

GOING ELECTRIC

Los Alamos County / Atomic City Transit
Electric Powered Bus Project
Presentation to Transportation Board
October 4, 2018

Time Line

- June 12, 2018 - County Council approval to apply for Federal Transit Administration (FTA) No-Low Emissions grant.
- August 24, 2018 – FTA announces grant award \$84.5 million to fifty-two projects in forty-one states with New Mexico being one of the states.
- August 28, 2018 – Press release – Udall, Heinrich, Lujan support of grant award for 1.48 million dollars for electric powered bus and charging station procurement
- March, 2019 - receive grant contract from NMDOT and proceed with procurement

Press Release

U.S. REPRESENTATIVE BEN RAY LUJÁN

FOR IMMEDIATE RELEASE: August 24, 2018

Udall, Heinrich, Luján Announce \$1.48 Million For Los Alamos Electric Buses

WASHINGTON, D.C. - Today U.S. Senators Tom Udall and Martin Heinrich and U.S. Representative Ben Ray Luján announced that the Department of Transportation has awarded Los Alamos Atomic City Transit \$1.48 million through the Low or No Emission Grant Program to purchase new zero-emission battery electric buses to replace the City's existing diesel fleet.

Atomic City Transit offers transit service in both Los Alamos and White Rock, ADA complementary paratransit, and a shuttle service to Bandelier National Monument during peak visitor season. This project is the first stage of the County of Los Alamos's effort to introduce low or no emissions vehicles. Battery electric buses reduce energy consumption and carbon emissions. It's estimated that over the 12-year life of a typical bus, replacing just one diesel transit bus with a zero-emission battery electric bus can save over 2.4 million pounds of direct emissions.

"The introduction of electric buses into Los Alamos County's public transit system demonstrates New Mexico's growing commitment to clean energy technology," said Udall. "This grant enables Los Alamos to begin the transition to energy-efficient electric buses. These buses are cheaper to maintain and produce zero tailpipe emissions, proving that these technologies can reduce costs as well as our carbon footprint. Most importantly, this investment helps the county better serve its ridership – the people of Los Alamos and White Rock will enjoy a safer environment and cleaner, quieter public transit. As a senior member of the Appropriations Committee, I'll keep fighting to unleash federal investment in our communities to protect our environment and advance our clean energy economy."

"Once again, Los Alamos is leading the way, this time by making the transition to all electric public transit," said Heinrich, a member of the Senate Energy and Natural Resources Committee. "The electrification of the transportation sector, including public transit, will be critical in solving our climate and carbon pollution challenges. I am proud to support this grant for Los Alamos as it helps to accelerate the transition to an emission free transportation sector."

"This grant will support the Atomic City Transit in incorporating new, electric buses into their transit circulation. This will save the city money, reduce emissions, and is an important step forward in bringing the latest technology to Los Alamos's transit system," said Luján. "The cost to fuel electric and fuel-efficient vehicles can be half of a conventional engine. As a member of the Energy and Commerce Committee, I look forward to encouraging the greater adoption of electric vehicles to enable more affordable transportation, a cleaner environment, and to promote greater energy security for the United States."

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Contacts: Whitney Potter (Heinrich) 202.228.1578 / Ned Adriance (Udall) 202.228.6870 / Victoria Oms (Luján) 202.225.6190

Follow Martin Heinrich on Facebook, Twitter, and Instagram:

Congressional Delegates Support FTA Grant Award

- Senator Tom Udall
- Senator Martin Heinrich
- Representative Steve Pearce
- Representative Ben Ray Lujan
- Representative Michelle Lujan Grisham

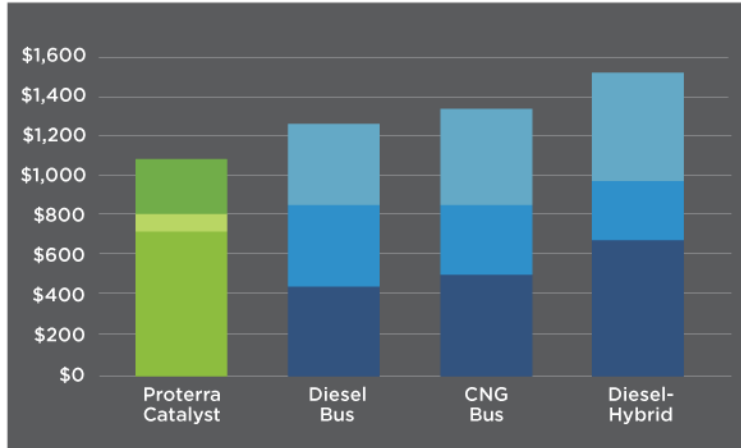
Attachment A



Why Electric Buses?

PROTERRA 35-FOOT CATALYST® VEHICLE LIFETIME OPERATIONAL SAVINGS

\$462K vs. Diesel • \$467K vs. CNG • \$479K vs. Hybrid






Est. over 12 year lifetime / \$ in thousands

PROTERRA CATALYST ELECTRIC VEHICLES ACHIEVE UP TO 29 MPGe

Proterra's focus on advancing electric vehicle technology to deliver the world's best performing transit vehicles has led to the development of a number of impressive features. Chief among these is a drivetrain and propulsion system that enable fuel economies of up to 29 MPGe*. This results in a substantial improvement over conventional combustion engines. Combined with the inherently lower volatility of electricity prices over the life of the bus vs. CNG and diesel fuels, Proterra vehicles offer best-in-class efficiency, reduced operating costs and refined budgeting accuracy.

*Operating efficiency will vary with route conditions, vehicle configuration and driver behavior.

HYBRID	DIESEL	CNG
5.0 MPG	3.9 MPG	3.2 MPG
		
59¢ PER MILE	76¢ PER MILE	67¢ PER MILE

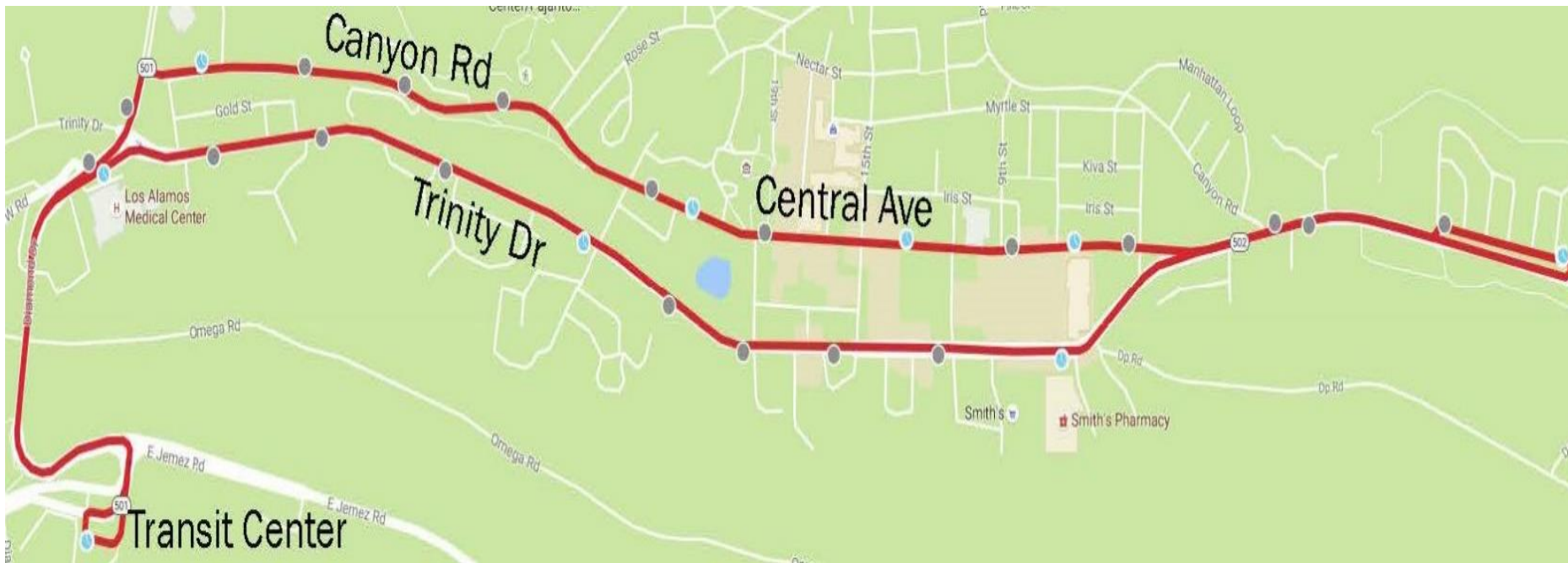
PROTERRA

29.5 MPGe



19¢ PER MILE

Route 1 – Downtown Circulator



Route 1 – Downtown Circulator

- Operates 180 revenue miles per day
- 30-minute service provided from 6:35 am until 6:56 pm
- 15-minute (peak service) provided from 11:00 am to 12:58 pm

ROUTE SIMULATION RESULTS – Route 1

Route Information	35' Catalyst E2
Route Name	1
Distance	6.1
Duration	21 Mins.
Average Speed	17.43
Average Day Results	
Passenger Count	40
Ambient Temperature	60
Efficiency	1.861 kWh/mi
MPGe	20.22
Achievable Range	189.1 mi
Environmental and Operating Impact	
Hot Day	
Passenger Count	40
Ambient Temperature	79
Efficiency	1.862 kWh/mi
MPGe	20.21
Achievable Range	189.0 mi
Cold Day	
Passenger Count	40
Ambient Temperature	37
Efficiency	2.530 kWh/mi
MPGe	14.88
Achievable Range	139.2 mi

Attachment A

Route 1 – Downtown Circulator

- Route most visible by visitors and residents of Los Alamos and White Rock
- Ability to advertise the “hidden gems” of the County
 - Examples:
 - Gateway to three National Parks
 - Fuller Lodge
 - Hiking and Biking Trails
 - Pajarito Mountain
- Ability to implement Council goal of renewable and sustainable energy

What Can the Buses Look Like?



[illegible]

Electric Bus Charging Stations



Additional Charging Stations



Questions?

