

2013

Goods Movement/Alternative Fuels Survey Report



Report prepared for:

Pacific Gateway Workforce
Operations Division
3447 Atlantic Avenue, 3rd Floor
Long Beach, CA 90807

Report submitted by:

ICF International
9300 Lee Highway
Fairfax, VA 22031

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1. Executive Summary

Pacific Gateway, a public workforce agency in Southern California, helps businesses connect with skilled workers across the Lomita, Long Beach, Signal Hill, and Torrance communities. Administered by the City of Long Beach, Pacific Gateway coordinates services supporting the workforce needs of residents and businesses, and also serves alongside local elected officials as the policy and oversight entity for the Workforce Investment Act (WIA), and other county/state/federal funds that serve these communities. Recently, Pacific Gateway received funding to learn more about employment needs among businesses in the goods movement/logistics sector, with a specific emphasis on the impact of alternative fuel vehicles and equipment. As part of this effort, ICF International (ICF) designed and administered the Goods Movement/Alternative Fuels Survey for Pacific Gateway. The goal of the survey was to help Pacific Gateway identify the workforce resources and emerging technologies that employers in the goods movement/logistics sector need to grow and become more competitive.

Goods Movement refers to the transportation of for-sale products from the location of their manufacture or harvest to their final retail destination¹. Goods are transported via over-seas shipping, air, freight trucking, rail, and other methods. There are key changes to the way goods are bought, sold and transported in recent times that makes adopting clean and energy-efficient technologies a critical issue. These changes apply locally, nationally, and internationally and include increases in international trade, increases in Web-based shopping, concerns over emissions, etc., all of which impact the goods movement sector. Southern California's goods movement sector is the focus of this study. In Southern California, the employers that were targeted are located in areas that serve as a major gateway for our nation's trade. Those areas include the counties of:

- Los Angeles
- Orange
- Riverside
- San Bernardino

According to the Orange County Transportation Authority², 33 percent of all international container cargo imported into the United States passes through that region's ports. Therefore, surveying employers in that region presents an opportunity to learn about the gaps and opportunities around goods movement in areas such as growth and competitiveness and adoption of emerging technologies

This report details the findings of the Goods Movement/Alternative Fuels Survey of employers located in the above counties of Southern California.

¹ University of Southern California. (n.d). What is goods movement? Retrieved from <http://hydra.usc.edu/scehsc/web/Resources/What%20is%20Goods%20Movement/What%20is%20Goods%20Movement.html>

² Orange County Transportation Authority. (n.d.). Goods movement. Retrieved from <http://www.octa.net/Plans-and-Programs/Goods-Movement/>

Approach

The ICF Team employed a multi-pronged approach to the survey implementation and analysis effort. ICF first acquired firm-level data from Dun & Bradstreet (D&B) in order to establish a list of appropriate employers to contact for the survey; D&B maintain and licenses a global commercial database, which contains more than 200 million business records³. The ICF Team then analyzed the business records and categorized employers by industry so as to ensure representation across industries captured under the goods movement/logistics sector. Concurrent to analyzing the business records and preparing for survey activities, the Team conducted a literature search with regard to the survey approach, the industry of interest, and estimated employment levels.

After establishing a master list of employers, learning about industry trends, as well as instituting a peer-reviewed survey approach, the Team sent email versions of the survey. The initial email “blast” was sent to over a thousand goods movement/logistics sector employers, with several follow up emails over several weeks. Additionally, the Team mailed surveys (in two rounds of 300 employers per round) to a randomly selected subset of employers in the interest of increasing response rates. To facilitate survey completion, the Team provided telephone support for respondents by establishing a toll free number specifically for addressing questions, and/or for capturing survey responses by phone. Where necessary, the team made provisions for respondents to submit their responses by fax. By the end of the survey period, any responses received by mail, telephone or fax, were entered by the Team into the Survey Gizmo platform prior to analysis so as to utilize its analysis capabilities. All in all, the approach was implanted in the interest of appropriateness for the target population, cost effectiveness, and promising practices. Figure 1 summarizes the approach and key objectives of the study.

Figure 1. Key Activities and Objectives for the Goods Movement Study



Survey Methodology

The survey approach was initially planned as a single mode—Web-based—survey driven by the Survey Gizmo⁴ platform. The ICF Team, with approval from Pacific Gateway, chose the Web-based medium with the goal of taking advantage of the “cost savings associated with eliminating the printing and mailing of

³ See <http://www.dnb.com/company.html>

⁴ A web-based software company that has the tools to create online surveys, questionnaires and forms – allowing capture and analysis of virtually any type of data essential for business. Retrieved from <http://www.surveygizmo.com/company/about/>

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survey instruments ([Cobanoglu, Warae, and Morec 2001](#)) as well as time and cost savings of having returned survey data already in an electronic format.” In addition, the Team’s decision to use a Web-based format was informed by the following results of a literature search⁵:

- E-mail surveys have demonstrated superiority over postal surveys in terms of response speed... Sheehan and McMillan (1999) estimated that, in studies where both mail and e-mail were used to deliver surveys, mail surveys took 11.8 days to return and e-mail surveys were returned in 7.6 days.
 - E-mail provides an easier and more immediate means of response (Flaherty, et al., 1998).
- The cost benefits of e-mail have also been highlighted by researchers, with the cost of an e-mail survey estimated to be between 5% and 20% of a paper survey (Sheehan & Hoy, 1999; Weible & Wallace, 1998).
 - The cost savings are derived primarily from the reduction and/or elimination of paper and mailing costs in an e-mail survey.
- Some e-mail software allows for precise tracking of e-mailed surveys.
 - At a minimum, the researcher can know the number of undeliverable e-mail s as well as what time the e-mail survey was opened, replied to and deleted.
 - This can improve sampling procedures (Paolo, et al., 2000).
 - E-mail can also provide heightened response quality.
 - People tend to provide longer open-ended responses to e-mail than to other types of surveys (Paolo, et al., 2000), and responses to e-mail surveys tend to be more candid than responses to mail or phone surveys (Bachman, Elfrink & Venzana, 1999).

Accordingly, the Team sent surveys to an average of 935 employers on a weekly basis (the contacts were with the same employers) over a span of seven weeks. As expected, there were some (approximately two percent) undeliverable emails due to a variety of reasons such as anti-spam protections. In addition, a randomly chosen subset of employers, totaling 600, was sent hard-copy versions of the survey. The Team followed both the email and hard-copy survey disseminations with follow-up calls in order to increase the likelihood of response. All Team members used a script (Appendix B) when calling employers, so as to: 1) decrease bias; 2) to increase caller and respondent confidence; and, 3) to ensure a standardized process. Lastly, respondents were offered a monetary incentive for their participation—a \$20 gift card to Target, a department store that has chains throughout the Nation.

⁵ Sheehan, K. (2001). E-mail survey response rates: A review. *Journal of Computer Mediated Communication*, 4 (3). Retrieved from <http://jcmc.indiana.edu/vol6/issue2/sheehan.html>

Survey Findings

As previously indicated, the market survey targeted employers within the good movement/logistics sector; the *Transportation and Warehousing* industries that the Team targeted are as follows:

- 481112—Scheduled Freight Air Transportation
- 481212—Nonscheduled Chartered Freight Air Transportation
- 482111—Line-Haul Railroads
- 482112—Short Line Railroads
- 483111—Deep Sea Freight Transportation
- 483211—Inland Water Freight Transportation
- 4841—General Freight Trucking
- 4842—Specialized Freight Trucking
- 4861—Pipeline Transportation of Crude Oil
- 4869—Other Pipeline Transportation
- 4881—Support Activities for Air Transportation
- 4882—Support Activities for Rail Transportation
- 4883—Support Activities for Water Transportation
- 4885__Freight Transportation Arrangement
- 4889—Other Support Activities for Transportation
- 4921—Couriers and Express Delivery Services
- 4922—Local Messengers and Local Delivery
- 4931—Warehousing and Storage

The survey was divided into three sections with a total of 35 questions. There was also an optional follow-up question intended to gauge respondents' interest in participating in a focus group with Pacific Gateway to discuss alternative fuels, as well as employers' labor market/training needs. The box to the right captures a sampling of the questions that employers were asked, along with their applicable sections; the full survey is included under Appendix A.

The Team received a total of 41⁶ completed surveys from the employers—representing all of the targeted industry sectors. In terms of hiring, almost half (47.5%) of all respondents reported plans to hire employees in the near future with *Drivers* topping the list of occupations that employers anticipated being most in need of. When asked about the specific skills that they anticipated being most in need of, half of all respondents listed *Vehicle Operators*.

Sample Survey Questions and Sections

General Labor Market Information

- ⇒ Which industry do you work in?
- ⇒ Do you plan on hiring employees in the near future?
- ⇒ If digital literacy training were available, would you take advantage of it?

Alternative Fuel Vehicles

- ⇒ Does your company currently use electric/alternative fuel vehicles or equipment in your heavy equipment/fleets?
- ⇒ What is the likelihood that your company will switch over to electric/alternative fuel vehicles and/or equipment?

In terms of electric/alternative fuel vehicles or equipment, fewer than a quarter of all employers indicated current use in their heavy equipment and/or fleets, however about 51 percent of respondents reported

⁶ Although the Team received a total of 41 surveys, respondents completed questions to varying degrees; therefore reported percentages are based on response. Detailed response rates and findings for each question are included in Chapter 4.

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considering purchase of the electric/alternative fuel equipment of vehicles. Natural gas vehicles or equipment were of most interest (26%) to employers, followed by *Diesel Vehicles Using Biodiesel* and *Electric Vehicles or Equipment* (21% each); employers' interest was mostly driven by a desire to "meet environmental requirements." The mismatch between employers' desire to add the equipment to their fleets and their actual uptake was likely due to cost—a majority (65%) of respondents pointed to cost as an "extremely important" barrier to adoption. With regard to state and federal incentives for purchasing electric/alternative fuel vehicles or equipment, 60 and 88 percent of employers, respectively, reported that they were not aware of any such incentives. Figure 2 illustrates highlights from the survey responses.

Figure 2. Survey Finding Highlights



Source: Goods Movement/Alternative Fuels Survey

The findings are presented in greater detail in Chapter 4.

2. Introduction

This section provides background context for the research and an outline of the rest of the report.

Research Context / Background

In order to inform future investments and employ strategies for increasing the competitiveness of the goods movement/logistics sector, it was important for Pacific Gateway to understand the current and future labor market needs of employers and the trends toward the use of alternative fuel vehicles. Pacific Gateway endeavored to do that by engaging the sector’s “boots on the ground” stakeholders, its employers. Therefore, Pacific Gateway partnered with ICF to develop and administer a market survey that assessed both the current and future landscape of the goods movement/logistics sector.

The project’s associated tasks and deliverables are detailed in Figure 3.

Figure 3. Goods Movement & Transportation Cluster Workforce Analysis Description

Task	Project Activities	Deliverables
Task 1: Employer Survey Design, Development, Implementation, and Analysis	<ul style="list-style-type: none"> • Purchase of firm level data from • Questionnaire development • Survey administration • Data analysis • Data reporting • Technical assistance to survey respondents 	<ul style="list-style-type: none"> • List of firms in the goods movement industries in Los Angeles, Orange, Riverside, and San Bernardino Counties, including NAICS codes and estimated employment levels • Survey questionnaire listing all questions and answers from all participating firms, among the 40 employers contacted • Analysis of survey responses • Written report describing the study and analysis of survey responses and all supporting documentation and data collected
Task 2: Labor Market and Gap Analysis	<ul style="list-style-type: none"> • Labor market and gap analysis detailed industry and occupational data, based on the NAICS and SOC coding systems • Educational and training data 	<ul style="list-style-type: none"> • All Industry, occupational, and educational data related to the goods movement sector in Los Angeles, Orange, Riverside, and San Bernardino Counties, as described above • Gap Analysis results • Report describing the results of the gap analysis, including all supporting documentation and data collected

The focus of this report is the activities and deliverables associated with Task 1. As part of Task 1, ICF took the lead on 1) designing the survey; 2) conducting data gathering by mail, phone, fax and email; 3) providing phone support for survey respondents; 4) analyzing and reporting data; 5) managing project activities; and 6) laying the groundwork for Task 2 activities by acquiring industry and occupational data for the goods movement/logistics sector.

Figure 4 depicts a timeline of key milestones of the project.

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Figure 4. Timeline of Key Survey and Analysis Milestones



Organization of the Remainder of the Report

The remainder of the report provides greater detail about the research approach including:

- An overview of the survey methodology;
- Detailed survey findings;
- A discussion of opportunities for future research; and
- Appendices, which include copies of the survey forms, and the phone survey script

3. Approach

This section outlines the survey administration approach.

Methodology Overview – Survey Data Collection

The Team employed an email, paper, and telephone survey in order to conduct the market study of the goods movement/logistics landscape. Prior to developing the two surveys, the Team acquired a comprehensive list of companies within the goods movement/logistics sector. Approximately 1000 companies with email addresses were then chosen for the mail survey. The Team wanted representativeness within the sector so as to be able to understand the industry from a variety of employer perspectives and so that the results would be applicable to a myriad of organizations. Concurrently, members of the Team were drafting the survey and working with the Survey Gizmo platform to prepare for its administration. Once ready, the surveys were sent by email to respondents, with reminders sent on a weekly basis.

As previously mentioned, one of the benefits of a Web-based survey is that the researchers are able to immediately access analytics about how many of the emails were undeliverable, how many were opened, the rate of response, etc., and allows for an immediate adjustment of sampling procedures as needed. Accordingly, the Team also mailed surveys to a total of 600 randomly selected employers from the original list. The surveys were mailed in two rounds with about a two week lag in between. Each of the rounds of mailed surveys was sent to new employers. Additionally, the ICF team provided the Marine Exchange of Southern California with the survey for distribution to its member companies, which included 111 companies in the targeted industry sectors⁷. Figure 5 details the several rounds of dissemination, including the date and amount per round.

Figure 5. Survey Dissemination Summary

Method	Date	Number Sent
E-blast 1—full list	12/7/2012	1061
E-blast 2	12/11/2012	929
E-blast 3	12/13/2012	927
E-blast 4	1/8/2013	914
E-blast 5	1/22/2013	912
E-blast 6 surveys removed from the list	1/29/2013	910
E-blast 6	2/7/2013	896
E-blast 7	3/19/2013	888
Mailing 1—Subset of full list	2/9/13	300
E-Blast to Marine Exchange	2/13/13	111

⁷ The Marine Exchange of Southern California is an eighty plus year old, non-profit organization dedicated to the development and efficient flow of maritime commerce throughout the region. Retrieved from <http://www.mxsocal.org/>

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Method	Date	Number Sent
Follow-up E-Blast to the same Marine Exchange addresses	2/21/13	111
Mail 2—Subset of full list—different list of addresses from Mailing 1	2/25/13	300

Note: E-Blasts 2-7 involved follow up to the same addresses as E-Blast 1, with bad addresses, "bounce backs," completed surveys removed from the list

In addition to sending the surveys, the Team conducted intensive follow-up with the employers that were sent the survey by email or mail. Given the high number of employers on the list, the Team randomly selected those employers and called to determine whether: 1) they had received a copy of the survey; 2) had any questions; 3) intended to complete it; and, 4) they were willing to complete it by phone (regardless of if they had received it or not). Also, the Team provided telephone support for respondents via a toll free number, which was meant to encourage respondents to ask questions about the study, as well as to have the opportunity to provide feedback. Lastly, each respondent was offered a gift card for participating in the survey.

4. Findings

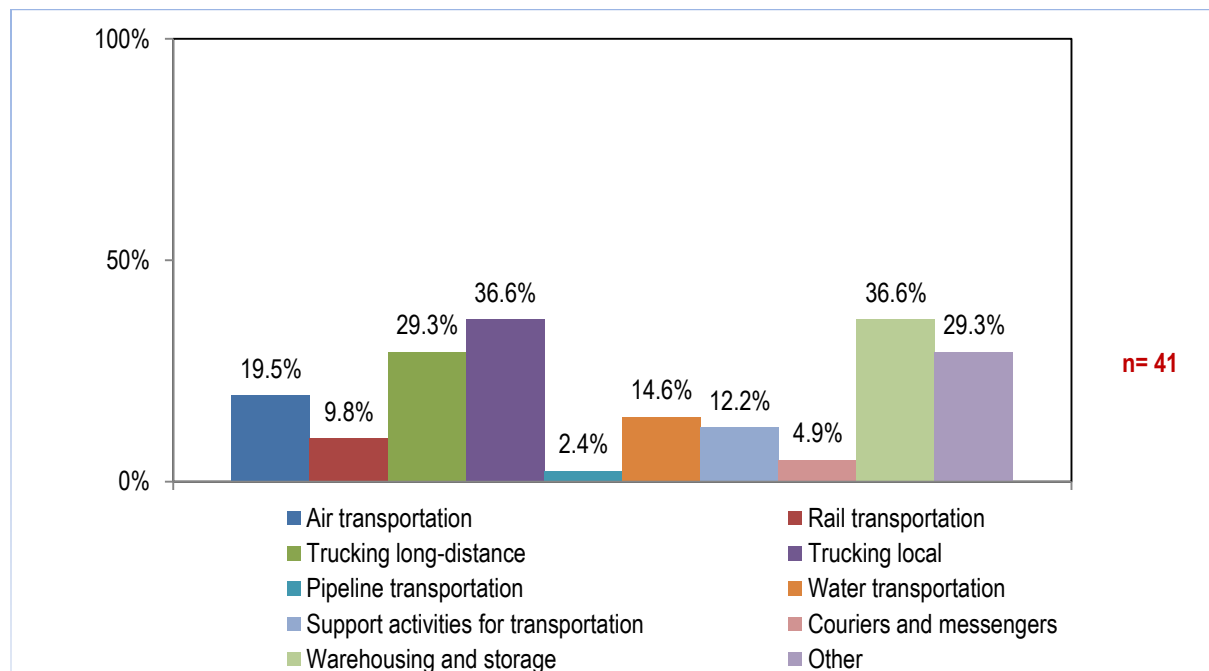
This section details the findings from the survey. As previously indicated, the ICF Team received 41 surveys; the numbers of respondents for each question varied and are provided on each chart.

Labor Market Needs Information

Employer Industry

As illustrated by Figure 6, survey respondents represented a myriad of industries within goods movement. The largest sectors represented were *Local Freight Trucking* and *Warehousing and Storage* while the least represented sector was *Pipeline transportation of Oil/Natural Gas/Petroleum*. In addition to the industry categories provided, respondents had an opportunity to choose “Other” and write in their industries if they were not captured by the survey listing. Twenty-nine percent of employers chose that category and wrote: *Freight Forwarding By Air and Ocean; Moving And Storage; Container Depot; Repossession; Furniture Delivery; Chb Freight Forwarder 3pl; Testing Of Oil, Gas, And Chemicals; Export; Tow Companies; Aircraft Repair; Public Agency/Airport; and, Also do Household Moving Local and Long Distance*. In some instances, employers chose a listed category and used “Other” to capture additional capabilities. All in all, survey respondents were diverse and provided a variety of rich perspectives to the survey results.

Figure 6. Employer Industry



Source: Goods Movement/Alternative Fuels Survey

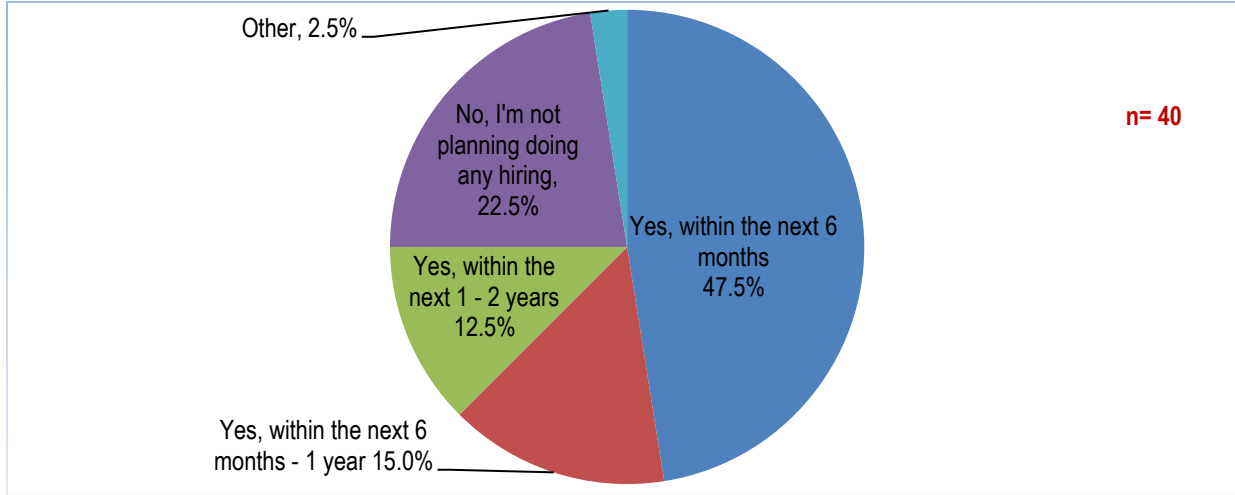
Hiring Plans

Employers were asked about their hiring plans in order to get a sense of their human resource needs and almost half (47%) of responding employers plan to hire within the next six months. Also, approximately 27 percent of employers

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either planned to hire within the next year to two years. Only about 22 percent of employers did not have any immediate hiring plans. Figure 7 details employers' hiring plans.

Figure 7. Hiring Plans



Source: Goods Movement/Alternative Fuels Survey

As illustrated by Figure 8, almost all employers planned to hire fewer than 20 employees; one employer reported that they plan to hire between 20 and 50 employees.

Figure 8. Scope of Hiring Needs

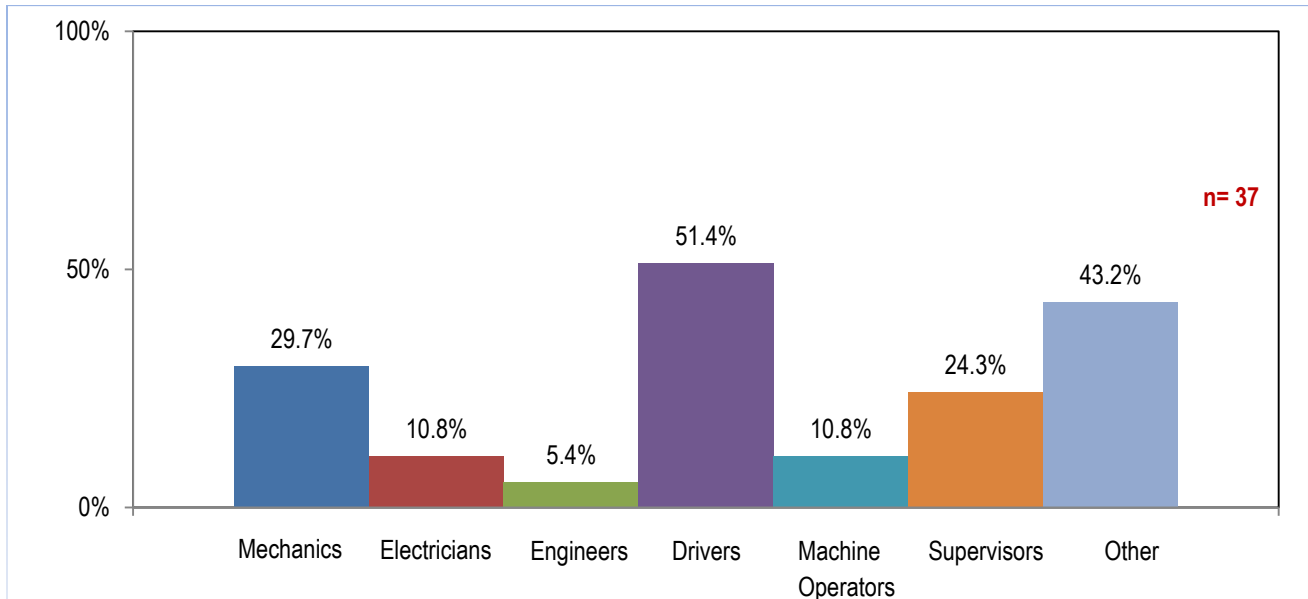
Scope*	f (%)
Fewer than 20	29 (96.7%)
20 to 50 employees	1 (3.3%)
*n = 30	

Source: Goods Movement/Alternative Fuels Survey

Current Workforce

Employers were also asked to provide information about the current workforce with regard to the most valuable occupations and skills. A majority of responding employers (51%) pointed to *Drivers* one of their most valuable assets, on the other hand *Engineers* seemed to be the least needed of all the occupations. In addition, employers listed "Other" valuable occupations in their current workforce that were not captured by the response categories, these included: *Data Entry; Operations Clerks; General Labor; Sales and Customer Service People; Repossession Agents; Warehouse Associates Installers; and Aircraft Sheet Metal Repairmen*. Figure 9 details employers' most valuable occupations in their current workforce.

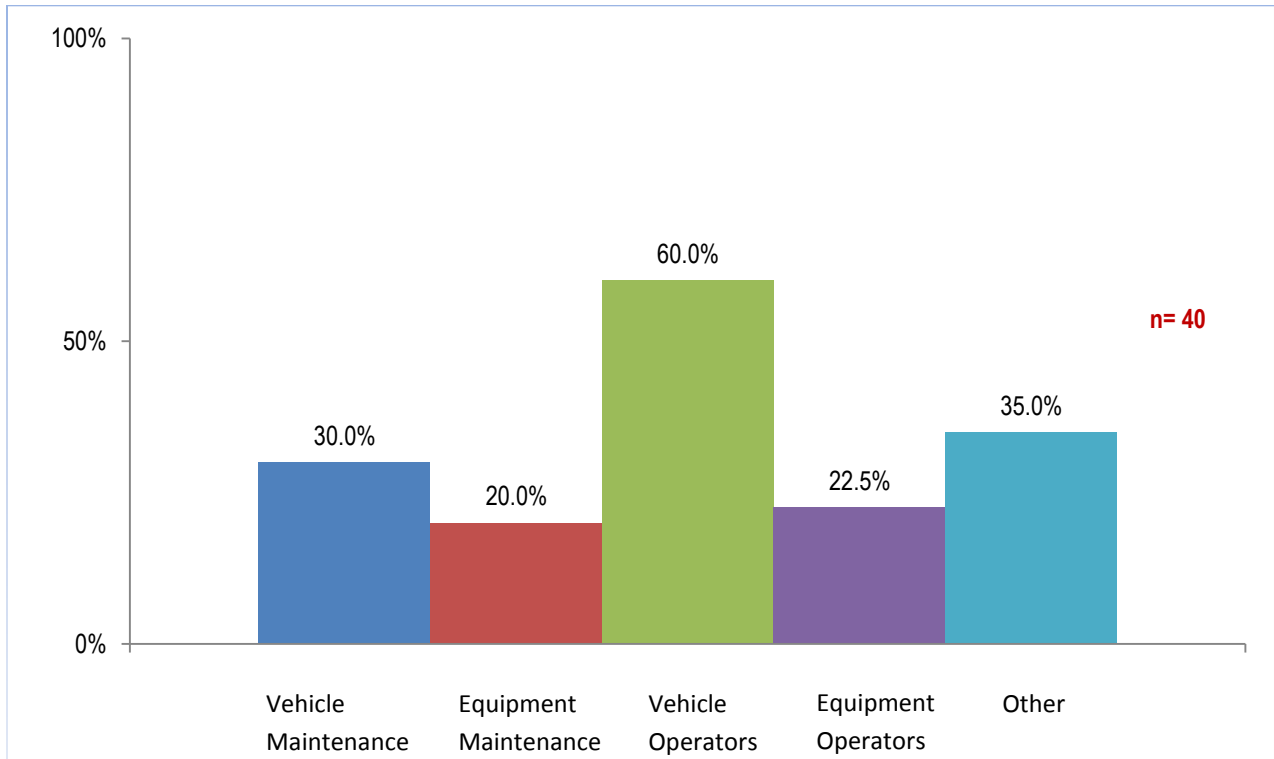
Figure 9. Most Valuable Occupations in Current Workforce



Source: Goods Movement/Alternative Fuels survey

As expected from employers' indication that *Drivers* are their most valuable occupation, the ability to operate vehicles associated with their business operations is a skill of value to a majority (60%) of employers. Thirty-five percent of respondents also pointed to "Other" *soft and hard skills* that are of value in their current workforce such as: *being able to read and write; product knowledge of international freight; Movers and Packers; ability to work with people; Container Repair Mechanics; customer service; Survey Inspector; Warehousing; inspectors who can gauge ships/tanks; union membership (ILWU); Sales; Aircraft Mechanics; and, experience of NVOCC, custom brokerage*. Given the "hard skills" focus of the survey, it was notable that some employers included soft skills, which encompass employees' work ethic, attitude, communication skills, intelligence, and a whole host of other personal attributes in their responses. Soft skills are critical to career success in all occupations or industries. Figure 10 details employers' reporting of their most valuable occupational skills.

Figure 10. Most Valuable Skills in Current Workforce

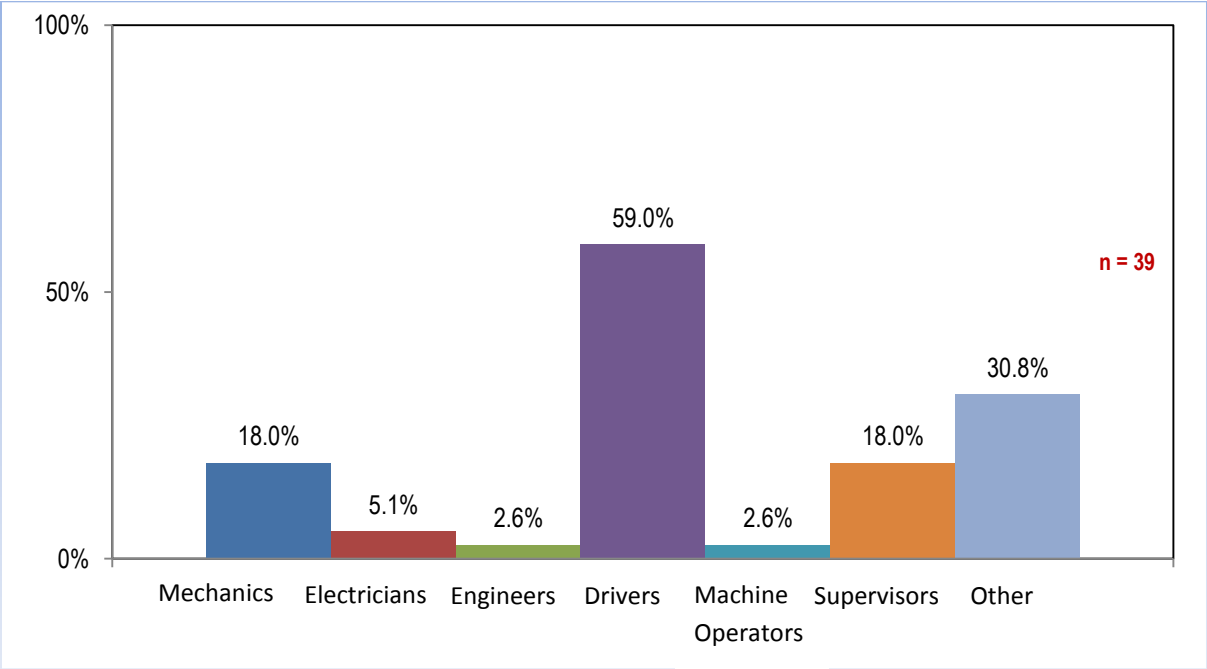


Source: Goods Movement/Alternative Fuels Survey

Future Workforce Needs

Employers were asked to forecast their anticipated needs in terms of employee occupations, and the trend continued to reinforce the demand for Drivers; 59% of respondents identified drivers as the occupation they anticipate being most in need of. Alternatively, fewer than six percent of all responding employers anticipated a need for *Engineers* or *Machine Operators*. Just as in previous responses, employers took advantage of the “Other” category to capture additional information about their most needed occupations. The listing indicated that employers anticipate needing the following occupations: Clerks; customer service; Surveyors; dispatcher; warehousemen; petroleum inspectors, chemists; line handlers; Installers; Sales & Support; and, experience of Non Vessel Operating Common Carrier (NVOCC), custom brokerage. Many of the occupations were also listed under the most valuable occupations in employers’ current workforce indicating potential growth in the same areas of service. Figure 11 details employers’ anticipated needs with regard to occupations within their workforce.

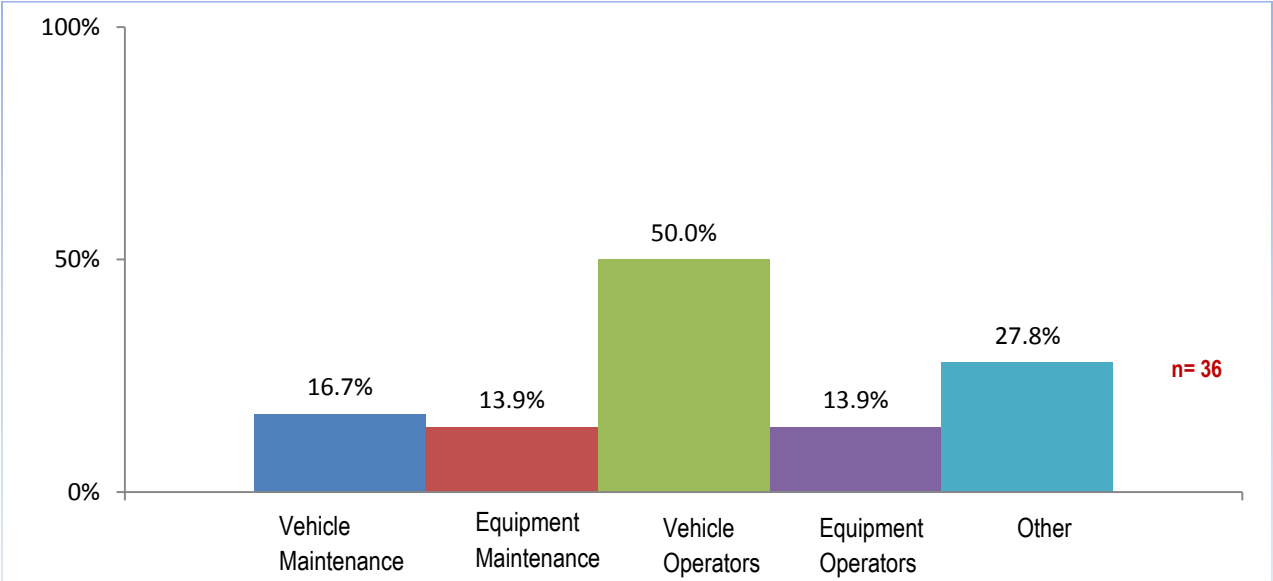
Figure 11. Anticipation of Most Needed Occupations



Source: Goods Movement/Alternative Fuels Survey

In terms of skills that employers anticipate being in need of, their responses were very similar to those in the current workforce. Specifically, workers that can operate vehicles are highly desired. The remaining findings are detailed in Figure 12.

Figure 12. Anticipation of Most Needed Skills



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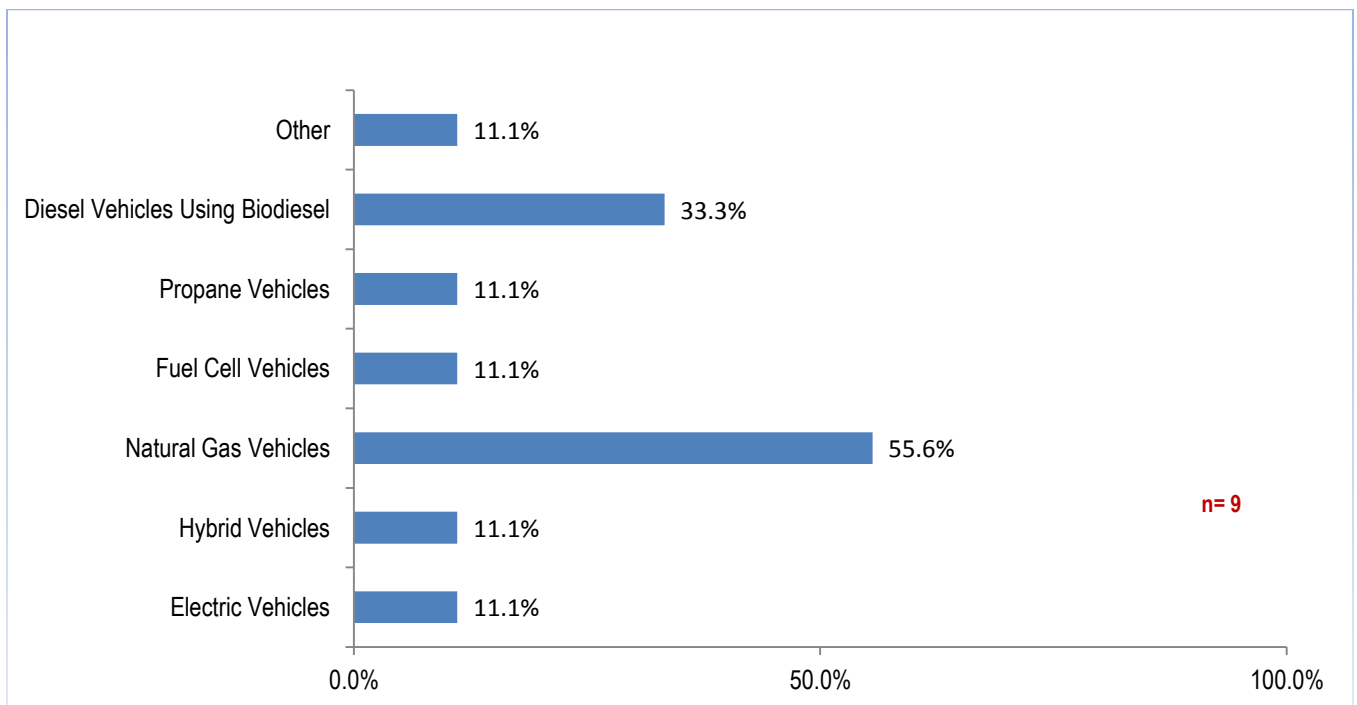
Source: Goods Movement/Alternative Fuels Survey

Employers were also asked to indicate any training/certification programs that are of value to their operations and they listed the following: ASME⁸ / LA City certified welders; NIL; Class A License; prior experience; Cal State Long Beach Global Logistics Specialist; Any OEM⁹ certification for mechanic and all endorsements on CDL , Any Class A training certificates- defensive driving, trainer, safe driving awards, etc.; experience and track record; fork-lift; Hazmat certification, drivers with experience, driver would need to pass a driving test, and obstacle course; must have 20 years seniority as an ILWU¹⁰ longshoreman; Class B driver's license; FAA A&P Certificates, FAA IA Certificates; management skill; minimum of 3 years of Class A driving experience; and, 2 years' experience.

Alternative Fuel Vehicles

After providing responses regarding their labor market needs, employers were asked about their adoption of alternative fuel vehicles or equipment. Nine of the 41 employers that responded said that they currently use alternative fuel vehicles. Of those employers that currently use alternative fuel vehicles or equipment, Natural Gas and Diesel Vehicles Using Biodiesel were the most commonly reported. Figure 13 details the types of alternative fuel vehicles that employers currently use and the percent that of the total for each type. Five companies reported that they currently use natural gas vehicles, while 3 reported using Biodiesel. Three companies reported using more than one type of alternative fuel.

Figure 13. Electric/Alternative Fuel Vehicles or Equipment Currently in Use



Source: Goods Movement/Alternative Fuels Survey

⁸ American Society of Mechanical Engineers

⁹ Original Equipment Manufacturer

¹⁰ International Longshore and Warehouse Union

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Employers were also asked whether they have considered purchasing electric/alternative fuel vehicles and their responses were almost equally split in the middle. Of thirty-seven responding employers, 51 percent have considered such a purchase whereas 49 percent have not. The top three technologies that the employers have considered purchasing are: 1) natural gas vehicles or equipment; electric vehicles or equipment; and, 3) diesel vehicles/equipment using biodiesel. Even though employers have considered purchasing alternative fuel vehicles or equipment, many indicated that there are barriers to their ability to do so. As illustrated by Figure 14, cost was an “extremely important” factor to most respondents, as was ensuring the functionality of the vehicle or equipment. Also, 40 percent of respondents noted that it is “extremely important” to have confidence in the technology. These are important findings, which will serve to inform strategies aimed at addressing industry concerns around adopting alternative fuel vehicles or equipment.

Figure 14. Barriers to Adopting Electric/Alternative Fuel Vehicles and/or Equipment

Incentive	f (%)					Responses
	Not Important	Somewhat Important	Important	Very Important	Extremely Important	
Cost	4 (11.8%)	1 (2.9%)	5 (14.7%)	2 (5.9%)	22 (64.7%)	34
Maintenance	2 (6.7%)	0 (0.0%)	11 (36.7%)	8 (26.7%)	9 (30.0%)	30
Availability	4 (13.3%)	3 (10.0%)	8 (26.7%)	5 (16.7%)	10 (33.3%)	30
Confidence in technology	2 (6.7%)	1 (3.3%)	9 (30.0%)	6 (20.0%)	12 (40.0%)	30
Capacity of personnel	5 (17.9%)	4 (14.3%)	10 (35.7%)	5 (17.9%)	4 (14.3%)	28
Industry usage	9 (31.0%)	5 (17.2%)	6 (20.7%)	4 (13.8%)	5 (17.2%)	29
Vehicle functionality	2 (6.5%)	1 (3.2%)	5 (16.1%)	8 (25.8%)	15 (48.4%)	31
Equipment functionality	2 (6.9%)	1 (3.4%)	4 (13.8%)	8 (27.6%)	14 (48.3%)	29

Source: Goods Movement/Alternative Fuels Survey

Respondents were also asked about motivators to adopting alternative technology and most (43%) indicated that local and federal tax incentives would be “extremely important” motivators to their adoption of electric/alternative fuel vehicles. The ability to increase efficiency was also a strong motivator for 35 percent of responding employers.

Although respondents indicated that federal or state incentives would be a motivator to the adoption of electric/alternative fuel vehicles or equipment, 88 percent and 60 percent, respectively, were not aware of any such incentives. These findings offer an opportunity for educating the industry about the availability of

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the incentives outlined in Figure 15, which may increase the likelihood of employers' adoption of alternative technologies.

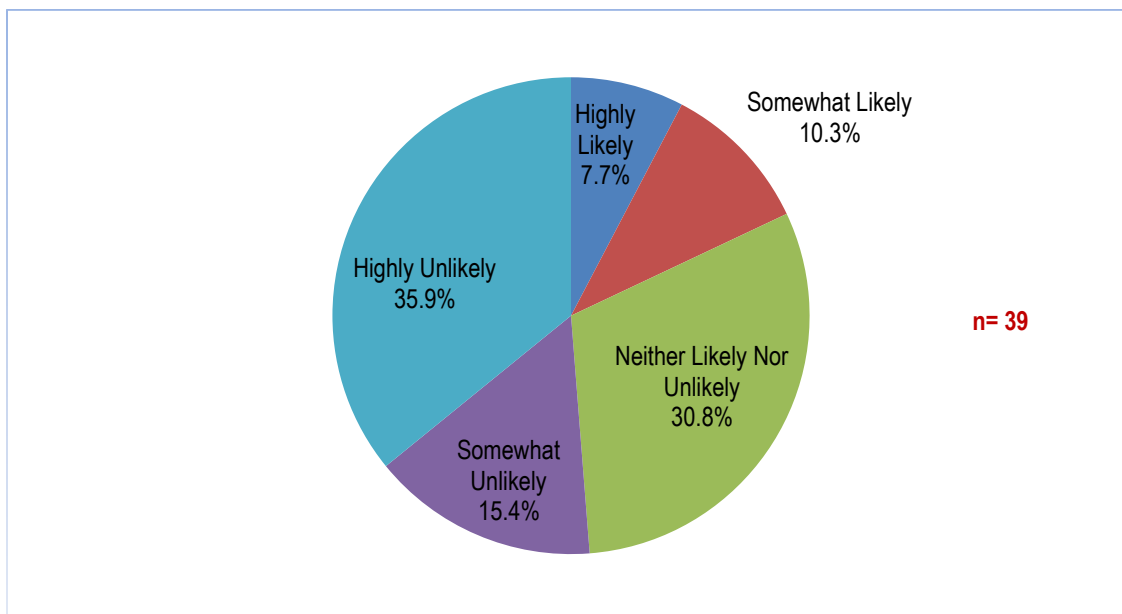
Figure 15. Motivators to Adopting Electric/Alternative Fuel Vehicles and/or Equipment

Incentive	f (%)					Responses
	Not Important	Somewhat Important	Important	Very Important	Extremely Important	
Local and federal tax incentives	5 (14.3%)	1 (2.9%)	7 (20.0%)	7 (20.0%)	15 (42.9%)	35
Local and federal regulations	5 (15.2%)	1 (3.0%)	8 (24.2%)	10 (30.3%)	9 (27.3%)	33
Environment	8 (24.2%)	4 (12.1%)	5 (15.2%)	9 (27.3%)	7 (21.2%)	33
Long-term market strategy	8 (24.2%)	4 (12.1%)	3 (9.1%)	11 (33.3%)	7 (21.2%)	33
Increased efficiency	6 (17.6%)	1 (2.9%)	4 (11.8%)	11 (32.4%)	12 (35.3%)	34

Source: Goods Movement/Alternative Fuels Survey

In addition to asking about motivators and barriers, employers were asked to indicate how likely they are to switch over to electric/alternative fuel vehicles and/or equipment and a majority (36%) are highly unlikely to switch. The second highest category of respondents was undecided at a rate of 31 percent. The remaining results are detailed in Figure 16.

Figure 16. Likelihood of Switching to Electric/Alternative Fuel Vehicles and/or Equipment



Employers were also asked whether they plan to train current employees to fill needed roles, or hire new employees that already possess necessary skills and/or certifications upon adoption of new technologies and 66 percent plan to train current staff, as well as hire new workers. When asked whether they have concerns related to re-training staff, cost and time commitments were areas of greatest concern for employers. Despite the concerns, employers seem to be open to adopting new technologies and training staff to operate them effectively, which is a positive finding with regard to opportunities within the goods movement sector.

5. Conclusion

Based on the findings of the survey, the Goods Movement/Logistics sector seems to have a great deal of potential for growth; employers are looking for new hires and are open to training entrants, both of these factors are great indicators of growth. Also, there is some interest on the part of employers in utilizing alternative fuel vehicles for their operations, however in order to increase interest and likelihood of adoption, it is important to educate employers about the available programs and/or incentives that may reduce many of their barriers (most notably cost, which was the most commonly listed barrier by respondents) to adoption.

Future Research

As previously mentioned there are opportunities for learning more about the good movement/logistics sector as part of *Goods Movement & Transportation Cluster Workforce Analysis*. The first part of the task—the survey—was the focus of this report and serves as the foundation of the analysis. There is an opportunity to build upon that foundation via the second part of the project, which involves further analysis of the industry including education and training requirements. At the conclusion of both parts of the project, Pacific Gateway will have a clear picture of labor market needs—both current and forecasted, whether employers are currently or intend to adopt alternative fuel vehicles, barriers and motivators to adoption, which occupations and skills are most valued by employers, the credentials that workers need to enter and grow within the sector, areas of potential growth, as well as areas that require additional investments.

Appendix A: Goods Movement/Alternative Fuels Survey Form



GOODS MOVEMENT/ALTERNATIVE FUELS SURVEY

Pacific Gateway is a public workforce agency in Southern California, helping businesses connect to skilled workers across the region. Pacific Gateway has received funding to help better understand employment needs among businesses in the Goods Movement/Logistics sector, with a specific emphasis on the impact of Alternative Fuel-vehicles and equipment. The goal is to help the sector grow by connecting employers to workforce resources and to the emerging technologies that can help the sector grow and become more competitive.

We are offering a \$20 Target gift card to the next 30 respondents who take this survey, and gift cards will be mailed within 2 weeks of completing the survey.

If you have any questions about the survey, please call us toll-free at 1-877-751-8771.

GENERAL LABOR MARKET INFORMATION

1. Company Name:

2. Which industry do you work in:

- Freight air transportation
- Freight rail transportation
- Freight trucking transportation long distance
- Freight trucking local
- Pipeline transportation of oil/natural gas/petroleum
- Freight water transportation
- Support activities for transportation
- Postal service
- Couriers and messengers
- Warehousing and storage
- Other (please describe) _____

3. Do you plan on hiring employees in the near future?

- Yes, within the next 6 months
- Yes, within the next 6 months - 1 year
- Yes, within the next 1 - 2 years
- Yes, within the next 2 - 4 years
- No, I'm not planning doing any hiring **(IF NO, SKIP TO QUESTION 5)**
- Other (please describe) _____

4. If you plan on hiring, what is the scope of your projected needs in terms of employee numbers?

- Less than 20
- 20 – 50
- 50 – 100
- 100 – 500
- 500 – 1,000

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Over 1,000

5. **What specific occupations are most valuable to your company in your current workforce?** *(Choose all that apply)*

- Mechanics
- Electricians
- Engineers
- Drivers
- Machine operators
- Supervisors
- Other (please describe) _____

6. **What specific skills are most valuable to your company in your current workforce?** *(Choose all that apply)*

- Vehicle Maintenance
- Equipment Maintenance
- Vehicle Operators
- Equipment Operators
- Other (please describe) _____

7. **What specific occupations do you anticipate being most in need of?**

- Mechanics
- Electricians
- Engineers
- Drivers
- Machine operators
- Supervisors
- Other (please describe) _____

8. **What specific skills do you anticipate being most in need of?**

- Vehicle Maintenance
- Equipment Maintenance
- Vehicle Operators
- Equipment Operators
- Other (please describe) _____

9. **Please list any training/certification programs you look for to fulfill those needs or that you feel would be helpful to your organization:**

ALTERNATIVE FUEL VEHICLES

10. Does your company currently use electric/alternative fuel vehicles or equipment in your heavy equipment/fleets?

- Yes No **(IF NO, SKIP TO QUESTION 14)**

11. What vehicle types do you use? *(Choose all that apply)*

- Electric vehicles
 Hybrid vehicles
 Flexible fuel vehicles
 Natural gas vehicles
 Fuel cell vehicles
 Propane vehicles
 Diesel vehicles using biodiesel
 Other (please describe) _____

12. Do you use any equipment powered by the following sources? *(Choose all that apply)*

- Biomass (biodiesel, bioenergy, biofuel)
 Electrical/lighting retro-fits
 Geothermal
 Hydroelectric energy
 Photovoltaic
 Solar
 Fuel cell
 Wind
 Other (please describe) _____

13. What occupations and/or skills are you employing to fill those needs? *(Choose all that apply)*

- Mechanics
 Electricians
 Engineers
 Drivers
 Machine operators
 Supervisors
 Other (please describe) _____

14. Has your company considered purchasing electric/alternative fuel equipment or vehicles?

- Yes No **(IF NO, SKIP TO QUESTION 16)**

15. Which technology would you consider?

- Electric vehicles or equipment
 Hybrid vehicles or equipment
 Flexible fuel vehicles or equipment
 Natural gas vehicles or equipment
 Fuel cell vehicles or equipment
 Propane vehicles or equipment
 Diesel vehicles/equipment using biodiesel

16. What are some barriers that your organization has encountered or is expecting to encounter in regards to adopting electric/alternative fuel vehicles and/or equipment?

	Not	Somewhat	Important	Very	Extremely
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	Important	Important		Important	Important
Cost					
Maintenance					
Availability					
Confidence in technology					
Capacity of personnel					
Industry usage					
Vehicle functionality					
Equipment functionality					

17. Other barriers than those listed above (please describe):

18. What is the likelihood that your company will switch over to electric/alternative fuel vehicles and/or equipment?

- Highly Unlikely
 Somewhat Unlikely
 Neither Likely Nor Unlikely
 Somewhat Likely
 Highly Likely

19. Do you plan to train current employees to fill needed roles, or hire new employees that already possess necessary skills and/or certifications related to electric/alternative fuel vehicles and/or equipment?

- Train current employees
 Hire new employees
 Both

20. Does your company have any concerns about re-training staff to drive and maintain electric/alternative fuel vehicles and/or equipment?

- Yes No (IF NO, SKIP TO QUESTION 22)

21. What are these concerns?

- Cost
 Education
 Time commitment
 Other (please describe) _____

22. If you plan to hire new employees to drive and maintain electric/alternative fuel vehicles and/or equipment, what is the scope of your projected needs in terms of employee numbers?

- Less than 20 20 – 50 50 – 100 100 – 500 500 – 1,000 Over 1,000

23. What do you anticipate being your timeframe for hiring?

- Under 6 months 6 months - 1 year 1 - 2 years 2 - 4 years 5 years or more

24. What specific skills and/or occupations do you anticipate needing? (Choose all that apply)

- Mechanics
 Electricians

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- Engineers
- Drivers
- Machine operators
- Supervisors
- Scientists
- Other (please describe) _____

25. What are some factors that would motivate your company to purchase electric/alternative fuel vehicles and/or equipment?

	Not Important	Somewhat Important	Important	Very Important	Extremely Important
Local and federal tax incentives					
Local and federal regulations					
Environment					
Long-term market strategy					
Increased efficiency					

26. Other factors than those listed above (please describe):

27. Is your company aware of state tax incentives for purchasing electric/alternative fuel vehicles? If so, which ones? (Choose all that apply)

- No, I am not aware of any state incentives.
- Hybrid Electric Vehicle (HEV) and Zero Emission Vehicle (ZEV) Purchase Vouchers
- Plug-In Hybrid and Zero Emission Light-Duty Vehicle Rebates
- Alternative Fuel and Vehicle Incentives
- High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) Lane Exemption
- Alternative Fuel and Advanced Vehicle Career Training
- Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Grants
- Emissions Reductions Grants
- Heavy-Duty Vehicle Emissions Reduction Grants
- Low Emissions School Bus Grants
- Advanced Transportation Financing
- Compressed Natural Gas (CNG) and Electricity Tax Exemption for Transit Use
- Natural Gas Vehicle (NGV) Home Fueling Infrastructure Incentive - South Coast
- Employer Invested Emissions Reduction Funding - South Coast
- Technology Advancement Funding - South Coast
- Other (please describe) _____

28. Do you utilize any of the above tax incentives?

- Yes No (IF NO, SKIP TO QUESTION 30)

29. If yes, which state incentives do you utilize?

- Hybrid Electric Vehicle (HEV) and Zero Emission Vehicle (ZEV) Purchase Vouchers
- Plug-In Hybrid and Zero Emission Light-Duty Vehicle Rebates
- Alternative Fuel and Vehicle Incentives
- High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) Lane Exemption
- Alternative Fuel and Advanced Vehicle Career Training
- Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Grants
- Emissions Reductions Grants
- Heavy-Duty Vehicle Emissions Reduction Grants

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- Low Emissions School Bus Grants
- Advanced Transportation Financing
- Compressed Natural Gas (CNG) and Electricity Tax Exemption for Transit Use
- Natural Gas Vehicle (NGV) Home Fueling Infrastructure Incentive - South Coast
- Employer Invested Emissions Reduction Funding - South Coast
- Technology Advancement Funding - South Coast
- Other (please describe) _____

30. Is your company aware of federal tax incentives for purchasing electric/alternative fuel vehicles? If so, which ones? (Choose all that apply)

- No, I am not aware of any federal tax incentives
- Advanced Biofuel Feedstock Incentives
- Advanced Biofuel Production Grants and Loan Guarantees
- Advanced Biofuel Production Payments
- Advanced Energy Research Project Grants
- Advanced Technology Vehicle (ATV) Manufacturing Incentives
- Alternative Fuel Tax Exemption
- Biobased Transportation Research Funding
- Biodiesel Education Grants
- Biomass Research and Development Initiative
- Cellulosic Biofuel Producer Tax Credit
- Ethanol Infrastructure Grants and Loan Guarantees
- Fuel Cell Motor Vehicle Tax Credit
- Hydrogen Fuel Excise Tax Credit
- Hydrogen Fuel Infrastructure Tax Credit
- Hydrogen Fuel Mixture Excise Tax Credit
- Idle Reduction Equipment Excise Tax Exemption
- Improved Energy Technology Loans
- Qualified Plug-In Electric Drive Motor Vehicle Tax Credit
- Value-Added Producer Grants (VAPG)
- Other (please describe) _____

31. Do you utilize any of the above federal incentives?)

- Yes No (IF NO, SKIP TO QUESTION 33)

32. If yes, which federal incentives do you utilize?

- Advanced Biofuel Feedstock Incentives
- Advanced Biofuel Production Grants and Loan Guarantees
 - Advanced Biofuel Production Payments
 - Advanced Energy Research Project Grants
 - Advanced Technology Vehicle (ATV) Manufacturing Incentives
 - Alternative Fuel Tax Exemption
 - Biobased Transportation Research Funding
 - Biodiesel Education Grants
 - Biomass Research and Development Initiative
 - Cellulosic Biofuel Producer Tax Credit
 - Ethanol Infrastructure Grants and Loan Guarantees
 - Fuel Cell Motor Vehicle Tax Credit
 - Hydrogen Fuel Excise Tax Credit
 - Hydrogen Fuel Infrastructure Tax Credit
 - Hydrogen Fuel Mixture Excise Tax Credit
 - Idle Reduction Equipment Excise Tax Exemption
 - Improved Energy Technology Loans
 - Qualified Plug-In Electric Drive Motor Vehicle Tax Credit
 - Value-Added Producer Grants (VAPG)
 - Other (please describe) _____

33. How will purchasing electric/alternative fuel vehicles and/or equipment improve your day-to-day operations? (Choose all that apply)

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- Meeting environmental requirements
- Increasing efficiency
- Saving costs
- Other (please describe) _____

34. How will purchasing electric/alternative fuel vehicles and/or equipment impede your day-to-day operations? (Choose all that apply)

- Decreased efficiency
- Increased costs
- Other (please describe) _____

35. Please describe any other relevant information regarding your alternative fuel/vehicle needs.

OTHER QUESTIONS

Thank you for your help with this survey.

Would you like to participate in a focus group with Pacific Gateway to further discuss alternative fuels and your labor market/training needs?

- Yes No

Congratulations! You will be entered to win a \$20 Target gift card for completing this survey. Please provide the following contact information and gift cards will be mailed to winning recipients within two weeks of finishing this survey:

Name: _____

Organization: _____

Address: _____

Email address: _____

**Appendix B: Goods Movement/Alternative Fuels Telephone Script and
Tip Sheet**

PACIFIC GATEWAY PROPOSAL

Script and Call Tip Sheet

The ultimate aim of your conversation is to get the caller to commit to completing the survey with you by phone because they have not done so at this point and are not likely to complete it any other way. Be creative, be persistent and be accommodating in order to complete the survey.

TIPS

How should I prepare for the interviews?

You should study the following:

- This tip sheet
- The survey
- Become familiar with **skip patterns** in the survey.
 - For example, if a company does not intend to hire any workers, we should not ask how many people they plan to hire.

Who should I be trying to reach?

An **Operations Manager or other worker** who can answer questions about the company, it's goals and intent around goods movement and logistics including hiring decisions, decisions for taking on new technology, etc.

Once you are directed to that person go to the "**Script**" below and begin the interview. If the person is busy, attempt to get him/her to commit to another call time and return the call at that time (**DO NOT LEAVE IT UP TO THE PARTICIPANT TO RETURN THE CALL**).

How many times do I have to call in order to try to complete the survey?

Make **three attempts** per company to complete the survey. Try at different times and on different days. Log all your attempts and their outcomes on the "Call Log." If you are unable to reach anyone after three attempts, consider that survey closed and note it on the "Call Log."

What should I expect from the people I am calling?

You should expect a variety of reactions from the people you are calling

- Some may even be irritated at the notion of having to complete the survey
 - Be creative about **turning their focus from their mood to the task at hand**.
 - Words such as *I understand, I can help you with that, I am available to assist you, I know you are quite busy but I appreciate a few minutes of your time, etc.*, will be helpful in focusing the person's energies toward the survey.
- Start out by being very pleasant and the person will most likely follow suit
 - Addressing the respondent as "Sir or Ma'am" goes a long way
- Make them feel as if they have been extended a privilege by being interviewed by phone
- Be engaging and try to turn the interview into a conversation

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SCRIPT

Hello, my name is _____ and I am calling on behalf of the **Pacific Gateway**, a public workforce agency in Southern California that helps businesses connect to skilled workers across the region. I am calling because Pacific Gateway has received funding to help **better understand employment needs among businesses in the Goods Movement/Logistics sector**, with a specific emphasis on the impact of Alternative Fuel-vehicles and equipment.

As a **sector leader**, we would appreciate it if you could take about 15 minutes to complete our confidential survey.

As a thank you for participating, we are offering you a **\$20 Target gift card**, which will be **mailed within 2 weeks**.

Do you have a moment to go through the survey right now?

- *If the response is “No” ask when you should call back.*

****Begin to go through the items with the participant****

Closing

Thank you Ms./Mr. _____ for your participation. Your responses will help us to better understand the Goods Movement/Logistics sector. If you have any other questions, do not hesitate to contact us by phone (1-877-751-8771).

FREQUENTLY ASKED QUESTIONS

Why is the survey being returned to ICF?

ICF has been contracted by Pacific Gateway to assist with the survey effort. We are working with respondents to complete the survey so that we can present the final results to Pacific Gateway.

Are we eligible to participate in this survey, we are just a small company?

All organizations that were chosen as part of the study are eligible. We understand that Good Movement/Logistics includes companies of all sizes.

Will you share my information with any third parties?

Any information that we collect and report will be done in combination with other organizations so your organization will not be identified by name or any other identifier.

When will the results be available?

We are happy to share the results with you by email as soon as they become available.