



Oregon Green Light

CVO Evaluation

FINAL REPORT

DETAILED TEST PLANS 13 and 14

Mainstreaming and Interoperability

Issues

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DISCLAIMER

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1 DETAILED TEST INTRODUCTION

1.1 BACKGROUND

This Report is the last report submitted as part of the independent technical evaluation of the Oregon Green Light CVO project. The Oregon Department of Transportation (ODOT) is near completion of the implementation of their Intelligent Vehicle Highway System Strategic Plan for Commercial Vehicle Operations (now referred to as ITS/CVO). Through Green Light, Oregon is installing twenty-one mainline preclearance systems featuring weigh-in-motion (WIM) devices and automatic vehicle identification (AVI) at the major weigh stations and ports-of-entry in the state. In addition, certain sites have been equipped with safety enhancements that regulate road conditions and speed. Examples are the Downhill Speed Information System at Emigrant Hill, and the installation of weather stations at three other locations.

The purpose of this report is to present the results of Detailed Test Plans (DTP) #13 and #14. There will be similar reports for all other Detailed Test Plans developed for the Green Light Evaluation. The Detailed Test Plans were published in 1997, "The Oregon 'Green Light' CVO Evaluation -Detailed Test Plans" [1]. Earlier documents providing essential background to the Evaluation are the Evaluation Plan [2], and, Individual Test Plans (ITP) [3].

Each of the tests conducted by the research team for the evaluation of Green Light addressed one of five goals of the evaluation as documented in the Evaluation Plan [2]. These are:

- Assessment of Safety
- Assessment of Productivity
- Assessment of User Acceptance
- Assessment of Mainstreaming Issues
- Assessment of Non-Technical Interoperability Issues

The objectives associated with each goal are given in detail in The Oregon “Green Light” CVO Project - *Individual Test Plans* (ITP) [3]. In addition, condensed one-page tables are contained in the appendices of the ITP, outlining the measures to be conducted for each of the stated objectives. The detailed test plan documents [1] expand on the information provided in the ITP and provide in detail the activities planned for each *evaluation measure* during the course of the evaluation in regards to the stated objectives.

1.2 PURPOSE AND SCOPE

This report presents the results of four test measures employed with the following **objectives**:

4.1 Document regional and national mainstreaming issues,

4.2 Document approaches to solve mainstreaming issues and final resolutions’

5.1 Document non-technical interoperability issues,

5.2 Document approaches attempted to solve non-technical interoperability and final resolutions

These objectives are in support of the **goals** of assessing mainstreaming and non-technical interoperability issues.

The evaluation **measures** used to reach the stated objectives are:

- **Measure 4.1.1 Identify, assess and document pertinent regional and national issues and assess the impacts to Green Light for customers and providers**
- **Measure 4.2.1 Document approaches attempted to solve regional and national mainstreaming issues as they arise, and final resolutions**
- **Measure 5.1.1 Identify, assess and document pertinent non-technical interoperability issues as they arise for customers and providers**
- **Measure 5.2.1 Document approaches attempted to solve non-technical interoperability issues as they arise, and final resolutions**

A description of the hypotheses to be tested as well as the test methodology and deliverables is given in Chapter 2. Chapter 3 summarizes the results of this part of the evaluation, and, Chapter 4 presents Conclusions and Recommendations.

1.3 DISCUSSION

Major changes at the federal level of government have greatly impacted the use of highways by commercial vehicles, principally large and heavy trucks. The sea change was initiated in the Intermodal Surface Transportation Efficiency Act (ISTEA) and advanced in the Transportation Equity Act for the 21st Century (TEA-21, the \$175 Billion reauthorization of ISTEA). A primary driver within ISTEA and TEA-21 is the national priority assigned to Intelligent Transportation Systems (ITS) and Commercial Vehicle Operations (CVO) programs. Exhibit 1-2 is a summary (presented in DTPs 13 and 14 in 1997) of a few of the milestones for ITS and CVO anticipated from 1995 through 1999.

EXHIBIT 1-1 Anticipated Milestones for ITS and CVO by Year

YEAR	EVENT
1995	Complete the ITS/CVO architecture design for an international "CVOnet Backbone" to support an Information Exchange System (IES) among public regulatory agencies, private trucking firms, and other stakeholders.
	Develop preliminary standards for procedures, training, data requirements, communication protocols, software, and hardware to support the deployment of ITS/CVO services—electronic clearance of safe/legal trucks, automated roadside safety inspections, electronic purchase of credentials.
	Organize the CVOnet Backbone, IES, model states, model motor carriers, existing electronic clearance projects, CVO institutional issues, and existing national safety databases for a prototype national CVO information system with priority placed on electronic clearance of safe/legal commercial vehicles.
	Six electronic clearance sites operational on the HELP Inc. system in California.
	Equip 30 sites along the Advantage I-75 corridor and initiate the beta test of electronic clearance with 4,500 transponder equipped vehicles.
	Conduct the second round of multi-State ITS/CVO Institutional Issues projects in a total of 40 states to continue to facilitate regional: public/private forums, agreements on electronic data sharing and requirements, uniformity of regulatory requirements, etc. Use these to ensure widespread acceptance of and participation in the ITS/CVO program by the states and motor carrier industry.
	Initiate and participate with NHTSA in researching and testing on-board safety devices that monitor the safety status of trucks/buses for hazards such as fatigued drivers, vehicles with unsafe brakes, unstable cargo, etc.
	Continue efforts begun in early CY 1995 in the area of hazardous materials incident response (HMIR) specifically the Congressional mandate for a HMIR operational test with the National Institute for Environmental Response and the expansion of the DOT interagency partnership (RSPA, FRA, and FHWA) project—Operation Respond intermodal HMIR effort—from Houston, TX to Laredo, TX and other sites.
	Initiate research to identify and evaluate smart card technology applications to the ITS/CVO program. Develop a draft concept for integrating smart cards into the national CVO architecture.
	Make substantial progress (60 percent complete on deliverables) on the three operational tests for electronic one-stop purchase of motor carrier credentials and the operational test for electronic out-of-service verification.
	Complete preliminary analysis and recommendations of advanced brake testing technologies. As part of our ongoing test and evaluation program, we will continually re-evaluate our data collection requirements for each type of technology (i.e., roller dynamometer, flat-plate, torque, etc.) and proceed accordingly. For example, if sufficient data has been collected and evaluated for a particular technology during the evaluation process, we will expedite our final recommendation, and begin the integration phase of the program.

EXHIBIT 1-1 Anticipated Milestones for ITS and CVO by Year (Cont.)

1996	Initiate the Green Light electronic clearance project by equipping sixteen sites to support electronic clearance and other applications ready for integration.
	Equip 100 Motor Carrier Safety Assistance Program (MCSAP) inspection sites with communication technologies to facilitate the periodic electronic transfer of files of interstate carrier safety data from an existing national truck/bus safety database to roadside inspection sites.
	Deploy credential/safety clearance prototype in one model State with a finite number of model motor carriers for concept and system test. This prototype will integrate the roadside safety data access projects at 100 MCSAP sites with the roadside electronic clearing of safe/legal vehicles and with the tested technology applications for electronic one-stop purchasing of credential and out-of-service verification.
	Complete the evaluation for the application of advanced brake testing technology devices at the roadside to expedite the truck/bus inspection process and increase the total number of annual inspections. Begin integration of these technologies with the single-State prototype.
	Complete the evaluation for the three electronic one-stop purchasing of credential tests and the out-of-service test. Take the lessons learned and begin the integration of the technology applications with the single-State prototype.
1997	Finalize standards for procedures, training, data requirements, communication protocols, software, and hardware to support the deployment of ITS/CVO services.
	Deploy prototype electronic clearance system in model states. These states will represent various regions, various levels of automation, international border crossings, HELP Inc., Advantage I-75, Green Light, and I-95.
	Equip an additional 100 MCSAP sites for a total of 200 sites, and expand the national safety database to include intrastate carriers.
	Begin integration of Smart Card technology in the ITS/CVO program if appropriate.
	Continue work on the components of the ITS/CVO program to ensure interoperability within the CVOnet and IES in model states prototype for expansion to the all volunteer states in CY 1998.
1998	Begin the integration of all CVO components in all volunteer states and carriers. These include electronic one-stop purchase of credentials, out-of-service verification, hazardous material incident response, advanced brake testing, the 200 MCSAP sites, and (if proven feasible) Smart Card commercial drivers licenses for drivers.
	Deploy basis credential/safety clearance in all interested states.
	Achieve a 10 percent motor carrier market penetration using ITS/CVO application.
1999	Continue deploying complete configuration in all volunteer states.
	Achieve a 20 percent motor carrier market penetration using ITS/CVO applications.

The Oregon DOT, with a business plan for CVO in place, has exhibited leadership in embracing some of the national ITS/CVO user services. The six national ITS/CVO user services are:

- Commercial Vehicle Electronic Clearance
- Automated Roadside Safety Inspections
- On-board Safety Monitoring
- Commercial Vehicle Administrative Processes
- Hazardous Material Incident Response
- Freight Mobility

Many of the components of these user services have been made elements of CVISN (commercial vehicle information systems network), a high-level infrastructure that supports the electronic exchange of CVO credentials and safety information. Oregon teamed with Washington as a model deployment of this concept.

In essence, these activities form the **mainstreaming** initiative that officially began in September 1996. Oregon has teamed with California, Colorado, and Utah as a regional consortium with Oregon DOT as the lead. The primary goal is to engage in the deployment of ITS/CVO technologies nationwide. A target date of 2005 was set for accomplishing the goal.

The special objectives of **mainstreaming** are:

- emphasize safety, clearance, and credentials activities
- encourage automation of networks and facilities that support ITS/CVO deployment consistent with CVISN architecture
- establish the appropriate foundation for future integration and implementation of the CVISN architecture

As stated previously, Oregon had a head start in the **mainstreaming** initiative with an ITS/CVO business plan in place, established regional consortia via **MAPS** and CVISN. ODOT also had

an effective working relationship with the motor carrier industry of the state, as well as a financial program in place to support the initial phases of deployment—perhaps the only state with such a commitment at the time the project was initiated.

A series of non-technical **interoperability** issues has surfaced from time to time that require appropriate consideration. Whether institutional, financial, legal, political, bearing on the customer or public, acceptance of these issues must be placed in perspective and effectively resolved. It has proven to be an important effort for successful programs and requires an on-going effort throughout the life of the project.

2 TEST METHODOLOGY

2.1 PHYSICAL DESCRIPTION

This section discusses the activities carried out in the documentation of mainstreaming and interoperability issues and the approaches attempted to solve those issues.

2.1.1 Purpose

Mainstreaming of ITS/CVO strategies by definition is the deployment of technologies and process statewide. The activity is to consider the deployment of Green Light as a significant step in that direction as well as considering the ITS/CVO activities outside of Oregon and the effect on the Green Light.

The identification, definition and evaluation of non-technical interoperability issues is the second purpose of this report. Included is the documentation of the issues, outcomes, and implications.

2.1.2 Hypothesis

The following hypothesis is given in support of the four measures:

4.1.1 Knowledge of pertinent regional and national issues will increase the effectiveness of the Green Light program

4.2.1 Participation in pertinent regional and national issues will contribute to the effectiveness of the Green Light program

5.1.1 Knowledge of pertinent non-technical interoperability issues will increase the effectiveness of the Green Light program

5.2.1 Documentation of participation in, and approaches used to resolve pertinent non-technical interoperability issues will contribute to the effectiveness of the Green Light program

2.2 PRE-TEST ACTIVITIES

Planned and actual pre-test activities are summarized in Exhibit 2-1. As shown, the first three activities planned were not conducted. This was because of delays experienced during the early part of the project and a decision made by the steering committee to concentrate the evaluation effort in other areas. It was decided to simplify this part of the evaluation by focussing on the collection of all relevant documentation and by identifying and discussing issues.

EXHIBIT 2-1 Planned versus Actual Pre-Test Activities

PLANNED ACTIVITY	ACTUAL ACTIVITY
1) Preparation of a directory of participants	
Participants in this activity will include stakeholders of the Green Light program as well as key individuals representing groups (public and private) outside of Oregon. Participants list will be developed in consultation with the evaluation team and ODOT representatives.	None
2) Initialize the interview guide	
With input from the evaluation team and ODOT staff, a draft interview instrument will be designed reflecting the primary issues targeted for consideration. These issues will be identified from national, regional and state observations, review of secondary sources and experiences in other systems. A scaling technique will be used for a performance rating format.	None
3) Conduct a test interview	
Once the interview instrument is reviewed and finalized for external review, a pilot field test will be performed. Modifications will be made based on the results of the pilot test. Subjects for the pilot test will be selected in consultation with members of the evaluation team and ODOT staff. The project steering committee must approve before implementing.	None
4) Collect, catalog and summarize existing documents	
An on-going literature review of secondary sources will be part of this activity throughout the project. An annotated bibliography on key issues will be cataloged and integrated with project reports as appropriate.	The planned activity was conducted
5) Identification and Discussion of Non-technical Issues (Interoperability only)	
The primary and secondary data (prior studies, existing documents and survey results) provide the basis for this task. A typology approach will be used to array the issues and their evaluation.	The planned activity was conducted insofar as the issues were identified and discussed

2.3 PLANNED AND ACTUAL TEST CONDUCT ACTIVITIES

Below are the steps taken in this part of the of the Green Light project.

2.3.1 *Descriptions/Participants*

- Gregg Dal Ponte, Oregon Motor Carrier Transportation Branch was initially intended as the sole contact for this part of the evaluation. However, Randal Thomas became significantly involved as the project progressed.
- CM Walton, WHM Transportation Engineering Consultants, Inc. was initially intended to take the lead for the evaluation team. However, Chris Bell of Oregon State University assumed this role.

2.3.2 *Procedures*

Planned and actual activities are summarized in Exhibit 2-2. As shown, the first three activities planned were not conducted. As with the pre-test activities, this was because of delays experienced during the early part of the project and a decision made by the steering committee to concentrate the evaluation effort in other areas. It was decided to collect all relevant documentation and to identify and discuss issues, i.e. conduct a seamless continuation of the pre-test activities.

EXHIBIT 2-2 Planned versus Actual Test Activities

PLANNED ACTIVITIES	ACTUAL ACTIVITIES
1) Establish the interview schedule	
1a) The list of key contacts and stakeholders for programs and organizations within the state and elsewhere will be compiled for each of the issues and activities to be explored.	None
1b) The process, which may involve passive and active interview procedures, may be organized to focus on issues that would require one schedule and a process focused on activities (or regional projects) may require another. At this point, a schedule will be structured to meet the process to be approved by the steering committee.	None
2) Conduct Interviews	
As previously referenced, the interview process may include active and passive procedures. With active procedures appropriate techniques will be provided to interviewers and training provided to insure a highly professional and effective process.	None
3) Analyze the results of the interviews	
Various techniques of performance ratings and opinion based input will provide the basis of evaluating and tabulating the survey results. Several forms of displaying the findings will be considered for effectiveness and efficiency.	None
4) Listing and priority ranking of non-technical issues	
A set of ranking criteria will be developed as appropriate for placing in perspective the rank order of non-technical issues. The criteria and procedure will be developed with input from the evaluation team and steering committee. The evaluation process will be performed by the project staff and presented to the steering committee as deemed appropriate.	The activity conducted was a continuation of item 4) described in the pre-test activities.
Preparation of Strategy Document	
Documentation of the issues, their definition and implication, consequences, and resolution (successful, attempted or failed) will be the product of this task. The product will be of high utility in shaping subsequent internal programs and in guiding national efforts.	A document as described has not been produced, rather, an evaluation of the issues in incorporated in this report.

2.4 POST-TEST ACTIVITIES: REPORTING

2.4.1 Reporting Procedures for Individual Test

A report will be prepared for these test measures according to the guidelines given in the Evaluation Plan [1] and will proceed as follows:

1. Preparation of a draft report for each test to be submitted to the steering committee (SC) for their approval.
2. Approval of the SC at a scheduled meeting.
3. Preparation of a final test report, incorporating SC recommendations.
4. Submittal of 1 hardcopy original, 1 electronic original, and ten bound copies of the report to ODOT's project management team.
5. Transmittal of the report by ODOT to FHWA.

2.4.2 Reporting Schedule

The reporting schedule for the individual test reports is shown below:

Exhibit 2-3 Reporting Schedule - Individual Test Reports

Deliverables	Schedule	Scheduled Due Date*	Modified Due Date
Drafts of Individual Test Reports	July 1-August 30, 1999 (60 days)	September 1, 1999	April 30, 2000
Review of Individual Test Reports by Steering Committee	September 1-30, 1999 (30 days)	October 1, 1999	May 31, 2000
Final Test Reports	October 1-November 30, 1999 (60 days)	December 1, 1999	June 30, 2000

2.4.3 Data Retention/Archival Procedures

Data collected and documents produced over the course of the evaluation will be archived and submitted to ODOT project management. In addition, a document summarizing the data and reports will be produced as follows:

1. Preparation of a summary document describing data analyzed and reports prepared over the course of the evaluation.
2. Submittal of a data archive containing raw data files and all reports in compressed format.

2.4.4 Reporting Schedule for Data Retention/Archival Procedures

The reporting schedule for the archiving of data and the preparation of a summary document is given below:

Exhibit 2-4 Reporting Schedule - Data Archiving

Deliverables	Schedule	Scheduled Due Date*	Modified Due Date
Draft of a Data Summary Report	Dec 1, 1999 - Jan 30, 2000 (60 days)	February 1, 2000	April 30, 2000
Review of Data Summary Report by Steering Committee	Feb 1 - Feb 28, 2000 (28 days)	March 1, 2000	May 31, 2000
Data Summary Report (Final) and Data Archive	Mar 1 - Mar 30, 2000 (30 days)	April 1, 2000	June 30, 2000

2.4.5 Test Summary Report Procedures

A test summary report will be prepared highlighting findings from all of the test measures. The document will be produced as follows:

1. Preparation of a draft report summarizing the results of all the individual test reports for submittal to the SC.
2. Approval of the SC at a scheduled meeting.
3. Preparation of a final test summary report, incorporating SC recommendations.
4. Submittal of 1 hardcopy original, 1 electronic original, and ten bound copies of the summary report to ODOT's project management team.
5. Transmittal of the test reports by ODOT to FHWA.
6. Reporting Schedule for Test Summary

A reporting schedule is shown below for the test summary report:

Exhibit 2-3 Reporting Schedule - Test Summary Reports

Deliverables	Schedule	Scheduled Due Date*	Modified Due Date
Drafts of Test Summary Report	Dec 1, 1999 - Jan 30, 2000 (60 days)	February 1, 2000	April 30, 2000
Review of Test Summary Report by Steering Committee	Feb 1 - Feb 28, 2000 (28 days)	March 1, 2000	May 31, 2000
Test Summary Report (Final)	Mar 1 - Mar 30, 2000 (30 days)	April 1, 2000	June 30, 2000

3 SUMMARY OF MAINSTREAMING AND NON-TECHNICAL INTEROPERABILITY ISSUES

3.1 COLLECT, CATALOG AND SUMMARIZE EXISTING DOCUMENTS

An annotated bibliography of appropriate documents is presented in Appendix A. This bibliography is presented chronologically and draws predominantly from national and international publications as well as local sources (ODOT press releases, publications, and, local newspaper articles). The bibliography is weighted heavily towards interoperability issues, because those issues have proved to be significant in delaying market penetration of mainline pre-clearance technologies. On the other hand, mainstreaming has proceeded in a steady and non-controversial way. The bibliography supports this conclusion; there are many articles that report on the widespread adoption of the technologies.

In addition to the bibliography, a summary of the development of **interoperability** issues from ODOT's perspective is presented in Appendix B. This summary has been reproduced from a slide presentation prepared in early 2000, and, is also chronological.

The following section highlights significant developments and draws on key articles, such as those written by Slevin in ITS World in the last three issues of 1999 (refs 81, 92 and 93).

3.2 SIGNIFICANT DEVELOPMENTS

In the author's opinion, all the major developments were related to interoperability issues. Interoperability is therefore the emphasis here and in subsequent sections of this report.

The major events relating to the path to interoperability are summarized in Exhibit 3.1. The key stages are as follows:

- The Oregon Trucking Associations have endorsed the Green Light program for nearly four years. Other than a temporary setback when ODOT considered mandating transponders in late 1997/early 1998 their support has been constant.
- ODOT was a founder member of MAPS, an interoperable partnership among Oregon, Idaho, Utah and Washington.
- Oregon was a member of NORPASS for about six months (8/99 to 1/00) until withdrawing when the other NORPASS states signed a one-way interoperability agreement with PrePass. Oregon's withdrawal is because the agreement violates its principle that transponder users do not need permission of the owner to use their transponder in another system.
- Green Light carriers continue to be interoperable with NORPASS.
- Oregon has been unable to reach an interoperability agreement with PrePass.
- Florida is reported to have reached a two-way agreement with PrePass. The details are not known at this time, so it is not possible to tell if the form of the agreement would work for Oregon.

EXHIBIT 3.1 Major Events Relating to Interoperability

Date	Event
1995	GreenLight Project initiated. The Help Inc. (PrePass) program is also launched.
1996	The state of Washington joins Idaho, Oregon and Utah to form MAPS – the Multi-Jurisdictional Automated Preclearance System.
June 1996	Oregon Trucking Associations (OTA) endorse the program.
July 1997	ODOT selects TransCore as the transponder administrator
October 1997	The 1 st of 21 sites (Woodburn Port-of-Entry) opens
December 1997	OTA withdraws support because of reports that ODOT is giving serious thought to mandating the use of transponders and concern they intend to use the system for enforcement and collection of the weight-mile tax.
January 1998	ODOT indicates that their consideration of mandating transponders is very tentative.
January 1998	Advantage CVO and MAPS agree to make their systems full interoperable.
March 1998	Tennessee joins HELP program (PrePass), ACVO & MAPS sign agreement
April 1998	In an interview for ITS America, Joe Crabtree of ACVO indicates that ACVO/MAPS will not retain data on electronically processed trucks that isn't retained on manually processed ones.
June 1998	OTA restores its support for the Green Light program.
June 1998	ODOT announces its "Trusted Carrier Program" to recognize exemplary carriers participating in Green Light. The program starts in August.
June 1998	At a western region CVO mainstreaming conference, Dick Landis (president of HELP) is quoted as saying that HELP is concentrating on marketing and deployment and that interoperability wiith other systems was not their primary focus.
July 1998	It is announced that ACVO & MAPS are considering a merger.
December 1998	In response to requests from several PrePass carriers, Oregon enters their transponder codes in the Green Light system. PrePass ends Oregon a litigationwarning letter. Oregon agrees to suspend processing PrePass carriers pending a meeting with PrePass. A ruling from Oregon's Dept. of Justice indicates that there is no cause for action. Oregon does not continue to process PrePass carriers.
May 1999	Legislation to repeal Oregon's Weight-Distance tax is introduced. This was subsequently approved but not implemented because of a ballot measure introduced by AAA of Oregon opposing the changes.

August 1999	Oregon joins NORPASS, a merger of ACVO and MAPS states. NORPASS has a similar business model to Green Light – carriers pay a \$45 annual fee and are not charged any subsequent fees. NORPASS is seen by some as a significant challenger to PrePass whose business model is to charge their carriers 99 cents per pass basis, up to 4 passes per day.
October 1999	The board of HELP Inc. develop an interoperability policy for the Use of Carrier-Owned and Third Party Transponders Within PrePass, The dominant feature is that a carrier cannot be enrolled in PrePass without the transponder owners permission
January 2000	Oregon withdraws from NORPASS after the other member states vote to accept a on-way interoperability agreement with PrePass. The agreement allows PrePass qualified carriers to be processed at PrePass sites for the same user fees assessed PrePass carriers. As yet no provision is made for PrePass carriers to be processed at NORPASS sites. Oregon's withdrawal is because the agreement violates its principle that transponder users do not need permission of the owner to use their transponder in another system.
February 2000	Oregon ends its contract with TransCore and assumes all aspects of administration of the Green Light program. Ownership of transponders is given to carriers already enrolled in Green Light, i.e. almost 5,000 transponders. ODOT will distribute another 7,500 transponders to carriers free of charge.
April 2000	It is announced that Florida and PrePass will sign a two-way interoperability agreement allowing PrePass carriers to be processed at NORPASS sites and vica versa.
April 2000	By the end of April, ODOT has distributed all of the 7,500 transponders and several more. They will continue to do so at no charge until 25,000 Green Light transponders are enrolled.

3.3 DISCUSSION OF KEY ARTICLES AND EVENTS

The background to and path towards two-way operability are well described in a series of three articles in “ITS World” by Jonathon Slevin. The first article (reference 81) explains the two different business models that have emerged in the automated pre-clearance field. One is the public/private approach used by NORPASS with infrastructure financed by public funds, a private transponder administrator funded by annual fees (\$45), and, no fee for each preclearance received. Since withdrawing from NORPASS, Oregon’s Green Light program is funded totally by a public agency. The other model is a totally private operation with no annual fees, but a cost per clearance of 99 cents with a maximum daily cost per truck of \$3.96.

Slevin points out that there is a lot at stake as well as different philosophies. He indicates that the investment to date in the PrePass infrastructure may be as high as \$80 million. Similarly, the NORPASS states have invested considerably; Oregon alone has spent \$25 million on Green Light. The revenue for PrePass depends on the number of trucks enrolled, number of PrePass sites and number of daily preclearances. PrePass currently has about 129,000 trucks enrolled (May 29, 2000 from their website at: PrePass.com). Based on Oregon’s experience with the number of monthly preclearances when the number of transponders was at a near steady state, PrePass revenues are estimated at about \$1 million per month. Revenue will be much higher as market penetration grows. At stake for the NORPASS states and Oregon are principles regarding how they regulate trucking and how they invest public funds. In Oregon’s case, they believe that they have the right to read any transponder that passes a Green Light site – a transponder is an electronic license plate. If the transponder user wishes to be enrolled in Green Light they should have that right (for an annual fee, currently zero) and have the

opportunity to be cleared each time they pass a Green Light site. Oregon believes that their carriers be able to receive preclearance when operating in another system, if the carrier is willing to pay whatever fees apply. There is currently an impasse between Oregon and PrePass because even though Green Light carriers now own their transponders, PrePass will not enroll them.

In Slevin's second article (reference 92), he continues the analysis of the two business models. He indicates that some carriers are resistant to the PrePass model, and, that some major companies, notably UPS, have dropped out. A UPS executive indicated that they considered the cost per pass as another tax, with the profits going to Lockheed. UPS is a member of NORPASS and Green Light. Slevin poses the question, "Why pay up to \$4 per day when you can get the same service for \$45 a year"? He goes on to say that to protect their customer base, PrePass had to drive a wedge between the trucking industry and the competition, i.e. they set out to discredit the Green Light program and Advantage CVO program led by Kentucky. In Slevin's words:

"The pitch goes something like this. "This is a great technology. Your drivers are screened without stopping. It saves time. You can't trust the states, especially Oregon and Kentucky. If you let them have all this electronic data about your business operations, you're going to expose yourself to increased enforcement. And better tax collection. You'll be penalized just for trying to be more efficient. But don't despair. We've got the solution. In the PrePass program, we control the data."

As a result, according to a state official who asked not to use his names "There are carriers who say, 'I have nothing to hide.' Others are sold on the Big Brother issue and don't trust government. They flock to HELP."

Oregon and the NORPASS states have consistently stated that they do not use the electronically collected data any differently to data collected manually at their weigh stations.

Slevin also includes the following quote from the president of the Georgia Motor Truck Association:

“We see providing electronic clearance as a technological advance in the duties of the state. We don’t think carriers should pay extra to use it. Use should be voluntary. And we believe the data should be protected. It needs to be destroyed, and they need to collect the same data electronically that is collected manually—no more. Kentucky fits our policies,” said Crowell. “PrePass does not.”

In his third and final article (reference 93), Slevin further examines the two models and reviews how the public sector countered PrePass, first by lining everyone up behind the principle of interoperability, then forming NORPASS, and, finally bringing Lockheed to the negotiating table. This did lead to the one-way interoperability agreement between PrePass and NORPASS, but caused Oregon to withdraw from NORPASS.

Since the publication of Slevin’s third article, more progress has been made towards two-way interoperability agreements. To date, only Florida and PrePass have formed such an agreement. Other positive factors have also occurred, such as the demise of Oregon’s weight-mile tax that further diffuses any discomfort that Oregon and out of state trucking companies may have with regard to the use of data by ODOT. However, there is still much to be done before the two business models can be totally reconciled.

Throughout the arduous process described above, the USDOT has been notably passive in their involvement. As noted in the bibliography (reference 109) their approach has been that this is a public issue, and, different needs and ideas need to be debated in an open and public environment. They have taken some leadership in the development of a so-called “sandwich” transponder. However, many of those involved in the interoperability conflict would like to see the DOT more involved.

4 CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSIONS

The discussion in chapter 3 is weighted heavily towards interoperability issues, because those issues have proved to be significant in delaying market penetration of mainline pre-clearance technologies. On the other hand, mainstreaming has proceeded in a steady and non-controversial way. The literature supports this conclusion; there are many articles that report on the widespread adoption of the technologies.

It is clear that achieving interoperability between different programs is very difficult. Even the MAPS and Advantage CVO states (with very similar business models) took four years from the start of Green Light to form an agreement.

Although a one-way interoperability agreement was reached between NORPASS and PrePass, it was unsatisfactory to Oregon, and, caused them to withdraw from NORPASS. Green Light carriers are still interoperable with NORPASS (they must pay the \$45 enrollment fee) and, NORPASS carriers operate in the Green Light system free of charge. As yet, no satisfactory agreement has been reached between Green Light and Prepass for one-way interoperability.

A positive outcome of Oregon's withdrawal from NORPASS is that it transferred ownership of transponders to the carriers, and, distributed an additional 7,500 transponders in three months. There are now 12,500 trucks equipped with Green Light transponders. This is half their original target, but, considering the current progress, they could reach their target before 12/31/2000.

A satisfactory compromise needs to be reached between Oregon and PrePass before

interoperability can be achieved. Oregon should hold to its principles, which are endorsed by other states and by many in the trucking industry. However, they will likely need to compromise, but, only to the degree to which their customers agree. The major principle is regarding HELP's limitation of the use of PrePass transponders.

An issue for many Green Light carriers is the fee structure used by PrePass. However, the market will determine if carriers are prepared to pay PrePass's fees. At this time (May 31, 2000) two Green Light carriers have enrolled in PrePass and pay on a per pass basis. PrePass may need to introduce alternative fee schedules to attract a diverse range of customers.

A longer term issue is reaching an interoperability agreement that will enable PrePass carriers to operate in Green Light. At this time there is an impasse with regard to PrePass obtaining some cost recovery as well as protecting their carrier's data privacy. However, there are several examples of PrePass carriers that have requested enrollment in Green Light (and NORPASS) and have been refused by PrePass. Carriers can enroll in each system separately and obtain a transponder for each, but, there are problems when a truck has two transponders in the cab. Since the Green Light and PrePass transponders are the same, this situation is unnecessary!

4.2 RECOMMENDATIONS

Oregon has been very successful in the distribution of transponders since opting to withdraw from NORPASS and the consequent decision to act as their own transponder administrator. The two significant changes that Oregon introduced (as the administrator) were: a) transferring ownership of transponders to the carrier, and, b) providing new transponders at no cost. At this time (May 31, 2000), 12,500 transponders have been distributed. Another 12,500 will be distributed free of charge, before a carrier must purchase their own transponder. It is strongly recommended that ODOT continue the successful practice of targeting those carriers that would benefit the most from mainline pre-clearance, i.e. those that operate most in the Green Light corridors. To date carriers operating the most in the I-5 corridor in the Woodburn area have been targeted. ODOT should next target the carriers operating in the other corridors.

It is likely that 25,000 transponders will be distributed by the end of December, 2000. The state should consider continuing free distribution of transponders. A market survey may be appropriate to guide this decision. It is certainly likely that those enrolled in the program would be willing to pay (if they had to do over) but enrolling new carriers will become difficult at some point. Removing the best incentive (free transponders) may halt the rapid progress that has been made in market penetration.

5 REFERENCES

1. Bell, C.A., B. McCall, and, C.M. Walton, "Oregon Green Light CVO Evaluation – Detailed Test Plans", GLEV9603, Oregon State University, Transportation Research Institute, March 1997.
2. Bell, C.A., B. McCall, and, C.M. Walton, "The Oregon 'Green Light' CVO Project, Evaluation Plan", GLEV9601, Oregon State University, Transportation Research Institute, September 1996.
3. Bell, C.A., B. McCall, and, C.M. Walton, "The Oregon Green Light CVO Project, Individual Test Plan", GLEV9602, Oregon State University, Transportation Research Institute, October 1996.

APPENDIX A

ANNOTATED BIBLIOGRAPHY – INTEROPERABILITY & MAINSTREAMING (NOTE: I'm still in the process of editing this; some articles will be deleted, others added, some changed & then I'll separate into Interoperability and Mainstreaming)

No	Date	Author	Title	Publication	Summary
1	Jul-96		Trucking Asssocation Supports Oregon DOT's ITS/CVO Plan	ITS World	The first public endorsement from a private trucking association has been given. On June 10th, Michael Meredith, president of the Oregon Trucking Associations formalized OTA's support of ODOT's plan for integrating automated weigh-station bypass and other advanced technologies throughout the state.
2	Mar-97	Michael Meredith	Focus on ITS: There's No Devil In The Data	Northwest Transporter	The Oregon Department of Transportation (ODOT) introduces new technology to streamline trucking, the issue of data confidentiality looms like one mountainous obstacle. It's really just a molehill.
3	May-97	Bill McGarigle	Trucking into the Future	ITS World	The Connercial Vehicle Information Systems and networks (CVISN) program – which is as much about old fashioned cooperation as it is about advanced technologies – is already making strides toward its goal of nationwide interoperability and efficiency for motor carrier regulation.
4	Jul-97		Oregon Selects Transponder Administrator.	ODOT News Release	The ODOT is announcing the selection of a contractor to market and distribute transponders to motor carriers participating in a weigh station bypass program. TransCore and Northwest Transporter, Inc. has been selected.
5	Jul-97	Wayne Hansen	Oregon Keeps Trucks Rolling On Interstate.	Government Technology.	Oregon's highways now have fully automated truck-weighing stations, which integrate computer databases, automated vehicle identification and weigh in motion systems. The state is already planning to weigh trucks at fully highway speed.
6	Dec-97		OTA holding off on support of Oregon Green Light project	Express Weekly Hot-sheet for Oregon Trucking Associations' Members, 12-8-97	In response to reports that ODOT is giving serious thought to mandating the use of transponders, OTA's board voted that OTA could not support the Green Light project until OTA staff can work with ODOT staff to ensure their direction is consisitent with the original goals of ITS. OTA's concern is that ODOT intends to use the system for enforcement and collection of the weight-mile tax.

7	Dec-97		Director reveals about-face agenda for ODOT Green Light project	OTA Press Release, 12-18-97 & Express, 12-22-97	In a follow-up to the item above, OTA reiterated their opposition to mandatory transponders. The article indicates that Grace Crunican (ODOT Director) told reporters that mandatory transponders could reduce weight-mile tax evasion that could equate to \$120 million in revenue. The OTA subsequently restored its support for the program in a June 1, 1998 letter from Mike Meredith to Grace Crunican. Meredith refers to 4 principles developed by OTA's ITS/CVO committee – the 1 st calls for a 3 yr moratorium on mandatory transponders.
8	Dec-97	Jim Brock	Woodburn system makes weigh station stops a thing of the past	Motor Carrier News, ODOT & ODOT News Release, 10-29-97	Beginning October 29 it became possible for trucks at Woodburn to be weighed in-motion by scales installed under the roadway about one mile ahead of the weigh station on southbound I-5. Trucks with a palm-size electronic device (a transponder) mounted on the windshield can be automatically identified and sent a green light signal if they pass a quick computer check of records related to registration, safety, and truck size and weight requirements. The system sends a red light signal back to the transponder if the truck must pull in as usual. The system is the first in the world capable of weighing, identifying, and sorting truck traffic over two lanes. It is the first of 22 such sites that will be automated in the next two years in a modernization program called the Oregon Green Light Project.
9	Jan-98	Roger King	Oregon Eyes the Transponder as a Tax Device	Transport Topics Jan/Feb 1998	Oregon lawmakers are considering legislation to require truckers to use a windshield-mounted transponder in order to improve tax enforcement. An ODOT spokesperson indicated that the idea is very very tentative.
10	Jan-98		Oregon DOT Gives Away Free Transponders	Heavy Duty Trucking.	In an otherwise factually correct article, it was incorrectly stated that ODOT would giveaway 10,000 transponders. A similar article appeared in the Dec-97 edition of Truckers News. Randal Thomas of ODOT responded to both publications to provide accurate information.
11	Jan-98		Runaway success for IRD	ITS International	IRD has won new orders for its Downhill Truck Speed Warning system which is credited with reducing truck runaways by a quarter on America's most treacherous Rocky Mountains truck route, the I-70 west of Denver. Oregon DOT is installing a pair of systems at Emigrant Hill on I-84, and these will be integrated with the Green Light system. West Virginia has also ordered a system.
12	Jan-98		Advantage CVO, MAPS agree on ITS/CVO interoperability	ITS WORLD Jan/Feb 1998	Members of ACVO and MAPS have agreed to make their systems fully interoperable. A draft agreement lists 8 common goals, including that both programs will support the CVISN effort to develop an open national information system architecture and common data exchange standards.

13	Feb-98		Transponders could be replacing PUC stickers.	Log Trucker	The Oregon Department of Transportation (ODOT) is looking at replacing PUC stickers with mandatory transponders. With transponders, a truck's movements would be recorded electronically and provide auditors instant access to weigh/mile tax reports.
14	Feb-98	Richard Scrase	Weighty Matters	ITS International	Weigh-in-motion systems are commonly used in Europe and the USA, and their use is presently being extended to Asia. The author reports on the use of weigh-in-motion equipment in Hong Kong.
15	Mar-98		ODOT Develops legislative proposals for 1999 Session.	Northwest Transporter	ODOT's Motor Carrier Transportation Branch has developed several legislative concepts it hopes to introduce as legislature during the 1999 Legislative Session. Included is an initiative to offer a 2% discount of weight-mile taxes to any carrier that equips the majority of its fleet with transponders for use in the Green Light preclearance program.
16	Mar-98		Tennessee Joins HELP Program; Advantage, MAPS Sign Agreement	Inside ITS	Citing economic reasons, the State of Tennessee, a member of the state-sponsored Advantage CVO electronic preclearance program, has joined HELP. Tennessee is the first member state east of the Mississippi that will deploy the PrePass system and the only state to be a member of both Advantage CVO and HELP, but probably will choose only one program in the future. The situation gives greater urgency to the issue of interoperability between the two programs A similar article was in Transport Topics 3/2/99.
17	Mar-98	Joe Crabtree & Alan Frew	State partnerships join hands to streamline truck regulation.	Advantage CVO - News Release Also in: Transcript, ODOT's monthly Newsletter, 4/98	Two of North America's premier partnerships for automated screening of commercial vehicles at weigh stations have taken a gigantic step toward seamless motor freight movement in Canada and the United States. The Advantage CVO Partnership and the Multi-jurisdictional Automated Preclearance System (MAPS) have signed an agreement to provide interoperability to their customers in the trucking industry.
18	Spr-98		Q & A with Joe Crabtree	ITS America CVO UPDATE	In an April 1 interview Crabtree elaborated on the interoperability agreement between ACVO and MAPS. He indicated that each entity would publish their policies on how system data would be used and that this would be based on the current approach – they will not retain data on the electronically processed trucks that isn't retained on the manually processed ones.
19	Mar-98	A.T. Bergan, Brian Taylor, Bob Bushman & Nancy Pon	Keep On Trucking: Safer commercial traffic with ITS	Traffic Technology International	Truck drivers, many of whom travel long haul and cross-continent, are susceptible to fatigue-related conditions, such as speeding and lack of attention.
20	May-98	A.T. Bergan, Les Bell, and, Rebecca Negere	Technological Aspects of the Partnership Program Audit	Transportation Association of Canada, Proceedings, 1998 Annual Conference	International Road Dynamics is designing and providing a vehicle tracking system to audit Saskatchewan Highways and Transportation's current Partnership program. The proposed system uses GPS satellite technology to automatically locate and track vehicles, and, will enable the highway authority to invoice road users for the distance traveled.

21	May-98		Weigh Stations made easy - The Oregon Green Light Program embraces transponder technology	Northwest Transporter - Summer 1998	The new Commercial Vehicle Information Systems and Networking (CVISN) system is using technology to pave the way to easier and more cost-efficient trucking. New high-tech devices called transponders are mounted inside truck windshields. The transponders can save each trucker up to 5 minutes per weigh station.
22	May-98	Anita Curnow.	States of Weight: Developments In Weigh-in-motion Applications	Traffic Technology International	It is estimated that one overloaded axle causes more road damage than half a million cars. This alone should be enough to spur use of integrated weigh-in-motion (WIM) technology.
23	May-98	Jim Brock	Road & Weather Sytem takes shape	NETS NEWS – ODOT's Safety Section News	By Winter 1998, ODOT plans to provide Internet access to real-time information from a statewide network of monitoring devices. The Road and Weather Information System (RWIS) will report everything a traveler needs to know before setting out across the state. Information will first be available from 12 sites over the Internet. Eventually information kiosks will be stationed in rest areas and truck stops. The concept of a RWIS was introduced as part of the Green Light project but it promises more widespread benefits for the traveling public.
24	May-98	Michael Rose	State's use of truck transponders on shaky ground	The Business Journal, May 8	The article reviews the misunderstanding between the Oregon Trucking industry and ODOT over "mandatory" use of transponders. Director Crunican is quoted as saying that the industry "jumped to the wrong conclusions" when the agency discussed various ways to increase transponder use. She recently informed the industry in writing that ODOT will not push for a mandatory program. See also references 6 & 7.
25	Jun-98		Oregon Recognizes its Most Trusted Motor Carriers.	Transcript – ODOT's Monthly Newsletter & Motor Carrier News	ODOT's Motor Carrier Transportation Branch is ready to issue new "Trusted Carrier Partner." License plates that distinguish the most exemplary carrier taking part in the Green Light weigh station preclearance program.
26	Jun-98		Accident and Inspection can be accessed by anyone.	Motor Carrier News, ODOT	Carrier safety fitness info available on the Internet at: http://safersys.org/ anyone having trouble finding information about a carrier can contact MCTB staff at (503) 378-6166.
27	Jun-98		CVO Conference Sparks Discussion of Path to Interoperability	Inside ITS	A western region CVO mainstreaming conference provided a forum for the status of interoperability. Richard Landis, president of Help is quoted as saying that Help is concentrating on the marketing and deployment of its preclearance system and that interoperability with other systems was not a primary focus. Other participants expressed their disappointment. Joe Crabtree of ACVO indicated that he was not surprised and said, "I think it is fairly clear that interoperability is not a priority to them. You don't need to worry about interoperability if your goal is to be the only system". Landis indicated that interoperability needs to be discussed and worked on, but that present discussions are academic.

28	Jul-98		Green Light Transponder Update	Express Weekly Hot-sheet for Oregon Trucking Associations' Members.	Oregon DOT's 1998 schedule for bringing Oregon ports of entry and scales on-line for transponder pre-clearance is provided. Contact information is also provided for carriers interested in enrolling in the Green Light program.
29	Jul-98		ACVO, Maps Consider Merger; Help meets ACVO in Tennessee	INSIDE ITS	<p>Advantage CVO and Maps aim to eliminate institutional barriers by eliminating separate institutions. Effort geared to make electronic screening simple for users to understand and interact with. This article reports on the early merger discussions between ACVO and MAPS.</p> <p>The article also reports that a meeting has been scheduled between ACVO and HELP Inc., to begin working on details of interoperability.</p>
30	Sum-98		Revised: Fair Information Principles for ITS/CVO	ITS America CVO UPDATE	ITS America's CVO Policy Subcommittee revised its Fair Information Principles for ITS/CVO at its summer meeting on June 17 in Washington, D.C. The subcommittee also continued work on developing a national interoperability policy .
31	Aug-98		Weigh Stations Offer Automatic Checks	Corvallis Gazette-Times, Oregon.	The state Department of Transportation truck weigh station is open 24 hours a day along this busy stretch of Interstate 5 in the farmland between Portland and Salem, but many truckers are cruising past without even slowing down. The only incentive Royce Young of Total Transfer and Storage in Woodburn needed came from a calculator. He signed his company's nine-truck fleet up and figures he's saving hundreds of dollars a week.
32	Aug-98	James Sinks	Truckers Welcome Express Service: Plan saves state money, trucker time	Salem Statesman Journal, August 22, 1998	A \$25 million new weighing method is in the works. In a similar article to that above, the Green Light program and the Trusted Carrier Program are described. Royce Young of Total Transfer (one of the first four trusted carriers) figures he's saving hundreds of dollars a week from time saved bypassing the Woodburn Port-of-Entry – Total Transfer operates 9 trucks that may pass the PoE upto 3 times a day.
33	Aug-98	Mac McGowan	Oregon DOT Inaugurates New License Plate Honoring Safe Truckers	ODOT Press Release	Oregon introduced the Trusted Carrier Partner Program on August 5, 1998. The new program will enable inspectors to concentrate on trucks that are less likely to have good safety records. The first four companies to earn the new designation were announced: Best Foods Baking Co., BiMart Corp., Distribution Trucking (Fred Meyer), Total Transfer.
34	Aug-98		ODOT to honor "Trusted Carriers"	Express, Weekly Hot sheet for Oregon Trucking Associations' Members.	See previous article
35	Oct-98		Oregon DOT to Issue Plates Identifying "Trusted Carriers"	The Guardian	The Oregon Department of Transportation (ODOT) is ready to issue "Trusted Carrier Partner" (TCP) license plates that identify the best motor carriers participating in Oregon's Green Light weigh station preclearance program.

36	Oct-88	S. Lawrence Paulson	National ITS Architecture	PUBLIC ROADS Sep/Oct 1988	<p>The article provides an excellent overview of the ITS architecture. It indicates that the architecture was developed for DOT by a combined Lockheed Martin and Rockwell International team that used resources from the public and private sectors and from academia. It was completed in June 1996 after nearly 3 years of effort.</p> <p>The article concludes with a quote from a previous Public Roads article by Lee Simmons, "The architecture is the framework that makes possible a national infrastructure of integrated, intermodal, and, interoperable ITS. As such, its development is the cornerstone achievement of the national ITS program."</p>
37	Oct-98		Weigh Station By-Pass: The future is here!	Northwest Transporter, Fall/Winter 1998	Most of the trucks just keep rolling and rolling on down the highway escaping the need to stop at redesigned automated weigh stations along interstate highways.
38	Oct-98		ODOT Automates Operations At Woodburn Port of Entry	News Release from Oregon Department of Transportation.	Several of the trucks that used to pull in for routine weighing and inspection are now cruising by the highway speed because of a new automated system installed by the ODOT.
39	Oct-98		New System takes wait out of weighing	Klamath Falls Sunday News October 4, 1998	The transponder, a small pager-like device that sticks to the inside of the windshield, triggers a set of scales hidden beneath the roadway, allowing trucks to be weighed and certified without the hassle of stopping at a weigh station.
40	Dec-98		Dispute could force jerry-rigged standards for transponders	Transport Topics Dec 21, 1998	There is more than one system on the market, but a single communication standard that would make all transponders "interoperable" has eluded private industry and the government is under pressure to step in and dictate a solution. That kind of intervention could result in a Jerry-rigged standard that could fall short of expectations for compatible transponder systems warns Mike Onder, coordinator of the FHWA's Joint Program Office for Commercial Vehicle Operations.
41	Dec-98	David LeFort	Sparring Over Transponder Codes	Transport Topics Dec 28, 1998	HELP Inc. said that the ODOT's Green Light program has obtained its transponder codes without permission. The Oregon Green Light Program, a state-backed transponder service administered by SAIC has acquired codes to allow PrePass drivers to operate within the state. In a Dec. 10 letter to ODOT, HELP asked them to immediately stop using PrePass codes and laid down measures for the state to follow to assure compliance. Gregg Dal Ponte of ODOT indicated the letter was forwarded to the Oregon Department of Justice for response
42	Jan-99	David Lefort	Truckers Caught in Transponder Dispute	Transport Topics January 18,1999	This article expands on the previous one and indicates that the dispute has prevented some truckers traveling through Oregon from using the in-cab devices that help ease their trip. Though both sides have expressed a desire to reach a settlement, they have yet to meet to work out the details. Oregon has agreed to suspend enrolling PrePass carriers until they can work out a settlement with HELP Inc.

43	Jan-99	David Lefort	Transponder Services to Hold Talks	Transport Topics Jan 25, 1999	Executives from two disputing transponder providers have agreed to work on a deal that would allow truckers to use the in-cab devices in both service zones. HELP Inc. will hold negotiations with the Oregon Green Light program on Feb. 11.
44	Jan-99	Jason Cisper	Electronic Scale Bypass Programs	Land Line Dec 98/Jan 99	The article compares the PrePass system of HELP Inc., and the soon-to-be-merged MAPS and ACVO systems.
45	Jan-99	Jason Cisper	Trusted Carrier Partners – Exemplary or Arrogant?	Land Line Dec 98/Jan 99	The article describes ODOT's trusted carrier program and includes comments from Jim Johnston, President of the Owner Operator Independent Drivers Association (publisher of Land Line). Johnson claims that the program is an effort to force the industry to accept electronic screening for the purpose of tax collection and enforcement. James Brock of ODOT indicates that the state is simply doing electronically what it has always done manually.
46	Jan-99		Overheight Detection, Safe, Fast, And Easy to Install	Sensor Technology "TODAY"	SAM-S offers optimum performance at an extremely low price for the detection of overheight vehicles approaching tunnels, bridges, etc.
47	Jan-99		Safety Check - Inspector sees tremendous growth in truck traffic but not in accidents	The Observer, La Grande, Oregon	One Woodburn trucking firm has estimated that it costs roughly \$1.15 every minute a truck is running, whether it is on the highway moving, or broken down somewhere. That cost is also there for the time spent waiting in an inspection line - a big reason ODOT has put together a variety of programs to help smooth the flow of merchandise around the country.
48	Jan-99		Motor Carrier Transportation Trusted Carrier Partner Program	Transcript – ODOT's Monthly Newsletter	The Trusted Carrier Program, initiated last June, frees vehicles with exemplary safety records from routine inspections.
49	Feb-99		DOT Settles on Standard for Transponder Link	Transport Topics February 1, 1999	A national standard for transponders and other short-range radio communications moved a step closer to reality last week when the Department of Transportation announced it would promote a "sandwich protocol" for guiding the design of the technology, despite objections from some equipment makers. The Sandwich protocol includes three standards that together would dictate transponder design. It would combine already approved standards for application, messaging and radio transmissions plus specifications that the American Society for Testing Materialized has developed for date linkage, called the "ASTM Version 6." Congress is pressuring DOT to move ahead with a single national standard.

50	Feb-99		Pursuing the Universal Transponder Standard	Transport Topics February 22, 1999	There has been little resistance to the DoT's recent decision to promote a national standard for transponders and other short-range radio communications equipment. But that doesn't mean the Jan. 28 announcement that the department would promote a "sandwich protocol" a system that operate on multiple frequencies as the basis for this standard has not raised questions in trucking and other industries.
51	Mar-99	James L. Brock	Green for go: Oregon Embraces WIM, Pushing Interoperability	Traffic Technology International Feb/Mar '99	The northwestern state has arguably the country's most ambitious highway infrastructure modernization effort underway.
52	Mar-99	Bob Lees, Diamond Consulting, Peek Traffic and Michael Pietrzyk	Loops Over The Treadle	Traffic Technology International	Developers of the branded Idris loop algorithm are applying the software enhancement to new application areas.
53	Mar-99	Bill McGarigle	Trucking Into The future	ITS/CVO	The Commercial Vehicle Information Systems and Networks (CVISN) program, which is as much about old-fashioned cooperation as it is about advanced technologies, is already making strides toward its goal of nationwide interoperability and efficiency for motor carrier regulation.
54	Mar-99		Green-Light Objective	Traffic Technology International	One of Green Light's objectives is to establish a preclearance system that can be integrated with every other ITS system in the country.
55	Apr-99		HELP pulls the plug on PrePass transponders in Green Light system	Motor Carrier News, ODOT	HELP, Inc., has ordered Oregon to remove all PrePass transponders from the Green Light weigh station preclearance system until it receives some kind of compensation for their usage.
56	Apr-99	Tom Kelley	PrePass Heads East	ITS World	With deployment along the U.S.'s I-40 corridor nearly complete, weigh-station bypass transponders are seeing expanded use. PrePass, the US's first commercially available weigh-station bypass service was originally installed in California 1-5 scale houses in June of 1995, subsequently branching to arizona, New Mexico, Oregon and Wyoming. Oregon subsequently dropped out. The article continues to give a good summary of the first 4 years of PrePass.
57	May-99		PrePass processes record number	Overdrive Online	For the first time since the system was launched in 1995, PrePass processed more than 100,000 trucks in one week.
58	May-99		Regional Rap - Oregon	The Guardian: Commercial Vehicle Safety Alliance (CVSA)	The Green Light Project is ahead of schedule modernizing Oregon weighs stations with weigh-in-motion and automatic vehicle identification readers that allow safe and legal trucks to proceed past them at highway speed.
59	May-99		Adding Up Oregon's Weight-Distance Tax Repeal	ATA Truckline: Transport News From Around the World	Legislation to repeal Oregon's weight-mile tax has been introduced in the state's General Assembly.

60	May-99		Road And Weather Information System Takes Shape.	Nets News.	Soon motorists interested in Oregon road and weather information will have easy access to far more than just a picture of conditions at couple sites such as: http://www.odot.state.or.us
61	Jun-99	Amy Zuckerman	In Pursuit of the Elusive Transponder Standard	Transport Topics	Business and Technology Debates weigh Electronic Clearance Under. The debate over on highway electronic clearance of commercial trucks has broken down into two major turf wars: the public versus private sector and the other arena is technology.
62	Jun-99	Randal Thomas	Transponder Debate, in Letters & Comments	Transport Topics	Oregon's preclearance systems collect no more information that is used for audit or enforcement purposes than what is already being manually obtained at static scales.
63	Jul-99	North American Preclearance and Safety System	States From ACVO, Maps Poised To Join New Bypass Program	Inside ITS	Prior to legal existence, NorPass is being promoted by TransCore, its transponder administrator. Six states will be initial members of non-profit organization. Sates will pay annual dues and carriers will pay annual fee for transponder registration and unlimited use. Meanwhile Illinois becomes the 15th state to deploy HELP's PrePass system. Approximately 80,000 PrePass tags now in use.
64	Jul-99		Oregon Senate OK's Gas Tax Bill	Transport Topics	Senators objected to parts of the 5-cent-a-gallon gas tax hike package, including a provision to repeal the weight-mile tax that's imposed on commercial trucks in lieu of a gas tax.
65	Jul-99	Kelvin Knight	Knight Transportation Opens PrePass Account	Transport Topics July 19, 1999	Knight, of Phoenix, will install the system in its entire western fleet and make it available to owner-operators working with the company.
66	Jul-99	Rodney E. Slater	Critical Standards	ITS AMERICA	Intelligent Transportation Systems: Critical Standards, as required by the Transportation Equity Act for the 21st Century (TEA-21)
67	Jul-99		Iowa Scheduled To Roll Out New Scales	Transport Topics July 29, 1999	Construction of the automatic scales has begun, and the new technology will be in use by the end of November. The new scales will weigh trucks at highway speed. Message signs will direct those suspected of being in violation of state weight and safety rules will be directed into the weigh-stations
68	Jul-99	Joseph R Cal, Northern Transportation Systems, USA.	Collector's Item: Site Selection And Piezo Sensor Uniformity"	Traffic Technology International	Without a smooth road surface and a uniform sensor, accurate traffic data collection is all but impossible. However this doesn't prevent these two essential elements from being overlooked. A senior traffic engineer has some helpful hints.
69	Jul-99		US DOT's hour Of labour	Traffic Technology International	The US Department of Transportation's Federal Highway Administration intends to award a multiyear labor hour contract to the Mitretek Corporation for technical support of the ITS JPO Operation Business unit.

70	Jul-99	Larry Yermack	Commercial Tolls In Favor	Traffic Technology International	Major toll agencies and other organizations have indicated broad but conditional support for a plan to process commercial vehicles electronically at tolls nationwide regardless of what type of transponders the trucks carry. The concept of an interoperable nationwide system is "an idea worth pursuing", says Larry Yermack, summarizing the general feelings of the 115 attendee's of a meeting.
71	Jul-99		Electronic Credentialing off to a Slow but Hopeful Start.	Transport Topics	Considerable savings expected once carrier-state computer link is established.
72	Aug-99		MCTD to begin citing truck drivers entering Oregon without credentials	Motor Carrier News, ODOT	Truck drivers entering Oregon without operating credentials issued by the Oregon Department of Transportation are subject to citation and a maximum fine of \$250.
73	Aug-99		Fees to yield bulk of what is now collected by weight-mile tax	Motor Carrier News, ODOT	Oregon truckers will soon see new registration fees that are set to replace most of the revenue now collected by weight-mile taxes. The annual fees will begin July 1, 2000 and increase again in January 2002. The article provides details about the new fee schedule.
74	Aug-99		Weigh station preclearance interoperability now possible for some	Motor Carrier News, ODOT	At a meeting in July, HELP, Inc. officials agreed to let carriers with Green Light transponders use them in the PrePass system. But they would not authorize the use of PrePass transponders in Oregon. They have not determined what they will charge for using a Green Light transponder at a PrePass station.
75	Aug-99	Daniel Whitten	Landstar Goes With PrePass System	Transport Topics Online, 8/6/99	Owner-operators hauling for Land-star System will soon be breezing past certain weigh stations without having to stop for credential checks, thanks to the Jacksonville, Fla.-based truckload carrier's enrollment in the PrePass program. Landstar will install transponders in 8,500 trucks and will pay a 10% discounted rate of 90c per pass after receiving the first month for free.
76	Aug-99		Landstar Provides PrePass to its Independent Drivers.	Transport Topics August 30, 1999	PrePass, a service offered by HELP Inc., enables drivers to comply with weigh station requirements electronically clearing them more quickly and reducing congestion around weighs station. The company handed out the devices for installation in 8,500 trucks.
77	Aug-99	Jeff Johnson	Repeal Of N.Y. Ton-Mile Tax Fails	Transport Topics August 23, 1999	The New York Legislature adopted a budget, but elimination of the state's ton-mile tax on trucking was not part of the package.
78	Aug-99		Oregon Joins NORPASS Group Of States	Transcript, ODOT's monthly Newsletter	Oregon will join the North American Preclearance and Safety System, also known as NORPASS, Inc. NORPASS states all use similar weigh station technology based on AVI equipment mounted at the roadside, and Hughes-Delco type transponders mounted inside truck cabs.
79	Aug-99		Now, big rigs can weigh in on the fly	The Bulletin	In Madras, the idea of being weighed while zooming down a highway at 55 mph might not appeal to most folks. But to trucking bosses like Scott Porfily of Prineville, it's time - and money - in the bank.

80	Aug-99		Truckers Welcome Express Service	Salem Statesman Journal, Aug-22	A new \$25 million program from the state Department of Transportation allows many truckers to zip past Oregon's 22 weight stations without hitting the brakes. That translates into saving for truck drivers, who can avoid waits as long as 20 minutes during peak traffic times and potentially will save millions for the state because it won't have to expand roadside scales. The program is similar to ones developed elsewhere, including California and Canada.
81	Aug-99	Jonathan Slevin	PrePass And NORPASS.	ITS World – July/August	Throughout the country, trucks are required to pass through roadside weigh stations for weight, safety, credentials and sometimes tax collection purposes. Two different business models have now emerged for private-sector involvement in automating what has been a manual process. NORPASS has come into being because a number of states wanted it, and a private sector company, TransCore, decided that investing in this business made sense. HELP Inc./PrePass owes its origins to similar dynamics.
82	Aug-99		Norpass Inc. and the LYNX Preclearance System	Northwest Transporter	Combining the Oregon Green Light, the Multi-Jurisdictional Automated Preclearance System (MAPS), is forming NORPASS, INC.
83	Sep-99		Truckers given Green Light at Umatilla weigh station	East Oregonian Sept 1, 1999	Truckers coming into Oregon southbound on Highway 82 will soon be able to bypass the weigh station in Umatilla, thanks to the Oregon Department of Transportation's Green Light project.
84	Sep-99	Juer Kunz, Kistler Instrumente AG, Switzerland	Quartz-Based WIM Sensors	Traffic Technology International	The inherent properties of quartz make it suitable for use as a sensor material for weigh-in-motion applications. Just such a system has been undergoing cold weather testing in Sweden.
85	Sep-99	OTA	LYNX, Greenlight expand weigh-station bypass program	Oregon Truck Advisor	Seven eastern and western states have combined forces and formed the new North American preclearance and Safety System (NORPASS).
86	Sep-99		UPS Joins GreenLight Program	Inside ODOT	ODOT's Motor Carrier Transportation Division during this week they welcomed United Parcel Service to the growing list of companies using the "Green Light" program. UPS is the world's largest express carrier, serving more than 200 countries and delivering over 3 billion packages and documents a year.
87	Sep-99	James Hebe	Technology is Key to Future for Truck/Bus Safety	CVSA Conference Bits & Pieces, Portland OR	Freightliner's Hebe sees technology as key to future for truck/bus safety.
88	Sep-99	Julie Cirillo	Cirillo Stresses Data Collection Needs	CVSA Conference Bits & Pieces, Portland OR	Julie Cirillo Manager of FHWA's Motor Carrier and Highway Safety Program, stresses data collection needs.

89	Sep-99	David Barnes	No 'Silver Bullet' For Truck Safety	Transport Topics Sept 27, 1999	ODOT's David McKane interviewed at the CVSA annual meeting said, "With limited resources, it's important that we direct our enforcement resources toward the carriers with the worst safety records." The agency is encouraging carriers to enroll in Oregon's "Trusted Carrier" program, which allows trucks to be exempt from random safety inspections. Participating carriers must have a proven record of compliance with registration, safety and tax requirements. The more than 300 carriers enrolled in the program also receive transponders that allow their trucks to bypass weigh stations.
90	Oct-99		Worthington leads TranCore buyout	ITS INTERNATIONAL Online	ITS International is the leading publication for the intelligent transport systems industry.
91	Oct-99		Express carrier joins "Green Light" program	TranScript	United parcel Service is helping to ensure its trucks move more safely and efficiently in Oregon by equipping them with transponders so they won't have to stop at weigh stations.
92	Oct-99	Jonathon Slevin	Lockheed's Long March	ITS World – Sept/Oct 1999	Slevin summarizes the "battle" that pits Lockheed against a group of states. Lockheed through its non-profit subsidiary HELP Inc., administers the PrePass program, acting as a third party between the states and the motor carrier industry. The states, led by Oregon, administer their own programs. Issues include: who owns the data, costs, and, "interoperability" - the ability of a truck to operate in any program without paying multiple times.
93	Dec-99	Jonathon Slevin	Seamless Truck Travel	ITS World – Nov/Dec	<p>After six years of intensive effort, tens of millions of dollars in public funding and hundreds upon hundreds of meetings, a major milestone has been reached toward achieving the goal of nationwide, seamless travel for the nation's motor carrier industry.</p> <p>The milestone sounds simple enough: an agreement for something called "one-way interoperability" that allows trucks from one automated roadside inspection system to participate in another system. But to get there took political will strong enough to withstand a relentless attempt by Lockheed Martin IMS to own the market for privatizing and automating a number of state government regulatory processes.</p>
94	Fall-99	Phil Hinshaw	The Green Light Program	Photo Gallery	Oregon Washington, Utah and now British Columbia are developing a scale bypass program called Green Light. Truckers Save at Least 5,000 Hours This Quarter.

95	Feb-00	HELP Inc. – NORPASS Reach Interoperability Accord Compatible Transponders to Operate Seamlessly	PrePass Press Releases February 2, 2000	An agreement was announced that carriers enrolled in the NORPASS electronic preclearance system may operate in the PrePass network. Prior to being admitted to the PrePass system, NORPASS carriers will be required to complete the same application required of all PrePass carriers. When operating within PrePass, NORPASS carriers will pay the same user fees assessed PrePass carriers and a one-time credential verification fee will be credited against future bypass usage within PrePass. A second stage interoperability agreement, in which PrePass carriers could access NORPASS sites, is the objective of both organizations and the subject of ongoing discussions.
96	Feb-00	Oregon withdraws from NORPASS	EXPRESS, A Weekly Hotsheet for OTA members February 7, 2000	ODOT has withdrawn from NORPASS following the signing of a one-way interoperability agreement between NORPASS and HELP, Inc. Oregon Green Light and NORPASS will continue to be interoperable, but Green Light operators will have to purchase a separate transponder to operate at PrePass sites.
97	Feb-00	Changes in Green Light program: transfer of ownership of transponders	Letter to Green Light carriers from Randal Thomas, program manager, February 24	Thomas's letter transfers ownership of the transponders to carriers at no cost as of 2/19/00. It also indicates that ODOT ended its contract with Transcore as of 2/19/00. ODOT will now act as transponder administrator. The changes have no practical effect on the use of transponders in Oregon or on the Trusted Carrier Partner program. As owner of the transponder, carriers should be free to use it anywhere. The letter included a copy of a 10/19/99 Interoperability Policy Resolution by the Board of HELP Inc., for the Use of Carrier-Owned and Third Party Transponders Within PrePass.
98	Mar-00	ODOT Sacks TransCore, Transfers Tag Ownership To Green Light Carriers	InsidelTS	Oregon Department of Transportation says giving truckers tag ownership allows them to enroll devices in any preclearance system they desire. 5,000 tags already transferred, another 7,500 scheduled. TransCore was removed as the transponder administrator in February and ODOT says there will be no disruption of service as it assumes administrative tasks for running the program.
99	Mar-00	Erika Ohm Lines blurred in weigh station bypass debate	Oregon Truck Advisor, Oregon Trucking Associations, March 2000	The article reviews the recent withdrawal of ODOT from NORPASS, cancellation of its contract with TransCore, and, transfer of transponder ownership to carriers. This will involve about 5,000 transponders. ODOT plans to distribute another 5,000 transponders to trucks with the most weigh station activity. ODOT withdrew from NORPASS following the signing of a one way interoperability agreement with HELP Inc. The agreement represented a compromise of Oregon's long-standing principle that transponder users do not need permission of the owner to use the transponder in another system. Giving ownership to the carriers gives them the opportunity to enroll in PrePass.

100	Mar-00	Jerry F. Boone	Green light program keeps rigs truckin'	The Oregonian March 27, 2000	The article gives a detailed description of the preclearance system at Woodburn port-of-entry. The article indicates that about 7,00 trucks are enrolled in the Green Light program. The article quotes Randal Thomas of ODOT – he said that the program and other innovations at weigh stations allow ODOT to reduce the number of people working along the busiest highways and move them onto roads that truckers use to avoid weigh stations.
101	Mar-00		Status of Oregon Green Light Program	Letter from ODOT Director Grace Crunican to Senator Mark Hatfield, 3/28/00	The letter indicates that of Oregon's 21 Green Light sites, 15 are complete and work is expected to be complete at the other six by Fall 2000. Transponders have been placed in almost 10,000 trucks. In the first two months of this year, 63,085 green lights were given to trucks that didn't need to stop at weigh stations, translating to about 5,000 hours of time saved. That number is expected to double in the coming months.
102	Mar-00	Mac McGowan	ODOT welcomes Interstate Distributor Co. to Green Light and Trusted Carrier Programs	ODOT News Release March 21, 2000	The company has equipped 900 of its fleet with Green Light transponders. It also qualifies for the TCP program.
103	Mar-00	Mac McGowan	ODOT welcomes USF Reddaway to Green Light and Trusted Carrier Programs	ODOT News Release March 27, 2000	The company has equipped 500 power units with Green Light transponders. It also qualifies for the TCP program.
104	Apr-00	Randal Thomas	ODOT Green Light Passes major Milestone: 10,000 Trucks Enrolled	ODOT News Release April 3, 2000	Since ODOT took over distribution of Green Light transponders, they have enrolled 125 new carriers and 5,200 additional transponders. A total of 912 carriers have enrolled 10,002 transponders. Thomas indicated that ODOT is working to secure another 12,500 transponders to continue to satisfy the demand.
105	Apr-00	Randal Thomas	Oregon Welcomes may Trucking Company to Green Light Program	ODOT News Release April 3, 2000	The company has equipped 570 power units with Green Light transponders. It also qualifies for the TCP program.
106	Apr-00	Randal Thomas	Oregon Green Light Continues to Build: 12,000 Trucks Enrolled	ODOT News Release April 3, 2000	A total of 930 carriers have enrolled just over 12,000 transponders.
107	Apr-00	Mac McGowan	ODOT welcomes Dick Simon Trucking to Green Light Program	ODOT News Release April 27, 2000	The company is equipping 1,662 power units with Green Light transponders.
108	Apr-00		Green Light Changes to Boost Usage, Ensure Interoperability	Motor Carrier News, ODOT April 2000	This article reviews the recent changes in the Green Light program – the content is similar to that covered in reference 97. It also covers the background to the changes.

109	Apr-00	Jerry Werner	Nationwide Interoperability of CVO Transponders Takes a First Small Step	Newsletter of the National Associations Working Group for ITS - NAWGITS	<p>The article reviews the recent one way interoperability agreement between HELP Inc., and NORPASS, Inc. Both parties agree that a two-way agreement will be a much tougher challenge. At the root of the problem is the fact that the two systems evolved into very different business models, one backed by a private sector investor, the other paid for by the public sector. Oregon's resignation from NORPASS is discussed – they don't agree that the transponder owner has a right to limit it's use, a restriction applied by HELP. NORPASS didn't agree either but went ahead with the agreement as a matter of a business arrangement.</p> <p>The article concludes by asking if the USDOT will play a role in future interoperability agreements. Dick Landis of HELP thinks the parties should work out the thorny issues themselves. Thus far the DOT has stayed on the sidelines. Mike Onder of the DOT's ITS JPO indicates that interoperability is a public issue, and different thoughts and ideas need to be debated in an open and public environment. He indicated that AASHTO has agreed to try to bring the states together on this issue.</p>
110	Apr-00	Jerry Werner	Florida Plans to Field the First "Two-Way Compatible" Preclearance System	Newsletter of the National Associations Working Group for ITS - NAWGITS	As of March 29, Florida was about to sign an agreement with HELP, Inc., to provide a full two-way compatible system. The agreement will allow PrePass carriers to be cleared on the NORPASS system on I-75 and NORPASS carriers to be cleared on the new PrePass sites on I-10, I-95 and I-4. All transponders should have a "recall" button that keep its memory about the most recent bypass activity for 15 minutes – a feature required by PrePass. NORPASS transponders that are not currently "HELP compliant" will need to be replaced.
111	Apr-00		Truck Weighing Goes High-Tech	Statesman Journal, Salem, OR April 5, 2000	An increasing number of commercial trucks are taking advantage of a program that uses high-tech equipment to determine truck weights, according to state officials. This article is based on the 4/3/00 press release (reference 104).
112	Apr-00	Mac McGowan	Free transponders help to expand Oregon Green Light	Transcript, ODOT's Monthly Newsletter April 2000	This article contains similar information to others from march and April. At the time of going to press, about 900 carriers have enrolled almost 9,000 transponders. Recent fleets enrolling are: Federal Express, Frito-Lay, Les Schwab (L&S Transport), May Trucking Co., Pepsico of Eastern Oregon, USF Reddaway, Wal mart.

113	Apr-00	Jim Brock	Survey Guages Interest in Computer Services	ODOT's Motor Carrier Transportation Division Webpage & Motor Carrier News, June 2000	Two surveys were conducted in March to ask trucking companies about their interest in using computers to do trucking-related business with the state. MTCD managers were looking ahead – if enough carriers said they would go “online” to do business with ODOT, MCTD would consider developing their services. Two groups of carriers received the survey: the 200 largest trucking companies operating in Oregon, and, 1,000 randomly selected Oregon-based companies from a list of 8,969 that have at least one heavy truck registered. The response rates were 57% and 49% respectively. Very briefly, the surveys showed that the large companies were more in favor of doing business online than the general cross-section of companies. The results of the survey are at: http://www.odot.state.or.us/trucking/special/eservice.htm
114	May-00	Randal Thomas	ODOT receives ITS America Award for Oregon Green Light Program	News Release, ODOT May 4, 2000	The Oregon Department of Transportation has won a coveted ITS America Award for its automated truck preclearance system. ODOT Intelligent Transportation Systems (ITS) manager Galen McGill accepted the award on behalf of ODOT's Motor Carrier Transportation Division. "The Green Light program received one of only seven awards presented this year," McGill said. "It won in the category of ITS Deployment and Market Development Shown to Save Money." The program saves considerable time for trucking companies each time they bypass a weigh station. The program also saves taxpayers money by protecting their investment in roadways from overloaded trucks, and by reducing traffic congestion at weigh stations and ports of entry, eliminating the need to add lane and scale capacity at those facilities.
115	May-00	Gretchen Fehrenbacher	ODOT wins national award for trucking program	Daily Journal of Commerce, Portland, OR May 11, 2000	This article is based on the press release in the previous reference. Royce Young of Total Transfer is quoted – by bypassing weigh stations his trucks save time and do not have to deal with rejoining the freeway traffic. John Sallak, director of safety for the OTA also indicated that truckers save time and money, reduce accident risk, and the program saves taxpayers money that would otherwise be spent on expanding facilities. Randal Thomas indicated that when the Woodburn Port-of-Entry was built in the early 80's, 2,500 trucks used it on a busy day. There are now over 5,500 trucks on a busy day. Sallak said, "The only disadvantage I have heard is people concerned about the government gathering information – the big brother aspect. To my knowledge, that isn't a factor. I think the state is gathering information they already have. They are just getting it electronically."

116	May -00	Jeff Johnson	Illinois CDL Problems Prompt Image Campaign	Transport Topics, May 15, 2000	The Illinois Transportation Association announced that carriers enrolled in PrePass (and that make it through their safety background check) will be able to purchase truck decals that declare they are "Driven by Safety". The ITA has made the move to raise public confidence in the trucking industry following a scandal over officials being bribed to provide CDL's. Chris Oliver of PrePass said similar programs are in the works for Alabama, Florida, Mississippi and possibly California.
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APPENDIX B

OREGON DOT'S PRESENTATION ON INTEROPERABILITY

Truck Transponder Interoperability — The Oregon Story

A briefing about the trials and tribulations of one state as it introduces intelligent transportation systems for the benefit of trucking and then tries to reduce institutional barriers to truckers using similar systems in other states.

In the beginning . . . the mid-1990s . . .

- States like Oregon that had experimented with high-speed weigh-in-motion scales and transponders begin to implement plans to automate truck weigh stations.
- Oregon gets \$20 million federal funds for a demonstration project, tied to an obligation to contribute \$5 million in state dollars.
- States that are members of HELP (Heavy Vehicle Electronic License Plate, Inc.) enlist Lockheed Martin to build and run their weigh station systems.

1995 - Oregon introduces Green Light

- Oregon's plan, called Green Light, originally considers giving transponders to truckers, with no extra cost for using the weigh station bypass system.
- HELP's plan, called PrePass, gives transponders to truckers, but then charges them a per-pass fee for using the system.
 - In 1996, Oregon almost enlists Lockheed Martin to administer Green Light and charge a per-pass fee, but can't come to terms.

1994 - Other states share Oregon's interoperability vision

- In 1994, Idaho, Oregon, and Utah form the IOU Project.
 - They answer a Federal Highway Administration (FHWA) call for states to identify and remove institutional barriers to trucking operations.
 - The states focus on streamlining the movement of freight, particularly in triple trailer operations, along Interstate 84 from Portland to Salt Lake City.

1996 - Another state shares the interoperability vision

- In 1996, Washington joins Idaho, Oregon, and Utah to form MAPS – the Multi-jurisdictional Automated Preclearance System.
 - The states agree to build compatible preclearance systems, open to all transponder users, with no per-pass charges for usage. MAPS represents an alternative to the PrePass system.
 - The MAPS plan supports an FHWA vision for Commercial Vehicle Information Systems and Networks (CVISN) that unite the country.

1998 - More states share the vision

- In 1999, the MAPS states join Florida, Georgia, and Kentucky, three states that were formerly part of a demonstration project called Advantage CVO, to form NORPASS – the North American Preclearance and Safety System.
 - The states agree to build compatible preclearance systems, open to all transponder users, with no per-pass charges for usage. NORPASS represents an even more viable alternative to PrePass.
 - NORPASS also supports the CVISN plan for interoperability of systems from state to state.

1997 - Meanwhile, Oregon privatizes its transponder marketing / distribution

- Through a Request for Proposal process in 1997, Oregon awards a contract to Science Applications International Corporation, now TransCore, to market and distribute Green Light transponders.
- TransCore's business plan calls for charging an annual administrative fee of \$45 for each transponder, with no extra charges unless for value-added services. The vendor hopes to distribute 25,000 transponders by Jan. 2000.

Green Light empowers its transponders users to make interoperability happen

- From the start, Oregon believes that transponder users have the right to take their transponder to another state and use it there if they meet the terms and conditions of that state's preclearance system.
 - PrePass refuses, however, to enroll a Green Light transponder in its states' systems.
 - PrePass also refuses to let one of its transponders work in Oregon's Green Light system.

1998 - PrePass threatens litigation if its transponders are used in Green Light

- In 1998, when Oregon, at the request of several carriers, enters their PrePass transponders in the Green Light system, PrePass sends a litigation warning letter.
 - HELP claims Oregon mis-appropriates property when it enrolls transponders without its consent.
 - It further claims Oregon violates 18 U.S.C. 1029, a federal telecommunications law, whenever its automatic vehicle identification readers recognize a PrePass transponder signal.

Oregon complies with HELP's directive to cease using PrePass transponders

- But Oregon's Department of Justice reviews HELP's litigation warning and rules there is no cause for action. Reading a transponder signal should not require permission of the owner.
- The federal law HELP cited applies to cell phone-like point-to-point transmissions; not to unscrambled, unencrypted signals.
 - A transponder constantly broadcasts its number. The signal can't be turned off. In this case it is simply a heavy vehicle electronic license plate.

The Oregon DOJ's ruling about transponders is affirmed to be reasonable

- The FHWA's Chief Counsel reviews the advice of Oregon's Department of Justice and finds it "thoroughly reasonable."
 - Meanwhile, automatic vehicle identification readers in Oregon continue to read every PrePass transponder that passes a Green Light weigh station. The drivers always get a red light on their PrePass transponders, signaling that they must stop at the weigh stations, because the transponder identification numbers have not been entered in the Oregon database.

1999 - TransCore and NORPASS try to negotiate for interoperability

- In 1999, TransCore, representing NORPASS, met with Lockheed, representing HELP PrePass, to negotiate interoperability.
- Lockheed expressed willingness to consider "one-way" interoperability in which it would allow another transponder to work in the PrePass system.
 - It was still not willing to negotiate a way for a PrePass transponder to work in another state's system, enabling "two-way" interoperability.

Resulting agreement lets transponder owner decide about interoperability

- The first-of-its-kind interoperability agreement between TransCore and HELP includes the following condition:

... HELP, NORPASS, Lockheed Martin IMS and TransCore affirm that they will not use any transponder in their respective electronic clearance programs without first obtaining permission of the owner of the transponder..

2000 - Oregon withdraws from participation in NORPASS over the transponder issue

- In January 2000, after the other NORPASS states vote to accept the interoperability agreement with HELP, Oregon withdraws from participation in NORPASS.
- By continuing in NORPASS, Oregon would be accepting the agreement. The agreement represents a compromise of Oregon's long-standing principle that transponder users do not need permission of the owner to use their transponder in another system.

Summary of Oregon's objection to terms of agreement

- When the interoperability agreement recognizes the control of a transponder owner, it sets the stage for HELP to impose elements of the PrePass business model on independent states. It invites HELP to dictate further terms of use, or impose user fees.
 - HELP could assign value to a transponder signal that can't be turned off.
 - HELP could insist we adopt a fee-per-pass system here applicable, for example, to its users.

Repercussions of Oregon rejecting the interoperability agreement

- By rejecting the agreement and withdrawing from NORPASS, Oregon can't insist that its Green Light transponder work in PrePass. It can't give its permission to use the transponders there because that would be recognizing the right of the transponder owner – no permission needed; none given.
 - This puts TransCore in the awkward position of preferring to market and distribute a NORPASS transponder.

What's one option now available to Oregon?

- Now that Oregon is not bound by the NORPASS / HELP interoperability agreement, it could, at the request of carriers, again just proceed to enroll PrePass transponder numbers in Green Light. This essentially challenges HELP to take legal action if they really think they can prevail.
 - Oregon would force the issue and if challenged, the test case would determine once and for all who's right.

What's a second option also available to Oregon

- Oregon has 4,700 trucks equipped with a Green Light transponder. It has 5,000 more transponders in storage. It could transfer ownership of those devices, at no cost, to the existing users and the first 5,000 who want one.
- The carriers could then go to HELP and request to use their transponder in PrePass.
 - HELP is on record as saying it will enroll any compatible transponder that a carrier owns and wishes to use in PrePass.

. . . to be continued.

Questions?

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APPENDIX C

SEAMLESS TRUCK TRAVEL

(Article by Jonathon Slevin reproduced from ITS World, Nov/Dec 1999)

After six years of intensive effort, tens of millions of dollars in public funding and hundreds upon hundreds of meetings, a major milestone has been reached toward achieving the goal of nationwide, seamless travel for the nation's motor carrier industry.

The milestone sounds simple enough: an agreement for something called "one-way interoperability" that allows trucks from one automated roadside inspection system to participate in another system. But to get there took political will strong enough to withstand a relentless attempt by Lockheed Martin IMS to own the market for privatizing and automating a number of state government regulatory processes.

In the early '90's, this \$500 million (US) a year information technology subsidiary of the nation's largest defense contractor saw a business opportunity in automating roadside inspection stations and collecting transaction fees from trucks. Lockheed established a beachhead in some western states including California, and then planned to roll out state-by-state across the nation. But they found the going tougher than expected.

Electronic screening initiatives are part of an effort by the U.S. DOT and leading state governments to move motor carrier regulatory functions into the information age. To make this happen, folks have been working through a myriad of technical, procedural and institutional issues for nearly a decade. Throughout the process, Dick Landis, former head of the Office of Motor Carriers of the Federal Highway Administration and president of HELP Inc.—the non-profit administrative and marketing arm of Lockheed's operation—has been Lockheed's principal agent of influence.

Over time, some of the non-Lockheed players developed common ground around the notion that they were not only working to make interstate truck travel safer and more productive. They also were working to prevent Lockheed Martin from capturing a market. People reasoned that a system controlled by the huge government contractor would drive up costs to industry and limit the operational flexibility of the states.

Countering Lockheed's first-to-market and deep pocket advantage at first was like trying to break up AT&T without a court order. But the historical American commitment to reasonably open markets began to kick in. Lockheed's strategy to control transaction fees through a national network built up through agreements, one state at a time, to sole-source electronic screening functions to the HELP Inc./PrePass program started meeting resistance. Concerned states—with notable industry support from the United Parcel Service—launched a counter strategy.

Tactic #1

They first got everybody lined up behind the principle of "interoperability." This means that electronic clearance for trucks traveling from state to state should be as seamless to the user as ATM machines, regardless of what transaction data and fees get sorted

out in the back room. By the end of 1997, resolutions from the American Association of State Highway & Transportation Officials (AASHTO), its western (WASHTO) and southern (SASHTO) regional associations and ITS America had made interoperability a sacred principle—

- “Jurisdictions shall work to establish business interoperability agreements among roadside electronic screening programs;”
- “A jurisdiction will make a motor carrier’s DSRC transponder a unique identifier available to another jurisdiction upon written request and authorization by the motor carrier;” and
- “...interoperability between CVO electronic screening systems is essential for effective management of CVO systems.”

These “guiding principles” were adopted because they made sense, and with the awareness by some that Lockheed’s practices were violating some of these very principles that they were agreeing to at the conference table. That’s because in a business context, interoperability meant one of two things for Lockheed: they either had to establish themselves as the standard for interoperability through market dominance; or if they could not control the market, they would have to cooperate with competitors who could undercut their pricing structure to trucking companies. They couldn’t say that they were for interoperability within their own nationwide PrePass system but against it if it meant sharing the market with competitors. That’s why at the conference table Lockheed and HELP Inc. supported interoperability as a goal, while in the field, with their actions, they opposed it.

Interoperability became Lockheed’s crutch. It taunted them. It threatened their business model and caused them to recast their income statements. It led them into contradictions, and obfuscation. Landis sought to deflect attention away from this stickiness. He tried to minimize the problem with statements like, “HELP Inc. does not have more than a handful of carriers asking for interoperability.”

But in 1998, owners of companies with 112 vehicles enrolled in the HELP Inc. program in California and wanted to use their PrePass transponders for electronic clearance in Oregon’s Green Light program. They asked HELP for assistance—and HELP said “no.”

Carriers in Oregon’s program who wanted to use their transponders when they crossed the border into HELP Inc.’s California territory got the same treatment. At least two carriers—Walmart Foods and Thomas & Sons quit HELP Inc. as a result. John Repetto, vice president of Walmart Foods, wrote to the California Trucking Association: “HELP doesn’t want its PrePass transponders to work at other state’s sites and it doesn’t want other state-issued transponders to work at PrePass sites. I guess HELP is afraid if it cooperates with other states it will jeopardize its business model.”

Tactic #2

Once Interoperability Principles were nailed to the church house door, the states of Kentucky, Florida, Georgia, Oregon, Washington, Idaho and Utah could craft a business model that was compatible with interoperability. On August 11, the North American Preclearance and Safety System (NORPASS) was incorporated with these states as founding members and TransCore as the investor/contractor providing organizational.

administrative and marketing support. NORPASS doesn't pay for the IT infrastructure, has far less money at risk than Lockheed, can co-exist with the PrePass program and charges an annual fee of \$45 per power unit as compared to HELP Inc.'s \$.99 a pass capped at \$3.96 a day.

Tactic #3

Backed by its state partners, NORPASS then had the leverage needed to bring Lockheed to the negotiating table. Michael Jackson, Chief Operating Officer for Lockheed Martin IMS, said: "We are committed to try and work through reasonable interoperability. There are two legitimately competing programs that the states can evaluate. We are working through the process of seeing these two systems out in the world."

After several months, Jackson and Gene Bergoffen of NORPASS worked out an agreement by which Lockheed agreed to "one-way" interoperability. This means that—subject to a state's safety criteria—carriers in NORPASS can be screened electronically in states whose roadside inspection stations are part of the PrePass program. The carriers pay a fee to HELP Inc. in a range 30-50% less than the \$.99 a pass paid by carriers who belong to HELP Inc. Lockheed at this time will not allow carriers in its program to participate in the NORPASS program with its HELP Inc. transponder.

One observer described one-way interoperability as "the chink" in Lockheed's armor because side-by-side programs let the industry compare what it can get from NORPASS for \$45 a year to HELP Inc.'s \$.99 a pass. Only the market over time will tell whether this is so.

"The need for interoperability is common sense," said Landis. "But getting there has been much harder to do than we thought."