laws
   & incentives
- Connections with vendors offering sustainable transportation options
- Funding assistance with grant opportunities and other state and federal incentive programs
- Professional consultation including a Green Fleet audit and emissions quantification.





## **Green Fleet Audits**

# Step 1: South Shore Clean Cities staff will conduct a complete fleet analysis, including:

- Annual fuel usage
- Annual miles traveled & hours used
- Total number of vehicles & equipment
- Vehicle & equipment type, make & model
- Fuel type
- Average vehicle and equipment life
- Down time for fueling and maintenance
- Fuel cost





## **Green Fleet Audits**

Step 2: South Shore Clean Cities staff then provides a complete fleet analysis in a written Green Fleet audit report, including:

- Cost comparisons for various sustainable fuel and vehicle types
- Availability and location of fueling options
- Personalized recommendations for short- and long-term fleet purchase plans
- Provide total cost of ownership and return on investment analysis
- Suggestions for implementing cost-saving programs & training such as idle reduction
- Information on potential funding opportunities to best leverage sustainable transportation investments





#### **Our Process**

- Route Identification
- Know the Bus Specs
  - Range, capacity, charging time, ask the experts
- Charging Station
  - Type, location, DCFC vs Level 2, costs
- Implementation
  - Storage, Fleet Telematics, Electrician
- Partnerships Cummins, Blue Bird, MacAllister Transportation



## Timeline

- May 2, 2019 Introduced to Mr. Farrand, Grant Prep!
- June 17, 2019 Grant Submitted
- July 23, 2019 Award Notification
- July 24. 2019 Prep for Delivery
- May 7, 2020 First Electric School Bus Delivered in Indiana
- June 24, 2020 Ribbon Cutting
- Currently Scrapping of old bus and submit for reimbursement



# **Partnerships = Success**











# When should I get started?

- NOW!!!
- Contact your local Clean Cities
   Organization
- Contact your Blue Bird Dealer
- Self Education, Become a Champion
- Be Ready Before RFP



## Thank You!



**South Shore Clean Cities** 

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# Ron Farrand, Jr., RA

Director, Facilities & Transportation Carmel Clay Schools

## **Facilities & Transportation**

- Facilities
  - Maintenance
  - Custodial
  - Facility Planning
  - Capital Projects
- Transportation
  - Pupil Transportation
  - Fleet Management



## **Facility Statistics**

School Buildings		
Number	15	
Total square feet	2,721,434	
Building Age		
0 – 10	0	
11 – 15	3.3	
16 – 20	4.0	
21 – 35	7.6	
	(.3 = CHS)	

Support Buildings	
Number	4
Total square feet	88,730
Acreage All Properties	650
Paved (Parking & drives)	89
Mowable	377
Facility Maintenance	
Custodial staff	114
Maintenance staff	17

#### **Fleet Statistics**

Total school buses in fleet	188
Daily route buses	163
Activity buses	4
Annual miles	Over 1.5 million
Replacement cycle	12 years
LPG buses in fleet	24
CCS will be adding an electric powered neighborhood bus for the	

2020-2021 school year as a pilot project. The purchase is being partially funded by a grant awarded through the 2019 Indiana

Volkswagen Environmental Mitigation Trust Program.



## Transportation: Student Stats

Regular Education Students	
Average ridership of eligible students	70%
Typical bus rated seating capacity	81 to 84
Typical bus functional seating capacity	54
Average number riders per bus	43
Utilization per functional capacity	80%
Walk to stop distance	80% < .01 mi
Ride time	75% < 20 min.
Total bus stops all students	4100+

Special Needs/Early Childhood Students	
Average ridership of eligible students	80%
Average bus rated seating capacity	48
Average bus functional seating capacity	32
Average number riders per bus	6
Utilization per functional capacity	18%

## Carmel Clay Schools: EV 1



EV 1 STATS		
Proposed Route	45 Miles	
Est. Annual Miles	8,000	
Range	120 Miles	
Capacity	84	
Batteries	155kW Li-Ion NMC/G Cell	
Propulsion	Cummins	
System	PowerDrive 7000	
Motor	TM4 SUMO	
Charging Station	Level 2	
Charging Station	(2) Clipper Creek CS-100	

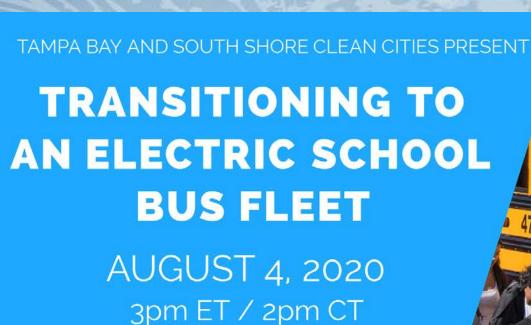
## **Project Partners**



MacAllister Transportation
Cummins
South Shore Clean Cities
School Administration

# Thank you





**CLEAN CITIES PARTNERS** 



















#### Blue Bird – The Alternative Fuel Experts Since 1992



**OVER** 20,000 **ALT FUEL** SCHOOL BUSES



**OVER** 900 SCHOOL **DISTRICTS** 









Private & Confidential





Blue Bird, the name synonymous with student transportation, has united with Cummins, a global leader in electrified power solutions, to deliver the next step in electric vehicle technology to your school district.

Make the most of your electric school bus grant dollars by moving forward with the team you know. We'll make the shift as straightforward as possible.

#### The road ahead is the dream ahead

Introducing the all-electric school bus fleet from Blue Bird, powered by Cummins. With zero emissions and substantially lower maintenance costs, this fleet is built to transport dreams.





#### **Blue Bird Electric School Bus**









**Ryan Lisek**Project Manager
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Director of Facilities and
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Christopher Rustman
President
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**Hinton Harrison**Mechanical Engineer
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#### Thank You!





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