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FINAL REPORT

Presented by: The Office of the Managing Director, City of Philadelphia

Presented to: United States Department of Energy

Grant No. DE-FG43-93R34022, as Amended by Amendment No. M001

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Preface

This document constitutes the Final Report from the City of Philadelphia Managing Director's Office to the United States Department of Energy, for Grant No. DE-FG43-93R34022, as amended by Amendment No. M001.

This document does not serve as a mere recapitulation of all the previous quarterly reports, financial statements and other documentation presented to USDOE by the City as a result of this grant. Those documents are available at USDOE for review. This document serves as a total capsulation of the activities pursuant to the grant, and the meaning of those activities when placed into the context of alternative fuel vehicle (AFV) maximization in the Greater Philadelphia area. Consequently, certain events or activities may be highlighted for purposes of this report, while other activities mentioned in previous quarterly submissions may not be discussed here at all. Hindsight is a great asset, and it is with such hindsight that this report is written.

All the work done in this grant was done in total conformance with the original proposal to the grant, and to the proposal submitted and accepted by USDOE for Amendment No. M001. All work was done on a Task Completion basis. All payment requests were made pursuant to a Task Completion basis, and billed in total accordance with the proposals previously submitted to USDOE, and which are part of the record there.

The City of Philadelphia Managing Director's Office has been privileged to be a part of overall "Clean Cities" mission, and we look forward to USDOE's review of this report, and to further cooperative ventures with USDOE in the future.

FINAL REPORT

This report is prepared by the City of Philadelphia, Managing Director's Office, to the United States Department of Energy, for Grant No. DE-FG43-93R340422, as amended by Amendment No. M001.

Purpose:

Based upon the submission of a successful proposal in the summer of 1993, the City of Philadelphia was awarded the above grant for the "development of a Public Information Component for the 'Clean Cities Program' involving alternative fuels usage within the City of Philadelphia and the surrounding counties in the Philadelphia region". During the summer of 1993, it was felt that the public needed considerable information on the costs, benefits, emission data, conversion information, and infrastructure requirements. Embodied in the 1993 proposal was the notion that a model could be developed within some type of structure charged with the tasks of market introduction of alternative fuels in the Greater Philadelphia area in a concerted, comprehensive way.

As originally envisioned, in executing this grant, the City had several objectives in mind. Among these were the following:

1. The organizing of various media events to showcase alternative fuels usage.
2. To begin a networking process with fleet managers in the area.
3. To provide sources of information to fleet managers and others interested in, and concerned with the conversion to alternative fuels.
4. Documentation on research and analysis associated with alternative fuels.

Work Program:

1. At least one press event associated with a Clean Cities function.
2. Two press briefings on issues associated with alternative fuels implementation
3. Development of a Users Group from amongst fleet managers in the public and private sectors.
4. An educational session for the designated fleet managers, once the Users Group had been formed.
5. An informational paper on the emerging Philadelphia Clean Cities structural model that would implement these tasks.

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In conducting these tasks, it was assumed that three site visits would be made to other "Clean Cities" in the country to determine how they were addressing similar issues.

Beginning through correspondence sent to USDOE on 6/23/94, and culminating in the grant amendment of 9/30/94, the Work Program was redefined, for a balance of \$35, 241.33, which existed at 6/23/94. At that time, one press briefing was done, the development of a users group had been initiated, and two site visits had been made. With USDOE's approval, the Work Program was amended to the following for the \$35, 241.33:

1. Funding of a proposal from Hunt Communications, Inc., to provide public relations and awareness for the CNG powered Downtown Phlash Tourist Bus.
2. Funding for a contracted Director
3. A Fleet Manager's Breakfast, to include a seminar on alternative fuels issues
4. A final Report

Principals

The Principal Investigator for the grant was John Hadalski, Management Services Administrator I, Managing Director's Office, City of Philadelphia. Also participating in the grant program at various intervals were John O'Connell, Chief Engineer, Municipal Energy Office, City of Philadelphia; Fritz Schwarting, Fleet Management Engineer, Office of Fleet Management. Edward Grace, Deputy Managing Director, also played a significant role in the grant program. Frances Egan(Weston), Deputy Managing Director was also involved in the grant at its very inception, but was not involved in any of the tasks involved in grant performance.

Previous Submissions:

A. Quarterly Reports

The quarterly reports associated with the grant were submitted as follows:

1. April 21, 1994-first and second quarterly reports
2. June 15, 1994-third quarterly report
3. September 19, 1994-fourth quarterly report
4. February 23, 1995- report for the quarter 10/1/94 to 12/31/94-grant amendment
5. August 24, 1995- report for the period 1/1/95 to 3/31/95-grant amendment
6. September 11, 1995- report for the period 4/1/95 to 7/31/95-grant amendment

B. Payment Requests

The following payment requests have been made against this grant:

1. 4/26/94- \$12,825.30
2. 6/14/94- \$ 19337.37
3. 10/4/94- \$ 8076.56
4. 11/10/94- \$ 3819.88
5. 2/8/95---\$ 10,337.51
6. 6/12/95- \$ 7736.52

Total billing through these requests has therefore been \$44,729.14 to date. My recollection is that all invoices have been honored with the exception of the last invoice. The remaining balance of the grant will be billed with the submission of the Final Report.

C. Financial Reports

The following Financial Status Reports have been filed:

1. 4/21/94 - \$12, 825.30 - 10/1/93--4/21/94
2. 6/15/94- \$14,758.67 - 10/1/93-- 6/15/94
3. 9/20/94 - \$14,758.67- 10/1/93-- 9/20/94
4. 12/6/94 - \$14,758.67 - 10/1/93--9/30/94
5. 2/7/95 - \$26,655.11 - 10/1/93--12/31/94
6. 9/15/95- \$ 36,992.62 - 10/1/93--3/31/95
7. 9/15/95 - \$ 44,729.14 - 10/1/93--6/15/95

Grant Accomplishments

A. Media and Press Events

Based on the "Purpose" and "Work Program" associated with the grant, the City held a very successful Opening Ceremony for the first CNG station in Philadelphia, the Sun/PGW station at 28th Street and Passyunk Avenues. The Mayor was present, and his very positive remarks, along with the other CEOs present from Clean Cities stakeholder organizations, made the event a memorable one. The Mayor actually participated in the filling of one of the CNG vehicles present, and a

character from "Sesame Place," a nearby amusement park, the "Count" was present, in his CNG powered "Countmobile." Excellent publicity was generated for the event, as a number of school children from a nearby public elementary school participated, each one having their pictures taken with the Mayor, all in "Clean Cities" caps. (Those pictures are now part of the Mayor's re-election campaign.)

Shortly thereafter, through the amendment to the grant, the City purchased a fleet of CNG powered buses, known as "Downtown Phlash Loop." These buses would be used to ferry tourists primarily to various spots in Center City. The buses are very stylish, and have received a great deal of positive publicity from the Mayor. Through the grant amendment, a contractor was hired (Hunt Communications), which did several publicity news articles on the Phlash, as a CNG vehicle. In the last quarterly report, I noted some disappointment with the amount of CNG publicity the Phlash has received, and the lack of private sector Clean Cities stakeholder involvement in the Phlash program. However, since then, a very fine article appeared on Phlash, which gave excellent promotion to alternative fuels and Clean Cities was mentioned by name. At least one other article on the Phlash has appeared, which promoted Clean Cities by name. Phlash also had a very well planned evening ceremony at its inception, in which the Mayor pointed out explicitly the use of Phlash as a natural gas vehicle.

During Earth Week, 1995, Greater Philadelphia Clean Cities sponsored a week long ceremony involving an alternative fuel caravan. The caravan participated in various ceremonies at City Hall, and at three suburban universities. There was excellent press coverage at all locations, with a great deal of interest forthcoming. Approximately 30 entrepreneurs in the field of alternative fuels received Proclamations signed by the Mayor honoring their pioneering achievements in alternative fuels conversion. We are still receiving positive feedback and compliments on the value of the caravan. At the suburban locations, the interest, primarily by students involved in environmental and energy programs was extensive.

In September, 1995, at the national Clean Cities meeting in St. Louis, Mo., the work of so many people was capsulized in an announcement made by the USDOE and Chrysler that a partnership arrangement among the two entities had been developed to promote the sales of CNG AFVs from Chrysler in the Greater Philadelphia area. This is the first such partnership for any Clean Cities program in the nation. A press release was announced to that effect.

At about the time this grant is over, a great deal of publicity will be devoted to the opening of the second CNG station in the City, in the Port Richmond Section of the City, a project of PAF Refueling, Inc. and PGW. The Chrysler Partnership with Greater Philadelphia Clean Cities will be announced locally then, along with the station opening.

Recently, through the efforts of our new Director, a newsletter for Greater Philadelphia Clean Cities has been developed. Over time, future issues of the newsletter will receive an ever widening distribution.

B. Fleet Managers Outreach

Early on in the grant program, the City, through another funding source procured a Dunn and Bradstreet file on fleets in the five County S.E. Pa. area. We also obtained information from the Pennsylvania Energy Office, and from the National Association of Fleet Administrators(NAFA) on their membership. With this information a comprehensive questionnaire on alternative fuels usage was developed with the involvement of the Clean Cities Working Group. We received approximately 28 questionnaires back, which were compiled into a database and presented to the Working Group. From that information, we got a sense of what the usage was of alternative fuels in the region, and who the key participant companies were.

Over time, the program gradually obtained support from NAFA at its membership meetings, in particular one Ralph Jamic. Through Mr. Jamic, a fleet managers breakfast was held in October, 1994, in which a great deal of information about federal rules and laws impacting alternative fuels was shared, and we also got a sense of the concerns that fleet managers had with Clean Cities and AFVs generally. Approximately 20 persons were in attendance.

In conjunction with Clean Cities, two stakeholders, Philadelphia Gas Works(PGW) and PECO Energy Co. held a joint "ride and drive" seminar for fleet managers in September of 1994. A number of fleet managers and stakeholders were in attendance, as were a number of conversion vendors, installers, consultants and others, who had display booths at the meeting.

During the grant process, work began on a manual for fleet managers. This manual, begun under the auspices of EPA, and the Greater Philadelphia Fleet Managers Outreach Sub-Committee, would have provided a wealth of technical, economic, and regulatory information about AFVs. We found that the material was simply too voluminous for fleet managers to delve into. What we opted for instead, finally, was the use of EPA's Public Information Center or PEEK Center at their regional headquarters building, to serve as an information library for fleet managers interested in alternative fuels. Any fleet manager can go into the PEEK Center, and peruse copies of any printed material on AFVs, or use various on-line databases for information retrieval. Telephone numbers and resource names are provided to callers as needed.

Over time, the Greater Philadelphia Clean Cities Program has provided locational information to fleet managers on the location of refueling infrastructure. One of the

sources used as been matrix developed by the Pennsylvania Energy Office, now part of the Pennsylvania Department of Environmental Protection. Another will be the results of an in-kind contribution made by two members of the Program, Clean Air Council and US General Services Administration. Together, these two entities will provide both a map of refueling infrastructure, and also directional pointers, indicating to drivers how they can get to specific stations from specific locations within the region. Therefore, the map will be a "real-time" tool, enabling vehicle drivers to locate a re-fueling source quickly and easily.

At the Caravan event in April of this year, as noted above, various fleet managers were honored by name for the pioneering work they have done in alternative fuels conversions.

After the grant year is over, a second fleet managers breakfast is planned for December, 1995. Also, Greater Philadelphia Clean Cities is planning to introduce an exhibit at the January, 1996 Philadelphia Autoshow at the Pennsylvania Convention Center.

C. Documentation, Information and Analysis

One of the key developments achieved through Greater Philadelphia Clean Cities has been its program plan. Clearly, someone or some group is responsible for doing all the work described in this report. Therefore, a plan, a kind of living document describing how the program works, and what its key ingredients is has been an on-going development of the program. As the program continues to develop, the plan will continue to unfold, possibly resulting in a non-profit corporation in the not too distant future.

Other planning documents used in the program, have the similarities and differences between the Clean Air Act's impact on alternative fuels, and the impact of the Energy Policy Act.

One of the benefits of Greater Philadelphia Clean Cities, has been its ability to leverage funding for itself and for others involved in AFV programs, through itself as a program, or through its stakeholders. Delaware Valley Regional Planning Commission is a Greater Philadelphia Clean Cities member, and the stakeholders and others have been able to obtain Congestion Mitigation and Air Quality (CMAQ) funds to convert vehicles and develop infrastructure. The City of Philadelphia has one of the largest of these grants, \$3.1 million to convert 350 vehicles to CNG and to install two CNG refueling stations for the City fleet. Likewise, several counties in the region have similar grant funds to convert vehicles. In fact, the largest proportion of CMAQ projects in the Delaware Valley Region is for alternative fuel projects.

Also, the Pennsylvania Energy Office has developed a multi-year alternative fuels incentive grants program based on receipts from the state gasoline tax. Several Clean Cities members, including PGW, the City and others have been awarded grants from this program to begin the conversion to alternative fuels.

Beginning with the grant, and now growing beyond it, this Clean Cities program is experiencing explosive growth. Further, people are willing to pay for that growth. Hence, Clean Cities is valuable as a market based entity, and not just a federal stepchild, which I think is one of the purposes behind the grant initiative. The "Philadelphia Clean Cities Program" with seven members, soon became the "Greater Philadelphia Clean Cities Program" now with fourteen members. All the members who are part of Greater Philadelphia Clean Cities, who are public sector agencies, private utilities and fuel providers, and small AFV entrepreneurs have contributed funding to this program. That funding is well in excess of \$50,000, all in membership fees, and therefore the funding is private in nature. That funding has been used as a grant match for a recent award for a \$30,000 award recently made to Greater Philadelphia Clean Cities from USDOE. Another, \$68,000 is pending possibly through an award from EPA.

With this funding has come an institutional structure at Greater Philadelphia Clean Cities, which I am sure will continue to evolve over time. Through this grant amendment, the Program was able to hire Alex Farrell of Environomics, Inc. as its initial Interim Director. Alex did an absolutely magnificent job. I am happy to say, that through the initial \$50,000 membership contributions noted above, all of them private, the Greater Philadelphia Clean Cities Program was able to hire David A. Byerman as its first full-time Director on a contractual basis, using Delaware Valley Regional Planning Commission as a pass-through agency. The planning, analysis and administrative direction done by these two men has been very important to the continued success and development of the program.

The "model" mentioned in the initial grant purpose, on how the Clean Cities objectives can be structurally institutionalized is reflected in the continuing evolution of the Greater Philadelphia Clean Cities Program, as reflected in periodic quarterly reports to USDOE. One of the most important steps taken to develop this model was a Clean Cities "retreat" undertaken in February of 1994. This was a full day seminar developed through the auspices of the University of Pennsylvania, Center for Energy and the Environment. Alex Farrell first became aware to us, as he coordinated the retreat for the Clean Cities stakeholders on behalf of the University. All of the steps taken since February, 1994, the involvement of Delaware Valley Regional Planning Commission, the hiring of our two Directors, development of the dues paying structure, the growth of the organization, have all been the direct result of actions recommended at the retreat. In the future, we anticipate that bylaws and a charter will be developed, superseding the current Work Program,

which may lead to the establishment of a non-profit Corporation for Greater Philadelphia Clean Cities.

D. Problem Areas

There have been some problem areas experienced in the grant program. Nearly all the problem areas involved have been outside factors in the socio-political environment in which Greater Philadelphia Clean Cities must operate.

First, at the time the grant was initially awarded to the City of Philadelphia, the Southeastern portion of Pennsylvania was involved in the Employer Trip Reduction Program, which would have mandated reductions in single vehicle commuter trips to Center City during morning rush hours, but which would have granted specific exemptions to commuter trips involving AFVs. A year into the implementation of that program, the Commonwealth of Pennsylvania abolished the program, without the hint of any EPA sanctions. Further, the Commonwealth also abolished the enhanced emissions program, again without threat of EPA sanctions. This program would have addressed concerns associated with certification of "Clean" vehicles under the Clean Air Act Amendments of 1990. Therefore, getting AFVs "certified" as CFVs became problematic in the Commonwealth. The Ridge Administration in Pennsylvania has placed on indefinite hold the "Clean Fleet" regulations, which would have described how emission credits would have been organized in the Commonwealth. Finally, as part of a reorganization into the new State Department of Environmental Protection, the Pennsylvania Energy Office was abolished, with its functions folded into the new Pennsylvania Department of Environmental Protection.

The upshot of all this reorganization is that the influence of the Clean Air Act on alternative fuels decisions has been seriously eroded. Heretofore, for large public and private fleets capable of being centrally fueled, Clean Cities was able to "sell" so to speak large fleets that compliance with the Energy Policy Act was the only way for fleets covered by both the Clean Air Act (CAA) and the Energy Policy Act (EPACT) to comply with both; therefore, please join Clean Cities. That strategy was no longer available.

Intertwined with this, is the terrible publicity that the U.S. Environmental Protection Agency(EPA) has received since the Congressional elections of 1994. EPA has been viewed as passing sometimes meaningless government imposed mandates onto state and local governments and the private sector, forcing price increases, tax increases and inspiring customer and taxpayer anger. EPA has long been a principal ally in Clean Cities, and the critical attack made upon them has sometimes hurt the overall program.

The general political factors cited above have had an impact upon the fleet managers, notably the managers of private fleets. Also skeptical of government mandates from the beginning, they saw the bludgeoning of EPA and the Clean Air Act as a way out of general compliance with AFVs in general. With no Employer Trip Reduction, no Enhanced Emission Program and No Clean Fleets Program, there are no incentives in Pennsylvania for fleet managers to do early conversions to AFVs, with the rationale of reducing air pollution. Further, there is a ready supply of reformulated gasoline (RFG) in Southeastern Pennsylvania, further eroding the need to convert to AFVs to clean the air. Accordingly, the fleet managers will not do any conversions until they have to, and the only surviving rules from EPACT indicate that fleets may not have to convert until model year 1998, if at all, if the individual state can meet its EPACT goals without having to go down to the private and municipal sectors. Therefore, as of this date, the business decision of fleet managers, by and large is to do nothing.

Further, it appears to many that USDOE is wavering on its stance in EPACT regarding AFVs. The regulations on AFVs have come out very late, and unfortunately for USDOE, at a time when EPA was also crippled politically. Further, the regulations that I have seen to date do not provide any incentives for stakeholders to join "Clean Cities" programs, or to develop "Clean Cities" programs. A major employer can participate in AFV efforts without joining Clean Cities, as far as USDOE is concerned, based on the regulations I have seen to date.

Within the Clean Cities efforts themselves, there are also some problems. First, USDOE has consistently tried to sell Clean Cities as a local initiative. However, the guidelines and structure are federally inspired. In Philadelphia, the program's success has overcome the objection that "Clean Cities" is nothing more than a disguised mandate. However, we had that problem in the beginning, and I suspect that several programs are not as successful as they could be, because local officials clearly see "Clean Cities" as a mandated effort disguised as a local initiative. In this light, I must confess to you now, that Philadelphia Clean Cities would not have gotten off the ground without this grant, as it shows federal support for this effort.

The effort itself is severally underfunded by USDOE and others. The costs involved for all the various media events are very high due to labor intensity. The funding received does not anywhere near compensate stakeholders, principally the City in this case for the costs involved. This inability to program costs adequately is having an impact on the market based Greater Philadelphia Clean Cities Program. We are not sure that the fees assessed accurately reflect costs. We are sure, however, that the costs involved for the Director to adequately carry out his work are higher than receipts to date, and will remain so, until adequate costing methodology and a reliable revenue stream from stakeholders can be figured out.

We truly believe that only those people who put something into the program should receive something from it. However, this is a far cry from the initial meetings, in

which everybody was a "stakeholder" simply because he or she showed up, possibly without the approval or sanction of the company involved. Every Clean Cities program will have to address this issue. What makes a "stakeholder?" Is it someone who has an interest? Someone who is interested in private gain without an investment? Someone, who gives to get? Clearly, we have chosen the latter in Philadelphia. We are interested in the numbers of people who show up at meetings, but those who actively participate.

When organizations first get underway, the private interests of some of the members get in the way of the public good. At our initial meetings, the two natural gas utilities in the program (PECO Energy and PGW) really didn't want to put their respective marketing efforts on the table to be a matter of public knowledge, as they are of course, competitors. Sun Co., another stakeholder has also had its problems. The Company has suffered a 30% cutback in recent months. This must be placed within the context of the alternative fuels program at Sun. As a petroleum supplier, Sun would rather provide gasoline and not another fuel. Sun does have the initial CNG station in the City. However, there have been technical problems with the reliability of the station. Since Sun is mostly a gasoline supplier, there is little incentive for them to correct the problems, since even the natural gas isn't theirs, it's PGW's. If Sun can't sell us gasoline, they would like to sell us propane, another fuel they refine. However, propane is viewed as extremely volatile and dangerous by potential drivers and mechanics.

PGW is another utility, wholly owned by the City, which is now undergoing reorganization. Consequently, the future role of PGW in the AFV business is under review by the new management there. This is reflected in the fact that PGW is the sole stakeholder which signed a Memorandum of Understanding to provide dues to support Greater Philadelphia Clean Cities, which has yet to do so.

Finally, there have been some technical issues. Chief among them is the belief by some that the quality of the natural gas at PGW is not dry enough to support CNG stations without an investment of electrical dryers, driving up the cost of the station, and the subsequent charge to the consumer.

Within individual organizations, certain administrative matters need to be handled. For example, procurement methods and procedures, principally in the City have hampered the wide-scale introduction of a refueling network. Procurement officials are used to dealing with a single vendor for a single need. To convince procurement authorities that a network is needed, not just a specific station(s) for individual City vehicle re-fueling purposes (except in an emergency basis) is not an easy task. Likewise, the goals of Clean Cities could be realized through combined purchasing of AFVs, either through Clean Cities coalitions, or their agents. The structural barriers to this, set up over generations will be difficult to overcome.

Individual companies have their own power bases which ultimately provide the representation from amongst the stakeholders to the Clean Cities Steering Committee. Within the City, that source has been the City Managing Director's Office. In the future, it could be the Municipal Energy Office or Fleet Managers Office, both of whom report to a Deputy Mayor. Other organizations will need to consistently re-examine the source of their representation over time as well, which can lead to several disruptions or hick-ups within the general program as these relationships get worked out.

Final Thoughts and Recommendations

Despite the problem areas cited above, the author believes the future of AFVs in the Greater Philadelphia is bright. My thinking stems from the fact that an effective correlation is taking place between alternative fuels and economic development. Philadelphia is a central city in a large geographic region, and the related clean air and energy independence regulations are regional in scope. Accordingly, if the EPACT regulations hold, fleets will go to where the fuel is, and all related business will go with them. Both the City and the Region see this. They both see that it is in everyone's economic interest to stimulate station development in both the City and the region.

As the infrastructure in the City and the Region is established, specialty businesses can be established. Such businesses will include infrastructure consultants, conversion shops, even manufacturing for specialty vehicles. The Region will never get a major auto manufacturer to relocate to Philadelphia, by specific vehicles, perhaps electric vehicles, or specific types of CNG or propane vehicles, such as golf carts, jitneys, etc. can take up residence in the region. It all depends upon how well those empowered to address these issues understand them, and wish to tackle them.

In any event, a critical mass of economic development in the alternative fuels arena is building. USDOE and Clean Cities generally should do all they can to stimulate that economic critical mass. The methods to do this include USDOE officially sanctioning Clean Cities in regulations, encouraging membership in them, and offering grants and other incentives to Clean Cities coalitions. Once this critical mass is established, it makes little or no difference what the federal government does after that. The economic foundation will have been set and the marketplace can take over.

To further assist in this, Clean Cities coalitions need assistance in task management, task accounting, budgeting, and other features associated with financial management.

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The CMAQ grant process has been a boon to localities in this area. I recommend that a seminar be developed and funded for those localities to indicate how they accessed CMAQ funds for AFVs, what their plans are, and what the long range considerations are. In Philadelphia, the impact of the CMAQ program will lie on the existing vehicle replacement schedule, and whether "exempt" vehicles, such as those involved in emergency management will be folded into the program. Cities and towns should be encouraged to exchange information with one another on such long range plans.

Extensive training for drivers and mechanics is needed. Through the Clean Cities structures, part of the dues could eventually go to a technical consultant, who could be available to members on AFV technical questions, primarily from fleet managers.

Within large cities, used to their own refueling of their fleets, the use of AFVs and AFV infrastructure allows the City to lease the operations to private companies, thereby increasing the economic development, while relieving the locality from large capital and operating annual expenses, especially those involved in underground tank management. Cities need to take a critical look at this.

USDOE, perhaps in concert with the General Services Administration, perhaps with a university should look at the procurement practices of municipalities and the private sector, to determine what the prospects for combined purchasing of AFVs are. There are major institutional barriers preventing combined purchasing from occurring now. These practices are largely do with modes of procurement operation that have been around for generations. Clean Cities organizations which can get involved with combined vehicle purchasing will have provided a niche for themselves, for long and continued success.

The public and fleet managers consistently need to be made aware of the benefits of alternative fuels. This should never be let up. However, I feel the message is generally being lost on certain decision-makers in our era. Heavy concentration in the schools, with today's children, and with those involved in environmental and energy management in universities needs to be emphasized, to take full advantage of the future. By the time the university scholars graduate, that critical economic mass will have been created, bring to full fruition wide scale AFV programs.

There are few incentives available, either through the City, or through the Commonwealth to spur the development of alternative fuels infrastructure. The only incentive I am aware of is the Pennsylvania Energy Office Grant Fund, and certain low level incentives offered by PECO Energy and PGW. These three programs, however, are not coordinated with each other for the most part. The fact that they are not means that the impact of Greater Philadelphia Clean Cities as a forum to stimulate the growth of such infrastructure is somewhat limited. Therefore, it is recommended that the Clean Cities programs in Pennsylvania, Greater Philadelphia and Pittsburgh I believe, serve as an umbrella agency on

behalf of the Commonwealth to entertain proposals from the private sector to stimulate the growth in the Philadelphia and Pittsburgh regions, respectively. In Philadelphia's case, the strategy would be to make formal Requests for Quotations from infrastructure installers, conversion bureaus and the like to stimulate the development within the region, and fund those proposals, with Commonwealth consent accordingly.