



The Piedmont Triad International Airport's 2013, 12 passenger, V-6 diesel powered, ultra-low emission Freightliner Sprinter shuttle.

## Site Overview

Located near the center of North Carolina, the Piedmont Triad International Airport (PTI) is positioned at the hub of the Piedmont Triad region between the cities of Greensboro, Winston-Salem and High Point. The current passenger terminal facility began operations on October 9, 1982. The airfield owns and operates three runways, and almost 900,000 passengers pass through the airport terminal annually.

## The Fleet

PTI has a fleet of five airport shuttles to accommodate its travelers between the parking areas, nearby hotel and terminal building, and at least two are on 24-hour shifts. Currently, there are two Sprinter airport shuttle bus models, a 2006 Ford shuttle, a 2008 Chevy shuttle and a 1997 Thomas Built bus.

## Implementation

In 2012, PTI was awarded a Diesel Emission Reduction Grant (DERG) that went toward the purchase of their newest Sprinter – a ultra-low sulfur diesel fueled 2013 Freightliner with a V-6, 3.0 Liter BlueTec® SCR engine. The new shuttle replaced a 2005 Ford e450 shuttle that had its V-8, 6.0 Liter diesel engine scrapped. The Sprinter has led to the following improvements and benefits:

- Between July 2013 and May 2014, the entire shuttle fleet used 1,347.20 fewer gallons of fuel than during the same time period of the previous year while running the same route and using the same number of shuttles. This represented a 10 percent overall fleet savings in fuel.
- The fuel economy improved from 1.20 gallons per hour in the old shuttle to 0.73 gallons per hour in the new one.
- Fleet operational and maintenance costs decreased during the 2014 fiscal year, spending \$1,223.88 less on oil and lubrication work.
- Nitrogen oxides (NO<sub>x</sub>), fine particulate matter (PM<sub>2.5</sub>) and carbon monoxide (CO) emissions have decreased.
- Drivers say that the Sprinter model is quieter and lighter than other shuttles, making it easier to drive and creating a less stressful experience.
- Customers have commented on the Sprinter's quieter ride and lack of foul exhaust odor.
- The Greensboro Economic Development Alliance has requested PTI's Sprinter shuttles for high profile clients who look at sites for future development.

## Adjustments and Conclusion

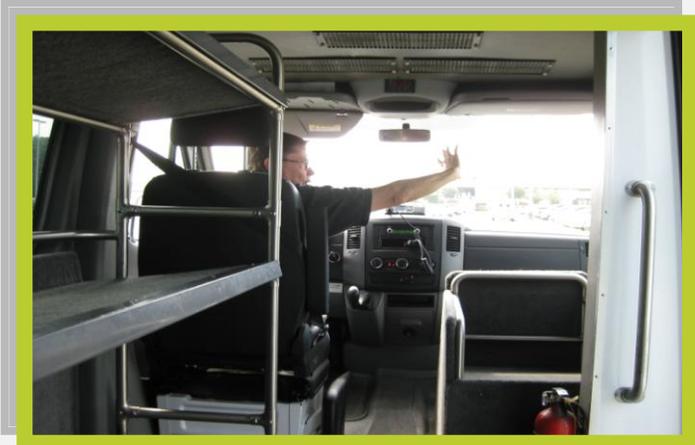
The Piedmont Triad International Airport did not encounter any major problems related to the grant process. However, there was an approximate six month delay in receiving the Sprinter due to a relocation of the final assembly plant from Jamestown, NC, to High Point, NC. Despite that small setback, PTI would still highly recommend this type of project to similar companies and organizations. PTI’s ultimate goal is to have a fleet of only Sprinter shuttle buses by annually replacing a less efficient shuttle with a Sprinter model as their budget allows. Obtaining the Diesel Emission Reduction Grant allowed them to replace the shuttle when they may have had to put off the purchase otherwise.



Tom Dunlap, PTI’s Parking Manager (shown above and below), gives a grounds tour and demonstrates the features and drivability of the Sprinter.

“The funds provided by the Diesel Emission Reduction Grant assisted us with purchasing the Sprinter shuttle bus that has benefited our operation through costs savings, improved driver safety and customer comfort and satisfaction.”

- Tom Dunlap, Parking Manager



### Emission Reductions

Nitrogen Oxides (tons/yr)	Fine Particulate Matter (tons/yr)	Carbon Monoxide (tons/yr)
0.2245	0.0158	0.0671