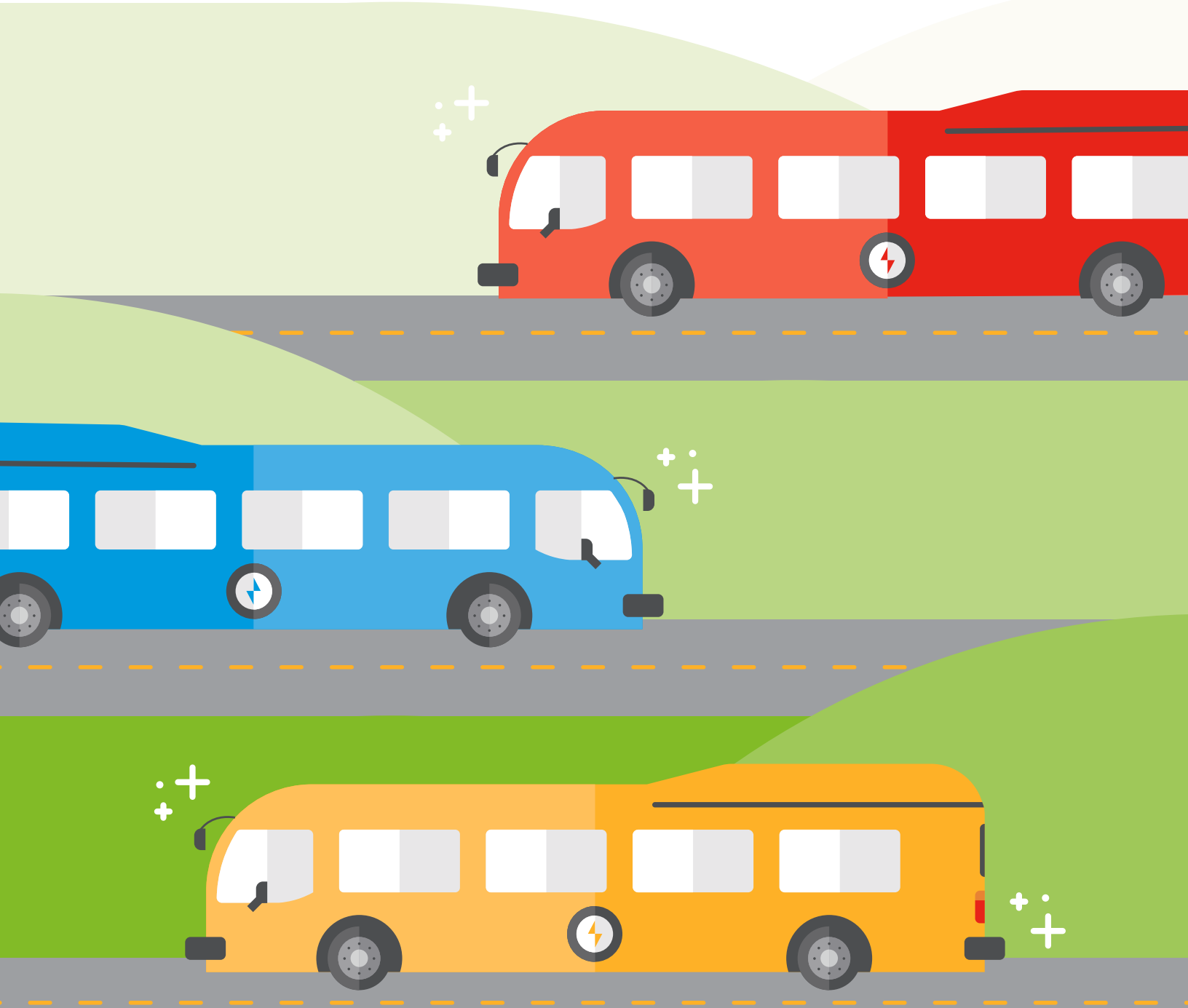


NEW ELECTRIC BUSES LOWER OPERATING COSTS BY 75 PERCENT

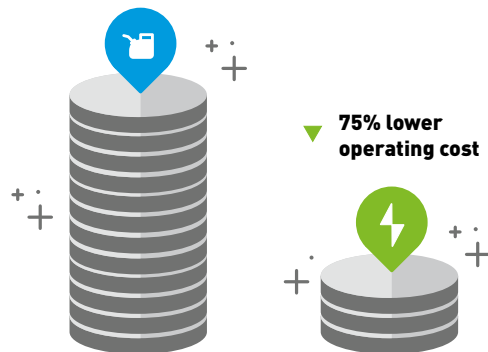
in Shreveport, Louisiana



By: Dinero Washington, CEO, Shreveport Area Transit System (SporTran)



On Nov. 11, 2017, five battery-electric buses almost silently hit the streets of Shreveport, La., the third-largest city in the state, joining a fleet of nearly 50 older diesel-powered buses and compressed natural gas (CNG) buses serving a population of 200,000. As CEO of the city's public transit system, it was a big day for me and my team. Our mission was to seek innovative, fuel- and cost-efficient solutions for public transportation. Would an investment in electric buses make a difference?



We had evaluated the first electric buses years before. But at the time, each had a per-charge range that was limited to about 80 miles — less than half the miles our diesel and CNG buses cover daily. However, with advances in battery and charging technologies, battery-electric buses now average at least **200 miles per charge** (with new models in development that extend ranges even farther) — more than enough to make electric buses a viable option worth pursuing.

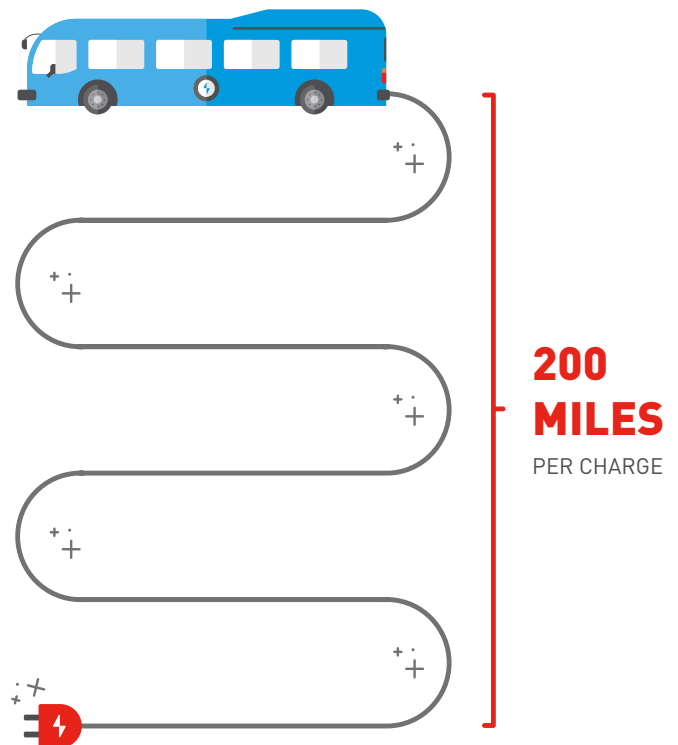
Over their first 18 months of operation, we've seen our new Protera Catalyst E2 Series electric buses deliver total fuel and operating costs **75 percent lower** than our diesel and CNG buses. Electric motors have far fewer moving parts to maintain, repair and replace than internal combustion engines. SporTran estimates that we will save more than \$2.2 million on fuel and maintenance over the lifetime of the five vehicles. And because they're built with lightweight, carbon-reinforced composite bodies, we can expect a longer working life.

The federal grant enabled SporTran to purchase the five Protera buses, plus six depot chargers, enabling overnight recharging of the buses.



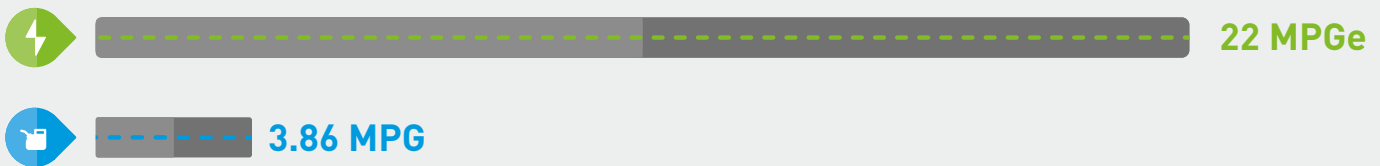
So my answer as to whether an investment in electric buses would make a difference is an emphatic **"Yes!"**

Each of SporTran's diesel and CNG buses costs us about \$40,000 per year in fuel and maintenance. That's a big hit on our fares and city funds, limiting the routes and services we can provide. And frankly, diesel buses are noisy, smelly and polluting. But we had no alternative. That is, until 2016, when we applied for and won a \$3.9 million federal grant to add electric buses to Shreveport's fleet.



Adding electric buses to the fleet and chargers to the depot required expert advice, and Southwest Electric Power Company (SWEPCO), an AEP company, became a vital partner to the city's transit system. SWEPCO provided teams to measure electric lines, assess the depot, find the best locations for the chargers — and most importantly — advised us of the optimal times to recharge the buses overnight to reduce our electric demand.

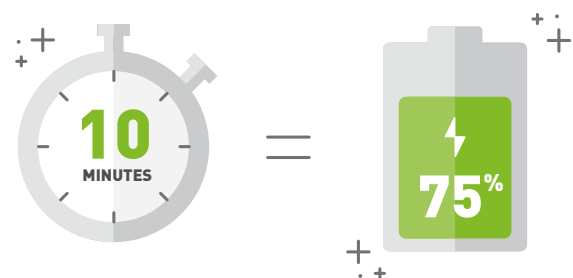
After the five buses picked up their first passengers, we saw immediate savings. Our diesel and CNG buses average 3.86 miles per gallon — nearly a dollar a mile. Our new **Protera electric buses get 22 MPGe (miles per gallon equivalent).**



The bottom line? The amount to charge each of our electric buses costs less than \$10,000 per year, which is 75 percent less than the cost of fueling and maintaining a diesel or CNG bus. Our first five buses alone are saving the city \$150,000 annually; that's money we can reinvest into a more sustainable transit system.

And the benefits go beyond cost savings. The emissions-free electric buses contribute to cleaner, healthier air. Their whisper-quiet operation is more comfortable for riders and quieter for the neighborhoods on their routes. In fact, one driver noted, "They drive ... and sound like a golf cart." In the beginning, there was one minor complaint: while riders could hear diesel and CNG buses approaching from blocks away, they could barely hear the electric buses arriving.

get a **75 percent recharge in just under 10 minutes.** We'll continue partnering with SWEPCO to plan for the expansion of our electric fleet, with the ultimate goal of replacing our diesel and CNG fleet with 50 percent lower-emission liquefied natural gas (e.g., propane) powered buses and 50 percent electric.



Shreveport and SporTran are committed to providing a more pleasant, convenient and reliable bus service for our city — with lower costs and a cleaner, healthier environment. Our first five electric buses are leading the way.



Electric buses bring immense benefits, so they've cheerfully adjusted.

With the success and savings of the electric buses, SporTran continues to aspire to build a cleaner, healthier fleet. Last year, with help from SWEPCO, we were awarded a state grant to buy two additional, higher-power (660 kW) buses next year, as well as an innovative overhead fast charger that will allow buses to pull up, lock into place, and