Alternative Fuels Corridor Analysis

Background:

In Washington, motor vehicles produce more than half of all air pollutants, and contribute nearly half of the greenhouse gas (GHG) emissions in the state. As owners and operators of the state transportation system, the Washington State Department of Transportation (WSDOT) is committed to strategies that can help mitigate these adverse environmental impacts.

One such strategy is to encourage the use of cleaner-burning fuels. The state of Washington has undertaken several significant initiatives to provide leadership in the production and use of alternative fuels. Public funding and investment incentives have been provided for research, development, manufacturing and production of biofuels. An example of such investment is the WSDOT Ferries Division Biodiesel Research and Demonstration Project. WSDOT is partnering with the Puget Sound Clean Air Agency and other regional stakeholders to test the use of biodiesel in the marine environment. Washington state public vehicle fleets are increasingly comprised of high fuel-efficiency and alternative fuel vehicles, as required by new state laws. And just recently, as part of the Energy Freedom Act, a state grant funding and loan program was created to provide assistance to businesses seeking to construct alternative fueling infrastructure within the Green Highway Zone, which is comprised of areas in close proximity to Interstate numbers 5, 90 and 82.

A significant obstacle to market acceptance of alternative fuel vehicles is the uncertain availability of refueling stations. Consumers are reluctant to purchase these new-technology vehicles if the supply and availability of the fuels are in doubt. Most retail gas stations are not able to take the risk of installing alternative fuel dispensing facilities for a product that is unproven in the marketplace. The relatively high infrastructure costs associated with offering new fuels discourages business from investing in these facilities.

To help incubate the acceptance of alternative fuels and stimulate private infrastructure investment, WSDOT is exploring opportunities for partnerships with the private sector and other public agencies to establish and promote refueling facilities along the major interstate highways in Washington, but particularly along Interstate 5. This study's economic analysis will help inform WSDOT about potential uses of state-owned rights-of-way, (both undeveloped land and use of developed land currently in service), as a means of reducing the infrastructure investment risk associated with ventures into these new fuel sources and technologies.

The primary goal of this study is to analyze and suggest one or more strategies for creating effective public/private partnerships for the retail distribution of alternative fuels and other new propulsion technologies. This study will also consider a range of compatible services that could be combined with alternative fuel distribution to help such refueling stations become self-sustaining, or even better, capable of widespread adoption

in the marketplace. Examples of compatible services might include alternative power supply for trucks (to reduce truck idling); solar power generation; public access points for Intelligent Transportation System (ITS) technologies, etc. Recommendations are also sought regarding how WSDOT could expand upon the alternative fuels corridor concept by exploring or creating "branding" and other outreach opportunities that benefit the corridors. This might include location-based programs to promote new technology vehicles and propulsion technologies; promotion and/or information about the availability of alternative fuel sources along the interstate corridor and the state highway system; etc.

The 2007 Legislature directed WSDOT, through its Public/Private Partnerships Program to analyze the feasibility of distributing alternative fuels along state Department of Transportation rights-of-way (ROW). This Alternative Fuels Corridor Economic Analysis fulfills that Legislative mandate.

Additionally, in March 2007, Washington State, in a collaborative effort with the states of California and Oregon, submitted an application to designate the Interstate 5 (I-5) corridor as part of the U.S. Department of Transportation's (USDOT) Corridors of the Future Program. As part of this application, the development of alternative fuels distribution along the corridor was identified as a possible interstate initiative. USDOT recently announced that the I-5 application was approved, securing this critical freight and transportation corridor's place as one of only six designated Corridors of the Future in the nation. In furtherance of the interstate initiative to develop an alternative fuels corridor, Washington, Oregon and California have agreed to work together and develop a tri-state Memorandum of Understanding, outlining the ambitions and mutual interests of all three states. While this study is being commissioned by the state of Washington, it is intended that the economic analysis provided be of a type and quality that is applicable to both Oregon and California.

Scope of Work:

The economic analysis to determine whether an alternative fuels corridor is feasible will require at least the following: (I) a financial analysis to identify the necessary conditions for alternative fueling stations to provide an adequate supply within a corridor and to become economically self-sustaining; and, (II) an assessment of potential alliance opportunities with industry/business, other public agencies, and non-profits that could be beneficial to fund, supplement, promote, develop, operate or contribute to the development of an alternative fuels corridor.

For purposes of this analysis, the alternative fuel types envisioned are those not commonly available for retail sale. Such fuels would include, but are not limited to: high-blend contents of biodiesel and ethanol; methanol; compressed natural gas; liquid natural gas; liquefied petroleum gas; hydrogen; and electricity. Additionally, technologies that contribute to the broader policy goals of reducing air particulate matter

or green house gas emissions may be included, where appropriate, in the research and analysis identified in this document.

I. Financial Analysis

A. An economic analysis must be conducted to determine the necessary conditions for an alternative fuels corridor to become financially viable. This analysis should identify critical success factors for sustaining both an individual business enterprise, and for sustaining retail distribution of alternative fuels corridor-wide (e.g., the length of Interstate 5, traversing Washington/Oregon/California). Such factors include: (1) The extent to which an alternative fuels corridor can be privately owned and operated with or without public subsidy; (2) If public assistance is necessary, the form, level and duration of such assistance; (3) Whether coupling other compatible business enterprises (for example, electrified parking for trucks) with alternative refueling facilities would improve the economic viability of the business entity or corridor; and (4) any other factors the consultant finds important to the establishment and sustainability of alternative refueling stations. In identifying critical success factors, the consultant should reference any relevant information and lessons learned from other alternative fuels corridor initiatives that have been undertaken nationally or internationally.

B. The financial analysis should provide concept-level detail on the likely range of capital improvements and estimated operating costs necessary to provide alternative refueling infrastructure and services. This concept level-detail will be useful in determining general economic viability at the site level, and will be made available as a reference point for potential partners and private businesses.

II. Alliance Opportunities

A. The consultant must assess and advise the State on potential alliance opportunities. Alliances could take the form of: (1) individual businesses that might have an interest in providing alternative fuels, infrastructure, or operations; (2) potential economic partners in the form of 501(c)(3)s, or other non-governmental entities whose mission and interests are in alignment with the goals of this Alternative Fuels Corridor concept; (3) other public agencies and governments that can assist the endeavor through monetary or land grants, operational or administrative support, technical expertise, etc. Alliance opportunities could also include formation of coalitions, or joining established associations, to promote the endeavor through certification, branding, marketing, information exchanges, etc. As part of this study element, the consultant should undertake, or develop a process for the State to undertake, an outreach effort intended to identify stakeholders and potentially interested parties in developing an Alternative Fuels Corridor.

Target Dates

- Deadline for responses: May 2, 2008
- Notification of successful proposer: May 16, 2008.
- Contract executed: May 23, 2008
- Preliminary results: no later than September 1, 2008
- Final report and recommendations: no later than October 15, 2008

Expected Deliverables

Deliverables will be determined after the selection of the consultant, and will be modified as mutually agreed once the study is underway. At a minimum, the consulting team should plan for: (1) producing a final report; (2) producing a white paper summary of both the analysis and any recommendations for use in meetings and as a communications tool; and (3) presentations to WSDOT and the State Legislature.

Available Resources

Funding available for this analysis is limited to $200,000. Proposals should be scaled to remain within the budgeted amount. Consultants are advised to provide suggestions on how to revise the scope of work in order to meet the funding restraints.

Agency data and resources will be made available to consultants.