Round 3: Application Form

Local Government Innovation Fund

Step One: Fill out this Application Form in its entirety.

Step Two: Fill out the online submission form and submit your application materials. All supplemental application materials should be combined into one file for submission.

LGIF: Applicant Profile	
Lead Applicant	City of Oberlin
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets
Type of Request	Grant
Funding Request	$86,180
JobsOhio Region	Northeast
Number of Collaborative Partners	9

Office of Redevelopment
Website: http://development.ohio.gov/Urban/LGIF.htm
Email: LGIF@development.ohio.gov
Phone: 614 | 995 2292

Lead Applicant	City of Oberlin	**Round 3**	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Lead Applicant

Mailing Address:	Address Line 1	85 South Main Street				
	Address Line 2					
	City	Oberlin	State	OH	Zip Code	44074
City, Township or Village		City		Population (2010)		8,286
County		Lorain		Population (2010)		301,356
Did the lead applicant provide a resolution of support?		✔ Yes (Attached) ☐ No (In Process)				

Project Contact

Complete the section below with information for the individual to be contacted on matters involving this application.

Project Contact		Eric Norenberg		Title		City Manager
Mailing Address:	Address Line 1	85 South Main Street				
	Address Line 2					
	City	Oberlin	State	OH	Zip Code	44074
Email Address		enorenberg@cityofoberlin.com		Phone Number		(440) 775-7206

Fiscal Officer

Complete the section below with information for the entity and individual serving as the fiscal agent for the project.

Fiscal Officer		Sal Talarico		Title		Finance Director
Mailing Address:	Address Line 1	85 South Main Street				
	Address Line 2					
	City	Oberlin	State	OH	Zip Code	44074
Email Address		stalarico@cityofoberlin.com		Phone Number		(440) 775-7210
Is your organization registered in OAKS as a vendor?		✔ Yes ☐ No				

Section 1 Contacts

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of	Grant

Single Applicant

Is your organization applying as a single entity?	☐ Yes ☑ No
Participating Entity: (1 point) for single applicants	**0**

Collaborative Partners

Does the proposal involve other entities acting as collaborative partners?	☑ Yes ☐ No

Applicants applying with a collaborative partner are required to show proof of the partnership with a partnership agreement signed by each partner and resolutions of support from the governing entities. If the collaborative partner does not have a governing entity, a letter of support from the partnering organization is sufficient. Include these documents in the supporting documents section of the application.

In the section below, applicants are required to identify population information and the nature of the partnership.

Each collaborative partner should also be clearly and separately identified on pages 4-5.

Number of Collaborative Partners who signed the partnership agreement, and provided resolutions of support.	5
Participating Entity: (5 points) allocated to projects with collaborative partners.	**5**

Population

The applicant is required to provide information from the 2010 U.S. Census information, available at: http://factfinder2.census.gov/

Does the applicant (or collaborative partner) represent a city, township or village with a population of less than 20,000 residents?	☑ Yes ☐ No	
	List Entity	
	City of Oberlin	
	Municipality/Township	Population
	Municipality	8,286
Does the applicant (or collaborative partner) represent a county with a population of less than 235,000 residents?	☐ Yes ☑ No	
	List Entity	
	City of Oberlin	
	County	Population
	Lorain County	301,356
Population: (3-5 points) determined by the smallest population listed in the application. Applications from (or collaborating with) small communities are preferred.	**5**	

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Nature of Partnership (2000 character limit)

As agreed upon in the partnership agreement, please identify the nature of the partnership, and explain how the main applicant and the partners will work together on the proposed project.

The City of Oberlin believes opportunities exist to improve the efficiency of fleet operations that will lead to sustained cost savings, environmental benefits, and encourage the use of alternative fuels. To realize these benefits, the City has formalized partnerships with local entities including Oberlin City Schools, New Russia Township, Kendal at Oberlin, Lorain County Joint Vocational School, Lorain County Community College, Republic Services, Custom Cleaning Services, Lorain County Metro Parks, and Oberlin College. The City will select an experienced, neutral consulting firm to develop fuel- and cost-saving strategies for the partner fleets and to assess the feasibility of and demand for alternative fuels. Each partner has agreed to participate in a fleet assessment process by providing fleet data and information about fleet practices. Each fleet has also agreed to participate in discussions to identify community-wide strategies for fuel use reduction and adoption of alternative fuels. The partners will attend a series of facilitated workshops to learn about alternative fuels, receive fleet-specific recommendations for fuel use reduction plans, and to discuss strategies to advance the use of alternative fuels in the community. Input will be gathered from fleet partners and other agencies in order to assess alternative fuel infrastructure development options. Recommendations will be provided about the type and potential locations for alternative fuel stations that will inform the City's efforts to expand the use of alternative fuels. The lessons learned and strategies identified will be shared in written and verbal forums to help the City promote its goals and to provide information to others fleets and communities that wish to adopt fuel-saving and alternative fuel strategies.

List of Partners

The applicant applying with collaborative partners (defined in §1.03 of the LGIF Policies) must include the following information for each applicant:

- **Name of collaborative partners**
- **Contact Information**
- **Population data (derived from the 2010 U.S. Census)**

If the project involves more than 12 collaborative partners, additional forms are available on the LGIF website.

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Collaborative Partners Number 1	Lorain County Community College								
Address Line 1	1005 North Abbe Road					Population			
Address Line 2						Municipality /Township	Municipality	Population	54,581
City	Elyria	State	OH	Zip Code	44035	County	Lorain	Population	301,356
Email Address	cdeoreo@lorainccc.edu					Phone Number	(440) 366-4214		
Resolution of Support	☐ Yes ☑ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 2	Lorain County Joint Vocational School								
Address Line 1	15181 Ohio 58					Population			
Address Line 2						Municipality /Township	Municipality	Population	8,286
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population	301,356
Email Address	smerlone@lcjvs.net					Phone Number	(440) 774-1051		
Resolution of Support	☑ Yes ☐ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 3	Oberlin City Schools								
Address Line 1	153 North Main Street					Population			
Address Line 2						Municipality /Township	Municipality	Population	8,286
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population	301,356
Email Address	jschroth@oberlinschools.org					Phone Number	(440) 776-4551		
Resolution of Support	☑ Yes ☐ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 4	New Russia Township								
Address Line 1	45440 Butternut Ridge Road					Population			
Address Line 2						Municipality /Township	Township	Population	2,515
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population	301,356
Email Address	fasnrt@oberlin.net					Phone Number	(440) 935-0678		
Resolution of Support	☑ Yes ☐ No					Signed Agreement	☑ Yes ☐ No		

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Collaborative Partners Number 5	Kendal at Oberlin								
Address Line 1	600 Kendal Drive					Population			
Address Line 2						Municipality /Township	Municipality	Population	8,286
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population	301,356
Email Address	dsmith@kao.kendal.org					Phone Number	(440) 775-9832		
Resolution of Support	☐ Yes ☑ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 6	Lorain County Metroparks								
Address Line 1	12882 Diagonal Road					Population			
Address Line 2						Municipality /Township	Township	Population	1,815
City	LaGrange	State	OH	Zip Code	44050	County	Lorain	Population	301,356
Email Address	mbeursken@metroparks.cc					Phone Number	(440) 458-4104		
Resolution of Support	☐ Yes ☑ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 7	Republic Services								
Address Line 1	3619 Gracemont					Population			
Address Line 2	Street SW					Municipality /Township	Township	Population	2,515
City	East Sparta	State	OH	Zip Code	44626	County	Lorain	Population	301,356
Email Address	jkraus@republicservices.com					Phone Number	(330) 874-3855		
Resolution of Support	☑ Yes ☐ No					Signed Agreement	☑ Yes ☐ No		

Collaborative Partners Number 8	Custom Cleaning Services								
Address Line 1	305 Artino Street					Population			
Address Line 2						Municipality /Township	Municipality	Population	8,286
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population	301,356
Email Address	CAHortinc@aol.com					Phone Number	(440) 744-1222		
Resolution of Support	☑ Yes ☐ No					Signed Agreement	☑ Yes ☐ No		

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Collaborative Partners Number 9	Oberlin College							
Address Line 1	173 West Lorain Street					Population		
Address Line 2						Municipality /Township	Municipality	Population 8,286
City	Oberlin	State	OH	Zip Code	44074	County	Lorain	Population 301,356
Email Address	rlamppa@oberlin.edu					Phone Number	(440) 775-8422	
Resolution of Support	☐ Yes ☑ No					Signed Agreement	☑ Yes ☐ No	

Collaborative Partners Number 10								
Address Line 1						Population		
Address Line 2						Municipality /Township		Population
City		State		Zip Code		County		Population
Email Address						Phone Number		
Resolution of Support	☐ Yes ☐ No					Signed Agreement	☐ Yes ☐ No	

Collaborative Partners Number 11								
Address Line 1						Population		
Address Line 2						Municipality /Township		Population
City		State		Zip Code		County		Population
Email Address						Phone Number		
Resolution of Support	☐ Yes ☐ No					Signed Agreement	☐ Yes ☐ No	

Collaborative Partners Number 12								
Address Line 1						Population		
Address Line 2						Municipality /Township		Population
City		State		Zip Code		County		Population
Email Address						Phone Number		
Resolution of Support	☐ Yes ☐ No					Signed Agreement	☐ Yes ☐ No	

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Identification of the Type of Award	Feasibility Study
Targeted Approach	Efficiency

Project Description (4000 character limit)

Please provide a general description of the project. The information provided will be used for council briefings, program, and marketing materials.

The Oberlin Fuel Forward project is a collaborative effort between the City of Oberlin and 9 other local public and private fleet partners to improve fleet energy efficiency and plan for alternative fuels. The City will select an experienced, neutral consulting firm, to develop fuel- and cost-saving strategies for the partner fleets and to assess the feasibility of and demand for alternative fuels. This project will result in action plans to reduce fuel costs and emissions by 15% over three years and identify strategies to adopt alternative fuels. Improving fleet efficiency and encouraging the use of alternative fuels are important steps toward achieving our goal that Oberlin, Ohio will be the first climate positive city in the United States. To promote the expanded adoption of alternative fuels in Lorain County and throughout Ohio, a case study about each fleet's progress as well as the complete process and methodology for calculating potential demand for alternative fuels will be published on cityofoberlin.com. Focus areas are as follows:

(1) Fleet Footprint: consulting services for each fleet partner. The process begins with an on-site visit with each fleet manager to begin the data-gathering process and prepare for measuring baseline fuel use and greenhouse gas emissions. On-site interviews will direct the research and inform evidence-based recommendations for behavioral and operational changes that can improve fleet efficiency. The unique fleet attributes will then be applied to measuring potential demand for alternative fuels and vehicles. A scenario-based analysis of the financial and environmental impacts of incorporating alternative fuel vehicles will provide fleet managers with objective information for vehicle purchasing decisions in the future.

(2) Fuel Strategies: planning for infrastructure. A thorough feasibility analysis will measure potential demand for alternative fuels including compressed natural gas, propane, electric/hybrid, and biofuels. The consultant will work with the City and project partners to understand the logistical considerations for siting new infrastructure in a way that maximizes the potential for shared services. Further research and geospatial analysis by the consultant will identify optimal locations and financial requirements for infrastructure development. The consultant will use several financial models developed by the U.S. Department of Energy to assess the financial soundness of infrastructure investments for various alternative fuel technologies. Key stakeholders for this process include the City of Oberlin and the largest fleet partner, Republic Services. As the fuel strategy develops, the consultant will engage directly with the largest potential users via conference calls and on-site working meetings.

(3) Shared Solutions: structured workshops over a one-year period for fleet partners. The first workshop will be the project kick-off meeting where each fleet partner will learn about available alternative fuels, efficient driving behaviors, and strategies for fleet management. The second workshop will take place after each fleet partner receives a completed fleet analysis summary report. By debriefing as a group, fleet partners will learn each other's shared challenges and collaborate to find viable next steps toward improved fleet efficiency and adoption of alternative fuels through shared services. The group will define strategies to meet a 15% fuel reduction goal and discuss alternative fuel infrastructure development from the fleet user's perspective. The third and final workshop will take place 1 month before the project is completed. The draft fuel study report will be shared with all partners ahead of time and the meeting will provide an opportunity to gather feedback and address issues that could hinder capital equipment sharing and the adoption of an alternative fuel infrastructure development strategy.

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Past Success	✔ Yes	No
Past Success (5 points)	**5**	

Provide a summary of past efforts to implement a project to improve efficiency, implement shared services, coproduction, or a merger. (1000 character limit)

The Oberlin Project is a joint effort of the City of Oberlin, Oberlin College, and private and institutional partners to improve the resilience, prosperity, and sustainability of our community. Many of the partners in this application are also Oberlin Project partners. The Oberlin Fire Department provides services to a portion of New Russia Township. The City partnered with Pittsfield Township on a development plan that reduces barriers to annexation of unincorporated property and allows for revenue sharing. The City and local schools formalized an agreement that defines equitable values for shared facility and athletic field use and hope to expand the agreement to include shared fleet services. Oberlin is a charter member of American Municipal Power which supports partnerships to generate and deliver electricity. The City and County are currently developing a cooperative agreement for storm water management.

Scalable/Replicable Proposal	Scalable	Replicable	✔ Both
Scalable/Replicable (10 points)	**10**		

Provide a summary of how the applicant's proposal can be replicated by other local governments or scaled for the inclusion of other local governments. (1000 character limit)

Many communities are eager to understand the costs and benefits associated with establishing alternative fuel infrastructure and encouraging the use of alternative fuel vehicles. This project will provide detailed case studies and methodologies for assessing potential demand for alternative fuels, planning for infrastructure development, and engaging fleet partners in fleet efficiency strategies. With a broad scope of partners, each case study will promote replicability within multiple sectors. Also, the study will identify station locations and fuel types which will attract public and private entities interested in alternative fueling solutions.

Probability of Success	✔ Yes	No
Probability of Success (5 points)	**5**	

Provide a summary of the likelihood of the grant study recommendations being implemented. Applicants requesting a loan should provide a summary of the probability of savings from the loan request. (1000 character limit)

As signers of the Clinton Foundation Climate Positive Development Program, the CIty of Oberlin and Oberlin College are committed to reducing Oberlin's greenhouse gas emissions below zero by 2050 and 2025 respectively. To achieve our climate positive commitment, we must as a community shift to renewable energy sources, radically improve efficiency, sharply reduce our carbon emissions, and improve our economy in the process. With this mission in mind, the grant project focuses on guiding the partners toward efficiency and behavioral changes with immediate benefits. With the high cost of gasoline prices and commitment to carbon neutrality, a high return on investment is likely and implementation of recommendations will be necessary to achieve the goals set forth in the City of Oberlin's Climate Action Plan. Scenarios for alternative fuel vehicles and an assessment of the necessary local fueling solutions will provide preliminary information to guide future investment decisions.

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Performance Audit Implementation/Cost Benchmarking	☐ Yes ☑ No
Performance Audit/Benchmarking (5 points)	0

If the project is the result of recommendations from a performance audit provided by the Auditor of State under Chapter 117 of the Ohio Revised Code or a cost benchmarking study, please attach a copy with the supporting documents. In the section below, provide a summary of the performance audit or cost benchmarking study. (1000 character limit)

Economic Impact	☑ Yes ☐ No
Economic Impact (5 points)	5

Provide a summary of how the proposal will promote a business environment (through a private business relationship) and/or provide for community attraction. (1000 character limit)

The final documents will present a business case for alternative fueling stations and the purchase of alternative fuel vehicles. As these vehicles are deployed the Lorain County Joint Vocational School will be in a position to train students in advanced auto technologies skills that will be in high demand. The feasibility study will assess the users and amount of fuel that could be purchased locally through a new vendor. Once the alternative fuels are available locally this will provide opportunities for residents and businesses to take advantage of decreased fuel cost and they will have a choice when purchasing a vehicle.

Response to Economic Demand	☑ Yes ☐ No
Response to Economic Demand (5 points)	5

Provide a summary of how the project responds to substantial changes in economic demand for local or regional government services. The narrative should include a description of the current service level. (1000 character limit)

Our community must promote and develop a more affordable, accessible and environmentally-friendly transportation system, save money and energy in the process, reduce our reliance on imported oil and promote home-grown clean energy resources. The Oberlin Fuel Forward partners are setting an example for other fleets and laying the groundwork for a new paradigm for more efficient fleets and cleaner fuels in our community. This project is a step towards better allocation our transportation resources and investment in local infrastructure development, particularly for natural gas and electric vehicles. It also demonstrates our commitment to creating a climate positive city that provides economic and environmental benefits to all residents.

Budget Information

General Instructions

•Both the Project Budget and Program Budgets are required to be filled out in this form.

•Consolidate budget information to fit in the form. Additional budget detail may be provided in the budget narrative or in an attachment in Section 5: Supplemental Information.

Project Budget:

- The Project Budget justification must be explained in the Project Budget Narrative section of the application. This section is also used to explain the reasoning behind any items on the budget that are not self explanatory, and provide additonal detail about project expenses.
- The Project Budget should be for the period that covers the entire project. The look-back period for in-kind contributions is two (2) years. These contributions are considered a part of the total project costs.
- For the Project Budget, indicate which entity and revenue source will be used to fund each expense. This information will be used to help determine eligible project expenses.
- Please provide documentation of all in-kind match contributions in the supporting documents section. For future in-kind match contributions, supporting documentation will be provided at a later date.

Program Budget:

- Six (6) years of Program Budgets should be provided. The standard submission should include three years previous budgets (actual), and three years of projections including implementation of the proposed project. A second set of three years of projections (one set including implementation of this program, and one set where no shared services occurred) may be provided in lieu of three years previous if this does not apply to the proposed project.
- Please use the Program Budget Narrative section to explain any unusual activities or expenses, and to defend the budget projections. If the budget requires the combining of costs on the budget template, please explain this in the narrative.

Return on Investment:

- A Return on Investment calculation is required, and should reference cost savings, cost avoidance and/or increased revenues indicated in the budget projection sections of the application. Use the space designated for narrative to justify this calculation, using references when appropriate.

For Loan Applications only:

- Using the space provided, outline a loan repayment structure.
- Attach three years prior financial documents related to the financial health of the lead applicant (balance sheet, income statement, and a statement of cash flows).

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Project Budget

Sources of Funds

LGIF Request:		$86,180
Cash Match (List Sources Below):		
Source:		
Source:		
Source:		
Source:		
In-Kind Match (List Sources Below):		
Source:	The City of Oberlin	$5,000
Source:	Project Partners	$5,000
Source:	Oberlin College/Oberlin Project	$5000
Total Match:		$15,000
Total Sources:		$101,180

Uses of Funds

	Amount	Revenue Source
Consultant Fees:	$86,180	LGIF Request
Legal Fees:		
Other: City of Oberlin Staff Time	$5,000	In-Kind Match
Other: Project Partners	$5,000	In-Kind Match
Other: Oberlin College/Oberlin Project	$5,000	In-Kind Match
Other:		
Other:		
Other:		
Other:		
Other:		
Total Uses:	$101,180	
Local Match Percentage:	14.83%	

* Please note that this match percentage will be included in your grant/loan agreement and cannot be changed after awards are made.

Local Match Percentage = (Match Amount/Project Cost) * 100 (10% match required)

☑ 10-39.99% (1 point) ☐ 40-69.99% (3 points) ☐ 70% or greater (5 points)

Project Budget Narrative: Use this space to justify any expenses that are not self-explanatory.

See attached Project Budget Narrative and Timeline

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Program Budget

Actual ✔ Projected	FY 2009	FY 2010	FY 2011
Expenses	**Amount**	**Amount**	**Amount**
Salary and Benefits			
Contract Services			
Occupancy (rent, utilities, maintenance)			
Training and Professional Development			
Insurance			
Travel			
Capital and Equipment Expenses			
Supplies, Printing, Copying, and Postage			
Evaluation			
Marketing			
Conferences, meetings, etc.			
Administration			
***Other -** Gasoline	$363,375	$377,334	$398,858
***Other -** Diesel	$96,071	$104,396	$107,353
***Other -**			
TOTAL EXPENSES	$459.446	$481.730	$506.211
	Revenues	**Revenues**	**Revenues**
Contributions, Gifts, Grants, and Earned Revenue			
Local Government:			
Local Government:			
Local Government:			
State Government			
Federal Government			
**Other -*			
**Other -*			
**Other -*			
Membership Income			
Program Service Fees			
Investment Income			
TOTAL REVENUES	$0	$0	$0

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Program Budget

Actual ☐ Projected ☑

Expenses	FY 2013 Amount	FY 2014 Amount	FY 2015 Amount
Salary and Benefits			
Contract Services			
Occupancy (rent, utilities, maintenance)			
Training and Professional Development			
Insurance			
Travel			
Capital and Equipment Expenses			
Supplies, Printing, Copying, and Postage			
Evaluation			
Marketing			
Conferences, meetings, etc.			
Administration			
***Other -** Gasoline	$378,916	$359,970	$341,971
***Other -** Diesel	$101,986	$96,886	$92,042
***Other -**			
TOTAL EXPENSES	$480.902	$456,856	$434.013
	Revenues	**Revenues**	**Revenues**
Contributions, Gifts, Grants, and Earned Revenue			
Local Government:			
Local Government:			
Local Government:			
State Government			
Federal Government			
**Other -*			
**Other -*			
**Other -*			
Membership Income			
Program Service Fees			
Investment Income			
TOTAL REVENUES	$0	$0	$0

Lead Applicant	City of Oberlin	Round 3	
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Program Budget

Use this space to justify the program budget and/or explain any usual revenues or expenses (6000 characters max).

To calculate the cost savings that would result from this project, we used fuel consumption data from each fleet partner over the past 3 years and applied our target goal of a 15% reduction in fuel use by the end of FY 2015. Although different partners paid variable prices per gallon for fuel, we used a fixed annual price to calculate costs in order to better illustrate the cost savings that result from efficiency rather than due to price fluctuations. Historical fuel use combined totals (in gallons) are as follows:

2009-10: $459,446
132,136 gallons gasoline @ $2.75/gallon = $363,375 38,428 gallons diesel @ $2.50/gallon = $96,071

2010-11: $481,730
125,778 gallons gasoline @ $3.00/gallon = $377,334 37,284 gallons diesel @ 2.80/gallon = $104,396

2011-12: $506,212
122,726 gallons gasoline @ $3.25/gallon = $398,858 30,032 gallons diesel @ $3.25/gallon = $107,353

As fuel prices rose, gasoline consumption decreased by 2-4% per year and diesel consumption decreased by 5-17% per year. We expect that this project will result in an additional 15% reduction in fuel costs over 3 years through the implementation of new efficiency measures and potential group fuel purchasing agreements. The savings will not require additional investment. The University of Michigan Transportation Research Institute estimates that a combination of strategic, tactical, and operational decisions can reduce on-road fuel economy by up to 45% (see attached study). We are confident that our cost savings goal of 15% is reasonable and conservative target based on the partner's willingness to collaboratively improve fleet management and driver practices.

The Program Budget projection reflects a 5% reduction in fuel costs each year for 3 years which allows time to adopt and achieve sustained changes in driver behavior and fleet management. We used a constant fuel price of $3.25/gallon for diesel and gasoline in our calculations. The projected savings compared to FY 2012 are $25,311 in FY 2013, $49.356 in FY 2014, and $72,198 in FY 2015. The total savings over the 3-year projection is $146,865.

The diesel fuel consumption from Republic Services is disproportionately large (1.45 million gallons/year) and the nature of the business requires aggressive efficiency measures. Republic Services' diesel fuel use was excluded from the totals and 15% savings goal so as not to skew the projected savings and ROI calculations. The benefit of including Republic Services in this project is to involve a major fuel consumer in the very early discussions about alternative fuel use in the community.

Since an alternative fuel strategy for the City of Oberlin is yet to be identified and will likely include a mix of fuels, the required capital investment in infrastructure and assets is unknown. We consider infrastructure development and vehicle deployment to be a separate program with a distinct project scope of work that will be informed by this project to understand fleets in the community and reduce fuel costs through efficiency measures.

Section 4: Financial Information Scoring

- [x] (5 points) Applicant provided complete and accurate budget information and narrative justification for a total of six fiscal years.
- [ ] (3 points) Applicant provided complete and accurate budget information and for at least three fiscal years.
- [ ] (1 point) Applicant provided complete and accurate budget information for less than three fiscal years.

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Return On Investment

Return on Investment is a performance measure used to evaluate the efficiency of an investment. To derive the expected return on investment, divide the net gains of the project by the net costs. For these calculations, please use the implementation gains and costs, NOT the project costs (the cost of the feasibility, planning, or management study)--unless the results of this study will lead to direct savings without additional implementation costs. The gains from this project should be derived from the prior and future program budgets provided, and should be justified in the return on investment narrative.

Return on Investment Formulas:

Consider the following questions when determining the appropriate ROI formula for the project. Check the box of the formula used to determine the ROI for the project. These numbers should refer to savings/revenues illustrated in projected budgets.

Do you expect cost savings from efficiency from the project?

☑ Use this formula: $\frac{\text{Total \$ Saved}}{\text{Total Program Costs}} * 100 = \text{ROI}$

Do you expect cost avoidance from the implementation of the project/program?

☐ Use this formula: $\frac{\text{Total Cost Avoided}}{\text{Total Program Costs}} * 100 = \text{ROI}$

Do you expect increased revenues as a result of the project/program?

☐ Use this formula: $\frac{\text{Total New Revenue}}{\text{Total Program Costs}} * 100 = \text{ROI}$

Expected Return on Investment = $\frac{\$146,865}{\$96,080} * 100 =$ 152.86%

Return on Investment Justification Narrative: In the space below, briefly describe the nature of the expected return on investment, using references when appropriate. (1300 character limit)

The total annual fuel costs without the project are estimated at $506,212 for all the fleet partners (with the exception of Republic Services diesel fuel use). This project will result in a direct savings of $146,865 over 3 years at constant fuel prices and without additional investment costs. Therefore, we used the total project cost of $96,080 in our ROI calculation. The findings of this project will likely lead to new investments by the project partners in the future but we do not consider those investments to be within the scope of this project or program budget.

Expected Return on Investment is:

☐ Less than 25% (10 points) ☐ 25%-74.99% (20 points) ☑ Greater than 75% (30 points)

Questions about how to calculate ROI? Please contact the Office of Redevelopment at 614-995-2292 or lgif@development.ohio.gov

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Loan Repayment Structure

Please outline the preferred loan repayment structure. At a minimum, please include the following: the entities responsible for repayment of the loan, all parties responsible for providing match amounts, and an alternative funding source (in lieu of collateral). Applicants will have two years to complete the project upon execution of the loan agreement, and the repayment period will begin upon the final disbursement of the loan funds. A description of expected savings over the term of the loan may be used as a repayment source.

Applicant demonstrates a viable repayment source to support loan award. Secondary source can be in the form of a debt reserve, bank participation, a guarantee from a local entity, or other collateral (i.e. emergency, rainy day, or contingency fund, etc).

☐ Applicant clearly demonstrates a secondary repayment source (5 points)

☐ Applicant does not have a secondary repayment source (0 points)

Lead Applicant	City of Oberlin	Round 3	
Project Name	Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets	Type of Request	Grant

Scoring Overview

Section 1: Collaborative Measures

Collaborative Measures	Description	Max Points		Applicant Self Score
Population	Applicant's population (or the population of the area(s) served) falls within one of the listed categories as determined by the U.S. Census Bureau. Population scoring will be determined by the **smallest** population listed in the application. Applications from (or collaborating with) small communities are preferred.	**5**		5
Participating Entities	Applicant has executed partnership agreements outlining all collaborative partners and participation agreements and has resolutions of support. (Note: Sole applicants only need to provide a resolution of support from its governing entity.	**5**		5
Section 2: Success Measures				
Past Success	Applicant has successfully implemented, or is following project guidance from a shared services model, for an efficiency, shared service, coproduction or merger project in the past.	**5**		5
Scalable/Replicable Proposal	Applicant's proposal can be replicated by other local governments or scaled for the inclusion of other local governments.	**10**		10
Probability of Success	Applicant provides a documented need for the project and clearly outlines the likelihood of the need being met.	**5**		5
Section 3: Significance Measures				
Performance Audit Implementation/Cost Benchmarking	The project implements a single recommendation from a performance audit provided by the Auditor of State under Chapter 117 of the Ohio Revised Code or is informed by cost benchmarking.	**5**		0
Economic Impact	Applicant demonstrates the project will a promote business environment (i.e., demonstrates a business relationship resulting from the project) and will provide for community attraction (i.e., cost avoidance with respect to taxes)	**5**		5
Response to Economic Demand	The project responds to current substantial changes in economic demand for local or regional government services.	**5**		5
Section 4: Financial Measures				
Financial Information	Applicant includes financial information (i.e., service related operating budgets) for the most recent three years and the three year period following the project. The financial information must be directly related to the scope of the project and will be used as the cost basis for determining any savings resulting from the project.	**5**		5
Local Match	Percentage of local matching funds being contributed to the project. This may include in-kind contributions.	**5**		1
Expected Return	Applicant demonstrates as a percentage of savings (i.e., actual savings, increased revenue, or cost avoidance) an expected return. The return must be derived from the applicant's cost basis.	**30**		30
Repayment Structure (Loan Only)	Applicant demonstrates a viable repayment source to support loan award. Secondary source can be in the form of a debt reserve, bank participation, a guarantee from a local entity, or other collateral (i.e., emergency fund, rainy day fund, contingency fund, etc.).	**5**		0
			Total Points	76

City of Oberlin, Ohio

RESOLUTION No. R12-10 CMS

A RESOLUTION SUPPORTING THE CITY OF OBERLIN'S APPLICATION FOR A LOCAL GOVERNMENT INNOVATION FUND GRANT FOR A FLEET ANALYSIS PROGRAM IN CONJUNCTION WITH OTHER LOCAL PARTNERS AND AUTHORIZING THE CITY MANAGER TO FILE AN APPLICATION THEREFORE AND DECLARING AN EMERGENCY

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in partnership with other entities; and

WHEREAS, the City of Oberlin and other local partners, including Oberlin City Schools, New Russia Township, Kendal at Oberlin, Lorain County Joint Vocational School and Oberlin College, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City of Oberlin believes opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project partners' fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project partners to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Oberlin, County of Lorain, State of Ohio, five-sevenths (5/7ths) of all members elected thereto concurring:

SECTION 1. That Oberlin City Council does hereby declare its strong support for the City of Oberlin Local Government Innovation Fund grant submission to the State of Ohio.

SECTION 2. That the City Manager is hereby authorized to prepare and file application materials to the State of Ohio Department of Development, Local Government Innovation Fund Program, for financial assistance, and to provide all information and documentation required to become eligible to access such possible funding assistance.

SECTION 3. That the City Manager is further authorized to enter into such agreements as are required by the Program guidelines to submit the LGIF program application in a timely manner.

SECTION 4. That if the City is awarded funding, and, subject to the availability and appropriation of any local monies necessary, and further subject to authorization by Oberlin City Council, the City of Oberlin agrees to obligate funds required to satisfactorily complete the proposed project which will become eligible for reimbursement under the terms and conditions of the State of Ohio Department of Development, Local Government Innovation Fund program.

SECTION 5. It is found and determined that all formal actions of this Council concerning or relating to the adoption of this Resolution were adopted in an open meeting of this Council and that all deliberations of this Council and of any of its committees that resulted in such formal action, were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

SECTION 6. That this Resolution is hereby declared to be an emergency measure necessary for the immediate preservation of the public peace, health and safety of the citizens of the City of Oberlin, or to provide for the usual daily operation of a municipal department, to wit:

"to authorize the submission of a grant application in a timely manner", and shall take place immediately upon passage.

PASSED: 1st Reading – August 20, 2012 (E, F)
2nd Reading –
3rd Reading –

ATTEST:

BELINDA B. ANDERSON, CMC
CLERK OF COUNCIL

RONNIE J. RIMBERT
PRESIDENT OF COUNCIL

POSTED: 08/20/2012

EFFECTIVE DATE: 08/21/2012

A RESOLUTION SUPPORTING THE CITY OF OBERLIN'S APPLICATION FOR A LOCAL GOVERNMENT INNOVATION FUND GRANT FOR A FLEET ANALYSIS PROGRAM IN CONJUNCTION WITH OTHER LOCAL PARTNERS

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in partnership with other entities; and

WHEREAS, the City of Oberlin and other local partners, including Oberlin City Schools, New Russia Township, Kendal at Oberlin, Lorain County Joint Vocational School and Oberlin College, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the Oberlin City Schools believes opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project partners' fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Schools supports working in collaboration with the identified project partners to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW, THEREFORE, BE IT RESOLVED, that the Oberlin City School District Board of Education agrees to pursue Local Government Innovation Funds for the purpose of making improvements to its transportation Department in partnership with the City of Oberlin on this 21st day of August, 2012.

Upon roll call on the adoption of the Resolution, the vote was as follows:

Mr. Ken Stanley	Aye	____
Ms. A. Beth Weiss	Aye	____
Mr. Barry Richard	Aye	____
_____	____	____
_____	____	____

New Russia Township, Oberlin, Ohio

RESOLUTION No. 2012-08-08

A RESOLUTION SUPPORTING THE CITY OF OBERLIN'S APPLICATION FOR A LOCAL GOVERNMENT INNOVATION FUND GRANT FOR A FLEET ANALYSIS PROGRAM IN CONJUNCTION WITH OTHER LOCAL PARTNERS AND AUTHORIZING THE CITY MANAGER TO FILE AN APPLICATION THEREFORE AND DECLARING AN EMERGENCY

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in partnership with other entities; and

WHEREAS, the City of Oberlin and other local partners, including Oberlin City Schools, New Russia Township, Kendal at Oberlin, Lorain County Joint Vocational School and Oberlin College, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City of Oberlin believes opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project partners' fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the New Russia Township Trustees' support working in collaboration with the identified project partners to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW, THEREFORE, BE IT RESOLVED by the Trustees' of New Russia Township, Oberlin, County of Lorain, State of Ohio, all members elected thereto concurring:

SECTION 1. That New Russia Township Trustees do hereby declare its strong support for the City of Oberlin Local Government Innovation Fund grant submission to the State of Ohio.

SECTION 2. That the Township Fiscal Officer is hereby authorized to prepare and file any necessary materials required by the City for this application.

SECTION 3. That the Fiscal Officer is further authorized to enter into such agreements as are required by the Program guidelines.

SECTION 4. That if the City is awarded funding, and, subject to the availability and appropriation of any local monies necessary, and further subject to authorization by Oberlin City Council, the City of Oberlin agrees to obligate funds required to satisfactorily complete the proposed project which will become eligible for reimbursement under the terms and conditions of the State of Ohio Department of Development, Local Government Innovation Fund program.

SECTION 5. It is found and determined that all formal actions of the Township Trustees' concerning or relating to the adoption of this Resolution were adopted in an open meeting of this Council and that all deliberations of this Council and of any of its committees that resulted in such formal action, were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

PASSED: 1st Reading – August 7, 2012

ATTEST:

Lisa M. Gregory
FISCAL OFFICER

Patti Brubaker
CHAIRMAN OF TRUSTEES

EFFECTIVE DATE:

Lorain County JVS Board of Education

Regular Meeting Agenda
August 16, 2012
6:30 p.m.

A. President's Section:

1. Call to Order.
2. Pledge of Allegiance.
3. ROLL CALL:
   Mr. Jim Barnhart - Midview
   Mr. Dwayne Becker - Firelands
   Ms. Brenda Buchanan - Columbia
   Mr. Rex Engle – Amherst
   Mr. Art Goforth – Avon
   Ms. Sandra Jensen – Sheff/Sheff. Lake
   Mrs. Kathryn Karpus – Elyria
   Dr. Richard Marcucci - Clearview
   Ms. Kelly McCarthy – N. Ridgeville
   Mrs. Deborah Melda - Keystone
   Mrs. Pamela Ohradzansky- Avon Lake
   Mr. Barry Richard - Oberlin
   Ms. Sally Stewart - Wellington
4. Hearing of the public
5. Presentations :
6. Administrative Reports:
   a. High School Principal ..... Jill Petitti
   b. Adult Career Center Director ..... Chris Fletcher
7. Motion to approve the agenda.
8. Motion to approve expenses from the Board Service Fund.
9. Comments/Discussion – Board Update

B. Treasurer's Report

1. Motion to approve the minutes of the July 19, 2012 Regular Meeting. (Attachment 1)
2. Motion to approve the Financial Statement and Investments for July 2012. (Attachment 2)
3. Motion to approve the following Then & Now Certificates:
   - US Post Office - PO# 130419 in the amount of $9,158.85 for Adult Career Center Fall 2012 Course Catalog mailing.
   - M & R Truck Service - PO# 130440 in the amount of $3,359.10 for service on the JVS School Buses.
   - Aprima Medical Software – PO# 130454 in the amount of $3,286.50 for renewal of Aprima HER Database for Adult Career Center.
4. Motion to approve transferring $25,000 from the General Fund to Adult Ed.

C. Superintendent's Report:

1. Employment for the 2012-2013 school year, as per salary schedule, of the following personnel: (**Employment is contingent on a satisfactory criminal records check as required by law and the individual shall be deemed employed only on a conditional basis until the satisfactory check has been received.*)

Adult Ed:		
Ronald Bowman	Certified	Instructor/Substitute/$17.50 per hour
Tracey Overy	Certified	Instructor/Substitute/$17.50 per hour

2. Motion to approve the rehiring of retiree Sharon Kline* as a GRADS Instructor – Elyria High with a one-year contract effective September 4, 2012 – June 30, 2013 at a pro-rated salary of $47,013.36.

3. Motion to approve the resignation of Julie Haddad as GED/ABLE instructor for the Adult Career Center effective August 25, 2012.

4. Motion to approve the Student Activity Fund Budgets. (Available the night of the Board meeting.)

5. Motion to approve the Fall 2012 Adult Career Center Catalog (Item #1)

6. Motion to approve the second reading and adoption of the following Board Policies (Item #2):
   - EBCE - Protection For Reporting Safety and Fraud Violations
   - JFCF – Hazing and Bullying (Harassment, Intimidation and Dating Violence)

7. Motion to approve supporting the following resolution:

CITY OF OBERLIN, OHIO

RESOLUTION No. R12-10 CMS

A RESOLUTION SUPPORTING THE CITY OF OBERLIN'S APPLICATION FOR A LOCALGOVERNMENT INNOVATION FUND GRANT FOR A FLEET ANALYSIS PROGRAM IN CONJUNCTION WITH OTHER LOCAL PARTNERS AND AUTHORIZING THE CITY MANAGER TO FILE AN APPLICATION THEREFORE AND DECLARING AN EMERGENCY

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in partnership with other entities; and

WHEREAS, the City of Oberlin and other local partners, including Oberlin City Schools, New Russia Township, Kendal at Oberlin, Lorain County Joint Vocational School and Oberlin College, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City of Oberlin believes opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project partners' fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project partners to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Oberlin, County of Lorain, State of Ohio, five-sevenths (5/7ths) of all members elected thereto concurring:

SECTION 1. That Oberlin City Council does hereby declare its strong support for the City of Oberlin Local Government Innovation Fund grant submission to the State of Ohio.

SECTION 2. That the City Manager is hereby authorized to prepare and file application materials to the State of Ohio Department of Development, Local Government Innovation Fund Program, for financial assistance, and to provide all information and documentation required to become eligible to access such possible funding assistance.

SECTION 3. That the City Manager is further authorized to enter into such agreements as are required by the Program guidelines to submit the LGIF program application in a timely manner.

SECTION 4. That if the City is awarded funding, and, subject to the availability and appropriation of any local monies necessary, and further subject to authorization by Oberlin City Council, the City of Oberlin agrees to obligate funds required to satisfactorily complete the proposed project which will become eligible for reimbursement under the terms and conditions of the State of Ohio Department of Development, Local Government Innovation Fund program.

SECTION 5. It is found and determined that all formal actions of this Council concerning or relating to the adoption of this Resolution were adopted in an open meeting of this Council and that all deliberations of this Council and of any of its committees that resulted in such formal action, were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

SECTION 6. That this Resolution is hereby declared to be an emergency measure necessary for the immediate preservation of the public peace, health and safety of the citizens of the City of Oberlin, or to provide for the usual daily operation of a municipal department, to wit:

"to authorize the submission of a grant application in a timely manner", and shall take place immediately upon passage.

8. Motion to approve the donation of a 2009 Chrysler Sebring and a 2009 Chevrolet Aveo from Allstate Insurance, Farmington Hills, MI. These items will be used in our Auto Technology and Collision Repair Programs.

D. Committee Reports:

I. Curriculum Committee:
II. Facilities Committee:
III. Finance & Audit Committee:
IV. Policy Committee:
V. Educational Foundation Report
VI. Legislation Liaison Report
VII. Student Achievement Report
VIII. Strategic Plan Report

E.

1. Motion to enter into Executive Session under O.R.C. §121.22 for the purpose of appointment, employment, dismissal, discipline, promotion, demotion, compensation and investigation of charges/complaints (unless public hearing requested) of personnel. With possible action to follow.

2. Motion for Adjournment.

NOTE: Public Participation at Board Meetings – Each person addressing the Board shall give his/her name and address and is permitted three minutes to address the Board. If several people wish to speak, each person is allotted three minutes until the total time of 30 minutes is used. During that period, no person may speak twice until all who desire to speak have had the opportunity to do so. Persons desiring more time should follow the procedure of the Board to be placed on the regular agenda.

INFORMATIONAL ITEMS:

Student Orientation:
Underclassmen - August 14, 2012
Seniors - August 15, 2012

New Teacher Orientation:
August 20, 2012

Staff In-Service:
August 24, 2012

First Day for Juniors:
August 27, 2012

First Day for Seniors:
August 28, 2012

Lorain County Fair
August 20-26, 2012
Booth Staffed by
JVS Personnel
In Building 23, near Gate 4

, 2012

Eric Norenberg, City Manager
City of Oberlin
85 S. Main Street
Oberlin, OH 44074

Dear Mr. Norenberg,

C.C.S. is pleased to partner with the City of Oberlin on their application for the Local Government Innovation Fund grant opportunity from the Ohio Department of Development.

The partner is interested in advancing alternative fuel adoption and use. As a way of supporting this effort, C.C.S. intends to collaborate with the City of Oberlin in a fleet analysis program. Specifically, over the course of one year starting in October 2012, C.C.S. commits to:

- Participating in a fleet assessment to identify alternative fuel replacement options.
- Developing a fleet specific petroleum reduction plan based on the assessment.
- Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
- Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
- Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
- Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

C.C.S. understands that the Local Government Innovation Fund will be awarded on a competitive basis. If this partnership grant application is approved and the Ohio Department of Development awards a grant to the City of Oberlin, C.C.S. intends to quickly take action to ensure a senior staff-member is identified as the point-of- contact to represent C.C.S. at the table.

We are excited about this opportunity and pleased to be included in this statewide application. C.C.S. believes in the regional and environmental significance of this collaborative effort and hopes to move forward in working with the City of Oberlin and the Clean Energy Coalition to implement this project.

Sincerely,

Clark A. Hall
Custom Cleaning Services

July 27, 2012

Eric Norenberg, City Manager
City of Oberlin
85 S. Main Street
Oberlin, OH 44074

Dear Mr. Norenberg,

Republic Services is pleased to partner with the City of Oberlin on their application for the Local Government Innovation Fund grant opportunity from the Ohio Department of Development.

Republic is interested in advancing alternative fuel adoption and use. As a way of supporting this effort, Republic intends to collaborate with the City of Oberlin in a fleet analysis program. Specifically, over the course of one year starting in October 2012, Republic commits to:

- Participating in a fleet assessment to identify alternative fuel replacement options.
- Developing a fleet specific petroleum reduction plan based on the assessment.
- Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
- Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
- Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
- Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

Republic understands that the Local Government Innovation Fund will be awarded on a competitive basis. If this partnership grant application is approved and the Ohio Department of Development awards a grant to the City of Oberlin, Republic intends to quickly take action to ensure a senior staff-member is identified as the point-of- contact to represent Republic at the table.

We are excited about this opportunity and pleased to be included in this statewide application. Republic believes in the regional and environmental significance of this collaborative effort and hopes to move forward in working with the City of Oberlin and the Clean Energy Coalition to implement this project.

Sincerely,

Jeff Kraus

Agreement

This Agreement is made and entered into this 7 day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, CCS. hereinafter called "CCS". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and CCS, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and CCS believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and CCS agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/3/12

Date

By (CCS): Custom Cleaning Service

Charles A. Hoots

Name

Owner

Title

8-7-12

Date

Approved as to Form

By:

Eric R. Severs, Law Director, City of Oberlin

Agreement

This Agreement is made and entered into this 6th day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, Kendal at Oberlin hereinafter called "Kendal". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and Kendal, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and Kendal believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and Kendal agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/28/12

Date

Approved as to Form

By:

Eric R. Severs, Law Director, City of Oberlin

By: Barbara W. Thomas

Barbara Thomas
Name
Chief Executive Officer
Title

August 6, 2012
Date

Agreement

This Agreement is made and entered into this 22nd day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, LORAIN CO JVS hereinafter called "LCJVS". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and LCJVS, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and LCJVS believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and LCJVS agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/12/12

Date

Approved as to Form

By:

Eric R. Severs, Law Director, City of Oberlin

By (LCJVS):

Susanna Merlone

Name

Director of Business Services

Title

8/22/12

Date

Agreement

This Agreement is made and entered into this 27th day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, Lorain County Community College hereinafter called "LCCC." This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and LCCC, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and LCCC believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and LCCC agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg
City Manager

8/28/12
Date

By Lorain County Community College:

Roy Church
President

8/20/12
Date

Approved as to Form
By: _____

Eric R. Severs, Law Director, City of Oberlin

Agreement

This Agreement is made and entered into this 8th day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, Lorain County Metropolitan Park District. This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities: and

WHEREAS, the City and Lorain County Metropolitan Park District , intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and Lorain County Metropolitan Park District believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and Lorain County Metropolitan Park District agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/28/12

Date

Approved as to Form

By: _____

Eric R. Severs, Law Director, City of Oberlin

By Lorain County Metropolitan Park District

Name

Fleet Supervisor, LCMPD

Title

August 8th 2012

Date

Agreement

This Agreement is made and entered into this 21st day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, Browning Ferris Industries of Ohio, Inc hereinafter called "Republic". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and Republic, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and Republic believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and Republic agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/28/12

Date

By Republic:

Eric VanHouten

General Manager

08-21-2012

Date

Approved as to Form

By:

Eric R. Severs, Law Director, City of Oberlin

Agreement

This Agreement is made and entered into this 22nd day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, Oberlin College hereinafter called the "College". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and the College, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and the College believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and the College agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg

City Manager

8/30/12

Date

By Oberlin College:

Name

DIR. OF BOST. & ENERGY MGMT.

Title

8-30-12

Date

Approved as to Form

By:

Eric R. Severs, Law Director, City of Oberlin

Agreement

This Agreement is made and entered into this 7th day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, New Russia Township hereinafter called "Township". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and Township, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and Township believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and Township agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair, and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the New Russia Township Trustees

Patti Brubaker

Chairman of the Board

8.7.2012

Date

Eric Norenberg, 8/28/12 Date

Lisa M. Gregory

Fiscal Officer

8.7.2012

Date

Approved as to Form:

Eric R. Severs, Law Director

Agreement

This Agreement is made and entered into this 21st day of August, 2012 by and between the City of Oberlin hereinafter called the "City" and, the Oberlin City School District hereinafter called "Oberlin Schools". This Agreement identifies that is it to the benefit of both entities to work cooperatively and collaboratively to improve the operational efficiency of our fleet vehicles.

WHEREAS, the State of Ohio has created a Local Government Innovation Fund grant program to assist communities in finding more efficient and cost effective ways to deliver services in concert with other entities; and

WHEREAS, the City and Oberlin Schools, intend to evaluate our fleets with the goal of increasing efficiency, reducing cost, and reducing the greenhouse gas emissions from the vehicles operating in and around Oberlin; and

WHEREAS, the City and Oberlin Schools believe that opportunities for collaboration exist to improve the efficiency of operations that will benefit the public; and

WHEREAS, a feasibility study is necessary to determine how the identified project participants fleets can reduce costs and carbon emissions through operational efficiency, and then further reduce costs through more efficient fueling opportunities; and

WHEREAS the Oberlin City Council supports working in collaboration with the identified project participants to evaluate opportunities for improved operational efficiency and bulk or alternative fueling solutions to reduce operating costs and/or greenhouse gas emissions and to prepare a feasibility study that will result in a plan for implementation.

NOW THEREFORE, the City and Oberlin Schools agree to enter into this Agreement to strive to improve the efficiency of our fleet vehicles through the following means:

1. Participating in a fleet assessment to identify alternative fuel replacement options.
2. Developing a fleet specific petroleum reduction plan based on the assessment.
3. Exploring and potentially adopting policy changes that establish alternative fuel vehicle procurement/replacement practices.
4. Attending training sessions related to alternative fuel vehicle safety, repair and maintenance.
5. Responding to research requests and providing fleet-specific data to help inform alternative fuel adoption discussions and initiatives.
6. Sharing lessons learned through written and verbal forums to help improve the program and assist others wishing to incorporate the use of alternative fuels into their fleets.

IN WITNESS THEREOF, the parties hereto have caused this Agreement to be executed on their behalf and this Agreement is entered into:

By the City of Oberlin:

Eric Norenberg, City Manager
City Manager

8/28/12
Date

By the Oberlin City School District:

John Schroth, Superintendent

8/21/12
Date

Approved as to Form

By:
Eric R. Severs, Law Director, City of Oberlin

DP-1 | Profile of General Population and Housing Characteristics: 2010

2010 Demographic Profile Data

NOTE: For more information on confidentiality protection, nonsampling error, and definitions, see http://www.census.gov/prod/cen2010/doc/dpsf.pdf.

Geography: Oberlin city, Ohio

Subject	Number	Percent
SEX AND AGE		
Total population	8,286	100.0
Under 5 years	271	3.3
5 to 9 years	294	3.5
10 to 14 years	362	4.4
15 to 19 years	1,490	18.0
20 to 24 years	1,904	23.0
25 to 29 years	285	3.4
30 to 34 years	313	3.8
35 to 39 years	313	3.8
40 to 44 years	292	3.5
45 to 49 years	368	4.4
50 to 54 years	393	4.7
55 to 59 years	419	5.0
60 to 64 years	362	4.4
65 to 69 years	258	3.1
70 to 74 years	219	2.6
75 to 79 years	219	2.6
80 to 84 years	237	2.9
85 years and over	288	3.5
Median age (years)	23.3	(X)
16 years and over	7,276	87.8
18 years and over	7,063	85.2
21 years and over	5,189	62.6
62 years and over	1,424	17.2
65 years and over	1,221	14.7
Male population	3,809	46.0
Under 5 years	135	1.6
5 to 9 years	153	1.8
10 to 14 years	186	2.2
15 to 19 years	676	8.2
20 to 24 years	921	11.1
25 to 29 years	136	1.6
30 to 34 years	146	1.8
35 to 39 years	145	1.7
40 to 44 years	147	1.8
45 to 49 years	169	2.0
50 to 54 years	180	2.2
55 to 59 years	199	2.4
60 to 64 years	163	2.0
65 to 69 years	119	1.4
70 to 74 years	86	1.0
75 to 79 years	82	1.0
80 to 84 years	88	1.1
85 years and over	78	0.9

Subject	Number	Percent
Median age (years)	22.7	(X)
16 years and over	3,287	39.7
18 years and over	3,184	38.4
21 years and over	2,317	28.0
62 years and over	551	6.6
65 years and over	453	5.5
Female population	4,477	54.0
Under 5 years	136	1.6
5 to 9 years	141	1.7
10 to 14 years	176	2.1
15 to 19 years	814	9.8
20 to 24 years	983	11.9
25 to 29 years	149	1.8
30 to 34 years	167	2.0
35 to 39 years	168	2.0
40 to 44 years	145	1.7
45 to 49 years	199	2.4
50 to 54 years	213	2.6
55 to 59 years	219	2.6
60 to 64 years	199	2.4
65 to 69 years	139	1.7
70 to 74 years	133	1.6
75 to 79 years	137	1.7
80 to 84 years	149	1.8
85 years and over	210	2.5
Median age (years)	24.7	(X)
16 years and over	3,989	48.1
18 years and over	3,879	46.8
21 years and over	2,872	34.7
62 years and over	873	10.5
65 years and over	768	9.3
RACE		
Total population	8,286	100.0
One Race	7,751	93.5
White	6,047	73.0
Black or African American	1,230	14.8
American Indian and Alaska Native	19	0.2
Asian	335	4.0
Asian Indian	39	0.5
Chinese	143	1.7
Filipino	7	0.1
Japanese	26	0.3
Korean	70	0.8
Vietnamese	11	0.1
Other Asian [1]	39	0.5
Native Hawaiian and Other Pacific Islander	1	0.0
Native Hawaiian	0	0.0
Guamanian or Chamorro	0	0.0
Samoan	1	0.0
Other Pacific Islander [2]	0	0.0
Some Other Race	119	1.4
Two or More Races	535	6.5
White, American Indian and Alaska Native [3]	50	0.6
White; Asian [3]	111	1.3
White, Black or African American [3]	235	2.8
White; Some Other Race [3]	27	0.3
Race alone or in combination with one or more other races [4]		
White	6,535	78.9
Black or African American	1,563	18.9
American Indian and Alaska Native	146	1.8

Subject	Number	Percent
Asian	473	5.7
Native Hawaiian and Other Pacific Islander	7	0.1
Some Other Race	169	2.0
HISPANIC OR LATINO		
Total population	8,286	100.0
Hispanic or Latino (of any race)	423	5.1
Mexican	128	1.5
Puerto Rican	148	1.8
Cuban	20	0.2
Other Hispanic or Latino [5]	127	1.5
Not Hispanic or Latino	7,863	94.9
HISPANIC OR LATINO AND RACE		
Total population	8,286	100.0
Hispanic or Latino	423	5.1
White alone	220	2.7
Black or African American alone	44	0.5
American Indian and Alaska Native alone	1	0.0
Asian alone	2	0.0
Native Hawaiian and Other Pacific Islander alone	0	0.0
Some Other Race alone	89	1.1
Two or More Races	67	0.8
Not Hispanic or Latino	7,863	94.9
White alone	5,827	70.3
Black or African American alone	1,186	14.3
American Indian and Alaska Native alone	18	0.2
Asian alone	333	4.0
Native Hawaiian and Other Pacific Islander alone	1	0.0
Some Other Race alone	30	0.4
Two or More Races	468	5.6
RELATIONSHIP		
Total population	8,286	100.0
In households	5,973	72.1
Householder	2,730	32.9
Spouse [6]	980	11.8
Child	1,339	16.2
Own child under 18 years	1,027	12.4
Other relatives	247	3.0
Under 18 years	107	1.3
65 years and over	31	0.4
Nonrelatives	677	8.2
Under 18 years	35	0.4
65 years and over	21	0.3
Unmarried partner	152	1.8
In group quarters	2,313	27.9
Institutionalized population	98	1.2
Male	19	0.2
Female	79	1.0
Noninstitutionalized population	2,215	26.7
Male	1,037	12.5
Female	1,178	14.2
HOUSEHOLDS BY TYPE		
Total households	2,730	100.0
Family households (families) [7]	1,381	50.6
With own children under 18 years	544	19.9
Husband-wife family	980	35.9
With own children under 18 years	318	11.6
Male householder, no wife present	94	3.4
With own children under 18 years	44	1.6
Female householder, no husband present	307	11.2
With own children under 18 years	182	6.7

Subject	Number	Percent
Nonfamily households [7]	1,349	49.4
Householder living alone	1,045	38.3
Male	410	15.0
65 years and over	109	4.0
Female	635	23.3
65 years and over	350	12.8
Households with individuals under 18 years	656	24.0
Households with individuals 65 years and over	872	31.9
Average household size	2.19	(X)
Average family size [7]	2.86	(X)
HOUSING OCCUPANCY		
Total housing units	2,984	100.0
Occupied housing units	2,730	91.5
Vacant housing units	254	8.5
For rent	126	4.2
Rented, not occupied	4	0.1
For sale only	35	1.2
Sold, not occupied	8	0.3
For seasonal, recreational, or occasional use	25	0.8
All other vacants	56	1.9
Homeowner vacancy rate (percent) [8]	2.5	(X)
Rental vacancy rate (percent) [9]	8.3	(X)
HOUSING TENURE		
Occupied housing units	2,730	100.0
Owner-occupied housing units	1,350	49.5
Population in owner-occupied housing units	3,185	(X)
Average household size of owner-occupied units	2.36	(X)
Renter-occupied housing units	1,380	50.5
Population in renter-occupied housing units	2,788	(X)
Average household size of renter-occupied units	2.02	(X)

X Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] One of the four most commonly reported multiple-race combinations nationwide in Census 2000.

[4] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

[5] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic."

[6] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."

[7] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

[8] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100.

[9] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.

Source: U.S. Census Bureau, 2010 Census.

DP-1 | Profile of General Population and Housing Characteristics: 2010

2010 Demographic Profile Data

NOTE: For more information on confidentiality protection, nonsampling error, and definitions, see http://www.census.gov/prod/cen2010/doc/dpsf.pdf.

Geography: Lorain County, Ohio

Subject	Number	Percent
SEX AND AGE		
Total population	301,356	100.0
Under 5 years	18,037	6.0
5 to 9 years	19,913	6.6
10 to 14 years	21,021	7.0
15 to 19 years	21,452	7.1
20 to 24 years	17,074	5.7
25 to 29 years	16,084	5.3
30 to 34 years	17,541	5.8
35 to 39 years	19,435	6.4
40 to 44 years	20,837	6.9
45 to 49 years	23,317	7.7
50 to 54 years	23,946	7.9
55 to 59 years	21,145	7.0
60 to 64 years	18,423	6.1
65 to 69 years	12,886	4.3
70 to 74 years	10,042	3.3
75 to 79 years	7,737	2.6
80 to 84 years	6,470	2.1
85 years and over	5,996	2.0
Median age (years)	40.0	(X)
16 years and over	238,036	79.0
18 years and over	229,278	76.1
21 years and over	217,001	72.0
62 years and over	53,819	17.9
65 years and over	43,131	14.3
Male population	148,135	49.2
Under 5 years	9,239	3.1
5 to 9 years	10,245	3.4
10 to 14 years	10,721	3.6
15 to 19 years	10,966	3.6
20 to 24 years	8,853	2.9
25 to 29 years	8,090	2.7
30 to 34 years	8,890	2.9
35 to 39 years	9,622	3.2
40 to 44 years	10,498	3.5
45 to 49 years	11,474	3.8
50 to 54 years	11,840	3.9
55 to 59 years	10,436	3.5
60 to 64 years	8,897	3.0
65 to 69 years	6,053	2.0
70 to 74 years	4,561	1.5
75 to 79 years	3,314	1.1
80 to 84 years	2,500	0.8
85 years and over	1,936	0.6

Subject	Number	Percent
Median age (years)	38.8	(X)
16 years and over	115,753	38.4
18 years and over	111,262	36.9
21 years and over	104,895	34.8
62 years and over	23,604	7.8
65 years and over	18,364	6.1
Female population	153,221	50.8
Under 5 years	8,798	2.9
5 to 9 years	9,668	3.2
10 to 14 years	10,300	3.4
15 to 19 years	10,486	3.5
20 to 24 years	8,221	2.7
25 to 29 years	7,994	2.7
30 to 34 years	8,651	2.9
35 to 39 years	9,813	3.3
40 to 44 years	10,339	3.4
45 to 49 years	11,843	3.9
50 to 54 years	12,106	4.0
55 to 59 years	10,709	3.6
60 to 64 years	9,526	3.2
65 to 69 years	6,833	2.3
70 to 74 years	5,481	1.8
75 to 79 years	4,423	1.5
80 to 84 years	3,970	1.3
85 years and over	4,060	1.3
Median age (years)	41.3	(X)
16 years and over	122,283	40.6
18 years and over	118,016	39.2
21 years and over	112,106	37.2
62 years and over	30,215	10.0
65 years and over	24,767	8.2
RACE		
Total population	301,356	100.0
One Race	292,362	97.0
White	255,410	84.8
Black or African American	25,799	8.6
American Indian and Alaska Native	883	0.3
Asian	2,811	0.9
Asian Indian	751	0.2
Chinese	562	0.2
Filipino	540	0.2
Japanese	154	0.1
Korean	305	0.1
Vietnamese	217	0.1
Other Asian [1]	282	0.1
Native Hawaiian and Other Pacific Islander	49	0.0
Native Hawaiian	9	0.0
Guamanian or Chamorro	12	0.0
Samoan	11	0.0
Other Pacific Islander [2]	17	0.0
Some Other Race	7,410	2.5
Two or More Races	8,994	3.0
White; American Indian and Alaska Native [3]	1,450	0.5
White; Asian [3]	847	0.3
White; Black or African American [3]	3,975	1.3
White; Some Other Race [3]	1,132	0.4
Race alone or in combination with one or more other races [4]		
White	263,438	87.4
Black or African American	30,995	10.3
American Indian and Alaska Native	3,062	1.0

Subject	Number	Percent
Asian	3,976	1.3
Native Hawaiian and Other Pacific Islander	267	0.1
Some Other Race	9,255	3.1
HISPANIC OR LATINO		
Total population	301,356	100.0
Hispanic or Latino (of any race)	25,290	8.4
Mexican	5,490	1.8
Puerto Rican	17,580	5.8
Cuban	236	0.1
Other Hispanic or Latino [5]	1,984	0.7
Not Hispanic or Latino	276,066	91.6
HISPANIC OR LATINO AND RACE		
Total population	301,356	100.0
Hispanic or Latino	25,290	8.4
White alone	13,867	4.6
Black or African American alone	1,510	0.5
American Indian and Alaska Native alone	248	0.1
Asian alone	53	0.0
Native Hawaiian and Other Pacific Islander alone	14	0.0
Some Other Race alone	7,108	2.4
Two or More Races	2,490	0.8
Not Hispanic or Latino	276,066	91.6
White alone	241,543	80.2
Black or African American alone	24,289	8.1
American Indian and Alaska Native alone	635	0.2
Asian alone	2,758	0.9
Native Hawaiian and Other Pacific Islander alone	35	0.0
Some Other Race alone	302	0.1
Two or More Races	6,504	2.2
RELATIONSHIP		
Total population	301,356	100.0
In households	292,024	96.9
Householder	116,274	38.6
Spouse [6]	58,748	19.5
Child	88,610	29.4
Own child under 18 years	64,528	21.4
Other relatives	14,336	4.8
Under 18 years	6,111	2.0
65 years and over	2,210	0.7
Nonrelatives	14,056	4.7
Under 18 years	1,261	0.4
65 years and over	659	0.2
Unmarried partner	7,923	2.6
In group quarters	9,332	3.1
Institutionalized population	6,530	2.2
Male	5,053	1.7
Female	1,477	0.5
Noninstitutionalized population	2,802	0.9
Male	1,372	0.5
Female	1,430	0.5
HOUSEHOLDS BY TYPE		
Total households	116,274	100.0
Family households (families) [7]	80,077	68.9
With own children under 18 years	33,993	29.2
Husband-wife family	58,748	50.5
With own children under 18 years	22,122	19.0
Male householder, no wife present	5,574	4.8
With own children under 18 years	2,791	2.4
Female householder, no husband present	15,755	13.5
With own children under 18 years	9,080	7.8

Subject	Number	Percent
Nonfamily households [7]	36,197	31.1
Householder living alone	30,248	26.0
Male	13,217	11.4
65 years and over	3,206	2.8
Female	17,031	14.6
65 years and over	8,484	7.3
Households with individuals under 18 years	37,908	32.6
Households with individuals 65 years and over	30,650	26.4
Average household size	2.51	(X)
Average family size [7]	3.02	(X)
HOUSING OCCUPANCY		
Total housing units	127,036	100.0
Occupied housing units	116,274	91.5
Vacant housing units	10,762	8.5
For rent	4,173	3.3
Rented, not occupied	162	0.1
For sale only	2,110	1.7
Sold, not occupied	594	0.5
For seasonal, recreational, or occasional use	714	0.6
All other vacants	3,009	2.4
Homeowner vacancy rate (percent) [8]	2.4	(X)
Rental vacancy rate (percent) [9]	11.6	(X)
HOUSING TENURE		
Occupied housing units	116,274	100.0
Owner-occupied housing units	84,746	72.9
Population in owner-occupied housing units	217,373	(X)
Average household size of owner-occupied units	2.56	(X)
Renter-occupied housing units	31,528	27.1
Population in renter-occupied housing units	74,651	(X)
Average household size of renter-occupied units	2.37	(X)

X Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] One of the four most commonly reported multiple-race combinations nationwide in Census 2000.

[4] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

[5] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic."

[6] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."

[7] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

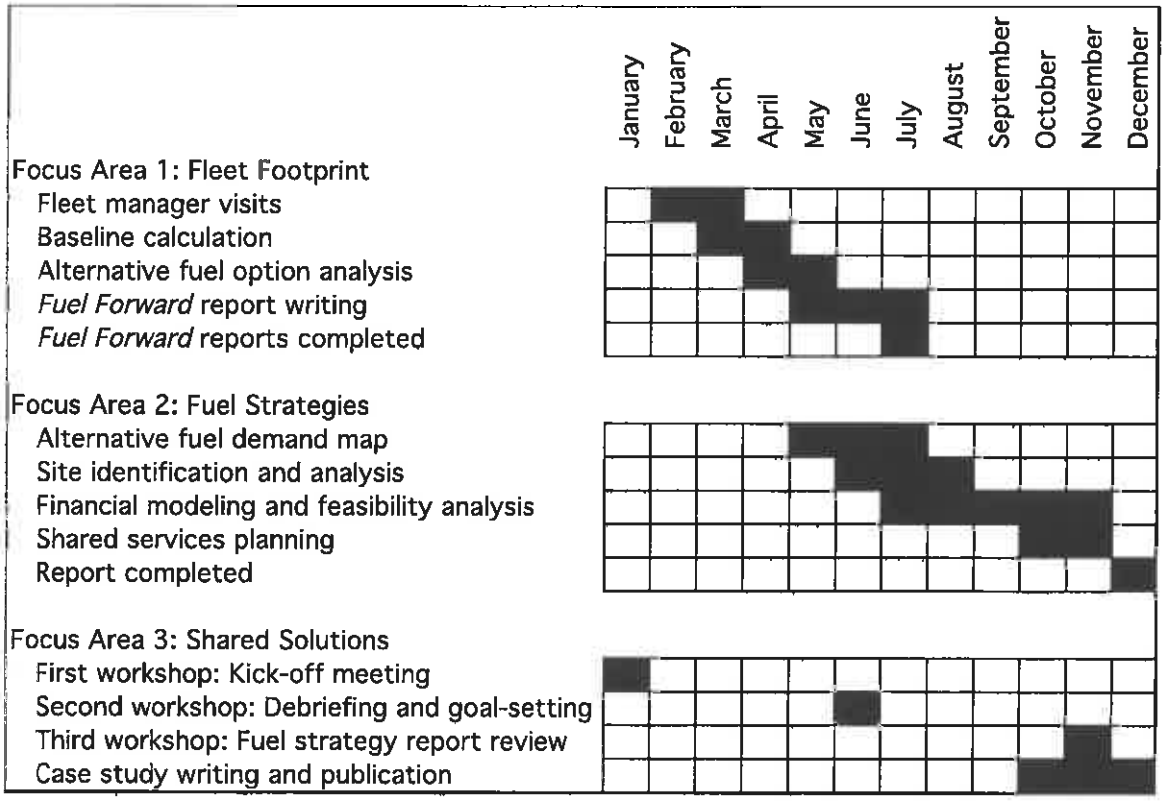
[8] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100.

[9] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.

Source: U.S. Census Bureau, 2010 Census.

Budget Narrative and Timeline

The City, College, Oberlin Project and partners commit to at least $15,000 in shared services to cover staff time and contract execution. This includes $4,800 from fiscal years 2010 and 2011 that were used to prepare for this project. The majority of the project costs are for consulting services and will result in the following deliverables. Focus Area 1: Fleet Footprint ($35,000): On-site interviews with each fleet partner, calculation of fleet-specific fuel use and emissions baselines, analysis of alternative fuel options, quantification of potential demand for alternative fuels, summary report for each fleet partner. Focus Area 2: Fuel Strategy ($35,000): Strategy document, demand forecast, budget for alternative fuel infrastructure development, and cash-flow evaluation. Focus Area 3: Shared Solutions ($7,000): Three facilitated workshops, publication-ready case studies for individual fleets and collaborative project results. Final Report ($7,000): Compile case studies for each fleet, description of methodology for estimating AFV demand, summary of fuel strategy for publication on the City of Oberlin's web site. A small portion of the project budget will cover printing costs for each fleet summary report and the fuel strategy document and travel costs for on-site work. ($2,180).



Name Jessica Minor **Phone Number:** 440.775.6200

Address 70 N Professor St. Oberlin, OH 44074 **Occupation:** Project Manager

Date	Time	Hours	Service	Rate	Total
26-Jan	9-10a	1	Transportation Working Group Meeting	$28.84	$28.84
1-Feb	9-10a	1	Transportation Working Group Meeting	$28.84	$28.84
1-Feb	1:30-2:30	1	Brainstorming goals	$28.84	$28.84
1-Mar	2-5p	3	meeting with public works director	$28.84	$86.52
21-Mar	1:30-3:30	2	LGIF - stakeholder meeting	$28.84	$57.68
5-Apr	2-5p	3	meeting with public works director	$28.84	$86.52
20-Apr	9-5p	8	EV conference	$28.84	$230.72
26-Apr	3-5p	2	meeting with public works director	$28.84	$57.68
1-May	1:30-2:30P	1	call with Clean Fuels Ohio	$28.84	$28.84
7-May	2-5p	3	Transportation Working Group Meeting	$28.84	$86.52
15-May	2:30-3:30p	1	call with Clean Energy Coalition	$28.84	$28.84
17-May	9:30-10:30	1	call with CEC	$28.84	$28.84
30-May	10:30-11:3	1	call with City Manager	$28.84	$28.84
7-Jun	2-5p	3	meeting with Amanda Woodrum, Policy Matters Ohio	$28.84	$86.52
8-Jun	10-4p	6	EV Tour del sol	$28.84	$173.04
12-Jun	2-3p	1	Natural gas for vehicles call	$28.84	$28.84
14-Jun	11-3p	4	CNG, propane, etc. presentation	$28.84	$115.36
27-Jun	4-5p	1	rideshare program discussion	$28.84	$28.84
11-Jul		4	work on application	$28.84	$115.36
18-Jul	11-2p	3	LGIF - official stakeholder kickoff	$28.84	$86.52
20-Jul	11-12p	1	meeting with Republic	$28.84	$28.84
25-Jul		4	collect agreements	$28.84	$115.36
26-Jul	8:30-11	3	Efficient Gov Now meeting	$28.84	$72.10
30-Jul	10-11:30a	2	Ohio Funding forum call	$28.84	$43.26
9-Aug		8	work on application	$28.84	$230.72
14-Aug		8	work on application	$28.84	$230.72
20-Aug	7-9p	2	city council meeting	$28.84	$57.68
23-Aug	2-3p	8	work on application	$28.84	$230.72
29-Aug		8	work on application	$28.84	$230.72
					$2,451.40

I, Jessica Minor, acknowledge that my in-kind contrubution was necessary and reasonable for the project and that the expenses are accurate and valid. Jessica Minor 8.31.12

ACKNOWLEDGEMENT

State of Ohio

County of Lorain

Before me, a Notary Public for the State of Ohio, appeared the above named, Jessica Minor, who acknowledged and signed the foregoing instrument and their signing was their free act.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my seal this 31 day of August, 2012.

SEAL

Virginia D. O'Dell

Signature of Notary

VIRGINIA D. O'DELL
NOTARY PUBLIC, State of Ohio
My Commission Expires 11-30-14

UMTRI-2011-34 AUGUST 2011

ECO-DRIVING: STRATEGIC, TACTICAL, AND OPERATIONAL DECISIONS OF THE DRIVER THAT IMPROVE VEHICLE FUEL ECONOMY

MICHAEL SIVAK
BRANDON SCHOETTLE

UMTRI
UNIVERSITY OF MICHIGAN
TRANSPORTATION RESEARCH INSTITUTE

ECO-DRIVING: STRATEGIC, TACTICAL, AND OPERATIONAL DECISIONS OF THE DRIVER THAT IMPROVE VEHICLE FUEL ECONOMY

Michael Sivak
Brandon Schoettle

The University of Michigan
Transportation Research Institute
Ann Arbor, Michigan 48109-2150
U.S.A.

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The current members of Sustainable Worldwide Transportation include Aramco Services, Autoliv Electronics, Bosch, China FAW Group, FIA Foundation for the Automobile and Society, General Motors, Honda R&D Americas, Meritor WABCO, Michelin Americas Research, Nissan Technical Center North America, Renault, and Toyota Motor Engineering and Manufacturing North America. Information about Sustainable Worldwide Transportation is available at: http://www.umich.edu/~umtriswt

16. Abstract

This report presents information about the effects of decisions that a driver can make to influence on-road fuel economy of light-duty vehicles. These include strategic decisions (vehicle selection and maintenance), tactical decisions (route selection and vehicle load), and operational decisions (driver behavior).

The results indicate that vehicle selection has by far the most dominant effect: The best vehicle currently available for sale in the U.S. is nine times more fuel efficient than the worst vehicle. Nevertheless, the remaining factors that a driver has control over can contribute, in total, to about a 45% reduction in the on-road fuel economy *per driver*—a magnitude well worth emphasizing. Furthermore, increased efforts should also be directed at increasing vehicle occupancy, which has dropped by 30% from 1960. That drop, by itself, increased the energy intensity of driving *per occupant* by about 30%.

17. Key Words	18. Distribution Statement
eco-driving, fuel economy, strategic decisions, tactical decisions, operational decisions, vehicle, driver, environment	Unlimited

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
None	None	17	

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Contents

Introduction

The on-road fuel economy in the U.S. in 2008 for all vehicles averaged 17.4 mpg. This compares to 14.0 mpg achieved 85 years earlier in 1923 (see Figure 1). The average fuel economy for cars in 2008 was 22.6 mpg.

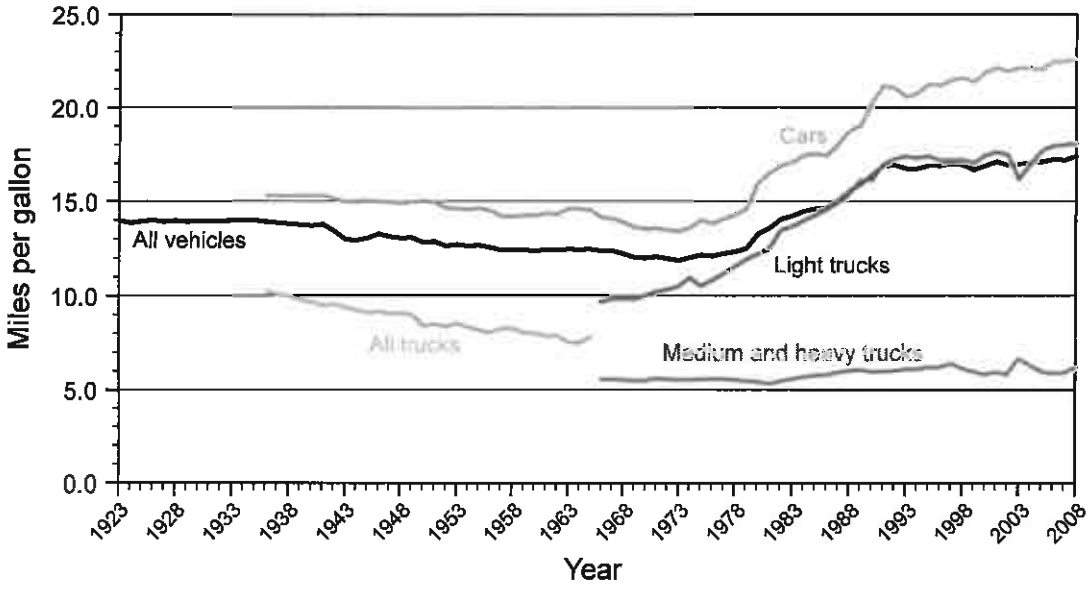

Figure 1. Mean on-road fuel economy of vehicles in the U.S., 1923-2008. The data for 1923 through 2006 are from Sivak and Tsimhoni (2009). The data for 2007 and 2008 are from FHWA (2008; 2009).

Table 1 documents the average energy intensities of various travel modes. As indicated in Table 1, not only is driving a light-duty vehicle in the U.S. currently more energy intensive than using a bus or a train, it is also more energy intensive than flying (all at current average loads).

Table 1
Energy intensity of various travel modes (RITA, 2011a).

Travel mode	Btu per occupant mile
Car	3,501
Other light-duty vehicle	3,980
Motorcycle	1,742
Airplane	2,931
Transit bus	2,656
AMTRAK	1,745

How can we improve on this performance? This report reviews how eco-driving enables drivers to maximize the on-road fuel economy of vehicles. In this report, eco-driving is used in its broadest sense: *Eco-driving includes those strategic decisions (e.g., vehicle selection and maintenance), tactical decisions (e.g., route selection), and operational decisions (e.g., driver behavior) that improve vehicle fuel economy.*

Strategic decisions

Selection of vehicle class

Table 2 presents the mean rated fuel economy of all available light-duty vehicles on the U.S. market for model year 2011. On average, a car has 38% better fuel economy than a pickup truck. (The data in Tables 2 through 4 were derived for this study from the information in EPA, 2011a.)

Table 2
Mean rated fuel economy of model year 2011 light-duty vehicles, by class.

Vehicle class	Mean mpg
Cars	23.7
Vans, minivans	19.4
SUVs, crossovers	19.2
Pickup trucks	17.2

Selection of vehicle model

The ranges of fuel economy of individual models by vehicle class are documented in Table 3. The results show that the best car is rated as being nine times more fuel efficient than the worst car. Analogously, the best pickup truck is rated as being two times more fuel efficient than the worst pickup truck.

Table 3
Fuel economy ranges of model year 2011 light-duty vehicles, by class.

Vehicle class	mpg	
	Min	Max
Cars	11	99*
Vans, minivans	11	28
SUVs, crossovers	12	32
Pickup trucks	12	24

*The best fully electric car and the best car overall: 99 mpg; the best hybrid car: 50 mpg; the best car with internal-combustion engine: 36 mpg.

Selection of vehicle configuration

There are currently 282 vehicle models for sale in the U.S. (model year 2011), with 242 models having two or more variants (e.g., engine size, number of doors, etc.). For 216 of the 242 models with two or more variants, the rated fuel economy differs among the models, depending on the variants (see Table 4). The mean range for cars is 4.3 mpg, or 18% of the mean fuel economy of all cars. Analogously, the mean range for pickup trucks is 4.9 mpg, or 28% of the mean fuel economy of all pickup trucks.

Table 4
Mean number of variants and mean fuel-economy ranges of model year 2011 light-duty vehicles, by class.

Vehicle class	Mean number of variants	Mean mpg range
Cars	5.3	4.3
Vans, minivans	5.3	3.0
SUVs, crossovers	3.8	3.3
Pickup trucks	8.4	4.9

Vehicle maintenance

Tuned engine. According to the EPA (2011b), "fixing a car that is noticeably out of tune or has failed an emission test can improve its gas mileage by an average of 4%, though results vary based on the kind of repair and how well it is done." Fixing a faulty oxygen sensor can improve mileage "by as much as 40%" (EPA, 2011b). However, having a faulty oxygen sensor is not a frequent occurrence. Consequently, many vehicle manufacturers suggest replacement only after 100,000 miles.

Tires. Rolling resistance of tires varies among different tires of the same size. TRB (2006) estimates that a 10% change in *nominal* rolling resistance will result in a 1-2% change in fuel economy. Furthermore, *in-use* rolling resistance is influenced by tire inflation, with a 1 psi drop reducing fuel economy by about 0.3% (EPA, 2011b).

Engine oil. Engine oil influences vehicle mileage. For example, if 5W-30 is recommended, using 10W-30 oil can lower mileage by 1-2% (EPA, 2011b).

Tactical decisions

Selection of road type

Different road types result in different average speeds and different profiles of acceleration and deceleration. Consequently, fuel economy differs by road type. For example, a recent Canadian study (National Resources Canada, 2009) found that the average fuel economy on highways with a posted speed of 80 km/h (50 mph) or more is about 9% better than on other roads.

Selection of grade profile

Maximum grade has a strong effect on fuel economy. For example, Boriboonsomsin and Barth (2009) found that, in a particular scenario with the same origin and destination but two alternative routes, a flat route yielded 15-20% better fuel economy than a hilly route.

Dealing with congestion

Congestion can be considered within the context of route selection as well because drivers in some situations can avoid congested routes. The Highway Capacity Manual (TRB, 2000) classifies level-of-service (i.e., congestion) into the following six categories: A (free flow), B (reasonably free flow), C (stable flow), D (approaching unstable flow), E (unstable flow), and F (forced or breakdown flow). Using these level-of-service categories, Facanha's analysis (2009) indicates that, depending on vehicle type and road type, the reduction in fuel economy from service level A to service level F can range from 20-40%. Furthermore, that study shows that the largest drop in fuel economy is from service level E to service level F.

Weight

According to the EPA (2011c), an extra 100 pounds in a vehicle (e.g., extra cargo) can reduce fuel economy by up to 2%, with smaller vehicles being affected more.

On a related note, the average adult in the U.S. in 2002 was about 24 pounds heavier than in 1960 (Ogden, Fryar, Carroll, and Flegel, 2004). This weight gain results in a reduction in fuel economy of up to about 0.5%.

Operational decisions

Idling

Idling uses a quarter to a half gallon of fuel per hour (EPA, 2011c), depending on engine size and accessories in use. Edmunds recommends turning off the engine when the expected idle time is more than a minute (Edmunds, 2005), while according to the EPA (2011c), "it only takes a few seconds worth of fuel to restart your engine." In one specific test, Edmunds (2005) found that turning the engine off during each of 10 idle periods lasting two minutes each on a 10-mile course improved mileage by 19%.

Speed/rpm

For most internal-combustion engines, fuel economy is an inverted-U-shaped function of speed/rpm. For example, a particular V6 engine used in 2007 Honda Accords produced, in naturalistic driving, peak fuel economy of 31.6 mpg at 61 mph, with the fuel economy dropping to 21.2 mpg at 90 mph (a drop of 33%) and 21.8 mpg at 30 mph (a drop of 31%) (LeBlanc, Sivak, and Bogard, 2010).

Use of cruise control

Edmunds (2005) estimates that using cruise control improves mileage at highway speeds by about 7%.

Use of air conditioner

Using the air conditioner can reduce mileage by 5-25% (EPA, 2011d; Wilbers, 1999). However, when not using the air conditioner is paired with opening the window(s), the increased aerodynamic drag above a certain speed can more than compensate for the fuel savings (Haworth and Symmons, 2001).

Aggressivity of driving

In a test performed by Edmunds (2005), moderate driving yielded, on average, 31% better mileage than aggressive driving.

LeBlanc et al. (2010) found in naturalistic driving that, for both speed keeping and accelerating from rest, the 10^{th} and 90^{th} percentile mileage of individual drivers using the same vehicle differed by about 20%, although some of that variation is expected to result from factors other than the degree of aggressive driving.

Discussion

Table 5 summarizes the effects of factors influencing vehicle fuel economy. As is evident from Table 5, the factor with the largest effect is vehicle-model selection.

Table 5
Summary of the effects of factors influencing vehicle fuel economy.

Level	Factor	Effect
Strategic	Vehicle class	38%
	Vehicle model	800% all cars; 355% cars excluding fully electric; 227% cars excluding fully electric and hybrids; 100% all pickups
	Vehicle configuration	18% cars, 28% pickups
	Out-of-tune engine	4-40%
	Tires with 25% higher rolling resistance	3-5%
	Tires underinflated by 5 psi	1.5%
	Improper engine oil	1-2%
Tactical	Route selection: road type	variable
	Route selection: grade profile	15-20%
	Route selection: congestion	20-40%
	Carrying extra 100 pounds	≤2%
Operational	Idling	variable
	Driving at very high speeds	30%
	Not using cruise control	7% (while at highway speeds)
	Using air conditioner	5-25%
	Aggressive driving	20-30%

The importance of vehicle-model selection is illustrated by the following example. Let's consider the least fuel-efficient car (11 mpg), and the most fuel-efficient car with an internal-combustion engine (36 mpg). Let's further assume that the driver of the car with the worst mileage follows all remaining good eco-driving practices, while the driver of the car with the best mileage disregards all of them. Following the remaining best eco-driving practices will result in no change in fuel economy for the car that gets 11 mpg; the nominal and actual fuel economy will be the same. By contrast, the car that nominally gets 36 mpg will experience a reduction to 19.8 mpg in actual fuel economy (a reduction of 45%) as a result of disregarding all remaining eco-driving practices, as shown in Table 6.

Table 6
Cumulative effects of disregarding good eco-driving practices (after vehicle selection) on the most fuel-efficient car with an internal-combustion engine.

Factor (effect on performance)	Fuel economy (mpg)
Nominal performance	*36.0*
Aggressive driving[a] (25% drop)	27.0
Driving at excessively high speeds[b] (6% drop)	25.4
Route selection (road type, grade, and congestion)[c] (6% drop)	23.9
Out-of-tune engine[d] (4% drop)	22.9
Tires with increased rolling resistance[e] (4% drop)	22.0
Using air conditioner[f] (4% drop)	21.1
Excessive idling[g] (2% drop)	20.7
Extra weight[h] (1.5% drop)	20.4
Improper oil (1.5% drop)	20.1
Under-inflated tires[i] (1.5% drop)	19.8

[a]Not using cruise control included.
[b]Driving at very high speeds on 20% of the total distances driven.
[c]Two possible routes (with different road types, grade profiles, and/or levels of congestion) are available 20% of the total distance driven.
[d]Faulty oxygen sensor (infrequent in relatively new vehicles) could result in a fuel-economy drop of 40%.
[e]Replacement tires with 25% higher rolling resistance than originally equipped tires.
[f]Used during 25% of the total distance driven. At very high speeds the windows are up.
[g]Turning off the engine during two 1-minute idle periods per each 10 miles.
[h]Extra 100 pounds of cargo.
[i]Underinflation of all four tires by 5 psi.

The information in Table 6 can be interpreted as the cup being half full or the cup being half empty. On one hand, one can conclude that decisions concerning vehicle-selection are dominant for on-road fuel economy. On the other hand, one can also conclude that not following the remaining good eco-driving practices can still lead to a major reduction in on-road fuel economy—cumulatively by about 45%.

The analysis in this report concentrated on fuel economy *per vehicle*. However, the average occupancy of a light-duty vehicle in the U.S. dropped from 2.0 in 1960 to 1.4 in 2009 (RITA, 2011b). This represents a 30% drop in vehicle fuel economy *per occupant* (before adjusting for different occupant weight). Consequently, increased car-pooling, to at least the level of the 1960s, would go a long way to improve the energy intensity of driving per occupant.

Summary

This report presented information about the effects of decisions that a driver can make to influence on-road fuel economy of light-duty vehicles. These include strategic decisions (vehicle selection and maintenance), tactical decisions (route selection and vehicle load), and operational decisions (driver behavior).

The results indicate that vehicle selection has by far the most dominant effect: The best vehicle currently available for sale in the U.S. is nine times more fuel efficient than the worst vehicle. Nevertheless, the remaining factors that a driver has control over can contribute, in total, to about a 45% reduction in the on-road fuel economy *per driver*—a magnitude well worth emphasizing. Furthermore, increased efforts should also be directed at increasing vehicle occupancy, which has dropped by 30% from 1960. That drop, by itself, increased the energy intensity of driving *per occupant* by about 30%.

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Bent, Nicole

From: Jessica Minor <jminor@oberlin.edu>
Sent: Thursday, October 18, 2012 11:10 AM
To: lgif
Cc: Eric Norenberg
Subject: Cure -- Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets
Attachments: Revised ROI justification narrative.docx

Good morning,

We spoke with Nicole on Monday 10/15 in regards to the three items listed below. Here is a recap of our conversation.

5. **Return on Investment**. We have attached a clarifying statement to replace the ROI Justification Narrative on page 16 of the application. Please let us know if you recommend further clarification.

6. **Resolution of Support.** The letter of support and signed agreement is all that Oberlin College and Kendall retirement facility can provide. They do not present items like this to their respective boards and wish to assure the LGIF reviewers that the City of Oberlin has their full support in moving forward. LCCC, JVS and Lorain County Metro Parks all also provided the letter and signed agreement but due to timing are unable to pass Resolutions with their boards.

7. **Partnership Agreements**. It was realized that the signed document from Republic was overlooked and was included in the original application.

Thank you and please let us know if your require further clarification.

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Jessica Minor

Project Manager

Oberlin College
Office of Community & Government Relations
440.775.6213

Local Government Innovation Fund Completeness Review

Applicant: City of Oberlin

Project Name: Oberlin Fuel Forward: Shared Strategies for Oberlin's Fleets

Issues for Response

1. Format

The application is in the correct format and is ready for review.

2. Request

The application is for an eligible request.

3. Project Budget

The program budget is complete. No additional information is needed at this time.

4. Program Budget

The application includes six years of appropriate program budgets.

5. Return on Investment

Please recalculate the Return on Investment to reflect the ROI for the projected three year period using Total $ Saved and Total Program Costs for the three year period.

6. Resolutions of Support

The following collaborative partners are required to provide a resolution of support from their governing entity in order to be considered a partner for the purposes of scoring for this application: Lorain County Community College, Lorain County Joint Vocational School, Kendal at Oberlin, Lorain County Metroparks, and Oberlin College.

7. Partnership Agreements

The following collaborative partners are required to provide evidence of signature on the partnership agreement to be considered as partners for the purposes of scoring this application: Republic Services.

8. Total Number of Validated Partners

The application has a total of four collaborative partners with the appropriate documentation.

9. Other Comments

There are no other pieces of information needed at this time.

Return on Investment Justification Narrative: In the space below, briefly describe the nature of the expected return on investment, using references when appropriate.

The project partners will work together to identify and implement fuel-saving measures which will directly result in cost savings for the partners. Strategies for the procurement and use of alternative fuel vehicles will also be assessed. The funding will support research, analysis and facilitation of collaborative approaches to implementing best practices for reducing fuel costs. The total annual fuel costs without the project are estimated at $506,212 for all the fleet partners (with the exception of Republic Services' diesel fuel use). This project will result in a direct savings of $146,865 over 3 years at constant fuel prices and without additional investment costs. The savings are based on reduced fuel consumption (5% per year) as a result of collective strategies for increasing vehicle and fleet efficiencies. Therefore, we used the total project cost of $96,080 in our ROI calculation. The findings of this project will likely lead to new investments by the project partners in alternative fuel vehicles and alternative fuel infrastructure but we do not consider those investments to be within the scope of this project budget.