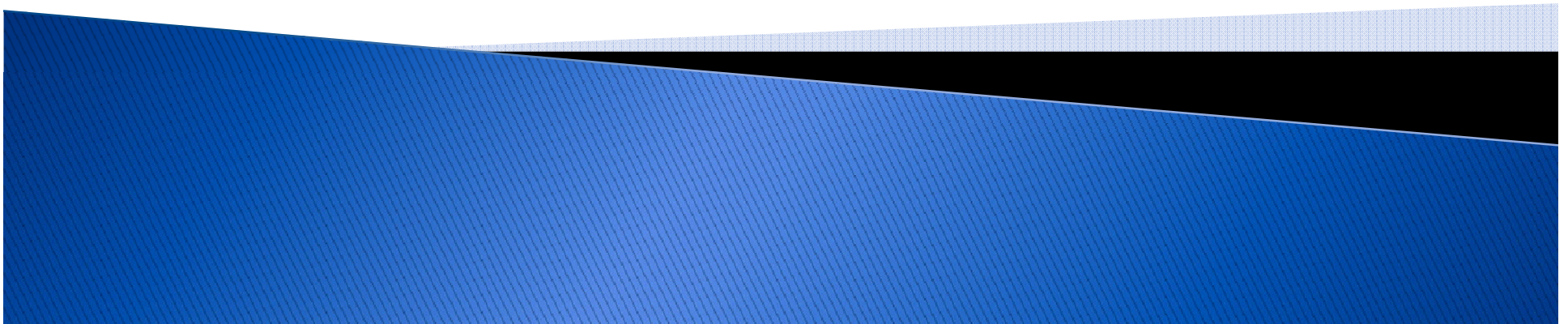


Volusia County EVAC Services

Vehicle Plug-In
Cost and Energy Reduction Study



Volusia County EMS – EVAC

- ▶ FDOH Licensed Primary Provider of Advanced Life Support (ALS) level Emergency Medical and Transportation Services for Volusia County
- ▶ Provides 24/7 ambulance coverage, flexing staffing patterns to match demand
 - \approx 23 “peak time” units (day), 13 low (night)
- ▶ 2014 Volume Impact (estimated)
 - +80,000 Incidents
 - +50,000 Transports
 - Typical linear increase in calls for service
 - Vast, diverse county and population

High Performance EMS Model



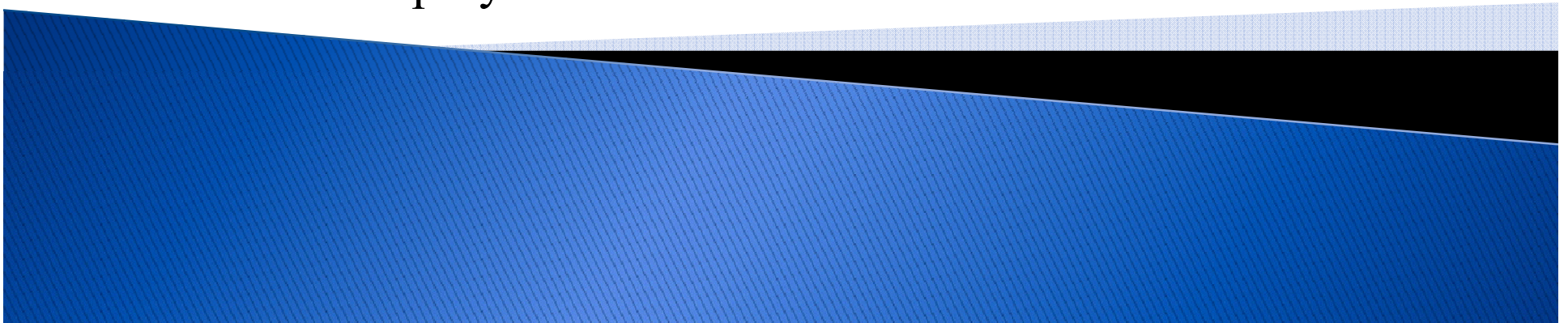
High Performance EMS ?

Traditional Deployment

- Station Based, Geographic coverage

High Performance – Dynamic Deployment

- Uses Historical Statistical Modeling
- Predicts emergency ‘peak loads’ and location probabilities
- Establish posting priorities (ie, Level 1)
- Stage assets to meet predicted demand “street corner deployment”



Impact

- Rewards

- Provides maximum efficiency
- High response time confidence

- Challenges

- Hard on Staff
 - On post, in truck 12 hours/shift
 - Limited respite opportunities
- Hard on vehicles, equipment, supplies
 - Interior environmental control essential
 - Trucks run 12+ hours
 - Posting, moving, responding
- Academics versus Relevance



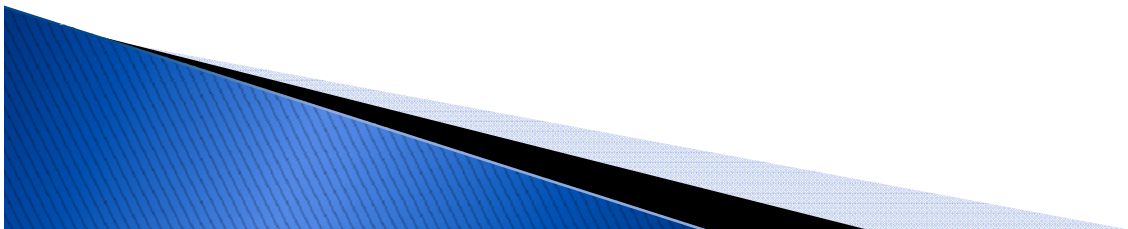
Opportunity

- ▶ Ambulances – Utilitarian, well constructed, thoughtful design
- ▶ Optimum patient/crew comfort
- ▶ Satisfies several essential criteria for CAAS Accreditation
- ▶ Independent environmental controls
- ▶ Power tethering



In Process

- ▶ Review system demand analysis/Peak Load
- ▶ Restructure posting & deployment strategy
- ▶ Match strategy to potential fixed facilities
- ▶ Add respite opportunities
- ▶ Revise operational policy



Plug In Project

Expanding the current
Ambulance Plug In
Project has three primary
objects:

1. Cost savings by
extending the life cycle
of the county
ambulance fleet
2. Reduce cost through
fuel and maintenance
reductions
3. Reduce GHG emissions



Project Cost Estimates

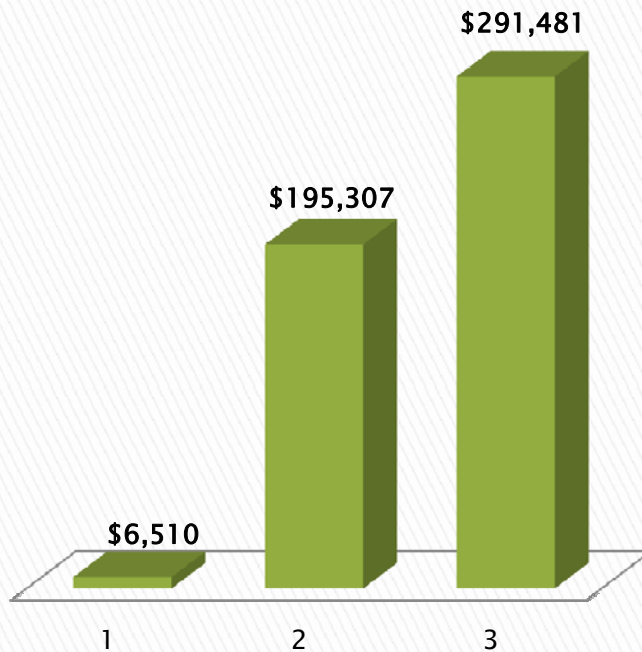
1. 30 Site Locations
2. 50 Site Locations



Project Costs – Total

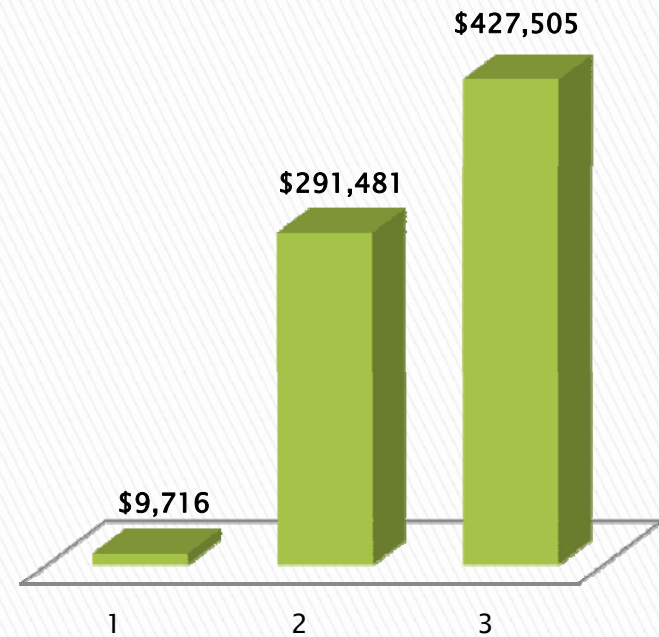
Annual Fuel Cost Savings

1. Annual savings per vehicle
2. Annual savings for 30 vehicles
3. Annual savings for 44 vehicles



50% Idle Reduction

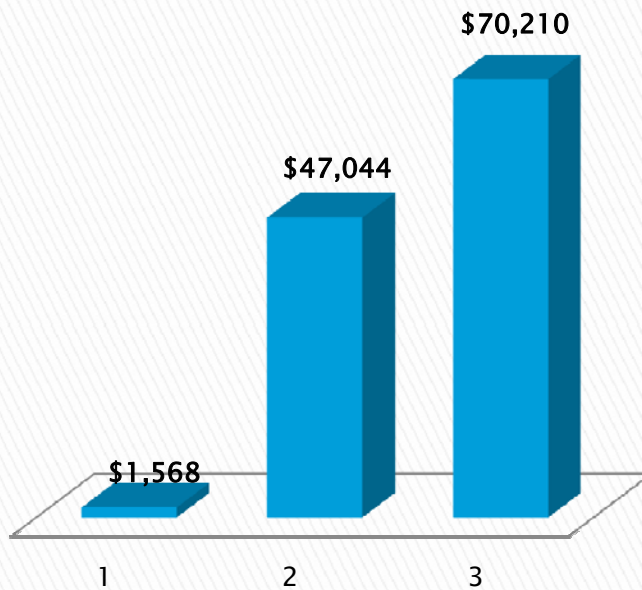
1. Annual savings per vehicle
2. Annual savings for 30 vehicles
3. Annual savings for 44 vehicles



75% Idle Reduction

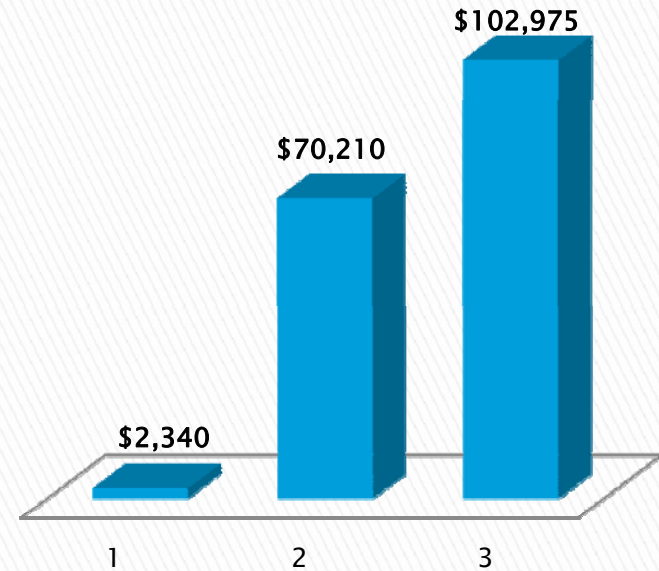
Annual Maintenance Cost Savings

1. Annual savings per vehicle
2. Annual savings for 30 vehicles
3. Annual savings for 44 vehicles



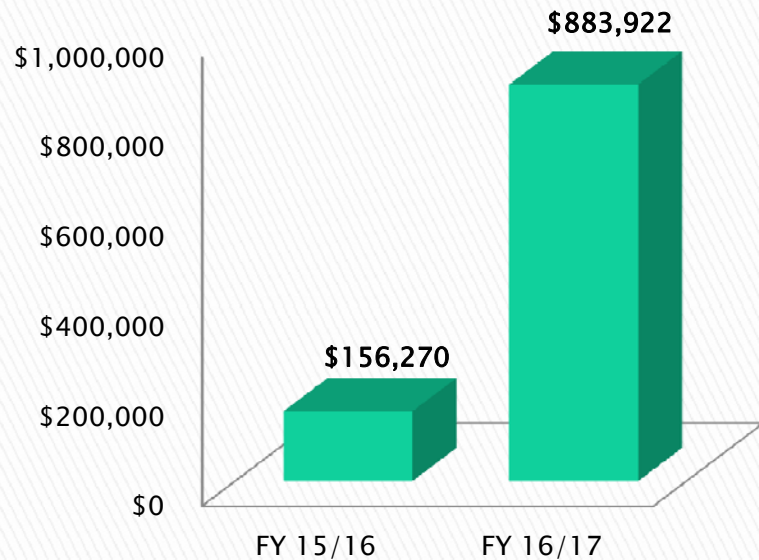
50% Idle Reduction

1. Annual savings per vehicle
2. Annual savings for 30 vehicles
3. Annual savings for 44 vehicles

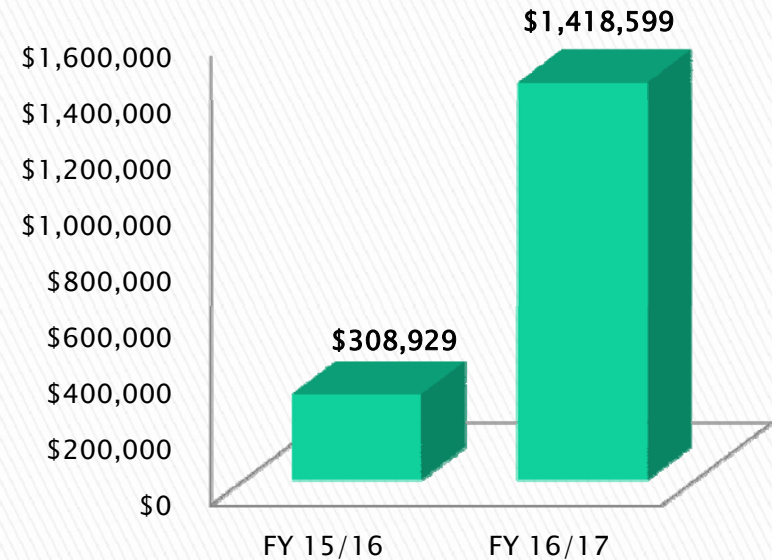


75% Idle Reduction

Vehicle Replacement Savings



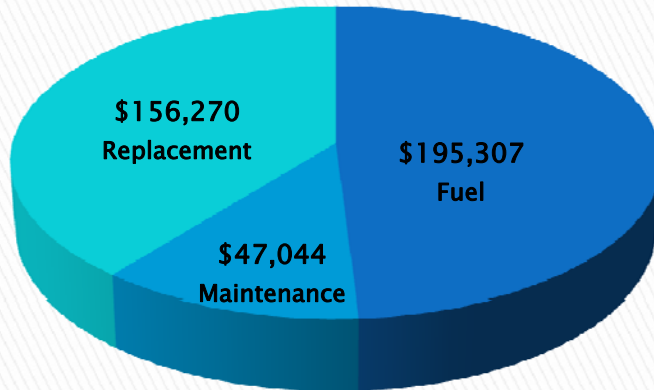
**Extending Replacement
to 6 Yrs**



**Extending Replacement
to 7 yrs**

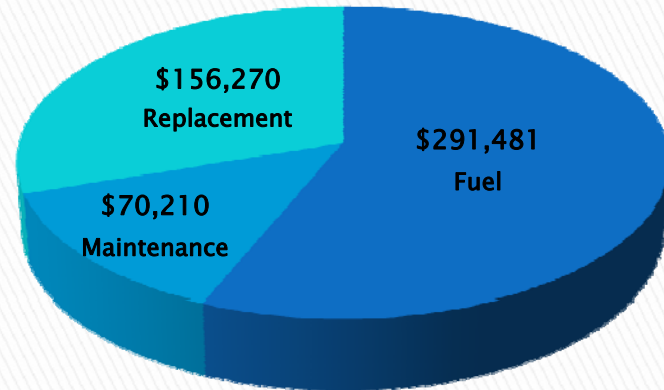
Total Cost Savings at 50% Idle Rate

30 vehicles with a
6 Yr Replacement



Total Annual Savings
\$398,621

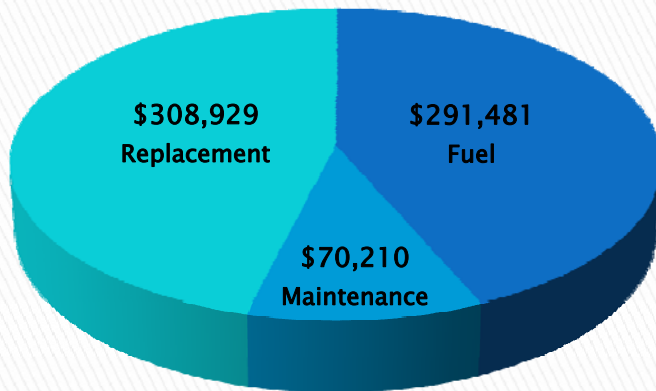
44 vehicles with a
6 Yr Replacement



Total Annual Savings
\$517,961

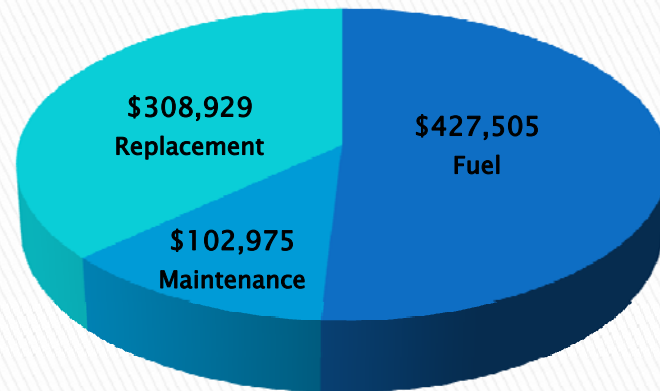
Total Cost Savings at 75% Idle Rate

30 vehicles with a
7 Yr Replacement



Total Annual Savings
\$670,620

44 vehicles with a
7 Yr Replacement



Total Annual Savings
\$839,409







Potential County Locations

Legend

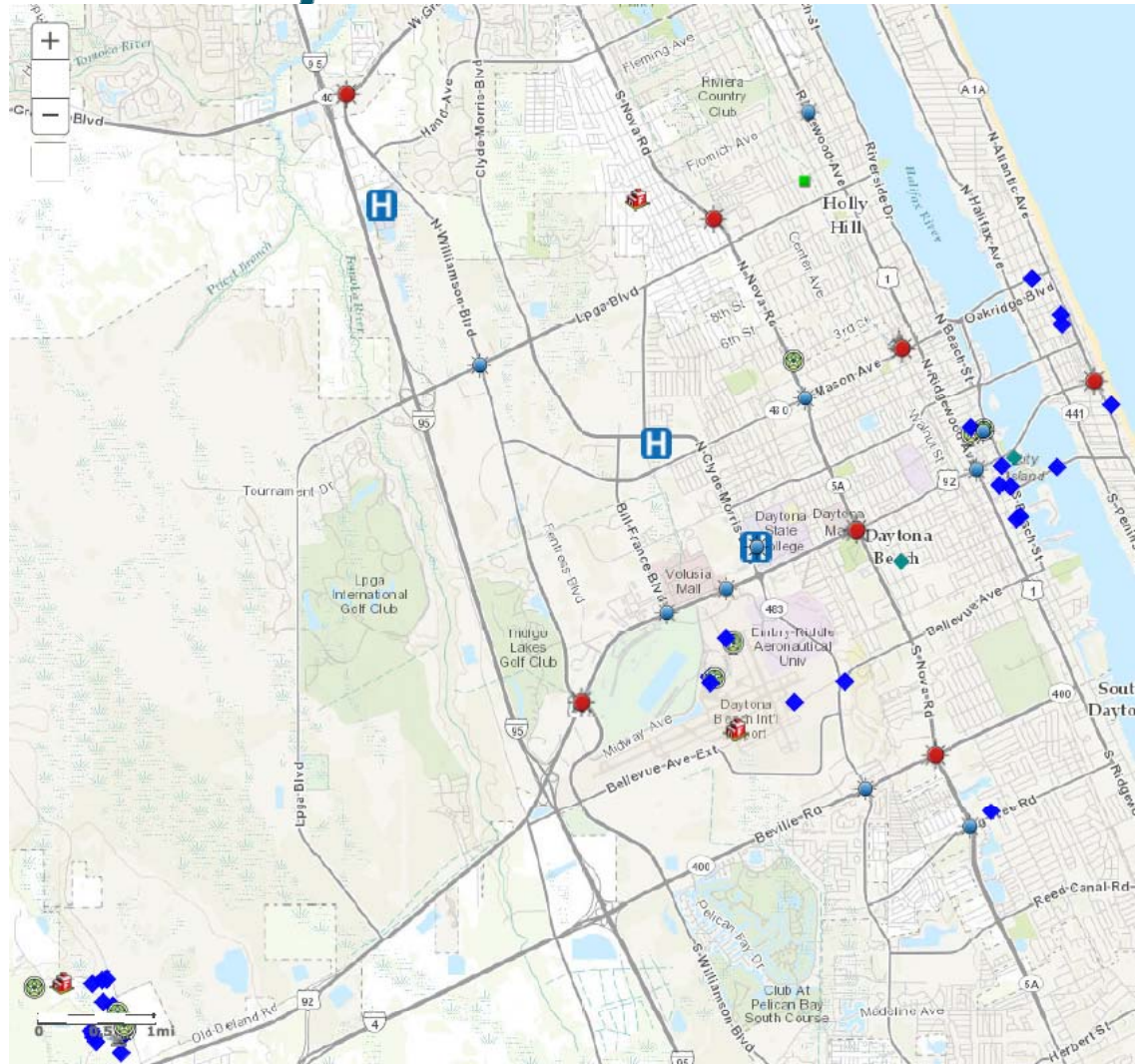
2014 Most Common Posting Location

-  2014 Most Common Posting Location
-  Posting Location

County Facilities

-  County Facility
-  SHERIFF FAC
-  FIRE STATION
-  800 mhz TOW
-  LIBRARY
-  PW BARN

Hospital



Potential Private/Public Partnership Locations

Legend

2014 Most Common Posting Location

- 2014 Most Common Posting Location
- Posting Location

WALGREENS



CVS



PUBLIX



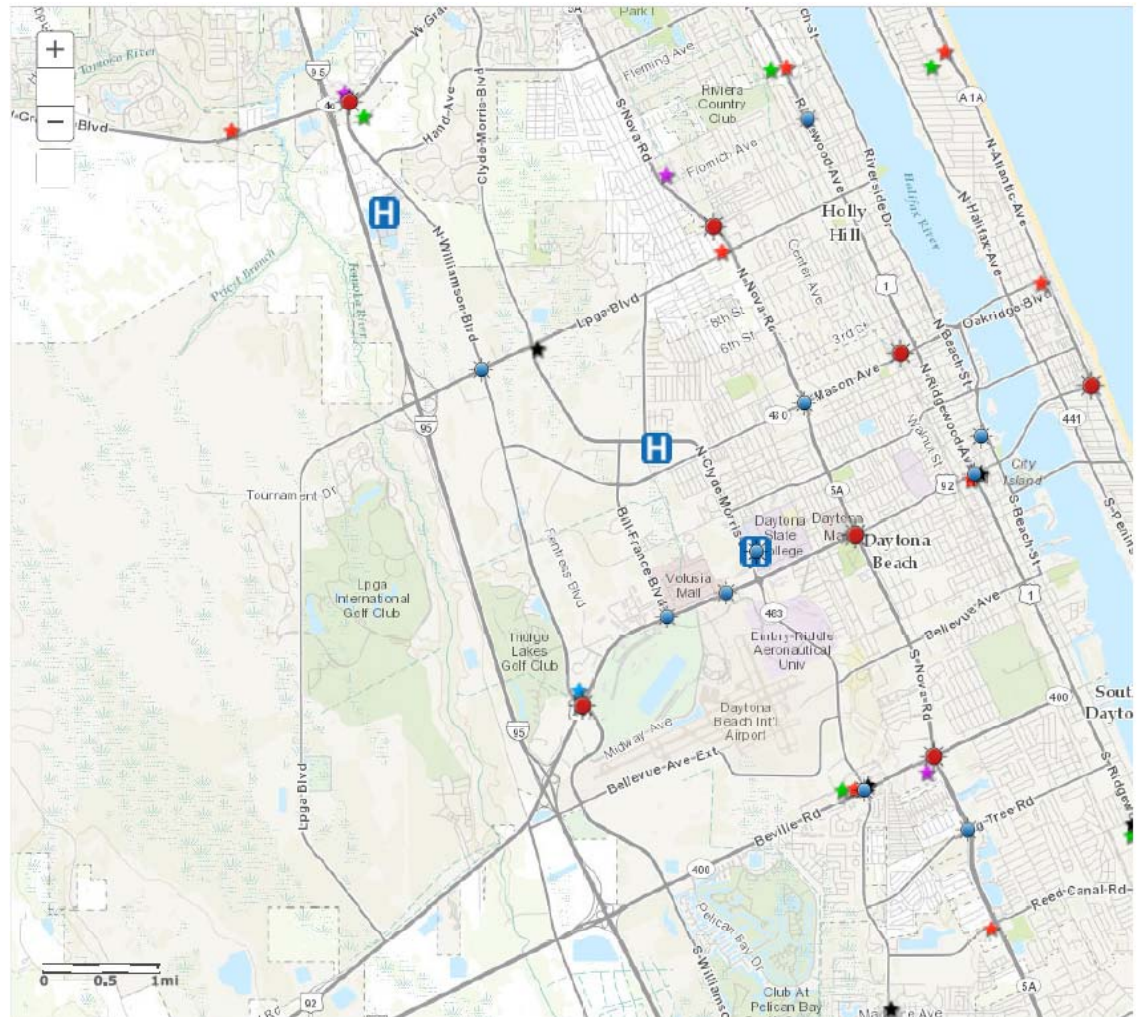
WAL-MART



TARGET

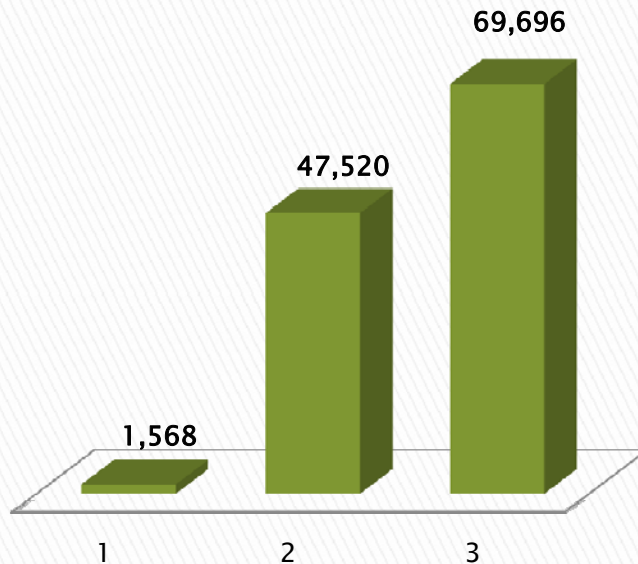


Hospital



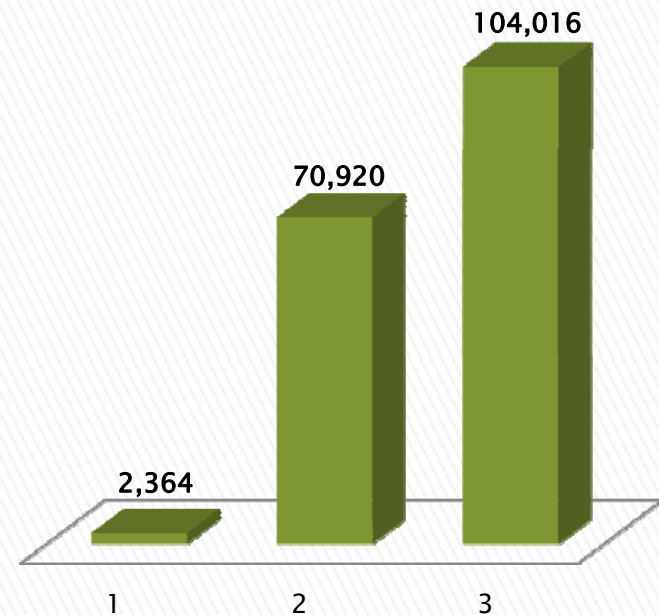
Fuel Savings

1. Annual gallons of fuel savings per vehicle
2. Annual gallons of fuel savings for 30 vehicles
3. Annual gallons of fuel savings for 44 vehicles



**Total Annual Fuel Savings –
50% Idle Reduction**

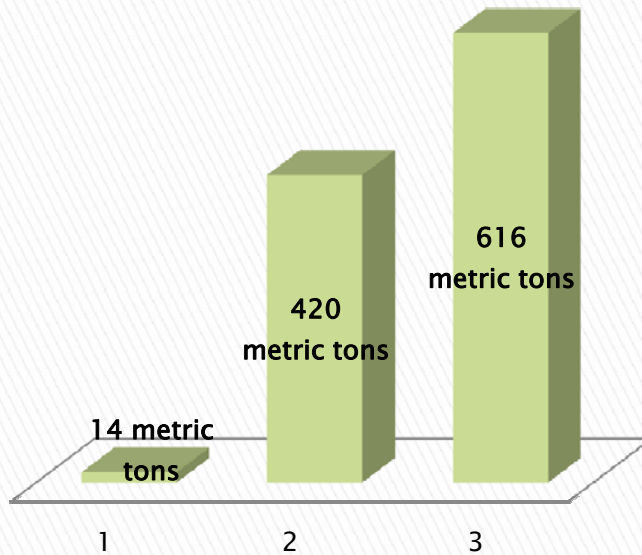
1. Annual gallons of fuel savings per vehicle
2. Annual gallons of fuel savings for 30 vehicles
3. Annual gallons of fuel savings for 44 vehicles



**Total Annual Fuel Savings –
75% Idle Reduction**

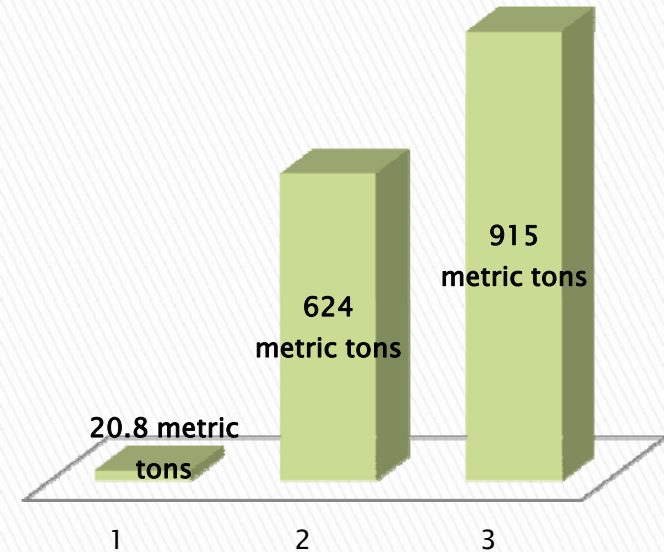
GHG Reductions

1. Annual GHG reductions per vehicle
2. Annual GHG reductions for 30 vehicles
3. Annual GHG reductions for 44 vehicles



**Total Annual GHG Reductions
– 50% Idle Reduction**

1. Annual GHG reductions per vehicle
2. Annual GHG reductions for 30 vehicles
3. Annual GHG reductions for 44 vehicles



**Total Annual GHG Reductions
– 75% Idle Reduction**