

Strategic Lean Project Report



Department of Corrections Transportation Fleet Improvement

Agency: Department of Corrections

Project Impact

The Department of Corrections improved its transportation vehicle purchasing, resulting in \$2.5 million dollars cost avoidance in long-term vehicle replacement expense as well as achieving several other efficiency, environmental and safety benefits.

The Department of Corrections is supplementing its fleet with smaller and more fuel efficient vehicles. The change helps reduce congestion on busy roadways, benefitting Washington drivers, and all Washingtonians benefit from the cleaner air produced by reduced fuel emissions. Additionally, the smaller vehicles have enhanced security features for both staff and public safety. Finally, the department has a statutory financial obligation for prudent management of resources and the avoidance of inefficient public expenditures, and the transportation fleet improvements outlined assist in accomplishing said obligation.

Project Summary

Corrections maintains a fleet of eight 40-passenger busses used for transporting incarcerated individuals within the state. The department is budgeted to replace one bus every two years, which means each bus is replaced every 16 years. Because of the age of the vehicles, a significant amount of maintenance is required. In addition to the cost of the maintenance, downtime and work disruptions occur as vehicles must be sent to the manufacturer in California or Illinois for any major repair. Also, the 40-passenger busses were routinely being used on routes to transport groups as low as 8-10 incarcerated individuals.

In fiscal year 2015-17, rather than simply purchasing a new 40-passenger bus as scheduled, Transportation Unit staff assessed the needs of the department and researched available vehicle options. With the funds already allotted for one 40-passenger bus, the Transportation Unit:

1. Commissioned and purchased a new style of 30-passenger vehicle

- The vehicle has a custom-designed passenger module specifically targeted to meet correctional needs. When the chassis wears out, the module can be detached and remounted to a new chassis, which can be purchased for a fraction of the cost of an entirely new bus.
- The vehicle is biofuel (B-20) compatible and clean air certified. It averages 9.8 miles per gallon (mpg) compared to the 5.5 mpg of the existing bus.
- Since the vehicle was purchased from a local vendor, it no longer has to be sent out of state for maintenance and repair and can be in the shop on the same-day.
- The module is designed for improved safety with more separate compartments and a state of the art surveillance system, which allows transportation staff to monitor passengers from the cab of the vehicle, enhancing safety by reducing the risk of staff assault.
- Staff have a work station with network-connected computer in the vehicle to complete necessary paperwork, monitoring, and communications.
- Supplementing the vehicle into the existing fleet extends the life of the existing 40-passenger busses by reducing the mileage accrued on them.

2. Commissioned and purchased a new style of 13-passenger vehicle

- The vehicle has the same chassis replacement plan, fuel reduction, safety, and speed of repair benefits listed above for the 30-passenger vehicle.
- In addition, the smaller vehicle reduces the inefficiency of running a 40-passenger bus on routes transporting only small groups of incarcerated individuals.
- The vehicle can be staffed by two correctional officers as opposed to the three required for larger vehicles.
- Due to smaller size it can be driven without a commercial driver license, giving the department more flexibility in staff assignments.

3. Completely refurbished one of the existing 40-passenger busses and replaced the major components of another

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- Doing so added another 400,000 miles to the life of each vehicle, meaning the department will not have to replace either for approximately seven years instead of two to three years from now as expected.

Project Results

In short, the department supplemented its fleet with more diverse vehicles that

- better serve its needs,
- reduce fuel and maintenance costs,
- reduce long-term vehicle replacement costs,
- extend the life of existing vehicles,
- reduce days out of service for maintenance,
- enhance the safety of staff,
- support Washington companies, and
- comply with clean air standards.



Quality

Increased miles per gallon **from** 5.5 mpg when driving the 40-passenger bus **to** 10.6 mpg when using the 13-passenger van.



Fuel cost avoidance estimated at 2,235 gallons (or \$5,925) per year



Quality

Increased miles per gallon **from** 5.5 mpg when driving the 40-passenger bus **to** 9.8 mpg when using the 30-passenger vehicle.



Fuel cost avoidance estimated at 1,725 gallons (or \$4,570) per year



Quality

Decreased correctional staff needed on two routes per week **from** three **to** two.



An estimated 1,040 hours of staff time reallocated and \$7,900 of overtime costs avoided per year



Cost

Decreased cost of vehicle replacement **from** \$650,000 for a new 40-passenger bus **to** \$120,000 for a new chassis for the 30-passenger vehicle.



Considering the initial cost and 4 replacements, \$2,417,000 in costs are avoided over the life of the vehicle



Cost

Decreased cost of vehicle replacement **from** \$60,000 for a new traditional 13-passenger van **to** \$19,000 for a new chassis.



Considering the initial cost and 4 replacements, \$128,000 in costs are avoided over the life of the vehicle

Project Details

Date improvement project was initiated: 1/1/2017

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Report reviewed and approved by: Deputy Secretary Jody Becker-Green