

# Town of Waynesville

Propane Program

# Program History and Highlights

- November 27, 2012- Land of Sky's Clean Cities Coalition presented to the Board, encouraging Waynesville to push for alternative clean fuels usage for Town vehicles
- June 17, 2013 Board approved the Assigned Vehicle Program for the Police Department, to include AFV's (propane)
- FY-14 Budget included Propane Filling Station at Public Works and the purchase of 14 Dodge Chargers for the Police Department to implement assigned vehicles

# Program History and Highlights

- October – December 2014 Propane Filling Station Constructed and an initial 18 vehicles converted to propane
  - 14 new Police Chargers plus 4 existing Town vehicles
- To date an additional 13 vehicles and 3 mowers have been converted to propane
- The Town had an initial goal of 85% propane usage in these vehicles
  - So far; we're averaging just over 60% usage among all Town propane vehicles

# Bumps in the Road

- Dodge Chargers are a new platform for Propane AutoGas
- Engine/CPU Overheating issues
- Filter change/Software update
- Staubli Nozzle installation issues
- March 2017 Autogas fleet maintenance performed on all propane vehicles

# Cost to Date

- Alliance provided dispenser & tanks at no cost to Town
- Electrical work to tie into our Fuelmaster System \$8,150.00
- Propane conversions were \$5,600 - \$5,800 (each) depending on vehicle
- To date we have converted 31 vehicles at a cost of \$163,400 (Alliance converted two vehicles at no cost)
- Mower Conversions are \$850 each
- The Town has purchased 68,000 gallons of propane at an average cost of \$1.26 per gallon; Approximately \$85,680



# Cost Comparison

- Fuel station and conversions \$163,400
- Fuel Savings
  - (to date, at \$1.11/gal. diff) \$78,200
  - Sept. 2014 to Aug. 2017 (2.93 years)
- Difference \$85,200
  - Need 3.27 more years of similar savings to break even
    - Approximately \$26,066 per year

# Propane Pros

- Propane has been cheaper (by about \$1.11 per gallon)
  - Over the life of Waynesville's program
- Propane is abundant and American
- Propane is much cleaner:
  - 24% less Greenhouse Gas (GHG) emissions
  - 20% less Nitrogen Oxide (NOx) emissions
  - 60% less Carbon Monoxide (CO) emissions
  - 100,000 fewer lbs. of carbon emissions per year
- Propane is safer than gasoline in a collision

# Propane Cons

- It's more tedious to dispense (specific process)
- Vehicles have to be converted to run propane
- Conversions add to vehicle costs
- Have to have a high usage to break even on conversions
- Has been a learning curve for operators and maintenance staff



# Conclusion

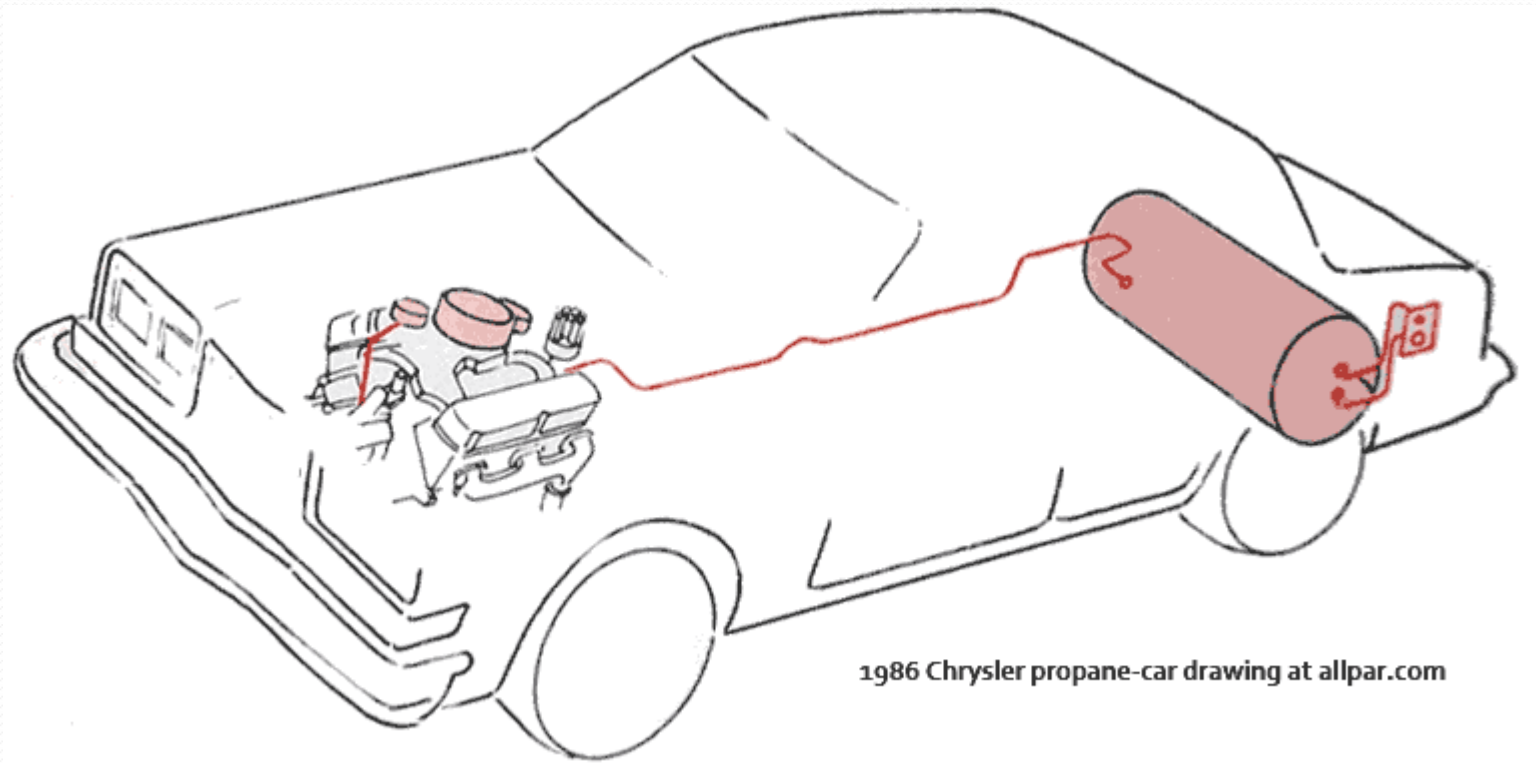
- So far in FY-2017, we averaged 65% propane usage over all vehicles
  - Since we are not reaching our goal of 85% propane usage; we have “missed” a savings of approximately \$14,000 per year.
- At 65% usage; conversion/implementation costs will be recouped by FY-2021 (FY-2019 at 85% usage)
- Environmental Impact (over one year):
  - Our Fleet used 385 less barrels of oil by utilizing AutoGas
  - Reduce CO<sub>2</sub> Emissions by 50 tons
  - Equivalent to planting 1,176 trees that grew over 10 years
- Reducing the Town’s dependency on foreign petroleum products

# Cost Conclusion

- Total spent on propane program **\$163,400**
    - Since FY-2014
  - Projected savings over life of vehicle(s) **\$186,200**
    - Assuming vehicles are kept 7-8 years as proposed (June 17, 2013)
  - Total Savings/Cost Benefit to Town **Net gain of +\$22,800**
    - Maintaining 60% usage
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- If we keep vehicles 10 Years (at current 60%) Net=+**\$102,600**
  - Won't work for patrol vehicles
- If we increase average usage to 80% **Net=+ \$143,600**
  - For life of vehicles (next 3 years)

# Questions



1986 Chrysler propane-car drawing at allpar.com