CHAPTER 8: FIRE-RESCUE DEPARTMENT

The Fire-Rescue Department performs a number of functions related to public safety including:

Emergency Management
Activities of this program include preparation for, response to, recovery from and mitigation of any and all conditions, which threaten or adversely affect the public health, safety and/or security of the citizens and visitors of the City of Delray Beach.

Emergency Medical Services
The EMS division is responsible for providing pre-hospital emergency medical care and transportation for ill and injured residents and visitors in the City of Delray Beach. This is accomplished through well-trained Paramedics and EMT's, using state of the art equipment and medical protocols.

Fire Safety
The Fire Safety Program provides proactive, educational and protective services to reduce fire losses and fire related injuries, and other accident prevention awareness programs throughout the community.

Operations
The activities of the Operations Division include: providing advanced or basic life support and transportation for medical emergencies; confining and extinguishing structure, vehicle, brush and trash fires; and special operations such as hazardous materials incident control, underwater search and rescue, confined space rescue, vehicle extrication and technical rescue. The Division also performs inspections of the municipal water supply system and provides public education in CPR, drowning prevention, fire safety and hazardous material training.

CURRENT DELRAY BEACH BEST PRACTICES

The Fire-Rescue Department currently:

- Separates all waste materials at the firehouse to be recycled appropriately.
- Automates all fire reports (i.e. they are paperless) with the exception of medical reports.
- Operates the back-up generators on either propane or natural gas at all stations.
- Coordinates fluorescent light bulbs recycling through an outside contractor.
- Uses absorbent materials at a vehicle crash site to recapture contaminated fuels. The materials are then placed inside the damaged car and properly disposed of at a

proper waste site. Water from the ladder trucks does not wash the surface effluent into the drainage or ground areas.

- Administers map tests to drivers on a regular basis to test their knowledge about the quickest and safest routes to respond to calls within the city limits.
- Optimizes vehicle usage by using vehicles as intended. Specific truck usage is considered on each call.
- Maintains EMS vehicles that transport patients at an acceptable temperature (+/- 70 degrees) when sitting idle at the firehouse. This is done by use of a portable A/C unit. This prohibits cooling down time once the vehicle is in a position to carry a patient, which in turn reduces engine run time. For example, a heart attack patient cannot be transported in an EMS vehicle when the interior temperature is above acceptable levels (i.e. +/- 70 degrees).
- Has adopted and is abiding by the newly mandated idling policies.
- Uses portable on-board generators on larger fire tucks to power certain electrical demands when appropriate, reducing the amount of fuel used by the larger diesel motors.
- Has constructed the new Fire Station #4 with some green building elements, including: recycling of old firehouse construction debris; energy saving devices including lightning and motion sensor switching; air scrubbers in the garage bays that filter carbon monoxide fumes from the truck motors while they are running in the bays.

CURRENT BEST PRACTICES BEYOND DELRAY BEACH

Gainesville, FL

The Gainesville, FL Fire Department uses a small pick-up truck as opposed to normal large fire trucks when conducting semi-annual inspections of fire hydrants. This results in substantial savings of fuel used for such purpose.

Raleigh, NC

The Raleigh, NC Fire Department is using rainwater collected in barrels to wash vehicles at the fire stations around the city. Each location has placed two 250 gallon converted rain barrels positioned behind each station. These barrels collect water from the gutter system. A sump pump is used to provide water pressure for washing the vehicles. It has proven to be very successful. (See Ref 8.1)

Charlottesville, VA

The Charlottesville, VA Fire Department has added hybrid vehicles to its fleet. (See Ref 8.2)

Newton, NC

The City of Newton, NC Fire Department is taking steps to optimize fuel economy of their fleet. A training program has been implemented for all driving personnel. Of all the factors that affect fuel economy, drivers have the most influence. Vehicle operators typically influence the overall fuel economy by as much as 35%. Some of these recommendations are as follows:

- Avoid unnecessary idling.
- Minimize accessory load. (A/C fan etc)
- Keep RPM's low and running in the "sweet spot".
- Optimize shift points.
- Avoid hard braking and fast acceleration.
- Do not carry unnecessary excess weight.
- Practice diligent maintenance.

(See Ref 8.3)

Quick Wins / Low-Cost Green Recommendations

Recommendation 1: Optimize Staff Transportation on Calls

Recommend that all administrative staff ride to emergencies on one of the fire engines, rather then taking an additional vehicle.

Recommendation 2: Restrict Vehicle Usage to Official Use Only

Limit use of vehicles for official use only, eliminating errand trips to restaurants, grocery stores, etc.

Recommendation 3: Encourage Routine Fleet Maintenance

Regular fleet maintenance assures optimal fuel economy.

Recommendation 4: Optimize Fire Hydrant Inspection Procedures

Bi-annual fire hydrant inspections could be accomplished using two individuals sharing a more energy efficient vehicle (e.g. The use of a pick-up truck as opposed to a ladder truck.).

Recommendation 5: Restrict Staff from Driving Vehicles Home Unless On Call

The Task Force encourages limiting administrative staff personal vehicle use by not driving city vehicles home unless they are on call.

Recommendation 6: Educate Staff on Fuel-Efficient Driving Habits

Implement fuel efficient driving standards, educate the staff, and encourage adoption. (See Ref 8.3)

Recommendation 7: Eliminate Disposable Dishware in Fire Stations

Phase out disposable kitchenware in favor of washable / reusable items.

LONGER-TERM / STRATEGIC RECOMMENDATIONS

Recommendation 1: Upgrade Fleet

Replace old fire transportation vehicles with appropriate size, emissions and energy efficient latest technology. Please note the Charlottesville, VA Best Practice noted above.

Recommendation 2: Use Reclaimed Water for Washing Fire Vehicles

Retrofit facilities with rain collection equipment and initiate water reclamation practices for washing fire vehicles. (See Ref 8.1)

Recommendation 3: Install Air Scrubbers at all Fire Houses

Install negative air scrubbers in all firehouse garage bays. Please note as well that the Delray Beach Fire Department requested this.

Recommendation 4: Implement GPS Routing Software

GPS Software can often help save fuel by identifying the shortest route to a destination. (See Ref 8.4)

REFERENCES

Ref 8.1 - Rainwater for Vehicle Washing
Ref 8.2 - Charlottesville Green Fleet
Ref 8.3 - Newton Fire Department Saves Gas
Ref 8.4 - GPS Software

Note: All references are available as clickable links within this electronic document and available online at http://www.SustainableDelray.org/report.htm