Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

FINAL EVALUATION REPORT

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The HELP One-Stop Electronic Purchasing and Processing Operational Test seeks ta demonstrate the potential to increase productivity for both motor carriers and state program administrators by automating and integrating common motor carrier administrative functions. This document the Final Evaluation Report, presents the results of the HELP One-Stop Electronic Purchasing and Processing Operational Test. It was prepared far FHWA in accordance with Grant No. DTFH61-95-X 00013.

EXECUTIVE SUMMARY

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Introduction

Each year over 15 million commercial trucks log billions of miles (288 billion in 1992) on North American roadways- passing through city, county, state, and even national borders. To comply with the regulatory requirements of the jurisdictions through which they travel, United States motor carriers pay over $17 billion in taxes annually. In addition to direct taxes and fees paid, such as vehicle registration taxes, fuel taxes, and permit fees for carrying special loads, regulatory requirements cost the motor carrier industry in terms of time and dollars spent to file the tremendous volume of paperwork necessary to operate legally. State regulatory agencies, faced with ever tightening budget and staffing levels, are also burdened by the paperwork volume associated with these requirements.

The United States Department of Transportation's (USDOT's) National ITS Program Plan describes the national strategy for deploying advanced technologies and services into our transportation system. To emphasize the need-driven (rather than technology-driven) focus of the program, the plan centers around deployment of nearly two dozen user services. One of the user services incorporated in the plan-commercial vehicle administrative processes-aims to reduce the regulatory paperwork burden borne by motor carriers and state agencies by providing the capability for electronic purchase of credentials. This user service supports the National ITS Program Plan's goal to enhance transportation productivity. In its September 8, 1993 solicitation for proposals to participate in the ITS (then called Intelligent Vehicle/ Highway Systems, or IVHS) Field Operational Test Program, the USDOT specifically requested responses to demonstrate the capability for electronic purchasing of credentials.

HELP One-Stop System

The purpose of the HELP One-Stop Operational Test was to demonstrate and test the ***capability*** for "one-stop" electronic purchase of motor carrier credentials and permits. By streamlining business practices associated with the current regulatory environment,' the one-stop concept is intended to benefit both motor carriers and state agencies. The operational test sought to illustrate these benefits in terms of both cost- and time-savings. The HELP One-Stop Operational Test successfully confirmed that potential benefits do exist for both motor carriers/service agents and state agencies.

The HELP One-Stop team consisted of a program manager, an evaluation team, a Steering Committee, an Evaluation Committee, federal and state agencies, motor carriers/service agents, and system developers. Members of the Steering Committee were responsible for general oversight of the project and gave advice to both the project manager and system developers. The Evaluation Committee had similar oversight responsibilities for

the evaluation portion of the operational test. These two committees met on a regular basis and were involved in all aspects of decision-making regarding the scope of the project and the evaluation.

The HELP One-Stop system, developed by Lockheed Martin IMS, provided motor carriers with the ability to electronically apply for and receive credentials and permits from the participating states of Arizona, California, and New Mexico. The credentials supported by the HELP One-Stop system were International Registration PIan (IRP) renewals and supplements, and International Fuel Tax Agreement (IFTA) renewals and additional decal transactions. The HELP One-Stop system also supported permits associated with oversize/overweight (OS/OW) vehicles.

In de HELP One-Stop system, user-friendly data entry screens prompted carriers to provide the information required by each state relative to supported credentials and permits. Using the HELP One-Stop system, motor carriers/service agents were able to set up and maintain fleet information, add/delete/modify vehicle records, calculate fees associated with each of the supported programs (IRP, IFTA and OS/OW permits), make electronic payments through the Service Center, and issue and print on-site credentials. The HELP One-Stop system also supported state agency reporting functions, including electronic funds transfer (EFT) payment, inventory control and daily activity reports.

The critical component of the HELP One-Stop system was the on-line interface with VISTA/RS (Lockheed Martin IMS's IRP processing system). VISTA/RS was used to calculate the IRP fees for the transactions generated by participants. Since VISTA/RS is the IRP processing system used by two of the participating states, this on-line interface eliminated the need for double data entry, which was viewed as a great future benefit.

Lockheed Martin IMS set up a Service Center, responsible for providing user training, on-site and telephone assistance to participants and act as a financial clearinghouse for fee payments. This Service Center acted as the primary contact point for all participating motor carriers/service agents and state agencies. It's role included troubleshooting problem areas - both technical/system-involved and institutional. The Service Center also played a role in the project evaluation, collecting system-generated data and completing a series of surveys, logs and interviews.

Operational Test Description

The HELP One-Stop Operational Test was conducted in three states - Arizona, California and New Mexico. Participants included 10 motor carriers/service agents — representing 12 motor carriers (four from each participating state) — and five state agencies: the Arizona Department of Transportation (ADOT), the California Board of Equalization (CABOE), the California Department of Motor Vehicles (CADMV), the California

Department of Transportation (Caltrans), and the New Mexico Taxation and Revenue Department (NMTRD). The HELP One-Stop Operational Test focused on three credential/permit processes: IRP supplements, IFTA supplements, and OS/OW permits.

The HELP One-Stop system was in place and operational for a period of nine weeks. This schedule was limited due to system development delays, expected transaction volumes, and original operational test schedule. During this nine week test - conducted between March 1997 and May 1997 - the HELP One-Stop system processed a total of 21 IRP transactions, four IFTA additional decal requests and seven OS/OW permit transactions initiated by participating motor carriers/service agents. This volume was significantly less than expected since the operational test did not encompass any renewal cycles, as was recommended by the participating parties. This data was supplemented by a series of simulated transactions conducted in order to test various parts of the HELP One-Stop system not previously evaluated. This system validation provided data on transaction response speed, accuracy, system availability and fee variations. This validation procedure was not intended to replace actual user-initiated transaction data, but rather, to test the HELP One-Stop system in a different manner.

Operational Test Methodology

A formal, repeatable, and supportable social science research technique was used to conduct the HELP One-Stop Operational Test evaluation. The HELP One-Stop Operational Test evaluation was conducted in six phases: Phase 1, Operational Test Development; Phase 2, Goal Setting; Phase 3, Definition; Phase 4, Design; Phase 5, Execution; and Phase 6, Reporting. These phases and other details about evaluation planning and design have been presented in various deliverables.

The HELP One-Stop Operational Test evaluation was designed to achieve specific goals and objectives. The achievement of these goals and objectives was accomplished through data collected in support of evaluation factors and hypothesis statements. Individual trial tests were the means through which the evaluation data (the empirical evidence used in hypothesis testing) was obtained. These tests grouped data needs by the means in which it was collected to support differences in evaluation planning, economize on project resources, and minimize respondent burden. The six trial tests developed for the HELP One-Stop Operational Test evaluation were:

System Records Selection
Service Center Logs
Service Center Surveys
System User Surveys
Personal Interviews
Automated Data Capture

Pilot tests of the data collection instruments were conducted to help detect and correct potential evaluation problems. Pilot tests operated in the same manner as the actual test, except that the number of individuals surveyed was limited. The data collection instruments were modified based upon feedback from the pilot tests before full implementation.

Operational Test Results

The collected user-initiated transaction data, combined with the simulated data transactions, support several brief conclusions regarding the viability of both the HELP One-Stop system, and one-stop services in general. A comparison between the HELP One-Stop system and conventional methods of obtaining IRP supplement credentials show that the average elapsed time between application submittal and receipt of permanent credentials is significantly less for those using electronic credentialling - an average time savings of 48 days compared to current manual application methods. This time savings is also seen for IFTA additional decal requests. The simulated data trial tests also support this conclusion, as well as significant time savings for both IRP and IFTA renewal transactions.

The Service Center, as previously mentioned, acted as a financial clearinghouse for the duration of the operational test. As such, a motor carrier/service agent wire transferred funds to a Wells Fargo Bank account set up for the operational test. Service Center personnel verified receipt of funds and forwarded those funds to the appropriate state agency on a daily basis. This procedure proved to be fairly cumbersome, and in fact, the fee payment portion of the cycle time data accounted for nearly 80% of the time required to ultimately receive permanent credentials through the HELP One-Stop system. (Data entry and credential issuance accounted for the remaining 20% .) Under a deployed system, the Service Center would no longer perform this function. Motor carriers/service agents would make payment directly to the appropriate state agency, thereby eliminating the need for the Service Center to act as a financial clearinghouse. It would be expected that under this streamlined approach, the time associated with fee payment would be significantly reduced, providing additional time savings and benefits to HELP One-Stop system users.

The operational test found several types of IRP fee calculation variations for transactions completed by the participating non-VISTA/RS state motor carriers/service agents. These variations ranged from rounding differences to fee chart discrepancies. Since these fee calculation variations are exclusive to non-VISTA/RS states, this would suggest that a deployed system for a non-VISTA/RS state would require a direct interface to that state's system, bypassing VISTA/RS altogether. These fee calculation variations further suggest that the HELP One-Stop system would be most easily integrated into those states which utilize the VISTA/RS services.

Interviews with motor carriers/service agents and state agencies found they agreed that there is great potential for the HELP One-Stop system to provide multiple benefits to their businesses/departments. These HELP One-Stop system-generated benefits were noted in terms of both time and cost savings - providing a level of efficiency not otherwise possible. It was the opinion of those involved in the operational test that the HELP One-Stop system would be most useful for large motor carriers and, potentially, service agents.

Potential Use of One-Stop Services

Lockheed Martin IMS has not yet made a firm decision about deployment of the HELP One-Stop system. With the onset of CVISN, it is unclear to the company as to what direction the motor carrier industry may take. Lockheed Martin IMS intends to review the situation as CVISN progresses further before a final decision is made regarding deployment of the HELP One-Stop software. Lockheed Martin IMS plans on utilizing the knowledge and technology that was learned from implementing the HELP One-Stop system in their future CVISN efforts.

The HELP One-Stop system, which featured a proprietary communications interface with the VISTA/RS system, would be most attractive to states that already use the VISTA/RS system. However, the development of a one-stop system that used a standard communications format, such as Electronic Data Interchange (EDI), would be attractive to both VISTA/RS and non-VISTA/RS states.

It is the belief of those involved in all aspects of the HELP One-Stop Operational Test that, while the HELP One-Stop system was ready for the operational test, it is not ready for deployment as a commercial product. Participants and committee members alike, felt that the HELP One-Stop system has not been sufficiently developed or tested to be successfully deployed. Additional functionality in terms of programs (e.g., Single State Registration, Weight/Distance Taxes) and a higher level of user satisfaction (e.g., ease of use, successful transactions, decreased time factors) will need to be incorporated before the HELP One-Stop system will be ready for a full commercial deployment.

However, once the system has undergone upgrades, and has incorporated the necessary features, the potential for future use is strong. Participating motor carriers/service agents and state agencies acknowledged the potentially large benefits of one-stop services for their businesses. The operational test was successful, in that it demonstrated the viability of the One-Stop concept. All of those involved in the operational test were very positive about the future of one-stop systems and the potentially significant benefits they will provide to the motor carrier industry.

HELP One-Stop System Users

The HELP One-Stop Operational Test could not have been completed without the assistance of the motor carrier industry. Specifically, those companies listed below were asked to change their current business methods and incorporate the HELP One-Stop system. The system participants provided the Evaluation Team with invaluable feedback, through a series of meetings, surveys, interviews and logs. Those companies participating in the HELP One-Stop Operational Test include: Access America, Commercial Carrier Services, Inc., Devine Inter-modal, Giant Transportation, McKelvey , Mesilla Valley Transportation, Rollins Leasing Corporation, Rushway Transport, TLC-4-Trux, Truckers Compliance Services, Trucking Services Interstate, and United Dairymen.

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1. PROJECT OVERVIEW

1. EVALUATION DESIGN OVERVIEW

The ***Final Evaluation Report*** contains the complete evaluation results of the Commercial Vehicle Operations One-Stop Electronic Purchasing and Processing Intelligent Transportation Systems (ITS) Operational Test (i.e., the HELP One-Stop Operational Test). This chapter presents an overview of the environment in which the individual trial tests (e.g. surveys, interviews, system records, logs) were conducted. It is divided into the following sections:

- Introduction/Project Background
- Evaluation Purpose
- Evaluation Strategy
- Data Tabulation, Reporting, Quality Control and Quality Assurance Procedures
- Human Factors and Privacy Considerations
- Test Case Descriptions

Some of the information contained in this overview was drawn from ***the Evaluation Design Plan*** released in August 1995. This information is repeated ***so*** that ***the Final Evaluation Report*** is understandable on a stand-alone basis.

1.1 INTRODUCTION

The sections below briefly describe the operational test purpose and scope, the evaluation purpose and process, and evaluation participants.

1.1.1 Background

Each year over 15 million commercial trucks log billions of miles (288 billion in 1992) on North American roadways- passing through city, county, state, and even national borders. To comply with the regulatory requirements of the jurisdictions through which they travel, United States motor carriers pay over $17 billion in taxes annually. In addition to direct taxes and fees paid, such as vehicle registration taxes, fuel taxes, and permit fees for carrying special loads, regulatory requirements cost the motor carrier industry in terms of time and dollars spent to file the tremendous volume of paperwork necessary to operate legally. State regulatory agencies, faced with ever tightening budgets and staffing levels, are also burdened by the paperwork volume associated with these requirements.

The United States Department of Transportation's (USDOT's) National ITS Program Plan describes the national strategy for deploying advanced technologies and services into our transportation system. To emphasize the need-driven (rather than technology-driven) focus of the program, the plan centers around deployment of nearly two dozen user services. One of the user services incorporated in the plan-commercial vehicle administrative processes-aims to reduce the regulatory paperwork burden borne by motor carriers and state agencies by providing the capability for electronic purchase of credentials. This user service supports the National ITS Program Plan's goal to enhance transportation productivity. In its September 8, 1993 solicitation for proposals to participate in the ITS (then called Intelligent Vehicle/ Highway Systems, or IVHS) Field Operational Test Program, the USDOT specifically requested responses to demonstrate the capability for electronic purchasing of credentials.

1.1.2 Operational Test Purpose and Scope

The purpose of the HELP One-Stop Operational Test was to demonstrate and test the ***capability*** for "one-stop" electronic purchase of motor carrier credentials and permits. By streamlining business practices associated with the current regulatory environment, the one-stop concept is intended to benefit both motor carriers and state agencies:

- ***Motor carriers*** will be able to access regulatory compliance information, file applications, and transfer funds electronically through one central system which links multiple databases and physical locations.

- ***Agencies*** will be able to avoid manual entry of motor carrier data and participate in a financial clearinghouse which will settle regulatory accounts among states.

1.1.3 Functional and Physical Description

The sections below provide a brief functional and physical description of the system and services which were developed in support of the HELP One-Stop Operational Test. For more detailed information in these areas, readers should consult the HELP, ***Inc. Draft Report, Task I-Analysis*** deliverable (cited in Appendix B).

Functional Description. The HELP One-Stop system provided motor carriers with the ability to electronically apply for and receive credentials and permits from the participating states of Arizona, California, and New Mexico. The credentials supported were IRP renewal and supplemental applications and IFTA renewal and supplemental applications. Permits supported were those associated with OS/OW envelope vehicles. The original scope of work

also included the functional areas of weight/distance taxes, Single State Registration (SSRS) , Hazardous Material (HAZMAT) permits, single trip registration, and other tax permits where applicable. A brief description of these credentials and permits follows:

- IRP credentials show that motor carriers have registered to pay vehicle license fees in a base state.

- IFTA credentials show that motor carriers have registered to pay fuel use tax obligations in a base state.

- Weight-distance taxes are collected by some states. In these states, carriers must pay a tax calculated according to the weight of the truck and the distance traveled.

- SSRS credentials provide proof of insurance coverage for motor carriers.

- OS/OW vehicle permits allow motor carriers to transport loads that are in excess of normal maximum vehicle dimensions and weights.

- HAZMAT permits allow motor carriers to transport regulated hazardous materials on specifically designated highway routes.

In the HELP One-Stop system, an interactive data entry dialog prompted carriers to provide the information required by each state relative to supported credentials and permits. This dialog replicated the logic and business rules followed by each jurisdiction, ensuring conformance with all requirements. Using the system, carriers were able to determine credential requirements, set-up fleets, add/delete/modify vehicles, calculate fees, make electronic payments through the Service Center, and issue and print on-site IRP credentials. The on-line interface between the HELP One-Stop system and VISTA/RS eliminated the need for state agencies to double data enter IRP information and enabled the state agencies to continue with normal account/fleet/vehicle processing, financial balancing and credential issuance.

A centralized Service Center was established to add significant value to the on-line services offered. This Service Center encompassed the following operations:

- ***A System Technical Support*** Desk-Although the system was designed to be as user-friendly as possible, participants in the operational test were given a toll-free number they used to call the Service Center if they had questions on how to operate the system (e.g., moving from screen to screen). Additionally, the technical personnel staffing the desk helped resolve any carrier system related issues.
- ***Financial Clearinghouse-The*** Service Center acted as a financial clearinghouse

for transactions initiated by the HELP One-Stop system by monitoring the overall payment flow. The motor carriers/service agents wire transferred funds into a Wells Fargo bank account established for the operational test. The Service Center reconciled these funds and made daily electronic transfers (EFT) to the appropriate state bank accounts.

Physical Description. The HELP One-Stop Operational Test was designed as a modular, distributed computer system. The system had four modules - the Client Module, the Agent Server, the Front End Processor and VISTA/RS .

- The Client Module (PC software) was built to efficiently collect data and enforce IRP, IFTA, permit and state rules and procedures. In addition, the Client Module supported critical processing features, such as issuance and generation of credentials, and printing of invoices. To promote inter-operability, off-the-shelf operating and database software (Windows, pcAnywhere and PowerBuilder) was used as much as possible, and open communications protocols and standards were incorporated into the PC software.

- The Agent Server was a relational database that was used to ensure data integrity between the Client Module and VISTA/RS.

- The Front End Processor was the proprietary communications interface with the VISTA/RS system.

- VISTA/RS is an acronym for Vehicle Information System for Tax Apportionment/Registration System. VISTA/RS was developed by Lockheed Martin IMS to be used by IRP member jurisdictions to process IRP applications for carriers traveling in two or more IRP jurisdictions. VISTA/RS provides for transaction processing including fee calculation, invoice generation, credentialling, and the financial record keeping necessary for distribution of funds between IRP jurisdictions.

The motor carriers /service agents would initiate a transaction from the Client Module, which would be electronically transmitted through the Agent Server and the Front End Processor and into VISTA/RS. VISTA/RS would in turn, process the supplemental transaction, generate fees and return the fee information back through the Client Module.

1.2 EVALUATION PURPOSE

Formal technical evaluations of ITS operational tests are conducted to ensure that, once the tests are concluded, sufficient information will be available to guide future development and deployment decisions. This evaluation assesses both quantitative and qualitative aspects of how well the technologies implemented in the test worked and the level of benefits and support they provided. This information is essential input for identifying appropriate paths of action for both public and private sector stakeholders.

The growing number and complexity of ITS operational tests, and the importance of integrating the results of all such tests to provide insight for national ITS program efforts, has led to a need for standardization in technical evaluations. In response to this need, the Federal Highway Administration (FHWA) issued the ***Intelligent Vehicle Highway Systems Operational Test Evaluation Guidelines*** in November 1993. ("IVHS" was redesignated as ITS in 1994.) The FHWA's guidelines proposed a structured, incremental approach to technical evaluations incorporating the following six phases:

- ***Phase I: Operational Test Development*** — Formation of a test partnership and development and submission of an offer to participate, including a general evaluation plan.

- ***Phase 2: Goal Setting*** — Establishment of an Evaluation Team and definition of evaluation goals, objectives, and approach as well as a preliminary scope of work and schedule.

- ***Phase 3: Definition*** — Preparation of an overall evaluation plan.

- ***Phase 4: Design*** — Preparation of a detailed evaluation design, including individual trial test plans.

- ***Phase*** 5: ***Execution*** — Actual conduct of the evaluation, including test data collection and analysis and documentation of the results.

- ***Phase 6: Reporting*** -Production of individual trial test reports and a final project report, including recommendations for future development and deployment.

1.2.1 Evaluation Participants

An Evaluation Team was established to work in conjunction with the Western Highway Institute (WHI). They served as a technical advisory group to help address evaluation questions and decisions, provided technical oversight of WHI's activities, reviewed evaluation documents, and maintained the evaluation momentum. Additionally, Evaluation Team members supported trial test data collection efforts by completing surveys, logs, information requests, and participating in interviews. The sections below briefly describe the participants in the HELP One-Stop Operational Test and their general (rather than trial test specific) responsibilities during the evaluation.

Arizona Department of Transportation (ADOT). ADOT's Commercial Vehicle Operations (CVO) activities include issuing OS/OW pertnits, operating weigh stations, and administering IRP and Commercial Drivers License (CDL) programs. In the HELP One-Stop Operational Test, ADOT facilitated relationships among the various

Arizona state agencies responsible for commercial vehicle regulatory processes, provided access to relevant state files and databases, and supported project design and evaluation meetings and reviews.

American Tracking Associations Foundation (ATAF). ATAF is the research arm of the American Trucking Associations, the national trade association of the trucking industry. The Foundation has a sophisticated research program aimed at improving motor carrier safety and productivity by solving today's problems in a rigorous and practical manner. In the HELP One-Stop Operational Test, ATAF coordinated industry participation and supported project design and evaluation meetings and reviews.

California Board of Equalization (CABoE). CABoE's CVO activities include issuing IFTA credentials. In the HELP One-Stop Operational Test, CABoE was responsible for issuing California IFTA credentials, reviewed IFTA-related documents for accuracy, and participated in the evaluation.

California Department of Motor Vehicles (CA DMV). CA DMV's CVO activities include issuing IRP registrations. In the HELP One-Stop Operational Test, CA DMV participated in the Evaluation Committee, reviewed evaluation and IRP-related documents, and assisted in the cross-checking of fee calculations for IRP transactions in California.

California Department of Transportation (Caltrans). Caltrans' CVO activities include issuing OS/OW permits, constructing and maintaining weigh stations, and collecting commercial vehicle traffic and accident data. In the HELP One-Stop Operational Test, Caltrans facilitated relationships among the various California state agencies responsible for commercial vehicle regulatory processes, provided access to relevant state files and databases, and supported project design and evaluation meetings and reviews.

Federal Highway Administration (FHWA). FHWA's CVO activities are centered in the Office of Motor Carriers (OMC). This Office directs the Agency's motor carrier programs and safety and other regulatory activities. FHWA's Federal Aid Division also supports motor carrier programs through sponsorship of USDOT ITS/CVO operational tests. In the HELP One-Stop Operational Test, the FHWA reviewed project progress and work orders, supported project design activities, participated in Steering Committee and evaluation meetings, reviewed the evaluation plan, monitored execution of the evaluation, and coordinated the test with other ITS projects and national plans.

Heavy Vehicle License Plate (HELP), Inc. HELP, Inc., is a public-private partnership whose mission is to develop and deploy advanced technology systems to

create a cooperative operating and regulatory environment which improves the efficient and safe movement of commercial vehicles and the performance of highway systems. HELP, Inc. provides automated motor carrier services (e.g., weigh station and port of entry pre-clearance), integrated database support, and other related services across multiple jurisdictions. In the operational test, HELP, Inc. provided project management and served as a forum for controlled and integrated system development, demonstration, and deployment.

International Fuel Tax Association, Inc. (IFTA, Inc.). IFTA is a base state agreement that allows motor carriers licensed in one member jurisdiction to satisfy their fuel use tax obligations to all the other members through that jurisdiction. At the beginning of the operational test, Arizona and New Mexico were members of IFTA and California joined the Agreement in September 1996. Therefore, during the operational period, all three participating states were also member states of IFTA. In the HELP One-Stop Operational Test, IFTA, Inc. served as a liaison between the test and the Agreement to make sure that the requirements of IFTA were addressed appropriately. IFTA, Inc. also supported project design and evaluation meetings.

Lockheed Martin IMS. The principle private sector partner in the operational test, Lockheed Martin IMS, has a history of actively providing CVO technical solutions and services. As the system developer of the VISTA/RS IRP and VISTA/TS IFTA programs, Lockheed Martin IMS has gained a thorough understanding of the systems and integration necessary to have a fully functional one-stop environment. In the HELP One-Stop Operational Test, Lockheed Martin IMS served as the system developer and operator.

National Governors Association (NGA). NGA's CVO related activities focus on supporting state CVO programs which facilitate interstate commerce. Specifically, to enhance compliance with IRP and IFTA, the NGA staffs a Base State Working Group (BSWG) on Uniform Motor Carrier Programs which was created in the Motor Carrier Act of 1991. In the HELP One-Stop Operational Test, NGA supported project design and evaluation meetings and reviews.

New Mexico Taxation and Revenue Department (NMTRD). NMTRD's CVO activities include issuing OS/OW permits, operating weigh stations, and administering the IRP and CDL programs. In the HELP One-Stop Operational Test, NMTRD facilitated relationships among the various New Mexico state agencies responsible for CVO activities (including the State Highway and Transportation Department, which is responsible for weigh station construction and maintenance and collection of commercial vehicle traffic and accident data), provided access to relevant state files and databases, and supported project design and evaluation meetings and reviews.

Private Fleet Management Institute (PFMZ). PFMI is the research and education arm of the National Private Truck Council, a national trade association for companies and organizations that operate their own private truck fleets. In the HELP One-Stop Operational Test, PFMI coordinated industry participation and supported project design, evaluation meetings and reviews.

. ***Western Highway Institute*** (WHI). WHI is a leading research resource dedicated to advancing trucking and transportation industry safety and productivity through the factual analysis of economic, operational, safety, environmental, and policy issues in Western North America. WHI served as the objective technical evaluator for the HELP One-Stop Operational Test, assuming primary responsibility for evaluation planning, conduct, analysis, and reporting.

(Addresses and phone/facsimile numbers for Evaluation Team members are provided in Appendix C.)

1.3 EVALUATION STRATEGY

A formal, repeatable, and supportable social science research technique was used to conduct the HELP One-Stop Operational Test evaluation. The sections below describe the technique used.

1.3.1 Goals, Objectives, Factors and Hypotheses

The HELP One-Stop Operational Test evaluation sought to achieve specific goals and objectives. The achievement of these goals and objectives was measured through data collected in support of evaluation factors and hypotheses statements. For the purposes of this evaluation, those terms were defined as follows:

- ***Goals*** are the ends toward which all evaluation effort is directed.
- ***Objectives*** subdivide goals into statements which can be addressed through qualitative or quantitative measurements.
- ***Evaluation factors*** are the qualitative or quantitative measurements used to validate the objectives under consideration.
- ***Hypothesis statements*** are tentative assumptions made to test the logical or empirical evidence associated with evaluation factors. For example:

If a hypothesis states that a certain test will show a difference in an evaluation factor, but testing does not show a statistically significant probability that such a difference exists, then the hypothesis is rejected.

If testing shows that there is a statistically significant probability that a difference exists, then the hypothesis is accepted.

Exhibit l-l presents the goals, objectives, factors, and hypotheses developed for this evaluation. Following the exhibit, each goal is discussed in detail, outlining the objectives, evaluation factors, hypothesis statements and evaluation conclusions. References are also made for additional sections within the Final Evaluation Report which discuss the collected data in further detail.

Exhibit l-l
HELP One-Stop Operational Test Evaluation Goals, Objectives, Factors, and Hypotheses

Cost	Objective	Evaluation Factor	Hypothesis Statement
1. Evaluate the effectiveness of *HELP one-stop services*❶	1.1 Assess productivity impacts	1.1.1 Reduction in motor carrier/service agent application preparation cycle times	HELP one-stop services reduce motor carrier/service agent application preparation cycle times by a statistically significant amount over conventional methods
		1.1.2 Reduction in cycle times for state agencies to issue credentials/permits	HELP one-stop services reduce state agency cycle times to issue credentials/permits by a statistically significant amount over conventional methods
		1.1.3 Reduction in cycle times for motor carriers/service agents to submit and receive credentials/permits	HELP one-stop services reduce cycle times for motor carriers/service agents to submit and receive credentials/permits by a statistically significant amount over conventional methods
	1.2 Assess impacts on consistency and uniformity	1.2.1 Reduction in motor carrier/service agent rejection/reapplication rates	HELP one-stop services reduce motor carrier/service agent rejection/reapplication rates by a statistically significant amount over conventional methods
		1.2.2 Increase in state agency approval rates	HELP one-stop services increase state agency approval rates by a statistically significant amount over conventional methods
		1.2.3 Reduction in state agency tax/fee computation variations based on identical inputs	HELP one-stop services reduce state agency tax/fee computation variations based on identical inputs by a statistically significant amount over conventional methods
	1.3 Assess impacts on service quality	1.3.1 Increase in convenience of conducting CVO credential/permit transactions for motor carriers/service agents and state agencies	HELP one-stop services increase motor carrier/service agent and state agency convenience in conducting CVO credential/permit transactions by a statistically significant amount over conventional methods
		1.3.2 Percent of motor carrier/service agent initiated transactions that are computed by *HELP one-stop services*❶	No relevant hypothesis, percent of initiated transactions that are completed will be documented but not evaluated
		1.3.3 Percent of all motor carrier/service agent credential/permit transactions that can be performed by *HELP one-stop services*❶	No relevant hypothesis, percent of credentials/permits that can be performed will be documented but not evaluated
2. Evaluate *HELP one - stop services* ❶ operation	2.1 Assess *HELP one-stop services* ❶ performance	2.1.1 Acceptability of *HELP one-stop services* ❶ accuracy	The accuracy of *HELP one-stop services*❶ is shown to be acceptable by a statistically significant amount
		2.1.2 Acceptability of *HELP one-stop services* ❶ response ❷ speed	The *response* ❷ speed of *HELP one-stop services* ❶ is shown to be acceptable by a statistically significant amount
		2.1.3 Acceptability of the capability of *HELP one-stop services*❶ to accommodate changes in volume without degraded cycle times	The capability of *HELP one-stop services*❶ to accommodate changes in volume without degraded application-to-issuance cycle times is shown to be acceptable by a statistically significant amount
	2.2 Assess *HELP one-stop services* ❶ suitability	2.2.1 Acceptability of *HELP one-stop services* ❶ availability at the times desired	The availability of *HELP one-stop services* ❶ at the times desired is shown to be acceptable by a statistically significant amount
		2.2.2 Acceptability of instances and duration of scheduled and unscheduled maintenance on the *HELP one-stop services* ❷	The instances and duration of scheduled and unscheduled maintenance on the *HELP one-stop services* ❷ are shown to be acceptable by a statistically significant amount
		2.2.3 Acceptability of the *HELP one-stop services* ❷ operational interface	The *HELP one-stop services* ❷ operational interface is shown to be acceptable by a statistically significant amount

*The term "HELP one-stop services" refers to both the computerized one-stop system and supporting service center activities
NOTE: The different ways in which state agencies will interface with the HELP one-stop system (e.g., different degrees of automation; will be considered in the evaluation. ❹

PROPOSED MODIFICATIONS KEY:
❶ Changed the word "system" to "HELP one-stop services" to emphasize that both the computerized system and supporting service center activities will be addressed
❷ Added the word "response" to indicate the type of speed that will be considered in the evaluation
❸ Changed the word "system" to "HELP one-stop services" to emphasize that only the computerized system will be considered in part of this evaluation
❹ Added this note to emphasize that the different ways in which state agencies will interface with the HELP one-stop system will be considered in the evaluation, per the Evaluation Team's request.

Exhibit l-l (cont'd)
HELP One-Stop Operational Test Evaluation Goals, Objectives, Factors, and Hypotheses

Cost	Objective	Evaluation Factor	Hypothesis Statement
2. Evaluate *HELP one - stop services* ❶ operation (cont'd)	2.2 Assess *HELP one-stop services* ❶ suitability (cont'd)	2.2.4 Acceptability of the *HELP one-stop system's* ❸ installation and maintenance environment	The HELP one-stop system's installation and maintenance environment is shown to be acceptable by a statistically significant amount
		2.2.5 Acceptability of the *HELP one-stop system's* ❸ capability for supporting hardware/software upgrades	The HELP one-stop system's capability for supporting hardware and software upgrades is shown to be acceptable by a statistically significant amount
		2.2.6 Acceptability of training provided on the *HELP one-stop system* ❸ to *motor carriers/service agents, state agencies, and service center analysis* ❺	The training provided to *motor carriers/service agents, state agencies, and service center analysis* ❺ on the HELP one-stop system is shown to be acceptable by a statistically significant amount
3. Determine physical conditions and requirements	3.1 Document operational test conditions and requirements	3.1.1 Operational test costs	No relevant hypothesis, costs will be documented but not evaluated
		3.1.2 Operational test configuration requirements	No relevant hypothesis, requirements will be documented but not evaluated
	1.3 Assess impacts on service quality	3.2.1 Deployment costs	No relevant hypothesis, costs will be documented but not evaluated
		3.2.2 Deployment configuration requirements	No relevant hypothesis, requirements will be documented but not evaluated
4. Evaluate user acceptance	4.1 Assess motor carrier/ service agent acceptance	4.1.1 Motor carrier/service agent preferences	A statistically significant percent of motor carrier/service agent users prefer HELP one-stop services
		4.1.2 Motor carrier/service agent frequency of use	A statistically significant percent of motor carrier/service agent users make frequent use of HELP one-stop services in conducting credential/permit transactions
		4.1.3 Changes in motor carrier/service agent attitudes and behavior over time	A statistically significant percent of motor carrier/service agent users rate HELP one-stop services more favorably and rely on it to a greater extent with increased exposure
	4.2 Assess state agency acceptance	4.2.1 State agency preferences	A statistically significant percent of state agency users prefer HELP one-stop services
		4.2.2 ❺ Changes in state agency attitudes and behavior over time	A statistically significant percent of state agency users rate HELP one-stop services more favorably and rely on it to a greater extent with increased exposure
5. Document and assess institutional issues	5.1 Assess motor carrier/service agent positions	5.1.1 Motor carrier/service agent views on one-stop services	No relevant hypothesis, attitudes will be documented but not evaluated
		5.1.2 Motor carrier/service agent views on ITS applications in general	No relevant hypothesis, attitudes will be documented but not evaluated
	5.2 Assess state agency positions	5.2.1 State agency views on one-stop services	No relevant hypothesis, attitudes will be documented but not evaluated
		5.2.2 State agency views on ITS applications in general	No relevant hypothesis, attitudes will be documented but not evaluated
	5.3 Maintain contracts and agreements	No relevant factors	No relevant hypothesis

*The term "HELP one-stop services" refers to both the computerized one-stop system and supporting service center activities
NOTE: The different ways in which state agencies will interface with the HELP one-stop system (e.g., different degrees of automation; will be considered in the evaluation. ❹

PROPOSED MODIFICATIONS KEY:
❶ Changed the word "system" to "HELP one-stop services" to emphasize that both the computerized system and supporting service center activities will be addressed
❸ Changed the word "system" to "HELP one-stop services" to emphasize that only the computerized system will be considered in part of this evaluation
❹ Added this note to emphasize that the different ways in which state agencies will interface with the HELP one-stop system will be considered in the evaluation, per the Evaluation Team's request.
❺ Clarified that the acceptability of training on the HELP one-stop system will be assessed from the viewpoints of motor carrier/service agents, state agencies, and service center analysts.

GOAL 1: EVALUATE SYSTEM EFFECTIVENESS

This goal area focused on the assessment of the degree to which the HELP one-stop system impacted motor carrier/service agent and state agency credentialling processes. In order to address this goal, a number of objectives were established. These were: assess productivity impacts; assess impacts on consistency and uniformity; and assess impacts on service quality. Results from the evaluation indicate that the HELP one-stop system has the potential to be quite effective in reducing the time and cost associated with the process of receiving motor carrier credentials/permits.

OBJECTIVE 1. I: Assess productivity impacts.
This objective dealt with the assessment of cycle times in terms of applying for, processing and receiving credentials and permits.

Evaluation Factor 1.1.1: Reduction in motor carrier/service agent application preparation cycle times.
Hypothesis: HELP one-stop services reduce motor carrier/service agent application preparation cycle times by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, it can be said that the HELP one-stop system substantially reduced motor carrier/service agent application prep time for all types of credentials and permits tested. Data collected during the evaluation indicated that on average, the preparation time for an IRP supplement was reduced by a factor of three. More specific information on cycle times for all credentials is provided in Section 3 of this report.

Application preparation cycle times are an important indicator of the amount of labor expended to accomplish the task of preparing and applying for motor carrier credentials and permits. Preparation cycle times include that labor time which can be greatly impacted by the HELP one-stop system, and also represents the area of greatest potential cost savings for system users.

Evaluation Factor 1.1.2: Reduction in cycle times for state agencies to issue credentials/permits.
Hypothesis; HELP one-stop services reduce state agency cycle times to issue credentials/permits by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, the HELP one-stop system substantially reduced state agency cycle times. In the operational test, most credentials and permits were issued automatically through the system, with no

direct interaction from the state agency. State agency personnel did not manually process applications, therefore, state agency cycle times were drastically reduced. More specific information on cycle times for all credentials is provided in Section 3 of this report.

Application issuance cycle times are an important indicator of the amount of labor expended to issue credentials/permits. This factor is important because it is an indicator of labor time which can be greatly impacted by the HELP one-stop system, and also represents the area of greatest potential cost savings for state agencies.

Evaluation Factor 1.1.3: Reduction in cycle times for motor carriers/service agents to submit and receive credentials/permits.
Hypothesis: HELP one-stop services reduce cycle times for motor carriers/service agents to submit and receive credentials/permits by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, it can be said that the elapsed time between submission for and receipt of credentials/permits was substantially reduced. Data collected during the evaluation indicated that the time between submission and receipt of credentials was reduced in the case of IRP supplements from seven weeks to just over one day. More specific information is provided in Section 3 of this report.

Application submission are receipt cycle times are an important indicator of the amount of time required to receive permanent credentials and permits. Submission/receipt cycle times include that lag time which can be greatly impacted by the HELP one-stop system, and also represents an area of potential cost savings for system users.

OBJECTIVE 1.2: Assess impacts on consistency and uniformity.
This objective measured the degree to which the HELP one-stop system impacted motor credentialling process rates such as rejection, reapplication, state approval and tax/fee computation variations.

Evaluation Factor 1.2.1: Reduction in motor carrier/service agent rejection/reapplication rates.
Hypothesis: HELP one-stop services reduce motor carrier/service agent rejection/reapplication rates by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, the HELP one-stop system was designed to include verification procedures which would stop incomplete or, in

some cases, inaccurate applications from being transmitted. Due to these verification loops, rejection and reapplication rates due to incomplete applications will be substantially reduced. More specific information is provided in Section 3 of this report.

Rejection/reapplication rates are an important indicator of the total time expended between initial application and final receipt of permanent credentials. They are important because they represent an area of great potential time and cost savings for motor carriers/service agents.

Evaluation Factor 1.2.2: Increase in state agency approval rates.
Hypothesis: HELP one-stop services increase state agency approval rates by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, the HELP one-stop system was designed to include verification procedures which would stop incomplete or, in some cases, inaccurate applications from being transmitted. Due to these verification loops, approval rates should substantially rise due to a lesser number of incomplete applications. More specific information is provided in Section 3 of this report.

Approval rates indicate the amount of labor necessary for state agencies to ultimately approve an application. They are important because they represent a large portion of labor and time costs to state agencies, and can be greatly impacted by the use of one-stop services.

Evaluation Factor 1.2.3: Reduction in state agency tax/fee computation variations based on identical inputs.
Hypothesis: HELP one-stop services reduce state agency tax/fee computation variations based on identical inputs by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated tax/fee computation variations did exist in the case of California accounts. It should be noted that California was the single state which did not subscribe to VISTA-RS, and rounding errors were expected. More specific information is provided in Section 4.7 of this report.

Tax/fee computation variation is an important indicator of invoice calculation reliability and consistency. It is important because it impacts user acceptance, user confidence and, potentially, state fiduciary issues.

OBJECTIVE 1.3: Assess impacts on service quality.
This objective dealt with the assessment of how the HELP one-stop system impacted the convenience and merit of using an electronic credentialling system to obtain motor carrier credentials and permits.

Evaluation Factor 1.3.1: Increase in convenience of conducting CVO credential/permit transactions for motor carriers/service agents and state agencies.
Hypothesis: HELP one-stop services increase motor carrier/service agent and state agency convenience in conducting CVO credential/permit transactions by a statistically significant amount over conventional methods.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that motor carriers/service agents preferred the convenience of using the HELP one-stop system over conventional methods for obtaining credentials and permits. More specific information is provided in Section 2.1 of this report.

Convenience is an important indicator of user satisfaction and the potential use of a product such as the HELP one-stop system. It is important because it helps determine future use and acceptability of the system.

Evaluation Factor 1.3.2: Percent of motor carrier/service agent initiated transactions that are completed by the system.
Hypothesis: No relevant hypothesis: percent of initiated transactions that are completed will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated that motor carriers/service agents could envision using the HELP one-stop system for a large percentage of all transactions. More specific information is provided in Sections 3 and 5.4 of this report.

Evaluation Factor 1.3.3: Percent of all motor carrier/service agent credential/permit transactions that can be performed by the system.
Hypothesis: No relevant hypothesis: percent of initiated transactions that can be performed will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated that motor carriers/service agents believed most of their credentialling/permitting functions could be completed using the HELP one-stop. More specific information is provided in Sections 3 and 5.4 of this report.

GOAL 2: EVALUATE THE SYSTEM OPERATION

This goal area focused on the assessment of the HELP system's ability to perform the tasks for which it was designed. In order to address this goal, a number of objectives were established. These were: assess system performance and assess system suitability. Evaluation results indicate that the HELP one-stop system has the capability to perform the tasks for which it was designed, in a manner which is acceptable to system users.

OBJECTIVE 2.1:Assess system performance.
This objective dealt with the assessment of the system itself, in terms of accuracy, speed and volume sensitivity.

Evaluation Factor 2.1.1: Acceptability of system accuracy.
Hypothesis: The HELP one-stop system's accuracy is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated the system had some problems with accuracy in the areas of credential issuance - specifically, the printing of cab cards in California and permits in Arizona. More specific information is provided in Section 4.4 of this report.

System accuracy is an important indicator of reliability. It is important because it is a major factor in user confidence, potential use, and state regulatory issues.

Evaluation Factor 2.1.2: Acceptability of system speed.
Hypothesis: The HELP one-stop system's speed is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that while the response speed of the HELP one-stop system was substantially shorter than conventional methods for obtaining permanent credentials, the system response speed was longer than conventional methods for obtaining temporary credentials._ More specific information is provided in Section 4.5 of this report.

System speed is an important indicator of the time lapse between initial application and final printing of permanent credentials. It is important because it is a major factor in deciding whether or not to pursue temporary credentials (conventional methods) as opposed to timely permanent credentials (new procedures through the HELP one-stop system).

Evaluation Factor 2.1.3: Acceptability of system capability for accommodating changes in volume without degraded cycle times.
Hypothesis: The HELP one-stop system's capability for accommodating changes in volume without degraded application-to-issuance cycle times is shown to be acceptable by a statistically significant amount.
Conclusion: Data was not collected during the evaluation period due to technical issues discovered during system development. More specific information is provided in Section 4.8 of this report.

OBJECTIVE 2.2: Assess system suitability.
This objective dealt with the assessment of user preference and acceptance of the HELP one-stop system.

Evaluation Factor 2.2.1: Acceptability of system availability at the times desired.
Hypothesis: The HELP one-stop system's availability at the times desired is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that the HELP one-stop system was available at all times during regular business hours for the duration of the operational test period. More specific information is provided in Section 4.6 of this report.

System availability is an important indicator of system reliability. It is important to the future volume of system use, as well as for future business planning.

Evaluation Factor 2.2.2: Acceptability of instances and duration of scheduled and unscheduled maintenance.
Hypothesis: The instances and duration of scheduled and unscheduled maintenance on the HELP one-stop system are shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that the HELP one-stop system was available at all times during regular business hours for the duration of the operational test period. Maintenance levels were found to be acceptable by all system users. More specific information is provided in Section 4.6 of this report.

Acceptability of maintenance times is an important indicator of reliability and user confidence. It is important to the future volume of system use, as well as for business planning and scheduling.

Evaluation Factor 2.2.3: Acceptability of operational interface.
Hypothesis: The HELP one-stop system's operational interface is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated for the majority of credentials/permits, the operational interface was positively rated by system users. More specific information is provided in Sections 2.1 and 4.3 of this report.

Operational interface is an important indicator of user-friendliness and ease of use. It is important because it will largely determine future use and acceptability.

Evaluation Factor 2.2.4: Acceptability of installation and maintenance environment.
Hypothesis: The HELP one-stop system's installation and maintenance environment is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, while data collected during the evaluation indicated no problems with the system installation or maintenance environment, it was decided that changes would be made to the installation procedures to increase efficiency for the development of a commercial product. More specific information is provided in Section 4.2 of this report.

Acceptability of installation is an important indicator of the effort necessary bring the system to working order. It is important to the potential expansion of the HELP one-stop user group and as an indicator of the technical expertise necessary to install the HELP one-stop system.

Evaluation Factor 2.2.5: Acceptability of system capability for supporting hardware/software upgrades.
Hypothesis: The HELP one-stop- system's capability for supporting hardware and software upgrades is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, while data collected during the evaluation indicated no problems with the system's capability to support upgrades, it was decided that changes would be made to the upgrade procedures to increase efficiency for the development of a commercial product. More specific information is provided in Section 4.2 of this report.

Acceptability of the upgrade capability is an important indicator of user confidence. It is an important to the decision-making process of whether or not to invest in a one-stop system. Upgrade capability is a concern whenever an investment in technology is being made.

Evaluation Factor 2.2.6: Acceptability of training provided.
Hypothesis: The training provided on the HELP one-stop system is shown to be acceptable by a statistically significant amount.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, it can be said that all system users rated the training very positively. Data collected during the evaluation indicated that most of the system user's felt the hands-on training was adequate, but cautioned that alternate methods of training may not be sufficient. More specific information is provided in Section 4.1 of this report.

Training in an important issue for user acceptance, user confidence and potential benefits. With adequate training, a system user can utilize all aspects of the HELP one-stop system rather than just the familiar aspects. This impacts potential use and marketability of the HELP one-stop system.

GOAL 3: DETERMINE PHYSICAL CONDITIONS AND REQUIREMENTS

This goal area focused on the assessment of the HELP system, its physical configurations, costs and requirements. In order to address this goal, a number of objectives were established. These were: document operation test conditions and requirements and estimate deployment conditions and requirements. Evaluation results indicate that motor carriers/service agents and state agencies were responsible for only personnel costs. The costs of development, maintenance, and training were borne by the system developers. Future deployment costs will be dependent upon several factors, including projected transaction volume, current links to VISTA-RS , and state specifications.

OBJECTIVE 3. 1: Document operational test conditions and requirements.
This objective dealt with recording the circumstances under which the HELP one-stop system was tested and evaluated.

Evaluation Factor 3.1. I: Operational test costs.
Hypothesis: No relevant hypothesis: costs will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated costs to motor carriers/service agents and state agencies were limited to personnel expenses. The system developers bore the cost of system development, software and hardware expenses. More specific information is provided in Section 5.1 of this report.

Evaluation Factor 3.1.2: Operational test configuration.
Hypothesis: No relevant hypothesis: requirements will be documented but not evaluated.
Conclusion: Data collected during the evaluation outlined the physical configuration requirements of the HELP one-stop system, including software and hardware requirements. More specific information is provided in Section 5.1 of this report.

OBJECTIVE 3.1: Estimate deployment conditions and requirements.
This objective dealt with assessing the costs and requirements for system deployment.

Evaluation Factor 3.2. I: Deployment costs.
Hypothesis: No relevant hypothesis: costs will be documented but not evaluated.
Conclusion: Data collected during the evaluation outlined the potential costs of a deployed system, including the necessary changes to the present system prior to deployment. Data showed that most system users agreed that any costs for using the system must be minimal and recoverable within a short period of time. More specific information is provided in Section 5.4 of this report.

Evaluation Factor 3.2.2: Deployment configuration requirements.
Hypothesis: No relevant hypothesis: requirements will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated that the physical requirements would not substantially change from the operational test to deployment. The one segment which was identified for change was the REMCOMM program. More specific information is provided in Section 5.3 of this report.

GOAL 4: EVALUATE USER ACCEPTANCE

This goal area focused on user preferences and approval of the HELP one-stop system. In order to address this goal, a number of objectives were established. These were: assess motor carrier/service agent acceptance; and assess state agency acceptance. Results from the evaluation indicate the HELP one-stop system has the potential to be well-accepted by both motor carriers/service agents and state agencies. However, the system that was tested was found to contain several problem areas which need to be addressed prior to commercial deployment. System users differentiated between acceptance of the system as demonstrated in the operational test, and the potential corrected system.

OBJECTIVE 4. 1: Assess motor carrier/service agent acceptance.
This objective dealt with the assessment of motor carrier/service agent approval of the HELP one-stop system, its capability, and its potential use.

Evaluation Factor 41.1: Motor carrier/service agent preferences.
Hypothesis: A statistically significant percent of motor carrier/service agent users prefer HELP one-stop services.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, it can be said that all motor carriers/service agents recognized the potential benefits of using the HELP one-stop system to obtain credentials/permits. More specific information is provided in Section 2 of this report.

Motor carrier preferences are an important indicator of user acceptance, user confidence, and potential use of the HELP one-stop system. They are important to the developers for future modifications and upgrades, as well as to state agencies to make the decision to accept one-stop services.

Evaluation Factor 4.1.2: Motor carrier/service agent frequency of use.
Hypothesis: A statistically significant percent of motor carrier/service agent users make frequent use of HELP one-stop services in conducting credential/permit transactions.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that all motor carriers/service agents recognized the potential benefits of using the HELP one-stop system to obtain credentials/permits, and would make frequent use of the system if it were available. More specific information is provided in Section 2 of this report.

Frequency of use is an important indicator of future volume. It is important because it is an indication of how often, and to what degree motor carriers/service agents will use the system rather than conventional methods.

Evaluation Factor 4.1.3: Changes in motor carrier/service agent attitudes and behavior over time.
Hypothesis: A statistically significant percent of motor carrier/service agent users rate HELP one-stop services more favorably and rely on it to a greater extent with increased exposure.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. Due to schedule changes, it was infeasible to collect initial, mid-term, and final data sets from system users. Instead, only baseline (conventional methods) and final data were collected. More specific information is provided in Section 2 of this report.

Changes in attitude and behavior are an important indicator of the future success of one-stop services, as well as the progression through the learning curve of new technology. They are important to both the developers for future design upgrades and training, and to the state for future planning purposes.

OBJECTIVE 4.2: Assess state agency acceptance.
This objective dealt with the assessment of state agency approval of the HELP one-stop system, its capability, and its potential use.

Evaluation Factor 4.2.1: State agency preferences.
Hypothesis: A statistically significant percent of state agency users make frequent use of HELP one-stop services in conducting credential/permit transactions.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that state agency personnel recognized the potential benefits of using the HELP one-stop system to issue credentials. More specific information is provided in Section 2 of this report.

State agency acceptance is an important indicator of user confidence and user volume. State agency acceptance is vital to the continuation and expansion of one-stop services. It is important for system users to know state agencies have confidence in the system before investing time and money in a program such as this.

Evaluation Factor 4.2.2: State agency frequency of use.
Hypothesis: A statistically significant percent of state agency users make frequent use of HELP one-stop services in conducting credential/permit transactions
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. However, data collected during the evaluation indicated that state agency personnel had little interaction with the HELP one-stop system, and were therefore available to conduct other tasks. More specific information is provided in Section 2 of this report.

Frequency of use is an important indicator of potential volume issues, and future system use. It is important because it indicates the level of user commitment and user confidence in the HELP one-stop system. It is also important for future business planning decisions by the state and system developers.

Evaluation Factor 42.3: Changes in state agency attitudes and behavior over time.
Hypothesis: A statistically significant percent of state agency users rate HELP one-stop services more favorably and rely on it to a greater extent with increased exposure.
Conclusion: The data collected under this task was not sufficient to either support or reject the hypothesis. Due to schedule changes, it was infeasible to collect initial, mid-term, and final data sets from state personnel. Instead, only baseline (conventional methods) and final data were collected. More specific information is provided in Section 2 of this report.

Changes in attitude and behavior are an important indicator of user acceptance and confidence. They are important to the future business decisions of state agencies as well as system developers.

GOAL 5: DOCUMENT AND ASSESS INSTITUTIONAL ISSUES

This goal area focused on the documentation of institutional issues, lessons learned and barriers. In order to address this goal, a number of objectives were established. These were: assess motor carrier/service agent positions; assess state agency positions; and maintain contracts and agreements. Evaluation results documented several important institutional issues and lessons learned. These include issues which need to be resolved prior to commercial deployment as well as general cautions for future operational tests of technology such as the HELP one-stop services.

OBJECTZVE 5.1: Assess motor carrier/service agent positions.
This objective dealt with the assessment of motor carrier/service agent attitudes and views of the one-stop services and ITS applications in general.

Evaluation Factor 5.1.1: Motor carrier/service agent views on one-stop services.
Hypothesis: No relevant hypothesis: attitudes will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated that motor carriers/service agents were generally positive about one-stop services. More specific information is provided in Section 5.1 of this report.

Evaluation Factor 5.1.2: Motor carrier/service agent views on ITS applications in general.
Hypothesis: No relevant hypothesis: attitudes will be documented but not evaluated.

Conclusion: Data collected during the evaluation indicated motor carriers/service agents were generally positive about ITS applications in the motor carrier industry. More specific information is provided in Section 2 of this report.

OBJECTZVE 5.2: Assess state agency positions.
This objective dealt with the assessment of state agency attitudes and views of the one-stop services and ITS applications in general.

Evaluation Factor 5.2.1: State agency views on one-stop services.
Hypothesis: No relevant hypothesis: attitudes will be documented but not evaluated.
Conclusion: Data collected during the evaluation indicated state agency personnel were generally positive about one-stop services. More specific information is provided in Section 2 of this report.

Evaluation Factor 5.2.2: State agency views on ITS applications in general.
Hypothesis: No relevant hypothesis: attitudes will be documented but not evaluated
Conchsion: Data collected during the evaluation indicated state agency personnel were generally positive about ITS applications for the motor carrier industry. More specific information is provided in Section 2 of this report.

OBJECTIVE 5.3 Maintain contracts and agreements.
This objective dealt with the contractual obligations of the WHI as noted in signed contracts between FIIWA, project manager and all subcontractors. No data was collected during the evaluation period.

Evaluation Factor: No relevant factors.
Hypothesis: No relevant hypothesis.

1.3.2 Individual Trial Tests

Individual trial tests were the means through which the evaluation data (the empirical evidence used in hypothesis testing) was obtained. These tests grouped data needs by the venue in which it was collected to support differences in evaluation planning, economize on project resources, and minimize respondent burden. The six trial tests developed for the HELP One-Stop Operational Test evaluation were as follows: (See Appendix E for copies of these instruments)

1. ***System Records Selection –*** Collected operational data (e.g., number, length of transactions) automatically from the system throughout the execution phase.

2. *Service Center Logs* – Collected basic activity measures (e.g., up and down time, number of callers) from Service Center analysts on a weekly basis throughout the execution phase.

3. *Service Center Surveys* – Collected operational data (e.g., time spent with system, user feedback) plus attitudinal data (e.g., acceptability of maintenance schedules) from Service Center analysts in the execution phase.

4 *System User Surveys* – Collected operational data (e.g., services used) plus behavioral and attitudinal data (e.g., rating of services) from motor carriers/service agents and state agency users.

5. *Personal Interviews* – Collected operational data (e.g., cycle times, costs, configuration requirements) **from** motor carriers/service agents and state agency users and service center analysts and probed responses to survey questions.

6. *Automated Data Capture* – Tested the system's performance (e.g., in terms of accuracy, speed) against predefmed benchmarks.

1.3.3 Pilot Testing and Training

Pilot tests were conducted to help detect and correct potential problems. Pilot tests operated in the same manner as the actual test, except that the external environment (e.g., the number of individuals surveyed) was limited to one motor carriers/service agents and one state agency. Before pilot testing of the trial test data collection instruments occurred, they were thoroughly reviewed by WHI, the FHWA, and Evaluation Team members for content, clarity, and ease of completion or response. After this review, the pilot testing procedures outlined in the *Research Design* were followed.

Exhibit l-2 maps individual trial tests against evaluation factors. This mapping indicates whether the data yielded by a test is intended to be the primary source on which evaluation results were based for a particular evaluation factor, or whether the data is intended to serve as a secondary source or simply to provide additional insight. It is important to keep these intentions, defined in the footnote beneath the exhibit, in mind to understand how fully trial tests supply the respective data needs of evaluation factors. (See Appendix G, for complete documentation of these evaluation factors)

Note that for many evaluation factors, data from several trial tests was integrated to assess findings.

EXHIBIT l-2
Mapping of Individual Trial Tests Against Evaluation Factors

Reduction in Motor Carriers/Service Agents Application Preparation Cycle Times
- System Records Selection
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews

Reduction in Cycle Times for State Agencies to Issue Credentials/permits
- System Records Selection
- Service Center Logs
- Service Center Surveys
- Service Center Analyst Interviews
- State Agency Surveys
- State Agency Interviews

Reduction in Cycle Times for Motor Carriers/Service Agents to Submit and Receive Credentials/permits
- System Records Selection
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews

Reduction in Motor Carrier/Service Agent Rejection/reapplication Rates
- System Records Selection
- Motor Carriers/Service Agents Surveys

Increase in State Agency Approval Rates
- System Records Selection
- State Agency Surveys
- State Agency Interviews

Reduction in State Agency Tax/fee Computation Variations Based on Identical Inputs
- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews
- Simulated Data

EXHIBIT l-2 (Cont'd.)
Mapping of Individual Trial Tests Against Evaluation Factors

Increase in Convenience of Conducting CVO Credential/Permit Transactions for Motor Carriers/service Agents and State Agencies
- Motor Carriers/Service Agents Surveys
- State Agency Surveys

Percent of Motor Carrier Initiated Transactions That Are Completed by HELP One-Stop Services
- System Records Selection
- Service Center Logs

Percent of All Motor Carriers/Service Agents Credential/Permit Transactions That Can **Be** Performed by HELP One-Stop Services
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews

Acceptability of HELP One-Stop Services Accuracy
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews
- Simulated Data

Acceptability of HELP One-stop Services Response Speed
- Motor Carriers/Service Agents Surveys
- Service Center Analyst Interviews
- Service Center Surveys
- Simulated Data

Acceptability of the Capability of HELP One-Stop Services to Accommodate Changes in Volume with out Degraded Cycle Times
- System Records Selection
- Service Center Analyst Interviews
- Motor Carriers/Service Agents Interviews
- Simulated Data

EXHIBIT l-2 (Cont'd.)
Mapping of Individual Trial Tests Against Evaluation Factors

Acceptability of HELP One-Stop Services Availability at the Times Desired
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- Service Center Logs
- Service Center Surveys
- Service Center Analyst Interviews
- Simulated Data

Acceptability of Instances and Duration of Scheduled and Unscheduled Maintenance on the HELP One-Stop System
- Motor Carriers/Service Agents Interviews
- Service Center Logs
- Service Center Surveys
- Service Center Analyst Interviews

Acceptability of the HELP One-Stop System's Operational Interface
- Service Center Surveys
- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- Simulated Data

Acceptability of the HELP One-Stop System's Installation and Maintenance Environment
- Service Center Surveys
- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys

Acceptability of the HELP One-Stop System's Capability for Supporting Hardware/software Upgrades
- Service Center Analyst Interviews

EXHIBIT l-2 (Cont'd.)
Mapping of Individual Trial Tests Against Evaluation Factors

Acceptability of Training Provided on the HELP One-Stop System to Motor Carriers/Service Agents, State Agencies and Service Center Analysts

- Service Center Surveys
- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interview
- State Agency Surveys
- State Agency Interviews

Operational Test Costs

- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews

Operational Test Configuration Requirements

- Service Center Analyst Interviews
- Motor Carriers/Service Agents Interviews
- State Agency Interviews

Deployment Costs

- Service Center Analyst Interviews
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews

Deployment Configuration Requirements

- Service Center Analyst Interviews
- Motor Carriers/Service Agents Interviews
- State Agency Interviews

Motor Carriers/Service Agents Preferences

- Service Center Analyst Interviews
- Service Center Surveys
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews

EXHIBIT l-2 (Cont'd.)
Mapping of Individual Trial Tests Against Evaluation Factors

Motor Carriers/Service Agents Frequency of Use
- System Records Selection
- Service Center Surveys
- Motor Carriers/Service Agents Surveys

Changes in Motor Carriers/Service Agents Attitudes and Behavior over Time
- Service Center Surveys
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews

Changes in State Agency Attitudes and Behavior over Time
- Service Center Surveys
- State Agency Surveys
- State Agency Interviews

Motor Carrier/Service Agents Views on One-Stop Services and ITS in General
- Service Center Analyst Interviews
- Service Center Logs
- Motor Carriers/Service Agents Surveys

State Agency Views on One-Stop **Services** and ITS in General
- Service Center Analyst Interviews
- Service Center Logs
- State Agency Surveys

Demographic Information
- System Records Selection
- Service Center Logs
- Service Center Surveys
- Motor Carriers/Service Agents Surveys
- Motor Carriers/Service Agents Interviews
- State Agency Surveys
- State Agency Interviews
- Simulated Data

1.3.4 Establishment of a Basis for Comparison

A basis for comparing the HELP One-Stop system with conventional approaches to meeting motor carrier regulatory requirements was needed to determine whether some evaluation hypotheses should be accepted or rejected. For the HELP One-Stop system evaluation a baseline approach was used to develop a basis for comparison. A *baseline* was established by collecting a set of observations from the same group that used the new system, but at an earlier (pre-treatment) point in time. Baseline data was established primarily through the collection of data in the months before the operational test system came on-line. Additionally, motor carriers/ service agents and state agencies were asked to alert WHI when changes (e.g., regulatory, procedural) were made during the operational test which affected baseline data.

1.4 DATA TABULATION, REPORTING, QUALITY CONTROL and QUALITY ASSURANCE PROCEDURES

The sections below describe the data tabulation, reporting plans, data control and data quality assurance plans which were followed in conducting individual trial tests for the HELP **One-Stop** Operational Test evaluation.

1.4.1 Data Tabulation Plans

Qualitative information derived from evaluation trial tests, such as institutional issues, were tracked, recorded, and summarized. Simple cross-tabulations were performed for each trial test data package. Simple tabulations are **counts** of the number of cases that fall into various, separate categories (e.g., the number of users which rated the One-Stop system's effectiveness as either excellent, good, fair, or poor). These cross-tabulations are presented in a variety of formats, including tables, graphs, charts and narrative text.

1.4.2 Reporting Plans

All reports were produced using *WordPerfect* 6. 1 according to the outlines provided in *the Overall Evaluation Plan. Microsoft Excel* and *WordPerfect* 6.1 were used to compile the statistical tables. Graphics were created through *Microsoft Excel, Lotus Freelance,* and Novell *Quattro Pro.* Each report was screened through three review processes: WHI internal management review, FHWA and Evaluation Team review, and Steering Committee review. Following these reviews, reports were revised as appropriate to incorporate the input received.

1.4.3 Issues

There are five key issues associated with trial test data tabulation, statistical analysis, and reporting which were addressed before the operational test began. They were as follows:

- *Sample representation* — In the HELP One-Stop Operational Test, motor carriers/service agents and state agency employees participated in some of the evaluation's most important data collection activities. The level of participation of these employees was more than could be demanded of purely randomly selected volunteers. As a result, although motor carriers/service agents and state agencies were recruited to be as representative of the total population as possible, this selection was based on a non-probabilistic (judgement/convenience/quota) sampling technique.

- *Sample size limitation* — At the beginning of the HELP One-Stop Operational Test, the Steering Committee agreed to limit the test's scope to no more than 15 motor carriers and 2,000 trucks and the commercial vehicle regulatory agencies of the three participating states (Arizona, California, and New Mexico). Thus, the sample size that can be drawn upon in collecting evaluation data is limited. Subsequently, five service agents (each conducting transactions for one or more of their client motor carriers) and seven motor carriers were asked to participate as system users. Participating motor carriers/service agents represented large, medium and small motor carriers, with operations in one or more of the participating states.

- *Sampling errors* — All statistical analysis techniques are subject to error, generally categorized as sampling and non-sampling errors. Sampling errors are those that occur because the whole population is not included in the test, while non-sampling errors are those that may occur at any stage in a research project due to mistakes in data collection, manipulation, or analysis. The HELP One-Stop Operational Test evaluation sought to control for such errors to the greatest extent possible within given resource constraints.

- *Results confidentiality* — To maintain the confidentially of both proprietary information and personal opinions, evaluation results will only release data in areas where there are sufficient responses to screen organizations/individuals (minimum of three) unless specific permission has been otherwise obtained. Accordingly, a significant amount of data associated with each trial test data package may not be disclosed. To help mitigate this problem, data was combined across categories and compiled across data packages to generate a larger number of incidents for the final evaluation report.

1.4.4 Data Procedures

A large amount of data was collected, analyzed, and secured as a part of the HELP One-Stop Operational Test evaluation. This included survey, interview and system data collected before, during and after the operational test period. To ensure that this data was effectively managed, the following four sets of data procedures were developed:

- Procedures that described and tracked the evaluation data packages (e.g., surveys, logs, system records).
- Procedures that described and tracked changes in the operational test which may have impacted the evaluation (e.g., changes to the system architecture, test procedures, test participants, regulatory procedures).
- Procedures that ensured the integrity of evaluation data collection, manipulation, storage, and distribution.
- Procedures that protected evaluation data from loss, destruction, or corruption and ensured participants' privacy.

For ease of reference these procedures, originally presented *in the Overall Evaluation Plan,* are provided in Appendix E with the forms that were completed.

1.4.5 Quality Control/Quality Assurance Procedures

Formal quality control and quality assurance procedures were followed during the HELP One-Stop Operational Test evaluation. Quality control procedures were used by WHI to ensure that evaluation activities were properly conducted, analyzed, recorded, and documented. Quality assurance procedures were used by the Evaluation Team to oversee quality control procedures and make sure these procedures were followed by WHI. For ease of reference these procedures, originally presented in *the Overall Evaluation Plan,* are provided in Appendix F.

1.5 HUMAN FACTORS AND PRIVACY CONSIDERATIONS

The HELP One-Stop Operational Test evaluation required the participation and support of many individuals and organizations in a new endeavor — one that falls outside of their everyday roles and responsibilities and could raise conflicts of interest in some circumstances (e.g., by asking service center analysts to rate their company's proprietary system). In recognition of this, key human factors and privacy considerations associated with the evaluation and a discussion of how they were addressed are outlined below.

- *Evaluation participants need adequate information on evaluation expectations and activities.* To address this concern, the *Overall Evaluation Plan* provided an early estimate of participants' involvement in evaluation data collection efforts. Evaluation Team members were briefed on this estimate with a particular emphasis on the expectations of motor carriers/service agents and state agency users and service center analysts. Additionally, as a part of evaluation baseline data collection interviews, WHI met individually with motor carriers/service agents and state agency users and explained what was expected of them and, in turn, what they could expect from the evaluation.

- *The demands on evaluation participants were minimized.* Although the evaluation data collection effort was extensive, to encourage full cooperation and avoid negative reactions to data collection instruments (which could affect results), the evaluation:

  Collected only the data necessary to address specified evaluation factors.

  Utilized simple, quick to complete, and carefully pilot-tested data collection instruments (e.g., relying mainly on check list completion rather than response to open ended questions).

  Arranged interviews to be as convenient and unobtrusive as possible (e.g., limited to two hours or less and held at a convenient location).

  Built on data already collected during the system design process to avoid duplication of effort.

- *Evaluation and system design/operation efforts were synchronized.* Evaluation data collection instruments for system users closely reflected the HELP One-Stop system's features, terminology, and user interface, eliminating respondent confusion and simplifying completion. For the same reasons, evaluation data needed from service center analysts was coordinated with Lockheed Martin IMS' proprietary log keeping requirements and staff/customer feedback tracking.

- *The evaluation recognized that participants used the system in different amounts and* ways. Evaluation data collection instruments supported the entire range of valid responses to questions and allowed respondents to easily skip questions that were not relevant to their use of the system.

- *The evaluation recognized the importance of maintaining the confidentiality of both proprietary information and personal opinions.* Evaluation data security procedures (provided in full in Appendix F) were designed to address participants' private sector competitiveness concerns and to ensure candidness by shielding the identity of individual respondents.

1.6 TEST CASE DESCRIPTIONS

The sections below describe the specific scenarios and parameters in which the HELP One-Stop Operational Test was conducted. The descriptions include general background information, the level of deployment, and any special arrangements made for the duration of the operational test.

1.6.1 Arizona

Background:

- Two service agents and two motor carriers participated
- Subscribes to VISTA/RS
- Member of IRP
- Member of IFTA
- Commercial vehicle responsibilities are held by ADOT, including issuing IRP and IFTA credentials, authorizing permits, preparing titles and processing payments
- Arizona allows third-party processing and credentialling
- Allowed motor carriers/service agents to maintain an on-site inventory of IRP license plates, cab cards and stickers for printing and issuance for the duration of the operational test

Level of Operational Test Involvement:

- IRP renewal (available but not tested)
- IRP supplement
- IFTA renewal (available but not tested)
- IFTA supplement
- Oversize/Overweight permits

Special **Arrangements:**

- Since Arizona does not charge a fee for the issuance of IFTA licenses and decals, upon completion of the transaction one of two steps occurred:
  1) if an IFTA license was to be issued, a fax was automatically sent to the state and ADOT issued and mailed the license and decals to the motor carrier/ service agent, or,
  2) if an IFTA decal was to be issued, the Service Center was notified and responsible for issuing and sending decals to the motor carriers/service agents.
- Arizona uses the factory list price of vehicles to calculate IRP fees. Once ADOT receives an add-vehicle IRP supplement application, that vehicle is verified through the state titling system and the factory list price is determined. During the operational test, the motor carriers/service agents would enter the data and notify the Service Center. The Service Center then called ADOT to solicit the correct factory list price, entered that figure into the data screens, and had the carrier request fees through the HELP One-Stop system.
- ADOT has established a Fees in Phoenix program, in which motor carriers/service agents can deposit funds for future withdrawals for permit transactions. As transactions are processed for those motor carriers/ service agents, ADOT can debit the appropriate Fees in Phoenix account, expediting the process of issuing permits. This method of payment for permits was an option for motor carriers/service agents in Arizona only.

1.6.2 California

Background:

- Two service agents and two motor carriers participated
- Does not subscribe to VISTA/RS
- Member of IRP
- Member of IFTA
- Commercial vehicle responsibilities are split between three separate agencies: the Department of Motor Vehicles issues IRP credentials, the Department of Transportation processes OS/OW permits, and the Board of Equalization handles IFTA licenses
- Allowed motor carriers/service agents users to maintain an on-site inventory of IRP license plates, cab cards and stickers for printing and issuance for the duration of the operational test

Level of Operational Test Involvement:

- IRP renewal (available but not tested)
- IRP supplement
- IFTA renewal (available but not tested)
- IFTA supplement
- Oversize/Overweight permits

Special Arrangements:

- Due to legal constraints against unauthorized printing of the state seal, California had to pre-print blank cab cards for distribution to participating motor carriers/service agents. This accountable inventory was required to be stored in a secure location, available to audit procedures.
- During the duration of the operational test, California required participating motor carriers/service agents to submit manual applications for credentials in addition to the electronic application through the HELP One-Stop system. This required participants to duplicate their efforts. The state of California used the manual applications to data enter the transaction on to their own system and calculate fees.
- California does not subscribe to the VISTA/RS system for IRP. This required Lockheed Martin IMS to set up California's motor carrier accounts on the VISTA/RS system for the operational test. Minor fee discrepancies were identified during testing. In order for the operational test to proceed, HELP Inc. agreed to pay the state of California any differences in fee calculations. Proof of fee differences was submitted to HELP Inc. (and WHI for evaluation purposes).
- Since VISTA/RS does not normally process for California, the calculation for Colorado trailer fees was not supported for this operational test. However, California, under a separate agreement with Colorado, outside IRP, is required to charge fees for those California-based trailers operating in Colorado. Consequently, there was a potential for fee calculation variations for trailers registered in California. As with other fee discrepancies, HELP Inc. agreed to pay the state of California for any lost revenue due to this fee calculation difference. Proof of fee differences was submitted to HELP Inc. (and WHI for evaluation purposes).
- Upon receipt of payment for an IFTA transaction, a fax was automatically sent to the state. The state was then responsible for printing and issuing IFTA licenses and decals to the motor carriers/service agents.
- California accepted credit card payments for OS/OW permits, thus eliminating the need for an electronic funds transfer (EFT) for this type of transaction.

1.6.3 New Mexico

Background :

- One service agent and two motor carriers participated
- Subscribes to VISTA/RS
- Member of IRP
- Member of IFTA
- Commercial vehicle responsibilities are held by NMTRD, including issuing IRP and IFTA credentials, authorizing permits, preparing titles and processing payments

Level of Operational Test Involvement:

- IRP renewal (available but not tested)
- IRP supplement
- IFTA renewal (available but not tested)
- IFTA supplement

Special Arrangements:

- Due to security and audit reasons, New Mexico did not allow participating motor carriers/service agents to hold IRP credential inventory at their locations. Therefore, the Service Center was required to hold all IRP inventory (license plates, cab cards and stickers), print cab-cards and ship credentials upon receipt of payment from the motor carriers/service agents.
- The Service Center was required to hold all IFTA credential inventory (licenses and decals), print licenses and ship credentials upon receipt of payment from the motor carriers/service agents.

2. QUALITATIVE FINDINGS

2. QUALITATIVE FINDINGS

Chapter 2 presents the qualitative results of the HELP One-Stop Operational Test evaluation with respect to motor carriers/service agents and state agency surveys and interviews. In total, ten motor carriers/service agents (representing 12 motor carrier accounts) and five state agencies responded to the survey. Telephone calls were made to solicit further information or clarification of the presented data in areas where incomplete information was received from the motor carriers/service agents or state agencies. These results are organized by user acceptance of the HELP One-Stop system and user views of one-stop services and ITS in general.

The data presented in this section was gathered through a combination of self-administered surveys and personal interviews. Results from the two instruments are sometimes contradictory. In some instances, the survey results show negative responses, while the identical questions elicited positive responses during the interview process. The differences between these two instruments can be explained through a variety of means. The survey questions may have been misinterpreted by the respondents, respondents may have felt more comfortable providing negative feedback in the survey format rather than during an interview, and questions may have been worded differently during the interviews, although care was taken to diminish this occurrence. Further investigation into these discrepancies show that in all instances, the same person who filled out the survey also participated in the interviews. This suggests that the variance in results is not due to a difference in personnel.

Distinction must also be made between responses to questions regarding how the HELP One-Stop system worked during the operational test, and how it would work under deployment (with corrections and added enhancements). Many of the participants differentiated between these two levels of examination of the HELP One-Stop system. This may also partially explain the discrepancies between interview and survey results. Special notation will be made in the text where specific distinctions or discrepancies occur.

One additional point that must be made is the difference between permanent and temporary credentials. Motor carriers/service agents often use temporary credentials as a time-sensitive solution to placing vehicles in service. Temporary credentials are often issued in a substantially shorter time frame than permanent credentials. However, motor carriers/service agents which rely on temporary credentials must then track down specific vehicles and replace the temporary credentials with permanent credentials. The HELP One-Stop system provides significant time savings for motor carriers/service agents in the issuance of permanent credentials, but for those motor carriers/service agents which rely heavily on temporary credentials (because of the time savings in issuance), the HELP One-Stop system does not provide the same level of benefits.

2.1 USER ACCEPTANCE and PREFERENCES

This section describes the attitudes, opinions and beliefs of both motor carriers/service agents and state agency users of the HELP One-Stop system. Responses from motor carriers and service agents are separated where there were significant divisions between the responses.

2.1.1 Motor Carriers/Service Agents

Motor carriers/service agents acknowledged the potential of the HELP One-Stop system. As previously mentioned, both motor carriers and service agents distinguished between the demonstrated HELP One-Stop system and the improved system which would be deployed. All participants agreed that the HELP One-Stop system had the potential to greatly improve upon conventional methods of obtaining permanent credentials. Those aspects cited as having the greatest potential impact include control over accuracy (in both data entry and the resulting credentials) and the ability to print credentials on-site. The motor carriers/service agents noted that oftentimes, credentials received back from the state agencies would contain errors, requiring additional paperwork and time to correct. Motor carriers/service agents preferred to control as much of the process as possible. While the motor carriers/service agents acknowledged that there would still be an opportunity for error in data entry, they felt confident the accuracy would increase simply by cutting out the repetitive process of having multiple people keying in large amounts of data.

Motor carriers were generally more positive about the HELP One-Stop system than were service agents. Four out of five participating service agents believe that if the system were to work as envisioned - including a variety of payment methods and few time delays - the turnaround time would be considerably condensed and the HELP One-Stop system would be a viable product for service agents. For service agents, the largest drawback in the demonstrated HELP One-Stop system was the extended period of time it took to complete a transaction including fee payment. Due in large part to the differences in business practices between motor carriers and service agents, this time factor was a significant stumbling block for service agents.

Typically, motor carriers know ahead of time when they will add or delete vehicles from their fleets, and can plan to order credentials accordingly. Service agents, on the other hand, usually have no prior knowledge of their client's needs, and the success of their business is based upon an ability to deliver credentials within a very short (less than 24 hours) time period. Currently, participating service agents are able to issue or obtain temporary credentials within this short time period, which satisfies their client's immediate needs. Permanent credentials are obtained at a later date and given to the client.

All participants responded that the turnaround speed of the HELP One-Stop system was slow, (see Exhibit 2-l) but the reaction to that statement varied between motor carriers and service agents. While the total time to receive permanent credentials through the HELP One-Stop system was significantly less than using conventional methods, it was greater than the time necessary to obtain temporary credentials using current business practices. (Conventional methods of obtaining credentials - whether temporary or permanent - oftentimes includes waiting in state agencies to submit the application, pay an invoice, or pick-up credentials. This hand-carry method is extremely time-consuming, and is one of the areas which one-stop services can most positively impact.) For individual motor carriers, this was less of a concern than for service agents, and companies recognized the inherent efficiencies the HELP One-Stop system could provide. Some of the motor carriers involved in the test were not geographically near to state headquarter offices, and so dealt with field offices, which created additional time barriers for receiving credentials under conventional methods. Therefore, the time delays associated with the HELP One-Stop system were still seen as improvements over conventional methods for most motor carriers.

EXHlBIT 2-1
Turnaround Speed of HELP One-Stop System
as Rated by Motor Carriers/Service Agents

	Results	**Turnaround Speed**			
	Average Score	**4** Very Fast	**3** Somewhat Fast	**2** Somewhat Slow	1 Very Slow
IRP	**2.4**	1	1	**2**	1
IFTA	**2.0**	ND	ND	ND	ND
OS/OW Permits	2.0	ND	ND	ND	ND

* Note: values reflect the number of responses in each category. ND - non-disclosable due to data volume.

Both motor carriers and service agents feel that the HELP One-Stop system in general is more convenient in terms of submitting and paying for credentials. All survey respondents noted that using the HELP One-Stop system to submit applications for credentials and permits was an improvement over their conventional methods of manually filling out forms. In addition, those same motor carriers/service agents stated that using the HELP One-Stop system to pay for credentials and permits was somewhat better than using conventional means. (See Exhibit 2-2)

EXHIBIT 2-2
Convenience of Using the HELP One-Stop System as Rated by Motor Carriers/Service Agents

	Results	HELP One-Stop System as Compared to Conventional Methods of Obtaining Credentials and Permits			
	Average Score	4 Significantly Better	3 Somewhat Better	2 Somewhat Worse	1 Significantly Worse
Amount of time required to prepare credential/ permit applications	3.0	3	0	3	0
Convenience of submitting credential/ permit applications	3.7	4	2	0	***0***
Convenience of paying for credentials/permits	3.0	1	4	1	***0***

* Values reflect the number of responses in each category. ND - nondisclosable due to data volume.

This latter statement is an example of the discrepancies between the responses to interview versus survey questions. As shown in Exhibit 2-2, participants scored the convenience of payment as a three on a four point scale (four being significantly better and one being significantly worse), but during the interview process, all participants noted that paying for credentials through the HELP One-Stop system was inconvenient, time consuming and expensive (due to wire transfer fees). This discrepancy may be explained through differences in question interpretation, and by motor carriers/service agents answering survey questions based on the future concept of the deployed HELP One-Stop system rather than the actual system which was demonstrated. However, the opinion that fee payment was time consuming and cumbersome was validated by system-generated data collected during the operational test.

Survey respondents stated that the HELP One-Stop system was available to them nearly all the time. No participants noted the HELP One-Stop system was unavailable during the operational test. The only recorded "down time" was for after business hours scheduled maintenance and a single instance during a training session prior to the operational test, which was immediately corrected. The scheduled maintenance time was limited (average of 20 minutes) and usually occurred after 9:00 pm. Therefore, this down time had no significant impact on user views of the HELP One-Stop system.

Interviews revealed those motor carriers/service agents who used the IRP and IFTA functions stated that the screens and system in general were easy to use, however, those using the OSIOW permitting functions found it very difficult. The operational interface developed for the IRP renewal, IRP supplement, IFTA renewal and IFTA additional decals were found to be straight forward and easy to understand and manipulate. Participating motor carriers reported no problems with these screens, but did offer a substantial number of specific suggestions on enhancing and upgrading the system. Typical suggestions included building additional drop-down menus and the creation of a feedback loop to avoid having to reenter identical data on multiple screens during the same transaction.

One negative comment heard from all participants about the IRP and IFTA screens was that the HELP One-Stop system required too many connect-to-host modem dial-ups. The HELP One-Stop system was designed to have the user dial into the Agent Server at critical points in the transaction process (e.g., request for fees, return of fee information, and request for invoice). Motor carriers/service agents were required to dial into the Agent Server an average of six times during a single transaction. An alternative used by many users was to place a call to the Service Center to check on the status of the transaction. Motor carriers/ service agents had not way of knowing when data was ready to be downloaded without either dialing the Agent Server (long distance telephone call) or calling the Service Center (toll free telephone call). This problem could be eliminated in the future if users installed a dedicated telephone line, which would allow the system to be programmed to automatically notify the motor carrier/service agent that data was ready to be downloaded to the Client Module.

While the IRP and IFTA function screens were highly rated, the permit screens were found to be difficult to use, and in one case, were not sufficient for the purpose of applying for oversize permits. Several problems were identified in the permit function screens. The main deficiency dealt with how the data entry screens were set up to receive axle information. The HELP One-Stop permit screens were formatted to accept only single axle information, rather than grouped axles, as is commonly used for OS/OW permitting purposes. While the state agency involved offered to manually calculate grouped axle spacings from the single axle information, the motor carrier found it to be too burdensome and opted to continue to apply for permits using their conventional method of faxing applications. One service agent did manage to use this function, but was forced to call the state agency each time to verify information and correct the permits. An additional issue was identified, in which the permit screens forced the user to input information not required by the state. This created confusion and frustration on the part of the service agent. Overall, the OS/OW function of the HELP One-Stop system was found to be deficient and difficult to use by all users and affected state agencies.

Participating motor carriers/service agents believe that the HELP One-Stop system has the potential to provide their company with considerable benefits. Motor carriers rated identified benefits on a four-point scale, where four is “to a great extent” and one is “little or

no extent. " Participants rated the potential of the HELP One-Stop system in: reducing staff resources in preparing and submitting credentials and permits; reducing credential and permit application rejection rate; faster turnaround times for obtaining credentials and permits from state agencies; and providing for more consistent processing times (see Exhibit 2-3).

EXHIBIT 2-3
Potential Benefits of the HELP One-Stop System
as Rated by Motor Carriers/Service Agents

	Results	Potential Benefits of the HELP One-Stop System			
	Average Score	4 Great Extent	3 Considerable Extent	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in preparing and submitting credentials/ permits	3.1	3	3	2	0
Reduced credential/permit rejection rates	2.3	2	1	2	3
Faster turnaround times for obtaining credentials/permits from state agencies	3.2	4	3	2	0
More consistent processing times (less variability in the lengtb of time it takes to receive credentials/permits)	3.2	4	3	0	1

Values reflect the number of responses in each category

In addition to those evaluation factors shown in the table above, survey respondents noted further potential benefits of the HELP One-Stop system. Among those benefits were: having to do little or no paperwork, limiting exposure with state agencies; obtaining permanent rather than temporary credentials; and added attraction for clients by promising instant credentials.

2.1.2 State Agencies

While state agencies were generally positive about the concept of the HELP One-Stop system, they were disappointed with the implementation of the operational test system. All participating state agencies expressed some degree of dissatisfaction with the level of communication from the system developers and project management. In one instance, a state agency questioned whether or not they were still included in the test because of the lack of communication. This problem was not limited to state agencies, but was also present with motor carriers/service agents as well. In large part, this lack of communication and the misunderstandings it created, led to state agencies being disappointed in how the HELP One-Stop system was operationalized and tested, but had little to do with the capability and functionality of the system itself. This frustration may help to explain the differences between survey and interview results.

Another area which showed variances between survey and interview results was a discussion around potential benefits of the HELP One-Stop system. When interviewed, state agencies were generally positive about the concept of the HELP One-Stop system. The most common benefit of the HELP One-Stop system identified by state agencies was the shiftii of the burdens of data entry, accuracy and timing to the motor carriers/service agents. (Motor carriers/service agents also saw this as a benefit, preferring to have more control over accuracy and timing.) While this benefit was not specifically quantified by the evaluation tools, certain aspects of it were identified and scored, including decreased application rejection rates, decreased number of incomplete applications, and the shifting of staff time from data entry to audit or reporting functions. In total, all state agencies agreed that the concept of the HELP One-Stop system had the potential to increase efficiency within their departments.

In contrast, the survey results show much less positive responses. In fact, three out of four state survey respondents felt the HELP One-Stop system provided “little or no extent” of benefits to their agencies. The benefits rated included: reduced use of staff resources, faster turnaround times to issue credentials; more consistent processing times; and an increased application acceptance rate. (See exhibit 2-4) This substantial variance may in part be explained by state agencies distinguishing between the demonstrated system and the future deployed system, in one, but not both, evaluation formats. When contacted further about this issue, state agencies as a whole, reiterated that they believe that a future enhanced version of the HELP One-Stop system could provide significant (but difficult to quantify) benefits to their agencies.

EXHIBIT 2-4
Benefits of the HELP One-Stop System
as Rated by State Agencies

	Results	Benefits of the HELP One-Stop System			
	Average Score	4 Great Extent	3 Considerable Extent	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in issuing credentials/ permits	1.7	0	1	0	2
Increase in credential/permit acceptance rates	1.5	0	1	0	3
Faster turnaround times for issuing credentials/permits from state agencies	1.5	0	1	0	3
More consistent processing times (less variability in the length of time it takes to issue credentials/ permits)	1.5	0	1	0	3

Note: Values reflect the number of responses in each category. One participating state agency had no transactions, and so did not rate the HELP One-Stop system.

The survey results show that state agencies mostly disagreed with statements regarding the HELP One-Stop system. (See exhibit 2-5) The identified statements were scored on a four point scale, where four is "agree strongly" and one is "disagree strongly." Three out of four state agencies responding to the survey disagreed with the following five statements: my opinion of the HELP One-Stop system has improved as I have gained experience; the Service Center adds significant value to the HELP One-Stop system; I prefer that motor carriers/ service agents use the HELP One-Stop system rather than conventional methods of obtaining permits and credentials; I would like motor carriers/service agents to be able to continue using the HELP One-Stop system; and I would recommend the HELP One-Stop system **to** other states. These negative responses are tempered by interview responses in which each of these statements were strongly agreed. The discrepancy may be explained by a combination of misinterpreting the survey questions and not having been greatly exposed to the HELP One-Stop system, and hence were unable to fairly assess the program in the survey.

EXHIEHT 2-5
Attitudes/Opinions Regarding the HELP One-Stop System as Rated by State Agencies

	Average Score	4 Agree Strongly	3 Agree Somewhat	2 Disagree Somewhat	1 Disagree strongly
My opinion of HELP One-Stop Services has improved as I have gained experience with them	2.0	0	1	2	1
The Service Center adds significantly to the value of the HELP One-Stop system	2.0	0	1	2	1
I prefer that motor carriers/service agents use HELP One-Stop services rather than their former method of obtaining credentials/permits	1.8	0	1	1	2
I would like motor carriers/service agents to be able to continue using the HELP One-Stop system to acquire credentials/permits from my agency	2.0	0	1	2	1
I would recommend HELP One-Stop services to other states	2.0	0	1	2	1

* Note: Values reflect the number of responses in each category. One participating state agency had no transactions, and so did not rate the HELP One-Stop System.

State agencies were asked to compare the HELP One-Stop system to their conventional methods of issuing credentials and permits. Only one out of four survey respondents rated the HELP One-Stop system as better than conventional methods in the amount of time required to issue a credential or permit and the level of convenience of credential and permit fee payment. Two out of four state agencies rated the HELP One-Stop system as better at the level of convenience for issuing credentials and permits. No state agency thought the HELP One-Stop system would increase credential or permit approval rates. (see Exhibit 2-6)

EXHIBIT 2-6
Comparison between the HELP One-Stop System and Conventional Methods for Issuing Credentials and Permits As Rated by State Agencies

	Results	**Compared to My Conventional Method of Issuing Credentials/Permits, HELP One-Stop Services are:**				
	Average Score	5 Significantly Better	4 Somewhat Better	3 No Change	2 Somewhat Worse	1 Significantly Worse
Amount of time required to issue credentials/ permits	2.8	1	0	1	1	1
Convenience of issuing credentials/permits	3.5	1	1	1	1	0
Convenience of credential/ permit payment	3.0	1	0	1	2	0
Accuracy in calculating credential/permit fees	2.5	0	0	3	0	1
Credential/permit approval rate	2.5	0	0	3	0	1

* Note: Values reflect the number of responses in each category. One participating state agency had no transactions, and so did not rate the HELP One-Stop System.

There were additional concerns regarding system accuracy and IRP fee calculation variations which will need to be addressed prior to deploying a commercial product. One issue regarding IRP fee computation variations was raised by a participating state agency. In the state of California, the fees generated for IRP credentials by VISTA/RS did not match those fees calculated by California's proprietary IRP system for the same transactions. In fact, no IRP fees for California accounts matched during the operational test or during the simulated data trial test. A general explanation for this is that California is not a VISTA/RS state but rather has developed a proprietary in-state system for processing IRP transactions. For the operational test, Lockheed Martin IMS incorporated data from the participating California motor carrier accounts into the VISTA/RS database, and VISTA/RS calculated all the IRP fees for IRP transactions initiated by the HELP One-Stop system. Slight variations in how particular IRP fees were calculated using the two different systems were discovered during testing, and special arrangements were made in order to move the operational test along. (See Section 1.6 for more detail on the specialarrangements, and Section 4.7 for details on IRP fee variations)

Again, when interviewed, state agencies seemed to be fairly positive about both the results of the operational test and the potential of the HELP One-Stop system. The survey results do not mirror that sentiment, but as discussed repeatedly, this may be in part, a matter of interpretation and lack of exposure to the actual HELP One-Stop system. In many cases, state agency responses were based on the concept of one-stop services rather than the actual system demonstrated during the operational test. Further discussions with several of the state agencies elicited only positive feedback regarding the HELP One-Stop system, particularly identifying potential benefits to state agencies. In part, the negative comments may be due to the lack of communication regarding the conduct of the operational test which led to confusion and frustration, but which would not be present under a deployed system.

2.2 USER VIEWS on ONE-STOP SERVICES and ITS in GENERAL

This section briefly describes the attitudes and opinions held by motor carriers/service agents and state agencies regarding one-stop services and other ITS programs in general.

2.2.1 Motor Carriers/Service Agents

Participating motor carriers/service agents and state agencies were generally positive about one-stop services and general ITS functions. Motor carriers/service agents like the concept of one-stop services. They recognize the potential time and cost savings of a product which supports electronic credentialling, and foresee a time in which all credentialling and permitting functions are carried out electronically and become tied to other functions, such as port clearance, safety inspections, state audits, and so forth. Again, as was documented in earlier sections, service agents tend to have higher expectations of one-stop systems because many of them currently maintain proprietary software systems which are both fairly efficient and cost-effective. Service agents will need to see a higher level of benefits than will motor carriers before changing their current business practices. Since service agents typically have in-house systems designed to create both time- and cost-efficiencies, any future one-stop system would need to not only provide larger benefits, but enough of a cost-savings to justify replacing expensive and proven computer systems. Motor carriers typically do not have this type of computer system, and would therefore not need the same high level of benefits to see a positive change over current business practices. This, however, is indicative of the type of service industry business methods rather than one-stop services. All participants believe that one-stop systems are a good idea, and would like to see the concept further developed and implemented.

2.2.2 State Agencies

State agencies also recognize the potential of electronic credentialling and are, in general, looking toward a larger version which incorporates the current and future CVISN (Commercial Vehicle Information Systems and Networks) projects. Motor carriers/service agents were aware of these efforts, although in lesser detail, but did not seem to link the effkiencies of one-stop systems to the success of CVISN efforts like the state agencies tended to do. The state agencies which participated in the HELP One-Stop Operational Test were excited about the future of one-stop services. Interviews revealed that state agencies recognize the potential of one-stop services, and many state agencies are currently positioning themselves for the inclusion of one-stop services, CVISN, and other ITS programs. State agencies acknowledge the need to change current business practices to accommodate both the increased demand for services and the changing technology.

3. QUANTITATIVE FINDINGS

3. QUANTITATIVE FINDINGS

This chapter presents the quantitative results from the HELP One-Stop Operational Test. Baseline interviews were conducted with 11 motor carriers/service agents representing 12 motor carrier accounts — four from each participating state — and five state agencies: ADOT, CABOE, CADMV, Caltrans, and NMTRD. Secondary interviews and surveys were conducted with ten motor carriers/service agents representing 12 motor carrier accounts and five state agencies. Due, in part, to the change in the timing of the operational test, one motor carrier dropped out of the test and had to be replaced, while two others were unable to use the system because they wouldn't need credentials during the test period. For the new participants, baseline interviews and surveys were conducted at the training session prior to the system being installed. Data was also collected through system records selection during the HELP One-Stop Operational Test.

The sections below present motor carriers/service agents cycle time data for the functions available through the HELP One-Stop system. Baseline interviews were held in August and September 1996 at the participants' respective business locations. The majority of the system data was collected from March through May 1997. The following sections describe information gained from those interviews and the system records on the activities, times, and costs associated with the following processes: IRP supplemental applications, IRP annual renewals, IFTA annual renewals, IFTA supplemental applications (additional decal requests), and OS/OW permits. Additionally, information on motor carriers/service agents costs and state agency transaction cycle times and costs are provided.

A primary issue which was addressed in the evaluation was how use of the HELP One-Stop system impacted these transaction cycle times and costs. As a start in assessing this, process steps that motor carriers/service agents followed while using the system to conduct IRP renewals were identified through interviews with the system's developers. These steps, depicted in Exhibit 3-5, include some that were accomplished quickly through clicking an on-screen button (e.g., connect to host function), and others that required a significant amount of elapsed time (e.g., electronic funds transmittals). During interviews with motor carriers/service agents, the accuracy of these steps was verified and the times associated with their conduct was determined so that they could be compared with conventional processes. (Note: since state agencies did not interface directly with the HELP One-Stop system, similar process step documentation was not prepared for them. State agency participants were asked to describe any type of interaction they had with the HELP One-Stop Service Center, however, and to compare this with the type of interaction they normally have with motor carriers/service agents during IRP renewal and on supplements.)

The evaluation also addressed other benefits that may be derived from implementation of the HELP One-Stop system. These benefits included increased accuracy in tracking the status of submitted applications and reduced time variability in credential or invoice issuance (for motor carriers/service agents) and increased accuracy in the completion of applications leading to a

reduced rejection rate (for state agencies). Information supplied during baseline interviews indicates that these may be among the greatest benefits to be realized. For example, some motor carriers/service agents reported that they frequently have to obtain more than one set of temporary credentials because permanent credentials take so long to arrive, and some state agencies report a renewal application rejection rate of 50 percent.

3.1 CONVENTIONAL IRP SUPPLEMENTS

Data was collected on conventional methods of obtaining IRP supplements from the baseline survey and was divided into *activity time* and *elapsed time* categories to develop total cycle times for each, where:

- **Activity time** was the time that it took to conduct an activity once work began. The activity time categories considered as a part of the IRP supplement cycle were as follows: (Details provided are mostly applicable to conventional, rather than HELP One-Stop processes. Details on HELP One-Stop processes are discussed later in this Chapter):

  Time to complete and submit the form (including travel to and from a state agency office, if applicable)

  Time to arrange and deliver payment (including cutting and mailing of checks, going to the bank to obtain certified funds/cashiers checks, and going to a state agency office to pick up an invoice or deliver a check, if applicable)

  Time to pick-up or issue a credential (including travel to and from a state agency office, if applicable).

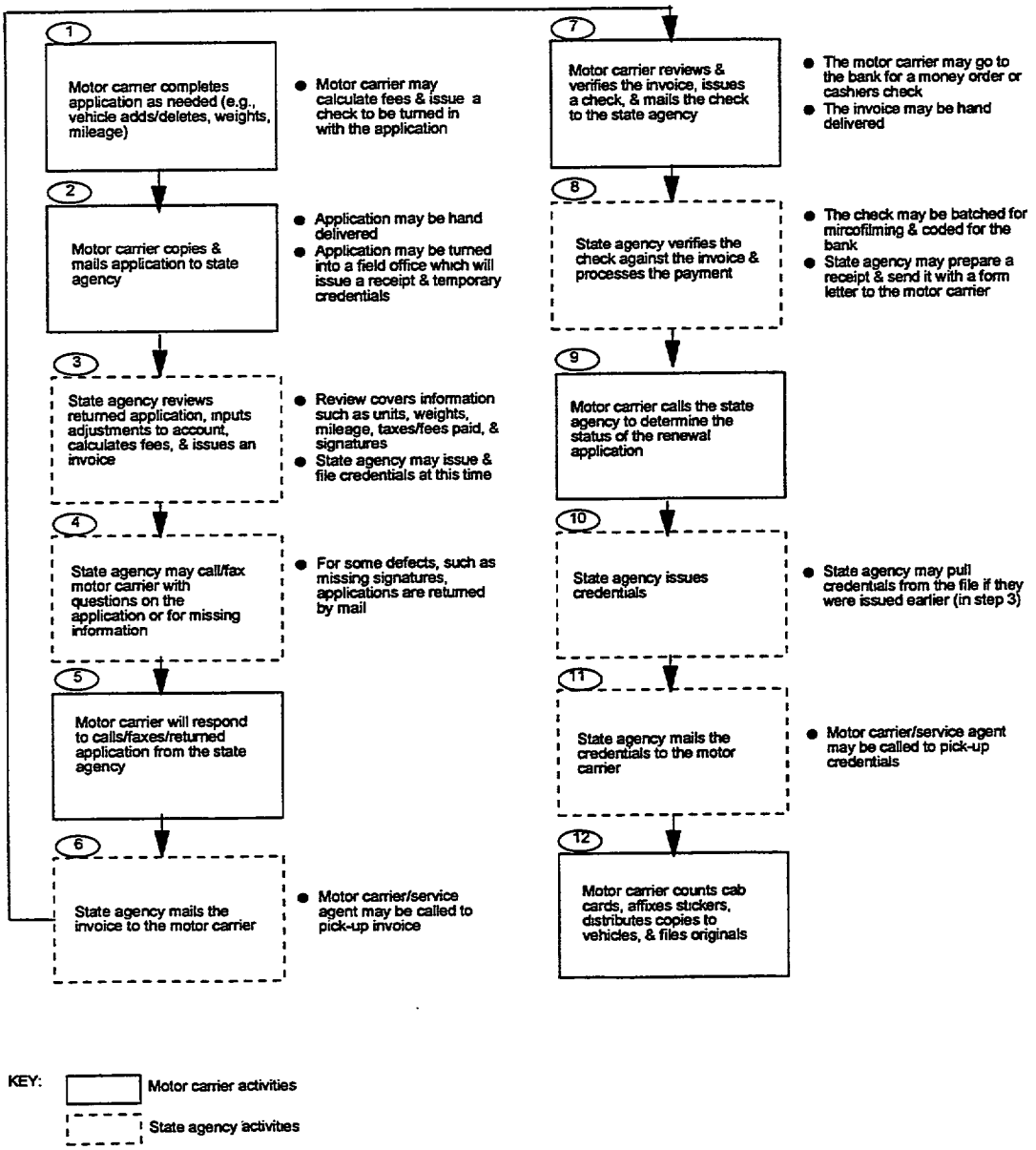
- **Elapsed time was the** time between one specific occurrence and another. The elapsed time categories considered as a part of the IRP supplement **cycle** were as follows:

  Time between form submittal and invoice availability (this included the elapsed time between when fees were requested and when they were available from the HELP One-Stop system)

  Time between when payment was made and when permanent credentials were received (this included the elapsed time between form submittal and invoice availability for the conventional process).

Exhibit 3-1 portrays the conventional process steps followed by motor carriers/service agents and state agencies for IRP supplements. This process is very consistent among the participants. The most common variations are the same as for IRP renewals, and are noted in the bullets to the right of the applicable process step boxes: method of delivery and pick-up, timing of payment, method of payment, point of submittal, and timing of credential issuance. Interviews also indicated that the IRP supplemental process steps potentially impacted by the HELP One-Stop system are similar to those potentially impacted in the IRP renewal transactions.

EXHIBIT 3-1
IRP Supplements
Conventional Motor Carrier and State Agency Process Steps



Exhibits 3-2 through 3-4 summarize the elapsed and activity times and costs associated with IRP supplements. For motor carriers/service agents, this data shows that the average *elapsed* time between when a motor carriers/service agents submits a supplemental application and when the invoice for fees is received is five weeks, and the average *elapsed* time between when the application is submitted and the actual credentials are received is nine weeks. Additionally, the average activity time that motor carriers/ service agents spend in reviewing and completing a supplemental application is 19 minutes, and the time associated with delivering the application and generating payment for it are both well over an hour. The entire IRP supplement process takes the average motor carriers/service agents 3 1/2 hours to complete each transaction, at an average overhead cost per hour of $34 which translates into a cost of $119 per IRP supplement.

For state agencies, *this data* shows that *in* terms of *elapsed* time state agencies mail out an invoice to motor carriers/service agents within three to five days after a supplemental application is received. The process steps which account for most of the state agencies' *activity* time are application review, on which they spend from 15 to 23 minutes per application, and credential issuance, on which they spend from 15 to 30 minutes per application.

EXHIBIT 3-2
IRP Supplements
***Elapsed* Times Associated With Conventional *Motor Carrier* Process Steps**

	Process Steps	
IRP Supplements	Receipt of Invoice	Receipt of Credentials
Average Time Period From When Application was Submitted	5 weeks	9 weeks
Minimum Time Period from When Application was Submitted	4 weeks	4 weeks
Maximum Time Period From When Application was Submitted	5 weeks	12 weeks

EXHIBIT 3-3
IRP Supplements
***Activity* Times Associated With Conventional *Motor Carrier* Process Steps**

IRP Supplements	Review/Complete Application	Deliver Application	Generate Payment	Total Time	Cost/Hour	Total Cost
Average	19 min	111 min	80 min	210 min	$33.93	$119
Minimum	5 min	5 min	4 min	14 min	$10	$2
Maximum	60 min	360 min	360 min	780 min	$50	$650

EXHIBIT 3-4
IRP Supplements
***Elapsed and Activity* Times Associated With Conventional *State Agency* Process Steps**

	Review Appl., Adjust Acct., Calculate Fees, Issue Invoice	Mail Invoice		Verify and Process Payment	Issue Credentials	Mail Credentials
	Activity Time (minutes)	Elapsed Time (days)	Activity Time (minutes)	Activity Time (minutes)	Activity Time (minutes)	Activity Time (minutes)
Minimum	15	3	1	1	15	2
Maximum	23	4	4	13	30	5

3.2 HELP ONE-STOP IRP SUPPLEMENTS

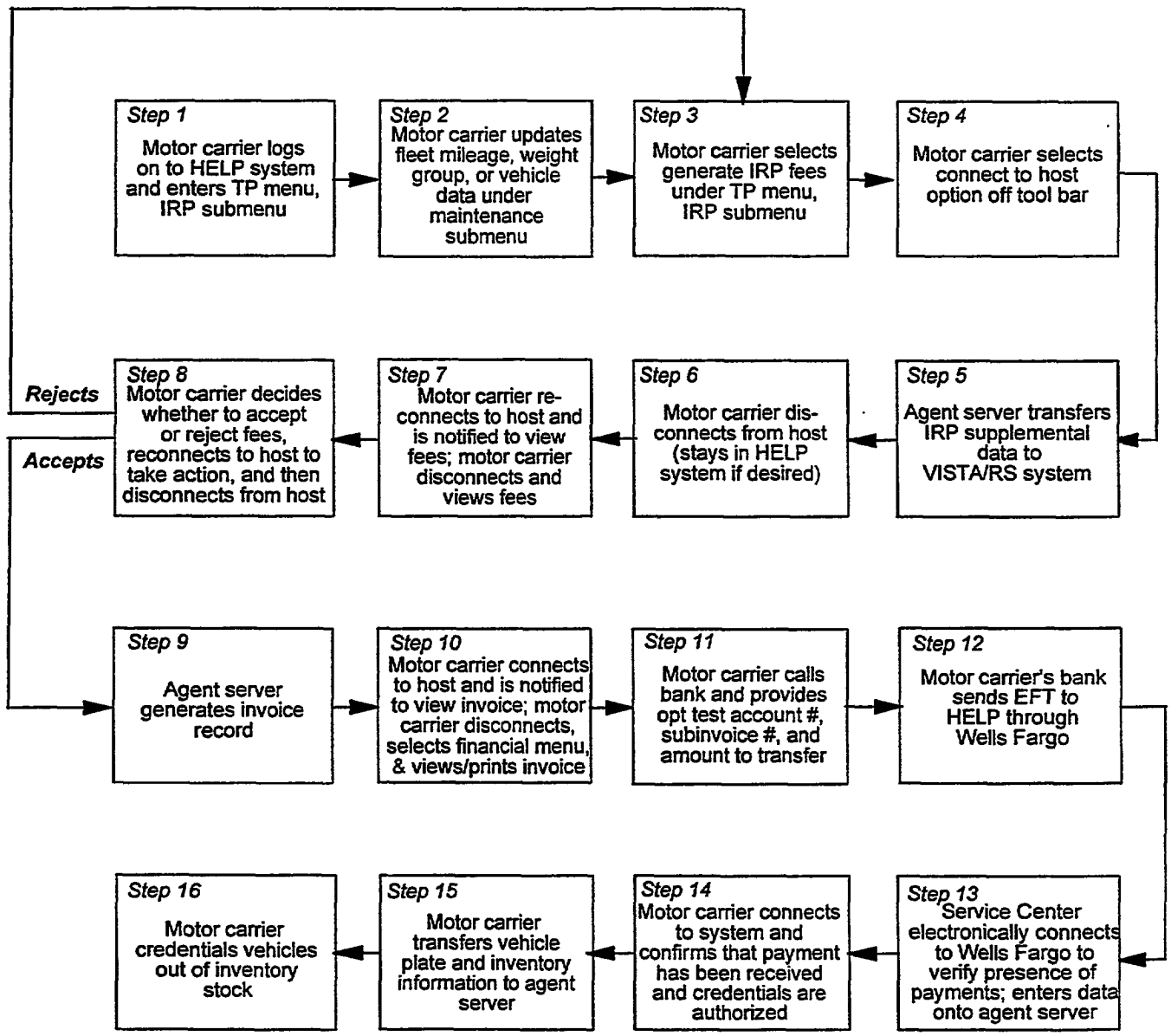
The IRP supplement application function of the HELP One-Stop system was the most heavily used during the operational period. All motor carriers/service agents, with the exception of one, used this function at least once for a total of 21 transactions. Data used to calculate IRP supplement cycle times was derived from three sources: the HELP One-Stop system itself, logs kept by motor carriers/service agents, and both baseline and operational test interviews of motor carriers/service agents. Exhibit 3-5 depicts the process steps that motor carriers/service agents will follow in using the HELP One-Stop system to conduct IRP supplement activity.

The HELP One-Stop system automatically captured date/time data at a number of points during each IRP supplement transaction. The points used in the evaluation were as follows:

1) When motor carriers/service agents connected to host (agent server) to request fees
2) When the host made fees available for the motor carriers/service agents
3) When motor carriers/service agents connected to the host to accept fees
4) When the host made an invoice available for the motor carriers/service agents
5) When the host was notified that payment (from Wells Fargo) had been received
6) When the host was notified that credentials had been issued.

To assist the evaluators in calculating process times not automatically captured by the HELP One-Stop system, participating motor carriers/service agents were also asked to keep a log during their first four transactions to indicate the amount of time spent on data entry and the date and time that they contacted their bank to arrange for payment. Additionally, motor carriers/ service agents were interviewed both before the operational period began and again during the middle of the operational period to confirm the cycle times they experienced in conducting IRP supplement transactions using conventional means and their perception of the cycle times they experienced in using the HELP One-Stop system to do the same.

EXHIBIT 3-5
IRP Supplements
Generic Process for Motor Carriers Using the HELP One-Stop system



Note: IRP - International Registration Plan
TP - Transportation Program
EFT - Electronic funds transfer

Motor carriers/service agents cycle time results for the *activity* time associated with IRP supplements are displayed in Exhibit 3-6. The average activity time that motor carriers/service agents spend to obtain an IRP supplement (e.g., submit application, pay for and receive the credential) following their conventional process is 1 hour and 39 minutes, with an average time of 1 hour and 20 minutes to complete and submit an IRP supplement application (in large part due to travel time), and 19 minutes to pay (and arrange for payment of) the corresponding fees. The time to complete and submit the form also includes any applicable time to pick-up credentials, because most participants go to state agency offices to submit their applications and wait while a temporary credential is prepared for them. (Permanent credentials arrive in the mail weeks later, as discussed below.) Comparatively, the average activity time that motor carriers/service agents took to obtain an IRP supplement using the HELP One-Stop system was *33* minutes — over an hour shorter than the conventional process (see Exhibit 3-7). Most of this time was spent in arranging for payment, which took longer than the process used outside of the operational test (see the breakdown of activity time categories provided in Exhibit 3-8). Average cycle times by state have been calculated, but due to the small number of participants involved this data should be viewed with caution. (Note: the activity time savings through the HELP One-Stop system may actually decrease with lack of continued use. If the system is only used occasionally, the need to re-learn functions may increase the activity time at each use.)

EXHIBIT 3-6
***Activity* Times For Motor Carriers/Service Agents**
To Obtain an IRP Supplement

Process Steps		Arizona Avg. (hrs:min)	California Avg. (hrs:min)	New Mexico Avg. (hrs:min)	Average* (hrs:min)	Min (hrs:min)	Max (hrs:min)
Complete & Submit Form	Conventional	2:02	1:20	0:47	1:20	0:35	2:30
	HELP One-Stop	0:08	0:06	0:03	0:05	0:02	0:15
	Difference	-1:54	-1:14	-0:44	-1:15		
Make Payment	Conventional	0:10	0:10	0:30	0:19	0:05	0:45
	HELP One-Stop	0:09	0:36	0:06	0:27	0:02	0:49
	Difference	-0.01	+0:26	-0:24	+0:08		
Pick-up/ Issue	Conventional**						
	HELP One-Stop	0:01	0:02	0:01	0:02	0:01	0:06
Total	Conventional	1:17	1:30	1:17	1:39	1:00	2:35
	HELP One-Stop	0:11	0:45	0:10	0:33	0:07	0:54
	Difference	-1:06	-0:45	-1:07	-1:06		

*Average is across all motor carriers/service agents rather than by state.
**Pick-up/issue activity time is included in the complete and submit form activity time.

EXHIBIT 3-7
Comparison of Conventional and HELP One-Stop *Activity* Times
For Motor Carriers/Service Agents to Obtain an IRP Supplement

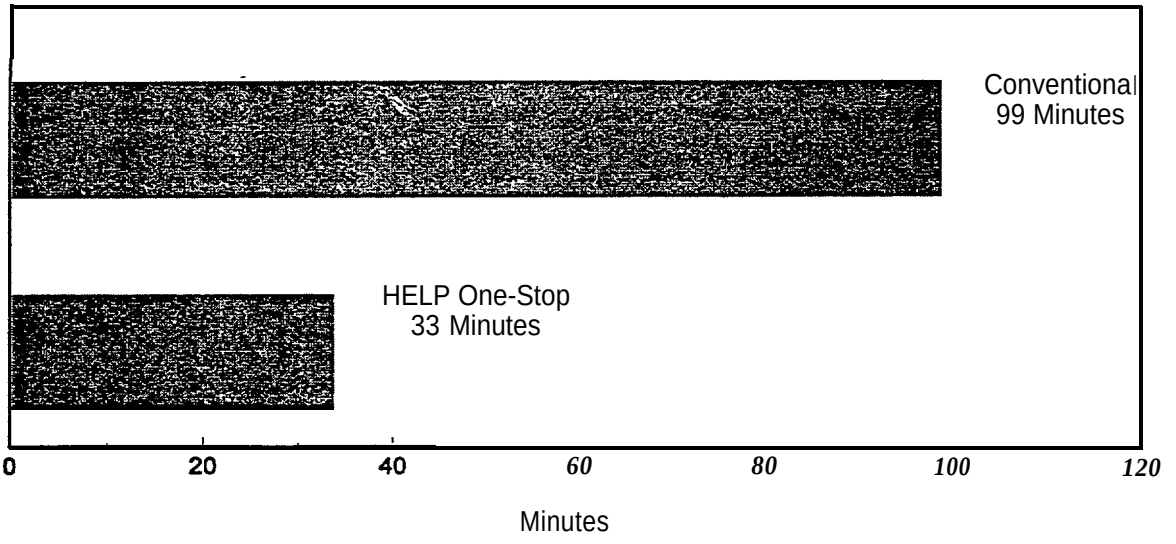


EXHIBIT 3-8
Breakdown of Activity Time Process Steps
For Motor Carriers/Service Agents to Obtain an IRP Supplement

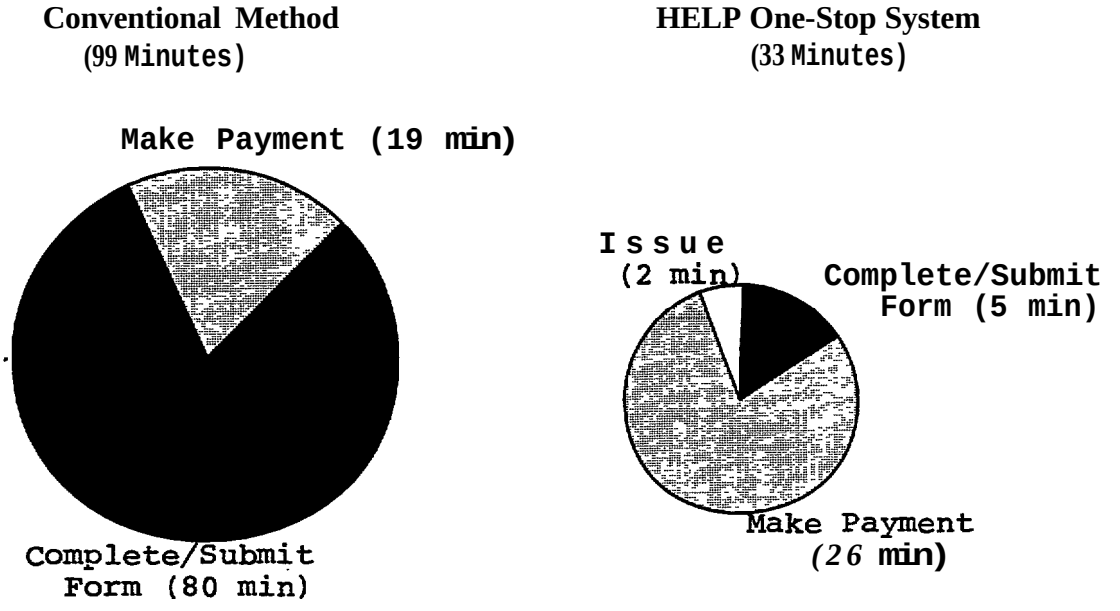


Exhibit 3-9 presents *elapsed* times associated with IRP supplements. The average elapsed time that motor carriers/service agents experience in obtaining an IRP supplement following their conventional process is seven weeks. Usually there is over a three week delay between when they submit their application and when their invoice is available, and on top of that there is another four week delay between when they make payment and when they receive their permanent credentials. Using conventional methods of submitting, paying for and receiving IRP supplements, motor carriers/service agents rely on the U.S. Postal Service. Overnight delivery is not typical, and the time associated with first class mail varies with the time of year and volume and is therefore less reliable and takes longer than electronic means.

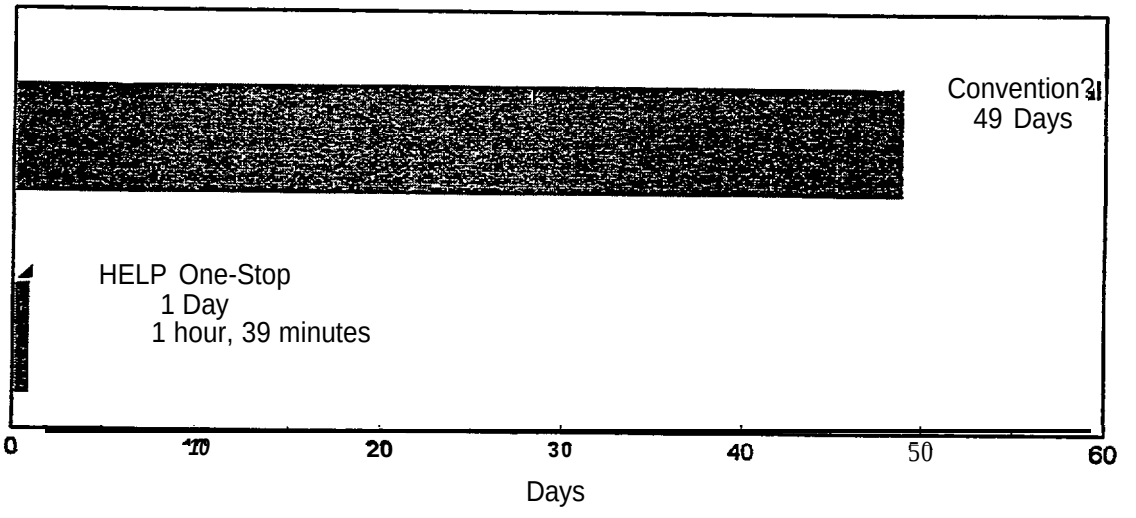
Comparatively, as shown in Exhibit 3-10, the average elapsed time that motor carriers/service agents experienced in obtaining an IRP supplement using the HELP One-Stop system was just over a day. (Note: the elapsed time during the operational test may have been significantly longer if motor carriers/service agents did not contact the Service Center to check on the status of their transactions.) Again, most of this time was spent waiting for the HELP One-Stop system to register receipt of payment from Wells Fargo. It should be kept in mind, however, that some of the time between when payment was made and when permanent credentials were received in HELP One-Stop system transactions was client-dependent - both in terms of the time of day when they initiated or approved payment and when they chose to go back into the system to obtain authority to print credentials (in the case of Arizona and California participants). It is at least possible for IRP credentials to be issued the same day that payment is made on the HELP One-Stop system.

EXHIBIT 3-9
Elapsed Times For Motor Carriers/Service Agents To Obtain a Permanent IRP Supplement

Process Steps		Arizona Avg.	California Avg.	New Mexico Avg.	Average*	Minimum	Maximum
Between Fonn Submittal & Invoice Availability	Conventional (wks, days)	NA	NA	3 wks, 2 days	**3 wks, 2 days**	**2 wks, 3 ½ days**	**4 wks, 0 days**
	HELP One-Stop (hrs:min)	1:21	0:38	0:35	**0:39**	**0:13**	**1:21**
Between Payment Made & Permanent Credential Received	Conventional* * (wks)	6wks	6wks	5 Wks	7wks	4wks	12 wks
	HELP One-Stop (days, hrs:min)	2 days, 14:14	0 days, 8:48	1 day, 4:43	1 day, 0:58	0 days, 0:52	2 days, 14:14
Total	Conventional (wks)	6wks	6wks	5 wks	**7 wks**	**4 wks**	**12 wks**
	HELP One-stop (days, hrs:min)	2 days, 15:35	0 days, 9:26	1 day, 5:18	**1 day, 1:39**	**0 days, 0:32**	**2 days, 15:35**

1VA — not available
*Average is across all motor carriers/service agents rather than by state.
**Elapsed time between form submittal and invoice availability is included in elapsed time between when payment is made and permanent credential is received.

EXHIBIT 3-10
Comparison of Conventional and HELP One-Stop Elapsed Times For Motor Carriers/Service Agents to Obtain a Permanent IRP Supplement



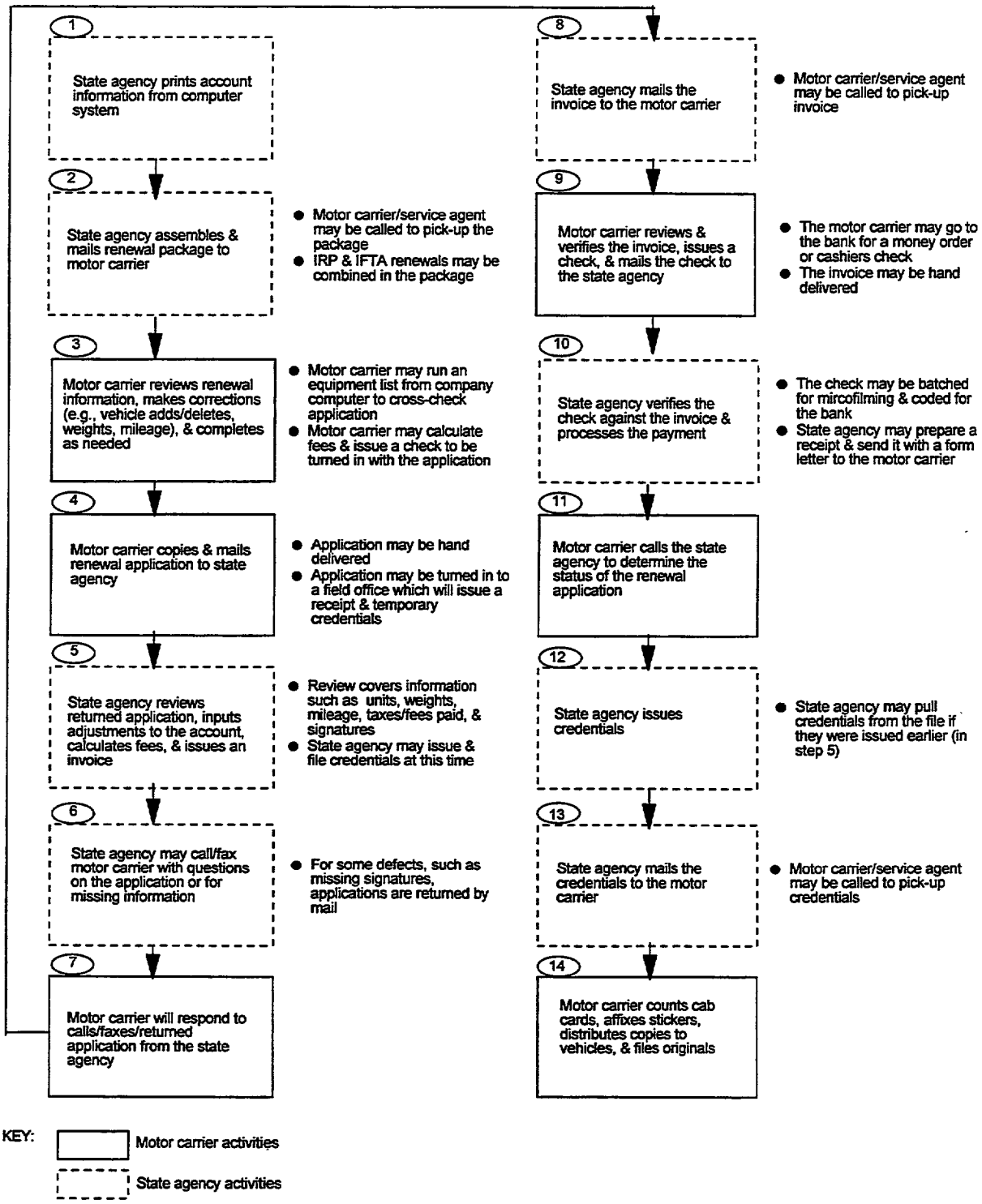
3.3 IRP SUPPLEMENT CONCLUSION

Motor carriers/service agents can achieve improvements in the amount of activity time it takes to obtain an IRP supplement using the HELP One-Stop system (over one hour per transaction). The greatest benefit to be derived from using the HELP One-Stop system is the significantly shorter period it takes for permanent credentials to arrive (almost seven weeks of elapsed time) and the greater degree of certainty that those credentials will indeed arrive and be in proper order. Motor carriers/service agents felt that by having control over data entry, and by eliminating double data entry, the accuracy will increase. Also, electronic transfer of the application is seen as a vast improvement over the mail or hand-delivery method currently used. It is important to note that motor carriers/service agents who are comfortable with their current process of using temporary credentials while waiting for permanent credentials to arrive may not feel that the activity and elapsed time savings achieved using the HELP One-Stop system are important to their business practices. However, those motor carriers/service agents in states that do not issue temporary credentials would realize a greater time savings.

3.4 CONVENTIONAL IRP RENEWALS

Exhibit 3-l 1 portrays the conventional process steps followed by motor carriers/service agents and state agencies during IRP renewal. Overall, the steps followed are fairly consistent among the participants. The most common variations are indicated in the bullets to the right of applicable process step boxes. These variations include: method of delivery and pick-up (by mail or in-person), timing of payment (as a part of application submittal or after invoicing), method of payment (by company check, cashiers check, or money order), point of submittal (to the agency headquarters or a field office), and timing of credential issuance (following preparation of an invoice or only after payment has been received). Minor variations in process steps, however, can have a significant impact on the total time required to accomplish IRP renewal. For example, if motor carriers/service agents choose to pay renewal fees by cutting a company check and mailing it to the state agency, this activity may only take five minutes. But if motor carriers/service agents choose to go to the bank for a cashiers check and hand deliver the check to the state agency, paying renewal fees may take half a day.

EXHIBIT 3-11
IRP Renewal
Conventional Motor Carrier and State Agency Process Steps



The IRP renewal process steps followed by motor carriers may also differ if they choose to accomplish their responsibilities through the use of a service agent. Key differences in using a service agent include the following:

- Service agents may call or send a letter to their client to obtain changes that need to be made on the renewal application even before the application has been received, or the service agent may compare the renewal application information to a computer-generated or hard copy file of the client's equipment and operating records.

- Service agents may calculate renewal fees and send their own invoice to the client to obtain payment.

- Service agents will typically cash the client's check for renewal fees and have their own check issued to be returned with the application (or service agents may have their client establish an account against which renewal and other credential and permit fees can be drawn).

- Service agents are more likely to perform in-person deliveries and pick-ups using "runners" which can handle transactions for more than one client at a time.

- Service agents typically bill their clients for performing a specific credentialling or permitting process as a whole rather than charging them on an hourly basis.

- Service agents often will combine similar activities — such as verifying account information for IRP and IFTA renewals at the same time -to achieve internal efficiencies.

Not all of the process steps undertaken by motor carriers or state agencies during IRP renewal were impacted by the implementation of the HELP One-Stop system. For example, even if an electronic system is used for application submittal, fee payment, and credential issuance, motor carriers will still have to make decisions on which states they would like to operate in and what equipment they would like to add or delete, and state agencies may still generate a renewal package and mail it out to motor carriers. Baseline interviews indicate that the steps in the IRP renewal process perceived to have the greatest potential for being impacted by the HELP One-Stop system are as follows:

- **For motor carriers —** Application review and completion, delivery of application, receipt of invoice, generation and delivery of payment, and receipt of credentials.

- **For state agencies —** Application review (including account adjustment, calculation of fees, and issuance of invoice), invoice mailing, payment verification and processing, issuance of credentials, and credential mailing.

Motor carriers/service agents and state agencies also provided their perception of the amount of time associated with conducting various process steps. They were asked to differentiate between two different types of time estimates:

- **Elapsed time —** Respondents tended to express this time in terms of calendar dates.
- **Activity time —** Respondents tended to express this time in terms of minutes or hours.

Exhibits 3- 12 and 3- 13 summarize the elapsed and activity times and costs associated with IRP renewal. For motor carriers/service agents, this data shows that the average ***elapsed*** time between when motor carriers/service agents deliver the renewal application to a state agency and when they ultimately receive their credentials is three months, broken down as follows: one month between delivery of application and receipt of the invoice, one month between receipt of the invoice and when the motor carriers/service agents actually pays the invoice, and one month between when the invoice is paid and when credentials are received. The average ***activity time*** that motor carriers/service agents spend in accomplishing this activity is just over six hours — and at an average overhead cost per hour of $34, that translates into a cost of $211. Note, however, that there is wide variability in these times and costs. For example, one motor carrier only took 50 minutes to review and complete the IRP renewal application while another took 16 hours (most likely due to a big difference in fleet size), and one motor carrier's overhead cost was $10 per hour, while another's was $50.

EXHIBIT 3-12
IRP Renewal
***Elapsed* Times Associated With Conventional Motor Carrier Process Steps**

	Process Steps					
	Receipt of Application	Delivery of Application	Receipt of Invoice	Generation and Delivery of Payment	Receipt of Credentials	Total Elapsed Time (Between Delivery of Appl & Receipt of Credentials
Average Date Step Undertaken	September 1st week	October 3rd week	November 3rd week	December 2nd week	January 2nd week	12 weeks
Earliest Date Step Undertaken	August 1st week	September 3rd week	October 2nd week	November 4th week	December 4th week	14 weeks
Latest Date Step Undertaken	September 4th week	December 1st week	December 4th week	December 4th week	February 2nd week	10 weeks

EXHIBIT 3-13
IRP Renewal
Activity Times Associated With Conventional Motor Carrier Process Steps

	Review/Complete Application	Deliver Application	Generate Payment	Receipt of Credentials	Total Time	Cost/Hour	Total Cost
Average	280 min	25 min	67 min	0	372 min	$33.93	$211
Minimum	50 min	4 min	10 min	0	64 min	$10	$11
Maximum	960 min	125 min	192 min	120	1397 min	$50	$1,164

For state agencies, (Exhibit 3-14) this data shows that in terms of *elapsed* time state agencies mail out IRP renewal applications between the end of July and the middle of September, and have invoices back to responding motor carriers by mid-December. The process steps accounting for most of state agencies' activity time are application review, on which they spend from 15 to 22 minutes per application, and credential issuance, on which they spend from 10 to 30 minutes per application. Invoice mailing, payment verification and processing, and credential mailing take significantly less time.

EXHIBIT 3-14
IRP Renewal
***Elapsed and Activity* Times Associated With Conventional State Agency Process Steps**

	Mail Renewal Application	Review Appl., Adjust Acct., Calculate Fees, Issue Invoice	Mail Invoice		Verify and Process Payment	Issue Credentials	Mail Credentials
	Elapsed Time	Activity Time (minutes)	Elapsed Time	Activity Time (minutes)	Activity Time (minutes)	Activity Time (minutes)	Activity Time (minutes)
Minimum	July 4th week	15	December 2nd week	5	ND	10	5
Maximum	September 2nd week	22	December 3rd week	5	ND	30	5

*ND – not disclosable due to insufficient number of responses

3.5 HELP ONE-STOP SYSTEM IRP RENEWALS

Conventionally, the IRP renewal process takes motor carriers/service agents on average, nearly six hours of activity time to accomplish, according to data collected during baseline evaluation interviews. The majority of this time — over 60% — is spent on completing and submitting the renewal application. The time savings seen in data entry for IRP supplements would also carry over into IRP renewals. It appears likely that use of the HELP One-Stop system for IRP renewal would result in very significant activity time savings for motor carriers/service agents because:

- The HELP One-Stop system has a database that stores the client's records and can quickly build the renewal data for the next registration year. No paperwork is required. All of the client's records can be displayed and manipulated as needed by the motor carrier/service agent.

- Data gathered on IRP supplemental transactions during the operational test shows that it takes less time to complete and submit applications using the HELP One-Stop system than to do so manually.

Additionally, the time required for motor carriers/service agents to pay for an IRP renewal using the HELP One-Stop system (assuming it takes the system the same amount of time to process IRP renewal payments as to process IRP supplemental payments) should be at least some improvement over the time it takes to do this using conventional means.

3.6 IRP RENEWAL CONCLUSION

Some limited data is available on HELP One-Stop system IRP renewal cycle times because Lockheed Martin IMS used parts of the system to process applications for two New Mexico motor carriers. These two transactions showed that, on average, it took the system 40 minutes to make fees available after they were requested and five minutes to make the invoice available after fees were accepted. Comparatively, evaluation baseline data reveals that the average elapsed time between when motor carriers/service agents submit an IRP application and when the invoice is available is four weeks. Evaluation baseline data also shows that the average elapsed time between when a motor carriers/service agents submits renewal payments and when permanent credentials are received is five weeks, while credentials ***should*** be received by motor carriers/service agents using the HELP One-Stop system within two to three days of payment (it is possible that credentials could be received the very next day, but this hinges on motor carriers/service agents-dependent activities such as the time of day that the transaction is initiated).

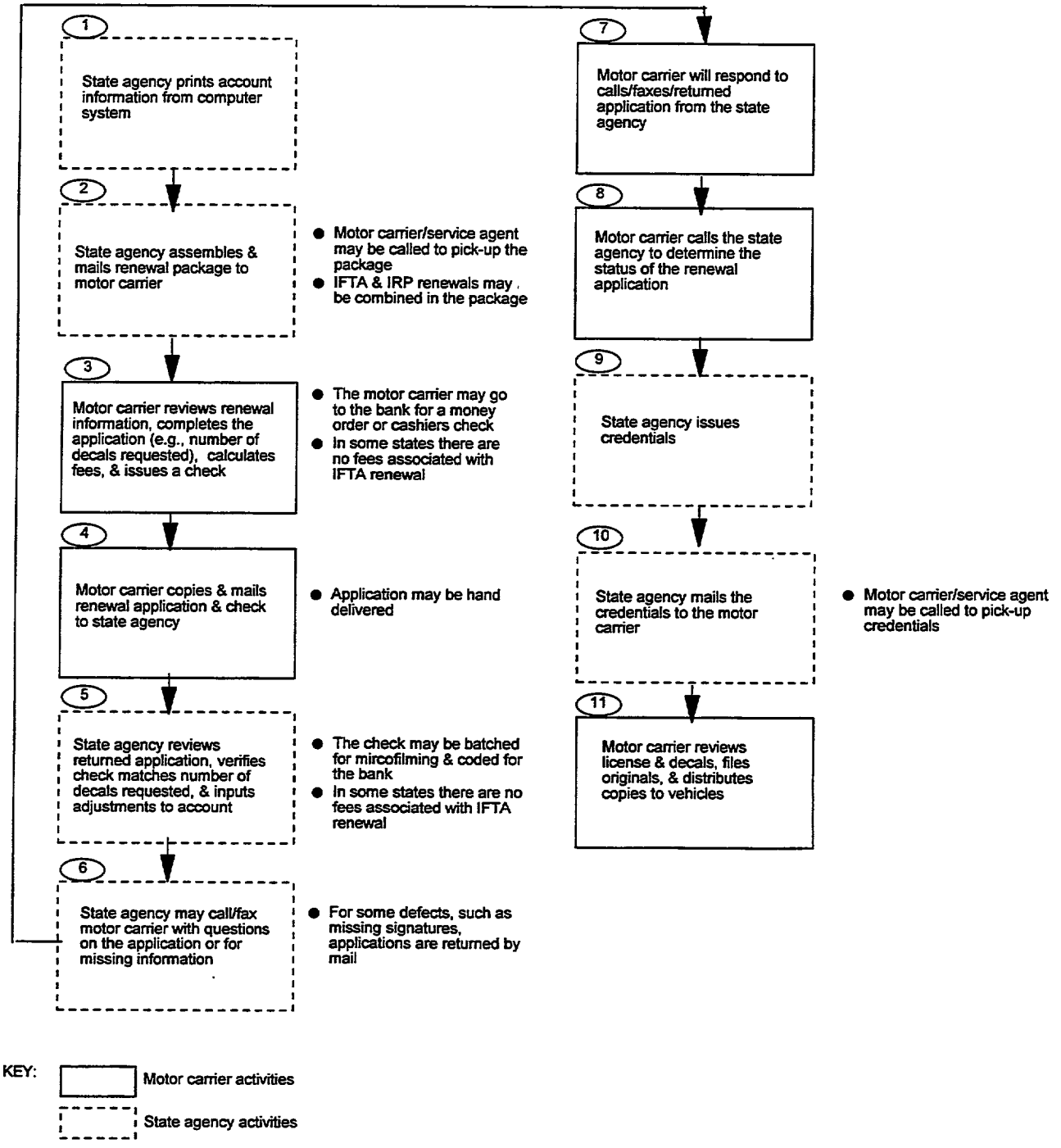
3.7 CONVENTIONAL, IFTA RENEWALS

Exhibit 3-15 portrays the conventional process steps followed by motor carriers/service agents and state agencies during IFTA renewal. This process is also very consistent among the participants. The most common variations, noted in the bullets to the right of the applicable process step boxes, are in method of delivery and pick-up and whether a payment must be made (e.g., ADOT does not charge fees for IFTA renewal). Baseline interviews indicate that the points in the IFTA renewal process with the greatest potential for being impacted by the HELP One-Stop system are as follows:

- **For motor carriers —** Application review and completion, generation and delivery of payment (if applicable), delivery of application, and receipt of credentials.

- **For state agencies —** Application review and credential mailing.

EXHIBIT 3-15
IFTA Renewal
Conventional Motor Carrier and State Agency Process Steps



Exhibits 3- 16 through 3-18 summarize the elapsed and activity times and costs associated with IFTA renewal. For motor carriers/service agents, this data shows that the average ***elapsed*** time between when motor carriers/service agents deliver the renewal application to a state agency and when they ultimately receive their credentials is two months (one third faster than for the IRP renewal process). The average ***activity*** time that motor carriers/service agents spend in accomplishing this is just over an hour (one-sixth the time required for the IRP renewal process). At an average overhead cost per hour of $34, this translates into a cost of $36.
For state agencies, this data shows that in terms of elapsed time state agencies mail out renewal applications between mid-August and mid-October. In terms of actual ***activity time,*** state agencies spend very little time in reviewing returned applications, adjusting account information, verifying payment, and issuing credentials (from two to five minutes per application) or in mailing credentials (in some cases this is just a matter of seconds per application).

EXHIBIT 3-16
IFTA Renewal
***Elapsed* Times Associated With Conventional Motor Carrier Process Steps**

	Process Steps			
	Receipt of Application	Delivery of Application	Receipt of Credentials	Total Elapsed Time (Between Delivery of Appl. & Receipt of Credentials)
Average Date Step Undertaken	August 2nd week	October 1st week	December 1st week	8 weeks
Earliest Date Step Undertaken	August 1st week	August 2nd week	November 2nd week	12 weeks
Latest Date Step Undertaken	November 1st week	December 2nd week	January 2nd week	4 weeks

EXHIBIT 3-17
IFTA Renewal
Activity Times Associated With Conventional Motor Carrier Process Steps

	Review/Complete Application	Generate Payment	Deliver Application	Total Time	Cost/Hour	Total Cost
Average	23 min	19 min	21 min	63 min	$33.93	$36
Minimum	2 min	5 min	4 min	11 min	$10	$2
Maximum	120 min	45 min	120 min	285 min	$50	$238

EXHIBIT 3-18
IFTA Renewal
***Elapsed and Activity* Times Associated With Conventional State Agency Process Steps**

	Mail of Renewal Application	Review Application, Adjust Account, Verify Payment & Issue Credentials	Mail Credentials
	Elapsed Time	Activity Time (minutes)	Activity Time (minutes)
Minimum	August 2nd week	2	.12
Maximum	October 2nd week	5	5

3.8 HELP ONE-STOP SYSTEM IFTA RENEWALS

According to evaluation baseline data, the IFTA renewal process takesmotor carriers/service agents an average of one hour to accomplish conventionally (see Exhibit 3-19). Half of the time associated with this process is accounted for by form completion and submittal activity. Because results for the operational test show that it takes less time to complete and submit applications using the HELP One-Stop system than to do so manually, it appears likely that motor carriers/service agents would achieve some activity time and cost savings through use of the system. (The time required for the payment portion of the IFTA renewal process may not be faster if the HELP One-Stop system is used.)

EXHIBIT 3-19
Conventional *Activity* Times For Motor Carriers/Service Agents
To Obtain Permanent IFTA Renewal Credentials

Process Steps	Arizona (hrs:min)	California (hrs:min)	New Mexico (hrs:min)	Average (hrs:min)	Min (hrs:min)	Max (hrs:min)
Complete & Submit Form	0:56	0:19	0:14	0:30	0:05	2:10
Make Payment	0:15	0:06	0:25	0:15	0:05	0:45
Pick-up/Issue	1:17	NA	0:05	0:41	0:05	2:05
Total	1:53	0:26	0:42	1:00	0:15	4:15

NA – not available

Motor carriers/service agents should also expect to achieve an improvement in the total elapsed time it takes them to obtain permanent IFTA renewal credentials by using the HELP One-Stop system. Conventionally, it takes motor carriers/services agentsan average of seven weeks to receive these credentials after payment is made (see Exhibit 3-20). The three participating HELP One-Stop states implemented different IFTA renewal credential issuing procedures (see Section 1.6 for more detail on Special Arrangements). Arizona and California retained the responsibility of issuing the IPTA renewal credentials and were electronically sent a fax from the HELP One-Stop system instructing them to process the renewal. New Mexico, on the other hand, opted to have the Service Center issue the FTA renewal credentials. Depending on how individual states prefer to implement the issuance of IFTA renewal credentials for a deployed one-stop product, it is likely that credentials could be received in a significantly shorter period of time than the current conventional method.

EXHIBIT 3-20
Conventional *Elapsed Times* for Motor Carriers/Service Agents
To Obtain Permanent IFTA Renewal Credentials

Process Steps	Arizona (average)	California (average)	New Mexico (average)	Average	Minimum	Maximum
Between Payment Made & Permanent Credential Received	10 weeks	5 weeks	7 weeks	7 weeks	4 weeks	14 weeks

3.9 IFTA RENEWALS CONCLUSION

Some limited data is available on HELP One-Stop system IFTA renewal cycle times. Evaluation baseline data reveals that the average elapsed time between when motor carriers/ service agents submit an IFTA application and when the credentials are received is eight weeks. Under the HELP One-Stop system, the motor carriers/service agents should achieve some activity and time savings in performing the following steps: reviewing and completing and IFTA renewal application, generating an invoice (if applicable), delivering payment (if applicable) and delivering the application to the state (a fax is automatically sent). As with IRP renewal applications, motor carriers/service agents should see a significant time savings between their conventional methods and the HELP One-Stop system in generating permanent IFTA renewal credentials.

3.10 IFTA ADDITIONAL DECAL REQUESTS

During baseline evaluation interviews, none of the participating motor carriers/service agents indicated that they normally request additional IFTA decals. Since these decals are either free or regarded as inexpensive, motor carriers/service agents typically request an extra allotment as a part of the renewal process to avoid having to obtain any during the remainder of the year.

However, motor carriers/service agents were encouraged to try the request for additional IFTA decals function of the HELP One-Stop system during the operational period. Four motor carriers/service agents — two from California and two from New Mexico — at least initiated such a transaction. Only data from two transactions were usable; the other two transactions were not because of an incomplete time record in one case and an inaccurate time record in the other (in the latter case the participant's computer clock was set incorrectly). The average time it took the HELP One-Stop system to make IFTA additional decal fees available after they were requested was 6 minutes and 42 seconds. Data for subsequent steps in the process — invoicing, payment, and receipt of decals — were not available because the participants chose to discontinue the process by rejecting fees after they were received.

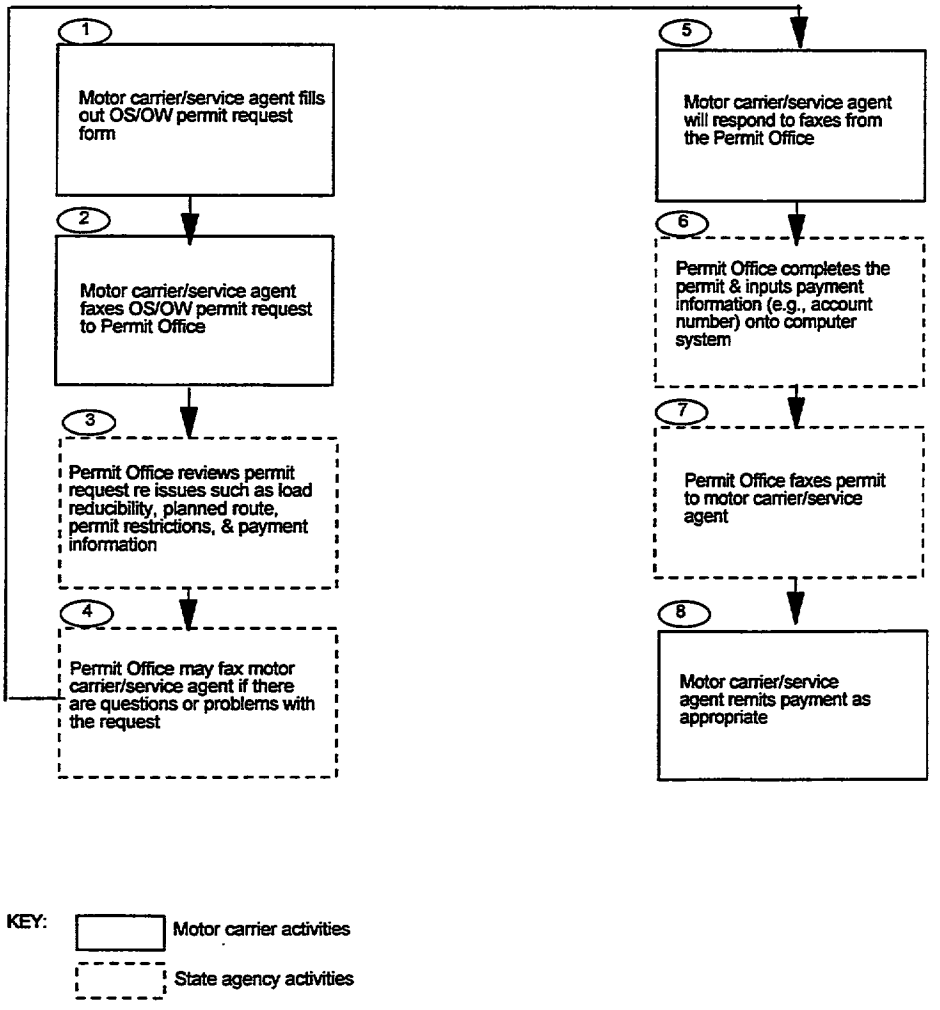
3.11 IFTA ADDITIONAL DECAL REQUESTS CONCLUSION

Realistically, any significant benefit that motor carriers/service agents could expect to achieve. by using the HELP One-Stop system to acquire additional IFTA decals would have to result from a change in their own business practices from acquiring what in some cases is an exorbitant amount of additional decals during the renewal period to using the just-in-time and just-what-is-needed approach that is possible through the HELP One-Stop system.

3.12 CONVENTIONAL INDIVIDUAL TRIP OS/OW PERMITS

Exhibit 3-21 portrays the conventional process steps followed by motor carriers/service agents and state agencies for individual trip OS/OW permits. Insufficient data is available on the times and costs associated with this process to provide further information — only two state agencies participated in this aspect of the operational test, and no motor carriers/service agents interviewed were familiar enough with the process to respond (either because they don't use individual trip OS/OW permits or they use a permit service that is not participating in the test to acquire such permits for them).

EXHIBIT 3-21
Individual Trip OS/OW Permits
Conventional Motor Carrier and State Agency Process Steps



3.13 HELP ONE-STOP SYSTEM INDIVIDUAL TRIP OS/OW PERMITS

Two motor carriers/service agents were recruited to participate in the individual trip OS/OW permit portion of the operational test — one for Arizona and one for California. While being trained by Lockheed Martin IMS, the California motor carrier realized that the HELP One-Stop system could not group axle weights in the manner to which they were accustomed. Even though Caltrans personnel had agreed to perform this grouping on behalf of the motor carrier after receiving a system-generated OS/OW permit request, the motor carrier decided that the software was not compatible with their business practices and so withdrew from participating in the operational test.

The service agent recruited to conduct OS/OW permit transactions in Arizona used the HELP One-Stop system to initiate seven requests during the operational period. T'he average amount of time it took the system to make fees available after a request was received was 14 minutes and 15 seconds. The system did not track how long it took to fax the permit request to ADOT, nor how long it took for ADOT to process the payment (the latter took place outside of the system - ADOT debited the service agent's Fees in Phoenix account for payment, and the service agent subsequently reimbursed HELP for this amount)

3.14 INDIVIDUAL TRIP OS/OW PERMITS CONCLUSION

Because of the limited degree to which the HELP One-Stop system was automating OS/OW permit requests for California, if such transactions had taken place it is unlikely that they would have showed significant time or cost savings for the motor carrier. The HELP One-Stop system allowed the motor carrier to complete an individual trip OS/OW permit request using the software and supported the electronic faxing of the request to Cahrans. Subsequently, Caltrans planned to follow its conventional procedures in reviewing and approving the request. Since Caltrans currently allows motor carriers/service agents to fax in permit requests, the only part of the process affected by the HELP One-Stop system would be form completion (on the computer rather than manually). Under a deployed environment, other features — such as automatic route planning/clearance, self-issuance — would have to be integrated with the OS/OW permit function to render it's use more efficient and desirable. It would also be important for the system to support OS/OW permits for as many state and local jurisdictions as possible, so that motor carriers/service agents could centralize their requests.

Although complete cycle time information is not available on those transactions completed in Arizona, it is unlikely that significant time or cost savings were realized for the service agent for the same reasons listed above for California - namely, ADOT currently allows service agents to fax in permit requests and planned to follow its conventional procedures in reviewing and approving permit requests received from the HELP One-Stop system.

3.15 CHANGE IN REJECTION/APPROVAL RATES

During baseline evaluation interviews, motor carriers/service agents reported that between 5% and 30% of the applications they submitted to state agencies were rejected — at least initially — for further information or clarification. State agencies, on their part, reported an initial rejection rate of between 5% and 50% for the applications they received. Operational test participants, including motor carriers/service agents and state agencies, did not report noting any change in application rejection rates due to use of the HELP One-Stop system. It must be kept in mind, however, that each participant's exposure to the system was quite limited due to the short operational period. Also, a large number of calls were made to the Service Center to insure things were correct before transactions were submitted.

Another way to look at rejection rates in an intermediate sense is to consider the number of transactions that successfully made it through the HELP One-Stop system. If participants using the HELP One-Stop system failed to complete an application or tried to complete it incorrectly (in a format sense), the system stopped them before they could forward the application through to the Agent Server. The HELP One-Stop system had built-in checks which would prompt the user to fill in required fields and ensured those fields were properly formatted (i.e., VIN number sequences). If the user had failed to properly fill out the screens, an error message would appear and the transaction could not be transmitted to the Agent Server. Accordingly, nearly all of the transactions for which data was captured on the system were deemed "accepted." In the few instances where transactions were deemed "rejected" by the system, it is assumed that there was some type of communication transmission error.

4. SYSTEM PERFORMANCE FINDINGS

4. SYSTEM PERFORMANCE FINDINGS

Chapter 4 presents the system performance findings from the HELP One-Stop Operational Test. This information was acquired through planning documents, system observation and validation tests, system requirement documents, training observation and interviews with system developers and users. Interviews and surveys were conducted with the HELP One-Stop Service Center, participating motor carriers/service agents and state agencies to determine attitudes and opinions regarding the HELP One-Stop system performance. Additional data was collected while observing refresher training sessions at four motor carriers/service agents locations. All of these interviews were held during April and May of 1997 at the participant's respective business locations, with follow-up phone calls to complete data collection. The sections below describe information gained from these interviews on the training and support provided by the Service Center, installation, upgrade and maintenance environment, operational interface, system accuracy, response speed and availability, tax/fee computation variation and volume sensitivity.

VISTA/RS is an acronym for Vehicle Information System for Tax Apportionment/ Registration System. It is a computerized system designed jointly by Lockheed Martin IMS, jurisdictions, the American Association of Motor Vehicle Administrators (AAMVA), and the trucking industry. It is used by IRP member jurisdictions to process IRP applications for carriers traveling in two or more IRP jurisdictions. VISTA/RS provides for transaction processing including fee calculation, invoice generation, credentialling, and the financial record keeping necessary for distribution of funds between IRP jurisdictions. The HELP One-Stop system utilized the VISTA/RS system for fee calculation and invoice generation portions of the operational test.

4.1 TRAINING and SUPPORT

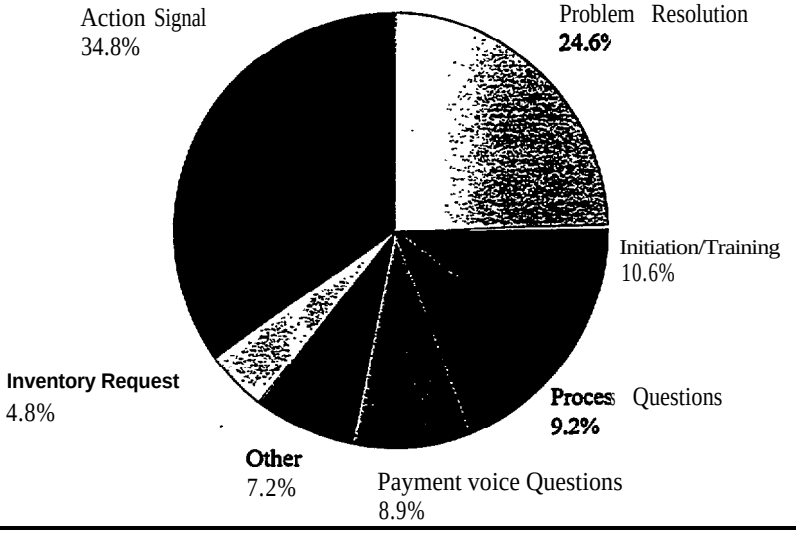
The HELP One-Stop system developer, Lockheed Martin IMS, provided staff to train and support participants during the operational test. At the beginning of the test, these staff members traveled to each motor carriers/service agents's business location to help set-up the hardware and software environment and to conduct a hands-on training session. During the operational test these staff members operated a Service Center which provided toll-free technical and procedural support to participants via telephone, assign IRP inventory and issue IFTA decals to California and Arizona motor carriers/service agents, and issued IRP and IFTA credentials for New Mexico (see Section 1.6: Operational Test Case Descriptions for more detail).

4.1.1 SERVICE CENTER SUPPORT

Service Center staff were asked to keep logs of their operating hours, phone conversations with participants, and credential inventory/issuance dispatch activity throughout the operational period to allow evaluation of the nature and extent of support provided. Tabulation of the Service Center's operating hours log revealed that its normal opening time was 8:00 am and normal closing time was 5:30 pm (Pacific Standard Time) — an average availability of 9 rh hours per day. The earliest opening time for Service Center staff was recorded during the operational test at 7:30 am, and the latest closing time was 6:00 pm. The Service Center operated primarily on a Monday through Friday basis.

Tabulation of the Service Center's phone log shows that over 260 phone calls were made to or by the Service Center during the operational period. The average call length was nine minutes; the minimum time was 1 minute and the maximum time was 50 minutes. These calls covered a wide range of subjects (see Exhibit 4-l), the most frequent — 34.8% -being an "action signal" between the Service Center and test participants. This type of phone call, action signal, included those made by a motor carriers/service agents to let the Service Center know that a transaction was about to take place, those made by the Service Center to let a motor carriers/service agents know that fees or an invoice was available for viewing on the system, and those to support "data synchronization" in circumstances where normal system procedures were not followed (e.g., a motor carriers/service agents paid a state agency directly rather than using the EFT process established for the operational test). Calls to or from the Service Center to support problem resolution (e.g., cab cards wouldn't print) accounted for 24.6% of the total; calls concerning system initiation/training for 10.6% ; calls about how to use the system for 9.2% ; and calls regarding payment/invoice questions for 8.9%. Other types of calls included those concerning operational test participation or general status (7.2%) and for inventory requests (4.8%).

Exhibit 4-l
Breakout of Service Center Calls During the Operational Test



The Service Center's dispatch activity consisted of fulfilling IRP cab card, license plate, and sticker inventory requests for Arizona and California and issuing IRP cab cards, plates, and stickers for New Mexico. Altogether, the Service Center received twelve requests for IRP cab card inventory, ten for plates, and eight for stickers. The Service Center issued IRP cab cards in response to two requests and plates in response to four requests. The average time it took Service Center staff to conduct this dispatch activity was three minutes; the minimum time was one minute and the maximum time was six minutes. The Service Center did not receive any requests for additional IFTA decals during the operational period.

4.1.2 SERVICE CENTER TRAINING

Participating motor carriers/service agents received several different types of training. During the fall of 1996, Service Center personnel delivered and set up the computer systems at the system users' business locations. Once the hardware was in place, motor carriers/service agents received a one-day training session, covering system use, troubleshooting, program-specific information and software material. Due to the delay in fully operationalizmg the HELP One-Stop system, additional hands-on training was offered to all motor carriers/service agents in March 1997, just prior to the start of the Operational Test. Six motor carriers/ service agents accepted this refresher training session. The training sessions were between two and five hours in length, and covered the same topics as the initial training. Evaluators from the Western Highway Institute observed one initial training and four refresher training sessions and solicited comments from the trainees, the results of which are discussed in this section. Those motor carriers/service agents who chose not to participate in the refresher training sessions were contacted by phone to gain information on the training and support they received from the Service Center.

The Service Center training personnel conducted individualized training sessions based upon the level of technical and computer expertise displayed by the motor carriers/ service agents. Overall comments were generally positive regarding these hands-on training sessions, which were provided at the participants' business locations. Motor carriers/service agents were very satisfied with both the hands-on training and continuing telephone support they received from the Service Center personnel before and during the operational test. All survey respondents indicated that the Service Center personnel were very helpful and able to correct most problems the motor carriers/service agents encountered.

Lockheed Martin IMS provided participating motor carriers/service agents with two different system/training documents. The first was a large document which contained print outs of all the on-line help screens built into the HELP One-Stop system. There were two versions of this on-line help document. A larger version of the manual contained the novice mode, geared for those users with little or no computer background. A smaller version of the manual contained the advance mode and was targeted toward individuals who were comfortable with using computers. Those motor carriers/service agents which received the

advanced module did not receive the novice module. No participants reported using these two manuals, noting that the manuals contained instructions on how to complete each screen rather than how to perform each type of transaction. This was not useful, nor were the manuals sufficiently explained.

In addition to these on-line help manuals, motor carriers/service agents were given a short training manual, which was distributed at each of the initial and refresher training sessions. While participants found this training manual to be more helpful, most called the Service Center directly for assistance. Reasons given for this were because the on-line manuals were confusing, the training manual skipped important steps, the training manual was too generic and not specific enough for each state, and the motor carriers/service agents had built a positive relationship with the trainer and felt comfortable calling the Service Center for assistance.

Every participating motor carriers/service agents reported initiating multiple phone contacts with the Service Center during the operational test and were mostly satisfied with the support they received. The majority of survey respondents agreed with the statement that they could not have used the system without the support of the Service Center. Several motor carriers/service agents found problem areas with either the operational interface or the software which needed Service Center intervention. With the exception of one printing obstacle, all problems were successfully corrected or manually manipulated (i.e., the Service Center issued credentials rather than the motor carrier) by the Service Center which allowed the motor carriers/service agents to continue processing the transaction in question. The printing obstacle involved one participant who was unable to print cab cards. This problem was identified early in the operational test and was not able to be corrected before the test concluded. Lockheed Martin IMS was unable to determine what the exact problem was and subsequently, was unable to provide a solution during the testing period in which the motor carrier could complete credential transactions using the HELP One-Stop system. In order to facilitate the motor carrier receiving their credentials, the Service Center printed the necessary materials and mailed the credentials to the motor carrier.

4.2 INSTALLATION, UPGRADE and MAINTENANCE ENVIRONMENT

Installation of the motor carriers/service agents hardware was completed by mid-November 1996. Installation of the motor carrier software took place in late March 1997. This was accomplished by downloading the software from Lockheed Martin IMS to the motor carriers/service agents computer through communications software. This entailed the Service Center calling each participating motor carrier/service agent to schedule individual times for the software installation. The Lockheed Martin IMS Service Center indicated that with a commercial product, the software installation and any future upgrades would most likely be

handled using a diskette format similar to that used in other off-the-shelf software. This format would allow the motor carriers/service agents to control the timing of the installation and upgrades, and remove the Service Center from having to continually access client's computer systems to upgrade software.

The maintenance environment of the HELP One-Stop system currently includes a utility software feature which allows the Service Center to link up with the motor carriers/service agents' computer. This link provides the Service Center with the computer connection necessary to make on-line changes and corrections to the software loaded on the motor carriers/service agents computer. Maintenance and changes to the agent server were made directly on that system from the offices of Lockheed Martin IMS. Under a deployed situation, maintenance will be determined on a state-by-state basis, depending on which software system, communications interface, or program that particular state has chosen to use.

During the operational period, Service Center staff were asked to keep a log of scheduled and unscheduled system maintenance activity. Scheduled maintenance to back up the system was performed during the late evening hours, usually beginning around 9:00 pm. The average system down time associated with this scheduled maintenance was 20 minutes; the minimum down time reported was two minutes and the maximum down time reported was 45 minutes. No unscheduled maintenance was reported by Service Center staff during the operational period.

4.3 OPERATIONAL INTERFACE

The operational interface was well received by most motor carriers/service agents. The screens were user-friendly and easy-to-use, even if the user had little computer background. Participants responded that they were very satisfied with the screens and ease of data entry. Motor carriers/service agents stated that the layout of the screens was logical, but at times forced the user into redundant tasks. Specific suggestions for improvement were gathered, including building in more drop-down selection boxes, having the system save permit-related vehicle data, and looping data entry screens for multiple applications rather than having to start at the beginning each time. Some screen problems did occur, but were corrected by the Service Center (e.g., the VIN data input cell which needed to be lengthened in order to show 17 characters). This type of problem was usually corrected by the Service Center by remotely accessing the motor carriers/service agents screens through a software connection.

4.4 ACCURACY

System accuracy is defined as how well the system transfers information from the data entry screens to system screens and architecture tied to that data. In other words, if a motor carrier/service agent entered a vehicle weight group of 80,000 pounds, the invoice should

reflect charges based on 80,000 pounds. Participating motor carriers/service agents rated the HELP One-Stop system's accuracy as somewhat better than current practices. However, one service agent reported that data entered into the permit screens as load weight transmitted to the state as a gross vehicle weight. Therefore, each time a permit application was submitted, the service agent had to initiate a call to the state agency to correct the information. In addition, another service agent reported that the state agency had to re-issue cab cards on four occasions because the cab cards generated by the HELP One-Stop system were incorrect and had printed inaccurate information. These problems are significant, and will need to be addressed prior to deployment. Due in large part to these problems, and in contrast to the overall score from motor carriers/service agents, state agencies rated the HELP One-Stop system's accuracy as somewhat worse than current practices.

4.5. RESPONSE SPEED

The response speed of the HELP One-Stop system is defmed as the amount of time required for the system to process credentials. The timing was measured in both qualitative and quantitative measures. Through both motor carriers/service agents interviews and system validation checks, the response speed was measured in cycle times, with the credentialling process divided between tasks (e.g., fee calculation, invoice creation, printing). Motor carriers/service agents felt that the HELP One-Stop system's response speed was somewhat slow for all types of transactions. Comments recorded from the interviews revealed that in general, motor carriers felt the system response speed was much more acceptable than did service agents. Service agents identified speed as one of the most critical features of a one-stop system. Service agents reported that their conventional methods of procuring temporary credentials is more efficient and timely than using the HELP One-Stop system. Service agents acknowledged that while the turnaround time for getting permanent credentials using the HELP One-Stop system is much improved, many of their clients are satisfied with running on temporary credentials if it allows vehicles to be placed into immediate service. As discussed in Section 3.2, the majority of the time lapse in the HELP One-Stop system is related to the fee payment issue. Under a deployed system, where the Service Center would no longer be responsible for monitoring and transferring funds, this issue should be resolved.

4.6 AVAILABILITY

System availability is defined as to what extent the system was available for use by motor carriers/service agents during the operational tests. This includes such measures as scheduled maintenance "down time", hours of service, system failures and so forth. According to Service Center logs and feedback from participating motor carriers/service agents, the HELP One-Stop system and Service Center were fully available during operational period business hours. No participants reported the system being down when transactions were initiated. The Service Center logs recorded an average maintenance "down time" of 20

minutes, with no unscheduled "down time." (See Section 4.2 for additional details on maintenance times.) System availability was excellent, and did not appear to hamper any attempts at using the HELP One-Stop system.

4.7 TAX/FEE COMPUTATION VARIATION

No motor carriers/service agents or state agencies reported noting any tax/fee computation variations associated with transactions which took place during the operational period. The evaluation considers tax/fee computation variations to be any variations in taxes or fees calculated by the system for the exact same transaction. (This is not the same thing as system accuracy, which is defined as differences between what a user inputs, and what the system records.) However, one state agency reported fee calculation variations on four JRP supplement applications. Additionally, an IRP supplement application run through the Simulated Data Trial Test showed a discrepancy in fee calculations. There are two important issues to note: the tax/fee computation variations mentioned above occurred only on California transactions; and California uses their own in-house system, while the other two participating states use VISTA/RS to process their IRP supplement applications.

The total fee variations on the California transactions ranged from $10.32 to add a single tractor, to $302.18 on two tractor adds. The average variance of the five (including the simulated data trial test) IRP supplement applications was $71.64, with a median of $14.41. These variations can be partially explained by the following:

- The Arizona fee chart supplied to Lockheed Martin IMS by the state of Arizona was different from the Arizona fee charts supplied to California. This resulted in VISTA/RS calculating higher Arizona fees than California calculated. Fee variations ranged from $10.17 to $10.47.

- Since VISTA/RS does not normally process for California, the calculation for Colorado trailer fees was not supported for this operational test. However, California, under a separate agreement with Colorado, outside IRP, is required to charge fees for California-based trailers operating inside Colorado. Therefore, VISTA/RS calculated lower Colorado fees than California calculated. The fee difference noted was $9.64.

- VISTA/RS uses a formula (supplied by Nevada) to calculate fees for Nevada, while California uses a fee chart based on MSRP (also supplied by Nevada). This use of different calculation methods resulted in VISTA/RS calculating higher fees for fleets operating in Nevada than did California. The fee difference documented was **$20.44.**

- For several state fees, minor discrepancies, ranging from $0.01 to $0.30 were found due to rounding differences between the VISTA/RS system and the California system.

- It appeared in one case, that California did not convert US Dollars into Canadian Dollars, for fees calculated for a truck operating in the province of Alberta. This resulted in a fee difference of $2.10.

4.8 VOLUME SENSITIVITY

According to Lockheed Martin IMS, it was not appropriate to examine volume sensitivity within the context of this operational test due to the following reasons:

- The volume sensitivity of the software developed specifically for the operational test is dependent upon the volume sensitivity of VISTA/RS software — which was developed previous to, and outside of, the operational test.

- The hardware platform upon which the operational test software currently resides will be changed for a deployment environment.

Lockheed Martin IMS has stated that it does not anticipate any volume sensitivity problems associated with HELP One-Stop transactions, even during the heavy renewal period. The participants agreed with this explanation, and it was decided that volume sensitivity would not be evaluated during the operational test. However, if the hardware platform is not changed, or is changed with another marginal system, volume sensitivity may need to be explored further.

5 OPERATIONAL TEST CONDITIONS and TRANSITION to DEPLOYMENT

5. OPERATIONAL TEST CONDITIONS and TRANSITION to DEPLOYMENT

Chapter 5 presents the operational test conditions and the transition requirements for deployment of the HELP One-Stop Operational System. This information was acquired through planning documents, system requirement documents, interviews with system developers and round-table discussions with the Executive Committee. These results are organized by configuration requirements and costs, institutional issues, lessons learned and an assessment of potential use.

5.1 CONFIGURATION REQUIREMENTS and COSTS

Participating motor carriers/service agents were given the choice of using their existing computer equipment or new equipment provided by HELP, Inc. All participants chose to use equipment provided by HELP, Inc. One of the reasons for this decision was the requirement for the computer to be a stand-alone system without additional software packages loaded onto the hard drive.

Hardware configuration requirements for the system included:

- Pentium 75 megahertz processor
- 16 megabytes random access memory
- 850 megabyte hard disk drive
- Super Video Graphics Adaptor Video Card with 1 megabyte video memory
- Serial Port with 16550 Universal Asynchronous Receiver Transmitter
- Parallel Port (Enhanced Parallel Port)
- 1.44 megabyte floppy disk drive
- 28.8 baud modem (28,800 bytes per second)
- 101 Key Keyboard/Serial Mouse
- Windows NT Workstation

The motor carriers/service agents incurred no costs for the computers and printers provided by HELP, Inc. However, participating motor carriers/service agents did incur personnel costs related to time used for training, system use, and evaluation interviews/meetings. In some cases, motor carriers/service agents also bore the cost of dedicated or additional phone lines which were necessary to effectively support the operational test.

State agencies incurred no costs for either hardware or software during the operational test, since state agencies did not physically use the system. State agencies did, however, report costs associated with non-system areas. Three out of five state agencies reported costs of over

$500 (two of those respondents reported costs of over $1,000) to support personnel time for training, calculating fees, generating reports and meeting with system developers and evaluators.

Lockheed Martin IMS incurred costs associated with both hardware/software and personnel. The computer equipment and software used to develop the HELP One-Stop system was purchased by Lockheed Martin IMS. In addition, Lockheed Martin IMS personnel were responsible for staffing the Service Center, providing technical assistance and training to participating motor carriers/service agents and state agencies, as well as overseeing the implementation of the operational test. The costs of these personnel activities were borne by Lockheed Martin IMS.

5.2 INSTITUTIONAL ISSUES

Opinions and attitudes regarding institutional issues were solicited from participants on the Steering Committee, Evaluation Team and system developers during the regular meetings, as well as from telephone calls and written documents. In addition, participating motor carriers/service agents and state agencies were asked to provide examples of any special arrangements which were put into place specifically for the duration of the operational test, but which would need to be permanently addressed under a commercial deployment.

The institutional issues and special arrangements discussed in this chapter are limited to those outside of the realm discussed in Section 1.6: Operational Test Case Descriptions. These institutional barriers include both issues with the participating motor carriers/service agents and state agencies, as well as the Federal Highway Administration, the Steering Committee, the Evaluation Team, and in some cases, parties external to the operational test, but involved in decision-making around similar projects which affected the operational test. The institutional barriers discussed below were addressed in a variety of methods. Where applicable, the solutions will also be outlined.

Currently, many states are not procedurally structured to allow for electronic fund transfer payments for commercial vehicle credentials, and are statutorily limited to conducting business only with banks or financial institutions within the confines of their jurisdictions. This forced the operational test to incorporate the "Corporation to Corporation Deposit" (CCD) transactions for payment of credentials. Prior to deployment of a commercial product requiring or offering electronic fee payment for commercial vehicle credentials, individual state accounting processes would need to be altered or created to allow for alternate avenues of fee payment. Through interviews and surveys, motor carriers/service agents reported that a one-stop electronic credentialling system must allow for various methods of fee payment, both electronic and m-person, in order for that system to be useful for the majority of motor carriers/service agents.

Statutory regulations surrounding signature requirements also posed a problem for the operational test. Most states require an original signature on all applications for motor vehicle credentials and all participating states also required hard copy submittal of Form 2290 (Heavy Vehicle Use Tax form which provides proof of tax payment). For the purpose of the operational test, states required that participating motor carriers/service agents submit an original application for participation in the operational test. Participating state agencies then accepted that application as the original signature application for submission of all electronic transactions. This arrangement worked well for the operational test, but it is unknown if all state agencies have the ability to waive original signatures in lieu of a replacement document such as the application for participation. This issue would need to be addressed on a state by state level prior to deploying a commercial product. Some states are well-situated for changing their current procedures to allow for changes in technology (i.e., Arizona has already changed many of its statutes to allow third party credentialling, and electronic credentialling is seen as an extension of that venture). However, other states may need to expend a great deal of time and effort into changing regulations and legal requirements, providing the desire to change exists.

Motor carriers/service agents and state agencies identified concerns around issues of data security, record accessability and proprietary information. From a motor carriers/service agents perspective, there is a need to ensure confidentiality and security around data transactions - especially account and fee payment information. For the states, security was defined in terms of restricting unauthorized access to the state legacy databases and limiting the ability of motor carriers/service agents to change certain information on credentials (e.g., VIN numbers). These concerns were addressed by the system developers prior to the operational test, and state-specific solutions were rendered. In one state, that solution included a requirement that motor carriers/service agents submit hard-copy applications as well as electronic applications. In another state, security issues were resolved by having the Service Center maintain control over credential inventory. In all cases, these arrangements were made to ensure the operational test could proceed. However, under a commercial deployment, these security issues would need to be further addressed.

Institutional barriers existed in each specific program area, including the International Registration Plan, International Fuel Tax Agreement, and Oversize/Overweight permits. Institutional barriers were also found in the program areas of Single State Registration and Weight-Distance Tax sections. These additional issues will be discussed in this section even though the latter two program areas were not part of the completed system in the operational test.

5.2.1 International Registration Plan

Six specific institutional issues pertaining to IRP applications and renewals were identified by the Lockheed Martin IMS development team.

- Verification of Vehicle Identification Numbers (VIN) Inspection Reports at the time of vehicle registration. Under conventional methods of obtaining IRP credentials, motor carriers must provide the VIN Inspection Report for verification at the appropriate state registration office upon application. This manual verification procedure was changed to allow participating motor carriers/service agents to mail a hard copy of the VIN Inspection Reports to the state for verification after the transaction was processed through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

- Verification of Proof of Vehicle Insurance at the time of vehicle registration. Under conventional methods of obtaining IRP credentials, motor carriers must provide proof of vehicle insurance for verification at the appropriate state registration office upon application. This manual verification procedure was changed to allow participating motor carriers/service agents to mail proof of insurance to the state agencies for verification after the transaction was processed through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

- Verification of Heavy Vehicle Fuel Use Tax Receipt (HVUT). Under conventional methods of obtaining IRP credentials, motor carriers must provide proof of having paid the Heavy Vehicle Fuel Use Tax for verification at the appropriate state registration office upon application. This manual verification procedure was changed to allow participating motor carriers/service agents to mail proof of payment to the state agencies for verification after the transaction was processed through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

- Application for Vehicle Titles - In-State (for newly acquired vehicles). Under conventional methods of obtaining IRP credentials for newly acquired vehicles where the title is to be maintained within the jurisdiction, motor carriers in some states apply for vehicle titles at the same time as application for vehicle registration at the appropriate state office. This manual verification procedure was not changed. Participating motor carriers/service agents were required to apply for vehicle titles

at the appropriate state agency, while vehicle registration could be done through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

- Application for Vehicle Titles - Out-of-State (for newly acquired vehicles). Under conventional methods of obtaining IRP credentials for newly acquired vehicles where the title is to be maintained by the out-of-state owner/financial institution, verification of out-of-state titles is performed by the appropriate state personnel prior to vehicle registration. This manual verification procedure was not changed. The appropriate state personnel manually verified out-of-state titles, while vehicle registration could be done through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

  Verification of Emissions Testing. Under conventional methods of obtaining IRP credentials, verification of Emissions Testing is required prior to vehicle registration in some jurisdictions and is performed by the appropriate state personnel at the time of vehicle registration. This manual verification procedure was changed to allow the participating motor carriers/service agents mail proof of Emissions Testing to the state for verification after the transaction was processed through the HELP One-Stop system. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IRP credentials through the HELP One-Stop system can be deployed.

One potential solution to all six of these issues, would be to allow motor carriers/service agents to apply for IRP credentials through the HELP One-Stop system and mail the various hard-copy documents to the appropriate state agencies for manual verification. Failure to produce the necessary paperwork would result in credentials being revoked. This solution would provide the state agencies with the required paperwork, but could result in logistical problems of tracking specific vehicles, revoking licenses, and so forth. Each state agency will need to identify their own internal institutional barriers and determine a workable solution.

5.2.2 International Fuel Tax Agreement

Three specific institutional issues pertaining to IFTA applications and renewals were identified by the Lockheed Martin IMS development team.

. Third Party Agency. Currently, many states do not allow third party agencies to issue IFTA credentials. Under conventional methods of obtaining IFTA credentials, motor carriers/service agents must apply for IFTA credentials directly to the appropriate state agency due o tax processing issues. This procedure was

changed to allow on-line registration and issuance of IFTA credentials by participating motor carriers/service agents. This procedure will need to be addressed and legislative resolution must be gained on a state-by-state basis before complete on-line application of IFTA credentials through the HELP One-Stop system can be deployed.

- Retention of Confidentiality. IFTA fees are handled similar to taxes, in that all information pertaining to specific aspects of business operations are held confidentially. The federal government has written strict guidelines regarding the confidentiality of these records, and many individual states have passed legislation which further restricts the access to these records. Confidentiality pertains to both the dissemination and exchange of ETA-related information (i.e., miles driven, fleet size, operating budget). These issues will need to be addressed through state legislation prior to any large scale attempt at putting IFTA credentials on-line.

- Verification of Bond. Under conventional methods of obtaining IFTA credentials, motor carriers/service agents in some states may be required to acquire a bond prior to application, depending upon the status of their previous record. Manual verification of this bond would then be performed by the appropriate state personnel at the time of vehicle registration. During the operational test, this manual verification procedure was changed to allow the participating motor carriers/service agents to provide proof of bond to the Service Center for transfer to the state for verification. This procedure will need to be addressed on a state-by-state basis before complete on-line application of IFTA credentials through the HELP One-Stop system can be deployed.

Unlike the institutional issues surrounding IRP credentials, many of the more contentious issues around IFTA credentials are grounded in law. Maintaining the confidentiality of tax information is necessary to both comply with legal statutes as well as to preserve the level of trust between the taxpayers and electronic credentialling programs. Legislative resolution must be gamed on a state-by-state basis before complete on-line application of IFTA credentials through the HELP One-Stop system can be deployed.

5.2.3 Oversize/Overweight Permits

One specific institutional issue pertaining to oversize/overweight permit applications was identified by the Lockheed Martin IMS development team.

- Automated Systems/Electronic Data Processing (EDP). Currently, most states do not have electronic data processing systems that process applications for oversize/overweight permits. Under conventional methods of obtaining oversize/overweight permits, motor carriers/service agents must apply by fax or

mail. This procedure was changed to allow on-line application through the HELP One-Stop system. The motor carriers/service agents entered the permit application data, which the system then faxed to the appropriate state agency for approval and routing. This procedure seemed to work well, and would not need to be addressed further, assuming the participating states accepted faxed applications for oversize/ overweight permits.

5.2.4 Single State Registration

Three specific institutional issues pertaining to Single State Registration applications and renewals were identified by the Lockheed Martin IMS development team.

- Interstate Commerce Commission (ICC) Operating Authority. Under conventional methods of obtaining Single State Registration credentials, motor carriers/service agents must provide proof of current ICC Operating Authority for verification by the appropriate state office at the time of registration. This procedure was not altered because the Single State Registration feature was not offered under the operational test. However, this procedure will need to be addressed on a state-by-state basis before complete on-line application of Single State Registration credentials through the HELP One-Stop system can be deployed.

- Verification of Certificate of Vehicle Insurance at the time of vehicle registration. Under conventional methods of obtaining Single State Registration credentials, motor carriers must provide proof of vehicle insurance for verification at the appropriate state registration office upon application. This procedure was not altered because the Single State Registration feature was not offered under the operational test. However, this procedure will need to be addressed on a state-by-state basis before complete on-line application of Single State Registration credentials through the HELP One-Stop system can be deployed.

- Hazardous Materials Liability. Under conventional methods of obtaining Single State Registration credentials, motor carriers/service agents hauling hazardous materials are required to provide proof of liability insurance coverage of $1 million to $5 million. Manual verification of this liability insurance is performed by the appropriate state personnel at the time of application. This procedure was not altered because the Single State Registration feature was not offered under the operational test. However, this procedure will need to be addressed on a state-by-state basis before complete on-line application of Single State Registration credentials through the HELP One-Stop system can be deployed.

5.2.5 Weight-Distance Tax

Two specific institutional issues pertaining to payment of the Weight-Distance Tax were identified by the Lockheed Martin IMS development team.

- Verification of Bond. Under conventional methods of obtaining credentials, motor carriers/service agents are required to acquire a bond prior to application. Manual verification of this bond is performed by the appropriate state personnel at the time of vehicle registration. This procedure was not altered because the Weight-Distance feature was not offered under the operational test. However, this procedure will need to be addressed on a state-by-state basis before complete on-line payment of the Weight-Distance Tax could be conducted through the HELP One-Stop system.

- Verification of Certificate of Vehicle Insurance at the time of vehicle registration. Under conventional methods of obtaining Single State Registration credentials, motor carriers must provide proof of vehicle insurance for verification at the appropriate state registration office upon application of any credentials. This procedure was not altered because the Weight-Distance feature was not offered under the operational test. However, this procedure will need to be addressed on a state-by-state basis before complete on-line payment of the Weight-Distance Tax could be conducted through the HELP One-Stop system.

A special arrangement was made between the State of California and HELP, Inc. to deal with any fee calculation discrepancies resulting from the HELP One-Stop system. Since California does not currently use the VISTA/RS system offered through Lockheed Martin IMS, there was a potential for slight fee calculation variances. (see Section 1.6 for details regarding this arrangement, and Section 4.7 for details about fee calculation variations). Part of this variation resulted from an issue surrounding trailer fees. Colorado was historically a "trailer state" as defined by the IRP. The statutes which changed Colorado's status as a trailer state left in a provision that requires any state which is still a trailer state - California - to collect trailer fees for Colorado. Since VISTA/RS does not normally process for California, the calculation for Colorado trailer fees was not supported for this operational test, and thus results in fee variations for all IRP applications with Colorado trailer fleets. These fee differences were not expected to be significant, however, for the purposes of the operational test, HELP, Inc. arranged to reimburse the State of California for any Colorado trailer fees not collected from the participating motor carriers/service agents. Additionally, HELP, Inc. agreed to reimburse the State of California for any fee variations due to rounding errors and other system miscalculations.

5.3 LESSONS LEARNED

A number of "lessons learned" were identified throughout the planning, development and operational test of the HELP One-Stop system. Several of those lessons will be discussed in this section.

Perhaps the most critical lesson learned is strong and consistent communication between and among the HELP One-Stop team members is necessary. Central to this lesson was the lack of communication between the system developers and the Steering Committee, state agencies and motor carriers. Lockheed Martin IMS did not accurately portray the depth of system development problems to the Project Manager and the Steering Committee until deadlines were missed, rescheduled, and missed a second time. In this manner, the Steering Committee was not made aware of the serious deficiencies in the system development phase until such a time nothing could be done to change the direction which the system developers had taken. In effect, the system developers took control of the process away from the Steering Committee and Project Manager, and subsequently, produced a product that did not meet the original requirements. An example of this was Single State Registration. The Steering Committee was not made aware of the fact that the system developers were not implementing this feature until it was too late in the operational schedule to force the issue. Thus, the project was too far behind in the development schedule to provide the system developers with the additional time necessary to create that portion of the system.

Additionally, communication between Lockheed Martin IMS and the participating state agencies and motor carrier/service agents was also a weak link in the project. At one point, a state agency questioned whether they were still involved in the test because they had not been contacted in several months, and a motor carrier had to initiate contact with Lockheed Martin IMS to ensure they too were still part of the operational test. These particular examples occurred shortly after the Steering Committee was assured all motor carriers and state agencies had been contacted regarding changes in the operational schedule.

This inadequate level of communication changed somewhat between development and the actual operational test. Motor carriers/service agents and most state agencies reported communication improved once the operational test began. At that point, however, a high level of participant frustration already existed, which may have resulted in poor evaluation scores. Strong, complete and timely communication is critical to the success of the development, testing and deployment of projects such as the HELP One-Stop system. Future programs should ensure strong communication links exist between the technical/system developers and the planning/oversight body.

A second lesson learned was much more general in nature, but as important as communication links. The development of technology blends both the highly technical arena of software development with the organizational requirements of large scale, multi-year project management. One caution to future publicly-funded technological development endeavors is the need to continually monitor the process - from time lines and personnel levels to budgets. Software development is a highly fluid process, which can change directions without warning. Once the process begins, continuous modifications are necessary, and project managers must accept the original time line and budget may not be sufficient to accomplish the original scope of work. Secondary, is once development begins, the original scope of work may not be the desired outcome. Project managers must also be cognizant of the fact that a small change may take months to implement, and in turn, mean other features will not or cannot work. Long term analysis of potential time/cost overruns should be completed before implementing any change in the requirements to ensure the completion of the original scope of work both on time and on budget.

Additional lessons learned include those relating to participant recruitment and involvement. The motor carriers and service agents were identified early in the process, and were forced to wait through multiple schedule delays, and were presented with a product which was somewhat different than what they were expecting. The long time period between initial planning and system deployment can create frustration with the process and may build expectations beyond system capabilities. In contrast to the motor carrier/service agent participants, involvement of affected state agencies at the earliest time is critical. These agencies, and their day-today business practices are typically going to be impacted by the development and implementation of technological systems, and need to be involved in the planning and decision-making phases. This involvement will also ensure a greater level of "buy-in" to the operational test, and to the future deployed system. It will also allow existing institutional barriers to be more easily addressed, and the operational test to be more successfully completed.

Relating to participant involvement, is the need for everyone involved to understand the role of particular technologies in a wider scope. For instance, how the HELP One-Stop system fits in future CVISN activities. This broader knowledge base will allow all participants to make better informed decisions regarding system changes, requirements, and level of commitment.

In contrast to the issues discussed above, one lesson learned was more technical in nature, and not identified until well into the operational test. A significant system "work around" dealt with the REMCOMM program. The REMCOMM component of the HELP system was responsible for routing data to and from the agent server and the motor carriers/service agents' computer. This crucial link in the data flow was not sufficient to withstand the volume of transactions received under the operational test (refer to Section 4.8: Volume Sensitivity for more discussion of this point). Entire data sets were sometimes not fully captured during the transferral between the agent server and the motor carriers/service

agents computer. Once this problem was identified, it was determined this database needed to be purged of data and rebuilt on a nightly basis in order for the operational test to proceed. This procedure will need to be addressed prior to deployment. The database will need to be strengthened or replaced in order for a commercial product to be successful.

5.4 ASSESSMENT of POTENTIAL USE and RECOMMENDATIONS

Most interview and survey respondents indicated that there is a great potential for this type of one-stop system. Eight out of nine motor carriers/service agents survey respondents agreed that large motor carriers and service agents would benefit most from the HELP One-Stop system. (Note: "large motor carriers/service agents" was not defined by the number of power units or trailers, but rather, by the volume of transactions a company would complete.) The expected high cost of the system/maintenance and low level of staff efficiencies were cited as reasons small motor carriers would probably not see great benefits from the HELP One-Stop system.

During the interviews, all service agents agreed that the HELP One-Stop system must be cost-effective for them to incorporate this or any one-stop system into their current business practices. Service agents felt that any associated fees or system costs would have to be small enough for them to absorb. This was largely due to the belief that they could not pass on large access fees to their clients without risking future business.

Service agents consider turnaround speed a critical element of the potential use of an electronic credentialing system. Two factors must be considered when discussing turnaround speed - use of temporary credentials, and fee payment method. Most small carriers - less than six vehicles and the primary client of service agents - by necessity must maximize their vehicle utilization. In most cases, temporary credentials will permit a carrier to operate up to 60 days while the service agent obtains documents necessary to obtain a permanent credential. The ability to operate on a temporary credential has significant business advantages to small carriers, however, this advantage may be off set by the need to locate the vehicles for the installation of permanent credentials. For those agents who primarily use temporary credentials, they will see fewer benefits from the HELP One-Stop system. However, those with clients who have all the documents required to obtain permanent credentials, and those motor carriers/service agents in states that do not issue temporary credentials, will find the HELP One-Stop system provides significant time savings.

The second factor, fee payment method, also will determine who will use an electronic credentialling system. The HELP One-Stop system used an electronic funds transfer method with results that proved to be counter-intuitive. Since the states can not release credentials until they have received fee payment, the electronic funds transfer with the Service Center acting as a clearinghouse in fact delayed the speed of turnaround. Because there is not a perceived need, by some agents to change current business practices of obtaining temporary

credentials, the HELP One-Stop system must address the elements of turnaround speed - especially the method of fee payment - before the system would be of great benefit to most service agents.

As discussed earlier, state agencies were generally positive about the overall concept of the HELP One-Stop system, but were disappointed with the implementation of the operational test system. All participating state agencies expressed some degree of dissatisfaction with the level of communication from the system developers and project management. In one instance, a state agency questioned whether or not they were still included in the test because of the lack of communication. This problem was not limited to state agencies, but was also present with motor carriers/service agents as well. In large part, this lack of communication and the misunderstandings it created, led to state agencies being disappointed in how the HELP One-Stop system was operationalized and tested, but had little to do with the capability and functionality of the system itself.

State agencies view the potential use of one-stop services as generally positive. They see the future benefits which one-stop services can provide, and recognize that moving to this type of technology is fast becoming inevitable. State agencies will be able to gain a certain level of benefit from one-stop services, but will probably not see the level of savings that motor carriers and service agents will enjoy.

Lockheed Martin IMS has identified several components of the HELP One-Stop system which would be changed under a commercial deployment scenario, and make it more attractive to a wider range of users. Briefly, these include the following:

- The Service Center would no longer act as a financial clearinghouse between motor carriers/service agents and state agencies. Bather, fee payment would be made directly into state accounts, alleviating the additional time lapse between fee payment and the availability of credentials.

- The HELP One-Stop system would be distributed, installed and upgraded via a diskette format, rather than through electronic downloading by the Service Center.

- The HELP One-Stop system would be built on a larger, dedicated platform (rather than a development platform) than it was for the operational test. This would address concerns around volume sensitivity and the REMCOMM component.

- The HELP One-Stop system, which featured a proprietary communications interface with the VISTA/RS system, would be most attractive to states that already use the VISTA/RS system. However, the development of a system that used a standard communications format, such as Electronic Data Interchange (EDI), would be attractive to both VISTA/RS and non-VISTA/RS states.

Lockheed Martin IMS has not yet made a firm decision about deployment of the HELP One-Stop system. With the onset of CVISN, it is unclear to the company as to what direction the motor carrier industry may take. Lockheed Martin IMS intends to review the situation as CVISN progresses further before a final decision is made regarding deployment of the HELP One-Stop software. Lockheed Martin IMS plans on utilizing the knowledge and technology that was learned from implementing the HELP One-Stop system in their future CVISN efforts.

It is the belief of those involved in all aspects of the HELP One-Stop Operational Test that, while the HELP One-Stop system was ready for the operational test, it is not ready for deployment as a commercial product. However, once the system has undergone upgrades, and has incorporated the necessary features, the potential for future use is strong. The operational test was successful, in that it demonstrated the viability of the One-Stop concept. All of those involved in the operational test were very positive about the future of one-stop systems and the potentially significant benefits these systems will provide to the motor carrier industry.

APPENDIX A

LIST OF ACRONYMS

APPENDIX A-LIST OF ACRONYMS

ADOT	Arizona Department of Transportation
ATA	American Trucking Associations
ATAF	ATA Foundation
Caltrans	California Department of Transportation
CVO	Commercial Vehicle Operations
EFT	Electronic Funds Transfer
FHWA	Federal Highway Administration
HAZ/MAT	Hazardous Materials
HELP	Heavy Vehicle Electronic License Plate
IFTA	International Fuel Tax Agreement
IFTA, Inc.	International Fuel Tax Association, Inc.
IRP	International Registration Plan
ITS	Intelligent Transportation Systems
IVHS	Intelligent Vehicle/Highway Systems
NGA	National Governors Association
NMTRD	New Mexico Taxation and Revenue Department
OS/OW	Oversize/Overweight
PFMI	Private Fleet Management Institute
SSR	Single State Registration
USDOT	U.S. Department of Transportation
WHI	Western Highway Institute

APPENDIX B
KEY INFORMATION SOURCES

APPENDIX B-KEY INFORMATION SOURCES

Draft Report, Task 1 – Analysis, Commercial Vehicle Operations One-Stop Electronic Credential Purchasing and Processing, HELP, Inc., April 1995.

Draft Report, Task 3 – Software Development, Commercial Vehicle Operations One-Stop Electronic Credential Purchasing and Processing Volumes I and II, HELP, Inc., October 1995.

Draft Report, Task 4 – System Test, Commercial Vehicle Operations One-Stop Electronic Credential Purchasing and Processing, HELP, Inc., November 1995.

Intelligent Vehicle Highway Systems Operational Test Evaluation Guidelines, FHWA Office of Traffic Management and IVHS, IVHS Operational Tests Division (HTV-20), 1993.

Operational Test and Evaluation: A Systems Engineering Process, Roger T. Stevens, Dikewood Industries, Inc., 1979.

Overall Evaluation Plan, Western Highway Institute, August 1995.

APPENDIX C

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APPENDIX C: EVALUATION TEAM MEMBERS

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APPENDIX D

HELP ONE-STOP OPERATIONAL TEST PARTICIPANTS

APPENDIX D: HELP ONE-STOP OPERATIONAL TEST PARTICIPANTS

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APPENDIX E

TRIAL TEST DATA COLLECTION INSTRUMENTS

APPENDIX E: TRIAL TEST DATA COLLECTION INSTRUMENTS

Motor Carrier/Service Agent Baseline Surveys
Motor Carrier/Service Agent Baseline Interview Questions
State Agency Baseline Surveys
State Agency Baseline Interview Questions

Motor Carrier/Service Agent Secondary Surveys
Motor Carrier/Service Agent Secondary Interview Questions
State Agency Secondary Surveys
State Agency Secondary Interview Questions
Service Center Surveys
Service Center Interview Questions
Evaluation Team Interview Questions

MOTOR CARRIER BASELINE SURVEY
SEPTEMBER 1996

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Person completing survey: _____

- Current Operations

Your response to questions 1 through 14 will help us understand your company's current operational environment and potential use of the HELP one-stop system.

1. Indicate the current number of owned and leased single unit trucks, power units, and trailers/ dollies for which your company obtains credentials or permits In the states participating in the HELP One-Stop Operational Test.

	Current Number of Units for Which Credentials or Permits Are Obtained					
State	Single Unit Trucks		Power Units		Trailers / Dollies	
	Owned	Leased	Owned	Leased	Owned	Leased
Arizona						
California						
New Mexico						

2. Indicate the total number of fleet miles your company reported for highway use tax purposes nationwide and in the following participating states for 1995.

Fleet Miles Reported Nationwide:		
Fleet Miles Reported In:	Arizona	
	California	
	New Mexico	

3. What are your company's base states for the following regulatory programs?

Regulatory Problems	Base State
International Registration Plan (IRP)	
International Fuel Tax Agreement (IFTA)	
Single State Registration System (SSRS)	

4. Of the following types of credential and permit applications, estimate the number that your company submits annually to the participating states. Leave blank where not applicable.

	Annual Number of Applications Submitted	
Credentials:	Renewal Applications	Supplemental Applications*
Interstate Registration (IRP)	_____AZ _____CA _____NM	_____AZ _____CA _____NM
Intrastate Registration	_____AZ _____CA	_____AZ _____CA
IFTA	_____AZ _____CA _____NM	_____AZ _____CA _____NM
SSRS	_____AZ _____CA _____NM	_____AZ _____CA _____NM
Weight / Distance Tax	_____AZ	_____AZ
Permits:	Single Trip	Other Than Single Trip
Registration	_____AZ _____CA _____NM	_____AZ _____CA _____NM
Fuel Tax	_____AZ _____CA _____NM	_____AZ _____CA _____NM
Weight / Distance Tax	_____AZ	_____AZ
Oversize / Overweight (Anything that does not require special routing)	_____AZ _____CA	_____AZ _____CA

*Includes vehicle adds / deletes, weight increases / decreases, replace / reprint requests, transfers, etc.

5. Estimate the percent or number of applications reported in question #4 that your company submits to participating states *either* through a third party (e.g., service or permit agent) or through your own employees' submittal of applications via mail, electronic transfer (EDI, . tape/diskette, or fax), or in-person (walk-in to agency office site). Leave blank where not applicable.

	Percent or Number of Applications by Method of Submittal	
Credentials:	Renewal Applications	Supplemental Applications*
Interstate Registration (IRP)	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Intrastate Registration	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
IFTA	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
SSRS	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Weight / Distance Tax	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Permits:	Single Trip	Other Than Single Trip
Registration	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Fuel Tax	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Weight / Distance Tax	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person
Oversize / Overweight (Anything that does not require special routing)	_____ 3rd party _____ mail _____ electronic transfer _____ in-person	_____ 3rd party _____ mail _____ electronic transfer _____ in-person

*Includes vehicle adds / deletes, weight increases / decreases, replace / reprint requests, transfers, etc.

6. If your company's method of application submittal varies among the states of Arizona, California, and New Mexico, please describe how below. Continue on the last page if you need more room.

_____

_____

7. Rate the efficiency of your company's current processes for preparing and submitting credential and permit applications using a scale of 1 to 5, where 5 is very efficient and 1 is very inefficient.

	5 Very Efficient	4 Somewhat Efficient	3 Not Applicable / No Opinion	2 Somewhat Inefficient	1 Very Inefficient
Current process efficiency rating	5	4	3	2	1

8. What do you think are the most inefficient aspects of your company's current processes for preparing and submitting credential and permit applications?

_____

_____

_____

9. Rate the sufficiency of your company's staffing resources for preparing and submitting credential and permit applications on a scale of 1 to 5, where 5 is very sufficient and 1 is very insufficient.

	5 Very Sufficient	4 Somewhat Sufficient	3 Not Applicable / No Opinion	2 Somewhat Insufficient	1 Very Insufficient
Staffing resources sufficiency rating	5	4	3	2	1

10. Rate your satisfaction with the following aspects of the current credential and permit application process on a scale of 1 to 5, where 5 is very satisfied and 1 is very dissatisfied.

	5 Very Satisfied	4 Somewhat Satisfied	3 Not Applicable / No Opinion	2 Somewhat Dissatisfied	1 Very Dissatisfied
Amount of time required to prepare credential / permit applications	5	4	3	2	1
Convenience of preparing and submitting credential / permit applications	5	4	3	2	1
Amount of regulatory information and assistance available from state agencies	5	4	3	2	1
Turnaround time between submittal of applications and receipt of credentials / permits from state agencies	5	4	3	2	1

11. Rate your company's level of automation for business record keeping and processing related to the acquisition of credentials and permits on a scale of 1 to 5, where 5 is fully automated and 1 is fully manual.

	5 Fully Automated	4 Somewhat Automated	3 Not Applicable / No Opinion	2 Mostly Manual	1 Fully Manual
Credential / permit processing level of automation	5	4	3	2	1

12. Estimate the percent of applications submitted by your company which generate follow-up clarification/correction requests from agencies in Arizona, California, or New Mexico by phone/fax or mail before they are approved. Also indicate the percent which are approved without requiring any further contact with state agencies.

	Arizona	California	New Mexico
Generate *phone* or *fax* follow-up requests from state agencies	_____%	_____%	_____%
Generate *formal mail* follow-up requests from state agencies	_____%	_____%	_____%
Approved without requiring any further contact from state agencies	_____%	_____%	_____%
Total	100%	100%	100%

13. Have agencies in the participating states ever inaccurately assessed the taxes/fees owed by your company or issued erroneous credentials or permits to your company?

_____ yes (please describe the circumstances below)

_____ no

_____ don't know

Description of circumstances (if responded "yes" to above question):

_____

_____

_____

_____

_____

Benefits and Costs

Your response to questions 14 through 16 will help us understand Your views of the potential benefits and costs associated with the HELP one-stop system.

14. Rate the extent to which you believe the HELP one-stop system will provide your company with the following benefits on a scale of 1 to 5, where 5 is to a great extent and 1 is to a little or no extent.

Benefits	5 Great Extent	4 Considerable Extent	3 Not Applicable / No Opinion	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in preparing and submitting credentials / permits (i.e., increased productivity)	5	4	3	2	1
Reduced credential / permit application rejection rates	5	4	3	2	1
Faster turnaround time for obtaining credentials / permits from state agencies	5	4	3	2	1
More consistent processing times (less variability in the length of time it takes to receive credentials / permits)	5	4	3	2	1
Other potential benefits (describe): _____	5	4	3	2	1
_____	5	4	3	2	1

15. Circle the range of costs that you expect your company to incur as a result of participating in the HELP One-Stop Operational Test for each of the following categories:

	Range of Costs				
Purchase or development of hardware / software to link your company's computer system with the HELP one-stop system	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Personnel time associated with reviewing HELP one-stop system reports (to reconcile internal records with HELP reports)	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Other anticipated costs (describe): _____	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
_____	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000

16. Describe any different or additional costs that you believe may be imposed on your company to continue participating in the HELP one-stop system if it moves from an operational test to a deployment stage.

_____

_____

_____

Views and Issues

Your response to questions 17 through 23 will help us understand Your views of the HELP one-stop system and attitudes toward technology initiatives.

17. Rate the level of non-technical and technical difficulty that you expect to encounter in using the HELP one-stop system to acquire credentials and permits on a scale of 1 to 5, where 5 is great difficulty and 1 is little or no difficulty.

	5 Great Difficulty	4 Considerable Difficulty	3 Not Applicable / No Opinion	2 Some Difficulty	1 Little or No Difficulty
Non-technical difficulty (e.g., organizational, resource challenges)	5	4	3	2	1
Technical difficulty (e.g., using the system to access accounts, complete applications, transfer funds)	5	4	3	2	1

18. Describe the greatest challenges that you expect to encounter in using the HELP one-stop system to acquire credentials and permits.

_____

_____

_____

19. Describe the greatest challenges that the HELP one-stop system may encounter if it is to progress from an operational test to a deployment stage.

_____

_____

_____

20. Are there any transactions which you think *should eventually* be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test?

_____

_____

_____

21. Are there any transactions which you do *not* think the HELP one-stop system should perform?

_____

_____

_____

22. Rate how supportive you are of adopting advanced computer, electronic, and communication technologies in your own work environment on a scale of 1 to 5, where 5 is very supportive and 1 is very unsupportive.

	5 Very Supportive	4 Somewhat Supportive	3 Not Applicable/ No Opinion	2 Somewhat Unsupportive	1 Very Unsupportive
Support rating	5	4	3	2	1

23. Rate how supportive your company's management is of adopting advanced computer, electronic, and communication technologies in their business on a scale of 1 to 5, where 5 is very supportive and 1 is very unsupportive.

	5 Very Supportive	4 Somewhat Supportive	3 Not Applicable/ No Opinion	2 Somewhat Unsupportive	1 Very Unsupportive
Support rating	5	4	3	2	1

Please use the space below if you would like to comment further in response to survey questions. Attach additional pages if necessary.

Survey Question #	Comment

THANK YOU FOR COMPLETING THIS SURVEY! PLEASE RETURN IT TO THE EVALUATOR DURING YOUR INTERVIEW.

HELP One-Stop Operational Test Evaluation Baseline Interview
Motor Carrier Guide

Motor Carrier Flowchart:

The purpose of this flowchart is to capture the key points at which your company expends resources (e.g., labor) in preparing and submitting credentials and permits ***or the*** key points at which HELP may otherwise have a significant impact (e.g., through reduced delivery times).

1. Should any steps be added/deleted/changed to more accurately reflect your company's process(es)?

2. Provide numbers to fill in the blanks on the flow chart.

3. Provide time estimates for each step, noting:

   Which steps on the flowchart involve transaction methods other than by mail, and the differences in average, minimum, and maximum times that result.

   Which steps on the flowchart are affected by the timing of the transaction, and the differences in average, minimum, and maximum times that result.

   Which steps on the flowchart are affected by the complexity of the transaction, and the differences in average, minimum, and maximum times that result. (Also note minimum and maximum times.)

4. Do you think this approach is appropriate for determining your company's average cycle times? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information?

Motor Carrier Cost Worksheets:

These worksheets will help us develop an average cost per hour for your company's credential/permit activity. This information will be combined with the average cycle time information derived from the flowchart, and subsequently used to associate your company's current costs with each point in a credential/permit process that may experience different costs under the HELP one-stop system.

1 Another approach would be to come up with a unique cost per hour for each type of credential/permit activity (e.g., IRP renewals, IFTA supplementals, OS/OW permits) that your company engages in. Does your company's average cost per hour differ enough by type of credential/permit activity to justify this level of detail?

2. What credential/permit activities are included in the costs provided in worksheets #l ,2, and 3? Are any other activity areas (i.e., non-credential/permit activities) included in these costs? Is there "double-counting" among any of the cost categories? If so, how would you suggest backing out unique costs?

3. Are the staff who are responsible for supporting credential/permit application preparation and submittal (worksheet #l) the same staff as are responsible for credential/permit distribution (worksheet #2)? If not, provide an hourly compensation rate appropriate for distribution staff.

4. Do facilities costs on worksheet #3 include other offices that may handle some credential/permit activities?

5. What is the average life expectancy for any capital equipment purchases reflected in worksheet #3? (This is needed to amortize costs.)

Motor Carrier Baseline Survey:

The purpose of this survey is to collect quantitative operational information relevant to your company's time and cost estimates and qualitative (opinion) information that will be used for data cross-tabulations. For example, the latter will be used to compare your perceived need for improvement in credential/permit preparation and submittal processes to your subsequent rating of the HELP system.

General Questions re Survey:

1. Are there any survey questions that you didn't understand or thought needed to be worded more clearly? For example, how about questions 5 or 12?

2. How long did it take you to complete this survey? How do you think it could be improved?

Specific Questions re Survey:

3. Do you plan to use the HELP one-stop system for all of the credentials/permits you've checked under question 4? If not, describe what you will use the system for vs. what you will not use it for.

4. Would your answer to questions 7 through 12 differ by type of credential/permit? For example, does the efficiency of your company's processes for preparing and submitting applications or your level of satisfaction with the amount of time required to submit applications vary by credential/permit type?

5. In question 14, what are the key benefit categories that should be listed? In question 15, what are the key cost categories that should be listed?

Follow-up Interview Questions

1. Which of the following characteristics applies to your company? Check all applicable.

   Motor Carrier Type:
   - _____ For-Hire
   - _____ Private
   - _____ Leasing
   - _____ Truckload (TL)
   - _____ Less than Truckload (LTL)

   Commodities Hauled:
   - _____ General Freight
   - _____ Tank Truck
   - _____ Bulk Commodities
   - _____ Agriculture
   - _____ Bus
   - _____ Household Goods Mover
   - _____ Automobile Transporter
   - _____ Manufactured Housing
   - _____ Waste Hauler
   - _____ Other (describe): _____

   Geographic range of operation:
   - _____ Intrastate
   - _____ Interstate: Regional
   - _____ Interstate: National

2. What type(s) of training would you like to see provided on the HELP one-stop system? How would you like it provided (e.g., through written guides, hands-on instruction, telephone support from the service center)?

3. What times (months of the year/days of the week/hours of the day) do you anticipate using the HELP one-stop system most heavily? Do you anticipate using the system during non-traditional periods?

4. What specific functions/characteristics of the HELP one-stop system do you think will be most important to you?

Control code: _____
ID code: _____

Motor Carrier Perception of HELP One-Stop System Process Times

What is your perception of the average time:

Process Step	Type of Time Measured	Average Process Times		
		IRP Supplemental	IFTA Supplemental	OS/OW Permit
Required for you to enter data/complete system on-line forms	Activity time *(Time to accomplish task)*			
Between requesting fees from the system and when fees are available	Elapsed time *(Waiting or in transit time)*			
Between accepting fees and when the system has an invoice ready	Elapsed time			
Required for you to call your bank/arrange for funds transfer	Activity time			
Between calling your bank and when the system approves the issuance of your credentials/ permits	Elapsed time			
Required for you to retrieve the following from the system: - Fees - Invoice - Authority to print credentials/permits	Activity time			
Start-to-finish, for you to obtain your credentials/ permits using the system	Elapsed time			
	Activity time			

During our baseline Interview, you told us that your company's average cost per hour for obtaining credentials and permits (including labor and overhead costs) was approximately: _____, Is this cost per hour appropriate to apply against the time required for you to use the HELP system in obtaining credentials/permits? For example, is the person who is normally responsible for obtaining credentials/permits the one who is using the HELP system?

STATE AGENCY BASELINE SURVEY
SEPTEMBER 1996

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Person completing survey: _____

Current Operations

Your response to questions 1 through 9 will help us understand your agency's current operational environment.

1. Indicate the current number of motor carrier accounts in your jurisdiction (i.e., the number of motor carriers who obtained credentials or permits from your agency) in 1995:

Number of Accounts in 1995:	

2. Estimate the percent or actual number of these accounts that represented the following number of power units:

Number of Power Units	Percent (or Actual Number) of Accounts
5 or fewer	
6 to 15	
16 to 30	
31 to 50	
51 to 100	
101 or more	

3. For each of the commercial vehicle credentials or permits which are the responsibility of your agency, estimate the number of applications that you received in 1995.

	Annual Number Received		
Credentials:	Initial Applications	Renewal Applications	Supplemental Applications*
International Registration Plan			
International Fuel Tax Agreement			
Weight / Distance Tax			
Permits:	Single Trip	Other Than Single Trip	
Registration			
Fuel Tax			
Weight / Distance Tax			
Oversize / Overweight			
Other (describe): _____			

*Includes vehicle add / delete, weight increase / decrease, replace / reprint requests, transfers, etc.

4. For each of the commercial vehicle credentials or permits which are the responsibility of your agency, estimate the percent that are usually approved without the need for further cIarification or correction from the submitting motor carrier.

	Percent Approved Without Further Clarification / Correction		
Credentials:	Initial Applications	Renewal Applications	Supplemental Applications
International Registration Plan			
International Fuel Tax Agreement			
Weight / Distance Tax			
Permits:	Single Trip	Other Than Single Trip	
Registration			
Fuel Tax			
Weight / Distance Tax			
Oversize / Overweight			
Other (describe): _____			

5. For applications which *do* require further clarification or correction, rate the frequency with which the following is needed on a scale of 1 to 5, where 5 is very frequently and 1 is very infrequently.

(Circle frequency rating)	Frequency				
	5 Very Frequently	4 Somewhat Frequently	3 Not Applicable / No Opinion	2 Somewhat Infrequently	1 Very Infrequently
Paperwork (describe): _____ _____	5	4	3	2	1
Insurance filings	5	4	3	2	1
Signatures	5	4	3	2	1
Mileage information	5	4	3	2	1
Other problems resulting in delays (describe): _____	5	4	3	2	1
_____	5	4	3	2	1
_____	5	4	3	2	1

6. What percent of the commercial vehicle credentials and permits issued by your agency contain incorrect information or inaccurately assessed taxes/fees due to mistakes made by agency personnel in entering data?

_____ percent

7. Rate the efficiency of your agency's current processes for issuing commercial vehicle credentials or permits using a scale of 1 to 5, where 5 is very efficient and 1 is very inefficient.

	Efficiency				
	5 Very Efficient	4 Somewhat Efficient	3 Not Applicable / No Opinion	2 Somewhat Inefficient	1 Very Inefficient
Circle efficiency rating	5	4	3	2	1

8. What do you think are the most *inefficient* aspects of your agency's current processes for issuing commercial vehicle credentials or permits?

_____

_____

_____

9. Rate the sufficiency of your agency's staffing resources considering your average workload on a scale of 1 to 5, where 5 is very sufficient and 1 is very insufficient.

	Sufficiency				
	5 Very Sufficient	4 Somewhat Sufficient	3 Not Applicable / No Opinion	2 Somewhat Insufficient	1 Very Insufficient
Circle sufficiency rating	5	4	3	2	1

Benefits and Costs

Your response to questions 10 through 12 will help us understand your views of the benefits and costs associated with the HELP one-stop system.

10. Rate the extent to which the HELP one-stop system has the potential to provide the following specific benefits to your agency on a scale of 1 to 5, where 5 is to a great extent and 1 is to a little or no extent.

	Sufficiency				
(Circle extent of benefits rating)	5 Great Extent	4 Considerable Extent	3 Not Applicable / No Opinion	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in credential / permit issuance (i.e., increased productivity)	5	4	3	2	1
Faster turnaround time for credential / permit issuance	5	4	3	2	1
More consistent processing times (less variability in the length of time it takes to process credentials / permits)	5	4	3	2	1
Increased approval rates for credential / permit applications	5	4	3	2	1
Increased accuracy in issuing credentials / permits (in terms of data entry or calculation of taxes / fees)	5	4	3	2	1
Other potential benefits (describe): _____	5	4	3	2	1
_____	5	4	3	2	1

11. Circle the range of costs that you expect to be imposed on your agency as a part of the HELP one-stop operational test for each of the following categories:

(Circle range of costs)	Range of Costs				
Purchase or development of hardware/software to link your company's computer system with the HELP one-stop system	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Development and operation of an inventory tracking and control system for decals/plates/forms/card stock provided to the HELP service center for issuance	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Personnel time associated with reviewing HELP one-stop system reports (to reconcile internal records with HELP reports)	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Other anticipated costs (describe): _____	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
_____	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000

12. Describe any different or additional costs that you feel may be imposed on your agency to continue participating in the HELP one-stop system if it moves from an operational test to a deployment stage.

_____

_____

_____

_____

Views and Issues

Your response to questions 13 through 19 will help us understand your views of the HELP one-stop system and attitudes toward technology initiatives.

13. Rate the extent of difficulty that you believe your agency will face in supporting the implementation of the HELP one-stop system on a scale of 1 to 5, where 5 is to a great extent and 1 is to a little or no extent.

	Extent				
	5 Great Extent	4 Considerable Extent	3 Not Applicable/ No Opinion	2 Some Extent	1 Little or No Extent
Circle extent of difficulty rating	5	4	3	2	1

14. Describe the greatest challenges that you believe your agency will encounter in supporting the implementation of the HELP one-stop system.

_____

_____

_____

15. Describe the greatest challenges that the HELP one-stop system may encounter if it is to progress from an operational test to a deployment stage.

_____

_____

_____

16. Are there any transactions which you think *should eventually* be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test?

_____

_____

_____

17. Are there any transactions which you do *not* think the HELP one-stop system should perform?

_____

_____

_____

18. Rate how supportive you are of adopting advanced computer, electronic, and communication technologies in your work environment on a scale of 1 to 5, where 5 is very positive and 1 is very negative.

	Attitude				
	5 Very Positive	4 Somewhat Positive	3 Not Applicable/ No Opinion	2 Somewhat Negative	1 Very Negative
Circle attitude rating	5	4	3	2	1

19. Rate how supportive your management is of adopting advanced computer, electronic, and communication technologies in the agency on a scale of 1 to 5, where 5 is very supportive and 1 is very unsupportive.

	Level of Support				
	5 Very Supportive	4 Somewhat Supportive	3 Not Applicable/ No Opinion	2 Somewhat Unsupportive	1 Very Unsupportive
Circle support rating	5	4	3	2	1

THANK YOU FOR COMPLETING THIS SURVEY! PLEASE RETURN IT TO THE EVALUATOR DURING YOUR INTERVIEW.

Agency Questions: HELP One-Stop Operational Test Evaluation Interview

Agency Process Flowchart:

The purpose of this flowchart is to capture the key points at which your agency expends resources (e.g., labor) in the credential/permit process ***or*** the key points at which HELP may otherwise affect the process (e.g., through reduced transaction time).

1. Should any steps be added/deleted/changed to more accurately reflect your agency's process?

2. Provide numbers/percentages to fill in the blanks on the process flow chart.

3. Provide time estimates for each step, noting:

   Which steps involve transaction methods other than by mail, and the differences in average, minimum, and maximum times that result.

   Which steps are affected by the timing of the transaction, and the differences in average, minimum, and maximum times that result.

   Which steps are affected by the complexity of the transaction, and the differences in average, minimum, and maximum times that result.

4. Do you think this approach is appropriate for determining average agency cycle tunes? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information?

Agency Operational Costs:

The purpose of this worksheet is to come up with an average cost per hour for agency credential/permit activity. This information will be combined with the average time information derived from the flowchart, and subsequently used to associate current agency costs with each point in a credential/permit process that may experience different costs under the HELP one-stop system.

1. Another approach would be to come up with a unique cost per hour for each type of credential/permit activity (e.g., IRP renewals, IFTA supplementals, OS/OW permits) if your agency is responsible for more than one area. Do average agency costs per hour differ enough by type of activity to justify this level of detail?

2. Review total agency operational costs on the worksheet against the responses to pg. 19 of the LM system design survey. What commercial vehicle credentials/permits are included in these costs? What other programs are also included in these costs?

3. Can you estimate the percent of costs accounted for by each (CV and non-CV programs)? Do you think splitting the costs out percentage-wise is best for our purposes or is it more appropriate (and possible) to come up with specific CV estimates for each cost category?

4. Do salary costs include all full time as well as part time/temporary personnel? All compensation costs (including benefits)?

5. Is there "double-counting" among any of the cost categories (e.g., data communications, data processing, data archiving)? If so, how would you suggest backing out unique costs?

6. Do facilities costs include both headquarters and field offices relevant to CV programs? Are non-CV activities going on in these facilities?

7. What's included in "other costs"? What non-operational CV program costs (e.g., for capital equipment) that should be amortized and included under total agency CV costs?

8. Reviewing the example on the bottom half of the worksheet, could you estimate the total hours your agency spends on CV credential/permit activity (including full time, part time, and temporary workers)? Substitute "real" data for the data in the example.

Agency Baseline Survey:

. The purpose of this survey is to collect quantitative information relevant to agency cycle time and cost estimates (on pages 1 and 2) and qualitative (opinion) information that will be used for data cross-tabulations (pages 3 through 6). For example, the latter will be used to compare an agency's rating of the HELP system versus the initially perceived need for improvements in current processes.

1. If your agency is responsible for more than one type of credential/permit activity... would your response to questions 1,2,5,6,7, 8, and 9 differ by type of credential/permit activity? How about for opinion information (questions 10 through 20?

2. Is "accounts" the best term to use in question 1 to capture the number of separate motor carriers with whom you conduct transactions?

3. Will the number of power units in question 2 be the best way of categorizing the relative size of the motor carriers with whom you conduct transactions?

4. What are the common problems with carrier applications that should be listed under question 5?

5. In question 6, how significant are these problems for your agency? Are most of these problems more "clerical" (e.g., misspellings) or "substantive" (e.g., money!) In nature?

6. In question 11, what are the key benefit categories that should be listed? In question 12, what are the key cost categories that should be listed?

7. How long did it take you to complete this survey? How do you think it could be improved?

Control code: _____
ID code: _____

State Agency Perception of HELP One-Stop System Process Times

What is your perception of the average time:

Process Step	Type of Time Measured	Average Process Times – IRP Supplemental	
		Operational Test Scenario	Preferred Deployment Scenario (i.e., Will step be required at all? If so, how long should it take?)
1. Required for you to provide inventory to the Lockheed Martin Service Center (per application).	Activity time *(Time to accomplish task)*		
2. Between when you receive an EFT/transaction report from the Service Center and when you receive hard copy documentation (e.g., application, titling information) from the motor carrier/service agent.	Elapsed time *(Waiting or in transit time)*		
3. Required for you to review any differences between your invoice and the payment/invoice received from the Service Center.	Elapsed time		
4. Required for you to fax your invoice to the Service Center and work with them to resolve any fee/payment differences.	Activity time		
5. Between when you fax your invoice to the Service Center and when any fee/payment differences are resolved.	Elapsed time		
6. Other interaction with the Service Center or special activity required because of the op test (describe):	?		
7. Start-to-finish, for you to interact with the Service Center on issuance of credentials.	Elapsed time		
	Activity time		

MOTOR CARRIER SURVEY
APRIL 1997

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Person completing survey: _____

Use and Performance of HELP One-Stop Services

Your response to questions 1 through 8 will help us understand your use of HELP one-stop services and opinion of their performance.

1. Approximately how many credential or permit transactions did you complete during the HELP One-Stop Operational Test?

	Transactions using the HELP One-Stop System	Transactions using conventional methods
IRP		
IFTA		
OS/OW Permits		

2. Rate how available the HELP one-stop system and Service Center have been at the times when you wanted to use them on a scale of 1 to 5, where 5 is always available and 1 is always unavailable. (Circle the most applicable rating.)

	5 Always Available	4 Available Most of the Time	3 Available About Half of the Time	2 Unavailable Most of the Time	1 Always Unavailable	0 Did Not Use
HELP One-Stop System	5	4	3	2	1	0
HELP Service Center	5	4	3	2	1	0

3. Rate how helpful the following are to you in your use of HELP one-stop services on a scale of 1 to 5, where 5 is very helpful and 1 is useless.

	5 Very Helpful	4 Somewhat Helpful	3 Not Applicable	2 Somewhat Useless	1 Useless
Written user's guide and training materials	5	4	3	2	1
Service Center assistance	5	4	3	2	1

4. Rate the ease of use and turnaround speed of the HELP one-stop services that you applied for or used during the operational test on a scale of 1 to 5, where 5 is the most favorable rating and 1 is the least favorable rating.

	Ease of Use					Turnaround Speed				
	5 Very Easy	4 Somewhat Easy	3 Did Not Use	2 Somewhat Difficult	1 Very Difficult	5 Very Fast	4 Somewhat Fast	3 Did Not Use	2 Somewhat Slow	1 Very Slow
IRP	5	4	3	2	1	5	4	3	2	1
IFTA	5	4	3	2	1	5	4	3	2	1
OS/OW Permits	5	4	3	2	1	5	4	3	2	1

Additional Comments:

_____

_____

5. Do you have any comments on the ease of use or turnaround speed of HELP one-stop services?

_____

_____

_____

_____

6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits on a scale of 1 to 5, where 5 is significantly better and 1 is significantly worse.

	Compared to My Former Method of Obtaining Credentials/Permits, HELP One-Stop Services Are:				
Measure	5 Significantly Better	4 Somewhat Better	3 Not Applicable	2 Somewhat Worse	1 Significantly Worse
Amount of time required to prepare credential/permit applications	5	4	3	2	1
Convenience of submitting credential/permit applications	5	4	3	2	1
Convenience of paying for credentials/permits	5	4	3	2	1
Variations (e.g., errors) in the calculation of credential/permit taxes or fees owed	5	4	3	2	1
Credential/permit rejection rate (frequency of application rejection by state agencies for incomplete information or errors)	5	4	3	2	1
Turnaround time between submittal of credential/permit applications and receipt of credentials/permits from state agencies (or ability to self-issue)	5	4	3	2	1
Amount of regulatory information and assistance available (i.e., through Service Center)	5	4	3	2	1

7. Rate your agreement with the following statements, where 5 is agree strongly and 1 is disagree strongly.

	5 Agree Strongly	4 Agree Somewhat	3 Not Applicable	2 Disagree Somewhat	1 Disagree Strongly
The Service Center adds significantly to the value of the HELP one-stop system.	5	4	3	2	1
I prefer using HELP one-stop services over my former method of obtaining credentials and permits.	5	4	3	2	1
I would like to continue using HELP one-stop services after the operational test has concluded.	5	4	3	2	1
I could not use the HELP one-stop system without the support of the Service Center.	5	4	3	2	1
I could not use the HELP one-stop system without on-site training by the Service Center.	5	4	3	2	1
I would recommend HELP one-stop services to other motor carriers	5	4	3	2	1

8. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your business and your satisfaction with the way they are currently working on a scale of 1 to 5, where 5 is very important/very satisfied and 1 is not at all important/not at all satisfied.

	Level of Importance					Level of Satisfaction				
	5 Very Important	4 Somewhat Important	3 Did Not Use	2 Not Very Important	1 Not at All Important	5 Very Satisfied	4 Somewhat Satisfied	3 Did Not Use	2 Not Very Satisfied	1 Not At All Satisfied
Functions:										
Ability to determine credential/permit requirements	5	4	3	2	1	5	4	3	2	1
Ability to apply for credentials/permits	5	4	3	2	1	5	4	3	2	1
Ability to calculate taxes/fees	5	4	3	2	1	5	4	3	2	1
Ability to pay for credentials/ permits	5	4	3	2	1	5	4	3	2	1
Availability of transaction activity reports from Service Center	5	4	3	2	1	5	4	3	2	1
Characteristics:										
Attractiveness of screens	5	4	3	2	1	5	4	3	2	1
Ease of data entry	5	4	3	2	1	5	4	3	2	1
Number of credentials/ permits supported	5	4	3	2	1	5	4	3	2	1
Compatibility with current work practices	5	4	3	2	1	5	4	3	2	1
Access to Service Center	5	4	3	2	1	5	4	3	2	1

Benefits

Your response to questions 9 through 13 will help us understand your views of the benefits and costs associated with HELP one-stop services.

9. Rate the extent to which you believe the HELP one-stop system has the potential to provide your company with the following benefits on a scale of 1 to 5, where 5 is to a great extent and 1 is to a little or no extent.

Benefits	5 Great Extent	4 Considerable Extent	3 Not Applicable	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in preparing and submitting credentials / permits (i.e., increased productivity)	5	4	3	2	1
Reduced credential / permit application rejection rates	5	4	3	2	1
Faster turnaround time for obtaining credentials / permits from state agencies	5	4	3	2	1
More consistent processing times (less variability in the length of time it takes to receive credentials / permits)	5	4	3	2	1
Other benefits (describe):	5	4	3	2	1

Comments:

_____

_____

_____

10. Circle the range of costs that your company has incurred so far as a result of participating in the HELP One-Stop Operational Test for each of the following categories:

	Range of Costs				
Purchase or development of hardware / software to link your company's computer system with the HELP one-stop system	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Personnel time associated with reviewing HELP one-stop system reports (to reconcile internal records with HELP reports)	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Other costs (describe):	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000

11. What changes (in functionality, design, etc.,) would you like to see made to HELP one-stop services?

12. Are there any transactions which you think *should eventually* be performed by a one-stop system (the HELP system or any other) that are not being demonstrated as a part of this operational test?

13. Are there any transactions which you do not think the HELP one-stop system should perform?

HELP One-Stop Services Issues

Your response to questions 14 through 16 will help us understand your opinion of some of the issues associated with one-stop services.

14. Describe any non-technical challenges (organizational, regulatory, legal, etc.) that you have faced using HELP one-stop services and what, if anything, you have been able to do to resolve them.

15. Describe the greatest non-technical challenges that a one-stop system (the HELP system or any other) may encounter in moving from an operational test to nationwide deployment. Do you have any suggestions for resolving these challenges?

_____

_____

_____

_____

16. Rate your support for the following on a scale of 1 to 5, where 5 is very supportive and 1 is very unsupportive:

	5 Very Supportive	4 Somewhat Supportive	3 Not Applicable / No Opinion	2 Somewhat Unsupportive	1 Very Unsupportive
Expanding the number of states for which HELP one-stop services provide credentials / permits	5	4	3	2	1
Expanding the types of credentials / permits offered by HELP one-stop services to other regulatory areas (e.g., safety credentials, FHVUT)	5	4	3	2	1
Offering HELP one-stop services to Mexican and Canadian carriers (for NAFTA-related trade)	5	4	3	2	1
Providing weigh stations with a list of the credentials / permits that motor carriers have acquired from HELP one-stop services to promote electronic clearance and (eventually) reduce the paperwork that must be carried on board trucks	5	4	3	2	1
Adopting advanced computer, electronic, and communication technologies in your business	5	4	3	2	1

17. Check the types of companies do you feel would most benefit from the HELP one-stop system.

_____ Large motor carriers _____ Small motor carriers

_____ Service agents _____ Other (Describe): _____

THANK YOU FOR COMPLETING THIS SURVEY! PLEASE RETURN IT TO THE EVALUATOR DURING YOUR INTERVIEW.

HELP One-Stop Operational Test Evaluation Operational Test interview

1. Describe the “configuration requirements” associated with using HELP one-stop services in your work environment during the operational test... that is, the hardware, software, and other physical needs (e.g. dedicated phone lines, printers, etc.)

2. Would you expect your “configuration requirements” to differ under a deployment, rather than an operational test, scenario? If so, how?

3. In response to question 10 on the motor carrier survey, you were asked to indicate whether your company has incurred certain types of costs as a result of participating in the operational test. What total costs has your company incurred and for what?

4. Would you expect your costs to differ under a deployment, rather than an operational test, scenario? If so, how? Who do you think should pay for the cost of one-stop services under a deployed environment? Would you be willing to pay for the use of these services? What would be your preferred payment plan (e.g., flat fee per month, fee per transaction)?

5. If your company’s employees can complete credential and permit transactions more quickly using HELP one-stop services, can this time be effectively used elsewhere (i.e., can these people be redeployed in another capacity)?

Specific Questions re Survey:

3. Re question 1, did you expect to use the system more or less than you actually did? If so, why? Do you expect to use the system more during the next few weeks? If so, why?

4. What % of your overall annual credential and permit transaction volume do you think you could be accomplished using HELP one-stop services? What % would you like to accomplish using HELP one-stop services if all transactions were possible? (list by specific programs i.e. IRP, IFTA, etc.)

5. Re question 2, did you attempt to use the system or call the Service Center in non-business hours? If so, how was the response?

6. Re question 3, how acceptable would you say was the training you were given? Would you suggest any changes in how it was given (e.g., more written documentation, more or different on-line help, or more hands-on training)?

7. Re question 6, have you noticed any variations/errors in the calculation of credential/permit taxes or fees? Problems in accuracy? If so, please describe. (REVIEW BASELINE PROCESS FLOW TIME WITH THEM)

8. Re question 8, how acceptable do you find the operational interface? The installation and maintenance environment? Have you noticed any system downtime due to maintenance? If so, was this downtime acceptable? (REVIEW MOTOR CARRIER TRANSACTION LOG WITH THEM)

   How much interface did you have with the service center? Was it acceptable? Comments?

9. What do you like best/least about HELP one-stop services?

10. Which types of companies do you think are best-suited as a potential target market for HELP one-stop services? Who would find the system the most helpful?

1 I. Are you/your company interested in continuing the system? In what areas do you feel the system needs improvement, if any?

12. How did you pay for credentials ordered through the HELP system? If it was the EFT, how did it work for you? What is your opinion of the EFT process (how it was set up, problems encountered, cost, availability, timing, etc.)

STATE AGENCY SURVEY
APRIL 1997

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Person completing survey: _____

Use and Performance of HELP One-Stop Services

Your response to questions 1 through 4 will help us understand your use of HELP one-stop services and opinion of their performance.

1. Did you have any contact with the HELP One-Stop Service Center during the operational test?

   _____ no
   _____ yes (describe purpose of contact):

   _____
   _____

2. Rate HELP one-stop services compared to your customary method of issuing credentials and permits on a scale of 1 to 5, where 5 is significantly better and 1 is significantly worse.

	Compared to My Former Method of Issuing Credentials / Permits, HELP One-Stop Services Are:				
Measure	5 Significantly Better	4 Somewhat Better	3 Not Applicable	2 Somewhat Worse	1 Significantly Worse
Amount of time required to issue credentials / permits	5	4	3	2	1
Convenience of issuing credentials / permits	5	4	3	2	1
Convenience of credential / permit payment	5	4	3	2	1
Accuracy in calculating credential / permit taxes and fees	5	4	3	2	1
Credential / permit approval rate	5	4	3	2	1

Comments: _____
_____
_____

2a. How many credentials did you process using the HELP one-stop system? _____

3. Rate your agreement with the following statements on a scale of 1 to 5, where 5 is agree strongly and 1 is disagree strongly.

	5 Agree Strongly	4 Agree Somewhat	3 Not Applicable	2 Disagree Somewhat	1 Disagree Strongly
My opinion of HELP one-stop services has improved as I have gained experience with them.	5	4	3	2	1
The Service Center adds significantly to the value of the HELP one-stop system.	5	4	3	2	1
I prefer that motor carriers use HELP one-stop services rather than their former method of obtaining credentials and permits.	5	4	3	2	1
I would like motor carriers to be able to continue using the HELP one-stop system to acquire credentials / permits from my agency.	5	4	3	2	1
I would recommend HELP one-stop services to other states.	5	4	3	2	1

4. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your agency on a scale of 1 to 3, where 3 is very important and 1 is not very important.

	Level of Importance		
	3 Very Important	2 Somewhat Important	1 Not Very Important
Functions:			
Ability to determine credential / permit requirements	3	2	1
Ability to issue credentials / permits	3	2	1
Ability to calculate taxes / fees	3	2	1
Ability to support fee payment	3	2	1
Ability to print transaction activity reports	3	2	1
Characteristics:			
Number of credentials / permits supported	3	2	1
Compatibility with other software programs	3	2	1
Compatibility with current work practices	3	2	1
Access to Service Center assistance	3	2	1

Benefits and Costs

Your response to questions 5 through 8 will help us understand your views of the benefits and costs associated with HELP one-stop services.

5. Rate the extent to which you believe HELP one-stop services have provided your agency with the following benefits on a scale of 1 to 5, where 5 is to a great extent and I is to a little or no extent.

Benefits	5 Great Extent	4 Considerable Extent	3 Not Applicable	2 Some Extent	1 Little or No Extent
Reduced use of staff resources in issuing credentials / permits or increased time for other activities (increased productivity)	5	4	3	2	1
Faster turnaround time for issuing credentials / permits	5	4	3	2	1
More consistent processing times (less variability in the length of time it takes to issue credentials / permits)	5	4	3	2	1
Increase in credential / permit application approval rates	5	4	3	2	1

Comments: _____

_____

_____

6. Circle the range of costs that your agency has incurred so far as a result of participating in the HELP One-Stop Operational Test for each of the following categories:

	Range of Costs				
Purchase or development of hardware / software to support uploading of HELP one-stop system data to (non-VISTA) agency systems	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Development and operation of an inventory tracking and control system for decals / plates / forms / card stock provided to the HELP service center for issuance	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Personnel time associated with reviewing HELP one-stop system reports (to reconcile internal records with HELP reports)	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000
Other costs (describe):	None	$1 – $500	$501 to $1,000	$1,001 to $5,000	More than $5,000

7. Are there any transactions which you think should eventually be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test?

_____

_____

_____

8. Are there any transactions which you do *not* think the HELP one-stop system should perform?

_____

_____

_____

HELP One-Stop Services Issues

Your response to questions 9 through 11 will help us understand your opinion of some of the issues associated with one-stop services.

9. Describe any non-technical challenges (organizational, regulatory, legal, etc.) that you have faced using HELP one-stop services and what, if anything, you have been able to do to resolve them.

_____

_____

_____

10. Describe the greatest non-technical challenges that a one-stop system (the HELP system or any other) may encounter in moving from an operational test to nationwide deployment. Do you have any suggestions for resolving these challenges?

_____

_____

_____

11. Rate your support for the following on a scale of 1 to 5, where 5 is very supportive and 1 is very unsupportive:

	5 Very Supportive	4 Somewhat Supportive	3 Not Applicable	2 Somewhat Unsupportive	1 Very Unsupportive
Expanding the number of states for which HELP one-stop services provide credentials / permits	5	4	3	2	1
Expanding the types of credentials / permits offered by HELP one-stop services to other regulatory areas (e.g., SSRS)	5	4	3	2	1
Offering HELP one-stop services to Mexican and Canadian carriers (for NAFTA-related trade)	5	4	3	2	1
Providing weigh stations with a list of the credentials / permits that motor carriers have acquired from HELP one-stop services to promote electronic clearance and (eventually) reduce the paperwork that must be carried on board trucks	5	4	3	2	1
Adopting advanced computer, electronic, and communication technologies in your business	5	4	3	2	1

State Agency Configuration Requirements and Costs:

1. Describe the “configuration requirements” if any, associated with using HELP one-stop services in your work environment during the operational test... that is, the hardware, software, and other physical needs.

2. Would you expect your “configuration requirements” to differ under a deployment, rather than an operational test, scenario? If so, how?

3. In response to question 7 on the state agency survey, you were asked to indicate whether your agency has incurred certain types of costs as a result of participating in the operational test. What total costs has your agency incurred and for what?

4. Would you expect your costs to differ under a deployment, rather than an operational test, scenario? If so, how? Who do you think should pay for the cost of one-stop services under a deployed environment? Would you be willing to pay for the use of these services? If so, what would be your preferred payment plan (e.g., flat fee per month, fee per transaction)?

5. Review the average cost per hour worksheet for non-HELP agency credential/permit activity developed as a part of our baseline interview with you. Should any changes be made? Which estimates do you feel the least comfortable with and how could these be improved?

6. If your agency’s employees can complete credential and permit transactions more quickly if motor carriers use HELP one-stop services, can this time be effectively used elsewhere (i.e., can these people be redeployed in another capacity)?

7. How helpful were the transaction reports supplied by Lockheed? Should anything be changed, added?

8. What specific things have been “worked around” for the purposes of the operational test that would have to be fixed for deployment?

9. Are you planning to explore the use of otehr one-stop systems in the near future?

State Agency Operational Test Survey:

The purpose of this survey is to determine how you are currently using HELP one-stop services and your opinion of their performance, benefits, and costs.

General Questions re Survey: (field test only)

1. Are there any survey questions that you didn't understand or thought needed to be worded more clearly?

2. How long did it take you to complete this survey? How do you think it could be improved?

Specific Questions re Survey:

3. Re question 3, have you noticed any variations/errors in the calculation of credential/permit taxes or fees? Problems in accuracy? Increases in transaction times due to increases in the volume of transactions? If so, please describe.

4. What do you like best/least about HELP one-stop services?

SERVICE CENTER STAFF SURVEY
APRIL 1997

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name: _____

Date completed: _____

Operational Environment

1. Describe the Service Center's physical and operational characteristics. Include personnel (number, experience, knowledge level of HELP) hours of service, etc.

2. Rate the acceptability of the HELP one-stop system's availability, response speed, operational interface, installation and maintenance environment, and instances and duration of scheduled and unscheduled maintenance from the point of view of the Service Center staff using a scale of 1 to 5, where 5 is very acceptable and 1 is very unacceptable.

	Acceptability				
	5 Very Acceptable	4 Somewhat Acceptable	3 Not Applicable / No Opinion	2 Somewhat Unacceptable	1 Very Unacceptable
System availability during operating hours	5	4	3	2	1
System response speed	5	4	3	2	1
Operational interface (ease of use)	5	4	3	2	1
Installation (e.g., of system upgrades) and maintenance environment	5	4	3	2	1
Instances and duration of scheduled and unscheduled maintenance	5	4	3	2	1

3. Rate the efficiency of the Service Center's current processes for issuing credentials and permits using a scale of 1 to 5, where 5 is very efficient and 1 is very inefficient.

	Potential				
	5 Very Efficient	4 Somewhat Efficient	3 Not Applicable/ No Opinion	2 Somewhat Inefficient	1 Very Inefficient
Circle efficiency rating	5	4	3	2	1

4. What do you think are the most inefficienf aspects of the Service Center's current processes for issuing credentials and permits?

5. List the changes that offer the greatest potential for improving the Service Center's credential/permit issuance cycle times.

6. List the changes that offer the greatest potential for improving the HELP system's credential/permit issuance cycle times.

Training and Support

7. Describe the Service Center role in supporting credential/permits issuance under the operational test.

8. How do you think the Service Center should be staffed and operated under deployment?

9. What type of training should be given to the Service Center staff?

10. How should the system be "initialized" for new motor carrier/service agent participants under a deployment environment vls a vis how it was done for the operational test. Please discuss set-up and support.

11. What type of training and support do you think will be necessary in a deployment environment? Please include a discussion of on-site, on-line, phone and help menu support.

Interaction With Motor Carrier and State Agency Users

12. How many calls per day do the Service Center staff typically make to or receive from motor carriers/service agents and state agencies?

	# of Calls Made Per Week	# of Calls Received Per Week
Motor carriers/Service Agents	_____	_____
State agencies	_____	_____

13. When motor carriers/service agents and state agencies contact the Service Center, what types of information or assistance do they typically need?

Motor carriers/Service Agents:

State agencies:

14. Describe any requests received from motor carriers/service agents or state agencies that the HELP one-stop system or Service Center were not able to fulfill.

Motor carriers/Service Agents:

State agencies:

15. Based on conversations with motor carriers/service agents and state agencies:

a. what do they like best about the HELP one-stop system or Service Center?

Motor carriers/Service Agents:

State agencies:

b. what would they like to change about the HELP one-stop system or Service Center?

Motor carriers/Service Agents:

State agencies:

Please use the space below or attach additional pages to comment further in response to survey questions.

Survey Question #	Comment

THANK YOU FOR COMPLETING THIS SURVEY!

HELP One-Stop Operational Test Evaluation Operational Test Interview
Service Center

Service Center Flowchart (questions for Service Center Supervisor and/or System Manager — not individual staff analysts):

We need to develop a flowchart which captures the key points at which Service Center analysts interact with motor carriers, the one-stop system, and state agencies in conducting credential/permit transactions. Using an IRP supplemental credential application as an example, answer the following questions:

1. When and how do Service Center analysts first have a role in the IRP supplemental credential application transaction? Once involved, what are the key activities that the analysts undertake? At what points do they interact with other parties? When and how do they conclude their responsibilities?

2. Provide time estimates for each of the key steps taken by Service Center analysts that are not tracked through other means (e.g., activity logs), noting:

   The transaction method for each step (e.g., electronic, mail, fax) and the differences in average, minimum, and maximum times that result.

   Which steps on the flowchart are affected by the timing of the transaction, and the differences in average, minimum, and maximum times that result.

   Which steps on the flowchart are affected by the complexity of the transaction, and the differences in average, minimum, and maximum times that result.

3. Do you think this approach is appropriate for determining the average cycle times for Service Center analysts to conduct credential/permit transactions? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information?

Service Center Configuration Requirements and Costs (questions for Service Center Supervisor and/or System Manager — not individual staff analysts):

1. Describe the configuration requirements associated with using HELP one-stop services in your (Lockheed Martin IMS) work environment during the operational test... that is, the hardware, software, and other physical needs.

2. Will your configuration requirements differ under a deployment, rather than an operational test, scenario? If so, how?

3. What are the configuration requirements for motor carriers to use the one-stop system during the operational test? How do you envision changes in their configuration requirements under a deployment scenario?

4. What are the configuration requirements for state agencies to use the one-stop system during the operational test? How do you envision changes in their configuration requirements under a deployment scenario?

5. What types of costs will your company incur in the operational test? What total cost will be incurred by the end of the test? (see project budget/expenses submitted to Pete)

6. What types of additional costs (and how much) does your company expect to incur to bring the system to a deployment-ready state?

7. As a service provider, who do you think should pay for the cost of one-stop services under a deployed environment? What types of payment plans (e.g., flat fee per month, fee per transaction) do you anticipate offering?

8. In your view, what is the probability that your company will pursue deployment of the system after the operational test has concluded? What kind of time lapse, if any, do you anticipate occurring between the conclusion of the operational test and the availability of the system in the commercial marketplace?

9. What types of motor carriers/service agents do you think are the best target for a deployed product? What type of motor carrier/service agent is the least attractive market for a deployed product?

10. What kind of additional services, if any, do you expect to have included in the deployed product?

11. How do you expect the deployed system will interface with CVISN architecture?

12. Describe the "workarounds" used during the operational test which would have to incorporate better solutions for deployment - BOTH SYSTEM AND PROCEDURAL. (i.e. EFT, REMCOMM, signature requirements, hard copy submittal)

Service Center Staff Survey (questions for both Service Center supervisor and staff analysts, asked on an individual basis):

The purpose of this survey is to obtain your opinion of the Service Center's current operational environment, the training you were given on the system, and the feedback you have received from motor carriers and state agencies.

Specific Questions re Survey:

1. Re question 2, in your opinion could any changes be made to improve the system's:
   - Availability
   - Response speed
   - Operational interface (what are your preferences for this in particular?)
   - Installation and maintenance environment
   - Instances and duration of system scheduled and unscheduled down time
   - Training for motor carriers/service agents

2. Has the one-stop system exhibited any "volume sensitivity" (i.e., changes in cycle times in response to changes in volume)? If so, how acceptable would you say is this level of volume sensitivity?

3. How acceptable would you say is the system's capability for supporting hardware and software upgrades? Could any changes be made to improve its capability in this area?

4. Have you noticed any variations/errors in the system's calculation of credential/ permit taxes or fees? Problems in accuracy? If so, please describe.

5. Re questions 6 and 7, are there any changes that could be made to improve the training provided to Service Center analysts (e.g., more written documentation, more or different on-line help, or more hands-on training)?

6. Have you received any feedback from motor carriers or state agencies that you would like to share with us?

7. Describe reasons why major delays occurred in project? (communications situation discovered when? resolved when? system shut down after distributed in 12/96.

Issues to discuss during observation of HELP training sessions.

Date: _____ Company: _____

Trainee: _____ Phone Number: _____

Length of training session: _____

Refresher training _____ Initial training _____

Percent of user hands-on _____

Percent of trainer-led prompting _____
Percent of trainee-led prompting _____

Percent of trainer hands-on _____

Trainee's level of computer literacy:

How often does the trainee use a computer?
daily weekly monthly yearly

How often does the trainee use a modem?
daily weekly monthly yearly

What type of environment does the trainee use most often?
DOS Windows

Questions asked by trainee:

Comments made by trainee:

Open-ended questions:

1. Do you have any suggestions on how the training could be improved or how it should be changed?

2. How prepared do you feel for using the system on your own?

3. Do you expect to have much interaction with the Service Center?

4. How many transactions do you think you will conduct through the system by mid-May? What type?

5. Any concerns about the system at this point?

Wrap-up Evaluation Questions
For HELP Steering Committee/Evaluation Team Members
(Not otherwise being interviewed)

1. What do you think are the most important services/features available on the HELP system/Service Center? What are the most important services/features that should be added to the HELP system/Service Center?

2. Are there any particular services/features which you do not think should be added to the HELP system/Service Center or that should be deleted?

3. From your perspective, describe the key non-technical challenges (organizational, regulatory, legal, etc.) that arose during the HELP One-Stop Operational Test. What was done to resolve these challenges?

4. From your perspective, describe the greatest non-technical challenges that a one-stop system (the HELP system or any other) may encounter in moving from an operational test to nationwide deployment. Do you have any suggesting for resolving these challenges?

5. Looking back on how this operational test was conducted, what would you say was done very well? What should have been done differently?

   Done very well:

   Should have been done differently:

6. Would you say that the HELP system/Service Center in its current form is — very ready, somewhat ready, or not very ready -for nationwide deployment? Why?

APPENDIX F
PROCEDURES
FORMS, AND LOGS

EXHIBIT F-1
Configuration Control Procedures for Evaluation Data Packages

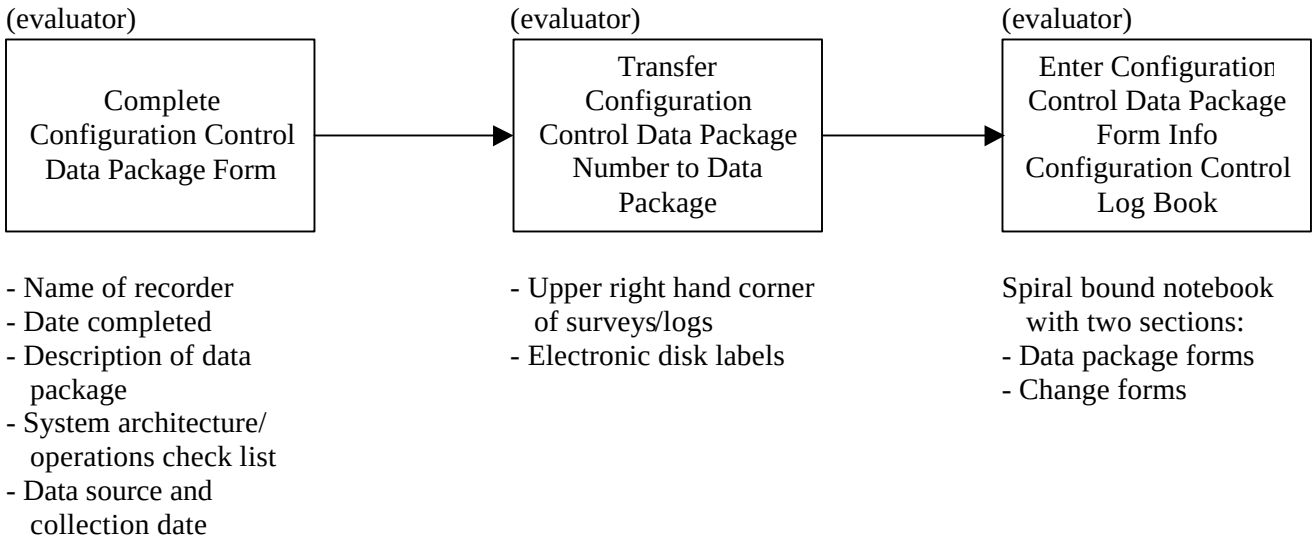

EXHIBIT F-2
Configuration Control Procedures for Operational Test Changes Impacting the Evaluation

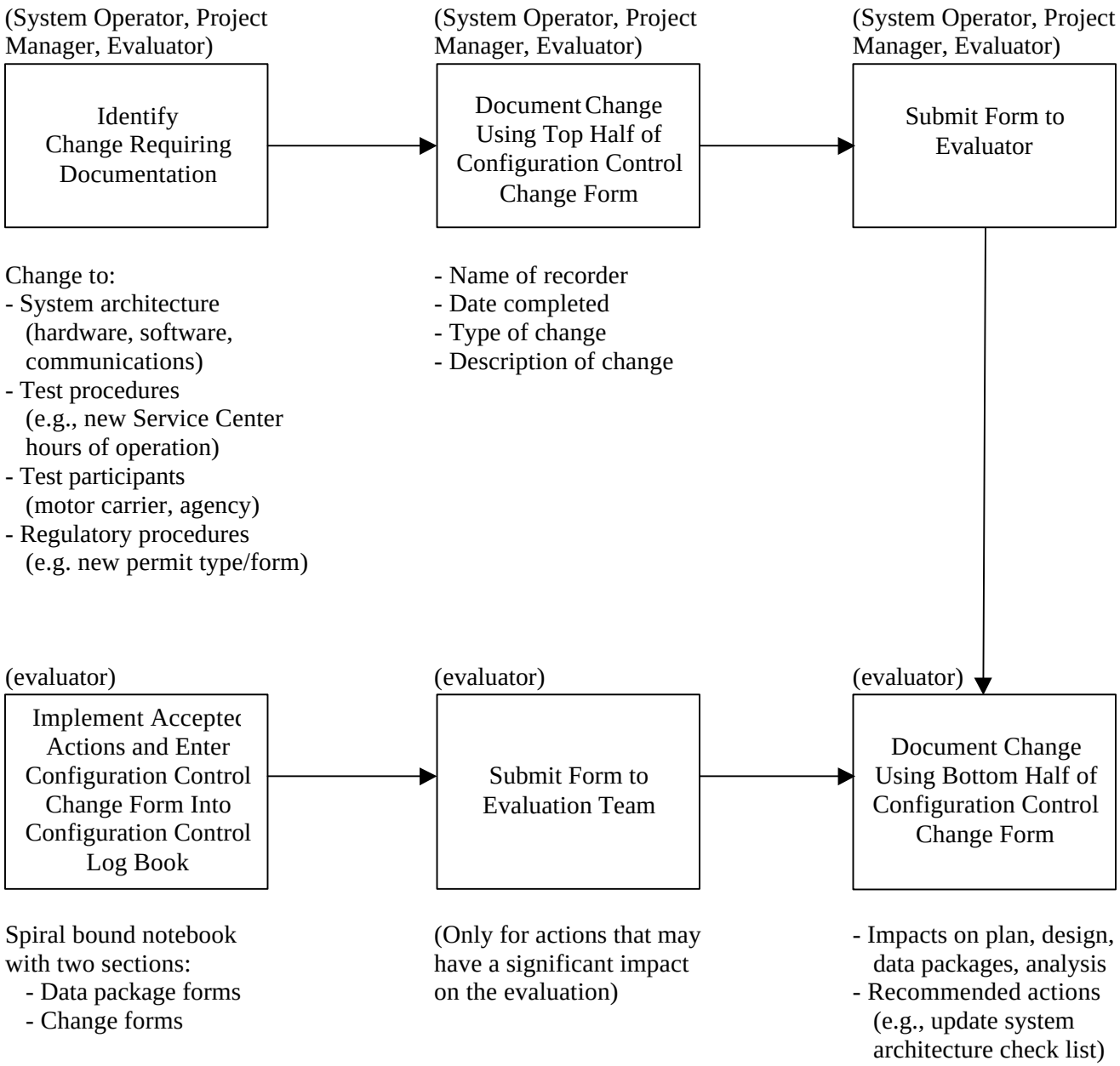

EXHIBIT F-3
Evaluation Data Collection, Manipulation, Storage, and Distribution Procedures

Trial Tests	Data Collection	Data Manipulation	Data Storage	Data Distribution
1. System Records Selection	At scheduled times (to be determined in the *Evaluation Design*, system operators will enable programming developed to capture designated evaluation data and transfer data to electronic media for submittal to the evaluator and entry into configuration control	Data will be entered into the evaluation database once each data package is complete and statistical analysis performed as appropriate	Original diskettes will be retained in a secure area until the evaluation is completed; evaluation database will be backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables: limited requests for interim results from test participants will be accommodated if possible
2. System Operator and Phone Agent Logs	Logs will be kept at Service Center: recruited operators / agents will be requested to complete and mail / fax in logs on a weekly basis: returned logs will be processed following configuration control procedures	Data will be entered into the evaluation database on a monthly basis and statistical analysis performed as appropriate	Original logo will be retained in a secure area until the evaluation is completed; evaluation database will bc backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables; limited requests for interim results from lest participants will be accommodated if possible
3. System Operator and Phone Agent Logs	Surveys will be mailed to recruited operators / agents; completed surveys will be mailed / faxed within 1 week of receipt (reminders sent as needed): returned surveys will be processed following configuration control procedures	Data will be entered into the evaluation database once each data package is complete and statistical analysis performed as appropriate	Original surveys will be retained in a secure area until the evaluation is completed; evaluation database will be backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables; limited requests for interim results from test participants will be accommodated if possible
4. System Users Surveys	Surveys will be mailed to recruited carrier and agency users; completed surveys will be mailed / faxed within 1 week of receipt (reminders sent as needed): returned surveys will be processed following configuration control procedures	Data will be entered into the evaluation database once each data package is complete and statistical analysis performed as appropriate	Original surveys will be retained in a secure area until the evaluation is completed; evaluation database will be backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables; limited requests for interim results from test participants will be accommodated if possible
5. Personal Observ. And Interviews	In the first and last months of the evaluation execution. in-person, on-site interviews will bc conducted of recruited system operators / agents as well as carrier and agency users	Comments / notes will be summarized and categorized and entered into word processing software	Original surveys will be retained in a secure area until the evaluation is completed; evaluation database will be backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables; limited requests for interim results from test participants will be accommodated if possible
6. Simulation	At scheduled times (to be determined in the Evaluation Design), the evaluator will query the system using predetermined simulated data and transfer data on the system's responses to electronic media for entry into configuration control	Data will be entered into the evaluation database once each data package is complete and statistical analysis performed as appropriate	Original surveys will be retained in a secure area until the evaluation is completed; evaluation database will be backed up following input of each data package and a copy stored in a remote location	Summary results will be presented in evaluation deliverables; limited requests for interim results from test participants will be accommodated if possible

EXHIBIT F-4
Evaluation Data Security Procedures

1: Completed electronic data packages, logs, and surveys will be returned directly **to** WHI immediately upon completion. Respondents will be asked to retain a copy for their files until receipt by WHI is confirmed.

2. WHI will enter data under configuration control on a monthly basis, noting test ID, respondent code, date, time, and environmental conditions (i.e., system features such as hardware or software) as appropriate.

3. The evaluation database will be updated once each data package is complete. Respondents will only be identified by a code number in the database. The respondent code key will be kept in a secure area only accessible by WHI.

4. Hard and electronic copies of data originally submitted will be stored in a secure area only accessible by WHI.

5. The evaluation database will be backed up on a regular basis and a copy will be stored in a remote location until the evaluation is complete.

6. Evaluation deliverables will only report data for areas in which there are sufficient responses to screen individual respondents (minimum of three).

7. Only summary evaluation data and results will be available to operational test participants. Non-participants will only have access to the information included in evaluation deliverables.

8. After the evaluation **is** complete, all hard and electronic copies of data will be destroyed.

9. The copy of the evaluation database submitted to project sponsors will categorize respondents by type only (the code identifier will be stripped off) unless permission has been obtained from participants in writing to reveal specially designated information.

EXHIBIT F-5
Evaluation Quality Control Procedures

1: WHI will conduct evaluation work and prepare deliverables following the framework specified in ***the Overall Evaluation Plan*** and ***Evaluation Design.***

2. WHI will control, collect, manipulate, store, distribute, secure, and analyze evaluation data following the procedures specified for these activities.

3. WHI will brief the Evaluation Team on evaluation plans, progress, and findings at regularly scheduled meetings held throughout the operational test project. At these meetings, WHI will afford Evaluation Team members the opportunity to discuss and revise plans as needed. Following these meetings, WHI will prepare and distribute summary minutes to document key discussions and decisions.

4. WHI will provide written interim reports to the Evaluation Team during the Execution Phase of the evaluation.

5. Before being finalized, WHI will screen evaluation deliverables through three review processes: WHI internal management review, FHWA and Evaluation Team review, and Steering Committee review. Following these reviews, evaluation deliverables will be revised as appropriate to incorporate the input received.

EXHIBIT F-6
Evaluation Quality Assurance Procedures

1: Evaluation Team members will actively assume responsibility for providing oversight of WHI's evaluation activities.

2. Evaluation Team members will carefully review evaluation deliverables and promptly provide input to WHI on any changes or corrections needed.

3. Evaluation Team members will attend as many of the regularly scheduled Evaluation Team meetings as possible. If for some reason a member cannot attend a particular meeting, the member will proactively provide any necessary input in advance of the meeting and keep informed (by reading the minutes, etc.) of meeting discussions and decisions.

4. Evaluation Team members will keep their organization's Steering Committee member informed of evaluation activities and serve as a liaison to express to WHI any organizational concerns about the evaluation.

5. Evaluation Team members will thoroughly fulfil their roles and responsibilities, including support of evaluation data collection activities.

HELP ONE-STOP EVALUATION
MOTOR CARRIER / SERVICE AGENT TRANSACTION LOG

ID Code: _____

Control Code: _____

①	Request fees and connect to host: _____ Date _____ Time of day (when initiated)
	Check transaction type: _____ IRP supplement _____ IFTA supplement _____ OS / OW permit
	Estimate total time spent on data entry: _____ minutes
	Write down any error or connection problem message(s) received from the Op Test system (e.g., "mileage decrease not allowed", "communication link failure"):
	Call to bank to arrange funds transfer: _____ Date _____ Time of day (when initiated) _____ Call length (minutes)

②	Request fees and connect to host: _____ Date _____ Time of day (when initiated)
	Check transaction type: _____ IRP supplement _____ IFTA supplement _____ OS / OW permit
	Estimate total time spent on data entry: _____ minutes
	Write down any error or connection problem message(s) received from the Op Test system (e.g., "mileage decrease not allowed", "communication link failure"):
	Call to bank to arrange funds transfer: _____ Date _____ Time of day (when initiated) _____ Call length (minutes)

③	Request fees and connect to host: _____ Date _____ Time of day (when initiated)
	Check transaction type: _____ IRP supplement _____ IFTA supplement _____ OS / OW permit
	Estimate total time spent on data entry: _____ minutes
	Write down any error or connection problem message(s) received from the Op Test system (e.g., "mileage decrease not allowed", "communication link failure"):
	Call to bank to arrange funds transfer: _____ Date _____ Time of day (when initiated) _____ Call length (minutes)

④	Request fees and connect to host: _____ Date _____ Time of day (when initiated)
	Check transaction type: _____ IRP supplement _____ IFTA supplement _____ OS / OW permit
	Estimate total time spent on data entry: _____ minutes
	Write down any error or connection problem message(s) received from the Op Test system (e.g., "mileage decrease not allowed", "communication link failure"):
	Call to bank to arrange funds transfer: _____ Date _____ Time of day (when initiated) _____ Call length (minutes)

HELP ONE-STOP EVALUATION
DATA PACKAGE CONTROL LOG

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name of recorder: _____

Date log completed: _____

Data Package Description

____ Service Center Log	____ Motor carrier log	____ State agency log
____ Service Center survey	____ Motor carrier survey	____ State agency survey
____ Service Center interview	____ Motor carrier interview	____ State agency interview
____ Automatic system data capture	____ Simulated data capture	____ Other: _____

Date data collection instruments distributed: _____

Method of distribution: _____ mail _____ fax _____ in person _____other:_____

Date data collection instruments due back: _____

Follow-up actions taken for unreturned data collection instruments:

_____

Scheduled data collection cut-off date: _____

System Architecture / Operations

Tracking code: _____ (references the most current description of the system architecture and operations stored in the configuration control change log)

This log should be completed before the data package is sent out and placed in WHI's data package control log book. The control number should be transferred to the upper right hand corner of each instrument which will be used to collect data.

HELP ONE-STOP EVALUATION
DATA PACKAGE CONTROL LOG

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name of recorder: _____
Date log completed: _____

Configuration Change

Type:	_____ System Architecture / Operations	_____ Operational Test / Evaluation Procedures	_____ Operational Test / Evaluation Participants	_____Regulatory
	Specify: _____ Carrier module _____ Agent server _____ VISTA _____ State system(s) _____ Additional automation (describe below)			

Description (attach additional pages if necessary:

The above section should be completed by the system operator, project manager, or WHI as soon as a change is recognized - before it is implemented if at all possible. It should then be provided to WHI for an impact assessment.

WHI Impact Assessment

WHI Recommendations

This section should be completed by WHI and forwarded to the Evaluation Team for review and approval.

Control code: _____
ID code: _____

Motor Carrier Process Times

What is your perception of the average time:

Process Step	Type of Time Measured	Average Process Times				
		IRP Renewal	IRP Supplemental	IFTA Renewal	IFTA Supplemental	OS/OW Permit
1. Required for you to enter complete and submit the application form	Activity time *(Time to accomplish task)*					
2. Between requesting the form and receiving the invoice, if applicable. ***If no payment is required, skip to 4 (if applicable), then 5a; if payment is made at the time of form submittal, skip to 3.***	Elapsed time *(Waiting or in transit time)*					
3. Required to arrange and deliver payment, if applicable (e.g., cutting & mailing the check, going to the bank to obtain certified funds/cashiers check, going to the agency to pick-up the invoice and/or submit the check). ***Go to 4 (if applicable), then 5b.***	Activity time					
4. Between internal company tasks (e.g., time to transfer forms/payment between branches).	Elapsed time					
5a. Between whenpayment is made and receiving credentials/permits. ***Go to 6.***	Elapsed time					
6. Required for you to pick up credentials/permits.	Activity time					
7. TOTAL Start-to-finish, for you to obtain your credentials/permits.	Elapsed time					
	Activity time					

Control code: _____
ID code: _____

State Agency Process Times

What is your perception of the average time:

Process Step	Type of Time Measured	Average Process Times				
		IRP Renewal	IRP Supplemental	IFTA Renewal	IFTA Supplemental	OS/OW Permit
1. Required for you to assemble and send out (by mail or call for pick up) the application form/package to the motor carrier/service agent.	Activity time *(Time to accomplish task)*					
2. Between sending out the form/package and receiving it back from the motor carrier/service agent.	Elapsed time *(Waiting or in transit time)*					
3. Required to review the returned application for completeness/ correctness, adjust the account, calculate fees (if applicable), and issue an invoice (if applicable)	Activity time					
4. Between receiving application and issuing an invoice.	Elapsed time					
5. Generate and send out the invoice to the motor carrier/service agent (by mail or call for pick up). ***Skip to 7 if no invoice.***	Activity time					
6. Between mailing out the invoice And receiving payment back from the Motor carrier/service agent.	Elapsed time					
7. Required for you to verify and Process payment. (Note: ____% of applications are adjusted by motor carrier/service agent after invoice received; return to 3.) ***Skip to 8 if no payment.***	Activity time					
8. Required for you to issue and send out (by mail or call for pick up) credentials and a form letter and receipt (if applicable).	Activity time					
9. Between receiving payment (or application, if no payment made) and issuing credentials. Temporary or permanent?	Elapsed time					
10. TOTAL Start-to-finish, for you to issue credentials.	Elapsed time					
	Activity time					

HELP ONE-STOP EVALUATION
SERVICE CENTER SUPERVISOR
WEEKLY OPERATING HOURS REPORT

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name of recorder: _____

Date log completed: _____

Hours of Operation

Day	Date	Time*					
		Open	Close	Open	Close	Open	Close
Sunday							
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							

*Note any additional open and close times, and the date(s) they occurred, below:

The Service Center supervisor should complete this report on a daily basis, hold until a full week's data has been recorded, and then fax to the WHI Evaluator, Janet Treber, at (303) 433-9780. If you have any questions, call Janet at (303) 433-0672.

HELP ONE-STOP EVALUATION
SERVICE CENTER SUPERVISOR
WEEKLY OPERATING HOURS REPORT

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name of recorder: _____

Date log completed: _____

Scheduled Maintenance Indicate down and up times for scheduled maintenance periods.

Event 1		Event 2		Event 3	
Down	Up	Down	Up	Down	Up

Reason for scheduled maintenance (circle most appropriate):

Event 1:	Data File Backup	System Backup	Communications Upgrade / Maintenance	Operating System Update	Other: _____
Event 2:	Data File Backup	System Backup	Communications Upgrade / Maintenance	Operating System Update	Other: _____
Event 3:	Data File Backup	System Backup	Communications Upgrade / Maintenance	Operating System Update	Other: _____

Unscheduled Maintenance Indicate down and up times for scheduled maintenance periods.

Event 1		Event 2		Event 3	
Down	Up	Down	Up	Down	Up

Reason for unscheduled maintenance:

Event 1:

Event 2:

Event 3:

The system manager should complete this report on a daily basis, hold the logs until a week's worth have been completed, and then fax to the WHI Evaluator, Janet Treber, at (303) 433-9780. If you have any questions, call Janet at (303) 433-0672.

HELP ONE-STOP EVALUATION
SERVICE CENTER ANALYST
DAILY PHONE ACTIVITY LOG

ID Code: _____

Control Code: _____

Commercial Vehicle Operations
One-Stop Electronic Purchasing and Processing
ITS Operational Test

Name of recorder: _____

Date log completed: _____

Daily Phone Activity

Make additional copies of this form if more than 10 calls are received.

Call Time	Type of Request	Resolution (describe):
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	
_____ Call received _____ Call completed	_____ Information _____ Technical assistance _____ Other: _____	

*Place a star by all calls left on voice mail and note the actual time they were recorded rather than the time when messages were picked up.

Service Center analysts should complete this report on a daily basis, hold the logs until a week's worth have been completed, and then fax to the WHI Evaluator, Janet Treber, at (303) 433-9780. If you have any questions, call Janet at (303) 433-0672.

APPENDIX G

MAPPING OF INDIVIDUAL TRIAL TESTS AGAINST EVALUATION FACTORS

Data Collection Instrument Questions Addressing Evaluation Factors

1.1.1 Reduction in motor carrier application preparation cycle times	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Motor Carrier Surveys	Baseline: 7. Rate the efficiency of your company's current processes for preparing and submitting credential and permit applications. 8. What do you think are the most inefficient aspects of your company's current processes for preparing and submitting credential and permit applications? 9. Rate the sufficiency of your company's staffing resources for preparing and submitting credential and permit application 10. Rate your satisfaction with the following aspects of the current credential and permit application process... amount of time required to prepare credential/permit applications. 14. Rate the extent to which you believe the HELP one-stop system will help your company achieve gains in productivity. 15. Rate the extent to which you believe the HELP one-stop system will provide your company with the following benefits reduced use of staff time in preparing and submitting credentials/permits. Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... amount of time required to prepare credential/permit applications. 8. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop services are currently working... ability to apply for credentials/permits. 9. Rate the extent to which you believe the HELP one-stop system has provided your company with the following benefit! reduced use of staff resources in preparing and submitting credentials/permits (i.e., increased productivity).
Motor Carrier Interviews	Baseline: Flowcharts of credential/permit activity: 1. Should any steps be added/deleted/changed to more accurately reflect your company 's process(es)?s 2. Provide numbers to till in the blanks on the flowchart 3. Provide time estimates for each step (etc.,). 4. Do you think this approach is appropriate for determining your company 's average cycle times? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information? Motor carrier average cost worksheets: 1. Another approach would be to come up with a unique cost per hour for each type of credential/permit activity that you company engages in . Does your company 's average cost per hour differ enough by type of credential/permit activity I justify this level of detail? 2. What credential/permit activities are included in the costs provided in worksheets #1, 2, and 3? Are any activity areas included in these costs? Is there "double-counting" among any of the cost categories? If so, how would you suggest backing out unique costs? 3. Are the staff who are responsible for supporting credential/permit application prepara tion and submittal (worksheet #1 the same staff as are responsible for credential/permit distribution (worksheet #2)?? If not, provide an hourly compensation rate appropriate for distribution staff. 4. Do facilities costs on worksheet #3 include other offices that may handle some credential/permit activities? 5. What is the average life expectancy for any capital equipment purchases reflected in worksheet #3? Operational test: Flowcharts of credential/permit activity: 1. First review the average cycle times developed for the flowchart documenting your company 's former (non-HELP) method of preparing and submitting credentials and permits . Is this correct or should any changes be made? 2. Should any steps be added/deleted/changed to more accurately reflect your company 's process(es) under the one-stop 3. Provide time estimates for each step taken by your company (etc.). 4. Do you think this approach is appropriate for determining your company 's average cycle times using HELP one-stop services? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information? Motor carrier configuration requirements and costs: 5. Worksheets # 1,2 , and 3 were prepared to help us develop an average cost per hour for your company 's former (non-HELP) method of preparing and submitting credentials and permits . Review the costs contained in these worksheets. Should any changes be made? Which estimates do you feel the least comfortable with?

1.1.2 Reduction in cycle times for state agencies to issue credentials/permits	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Service Center Logs	Daily dispatch activity log: Transaction #, carrier ID #, start time, end time, activity (describe)
Service Center Surveys	3. Rate the efficiency of the Service Center's current processes for issuing credentials and permits. 4. What do you think are the most inefficient aspects of the Service Center's current processes for issuing credentials and permits? 5. List the changes that offer the greatest potential for improving the Service Center's credentials/permit issuance cycle times.
Service Center Analyst Interviews	Flowcharts of credential/permit activity: 1. When and how do Service Center analysts first have a role in the IRP supplemental credential application transaction? Once involved, what are the key activities that the analysts undertake? At what points do they interact with other parties? When and how do they conclude their responsibilities? 2. Provide time estimates for each of the key steps taken by Service Center analysts that are not tracked through other means (e.g., activity logs). 3. Do you think this approach is appropriate for determining the average cycle times for Service Center analysts to conduct credential/permit transactions? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information?
State Agency Surveys	Baseline: 7. Rate the efficiency of your agency's current processes for issuing commercial vehicle credentials and permits. 8. What do you think are the most inefficient aspects of your agency's current processes for issuing commercial vehicle credentials or permits? 9. Rate the sufficiency of your agency's staffing resources considering your current workload. 10. Rate the extent to which the HELP one-stop system has the potential to provide the following specific benefits to your agency... reduced use of staff resources in credential/permit issuance... faster turnaround time for credential/permit issuance Operational test: 3. Rate HELP one-stop services compared to your customary method of issuing credentials and permits... amount of time required to issue credentials/permits. 5. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop services are currently working... ability to issue credentials/permits 6. Rate the extent to which you believe HELP one-stop services have provided your agency with the following benefits... reduced use of staff resources in issuing credentials/permits (increased productivity)... faster turnaround time for issuing credentials/permits.

State Agency Interviews	Baseline: Flowcharts of credential/permit activity: 1. Should any steps be added/delete&changed to more accurately reflect your agency's process? 2. Provide numbers/percentages to till in the blanks on the process flowchart. 3. Provide time estimates for each step (etc.,). 4. Do you think this approach is appropriate for determining average agency cycle times? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways toget this information? State agency average cost worksheets: 1. Another approach would be to come up with a unique cost per hour for each type of credential/permit activity if your agency is responsible for more than one area. Do average agency costs per hour differ enough by type of activity to justify this level of detail? 2. Review total agency operational costs on the worksheet against the responses to pg. 19 of the LM system design survey What commercial vehicle credentials/permits are included in these costs? What other programs are also included in these costs? 3. Can you estimate the percent of costs accounted for by each (CV and non-CV programs)? Do you think splitting the costs out percentage-wise is best for our purposes or is it more appropriate (and possible) to come up with specific CV estimates for each cost category? 4. Do salary costs include all full time as well as part time/temporary personnel? All compensation costs (including benefits)? 5. Is there "double-counting" among any of the cost categories? If so, how would you suggest backing our unique costs? 6. Do facilities costs include both headquarters and field offices relevant to CV programs? Are non-CV activities going on in these facilities? 7. What's included in "other costs"? What non-operational CV program costs (e.g., for capital equipment) should be amortized and included under total agency CV costs? 8. Reviewing the example on the bottom half of the worksheet, could you estimate the total hours your agency spends on CV credential/permit activity? Substitute "real" data for the data in the example. Operational test: Flowcharts of credential/permit activity: 1. Fit review the average cycle times developed for the flowchart documenting your agency's former (non-HELP) method of issuing credentials and permits. Is this correct or should any changes be made? 2. Should any steps be added/deleted/changed to more accurately reflect your agency's process(es) under the one-stop? 3. Provide time estimates for each step taken by your agency (etc.). 4. Do you think this approach is appropriate for determining your agency's average cycle times using HELP one-stop services? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information? State agency configuration requirements and costs: 5. Review the average cost per hour worksheet for non-HELP agency credential/permit activity developed as a part of our baseline interview with you. Should any changes be made? Which estimates do you feel the least comfortable with and how could these be improved?
1.1.3 Reduction in cycle times for motor carriers to submit and receive credentials/permits	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Motor Carrier Surveys	Baseline: 5. Estimate the percent or number of applications reported in question #4 that your company submits to participating states, either through a third party (e.g., service or permit agent) or through your own employees' submittal of applications via mail, electronic transfer (EDI, tape/diskette, or fax), or in-person (walk-in to agency office site). 6. If your company's method of application submittal varies among the states of Arizona, California, and New Mexico, please describe how below. 7. Rate the efficiency of your company's current processes for preparing and submitting credential and permit applications. 8. What do you think are the most inefficient aspects of your company's current processes for preparing and submitting credential and permit applications? 9. Rate the sufficiency of your company's staffing resources for preparing and submitting credential and permit applications. 10. Rate your satisfaction with the following aspects of the current credential and permit application process... turnaround time between submittal of applications and receipt of credentials/permits from state agencies. 15. Rate the extent to which you believe the HELP one-stop system will provide your company with the following benefits... reduced use of staff time in preparing and submitting credentials/permit... faster turnaround time for obtaining credentials/permits from state agencies. Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... turnaround time between submittal of credential/permit applications and receipt of credentials/permits from state agencies. 9. Rate the extent to which you believe the HELP one-stop system has provided your company with the following benefits... faster turnaround time for obtaining credentials/permits from state agencies.

Motor Carrier Interviews	Baseline: Flowcharts of credential/permit activity: 1. Should any steps be added/deleted/changed to more accurately reflect your company's process(es)? 2. Provide numbers to fill in the blanks on the flowchart. 3. Provide time estimates for each step (etc.,). 4. Do you think this approach is appropriate for determining your company's average cycle times? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information? Operational test: Flowcharts of credential/permit activity: 1. First review the average cycle times developed for the flowchart documenting your company's former (non-HELP) method of preparing and submitting credentials and permits. Is this correct or should any changes be made? 2. Should any steps be added/deleted/changed to more accurately reflect your company's process(es) under the one-stop? 3. Provide time estimates for each step taken by your company (etc.,). 4. Do you think this approach is appropriate for determining your company's average cycle times using HELP one-stop services? Do you have any suggested changes? Which estimates do you feel the least comfortable with? Do you have any suggestions for other ways to get this information?
1.2.1 Reduction in motor carrier rejection/reapplication rates	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Motor Carrier Surveys	Baseline: 12. Estimate the percent of applications submitted by your company which generate follow-up clarification/correction requests from agencies in Arizona, California, or New Mexico by phone/fax or mail before they are approved. Also indicate the percent which are approved without requiring any further contact with state agencies. 15. Rate the extent to which you believe the HELP one-stop system will provide your company with the following benefits... reduced credential/permit application rejection rates. Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... credential/permit rejection rate (frequency of application rejection by state agencies for incomplete information or errors). 9. Rate the extent to which you believe the HELP one-stop system has provided your company with the following benefits... reduced credential/permit application rejection rates.
1.2.1 Reduction in motor carrier rejection/reapplication rates	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
State Agency Surveys	Baseline: 4. For each of the commercial vehicle credentials or permits which are the responsibility of your agency, estimate the percent that are usually approved without the need for further clarification or correction from the submitting motor carrier. 5. For applications which do require further clarification or correction, rate the frequency with which the following is needed. 10. Rate the extent to which the HELP one-stop system has the potential to provide the following specific benefits to your agency... increased approval rates for credential/permit applications. Operational test: 3. Rate HELP one-stop services compared to your customary method of issuing credentials and permits... credential/permit approval rate. 6. Rate the extent to which you believe HELP one-stop services have provided your agency with the following benefits... increase in credential/permit application approval rates.
State Agency Interviews	Baseline: Agency baseline survey: 4. What are the common problems with carrier applications that should be listed under question 5?

1.2.3 Reduction in state agency tax/fee computation variations based on identical inputs	
Service Center Analyst Interviews	Service Center staff survey: 6. Have you noticed any variations/errors in the system's calculation of credential/permit taxes or fees? Problems in accuracy? If so, please describe.
Motor Carrier Surveys	Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... variations (e.g., errors) in the calculation of credential/permit taxes or fees owed.
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 7. Re question 6, have you noticed any variations/errors in the calculation of credential/permit taxes or fees? If so, please describe. 13. Have agencies in the participating states ever inaccurately assessed the taxes/fees owed by your company or issued erroneous credentials or permits to your company? If so, describe circumstances.
State Agency Surveys	Baseline: 6. What percent of the commercial vehicle credentials and permits issued by your agency contain incorrect information or inaccurately assessed taxes/fees due to mistakes made by agency personnel in entering data? Operational test: 3. Rate HELP one-stop services compared to your customary method of issuing credentials and permits... variations in calculating credential/permit taxes and fees.
State Agency Interviews	Baseline: Agency baseline survey: 5. In question 6, how significant are these problems for your agency? Are most of these problems more "clerical" (e.g., misspellings) or "substantive" (e.g., money!) in nature? Operational test: State agency operational test survey: 6. Re question 3, have you noticed any variations/errors in the calculation of credential/permit taxes or fees? If so, please describe.
Simulated Data	**TO BE DETERMINED**
1.3.1 Increases in convenience of conducting CVO credential/permit transactions for motor carriers and state agencies	
Motor Carrier Surveys	Baseline: 10. Rate your satisfaction with the following aspects of the current credential and permit application process... convenience of preparing and submitting credential/permit applications. Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... convenience of submitting credential/permit applications... convenience of paying for credentials/permits.
State Agency Surveys	Operational test: 3. Rate HELP one-stop services compared to your customary method of issuing credentials and permits... convenience of issuing credentials/permits... convenience of credential/permit payment.
1.3.2 Percent of motor carrier initiated transactions that are completed by HELP one-stop services	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Service Center Logs	Daily phone activity log: Call time, type of request, resolution Daily dispatch activity log: Transaction #, carrier ID #, start time, end time, activity (describe)

1.3.3 Percent of all motor carriers credential/permit transactions that can be performed by HELP one-stop services	
Motor Carrier Surveys	Baseline: 21. Are there any transactions which you think should eventually be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test? 22. Are there any transactions which you do not think the HELP one-stop system should perform? Operational test: 8. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your business... number of credentials/permits supported. 8. Rate your satisfaction with the way the following function? and characteristics of HELP one-stop services are currently working... number of credentials/permits supported. 12. Are there any transactions which you think should eventually be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test? 13. Are there any transactions which you do not think the HELP one-stop system should perform?
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 4. What % of your overall annual credential and permit transaction volume do you think could be accomplished using HELP one-stop services? What % would you like to accomplish using HELP one-stop services if all transactions were possible?
State Agency Surveys	Baseline: 3. For each of the commercial vehicle credentials or permits which are the responsibility of your agency, estimate the number of applications that you received in 1995. 16. Are there any transactions which you think should eventually be performed by the HELP one-stop system that are not part of the operational test? 17. Are there any transactions which you do not think the HELP one-stop system should perform? Operational test: 5. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your agency... numb of credentials/permits supported. 5. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop servicesare currently working... number of credentials/permits supported. 8. Are there any transactions which you think should eventually be performed by a one-stop system (the HELP system or any other) that will not be demonstrated as a part of this operational test? 9. Are there any transactions which you do not think the HELP one-stop system should perform?
State Agency Interviews	Operational test: State agency operational test survey: 4. What % of your overall annual credential and permit transaction volume do you think could be accomplished using I-E one-stop services? What % would you like to be accomplished using HELP one-stop services if all transactions were possible?
2.1.1 Acceptability of HELP one-stop services accuracy	
Motor Carrier Surveys	Baseline: 13. Have agencies in the participating states ever inaccurately assessed the taxes/fees owed by your company orissued erroneous credentials or permits to your company? If so, describe circumstances. Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... variations (e.g., error in the calculation of credential/permif taxes or fees owed. 8. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop service are currently working... ability to calculate taxes/fees.
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 7. Re question 6, have you noticed any problems in accuracy? If so, please describe.
State Agency Surveys	Baseline: 6. What percent of the commercial vehicle credentials and permits issued by your agency contain incorrect information or inaccurately assessed taxes/fees due to mistakes made by agency personnel in entering data? 10. Rate the extent to which the HELP one-stop system has the potential to provide the following specific benefits to your agency... increased accuracy in issuing credentials/permits (in terms of data entry or calculation of taxes/fees). Operational test: 3. Rate HELP one-stop services compared to your customary method of issuing credentials and permits... accuracy in calculating credential/permit taxes and fees. 5. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop services are currently working... ability to calculate taxes/fees.

State Agency Interviews	Operational test: State agency operational test survey: 6. Re question 3, have you noticed any problems in accuracy? If so, please describe.
Simulated Data	**TO BE DETERMINED**
2.1.2 Acceptability of HELP one-stop services response speed	
Service Center Surveys	2. Rate the acceptability of the HELP one-stop system's... system response speed.
Service Center Analyst Interviews	Service Center staff survey: 3. Re question 2, in your opinion could any changes be made to improve the system's response speed?
Motor Carrier Surveys	Operational test: 4. Rate the turnaround speed of the HELP one-stop services that you applied for or used during the month of July. 5. Do you have any comments on the turnaround speed of HELP one-stop services?
Simulated Data	**TO BE DETERMINED**
2.1.3 Acceptability of the capability of HELP one-stop services to accommodate changes in volume without degraded cycle times	
System Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Service Center Analyst Interviews	Service Center staff survey: 4. Has the one-stop system exhibited any "volume sensitivity" (i.e., changes in cycle times in response to changes in volume) If so, how acceptable would you say is this level of volume sensitivity?
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 7. Have you noticed any increases in transaction times due to increases in the volume of transactions? If so, please describe.
Simulated Data	**TO BE DETERMINED**
2.2.1 Acceptability of HELP one-stop services availability at the times desired	
Service Center Logs	Service center supervisor weekly operating hours report: Hours of operation (day, date, time)
Service Center Surveys	2. Rate the acceptability of the HELP one-stop system's... system availability during operating hours.
Service Center Analyst Interviews	Service Center staff survey: 3. Re question 2, in your opinion could any changes be made to improve the system's availability?
Motor Carrier Surveys	Operational test: 2. Rate how available the HELP one-stop system and Service Center have been at the times when you wanted to use them.
Motor Carrier Interviews	Baseline: Follow-up interview questions: 3. What times (months of the year/days of the week/hours of the day) do you anticipate using the HELP one-stop system most heavily? Do you anticipate using the system during non-traditional periods? Operational test: Motor carrier operational test survey: 5. Re question 2, did you attempt to use the system or call the Service Center in non-business hours? If so, how was the response?
Simulated Data	**TO BE DETERMINED**
2.2.2 Acceptability of HELP one-stop services availability at the times desired	
Service Center Logs	Daily system maintenance tog: Indicate down and up times for scheduled maintenance periods. Indicate reason for scheduled maintenance. Indicate down and up times for unscheduled maintenance periods. Indicate reason for unscheduled maintenance.
Service Center Surveys	Operational test: 2. Rate the acceptability of the HELP one-stop system's. instances and duration of scheduled and unscheduled maintenance.
Service Center Analyst Interviews	Service Center staff survey: 3. Re question 2, in your opinion could any changes be made to improve the system's instances and duration of system scheduled and unscheduled down time?

Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 8. Have you noticed any system down time due to maintenance? If so, was this down time acceptable?
2.2.3 Acceptability of the HELP one-stop system's operational interface	
Service Center Surveys	2. Rate the acceptability of the HELP one-stop system's... operational interface (ease of use).
Service Center Analyst Interviews	Service Center staff survey: 3. Re question 2, in your opinion could any changes be made to improve the system's operational interface (what are your preferences for this in particular)?
Motor Carrier Surveys	Operational test: 4. Rate the turnaround speed of the HELP one-stop services that you applied for or used during the month of July. 5. Do you have any comments on the ease of use of HELP one-stop services? 8. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your business... ability to determine credential/permit requirements... attractiveness of user interface... ease of data entry. 8. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop service are currently working... attractiveness of user interface... ease of data entry.
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 8. Re question 8, how acceptable do you find the operational interface?
Simulated Data	**TO BE DETERMINED**
2.2.4 Acceptability of the HELP one-stop system's installation and maintenance environment	
Service Center Surveys	2. Rate the acceptability of the HELP one-stop system's... installation (e.g., of system upgrades) and maintenance environment.
Service Center Analyst Interviews	Service Center staff survey: 3. Re question 2, in your opinion could any changes be made to improve the system's installation and maintenance environment
Motor Carrier Surveys	Operational test: 8. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your agency... compatibility with other software programs... compatibility with current work practices. 8. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop service are currently working... compatibility with other software programs... compatibility with current work practices.
Motor Carrier Interviews	Operational test: Motor carrier operational test survey: 8. Re question 8, how acceptable do you find the installation and maintenance environment ?
State Agency Surveys	Operational test: 5. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your agency... compatibility with other software programs... compatibility with current work practices. 5. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop services are currently working... compatibility with other software programs... compatibility with current work practices.
2.2.5 Acceptability of the HELP one-stop system's capability for supporting hardware/software upgrades	
Service Center Analyst Interviews	Service Center staff survey: 5. How acceptable would you say is the system'scapability for supporting hardware/software upgrades? Could any changes be made to improve its capability in this area?
2.2.6 Acceptability of training provided on the HELP one-stop system to motor carriers/service agents, state agencies, and service center analysts	
Service Center Surveys	6. Rate how sufficient the training provided to Service Center analysts on the HELP one-stop system is. 7. Describe the topics that were well-covered in the training for Service Center analysts as well as the topics that merit greater attention.
Service Center Analyst Interviews	Service Center staff survey: 7. Re questions 6 and 7, are there any changes that could be made to improve the training provided to Service Center analyst! (e.g., more written documentation, more or different on-line help, or more hands-on training)?
Motor Carrier Surveys	Operational test: 3. Rate how helpful the following are to you in your use of HELP one-stop services (user's guide and training materials, on-line help, Service Center regulatory assistance, Service Center technical and operational assistance).

Motor Carrier Interviews	Baseline: Follow-up interview questions: 2. What type(s) of training would you like to see provided on the HELP one-stop system? How would you like it provide (e.g., through written guides, hands-on instruction, telephone support from the Service Center? Operational test: Motor carrier operational test survey: 6. Re question 3, how acceptable would you say was the training you were given? Would you suggest any changesin how it was given (e.g., more written documentation, more or different on-line help, or more hands-on training)?
State Agency Surveys	Operational test: 2. Rate how helpful the following are to you in your use of HELP one-stop services (user's guide and training materials, Service Center assistance).
State Agency Interviews	Operational test: State agency operational test survey: 5. Re question 2. how acceptable would you say was the training you were given? Would you suggest any changesin how it was given (e.g., more written documentation, more hands-on training)?
3.1.1 Operational test costs	
Service Center Analyst Interviews	Service Center configuration requirements and costs: 5. What types of costs will your company incur in the operational test? What total cost will be incurred by the end of the test:
Motor Carrier Surveys	Baseline: 16. Circle the range of costs that you expect your company to incur as a result of participating in the HELP One-Stop Operational Test for each of the following categories. Operational test: 10. Circle the range of costs that your company has incurred so far as a result of participating in the HELP One- Stop Operational Test.
Motor Carrier Interviews	Operational test: Motor carrier configuration requirements and costs: 3. In response to question to on the motor carrier survey, you were asked to indicate whether your company has incurred certain types of costs as a result of participating in the operational test. What total costs has your company incurred and for what?
State Agency Surveys	Baseline: 11. Circle the range of costs that you expect to be imposed on your agency as a part of the HELP one-stop operational test for each of the following categories. Operational test: 7. Circle the range of costs that your agency has incurred so far as a result of participating in the HELP One-Stop Operational Test for each of the following categories.
State Agency Interviews	Operational test: State agency configuration requirements and costs: 3. In response to question 7 on the state agency survey, you were asked to indicate whether your agency has incurred certain types of costs as a result of participating in the operational test. What total costs has your agency incurred and for what?
3.1.2 Operational test configuration requirements	
Service Center Analyst Interviews	Service Center configuration requirements and costs: 1. Describe the configuration requirements associated with using HELP one-stop services in your (Lockheed Martin IMS) work environment during the operational test... that is, the hardware, software, and other physical needs. 3. What are the configuration requirements for state agencies to use the one-stop system during the operational test? 4. What are the configuration requirements for motor carriers to use the one-stop system during the operational test?
Motor Carrier Interviews	Operational test: Motor carrier configuration requirements and costs: 1. Describe the "configuration requirements" associated with using HELP one-stop services in your work environment during the operational test... that is, the hardware, software, and other physical needs.
State Agency Interviews	Operational test: State agency configuration requirements and costs: 1. Describe the "configuration requirements" associated with using HELP one-stop services in your work environment during the operational test... that is, the hardware, software, and other physical needs.

3.2.1 Deployment costs	
Service Center Analyst Interviews	Service Center configuration requirements and costs: 6. What types of additional costs (and how much) does your company expect to incur to bring the system to a deployment ready-state? 7. As a services provider, who do you think should pay for the cost of one-stop services under a deployed environment? What types of payment plans (e.g., flat fee per month, fee per transaction) do you anticipate offering? 8. In your view, what is the probability that your company will pursue deployment of the system after the operational test has concluded? What kind of time lapse, if any, do you anticipate occurring between the conclusion of the operational test and the availability of the system in the commercial marketplace?
Motor Carrier Surveys	Baseline: 17. Describe any different or additional costs that you believe may be imposed on your company to continue participating in the HELP one-stop system if it moves from an operational test to a deployment stage.
Motor Carrier Interviews	Operational test: Motor carrier configuration requirements and costs: 4. Would you expect your costs to differ under a deployment, rather than an operational test, scenario? If so, how? Who do you think should pay for the cost of one-stop services under a deployed environment? Would you be willing to pay for the use of these services? What would be your preferred payment plan (e.g., flat fee per month, fee per transaction)? 6. If your company's employees can complete credential and permit transactions more quickly using HELP one-stop services, can this time be effectively used elsewhere (i.e., can these people be redeployed in another capacity)?
State Agency Surveys	Baseline: 12. Describe any different or additional costs that you feel may be imposed on your agency to continue participating in the HELP one-stop system if it moves from an operational test to a deployment stage.
State Agency Interviews	Operational test: State agency configuration requirements and costs: 4. Would you expect your costs to differ under a deployment, rather than an operational test, scenario? If so, how? Who do you think should pay for the cost of one-stop services under a deployed environment? Would you be willing to pay for the use of these services? If so, what would be your preferred payment plan (e.g., flat fee per month, fee per transaction)? 6. If your agency's employees can complete credential and permit transactions more quickly if motor carriers use HELP one-stop services, can this time be effectively used elsewhere (i.e., can these people be redeployed in another capacity)
3.2.2 Deployment configuration requirements	
Service Center Analyst Interviews	Service Center configuration requirements and costs: 2. Will your (Lockheed Martin IMS) configuration requirements differ under a deployment, rather than an operational test, scenario? If so, how? 3. How do you envision changes in (motor carrier) configuration requirements under a deployment scenario? 4. How do you envision changes in (state agency) configuration requirements under a deployment scenario?
Motor Carrier Interviews	Operational test: Motor carrier configuration requirements and costs: 2. Would you expect your "configuration requirements" to differ under a deployment, rather than an operational test, scenario? If so, how?
State Agency Interviews	Operational test: State agency configuration requirements and costs: 2. Would you expect your "configuration requirements" to differ under a deployment, rather than an operational test, scenario? If so, how?
4.1.1 Motor carrier preferences	
Service Center Surveys	10. Describe any requests received from motor carriers or state agencies that the HELP one-stop system or Service Center was able to fulfill. 11. Based on conversations with motor carriers and state agencies, what do they like best about the HELP one-stop system or Service Center? What would they like to change?
Service Center Analyst Interviews	Service Center staff survey: 8. Have you received any feedback from motor carriers that you would like to share with us?

Motor Carrier Surveys	Baseline: 10. Rate your satisfaction with the following aspects of the current credential and permit application process... amount of regulatory information and assistance available from state agencies. 15. Rate the extent to which you believe the HELP one-stop system will provide your company with the following benefits... more consistent processing times (less variability in the length of time it takes to receive credentials/permits). Operational test: 6. Rate HELP one-stop services compared to your former method of obtaining credentials and permits... amount of regulatory information and assistance available. 7. Rate your agreement with the following statements... The Service Center adds significantly to the value of the HELP one-stop system... I prefer using HELP one-stop services over my former method of obtaining credentials and permits. 8. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your business… ability to determine credential/permit requirements... ability to apply for credentials/permits... ability to calculate taxes/ fees... ability to transfer funds... ability to issue temporary credentials/permits... ability to print transaction activity reports, access to Service Center assistance. 8. Rate your satisfaction with the way the following functions and characteristics of HELP one-stop services are currently working... ability to determine credential/permit requirements... ability to transfer fund... ability to issue temporary credentials/permits... ability to print transaction activity reports... access to Service Center assistance. 9. Rate the extent to which you believe the HELP one-stop system has provided your company with the following benefits... more consistent processing times (less variability in the length of time it takes to receive credentials/permits). 11. What changes (in functionality, design, etc.) would you like to see made to HELP one-stop services?
Motor Carrier Interviews	Baseline: Follow-up interview questions: 4. What specific functions/characteristics of the HELP one-stop system do you think will be most important to you? Operational test: Motor carrier operational test survey: 9. What do you like best/least about HELP one-stop services?
4.1.2 Motor carrier frequency of use	
Systems Records Selection	Transaction #, carrier ID #, state ID #, date, location, stage of process, start time, end time, transaction results
Service Center Surveys	8. How many calls per day do the Service Center staff typically make to or receive from motor carriers and state agencies?
Motor Carrier Surveys	Baseline: 1. Indicate the current number of owned and leased single unit trucks, power units, and trailers/dollies for which your company obtains credentials or permits in the states participating in the HELP One-Stop Operational Test, 4. Of the following types of credential and permit applications, estimate the number that your company submits annually to the participating states. Operational test: 1. What percent of the credential or permit transactions that you conducted during July were conducted using HELP one-stop services?
4.1.3 Changes in motor carrier attitudes and behavior over time	
Service Center Surveys	8. How many calls per day do the Service Center staff typically make to or receive from motor carriers and state agencies? 9. When motor carriers and state agencies contact the Service Center, what types of information or assistance do they typically need?
Motor Carrier Surveys	Operational test: 7. Rate your agreement with the following statements... My opinion of HELP one-stop services has improved as I have gained experience with them... The types of HELP one-stop services I have used have expanded as I have gained experience with them.
Motor Carrier Interviews	Baseline: Motor carrier baseline survey: 3. Do you plan to use the HELP one-stop system for all of the credentials/permits you've checked under question 4? If not, describe what you will use the system for vs. what you will not use it for. Operational test: Motor carrier operational test survey: 3. Re question 1, did you expect to use the system more or less than you actually did? If so, why? Do you expect touse the system more or less in the coming months? If so, why7 4. What % of your overall annual credential and permit transaction volume do you think could be accomplished using HELP one-stop services? What % would you like to be accomplished using HELP one-stop services if all transaction were possible?

4.2.1 State agency preferences	
Service Center Surveys	10. Describe any requests received from motor carriers or state agencies that the HELP one-stop- system or Service Center was not able to fulfill. 11. Based on conversations with motor carriers and state agencies, what do they like best about the HELP one-stop system or Service Center? What would they like to change?
State Agency Surveys	Operational test: 4. Rate your agreement with the following statements... The Service Center adds significantly to the value of the HELP one-stop system... I prefer that motor carriers use HELP one-stop services rather than their former method of obtaining credentials and permits. 5. Rate the importance of the following functions and characteristics of HELP one-stop services to you in your agency... ability to determine credential/permit requirements... ability to issue credentials/permits... ability to calculate taxes/fees... ability to transfer funds... ability to issue temporary credentials/permits... ability to print transaction activity reports... access to Service Center assistance. 5. Rate your satisfaction with the way. the following functions and characteristics of HELP one-stop services are currently working... ability to determine credential/permit requirements... ability to transfer funds... ability to issue temporary credentials/permits... ability to print transaction activity reports..... access to Service Center assistance. 6. Rate the extent to which you believe HELP one-stop services have provided your agency with the following benefits... more consistent processing times (less variability in the length of time it takes to issue credentials/permits).
State Agency Interviews	Operational test: State agency operational test survey: 7. What do you like best/least about HELP one-stop services?
4.2.2 Changes in state agency attitudes and behavior over time	
Service Center Surveys	8. How many calls per day do the Service Center staff typically make to or receive from motor carriers and state agencies? 9. When motor carriers and state agencies contact the Service Center, what types of information or assistance do they typically need?
State Agency Surveys	Operational test: 1. Did you have any contact with the HELP One-Stop Service Center during the month of July? 4. Rate your agreement with the following statements... My opinion of HELP one-stop services has improved as I have gained experience with them.
State Agency Interviews	Operational test: State agency operational test survey: 3. Re question 1, did you expect to use HELP one-stop services more or less than you actually did? If so, why? Do you expect to use HELP one-stop services more or less in the coming months? If so, why? 4. What % of your overall annual credential and permit tr ansaction volume do you think could be accomplished using HELP one-stop services? What % would you like to be accomplished using HELP one-stop services if all transactions were possible?
5.1.1 Motor carrier views on one-stop services	
Service Center Logs	Daily phone activity log: Call time, type of request, resolution
Service Center Analyst Interviews	Service Center staff survey: 8. Have you received any feedback from motor carriers that you would like to share with us?
Motor Carrier Surveys	Baseline: 18. Rate the level of non-technical and technical difficulty that you expect to encounter in using the HELP one-stop system to acquire credentials and permits. 19. Describe the greatest challenges that you expect to encounter in using the HELP one-stop system to acquire credentials and permits. 20. Describe the greatest challenges that the HELP one-stop system may encounter if it is to progress from an operational test to a deployment stage. Operational test: 7. Rate your agreement with the following statements... I would like to continue using HELP one-stop services after the operational test has concluded... I would recommend HELP one-stop services to other motor carriers. 16. Rate your support for the following... expanding the number of states for which HELP one-stop services provides credentials/permits... expanding the types of credentials/permits offered by HELP one-stop services to other regulatory areas (e.g., safety credentials, FHVUT)... offering HELP one-stop services to Mexican and Canadian carriers (for NAFTA related trade)... providing weigh stations with a list of the credentials/permits that motor carriers have acquired from HELP one-stop services to promote electronic clearance and (eventually) reduce the paperwork that must be carried on board trucks.

5.1.2 Motor carrier views on ITS applications in general	
Motor Carrier Surveys	Baseline: 23. Rate how supportive you are of adopting advanced computer, electronic, and communication technologies in your own work environment. 24. Rate how supportive your company's management is of adopting advanced computer, electronic, and communication technologies in their business. Operational test: 16. Rate your support for the following... adopting advanced computer, electronic, and communication technologies in your business.
5.2.1 State agency views on one-stop services	
Service Center Logs	Daily phone activity log: Call time, type of request resolution
Service Center Analyst Interviews	Service Center staff survey: 8. Have you received any feedback from state agencies that you would like to share with us?
State Agency Surveys	Baseline: 13. Rate the extent of difficulty that you believe your agency will face in supporting the implementation of the HELP one-stop system. 14. Describe the greatest challenges that you believe your agency will encounter in supporting the implementation of the HELP one-stop system. 15. Describe the greatest challenges that the HELP one-stop system may encounter if it is to progress from an operational test to a deployment stage. Operational test: 4. Rate your agreement with the following statements... I would like to continue using HELP one-stop services after the operational test has concluded... I would recommend HELP one-stop services to other state agencies. 10. Describe any non-technical challenges (organizational, regulatory, legal, etc.) that you have faced using HELP one-stop services and what, if anything, you have been able to do to resolve them. 11. Describe the greatest non-technical challenges that a one-stop system (the HELP system or any other) may encounter in moving from an operational test to nationwide deployment. Do you have any suggestions for resolving these challenges? 12. Rate your support for the following... expanding the number of states for which HELP one-stop services provides credentials/permits... expanding the types of credentials/permits offered by HELP one-stop services to other regulatory areas (e.g., safety credentials, FI-MJT)... offering HELP one-stop services to Mexican and Canadian carriers (for NAFTA related trade)... providing weigh stations with a list of the credentials/permits that motor carriers have acquired from HELP one-stop services to promote electronic clearance and (eventually) reduce the paperwork that must be carried on board trucks.
5.2.2 State agency views on ITS in general	
State Agency Surveys	Baseline: 18. Rate how supportive you are of adopting advanced computer, electronics, and communications technologies in your work environment. 19. Rate how supportive your management is of adopting advanced computer, electronics, and communications technologies in the agency. Operational test: 12. Rate your support for the following... adopting advanced computer, electronic, and communication technologies in your work environment.
5.3 No relevant factors	
Demographic information	
Service Center Analyst Interviews	Person enabling data capture
Service Center Logs	Daily system maintenance log: Date, person completing log Daily phone activity log: Name of recorder, date log completed Daily dispatch activity log: Name of recorder, date log completed Service center supervisor weekly operating hours report: Name of recorder, date log completed

Service Center Surveys	Name of recorder, date completed 1. Indicate how many of the Service Center's staff fit into each of the following categories.
Service Center Analyst Interviews	General questions re survey: 1. Are there any survey questions that you didn't understand or thought needed to be worded more clearly? 2. How long did it take you to complete this survey? How do you think it could be improved?
Motor Carrier Surveys	Baseline: Person completing survey 2. Indicate the total number of fleet miles your company reported for highway use tax purposes nationwide and in the following participating states for 1995. 3. What are your company's base states for the following regulatory programs? 11. Rate your company's level of automation for business record keeping and processing related to the acquisition of credentials and permits. Operational test: Person completing survey
Motor Carrier Interviews	Baseline: Motor carrier baseline survey: 1. Are there any survey questions that you didn't understand or though needed to be worded more clearly? 2. How long did it take you to complete this survey? How do you think it could be improved? 4. Would your answer to questions 7 through 12 differ by type of credential/permit? 5. In question 15, what are the key benefit categories that should be listed? In question 16, what are the key cost categories that should be listed? Follow-up interview questions: 1. Which of the following characteristics applies to your company? Check all applicable (motor carrier type, commodities hauled, geographic range of operation). Operational test: Motor carrier operational test survey: 1. Are there any survey questions that you didn't understand or thought needed to be worded more clearly? 2. How long did it take you to complete this survey? How do you think it could be improved?
State Agency Surveys	Baseline: Person completing survey 1. Indicate the number of motor carrier accounts in your jurisdiction (i.e.,the number of motor carriers who obtained credentials or permits from your agency) in 1995. 2. Estimate the percent or actual number of these accounts that represent the following number of power units. Operational test: Person completing survey
State Agency Interviews	Baseline: Agency baseline survey: 1. If your agency is responsible for more than one type of credential/permit activity, would your responses to questions 1,2,5,6,7,8, and 9 differ by type of activity7 How about for opinion information (questions 10 through 20)? 2. Is "accounts" the best term to use in question 1 to capture the number of separate motor carriers with whom you conduct transactions? 3. Will the number of power units in question 2 be the best way of categorizing the relative size of the motor carriers wit whom you conduct transactions? 6. In question 1 I, what are the key benefit categories that should be listed? In question 12, what are the key cost categories that should be listed? 7. How long did it take you to complete this survey? Howdo you think it could be improved? Operational test: State agency operational test survey: 1. Are there any survey questions that you didn't understand or thought needed to be worded more clearly? 2. How long did it take you to complete this survey? How do you think it could be improved?
Simulated Data	**TO BE DETERMINED**