

# 2014 DOE Vehicle Technologies Program Review

## *Alternative Fueling Diversity in the Energy Capital of the World*

Allison Carr (P.I.) – Houston-Galveston Clean Cities Coordinator

*Houston-Galveston Area Council*

*June 20, 2014*

Project ID:  
TI050



# Overview

## Timeline

- Start date – February 1, 2013
- End date – January 31, 2015
- 15% complete

## Budget

- Total funding
  - DOE share: \$500,000
  - In-kind match share: \$61,000
- Funding Received FY13: \$5,597
- Funding for FY14: \$450,000
- Percentage of Funds Spent: 1%

## Barriers

1. Limited availability and access to alternative refueling / recharging infrastructure
2. Consumer / public awareness and fleet acceptance are limited due to uncertainty and perceived risk
3. Lack of technical experience with new fuels and vehicle technologies

## Partners

- **Project Lead:**  
Houston-Galveston Area Council
- **Collaborators**
  - NAFTC
  - Gas Technologies Institute
- **Community Colleges:**
  - Houston Community College
  - San Jacinto Community College



# Objectives

## ***Policy***

Improve understanding of the refueling infrastructure network & communicate results to decision-makers

## ***Barrier Reduction***

Facilitate enhanced networking & data exchange with tools to support infrastructure deployment

## ***Safety & Training***

Provide on-going, comprehensive alternative fuel training opportunities to regional stakeholders

## ***Market Development / Outreach***

Promote the availability of project initiatives alongside existing funding opportunities

# Relevance – Impact on Barriers

Limited availability and access to alternative refueling / recharging infrastructure

Consumer / public awareness and fleet acceptance are limited due to uncertainty and perceived risk

Lack of technical experience with new fuels and vehicle technologies

## ***Task 2 – Policy Initiatives & Activities***

- Regional refueling infrastructure study
- Decision-maker briefings to communicate outcomes & results of study

## ***Task 3 – Barrier Reduction Activities***

- Create public, interactive GIS-based mapping tool to match demand with supply

## ***Task 4 – Safety & Training Activities***

- Alternative fuels training program for:
  - first-responders
  - fleet professionals
  - permitting / code officials

## ***Task 5 – Market Development / Outreach Activities***

- Promote and support launch of mapping tool and training programs
- Create marketing campaign to promote alternative fuel transitions & opportunities

# Milestones - FY13

Task	Milestone	Month/Year
# 1	Kick Off Meeting with DOE	Feb 2013
# 1	Finalize subagreements with project partners	July 2013
# 3	Identify data needs and collect information for GIS mapping tool & coordinate with H-GAC technical staff	Aug 2013
# 2	Gather data for regional refueling infrastructure study and outline study structure	Oct 2013
# 4	Kick Off Meeting with Alternative Fuels Training Curriculum Stakeholder Group (AFTCSG) including community college partners	Nov 2013
# 4	Schedule NAFTC train-the-trainer courses at community colleges	Apr 2014

# Milestones - FY14

Task	Milestone	Month/Year
# 2	H-GAC releases GIS mapping tool for testing	July 2014
# 3	H-GAC staff complete & draft of refueling infrastructure study	Aug 2014
# 4	Community college instructors complete train-the-trainer training with NAFTC	Aug 2014
# 3	Refueling infrastructure study presented at public meetings and committee meetings for local officials – feedback accepted	Sept 2014
# 4	Community college instructors finalize course materials / syllabi	Oct 2014
# 3	Finalize & publish refueling infrastructure study	Nov 2014
# 2	Launch final mapping tool and transition to “maintenance mode”	Nov 2014
# 5	H-GAC launches alternative fuel transitions marketing campaign	Nov 2014
# 4	Community college partners begin holding training courses for students	Jan 2015

# Project Approach

## *Four Tasks to Reduce Barriers to Alternative Fuel Vehicle Adoption*

- 1) *Policy:*** Inventory the regional refueling infrastructure, assess its strengths / weaknesses, and incorporate this analysis into planning documents to guide future activities.
- 2) *Barrier Reduction:*** Create and maintain an alternative fuel mapping tool that interactively helps to spatially match future supply with current demand, and facilitates networking between potential fleet/vendor partners.
- 3) *Safety and Training:*** Create and sustain a training program within the regional network of community colleges to provide alternative fuel education focusing on three key areas: (a) first responders, (b) fleet managers, and (c) permitting & code officials.
- 4) *Market Development / Outreach:*** Support the launch of project activities with specific marketing / outreach and create communications to highlight Houston as having the “recipe” of ingredients necessary for alternative fuel success.

# Project Approach

## *Unique Challenges in Houston*

- 4<sup>th</sup> largest metro area in US and “Energy Capitol of the World”
- Classified as “severe” ozone non-attainment area under 1997 standard and “marginal” under the 2008 standard.
- Active regional ports, regional goods movement, and large geographic area result in high VMT and congestion

## *Addressing alt fuel vehicle and infrastructure deployment barriers through:*

- Connecting fleets and refueling infrastructure developers
- Providing resources for professional education
- Creating and communicating a cohesive message for local residents, decision-makers, and regional stakeholders

# Project Accomplishments

**FY13**

- ***Task 1 – Project Management***
  - Execute subagreements with project partners, including Houston Community College and San Jacinto Community College
- ***Task 2 – Policy***
  - Outline regional refueling infrastructure study document
  - Gather data and initiate conversation on challenges and opportunities for infrastructure
- ***Task 3 – Barrier Reduction***
  - Gather data and begin mapping existing infrastructure (stations, pipelines, etc)
- ***Task 4 – Safety & Training***
  - Identify instructors for training and schedule NAFTC train-the-trainer courses for June & July 2014

# Collaboration & Coordination

## *Project Partners*

- *Community Colleges:*
  - San Jacinto Community College
  - Houston Community College
- *Curriculum Development & Training:*
  - National Alternative Fuel Training Center (NAFTC)
  - Gas Technologies Institute (GTI)
- *Additional Support & feedback requested from –*
  - Local fleets and refueling infrastructure developers
  - Local organizations including the Greater Houston NGV Alliance, University of Houston, EDF

# Project Progress & Future Work

## *FY14/15 Next Steps*

- ***Task 2 – Policy***
  - Complete analysis and public draft (August)
  - Conduct public workshops and present findings to committees (Sept)
- ***Task 3 – Barrier Reduction***
  - Launch & seek feedback from public and stakeholders (July – Sept)
- ***Task 4 – Safety & Training***
  - Host NAFTC train-the-trainer courses in (June & July)
  - Complete development and host code official train-the-trainer (by Aug)
- ***Task 5 – Market Development & Outreach***
  - Launch mapping tool to public (July)
  - Advertise and promote training courses in (Sept)

# Alt Fuel Market Expansion

## ***Challenges & Barriers***

- Managing coordinated timeline of multiple tasks
- Ensuring that project creates added value rather than duplicating efforts

## ***Current Impact***

- Connecting with experts in Houston to gather feedback and insight into current state of market for alternative fuel vehicles in Houston
- Professional development and peer education for community college staff and instructors

## ***Opportunities to Expand & Collaborate***

- Potential to communicate and coordinate with state agencies that offer incentives for alternative fuel vehicles and fleet expansion
- Nearly exponential growth in CNG infrastructure availability may be an indicator of increasing investment & interest in alt fuel transportation

# Summary

## ***Relevance –***

- ***Improving access to alt fuel infrastructure, increasing awareness, and providing technical resources to local stakeholders***

## ***Approach***

- Alternative Fuel Infrastructure Study – creating necessary informational resource
- GIS-based mapping tool – connecting public & fleets with infrastructure
- Development of training program at community colleges – providing needed technical resources and expertise

## ***Progress***

- Completed activities are facilitating peer education and engagement
- Foundational information gathering and planning have been completed

# Summary

## ***Coordination***

- Currently coordinating with community colleges and seeking input from regional experts & stakeholders
- Project will expand to solicit specific feedback from public and stakeholders on refueling infrastructure study and mapping tool

## ***Expansion Potential***

- Interest in CNG for transportation is growing rapidly in Houston and funding resources are available to support expansion of alt fuel infrastructure – the project's training, tools and informational resources will provide timely support



# Thank you.

Allison Carr

[allison.carr@h-gac.com](mailto:allison.carr@h-gac.com)

Houston-Galveston Area Council

