Freight Policy Transportation Insitute

Full Reciprocity Plan Financial Impact Study Review: Final Compilation Report

Washington State University

FPTI

FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
FINAL COMPILATION REPORT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

March 26, 2013

EXECUTIVE SUMMARY

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate it registration mechanics.

The four summary reports compiled here document a series of evaluations conducted on the current IRP fee process in comparison to a newly structured process. The new structure evaluated is the Full Reciprocity Plan (FRP). The FRP proposes to alter the IRP such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP in addition to creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

The included tasks identify the sequential nature of the evaluation process, beginning with a basic evaluation considering and updating the FRP Task Force's Financial Impact Study (Task I). Readily apparent throughout the Task I is the reliability of the data used to produce it. The report's analysis shows that omission of even a few entries in the estimated distance revenue matrices can produce large changes in the projected outcomes. Additionally, necessary assumptions such as those regarding values of the number of vehicles per fleet produce substantial changes to potential revenue of jurisdictions.

Task II sought to improve upon the results of the FRP task force and the analyses of Task I through the consideration of six additional components not present in the original models: 1)New Fleets; 2) Revenue Collection; 3) Motor Carrier Behavior; 4) Revenue Received; 5) Estimate Elimination, and; 6) Other Revenue Impacts (e.g. permits). As was evident in Task I, the reliability of the output of any financial impact model is inherently dependent upon the quality and reliability of the data put into it. While reliable data on several of the inputs to the models was available, and enough information to fully understand the means by which the new FRP structure will be applied, several key aspects continued to generate some degree of uncertainty about the models. To seek to address this and provide jurisdictions with a range of potential outcomes of the proposed change, sensitivity to several of the unknowns is provided in the model. Sensitivities accounted for - vehicles per fleet estimates, along with expected new fleet registration under a new FRP.

At the time Task 2 was completed, E-1 and E-2 revenues were not separated in the available data, making the model's capacity to suggest the potential for loss of revenue from such sources as calculating fees over 100% rather limited with little basis on which to generate scenarios.

Task III seeks to utilize and improve the financial impact models previously developed in Task II of this report series. Specifically, Task III evaluates the financial impact of the FRP on a cross section of 13 jurisdictions from the four regions (see table below):

For each of the jurisdictions, Task III evaluates the following considerations:

1. New fleet participation changes using jurisdictional reports over the previous five years.
2. Retention of current fleets using jurisdictional reports over the previous five years.
3. Effectiveness of the FRP in addressing key problems of the current IRP, including estimated distance for new registrants, fees over 100% of the initial calculation.
4. Changes in revenue expected under FRP as compared to the current IRP.

The Task III report includes a series of maps for each evaluated jurisdiction that provides insight to the geographic distribution of the induced impacts of the proposed changed fee structure. However, the results of the Task III study demonstrated a weakness in the available data at the time. This weakness was remedied and reported in the Task III Amendment report. The amendment enables a complete breakout of E-1 and E-2 values and reports the financial impact on the 13 evaluated jurisdictions:

Percent Revenue Change by jurisdictions considered for evaluation.[1]

Region 1	% Change	Region 2	% Change	Region 3	% Change	Region 4	% Change
Connecticut	1.7	Alabama	2.7	Illinois	2.8	Alberta	2.6
Maine	3.3	Kentucky	1.9	Minnesota	2.7	California	7.1
		Missouri	1.2	Nebraska	-0.9	Oregon	1.2
		Texas	0.0			Saskatchewan	3.1

The table above identifies that for the jurisdictions considered, the loss of revenue from the collection of fees over 100% is largely, if not completely, offset by the recalculation of the apportionment to jurisdictions for which actual miles accrue.

Task IV shifted the consideration from that of the jurisdictions, to that of the industry registrants. The task sought to evaluate potential changes to five different types of registrants:

Scenario 1: A motor carrier who operates in three IRP jurisdictions.
Scenario 2: A less-than-truckload (LTL) motor carrier who operates in many jurisdictions throughout a North American region.
Scenario 3: A large motor carrier who operates in most or all jurisdictions throughout North America.

[1] 11 of 59 jurisdictions do not differentiate in their reporting between E-1 and E-2, the values above may be slight over estimates. Additionally, a 2-vehicle per new fleet value was assumed to generate these numbers. Actual values may shift the results.

Scenario 4: A small commercial truck leasing company- one that registers vehicles for their lessee customers to use – with varied operations in a North American region.
Scenario 5: A large commercial truck leasing company with varied operations in most or all jurisdictions throughout North America.

From these examined scenarios, several potential impact themes arise: 1) As the geographic variability of a fleet's operation diminishes (little-to-no annual change in the jurisdictions in which registration is sought), the variance between the current fee process and the FRP also diminishes; 2) As the number of jurisdictions in which a fleet routinely registers increases, the impact of a change to the FRP process shrinks, and; 3) The proposed FRP process frees carrier business expansion into new jurisdictions 'on the fly' as opportunity arises by eliminating the need for adding jurisdictions at extra cost and/or obtaining relevant permits.

Key conclusions from the four tasks compiled in this report include:

To Jurisdictions

- The overall revenue adjustments to each jurisdiction will be a net result of the lost revenue from estimated distances (E-1 and E-2) that will be eliminated, the gains from adding the new Fleet FRP structure, and any adjustment to the apportioned values to jurisdictions with actual miles reported. The adjustment due to actual miles apportionment should be positive for each jurisdiction and is a result of the removal of estimated distance calculations within 100%. As the E-1's are removed, the apportionment to jurisdictions with actual miles increases.
- For the majority of jurisdictions, the loss of collections of E-2 fees in excess of 100% will largely be offset by the recalculation of the apportionment to jurisdictions for whom actual miles were accrued.
- Overall, it may be expected that most jurisdictions will not experience a revenue change due to fee structure in excess of four percent either positive or negative.

To Carriers

- Newly registering carrier's expected first year fees become constant within a jurisdiction.
- Flexibility of enterprise expansion by carriers registering in only a few jurisdictions increases.
- Large motor carriers already registering in most-to-all jurisdictions will witness little, if any, change in their fees based on the new structure.

Reports included:
Task I Summary Report. 11 pages
Task II Summary Report. 11 pages
Task III Summary Report. 90 pages
Task III Amendment. 10 pages
Task IV Summary Report. 12 pages

FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
TASK 1 SUMMARY REPORT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

August 17, 2012

SUMMARY

This Task I Report is the first of five stages of evaluation of the proposed changes to the IRP fee process. This stage of the evaluation considers the results generated by the Full Reciprocity Plan (FRP) Task Force in their analysis of data on each participating jurisdiction's estimated distance revenue for first-, second-, and subsequent-year estimates as compared to the anticipated revenue generated under the new FRP. Task I is evaluated in three pieces:

- Replicate FRP task force financial impact study (i.e. no changes made to methodology) using the most recent and readily available data - 2011.
- New financial impact study using improved methodology on data from original task force study.
- New financial impact study using improved methodology on the most recent and readily available data.

Several key issues arose in review of the Task Force's impact study:

- Missing data from the estimated distance and total revenue charts have the potential to significantly skew the impact results.
- Assumptions regarding the number of vehicles registered per new fleet need to be evaluated for the models sensitivity to their variability.
- Utilization of combined E-1 and E-2 estimated distance revenue may provide a misrepresented comparison to the potential FRP new fleet registrations. Only E-1 should be compared.

Steps are taken to assess the impacts of the missing data and vehicles per fleet assumption on model performance. We find that they play large roles in the comparative outcomes of the financial impact study. Future stages of this evaluation need to be conducted with as reliable and complete data as feasible that allows the finest breakout of the component parts as possible.

INTRODUCTION

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for nearly forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate it registration mechanics.

Through the Oregon Department of Transportation's (ODOT) *RFP #730-24948-12*, researchers with the Freight Policy Transportation Institute and Transportation Research Group (FPTI/TRG) in the School of Economic Sciences at Washington State University (WSU), in close collaboration with Dr. Catherine Lawson from the Department of Geography and Planning at the University at Albany, State University of New York (SUNY), have been contracted to provide the necessary economic research and evaluation services that will allow IRP to analyze the impacts of implementation of a new structure for collecting truck registration revenue under the proposed Full Reciprocity Plan (FRP).

The new structure to be evaluated against the currently implemented IRP is the Full Reciprocity Plan. The FRP, as currently structured, proposes to change the IRP fee process such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP, while simultaneously creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

Purpose of Task I Report

This Task I Report is the first of five stages of evaluation of the proposed changes to the IRP fee process. Task I is presented below in three pieces:

1. Replicated FRP task force financial impact study (i.e. no changes made to methodology) using the most recent and readily available data - 2011.
2. New financial impact study using improved methodology on data from original task force study.
3. New financial impact study using improved methodology on the most recent and readily available data.

The remainder of the report summarizes the results of our evaluation of the assumptions and reliability of the FRP Task Force's original model. Additional discussion includes those of suggested improvements to the model and the justification for those improvements, along with any discussion of how those changes impact conclusions drawn by either model. Discussions are limited to the original model and the modifications to it. Detail and discussion of the expanded impact model are preliminarily addressed in the conclusion and will be addressed in full in the second stage (Task II) of this project.

DATA AND METHODOLOGIES

Original Methodology

To begin their 2010 evaluation of the impacts of the proposed fee changes to IRP, the FRP Task Force utilized the estimated distance revenue for first- , second-, and subsequent-year estimates (E-1 and E-2) collected by each participating jurisdiction[1]. New motor carriers have the opportunity to either use their own estimated distances based on their business plans, or use an estimated distance chart maintained by each IRP jurisdiction. IRP requires each jurisdiction to update their estimated distance charts at least once every three years. Renewing carriers also have the ability to add new jurisdictions and can estimate their anticipated travel distances in those jurisdiction at the time of renewal. These estimated distances will be calculated in conjunction with the actual distances travelled in registered jurisdictions in the previous year. These two groups of estimates comprise the E-1 and E-2 values used in the impact study.

The values generated by the estimated distance revenue are compared against the proposed fees that would have been collected had the FRP been in place over the same time period. To generate the fee estimates, the task force used the estimated distance charts of each jurisdiction in conjunction with an estimate of the number of vehicles derived from the 2009 annual IRP activity report. The matrix generated from the estimated distance charts displays the proposed fees collected by and distributed to each jurisdiction. The fee values are determined using the Celtic Fee Estimator on the IRP website (http://www.irponline.org/). To generate a consistent set of fees between jurisdictions, the Task Force utilized a standard set of vehicle type parameters (Table 1).

Table 1. Base Vehicle Type.

Vehicle Type	Tractor (TR)	**Purchase Date**	2010
Model Year	2010	**Factory Price**	$80,000
Unladen Weight	17,000	**Purchase Price**	$70,000
Combined GVW	80,000	**Type of Operation**	For Hire
Axles	3	**Commodity Class**	All
Combined Axels	6	**Exchange Rate**	0.9857 USD
Fuel Type	Diesel	**Total Months**	12

[1] Manitoba (MB) did not provide transmittal data for the 10/01/2009-09/30/2010 period of consideration

Expanded Methodology

The major component of Task I included in this report is an evaluation of the methodology utilized by the Task Force in generating their 2010 Financial Impact Study. Upon review of the methodology, several components have been noted as not only contributing significantly to the results found, but also to be heavily reliant on assumptions that in reality may have some variability in their true value. These components are addressed individually below along with the proposed method of addressing them with the new data and the original Task Force data.

Omitted Data

The original task force report concluded that four jurisdictions could experience revenue increases with the FRP over that of the revenue generated by the estimated fees from the current first-year and second year-estimates. One of these jurisdictions is the state of Texas (the others include Maine, Ontario, and Prince Edward Island). Upon review of the data matrices, missing values for the fees collected and kept by Texas were noted. Given that the average jurisdiction (of those that reported a value) retains 26 percent of the fees collected and Texas collected over $15 million that was distributed to other states, this is a potentially large omitted value.

To estimate the effect of these omissions on the impact study in both the original data and the new 2011 data, we utilize the estimated distance charts for the jurisdictions who did not report the value of collected fees retained [GA, IL, KS, MD, TX, and CA (only missing in 2011 data)] to generate an estimated value of the percent of travel that is conducted in-state. Since CA is only missing 2011 data, we assume that their in-state retention of fees is consistent between years (33 percent). The resultant percentages used to calculate the values inserted into the matrices are displayed in Table 2.

Table 2. In-State Travel by Jurisdictions with Missing Data.

State	Percent In-State Travel
Georgia	32.43
Illinois	14.75
Kansas	25.36
Maryland	29.91
Texas	41.35

The generated 2011 estimated distance revenues from IRP jurisdictions include several omitted jurisdictions. To compensate, several steps were taken to impute the missing values. The jurisdictions not reporting their E-1/E-2 or total revenues are Oklahoma, New Brunswick, and Manitoba. Manitoba similarly did not report for the Task Force's impact study. As no adjustment was made for the omission in their study, it is left at zero values in this study as well for consistency and there is no basis by which estimates can be confidently made at this time. Alternatively, Oklahoma and New Brunswick did report in the previous study and thus we are able to utilize their old information to inform an estimate of 2011 values. To estimate these values, we calculate the average proportion of yearly change in fees collected by each of the

other jurisdictions and use this average as the estimated percent change in fees collected by Oklahoma and New Brunswick.

New Vehicles
The 2010 Task Force study estimated the number of new vehicles registered in a jurisdiction using the 2010 Annual Report showing New IRP Fleets. As there is not a recorded value for the number of vehicles contained in each new fleet, the Task Force assumed an average of two vehicles per fleet were registered in each jurisdiction. The number of newly registered vehicles is perhaps the single largest driver of the value of fees collected under the proposed FRP process. With such an impact, it is valuable to understand the sensitivity of the results to the assumed average number of vehicles per fleet. To explore this sensitivity, a range of average vehicles per fleet are evaluated for their impact on the revenue difference between the current fee structure and the proposed FRP. Values of 1.5, 2, 3, and 4 are explored.

E-1 and E-2 Estimates
The Task Force's revenue impact analysis compared the proposed first year fees collected from new registrants under the FRP to those fees collected from the estimated distance revenue for first-, second-, and subsequent-year estimates. The combination of E-1 *and* E-2 values poses a complicated issue of whether by considering both together, an unequal comparison results. Given that only new fleet and thus new vehicle registrants are used for the FRP revenue values, only E-1 should be used in comparison. The data currently available does not allow for a breakout of E-1 and E-2 values and thus the expanded methodology is unable to accurately break them out at this point in our study.

RESULTS

Original Methodologies/New Data[2]

In 2010, the Task Force demonstrated that estimated distances represent a rather small percentage of the Total IRP revenue. Using Missouri as an example, they found the current estimated distance values to be approximately seven percent of the total IRP revenue. The proposed FRP first year revenue would be 47 percent less and comprised approximately four percent of the total. Not surprisingly, when assumptions are unchanged, rather similar results are observed for the 2011 data. Again using Missouri as an example, the current estimated fees ($6,373,698) are approximately eight percent of the total IRP revenue for the state ($81,154,087), while the proposed FRP revenue remains at roughly four percent ($3,524,212); a 45 percent reduction.

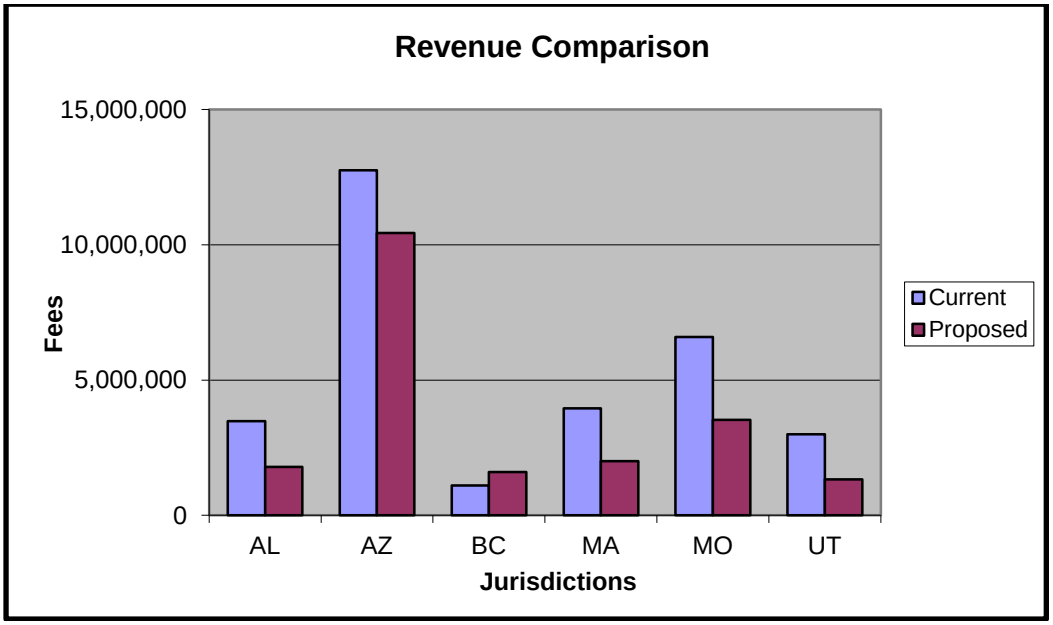
Figure 1 below largely produces similar results as the similarly constructed figure from the Task Force. The noticeable difference however, is that under current year numbers, British Columbia witnesses a gain in proposed revenue. Five jurisdictions (BC, CA, GA, NL, and PE) see positive revenue changes under the proposed fee system given 2011 numbers as opposed to four who did so in 2010. It is important to recall here however that the E-1/E-2 values for CA and GA do not

[2] No imputing of missing data, and no change to the assumed two vehicles per fleet.

include the fees collected and retained within the state. These effects will be explored in later sections.

On average, the jurisdictions collect 31 percent fewer fees under the proposed FRP process as compared to the current E-1/E-2 fees collected. The median value collected is 41 percent less. The jurisdictions of Montana and Washington D.C. are suggested to have the largest impact on revenue collected as a percent of their current collection; 71 and 80 percent reductions respectively. All jurisdictions, with the exception of Manitoba (who did not provide transmittal data) not already mentioned as having positive gains, experience revenue losses of more than 10 percent as compared to E-1/E-2 fees collected.

Figure 1. Revenue comparisons of six states under proposed fee structures.



New Methodologies/Original Data

The proceeding results model the original data reviewed by the FRP Task Force with changes made to address the missing values in the estimated distance revenue charts. Upon producing the estimated values of fees retained in-state for GA, IL, KS, MD, and TX, as should be expected, Texas drops from the list of those entities that experienced positive revenue changes from the proposed new fee structure. With these estimates in place, Texas is estimated to see fees drop by 64 percent as compared to current estimated distance fees. The difference in the percent fewer fees collected by accounting for the missing data are shown in Table 3. As evidenced in the table, the inclusion of these imputed values produces a significant difference in the impacts to these jurisdictions. This is particularly the case for both Georgia who under the original analysis could have expected a 23 percent reduction in first time registrant revenue and who now is now projected to experience a 61 percent reduction. Note that the -3 percent for Texas implies that they originally were projected to experience a gain from the changed fee structure of FRP.

Table 3. Effect of Missing Values.

	Not Imputed	Imputed	Estimated Fees Collected and Retained
Georgia	23%	61%	$ 2,625,713
Illinois	13%	25%	$ 1,623,238
Kansas	40%	53%	$ 799,278
Maryland	17%	35%	$ 818,631
Texas	-3%	64%	$ 10,677,960

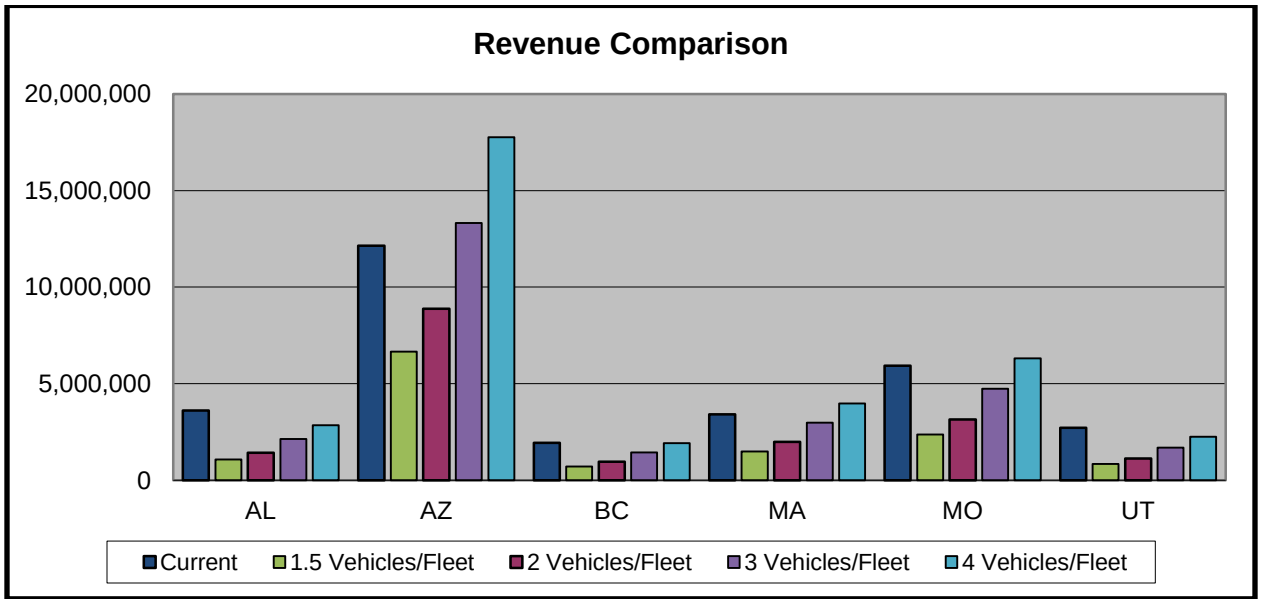
***Percentages indicate the reduction in revenue between the current fee process and the proposed FRP. A negative value suggests FRP increases revenue.*

New Vehicles

Figure 2 below depicts the same six jurisdictions that were shown in Figure 1. As suggested by the figure, the expected revenue is highly dependent upon the assumptions made in regards to the number of vehicles registered per new fleet. The true value of vehicles per fleet will greatly impact the revenue changes. Under an assumption of three vehicles registered per fleet, the number of jurisdictions with positive revenue changes increases to 18, up from the four that experienced a positive change with a two vehicle per fleet average. Additionally, with a three vehicle assumption, the average loss in revenue is 11 percent. Washington D.C. remains the largest impacted as a percentage of its revenue, with a 64 percent reduction.

Increasing to what may be considered to be the likely upper bound of a reasonable vehicle per fleet assumption, at four per fleet, 36 of the 59 jurisdictions experience a positive change in revenue. On average, jurisdictions would experience a 19 percent increase. Alternatively, if the current estimate of two vehicles per fleet is too high and the value comes in closer to 1.5, all but one jurisdiction (PE) are expected to see a reduction in revenue; 56 percent on average.

Figure 2. First-Year Registrant Revenue Comparisons under multiple vehicle/fleet assumptions. (Fee units are in US$).



New Methodologies/New Data

Turning finally to the 2011 data including the imputed adjustments made for missing data, Table 4 provides an exploration of the impact on the model. As the table shows, the impact on California of not accounting for their fees currently collected and retained is large. Without this value, they would be projected to improve first year revenue by 61 percent in a switch to the FRP process. By including the $6.7 million dollars we estimate them to have collected and retained in 2011, California should be projected to lose five percent of their first year revenue with the incorporation of FRP.

Table 4. Effect of Missing Values.

	Not Imputed	Imputed	Estimated Fees Collected and Retained
California	-61%	5%	$ 6,733,398
Georgia	-6%	61%	$ 2,443,818
Illinois	14%	25%	$ 1,793,841
Kansas	50%	57%	$ 644,830
Maryland	12%	32%	$ 950,018
Texas	8%	69%	$ 13,773,708

***Percentages indicate the reduction in revenue between the current fee process and the proposed FRP. A negative value suggests FRP increases revenue.*

New Vehicles

In very much the same fashion as discussed with the original Task Force data generated from the 2010 annual report, the projected revenue differences from the 2012 annual report are heavily reliant upon the assumed number of vehicles per fleet. Figure 3 again shows the same six jurisdictions and the effects of changing the number of vehicles per fleet. Further, Table 5 demonstrates that large variability in projected revenue changes exists, with greater than 50 percent projected decrease at the level of 1.5 vehicles per fleet, and a 26 percent revenue increase when four vehicles per fleet are assumed.

Figure 3. First-Year Registrant Revenue Comparisons under multiple vehicle/fleet assumptions. (Fee units are in US$).

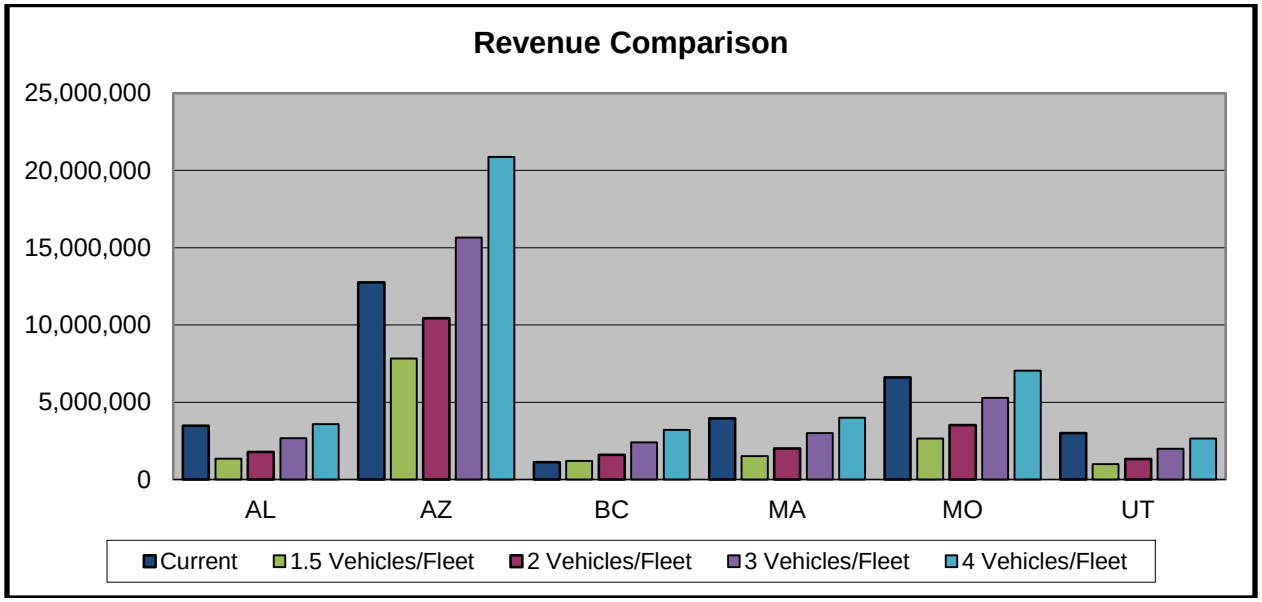


Table 5. Effects of Changing Vehicles/Fleet Assumptions.

	Number of Jurisdictions with Revenue Gains	Average Revenue Change
1.5 Vehicles/Fleet	2	-53%
2 Vehicles/Fleet	3	-37%
3 Vehicles/Fleet	18	-5%
4 Vehicles/Fleet	45	26%

DISCUSSION

This initial report regarding the consideration and evaluation of the FRP Task Force's financial analysis is intended to provide a snapshot of but a small portion of the larger changes proposed under the FRP. This report discusses the financial impacts of only the first year registrations of new fleets. The readily apparent issue throughout the report is the reliability of the numbers used to produce it. We have shown that omission of even a few entries in the estimated distance revenue matrices can produce large changes in the projected outcomes. Additionally, assumptions regarding values of the number of vehicles per fleet produce substantial changes to potential revenue of jurisdictions. Not included in this report, but of potential significance is the affect on model performance of the simplifying assumption that all newly registered vehicles are of the same type (Table 1). The breakdown of actual registrants will affect the potential revenue of the FRP. This will be explored in further detail in later tasks.

Future stages of the financial impact of the FRP on a cross-section of several jurisdictions will need to be conducted with more complete knowledge of the parameters under consideration. This requirement is of particular concern in regards to California and Texas, two states for whom we will further evaluate the plans financial impacts. The next stage of this project will expand upon the limited financial impact model developed here and by the FRP Task Force. The newly developed model will permit not only the evaluation of first year estimated revenue of new fleet registration, but also the changes that can be expected throughout the registration revenue stream. This model expansion includes items such as the elimination of those fees currently considered an additional fee over 100 percent, as well as a discussion of potential impacts on trip permit revenue and citation collection.

FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
TASK II SUMMARY REPORT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

September 19, 2012

SUMMARY

This Task II Report is the second of five stages of evaluation of the proposed changes to the IRP fee process. This stage of the evaluation builds upon the results generated by the Full Reciprocity Plan (FRP) Task Force, and Task I of this report series in their analyses of data on each participating jurisdiction's estimated distance revenue for first-, second-, and subsequent-year estimates as compared to the anticipated revenue generated under the new FRP. Task II seeks to incorporate six additional components into the previous models:

1. **New Fleets -** Determine the average number of new fleets that begin participation in the IRP in that jurisdiction each year and assess whether that new fleet entry rate will continue after implementation of the FRP.
2. **Revenue Collection -** Determine the revenue a jurisdiction will collect under the FRP from whatever number of new fleets can be predictably expected to begin participation in the IRP.
3. **Motor Carrier Behavior -** Incorporate into the model a representation of motor carrier behavior change in response to the FRP and the resultant competitive and economic influence.
4. **Revenue Received -** Determine revenue a jurisdiction will receive from new fleets that begin participation in the IRP in other jurisdictions and pay a composite fee that provides something for every jurisdiction.
5. **Estimate Elimination -** Determine the revenue impact by jurisdiction from the elimination of second- and subsequent year estimates that are currently considered an additional fee over 100%.
6. **Other Revenue Impacts -** Identify whether the new model can include the ability to accomplish the following for some or all jurisdictions:
    a. Determine revenue lost from a jurisdiction issuing fewer trip permits.
    b. Determine revenue lost from a jurisdiction issuing fewer citations for failure to pay apportioned fees.

Central to the consideration of the first three components is the effective magnitude of the variability within the assumptions. Any potential induced changes in firm (fleet) behavior, whether it is to move jurisdictions, add vehicles, or alter business plans to include other jurisdictions, must be considered in concert with the entirety of the operating costs of running a vehicle or fleet of vehicles. Recent estimates have placed the marginal operating costs of a commercial truck in the realm of $1.73 per mile (with differences existing by truck type and other variables). We estimate, based on the fees assigned to a first year registrant under FRP, a marginal operating costs of $0.01-$0.02 per mile attributable to IRP registration. Thus, the impact of FRP alone on new fleet additions, and carrier behavior is not likely to substantially affect the reliability of the estimates produced in the current financial model; points four through six.

The third stage of this research will delve deeper into 14 jurisdictions and evaluate, using the model provided and further tools as available, a more complete picture of FRP effects on jurisdictions.

INTRODUCTION

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for nearly forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate it registration mechanics.

Through the Oregon Department of Transportation's (ODOT) *RFP #730-24948-12*, researchers with the Freight Policy Transportation Institute and Transportation Research Group (FPTI/TRG) in the School of Economic Sciences at Washington State University (WSU), in close collaboration with Dr. Catherine Lawson from the Department of Geography and Planning at the University at Albany, State University of New York (SUNY), have been contracted to provide the necessary economic research and evaluation services that will allow IRP to analyze the impacts of implementation of a new structure for collecting truck registration revenue under the proposed Full Reciprocity Plan (FRP).

The new structure to be evaluated against the currently implemented IRP is the Full Reciprocity Plan. The FRP, as currently structured, proposes to change the IRP fee process such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP, while simultaneously creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

Purpose of Task II Report

This Task II Report is the second of five stages of evaluation of the proposed changes to the IRP fee process. Task II seeks to enhance the financial impact models originally developed by the FRP Task Force and evaluated in Task I of this report. Specifically, Task II evaluates the suitability of the following components as adding value to the original model:

1. **New Fleets -** Determine the average number of new fleets that begin participation in the IRP in that jurisdiction each year and assess whether that new fleet entry rate will continue after implementation of the FRP.
2. **Revenue Collection -** Determine the revenue a jurisdiction will collect under the FRP from whatever number of new fleets can be predictably expected to begin participation in the IRP.

3. **Motor Carrier Behavior -** Incorporate into the model a representation of motor carrier behavior change in response to the FRP and the resultant competitive and economic influence.
4. **Revenue Received -** Determine revenue a jurisdiction will receive from new fleets that begin participation in the IRP in other jurisdictions and pay a composite fee that provides something for every jurisdiction.
5. **Estimate Elimination -** Determine the revenue impact by jurisdiction from the elimination of second- and subsequent year estimates that are currently considered an additional fee over 100%.
6. **Other Revenue Impacts -** Identify whether the new model can include the ability to accomplish the following for some or all jurisdictions:
    a. Determine revenue lost from a jurisdiction issuing fewer trip permits.
    b. Determine revenue lost from a jurisdiction issuing fewer citations for failure to pay apportioned fees.

The remainder of this report summarizes the results of our evaluation of the above identified components. Much of the discussion here will reference the associated MS Excel based financial impact model.

DATA

FRP New Registrant Fee Revenue

Consistent with the models previously produced, this report continues evaluation using a standard set of vehicle parameters (Table 1). The associated fee values are determined using the Celtic Fee Estimator on the IRP website (http://www.irponline.org/).

Table 1. Base Vehicle Type.

Vehicle Type	Tractor (TR)	**Purchase Date**	2010
Model Year	2010	**Factory Price**	$80,000
Unladen Weight	17,000	**Purchase Price**	$70,000
Combined GVW	80,000	**Type of Operation**	For Hire
Axles	3	**Commodity Class**	All
Combined Axels	6	**Exchange Rate**	0.9857 USD
Fuel Type	Diesel	**Total Months**	12

Under the FRP, new IRP registrants will pay to the jurisdiction in which they register, an apportioned fee to all jurisdictions based on the estimated distance charts that are reproduced in matrix form (Table 2). The columns of Table 2 represent a sampling of the component parts of the fees collected by the jurisdictions. For example, the registration fee charged to a vehicle meeting the classification of Table 1, and registering in Arkansas will be the column total ($1529.45). Of this fee collected, they will retain $329.82. Additionally, Arkansas will receive

from other jurisdictions apportioned fees totaling (row total) $1329.26 (note this includes the fees they retain).

Table 2. Sample output of Estimated Distance Charts. Units are in US dollars.

Jurisdiction	AB	AL	AR	AZ	…	Total
AB	976.00	1.00	2.00	33.00	…	2559.00
AL	0.84	212.55	20.88	5.62	…	826.06
AR	2.49	30.49	329.82	23.64	…	1329.26
AZ	26.02	87.36	128.33	916.76	…	5111.30
…	…	…	…	…	…	…
Total	3245.11	1264.75	1529.45	2206.34	…	109566.56

The total revenue received by jurisdictions for new registrants is then based not only on the sum-product those vehicles registered in their jurisdiction and the associated fees charged, but also that of the portion they receive from all other jurisdictions. The second important component of this equation is the development of an estimation of the number of vehicles per fleet registering in a jurisdiction. The effect of this value was explained in detail in the Task I report, and is made visible in the new impact model.

Current Registration Fees Collected

New motor carriers currently have the opportunity to either use their own estimated distances based on their business plans, or use an estimated distance chart maintained by each IRP jurisdiction. IRP requires each jurisdiction to update their estimated distance charts at least once every three years. Renewing carriers also have the ability to add new jurisdictions and can estimate their anticipated travel distances in those jurisdiction at the time of renewal. These estimated distances are calculated in conjunction with the actual distances travelled in registered jurisdictions in the previous year. These two groups of estimates comprise the E-1 and E-2 values used in this study. The intent of this report series is to evaluate the proposed new FRP program to the one currently in place. As such, we use the jurisdiction reported 2011 E-1/E-2 revenues to generate an estimate of the revenue that will be lost if the current program is replaced. Registrant estimated distances will no longer be used. Additionally, we evaluate the total revenue collected and received by jurisdictions to determine the overall effects.[1]

Fleet Sizes

Fleet size information is generated through the use of the last 5 years' worth of Annual IRP reports. These reports contain jurisdictionally reported values for renewing fleets, new fleets, and total fleets.

[1] Refer to the Task I report for a discussion of the methods used to correct for missing data in the E-1/E-2 and total revenue values.

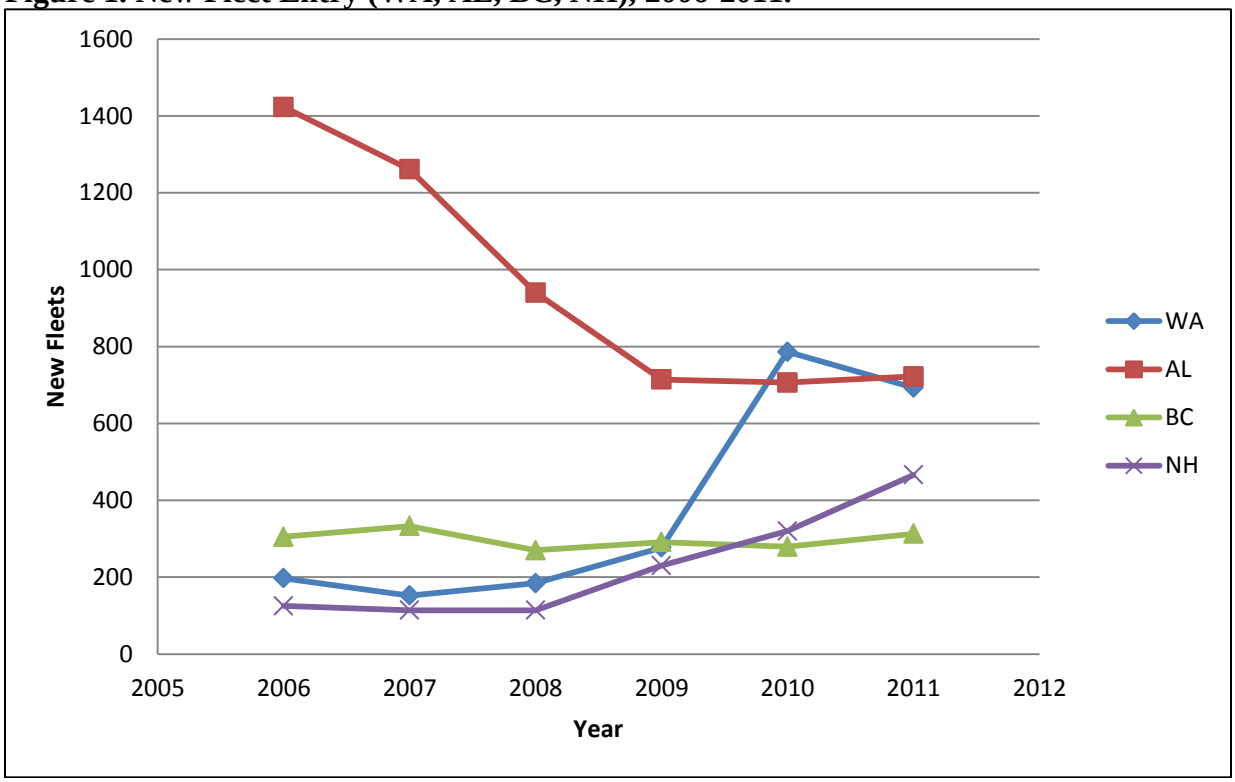
NEW FINANCIAL IMPACT COMPONENTS

The following sections step through the six components sought to be addressed in the financial impact model:

1. New Fleets

Some speculation exists that the number of 'new' fleets currently being recorded under the IRP fee process are not truly new fleets. Rather, they are existing fleets that change to make them appear to be new operations, or move to a new base jurisdiction, such that carriers may take advantage of estimated distance freedoms again. A quick review of the new fleet entry trends – obtained from the Annual Reports submitted to IRP - between jurisdictions reveals there is not a consistent pattern of new entry over the last five years. Take for example, the four jurisdictions in Figure 1. Expanding the consideration to all jurisdictions, it can be observed that some jurisdictions have held relatively steady, while others have declined in their rate of new fleet entry, while others still have seen surges in entry numbers.

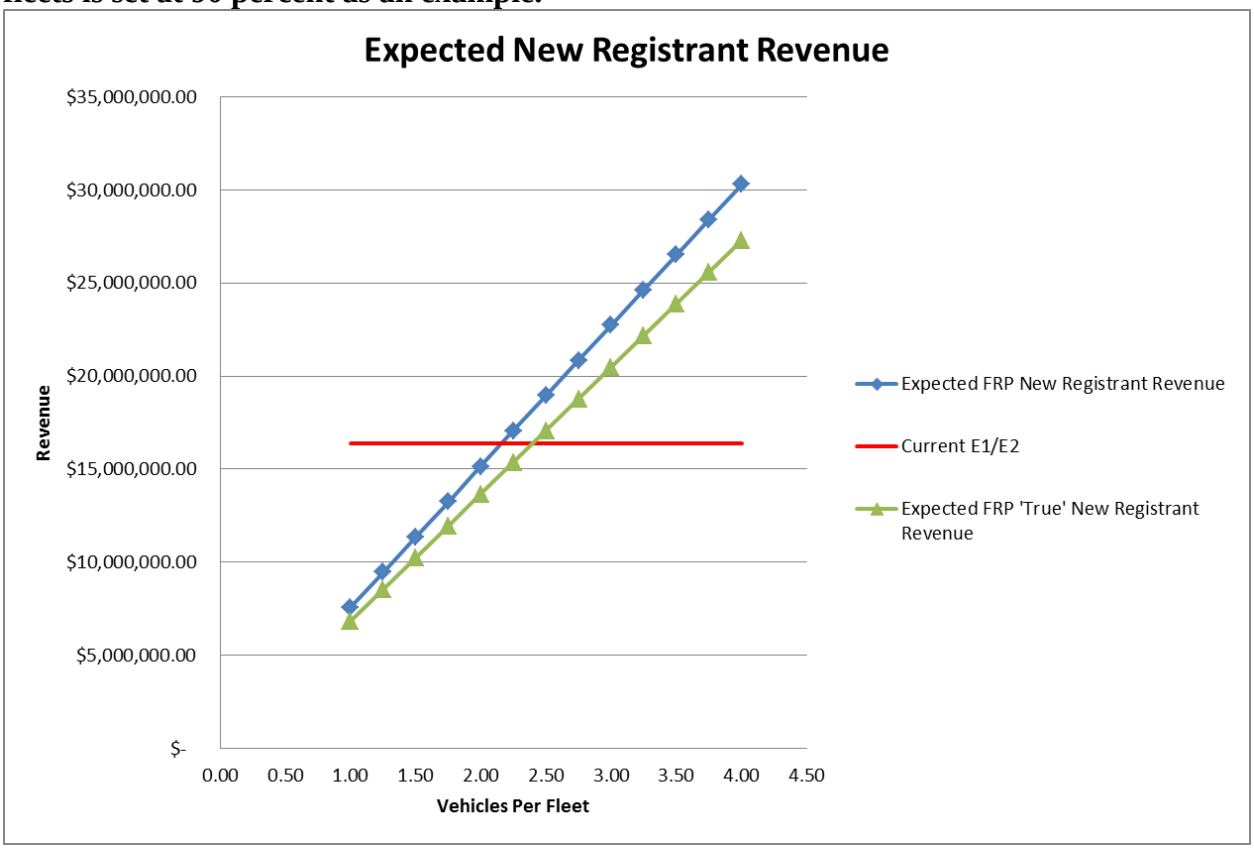
Figure 1. New Fleet Entry (WA, AL, BC, NH), 2006-2011.



Absent any viable data to track the movement of firms (fleets) from one jurisdiction to another, a reliable estimate of the impact this 'base jurisdiction jumping' may have on the reported number of new fleets cannot be evaluated. However, it is still of value to the 59 jurisdictions to allow them a means of testing the sensitivity of the estimated revenue generated by the FRP process from new registrants. To accommodate this, the accompanying excel based model allows the user to indicate a "True New Fleets" percentage. This percentage represents that jurisdiction's estimate of what they expect the real number of new fleets to be. This number is applied

uniformly across all jurisdictions. Figure 2 highlights the revenue difference between assuming all new registrants (2011) are 'true', as opposed to an estimate that only 90 percent are actually new fleet registrants.

Figure 2. Expected New Registrant Revenue Comparisons (CA), 2011. Expected 'true' new fleets is set at 90 percent as an example.



In addition to the number of new fleets registering with IRP over the last six years, Figure 3 provides an indication – from the excel based model – of the retention of fleets within a state. Retention is the number of fleets renewing, as a proportion of the total IRP fleets from the previous year. Fleets not renewing may do so based on numerous reasons, including complete cessation of operation, reduction of operations such that IRP is not longer needed, or movement of the operation to another jurisdiction. The retention rates shown for California appear to be typical of most states, if not on the low end of typical. Assuming these retention rates are an aggregate measure of the fleets not renewing in a jurisdiction for the host of reasons mentioned above, it would likely be fair to assume that the movement from one jurisdiction to another in an effort to be considered a new fleet elsewhere is a small proportion of the non-renewing fleets. As such, even the 90 percent 'true' could likely be a low estimate.

Figure 3. New Fleets and Fleet Renewals (Values represent CA numbers)

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	6910	15879	22789	-
2007	6443	16611	23054	73%
2008	4724	16807	21531	73%
2009	2787	17146	19933	80%
2010	4562	16272	20834	82%
2011	3680	15642	19322	75%

2. Revenue Collection

Figure 2 further elucidates the potential impacts (as discussed in Task I) of correctly (incorrectly) estimating the number of vehicles per fleet. California is the represented jurisdiction in Figure 2, and shows that taking the number of new fleets at face value produces a 'break even' point at slightly more than two vehicles per fleet average, when compared against the revenue lost through the elimination of E-1/E-2 fee processes. In other words, in California, if the actual value of vehicles per fleet is more than two, then the new FRP process will produce higher revenue from first time registrants than the E-1/E-2 process has. This break even value is shifted slightly to the right if we expect that not all new fleets are true new fleets, AND that the FRP process would dampen the motivation of carriers to jump jurisdictions. These will be addressed in more detail in the analysis of the 14 identified sample jurisdictions of Task III.

3. Motor Carrier Behavior

Changes in motor carrier behavior may manifest itself through several different mechanisms in response to the FRP and resultant competitive and economic influences. The differences under each mechanism will be dependent upon the actual and perceived size of the change in fees paid. Under the proposed FRP fee process, new fleets will pay apportioned fees in accordance with their base jurisdiction's estimated distance charts. Thus, every new vehicle of the same classification registering in a jurisdiction will pay the same fee independent of their planned operations in that first year. Differences in fee payments arise when comparing across jurisdictions, thus potentially contributing to a carrier's decision of where to base their operations. Per vehicle IRP fees – for those vehicles classified in Table 1 – range in magnitude from $1,184 (LA) to a high of $3,684 (MB). The 10 Canadian provinces are the 10 highest fee jurisdictions. The province with the lowest fees would charge $2,431 (ON). Alternatively, the highest U.S. state fee is $2,206 (AZ). Separating jurisdictions out by country shrinks the range of per vehicle fees between jurisdictions to a smaller value; $1,022 in the U.S., and $1,253 in Canada.

Using Alabama as an example, their estimated distances generated by the Celtic Fee Estimator, produce an estimated distance for a vehicle to be 114,279 miles. Additionally, the fee generated by this distance is $1,265. This leads to a per mile cost of the fee to be $0.011; effectively one cent per mile. Louisiana's – the lowest fee state- fees generate a $0.016 per mile, and Arizona's – the highest fee state - a $0.013. Motor carrier marginal expenses have been estimated to be $1.73 per mile.[2] As such, the IRP portion is less than one percent of a vehicle's total marginal costs. Given the small percentage of IRP fees relative to the total marginal cost and the even smaller differences in per mile costs, it is unlikely that first year FRP fee variation alone will generate a substantial change in motor carrier behavior.

4./5. Revenue Received and Estimate Elimination

The accompanying excel based model provides any participating jurisdiction the ability to individually explore not only the revenue they collect from new registrants, but also allows them the opportunity to view the revenue they receive from their apportioned percentage generated in other jurisdictions. Figure 3 displays the output generated by the model for California. Here, the revenue received by California ($147,364,504), both from estimated and actual distances can be viewed along with the revenue collected ($82,372,107) from each. These can then be compared against the expected FRP revenue from new IRP registrants ($15,156,686). Note here that collected values represent those dollars that the state collects from fleets registering in their jurisdiction, that is then apportioned out to the other appropriate jurisdictions. The received value indicates those dollars collected elsewhere and sent to the jurisdiction of concern – CA in Figure 3 – along with the dollars collected and retained in state.

From Figure 3, it can be observed that at an estimated two vehicles per fleet, the FRP revenue gained from new registrants is 92 percent of the revenue lost from discontinuation of E-1 and E-2. When compared to the total revenue received, the adoption of FRP denotes a 0.8 percent revenue loss. The underlying assumption here, is that actual distance revenue is unchanged.

[2] Trego, T., Murray, D. (2009). An Analysis of the Operational Costs of Trucking. *TRB 2010 Annual Meeting.* Retrieved September 2012 from: http://www.atri-online.org/research/results/ATRITRBOpCosts.pdf.

Figure 3. California example of FRP revenue differences.

Jurisdiction Name (Select 2-Digit Abbr. from Drop Down)		CA
Current Revenue Received Values		
Estimated Distance Revenue	$	16,386,528.61
Actual Distance Revenue	$	130,977,976.35
Total Revenue	$	147,364,504.96
Current Revenue Collected Values		
Estimated Distance Revenue	$	20,404,238.24
Actual Distance Revenue	$	61,967,869.72
Total Revenue	$	82,372,107.96
Expected FRP Revenue from New IRP Registrants	$	15,156,686.00
Vehicles Per Fleet (Expected Jurisdictional Average)		2
True New Fleets		90%
FRP New Registrant Revenue as a percent of Estimated Distance		92%
New Registrant Fee per Vehicle	$	2,008.66

6. Other Revenue Impacts

The impacts of the FRP will – as detailed in the Task Force's White Paper – undoubtedly have impacts on the other various forms of revenue that may flow into a jurisdiction in relation to IRP. Of particular interest is the impact on Trip Permits and Citations. At this time, no data was made available to this impact model determine the value of either of these sources of revenues for a given jurisdiction. However, we have included in the excel model an opportunity to input the current trip permit levels generated by the jurisdiction, as well as the number of permits expected (projected) to be issued following an adoption of FRP. It should be expected by any given jurisdiction that with the implementation of FRP, any IRP registered vehicle will no longer purchase a trip permit. If the jurisdiction knows their historical breakout of permits in relation to whether they were issued to IRP participants, they can calculate this expected change. Figure 4 presents the model's opportunity to display and consider this effect. Each jurisdiction may enter its permit value and number of permits they would expect to issue under the current system along with the number under a full reciprocity system.

The revenue impacts related to citations are somewhat more cumbersome to detail, as there is little continuity between jurisdictions on the disposition of any revenue from these citations. Thus, this aspect is not included in the excel model at this time. As the 14 jurisdictions are detailed more fully in Task III, a sense of this impact may be developed further. Similarly, the impact of changing the number of trip permits will also be more fully developed in Task III.

Figure 4. Trip Permit Input

	Permit Value =	
Trip Permit Revenue Generation	**Expected Permits Issued**	**Revenue**
Current Registration Process		$ -
FRP Registration		$ -
	Net Impact	$ -

DISCUSSION

Reliability of the output of any financial impact model is inherently dependent upon the quality and reliability of the data put into it. While we have reliable data on several of the inputs to the models, and enough information to fully understand the means by which the new FRP structure will be applied, several key aspects continue to generate some degree of uncertainty about the models. To seek to address this and provide jurisdictions with a range of potential outcomes of the proposed change, sensitivity to several of the unknowns are provided in the model. Sensitivities accounted for - vehicles per fleet estimates, along with expected new fleet registration under a new FRP.

At this time, E-1 and E-2 revenues are not separated in the available data, making the model's capacity to suggest the potential for loss of revenue from such sources as calculating fees over 100%, rather limited with little basis on which to generate scenarios. Task III will seek to obtain these breakdowns from the 14 analyzed jurisdictions, provide a method for their analysis, and demonstrate the strategy for other jurisdictions to follow. Additional considerations will be made in Task III to incorporate an understanding of the variability and sensitivity of the model to the assumed vehicle registration types. These additional components along with a tighter understanding of the vehicles per fleet, will permit a more reliable model to be honed that can then be repeated by other jurisdictions.

FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
TASK III SUMMARY REPORT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

November 19, 2012

SUMMARY

This Task III Report is the third of five stages of evaluation of the proposed changes to the IRP fee process. Task III seeks to utilize and improve the financial impact models developed in Task II of this report series. Specifically, Task III evaluates the financial impact of the FRP on a cross section of 13 jurisdictions from the four regions. For each of the jurisdictions, this report sought to evaluate the following considerations:

1. New fleet participation changes using jurisdictional reports over the previous five years.
2. Retention of current fleets using jurisdictional reports over the previous five years.
3. Effectiveness of the FRP in addressing key problems of the current IRP, including estimated distance for new registrants, fees over 100% of the initial calculation.
4. Changes in revenue expected under FRP as compared to the current IRP.
5. Potential impacts on fees collected from trip permits.

Items 1-4 above are included in detail for each of the jurisdictions considered. The potential impacts on fees collected from trip permits are not included, as the ability to discern the difference between IRP registered vehicles, and those otherwise registered was not available. However, when Task IV considers the potential impacts on various vehicle types, the trip permit fees can be compared to FRP fees for a more detailed analysis.

Of major consideration in this report is the comparison of fees currently collected and retained as E-1 by the sampled jurisdictions, to those that may be collected under the proposed FRP fees for new fleets. The results are mixed between jurisdictions. Five (CT, AB, CA, IL, and ME) experience some level of revenue increase for this portion of fees, while the remaining eight experience a decrease.

Further, the overall revenue adjustments to each jurisdiction will be a net result of the lost revenue from estimated distances (E-1 and E-2) that will be eliminated, the gains from adding the new Fleet FRP structure, and any adjustment to the apportioned values to jurisdictions with actual miles reported. The adjustment due to actual miles apportionment should be positive for each jurisdiction and is a result of the removal of estimated distance calculations within 100%. As the E-1's are removed, the apportionment to jurisdictions with actual miles increases. The value this increase cannot be determined with the data available. To achieve this calculation, the E-1 value for each jurisdiction would be needed. As such the total revenue lost for each jurisdiction reported throughout this report is the maximum estimated reduction in revenue. Each loss is expected to be dampened by the actual miles apportionment adjustment. Every jurisdiction (with the exception of Texas) can expect to experience a maximum revenue reduction that is less than five percent. Texas' maximum loss may be as high as eleven percent. Again, these will be dampened to some degree by actual miles apportionment changes.

In addition to the discussion of impacts to each sample jurisdiction, a series of maps are provided for each jurisdiction to visualize the impacts one jurisdictions registrations have on every other jurisdiction. Generally, those jurisdictions neighboring the sample jurisdiction witness negative changes to revenue when comparing the revenue from first year FRP registrants as compared to E-1 values. This result is widened when considering jurisdictions whose fleets are widely dispersed with significant national travel.

CONTENTS

INTRODUCTION

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for nearly forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate it registration mechanics.

Through the Oregon Department of Transportation's (ODOT) *RFP #730-24948-12*, researchers with the Freight Policy Transportation Institute and Transportation Research Group (FPTI/TRG) in the School of Economic Sciences at Washington State University (WSU), in close collaboration with Dr. Catherine Lawson from the Department of Geography and Planning at the University at Albany, State University of New York (SUNY), have been contracted to provide the necessary economic research and evaluation services that will allow IRP to analyze the impacts of implementation of a new structure for collecting truck registration revenue under the proposed Full Reciprocity Plan (FRP).

The new structure to be evaluated against the currently implemented IRP is the Full Reciprocity Plan. The FRP, as currently structured, proposes to change the IRP fee process such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP, while simultaneously creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

Purpose of Task III Report

This Task III Report is the third of five stages of evaluation of the proposed changes to the IRP fee process. Task III seeks to utilize and improve the financial impact models developed in Task II of this report series. Specifically, Task III evaluates the financial impact of the FRP on a cross section of 13 jurisdictions from the four regions:

Table 1. Cross section of jurisdictions considered for evaluation.

Region 1	Region 2	Region 3	Region 4
Connecticut	Alabama	Illinois	Alberta
Maine	Kentucky	Minnesota	California
	Missouri	Nebraska	Oregon
	Texas		Saskatchewan

For each of the above jurisdictions, this report evaluates the following considerations:

1. New fleet participation changes using jurisdictional reports over the previous five years.
2. Retention of current fleets using jurisdictional reports over the previous five years.
3. Effectiveness of the FRP in addressing key problems of the current IRP, including estimated distance for new registrants, fees over 100% of the initial calculation.
4. Changes in revenue expected under FRP as compared to the current IRP.

DATA AND METHODS

FRP New Registrant Fee Revenue

Consistent with the models previously produced, this report continues evaluation using a standard set of vehicle parameters, except where otherwise noted (Table 2). The associated fee values are determined using the Celtic Fee Estimator on the IRP website (http://www.irponline.org/).

Table 2. Base Vehicle Type.

Vehicle Type	Tractor (TR)	**Purchase Date**	2010
Model Year	2010	**Factory Price**	$80,000
Unladen Weight	17,000	**Purchase Price**	$70,000
Combined GVW	80,000	**Type of Operation**	For Hire
Axles	3	**Commodity Class**	All
Combined Axels	6	**Exchange Rate**	0.9857 USD
Fuel Type	Diesel	**Total Months**	12

Under the FRP, new IRP registrants will pay to the jurisdiction in which they register, an apportioned fee to all jurisdictions based on the estimated distance charts that are reproduced in a consolidated matrix form (Table 3). The columns of Table 3 represent a sampling of the component parts of the fees collected by the jurisdictions. For example, the registration fee charged to a vehicle meeting the classification of Table 2, and registering in Arkansas will be the column total ($1529.45). Of this collected fee, Arkansas will retain $329.82 (22%). Additionally, Arkansas will receive from other jurisdictions apportioned fees totaling (row total) $1329.26 (note this includes the fees they retain). The total revenue received by jurisdictions for new registrants is then based not only on the sum-product those vehicles registered in their jurisdiction and the associated fees charged, but also that of the portion they receive from all other jurisdictions.

Table 3. Sample output of Estimated Distance Charts. Units are in US dollars.

Jurisdiction	AB	AL	AR	AZ	…	Total
AB	976.00	1.00	2.00	33.00	…	2559.00
AL	0.84	212.55	20.88	5.62	…	826.06
AR	2.49	30.49	329.82	23.64	…	1329.26
AZ	26.02	87.36	128.33	916.76	…	5111.30
…	…	…	…	…	…	…
Total	3245.11	1264.75	1529.45	2206.34	…	109566.56

Current Registration Fees Collected

New motor carriers currently have the opportunity to either use their own estimated distances based on their business plans, or use an estimated distance chart maintained by each IRP jurisdiction. IRP requires each jurisdiction to update their estimated distance charts at least once every three years. Renewing carriers also have the ability to add new jurisdictions and can estimate their anticipated travel distances in those jurisdiction at the time of renewal. These estimated distances are calculated in conjunction with the actual distances travelled in registered jurisdictions in the previous year. These two groups of estimates comprise the E-1 and E-2 values used in this study. The intent of this report series is to evaluate the proposed new FRP program to the one currently in place. As such, we use the jurisdiction reported 2011 E-1/E-2 revenues to generate an estimate of the revenue that will be lost if the current program is replaced. Registrant estimated distances will no longer be used. Additionally, we evaluate the total revenue collected and received by jurisdictions to determine the overall effects.[1]

First Year Registrants

It is useful here, to provide an example of the manner in which revenue may change under the proposed FRP. Let us first consider a new fleet that has decided it will estimate its operations in various jurisdictions based on its own business plan. For simplicity, we assume a flat fee of $1000 across the jurisdictions the vehicle operates in. Typically, the base jurisdiction, its neighbors (first order neighbors), and those jurisdictions connected to the base via major freight networks receive the highest estimated distance apportionment, as well as actual distance apportionment. We begin with a carrier that estimates its operations in accordance with the following:

Jurisdiction	Proportion of Travel Miles	E-1 Fees Collected
A (Base)	58.1%	$ 581
B	13.3%	$ 133
C	16.1%	$ 161
D	12.5%	$ 125
Total	100%	$ 1,000

Under the scenario above, the base jurisdiction would collect and keep 58% of the $1,000 collected from this vehicle, and disperse the remaining 42% to the other three jurisdictions. Under the proposed FRP changes, the new vehicle registration will be apportioned out to all 59 jurisdictions (as described in the previous section). If we now apply the above example to Alabama (though maintaining the $1000 fee estimate), such that Alabama is ‘A’, Mississippi is ‘B’, Florida is ‘C’, and Tennessee is ‘D’, we can reassess the apportionment to these jurisdiction under the FRP. They would look roughly as follows:

[1] Refer to the Task I report for a discussion of the methods used to correct for missing data in the E-1/E-2 and total revenue values.

Jurisdiction	Proportion of Travel Miles	FRP Fees Collected
A (Base)	26.1%	$ 261
B	6.0%	$ 60
C	7.2%	$ 72
D	5.6%	$ 56
Total	45%	$ 449

Given that the apportionment of this vehicle's fees are now dispersed about all 59 jurisdictions, it logically follows that those proportions initially collected under the E-1 system will be somewhat diminished for the base jurisdiction and its first order neighbors. This is evident in only 45% of the fees being apportioned to the four jurisdictions, leaving 55% to be spread amongst the other 55 jurisdictions.

This simplified example illustrates that a jurisdiction will witness a reduced amount of revenue collected from first year registrants identifying it as their home base. Similarly, neighboring jurisdictions are likely to see a decline of similar proportions, though not as large in magnitude. The counter to this reduced revenue, is that a jurisdiction will increase its revenue received from many other jurisdictions. In essence, a jurisdiction will receive an apportioned fee from every vehicle registered in one of the 59 jurisdictions.

Second and Subsequent Year Registrants

Let us now assume that the registered vehicle in the above example desires to register for a second year. As planned, they operated in jurisdictions A-D, and wish to maintain registration in all four. Additionally, they would like to now operate in jurisdiction E. Under the current IRP process, the fee structure would utilize the actual distance accrued in the previous year in conjunction with the estimated distance for the new jurisdictions to determine the allocated fees (within 100%) apportioned to each jurisdiction, assuming the criteria for such estimated distance usage is met in accordance with Section 405 of the IRP.

It is evident from the figure below that the incorporation of the estimated distance desired to travel in the E jurisdiction takes away from the apportioned percentage to the jurisdictions where the truck actually recorded miles. In this scenario, the E jurisdiction draws away $58 that would have been dispersed amongst the A-D jurisdictions. As the percentage value of that being estimated increases, the value drawn away from the jurisdiction where travel actually occurred in the previous year also increases.

	Member Jurisdiction	Actual/Estimate	Distance	Percentage
Calculation within 100%	A	A	47,168	54.729%
	B	A	10,797	12.528%
	C	A	13,071	15.166%
	D	A	10,148	11.775%
	E	E-1	5,000	5.802%
Total			86,184	100.000%

Under the new FRP, the estimated distance incorporated into the apportionment above would not be included. This would result in the jurisdictions where travel did occur receiving their full apportioned value based on proportion of miles travelled, as shown below. Thus it can be seen that while jurisdiction E loses the $58 dollars, it is gained elsewhere in the system. Should the vehicle under consideration actually utilize jurisdiction E during this period, they will be apportioned in the subsequent year.

	Member Jurisdiction	Actual/Estimate	Distance	Percentage
Calculation within 100%	A	A	47,168	58.100%
	B	A	10,797	13.300%
	C	A	13,071	16.100%
	D	A	10,148	12.500%
Total			81,184	100.000%

Complexity in the apportionment process occurs under several scenarios, and is magnified when consideration of second-year estimates must be made in excess of 100%. Where a fleet wishes to register in a jurisdiction in which it did not accrue distance during the previous period but has been apportioned in the past. A fleet is considered to not have been apportioned for a jurisdiction in the past if it has neither owned or leased apportioned vehicles in the last 18 month, nor accrued any actual distance in any member jurisdiction during the reporting period. Refer to the International Registration Plan Section 405 for more explicit details. To further characterize this scenario, we draw from the IRP section 405 in the figure below:

	Member Jurisdiction	Actual/ Estimate	Distance	Percentage
Calculation within 100%	A	A	24,680	30.4%
	B	A	13,579	16.7%
	C	A	36,925	45.5%
	D	E-1	4,000	4.9%
	E	E-1	2,000	2.5%
Subtotal			**81,184**	**100.0%**
>100%	F	E-2	3,000	3.4%
	G	E-2	4,000	4.5%
Total			**88,184**	**107.9%**

Unlike the estimated distances calculated within 100%, the E-2 values are in addition to those values already being apportioned for actual and E-1 distances. As such, these values are added to jurisdictions F and G without detracting from the apportionment to the three jurisdictions where travel actually occurred. Under the proposed FRP system, these additional dollars to a jurisdiction will be removed and not made up for by redistributing to other jurisdictions. However, where apportionable miles do indeed occur, the jurisdiction will be appropriately compensated in the following registration year.

Partitioning E-1 and E-2

Additional data has been collected and utilized to generate this Task III report that allows for the partitioning of E-1 and E-2 values. This additional data is available from those jurisdictions identified in Table 1. The purpose of this additional definition of the value of fees collected is to ensure as accurate a comparison is made across the current and proposed plans. Original analyses that did not separate out the two, likely blur the real tradeoffs when considering the revenues generated from first year applicants.

Fleet Sizes

Fleet size information is generated through the use of the last 5 years' worth of Annual IRP reports. These reports contain jurisdictionally reported values for renewing fleets, new fleets, and total fleets. Utilization of these reports permits the evaluation of trends in new fleet additions as well as retention of fleets.

New Fleet Size Characteristics

Tasks I and II of this report series allowed for the estimation of revenue impacts with varying levels of assumed average fleet sizes. Task III uses reported new fleet size values received from the cross section of jurisdictions being analyzed in this report. This additional information increases the reliability from which financial impacts may be generated. These values are available from seven of the thirteen jurisdictions. For those jurisdiction not reporting average

fleet sizes for new fleets, an estimate of two vehicles per fleet is used. With the exception of Alberta, this estimate correlates well with the individual averages provided.

Sample Jurisdiction Analyses

The following sections detail the expected financial impacts to the jurisdictions identified in Table 1, based on available information. A discussion of each jurisdiction is followed by their relevant tables and figures. Each jurisdiction has the same set of tables and figures that are numbered consecutively followed by the jurisdiction abbreviation (e.g. Table 1-AZ). The associated tables and figures for each jurisdiction are:

Figure 1-##. Jurisdiction New Fleet Registration Trends

Table 1-##. Jurisdiction Fleet Registrations

Table 2-##. Revenue collected by Jurisdiction under current structure

Table 3-##. Revenue collected and retained by Jurisdiction under current structure.

Table 4-##. Expected FRP revenue collected from first year IRP vehicles.

Table 5-##. Current IRP Revenue received and Expected FRP revenue received from first year registrants.

Figure 2-##. Geographic distribution of apportioned values of E-1 fees collected by Jurisdiction.

Figure 3-##. Geographic distribution of apportioned values of E-2 fees collected by Jurisdiction.

Figure 4-##. Geographic distribution of apportioned values of FRP fees collected by Jurisdiction.

Figure 5-##. Geographic distribution of fee difference between E-1 and FRP fees collected by Jurisdiction.

CONNECTICUT

Over the course of the previous five years, the annual retention rate of fleets within Connecticut has maintained roughly consistent at near 80% (Table 1-CT). Though some drop off occurred at the beginning of the economic downturn, Connecticut's new fleet registration has remained relatively constant over the previous four years at roughly 600 new fleets per year (Figure 1-CT). This consistent trend increases the reliability of estimating the potential impact of the proposed FRP. At the time of this writing, the average fleet size for new Connecticut fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by Connecticut (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Connecticut totaled just over $13 million, with roughly 90.4% being generated by actual distance reports (Table 2-CT). The remaining 9.6% was split 3.9% to 5.7% between E-1 and E-2 collections.

Of the fees collected by Connecticut, the proportion that is retained within the state varies depending upon the source. Overall, 61% of the fees collected are retained. Not surprisingly, this is largely driven by the retention of actual distance revenues, which at roughly $7.7 million, is just over 65% of all of the actual distance revenue collected by the state. Similarly, of the revenue collected from the E-1 source, 43.6% is retained in-state for a total collection of $222 thousand (Table 3-CT).

As highlighted in the previous section's example jurisdiction, one of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-CT below highlights that under the new fee structure, $716 thousand, or 37%, of the new vehicle fees will be retained in-jurisdiction under the assumption that new fleets in Connecticut average two vehicles. For Connecticut, this is likely an over estimation given that revenues actually collected by Connecticut for E-1 totaled only $510 thousand in 2011. As such, we also provide FRP estimates under a one vehicle per fleet assumption. Either estimate produces a 37% retention of fees collected, which as expected is a lower proportion than the 43% retained under E-1. However, the total value collected from first-year registrants under the FRP is greater than that collected by E-1 under the current system, even when considering only one vehicle per fleet. **Thus, Connecticut is expected to see an increase in revenue from fees collected from new in-state registrants. The increase will range from $135,685 to $493,641, as compared to E-1, depending upon the assumed vehicles per fleet.** Additionally considering the revenue lost from the E-2 values no longer retained, the increase in revenue is reduced to a range of $111,409 to $469,365.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Connecticut will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of

renewing vehicles, the percentage of the fees retained from all renewals will approach 65.4%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-CT below depicts a portion of the potential revenue changes that Connecticut may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Connecticut, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $3,022,784 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-CT, that the expected revenue received from new IRP registrants is approximately 68% of the estimated distance revenue; a difference of $978,384.89. This represents a loss of 3.9% of the total revenue received under the IRP program for Connecticut.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-CT through 5-CT), we can observe that the fleets registering in Connecticut are largely regionally based fleets, as much of their apportioned values, based on the various estimated distances and the estimated distance charts, are allocated to jurisdictions in the Northeast. We can observe from the last of the four figures (Figure 5-CT) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in positive gains to each jurisdiction (with the exception of MT). In other words, 58 of 59 jurisdictions will be apportioned more from new Connecticut registrants than under the current system.

Figure 1-CT. Connecticut New Fleet Registration Trends

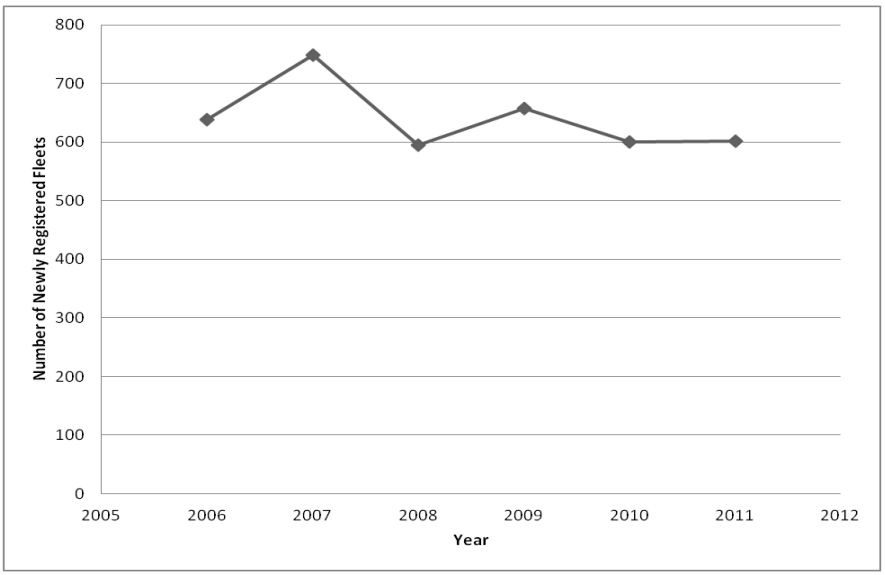


Table 1-CT. Connecticut Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	639	2367	3006	-
2007	748	2449	3197	81%
2008	595	2628	3223	82%
2009	657	2582	3239	80%
2010	600	2516	3116	78%
2011	601	2757	3358	88%

Table 2-CT. Revenue collected by CT under current structure

Source	Value
Collection of 1st -year Estimates (E-1)	$ 510,358.93
Collection of 2nd and Subsequent-year Estimates (E-2)	$ 746,289.24
Sub-Total from Estimated Distance Revenue	$ 1,256,648.17
Actual Distance Revenue	$ 11,786,115.03
Total Revenue	$ 13,042,763.20

Table 3-CT. Revenue collected and retained by CT under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	222,270.37	43.6%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	24,276.69	3.3%
Total Estimated Distance Revenue	$	246,547.06	19.6%
Actual Distance Revenue	$	7,709,920.21	65.4%
Total Revenue	$	7,956,467.27	61.0%

Table 4-CT. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicle Per Fleet Estimate		
Revenue Collected	$	1,939,691.44
Revenue Retained	$	715,911.20

1 Vehicle Per Fleet Estimate		
Revenue Collected	$	969,845.72
Revenue Retained	$	357,955.60

Table 5-CT. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current (2011) Revenue Received	
Estimated Distance Revenue	$ 3,022,784.63
Actual Distance Revenue	$ 21,898,770.92
Total Revenue	$ 24,921,555.55
Expected FRP Revenue Received From New IRP Registrants	$ 2,044,399.74

Figure 2-CT. Geographic distribution of apportioned values of E-1 fees collected by Connecticut.

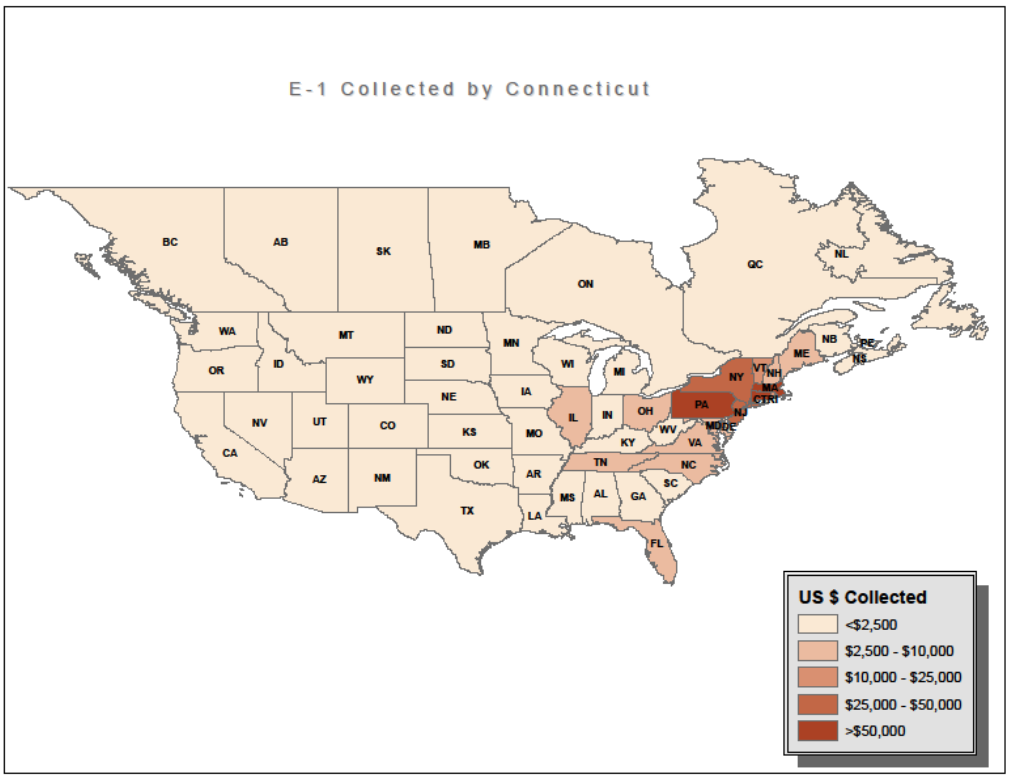


Figure 3-CT. Geographic distribution of apportioned values of E-2 fees collected by Connecticut.

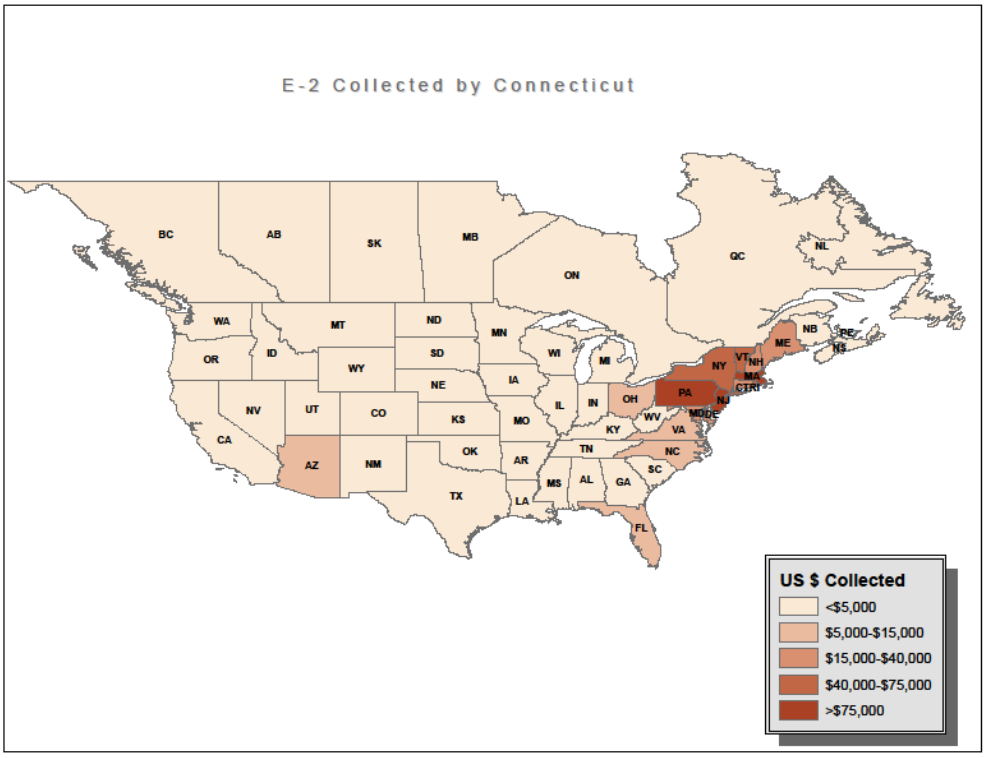


Figure 4-CT. Geographic distribution of apportioned values of FRP fees collected by Connecticut.

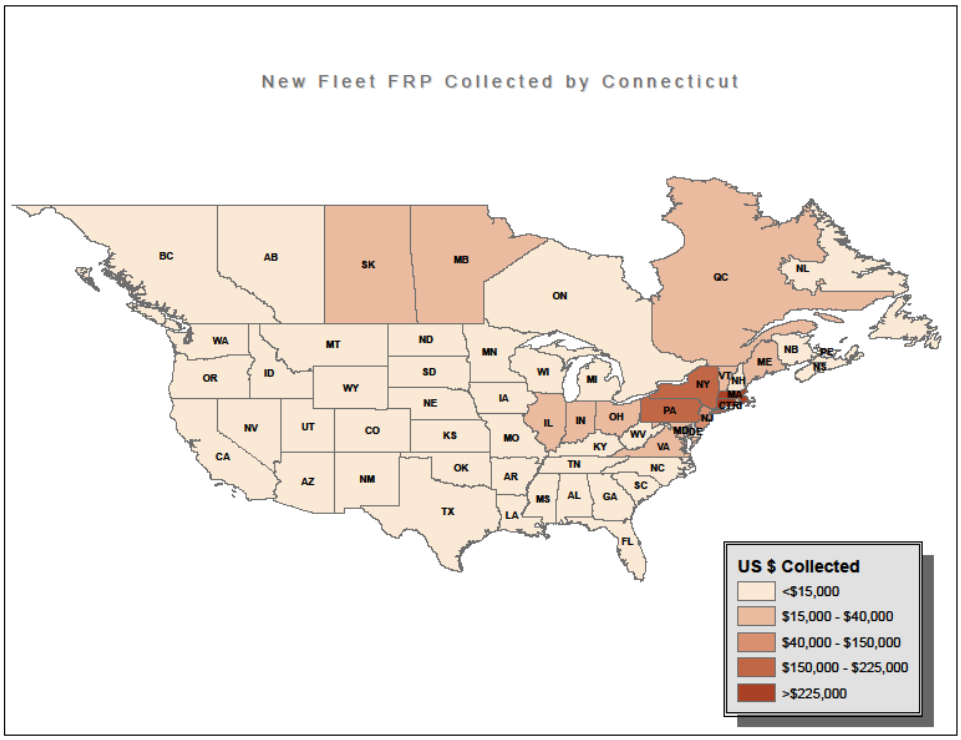
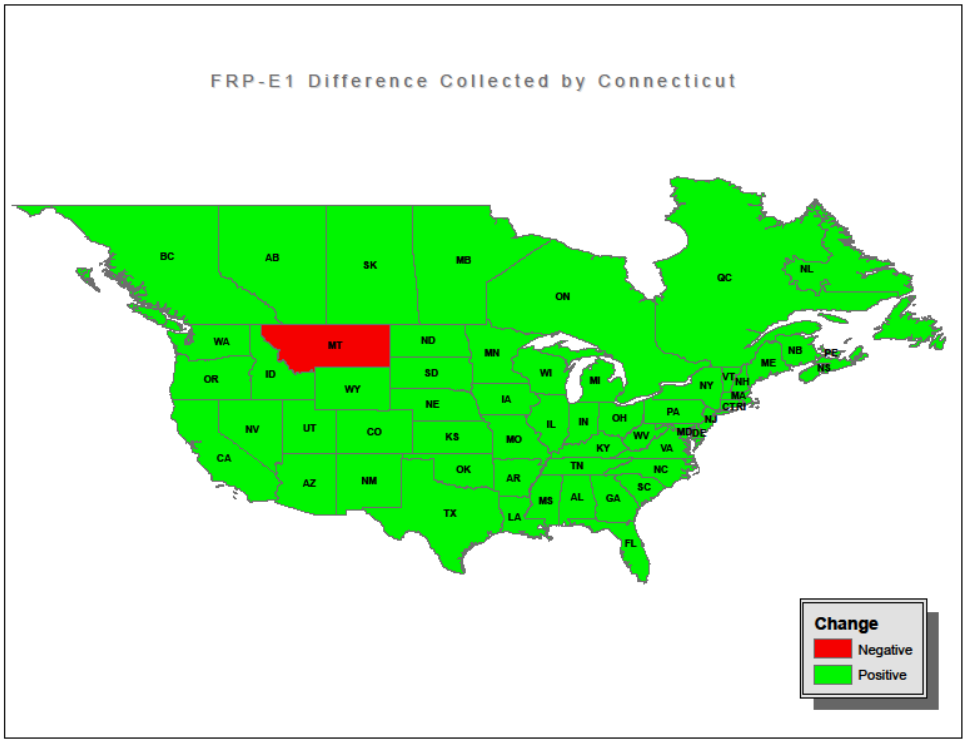


Figure 5-CT. Geographic distribution of fee difference between E-1 and FRP fees collected by Connecticut.



ALBERTA

Over the course of the previous five years, the annual retention rate of fleets within Alberta has experienced a pair of oddities. The first three years under consideration maintained a roughly 79% retention; however, the renewals in 2010 exceeded the total fleets registered in 2009, producing a retention rate of 112%. This was followed by a significant drop in 2012, generating a 58% retention rate (Table 1-AB). Alberta's new fleet registration maintained a slightly increasing trend over the previous four years, peaking out at 707 new fleets in 2010 and then noticeably dropping off to 582 in 2012 (Figure 1-AB). The drop also coincides with the drop mentioned in relation to the retention rate. The average fleet size for new Alberta fleets in 2011 was roughly five vehicles per fleet. This average is highly skewed by six very large fleets in an excess of 100 vehicles; one had over 700. Using an average vehicle estimate of five for Alberta appears to produce rather distorted estimates in relation to the revenue collection reported by the jurisdiction. As such, this section proceeds using several potential estimates of the average vehicle per fleet size (5, 3, 2, 1) when considering Alberta's fleets alone.

Revenue Collected by Alberta (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Alberta totaled $75.5 million, with roughly 94% being generated by actual distance reports (Table 2-AB). The remaining 6% was split 3.6% to 2.4% between E-1 and E-2 collections, indicating that first year estimates make up 58% of the estimated distance revenue.

Of the fees collected by Alberta, the proportion that is retained within the province varies depending upon the source. Overall, 51% of the fees collected are retained. Unlike Connecticut that has already been discussed, the retention of actual distance revenues, which at roughly $36.6 million, is very similar to that of the estimated distance miles. Interestingly, and again unlike Connecticut, the E-2 portions kept in-province are quite high (Table 3-AB).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-AB below highlights that under the new fee structure 30%, of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 30% retention is significantly lower than the current 52% retained under E-1. However, the total value collected from first-year registrants under the FRP is greater than that collected by E-1 under the current system, whenever the average vehicles per fleet is at least 2.5 vehicles . **Thus, where Alberta's fleet average is 2.5 vehicles, it is expected to see an increase of $5,209 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the change in revenue becomes negative at a value of -$842,902. This large change is resultant of the large value of E-2 revenue collected by Alberta and retained in-jurisdiction.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Alberta will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion

reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 51%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue. Given the large discrepancy between the in-jurisdiction retention of fees collected from actual miles reports and that generated from the estimated distance charts, a consideration of an updating of the province's charts is warranted to ensure they still reflect the driving characteristics of its fleets

Revenue Received from Other Jurisdictions (2011) - Table 5-AB below depicts a portion of the potential revenue changes that Alberta may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Alberta, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $3,422,396 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-AB, that the expected revenue received from new IRP registrants is approximately 62% of the estimated distance revenue; a difference of $1,309,092. This represents a loss of 2.7% of the total revenue received under the IRP program for Alberta.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-AB through 5-AB), we can observe that the fleets registering in Alberta are largely Canadian operating fleets with potions dropping into the western united states, as much of their apportioned values, based on the various estimated distances and the estimated distance charts, are allocated to jurisdictions in Canada of the western states. We can observe from the last of the four figures (Figure 5-AB) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 3 Vehicles per Fleet) results in positive gains to each jurisdiction. In other words, all jurisdictions will be apportioned more from new all registrants than under the current system. Three vehicles per fleet is the average if removing the 6 fleets that are reported to have in excess of 100 vehicles.

Figure 1-AB. Alberta New Fleet Registration Trends

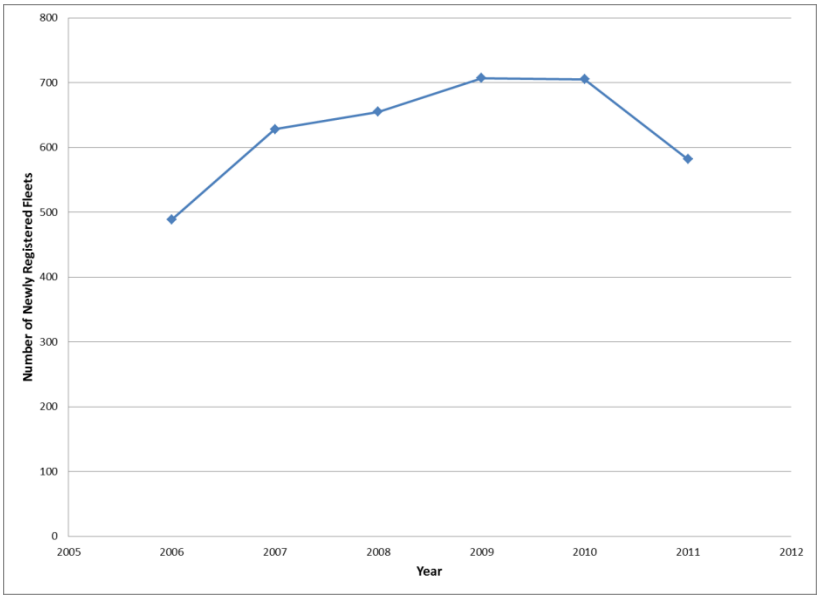


Table 1-AB. Alberta Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	489	2393	3042	-
2007	628	2375	3003	78.1%
2008	655	2393	3048	79.7%
2009	707	2387	3094	78.3%
2010	705	3451	4156	111.5%
2011	582	2392	3549	57.6%

Table 2-AB. Revenue collected by AB under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	2,718,918.14
Collection of 2nd and Subsequent-year Estimates (E-2)	$	1,845,166.51
Total Estimated Distance Revenue	$	4,564,082.65
Actual Distance Revenue	$	70,906,776.31
Total Revenue	$	75,470,858.96

Table 3-AB. Revenue collected and retained by AB under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	1,414,872.00	52%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	848,111.00	46%
Total Estimated Distance Revenue	$	2,262,983.00	50%
Actual Distance Revenue	$	36,577,764.00	52%
Total Revenue	$	38,840,747.00	51%

Table 4-AB. Expected FRP revenue collected from first year IRP vehicles with 5, 3, 2, and 1 vehicle per fleet assumptions.

5 Vehicle Per Fleet Estimate	
Revenue Collected	$ 9,443,256.97
Revenue Retained	$ 2,840,162.07

3 Vehicle Per Fleet Estimate	
Revenue Collected	$ 5,665,954.18
Revenue Retained	$ 1,704,097.24

2 Vehicle Per Fleet Estimate	
Revenue Collected	$ 3,777,302.79
Revenue Retained	$ 1,136,064.83

1 Vehicle Per Fleet Estimate	
Revenue Collected	$ 1,888,651.39
Revenue Retained	$ 568,032.41

Table 5-AB. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	3,422,395.86
Actual Distance Revenue	$	45,957,037.05
Total Revenue	$	49,379,432.91
Expected FRP Revenue Received From New IRP Registrants	$	2,113,304.20

Figure 2-AB. Geographic distribution of apportioned values of E-1 fees collected by Alberta.

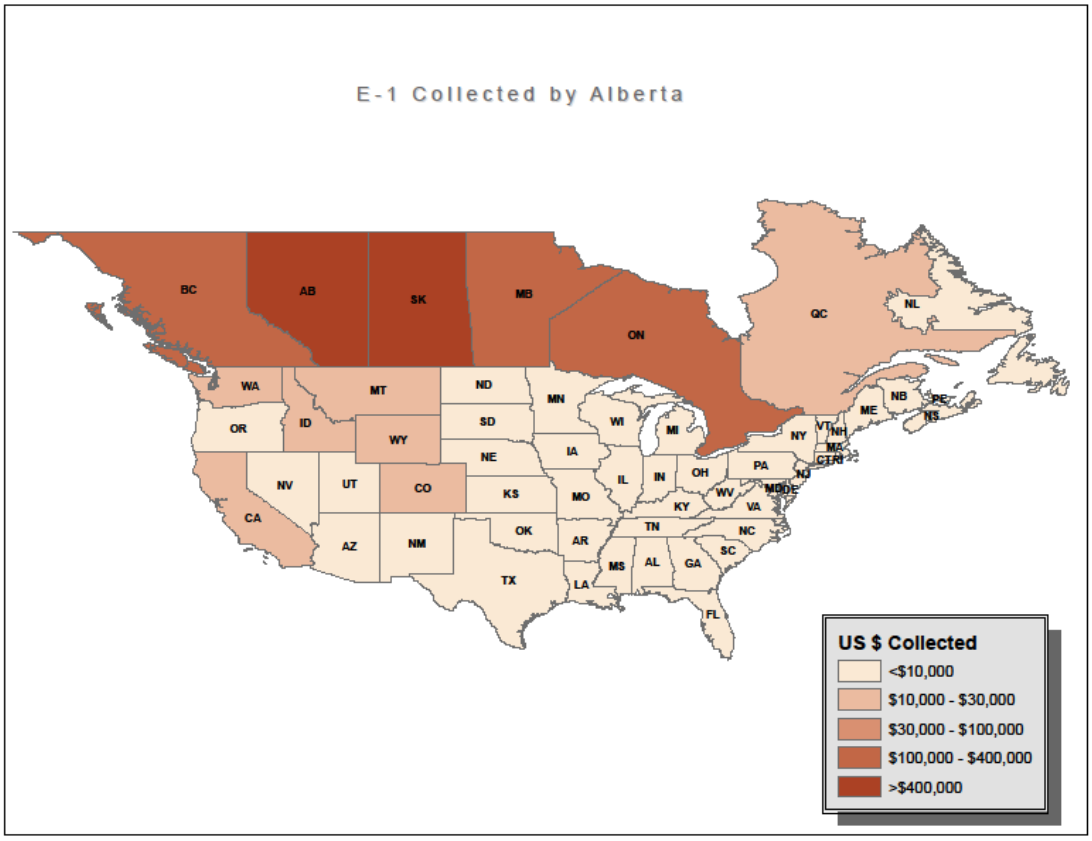


Figure 3-AB. Geographic distribution of apportioned values of E-2 fees collected by Alberta.

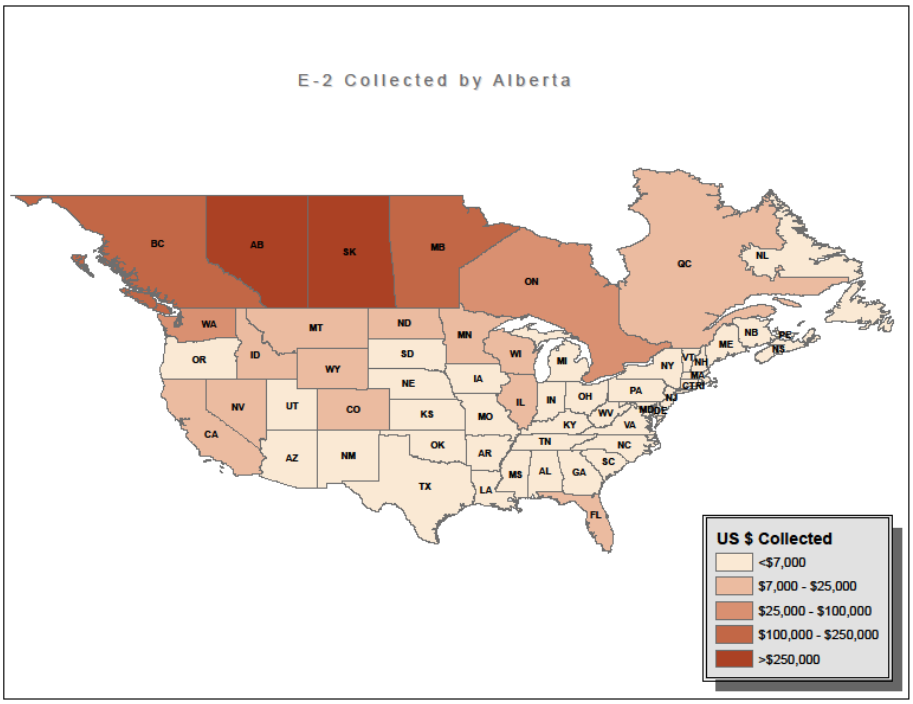


Figure 4-AB. Geographic distribution of apportioned values of FRP fees collected by Alberta.

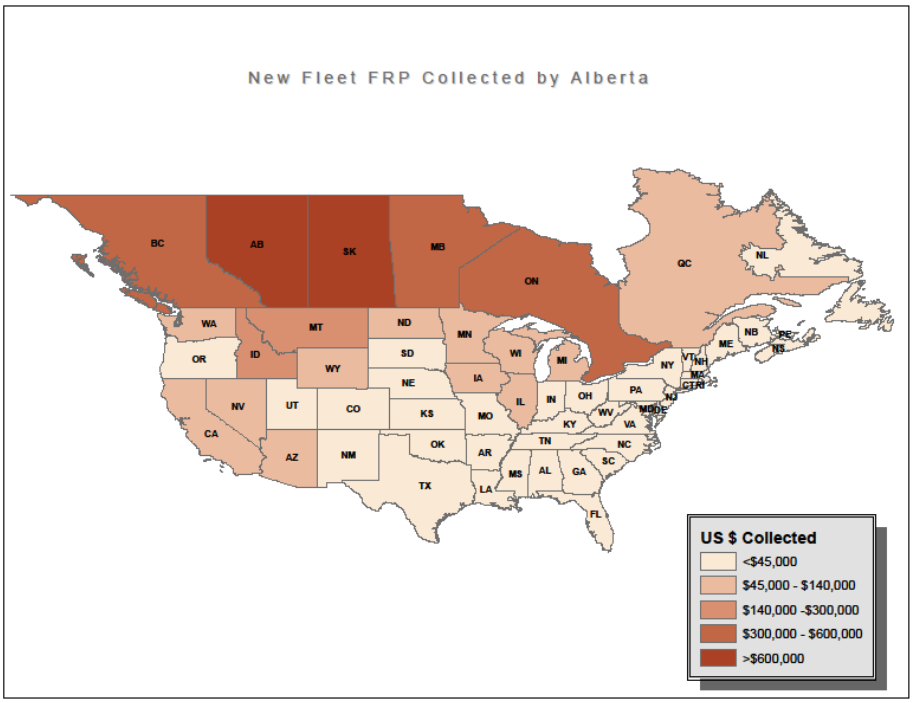
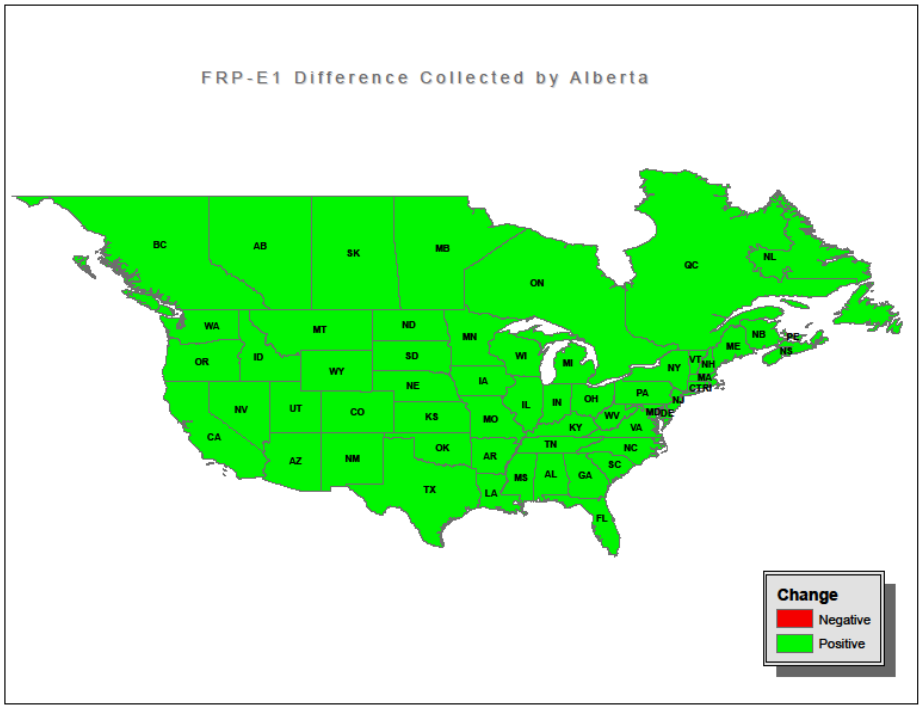


Figure 5-AB. Geographic distribution of fee difference between E-1 and FRP fees collected by Alberta.



ALABAMA

Over the course of the previous five years, the annual retention rate of fleets within Alabama has been largely stable, with the first three years under consideration maintaining a retention rate in the high 70% range, then increasing to the upper 80% range over the last two years (Table 1-AL). Alabama's new fleet registration steadily and substantially dropped between 2006 (1423) to 2009 (714), after which it has held constant in the low 700's (Figure 1-AL). The average fleet size for new Alabama fleets in 2011 was just slightly greater than a one vehicle per fleet average (1.23). This average is demonstrated little skewness, as only nine fleets have more than five vehicles. The largest number of vehicles in a fleet is 16. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.

Revenue Collected by Alabama (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Alabama totaled nearly $29 million, with roughly 88% being generated by actual distance reports (Table 2-AL). The remaining 12% was split a quite even 50/50 between E-1 and E-2 collections, indicating that second year estimates make up a considerable amount of Alabama's collections. Of the fees collected by Alabama, the proportion that is retained within the state varies depending upon the source. Overall, 32% of the fees collected are retained. Similar to Connecticut that has already been discussed, the retention of actual distance revenues, which at roughly $25.4 million, is 11% higher than that of the estimated distance miles (E-1). The E-2 portions kept in-are even lower at 2%; a value that reflects the expectations that vehicles registering in Alabama rarely get categorized under E-2's (Table 3-AL).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-AL below highlights that under the new fee structure only 17%, of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 17% retention is lower than the current 24% retained under E-1. Additionally, the total value collected from first-year registrants under the FRP is greater than that collected by E-1 under the current system, whenever the average vehicles per fleet is at least 2.9 vehicles . **Thus, where Alabama's fleet average is 1.23 vehicles, it is expected to see a decrease of $245,831 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the change in revenue becomes a reduction of$283,948.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Alabama will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 35%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and

choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-AL below depicts a portion of the potential revenue changes that Alabama may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Alabama, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $3,487,048 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-AL, that the expected revenue received from new IRP registrants is approximately 31% of the estimated distance revenue; a difference of $2,409,925. This represents a loss of 3.2% of the total revenue received under the IRP program for Alabama.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-AL through 5-AL), we can observe that the fleets registering in Alabama are largely regionally operating fleets throughout much of the southeast with some additional movement towards California. We can observe from the last of the four figures (Figure 5-AL) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 1.23 Vehicles per Fleet) results in negative changes to those states where Alabama's fleets mostly operate and some positive gains to the western jurisdictions and most of those in Canada; jurisdictions that are typically of low mileage by Alabama registrants.

Figure 1-AL. Alabama New Fleet Registration Trends

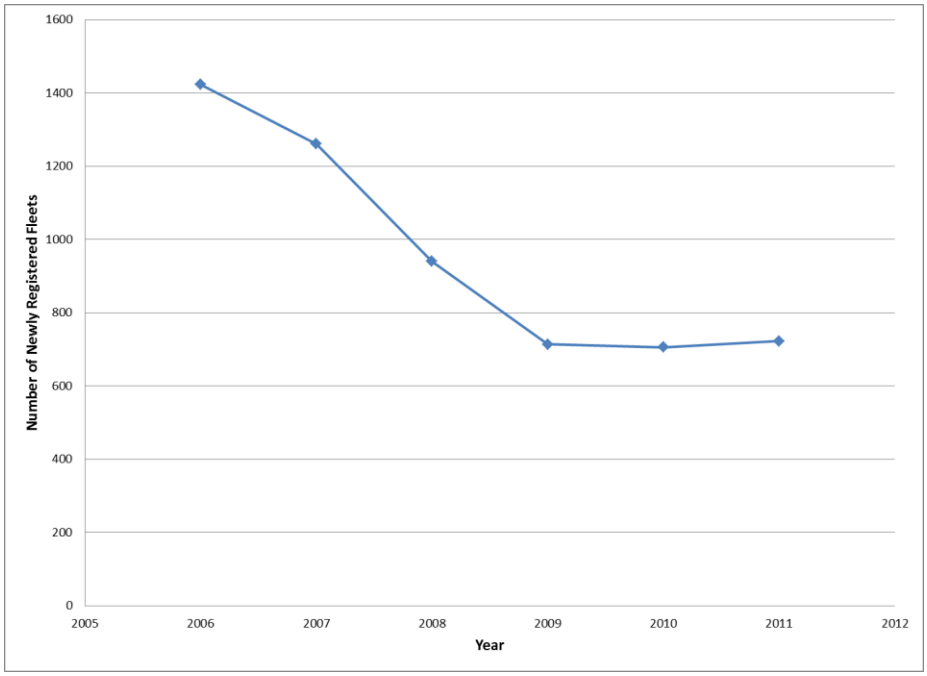


Table 1-AL. Alabama Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	1423	5887	7312	-
2007	1261	5802	7063	79%
2008	940	5372	6312	76%
2009	714	4891	5605	77%
2010	706	4823	5529	86%
2011	722	4833	5555	87%

Table 2-AL. Revenue collected by AL under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	1,813,826.79
Collection of 2nd and Subsequent-year Estimates (E-2)	$	1,738,572.82
Total Estimated Distance Revenue	$	3,552,399.61
Actual Distance Revenue	$	25,423,937.22
Total Revenue	$	28,976,336.83

Table 3-AL. Revenue collected and retained by AL under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	434,588.39	24%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	38,116.47	2%
Total Estimated Distance Revenue	$	472,704.86	13%
Actual Distance Revenue	$	8,837,830.18	35%
Total Revenue	$	9,310,535.04	32%

Table 4-AL. Expected FRP revenue collected from first year IRP vehicles using average new vehicle per fleet estimate.

1.23 Vehicle Per Fleet Estimate		
Revenue Collected	$	1,123,173.89
Revenue Retained	$	188,757.15

Table 5-AL. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	3,487,047.87
Actual Distance Revenue	$	30,176,037.76
Total Revenue	$	33,663,085.63
Expected FRP Revenue Received From New IRP Registrants	$	1,751,418.96

Figure 2-AL. Geographic distribution of apportion values of E-1 fees collected by Alabama.

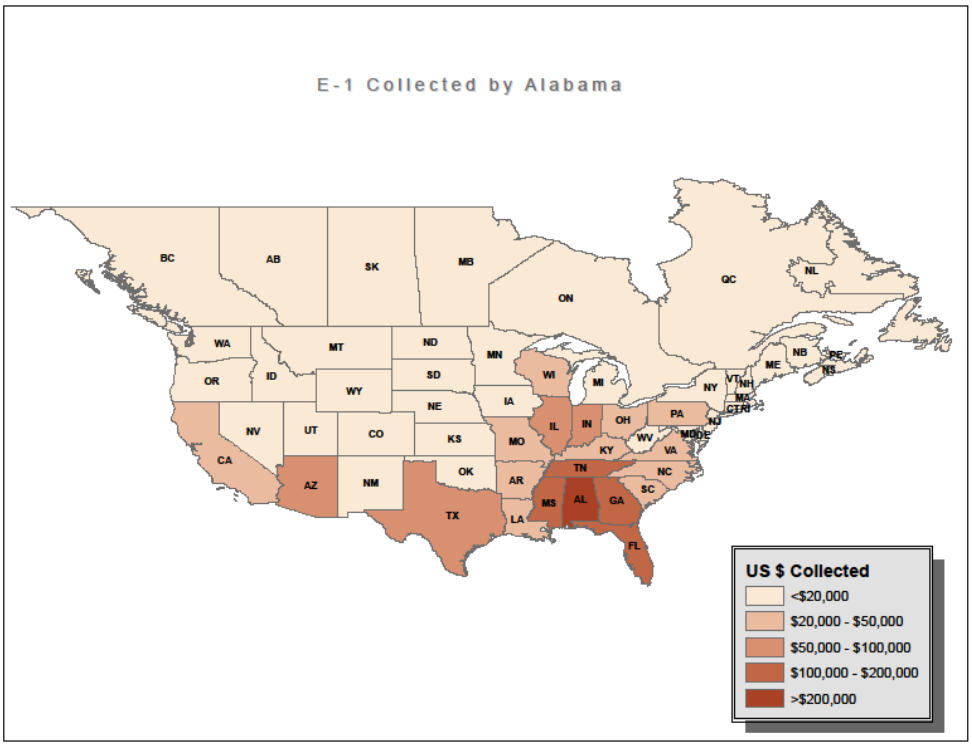


Figure 3-AL. Geographic distribution of apportion values of E-2 fees collected by Alabama.

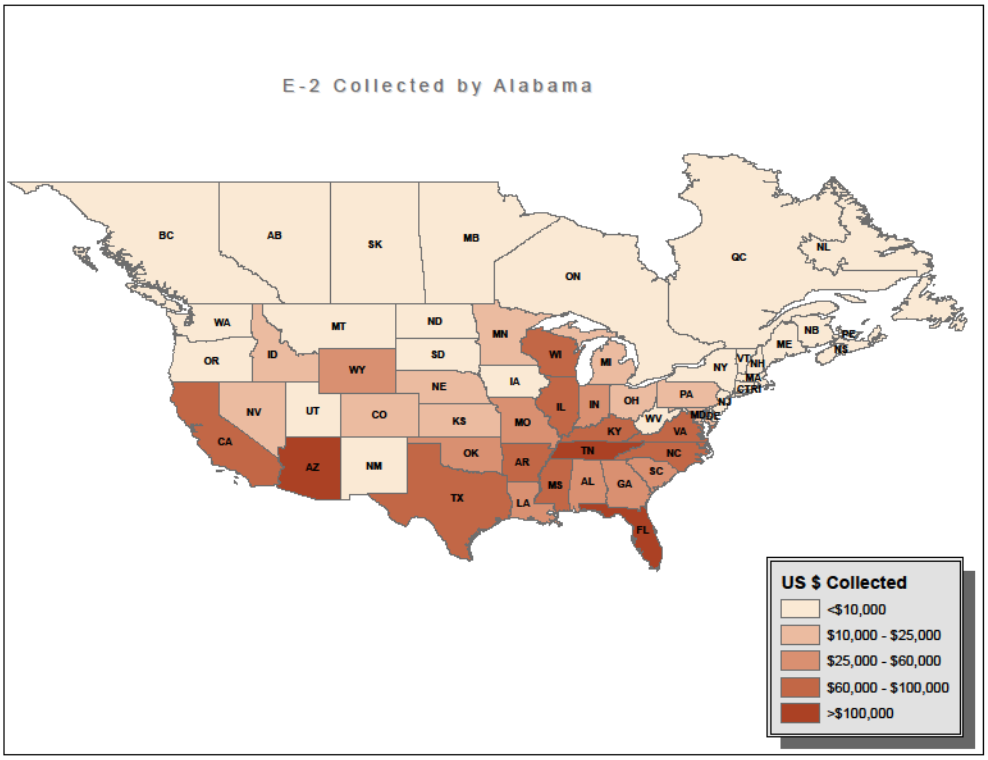


Figure 4-AL. Geographic distribution of apportion values of FRP fees collected by Alabama.

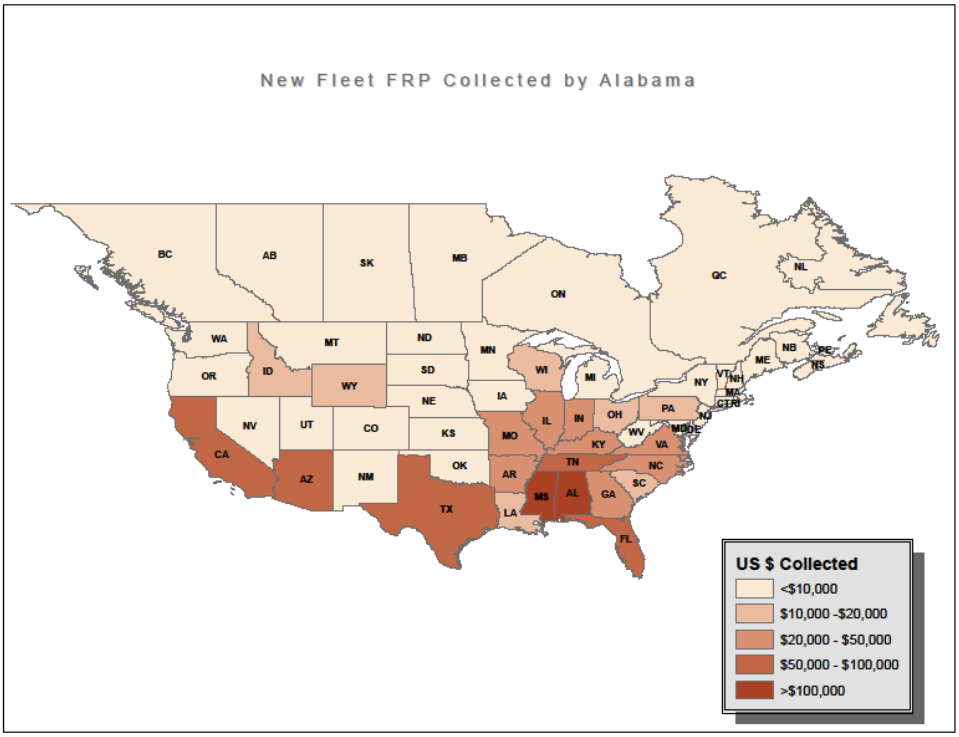
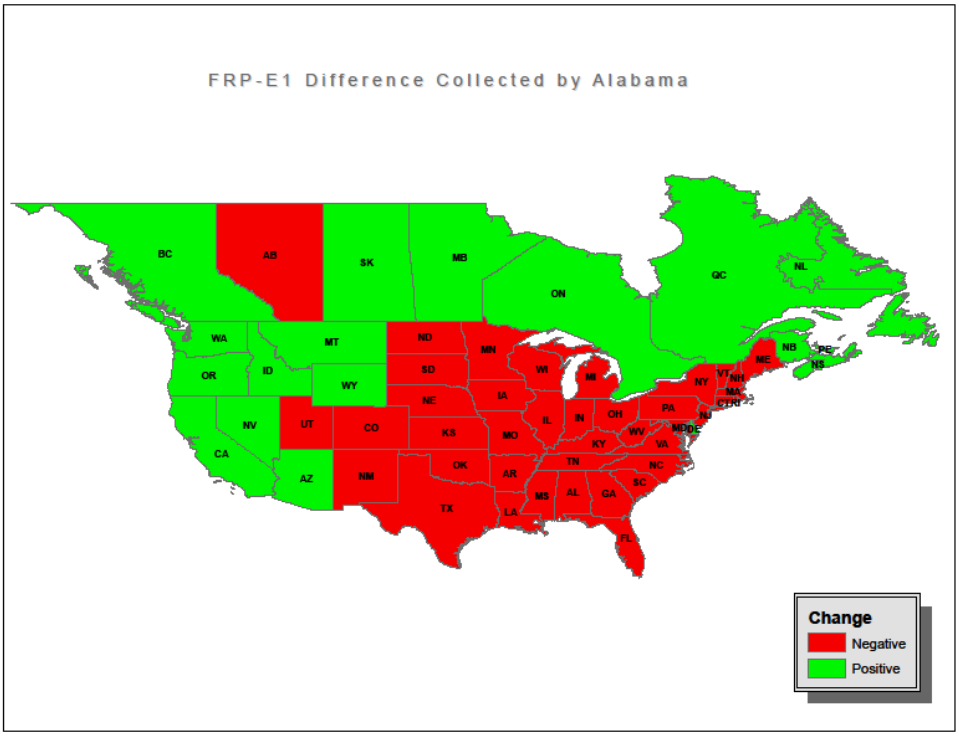


Figure 5-AL. Geographic distribution of fee difference between E-1 and FRP fees collected by Alabama.



CALIFORNIA

Over the course of the previous five years, the annual retention rate of fleets within California has been largely stable, with the rate ranging from 73-82% (Table 1-CA). California's new fleet registration steadily and substantially dropped between 2006 (6910) to 2009 (2787), after which it has witness some returning increase in new fleets (Figure 1-CA). At the time of this writing, the average fleet size for new California fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by California (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by California totaled nearly $82.4 million, with roughly 75% being generated by actual distance reports (Table 2-CA). The remaining 25% was split between E-1 and E-2 collections, with E-1's taking up 17% of this portion. Of the fees collected by California, the proportion that is retained within the state varies depending upon the source. Overall, 33% of the fees collected are retained. Unlike the other jurisdiction discussed thus far, the retention percentage of actual distance revenues, which at roughly $20.5 million, is smaller than that of the estimated distance miles (E-1). Thirty-three percent of actual distance revenue is retained, while 41% of E-1 is retained, suggesting new registrants on average overestimate their proportions for which they will drive in-state. The E-2 portions kept in-state are much lower at 2%; a value that reflects the expectations that vehicles registering in California rarely get categorized under E-2's (Table 3-CA).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-CA below highlights that under the new fee structure 46%, of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 46% retention is somewhat higher than the current 41% retained under E-1. Additionally, the total value collected from first-year registrants under the FRP is greater than that collected by E-1 under the current system, whenever the average vehicles per fleet is at least 1.92 vehicles . **Thus, where California's fleet average is two vehicles, it is expected to see an increase of $904,612 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the increase in revenue is reduced to $810,449.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by California will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 33%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-CA below depicts a portion of the potential revenue changes that California may experience in converting to the proposed FRP structure. The changes in this table represent the values received by California, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $16,386,529 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-CA, that the expected revenue received from new IRP registrants is approximately 92% of the estimated distance revenue; a difference of $1,229,843. This represents a loss of 0.8% of the total revenue received under the IRP program for California.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-CA through 5-CA), we can observe that the fleets registering in California are largely nationally operating fleets. Though much of their operations are in the west, significant numbers spread eastward. We can observe from the last of the four figures (Figure 5-CA) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in negative changes to most other jurisdictions, though positive to itself and several others. This observation is likely reflective of the increased self-apportionment (46%) under the FRP.

Figure 1-CA. California New Fleet Registration Trends

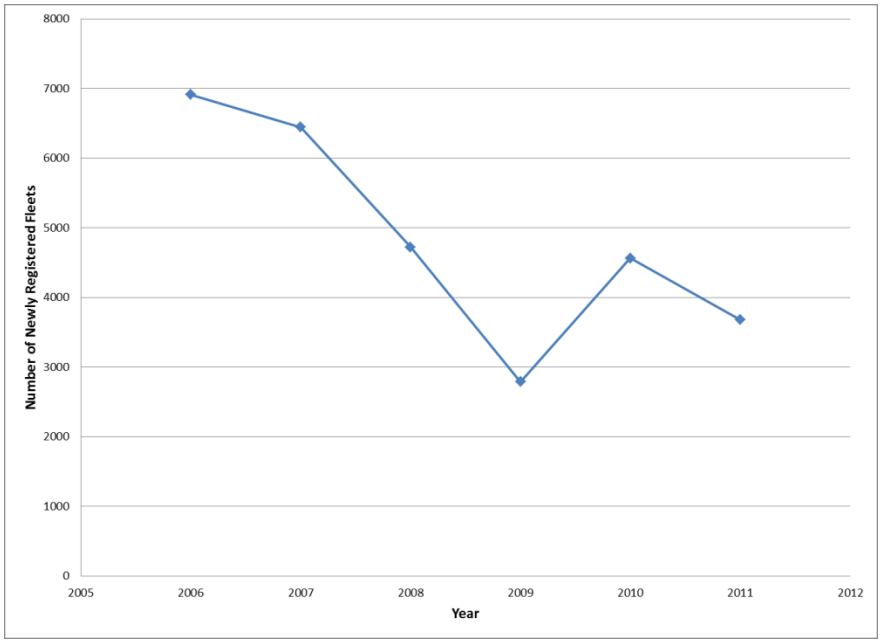


Table 1-CA. California Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	6910	15879	22789	-
2007	6443	16611	23054	73%
2008	4724	16807	21531	73%
2009	2787	17146	19933	80%
2010	4562	16272	20834	82%
2011	3680	15642	19322	75%

Table 2-CA. Revenue collected by CA under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	14,182,794.97
Collection of 2nd and Subsequent-year Estimates (E-2)	$	5,404,635.96
Total Estimated Distance Revenue	$	20,404,238.24
Actual Distance Revenue	$	61,967,869.72
Total Revenue	$	82,372,107.96

Table 3-CA. Revenue collected and retained by CA under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	5,822,427.57	41%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	94,163.74	2%
Total Estimated Distance Revenue	$	5,916,591.31	29%
Actual Distance Revenue	$	20,449,397.01	33%
Total Revenue	$	26,365,988.32	32%

Table 4-CA. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicles per Fleet		
Revenue Collected	$	14,783,737.60
Revenue Retained	$	6,727,040.00

1 Vehicle per Fleet		
Revenue Collected	$	7,391,868.80
Revenue Retained	$	3,363,520.00

Table 5-CA. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	16,386,528.61
Actual Distance Revenue	$	130,977,976.35
Total Revenue	$	147,364,504.96
Expected FRP Revenue Received From New IRP Registrants	$	15,156,686.00

Figure 2-CA. Geographic distribution of apportioned values of E-1 fees collected by California.

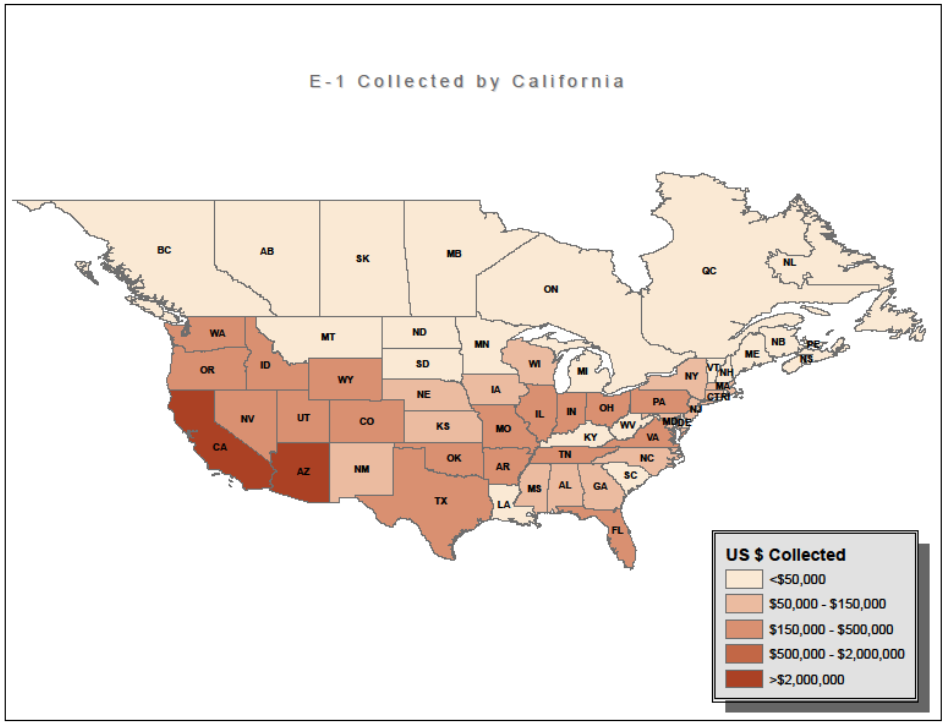


Figure 3-CA. Geographic distribution of apportioned values of E-2 fees collected by California.

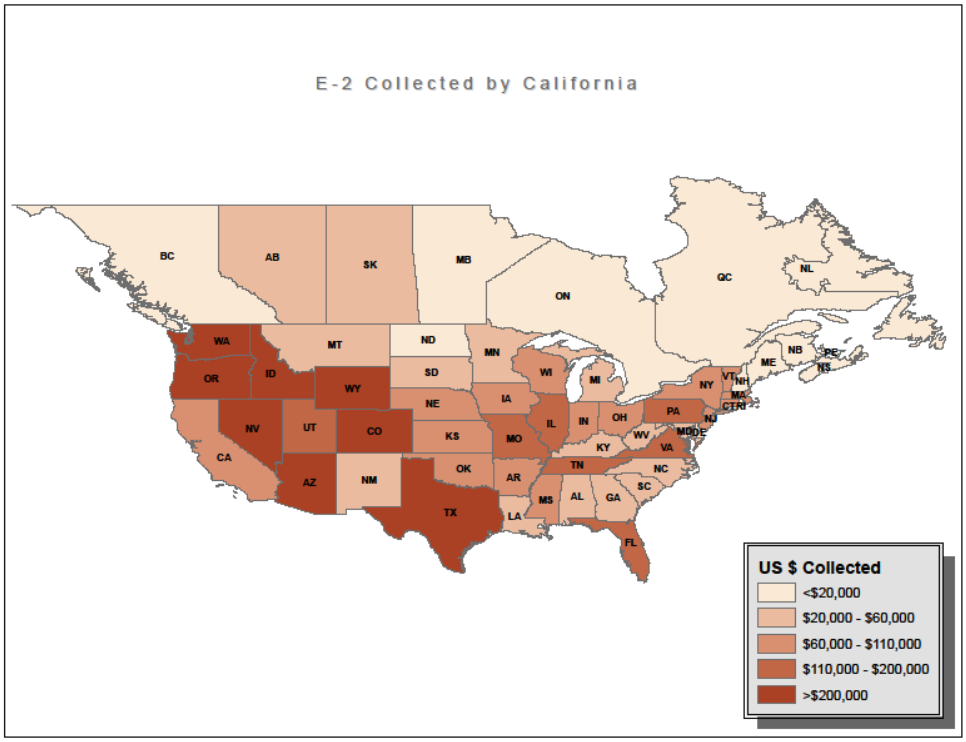


Figure 4-CA. Geographic distribution of apportioned values of FRP fees collected by California.

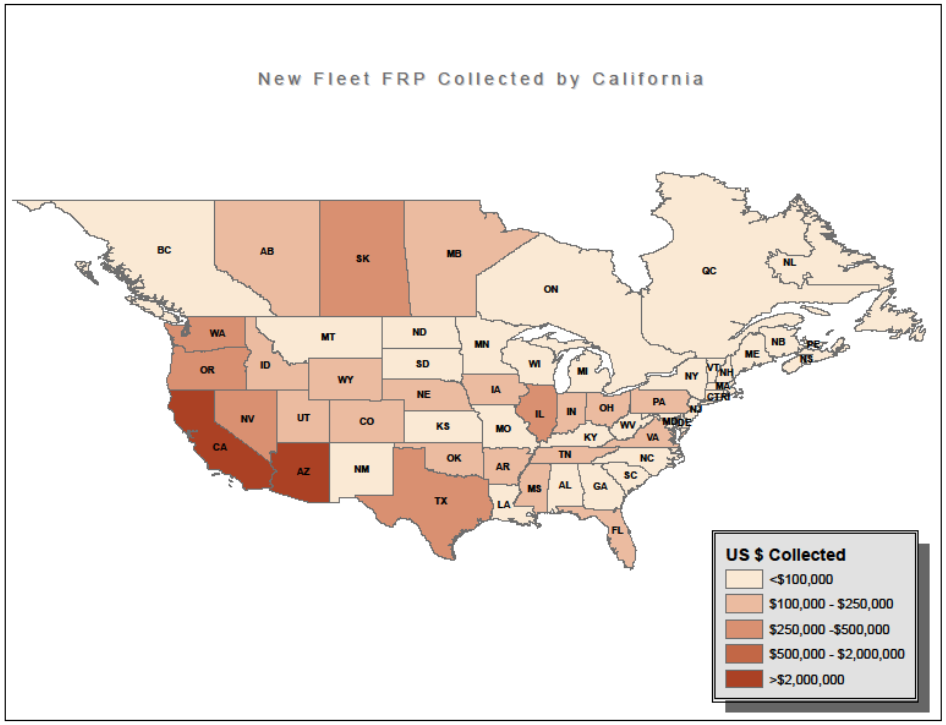
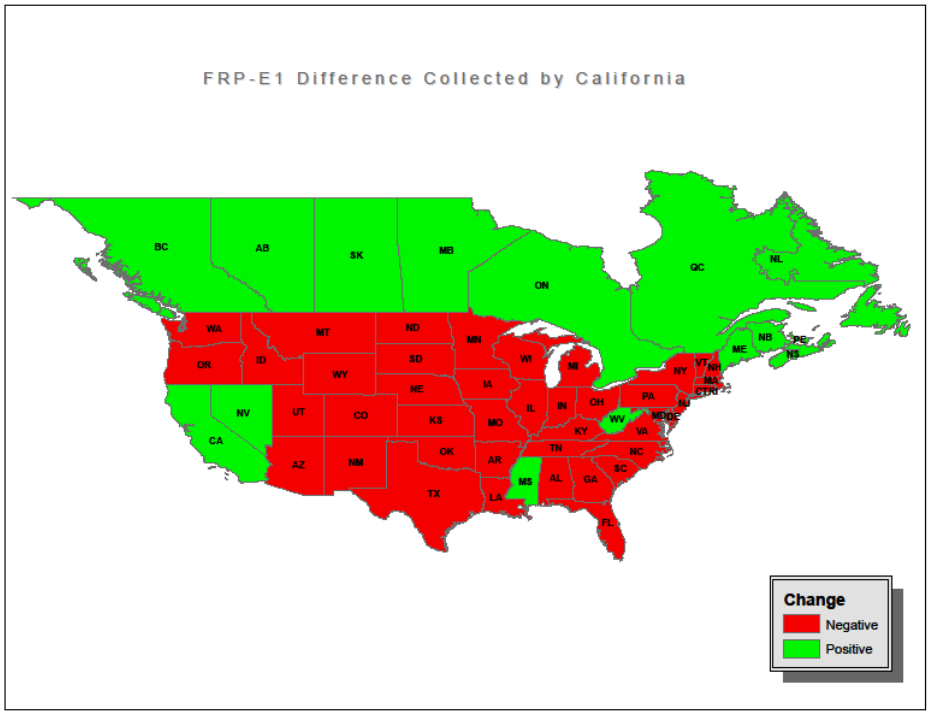


Figure 5-CA. Geographic distribution of fee difference between E-1 and FRP fees collected by California.



NEBRASKA

Over the course of the previous five years, the annual retention rate of fleets within Nebraska has been largely stable, with retention rates in the low 90's (Table 1-NE). Nebraska's new fleet registration steadily dropped between 2006 (206) to 2009 (154), after which it has witnessed an increase in new fleets such that in 2011, they surpassed the 2006 levels (Figure 1-NE). The average fleet size for new Nebraska fleets in 2011 was just slightly greater than a two vehicles per fleet average (2.11). This average demonstrates slight skewness, as 17 out of 379 fleets have more than five vehicles. The largest number of vehicles in a fleet is 127. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.

Revenue Collected by Nebraska (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Nebraska totaled nearly $53.5 million, with roughly 96% being generated by actual distance reports (Table 2-NE). The remaining 4% was split between E-1 and E-2 collections, with E-1's taking up 1.7% of this portion, and E-2 picking up the remaining 2.3%. Of the fees collected by Nebraska, the proportion that is retained within the state varies depending upon the source. Overall, 20% of the fees collected are retained, largely driven by the retention rate of the actual distance reports. Similar to California, the retention percentage of actual distance revenues, which at roughly $11 million, is smaller than that of the estimated distance miles (E-1). Twenty percent of actual distance revenue is retained, while 28% of E-1 is retained, again suggesting new registrants on average overestimate their proportions for which they will drive in-state. The E-2 portions kept in-state are nearly negligible at 1%; a value that reflects the expectations that vehicles registering in Nebraska rarely get categorized under E-2's (Table 3-NE).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-NE below highlights that under the new fee structure only 9% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 9% retention is significantly lower than the current 28% retained under E-1. Additionally, the total value collected from first-year registrants under the FRP is never greater than that collected by E-1 under the current system, until the average vehicles per fleet exceed eight vehicles. This unrealistic vehicle per fleet average indicates that under reasonable considerations, there will be a loss in revenue from those fees collected by and retained in Nebraska **Thus, where Nebraska's fleet average is 2.11 vehicles, it is expected to see an decrease of $198,414 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the decrease in revenue is increased to $209,621.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Nebraska will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of

renewing vehicles, the percentage of the fees retained from all renewals will approach 20%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-NE below depicts a portion of the potential revenue changes that Nebraska may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Nebraska, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $2,948,919 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-NE, that the expected revenue received from new IRP registrants is approximately 51% of the estimated distance revenue; a difference of $1,457,131. This represents a loss of 4.6% of the total revenue received under the IRP program for Nebraska.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-NE through 5-NE), we can observe that the fleets registering in Nebraska are largely regionally operating fleets. Though much of their operations are in the Midwest, significant numbers spread east and west. We can observe from the last of the four figures (Figure 5-NE) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2.11 Vehicles per Fleet) results in negative changes to jurisdictions throughout the midwest, though positive to others on both coasts. This observation likely relates to the high E-1 values collected by Nebraska for other Midwest states that are reduced as the apportionment is spread more throughout all the jurisdictions, as exampled by the 19% drop for in-state retention portions when comparing E-1 to the new FRP for new fleets.

Figure 1-NE. Nebraska New Fleet Registration Trends

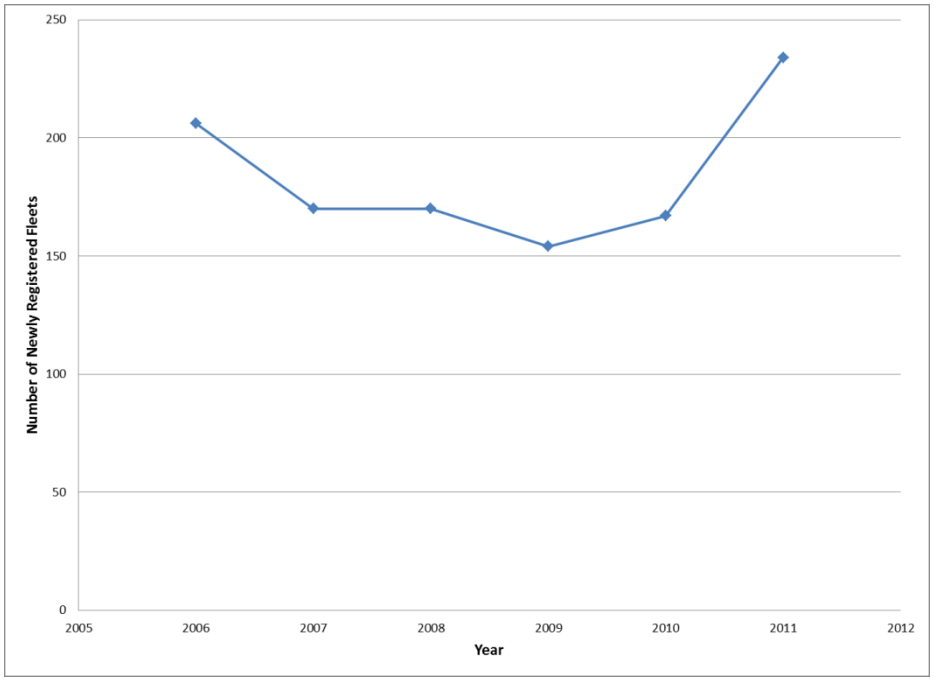


Table 1-NE. Nebraska Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	206	2185	2391	-
2007	170	2169	2339	91%
2008	170	2168	2338	93%
2009	154	2115	2269	90%
2010	167	2076	2243	91%
2011	234	2041	2275	91%

Table 2-NE. Revenue collected by NE under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	967,830.43
Collection of 2nd and Subsequent-year Estimates (E-2)	$	1,279,405.56
Total Estimated Distance Revenue	$	2,247,235.99
Actual Distance Revenue	$	55,291,386.75
Total Revenue	$	57,538,622.74

Table 3-NE. Revenue collected and retained by NE under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	270,672.83	28%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	11,206.95	1%
Total Estimated Distance Revenue	$	281,879.78	13%
Actual Distance Revenue	$	11,015,093.33	20%
Total Revenue	$	11,296,973.11	20%

Table 4-NE. Expected FRP revenue collected from first year IRP vehicles using average vehicle per fleet assumptions.

2.11 Vehicles per Fleet		
Revenue Collected	$	798,209.71
Revenue Retained	$	72,258.85

Table 5-NE. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	2,948,919.19
Actual Distance Revenue	$	28,298,962.08
Total Revenue	$	31,247,881.27
Expected FRP Revenue Received From New IRP Registrants	$	1,414,016.90

Figure 2-NE. Geographic distribution of apportioned values of E-1 fees collected by Nebraska.

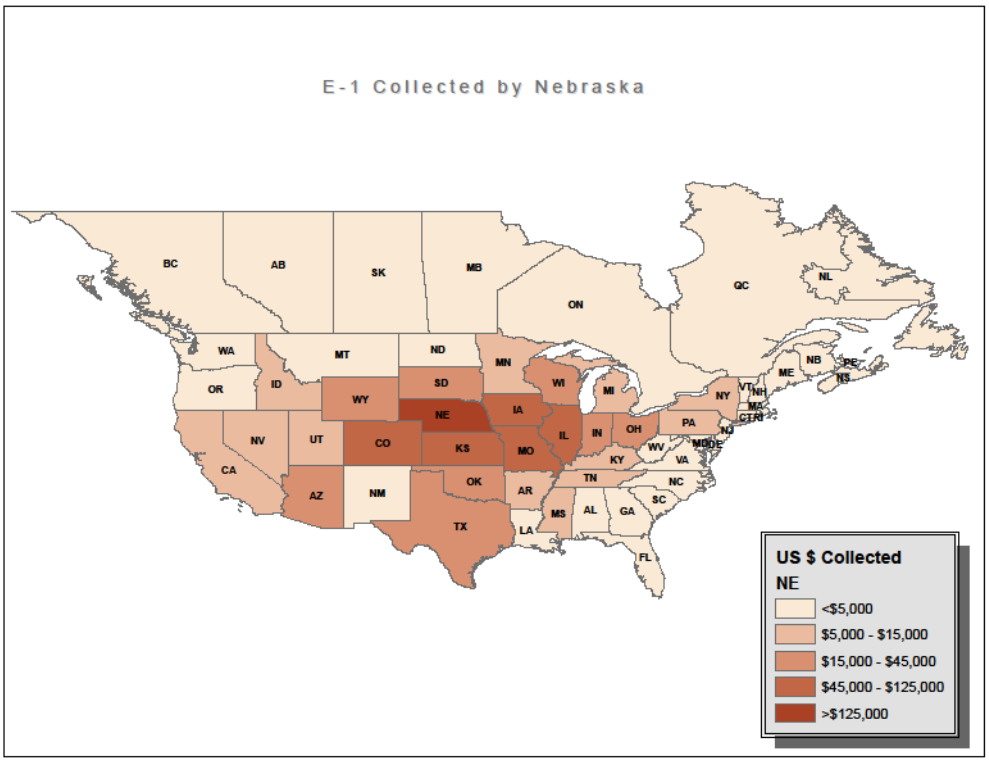


Figure 3-NE. Geographic distribution of apportioned values of E-2 fees collected by Nebraska.

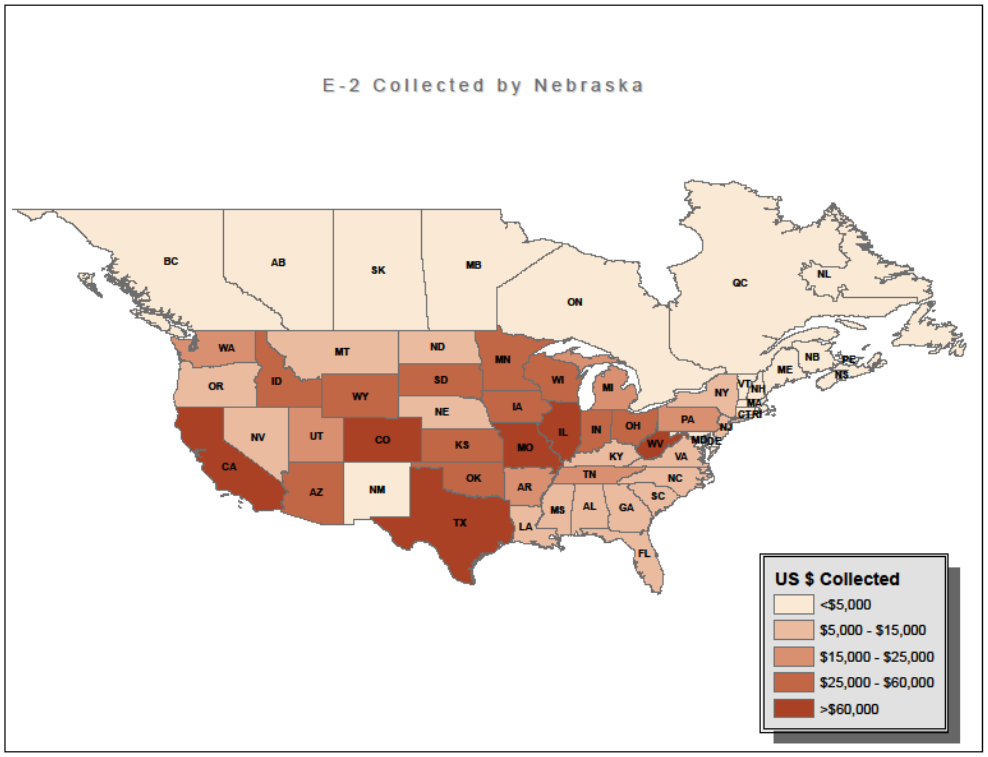


Figure 4-NE. Geographic distribution of apportioned values of FRP fees collected by Nebraska.

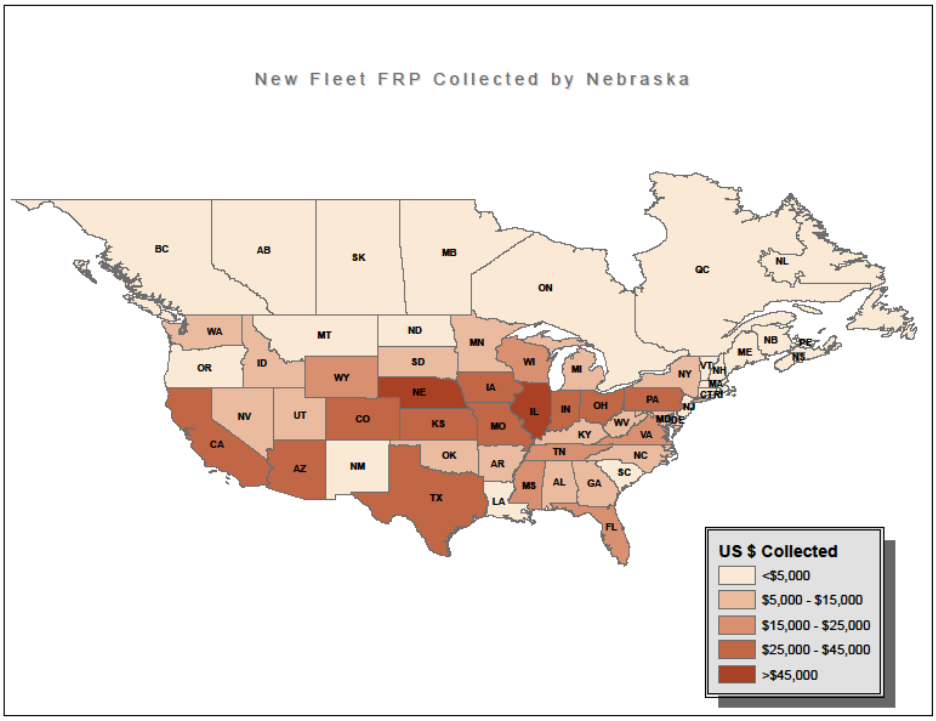
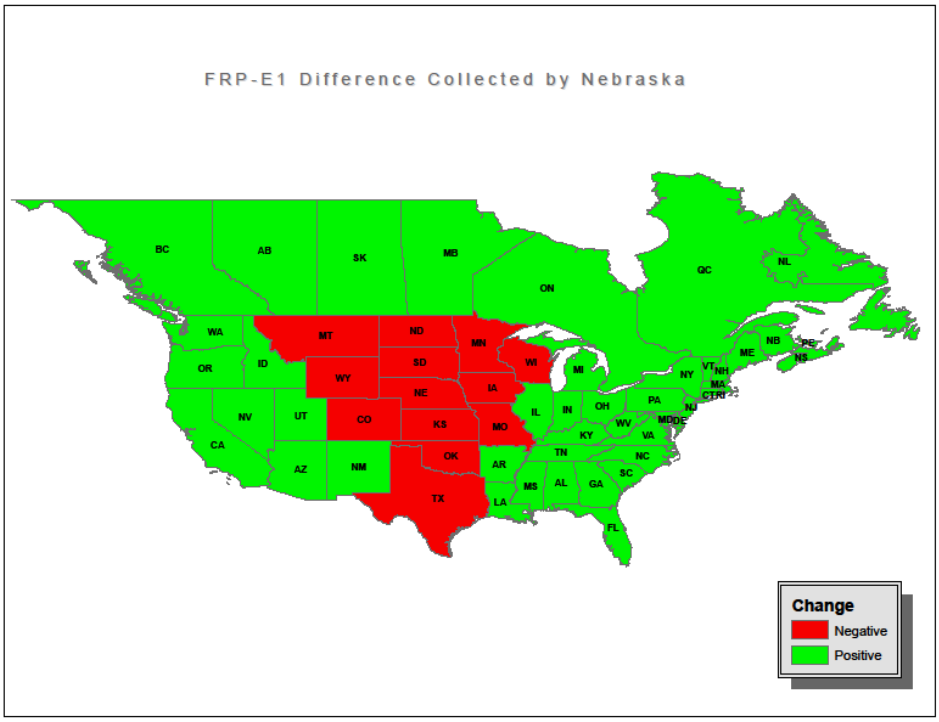


Figure 5-NE. Geographic distribution of fee difference between E-1 and FRP fees collected by Nebraska.



OREGON

Over the course of the previous five years, the annual retention rate of fleets within Oregon has been largely stable, with retention rates in the mid-80's (Table 1-OR). Oregon's new fleet registration steadily dropped between 2006 (990) to 2011 (799) (Figure 1-OR). The average fleet size for new Oregon fleets in 2011 was just slightly greater than a two vehicles per fleet average (2.18). This average demonstrates slight skewness, 267 fleets have more than one vehicle and only 41 out of 1,739 fleets have more than five vehicles. The largest number of vehicles in a fleet is 90. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.

Revenue Collected by Oregon (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Oregon totaled nearly $55.6 million, with roughly 95% being generated by actual distance reports (Table 2-OR). The remaining 5% was split between E-1 and E-2 collections, with E-1's taking up 4% of this portion, and E-2 picking up the remaining 1%. Of the fees collected by Oregon, the proportion that is retained within the state varies depending upon the source. Overall, 29% of the fees collected are retained, largely driven by the retention rate of the actual distance reports. The retention percentage of actual distance revenues, which at roughly $15.7 million, is larger than that of the estimated distance miles (E-1). Thirty percent of actual distance revenue is retained, while 21% of E-1 is retained, again suggesting new registrants on average underestimate their proportions for which they will drive in-state. The E-2 portions kept in-state are small at 4%; a value that reflects the expectations that vehicles registering in Oregon rarely get categorized under E-2's (Table 3-OR).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-OR below highlights that under the new fee structure only 11% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 11% retention is significantly lower than the current 21% retained under E-1. Additionally, the total value collected and retained from first-year registrants under the FRP does not exceed that collected by E-1 under the current system, until the average vehicles per fleet exceed 3.3 vehicles. **Thus, where Oregon's fleet average is 2.18 vehicles, it is expected to see a decrease of $169,642 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the decrease in revenue is increased to $198,315.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Oregon will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 30%; the value currently achieved by actual distance revenue. We do not currently have the data available

to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-OR below depicts a portion of the potential revenue changes that Oregon may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Oregon, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-OR, that the expected revenue received from new IRP registrants is approximately 54% of the estimated distance revenue; a difference of $1,277,237. This represents a loss of 4% of the total revenue received under the IRP program for Oregon.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-OR through 5-OR), we can observe that the fleets registering in Oregon are largely regionally operating fleets, as much of their operations are in the west; they do however, have a significant presence across the country. We can observe from the last of the four figures (Figure 5-OR) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2.18 Vehicles per Fleet) results in negative changes to jurisdictions in the west, though positive to many others. This observation likely relates to the high E-1 values collected by Oregon for other western states that are reduced as the apportionment is spread more throughout all the jurisdictions, as exampled by the 10% drop for in-state retention portions when comparing E-1 to the new FRP for new fleets.

Figure 1-OR. Oregon New Fleet Registration Trends

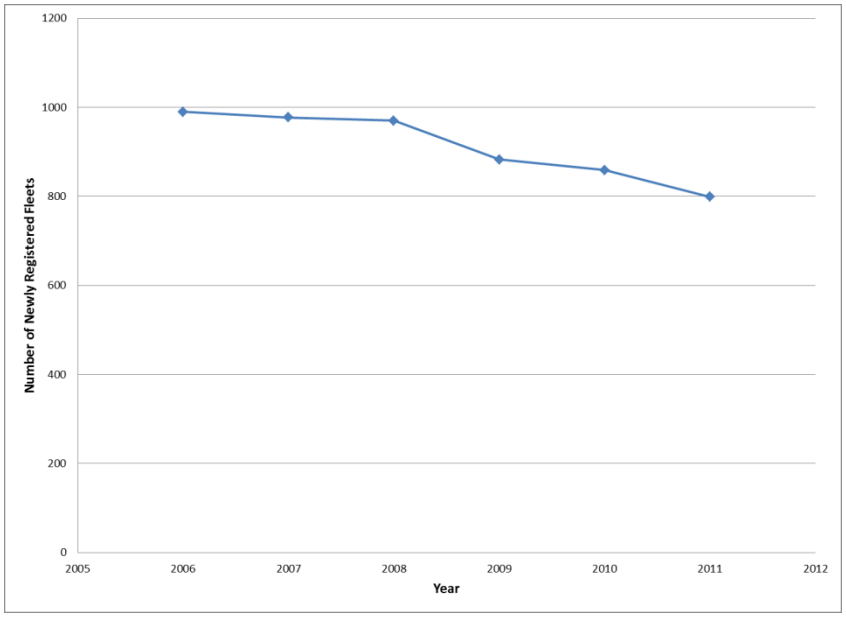


Table 1-OR. Oregon Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	990	4960	5950	-
2007	977	5098	6075	86%
2008	970	4971	5941	82%
2009	883	4855	5738	82%
2010	859	4607	5466	80%
2011	799	4578	5377	84%

Table 2-OR. Revenue collected by OR under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	2,306,241.27
Collection of 2nd and Subsequent-year Estimates (E-2)	$	694,345.58
Total Estimated Distance Revenue	$	3,000,586.85
Actual Distance Revenue	$	52,574,982.03
Total Revenue	$	55,575,568.88

Table 3-OR. Revenue collected and retained by OR under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	485,590.86	21%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	28,672.49	4%
Total Estimated Distance Revenue	$	514,263.35	17%
Actual Distance Revenue	$	15,677,493.77	30%
Total Revenue	$	16,191,757.12	29%

Table 4-OR. Expected FRP revenue collected from first year IRP vehicles using average vehicle per fleet assumptions.

2.18 Vehicles per Fleet		
Revenue Collected	$	2,904,206.16
Revenue Retained	$	315,948.73

Table 5-OR. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	2,769,222.05
Actual Distance Revenue	$	29,266,827.28
Total Revenue	$	32,036,049.33
Expected FRP Revenue Received From New IRP Registrants	$	1,368,793.50

Figure 2-OR. Geographic distribution of apportioned values of E-1 fees collected by Oregon.

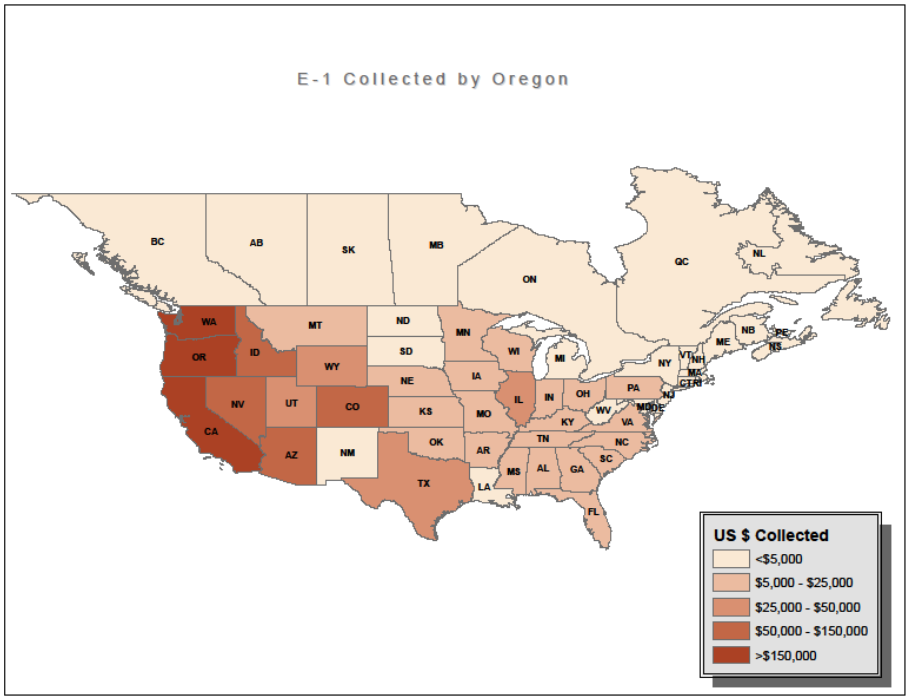


Figure 3-OR. Geographic distribution of apportioned values of E-2 fees collected by Oregon.

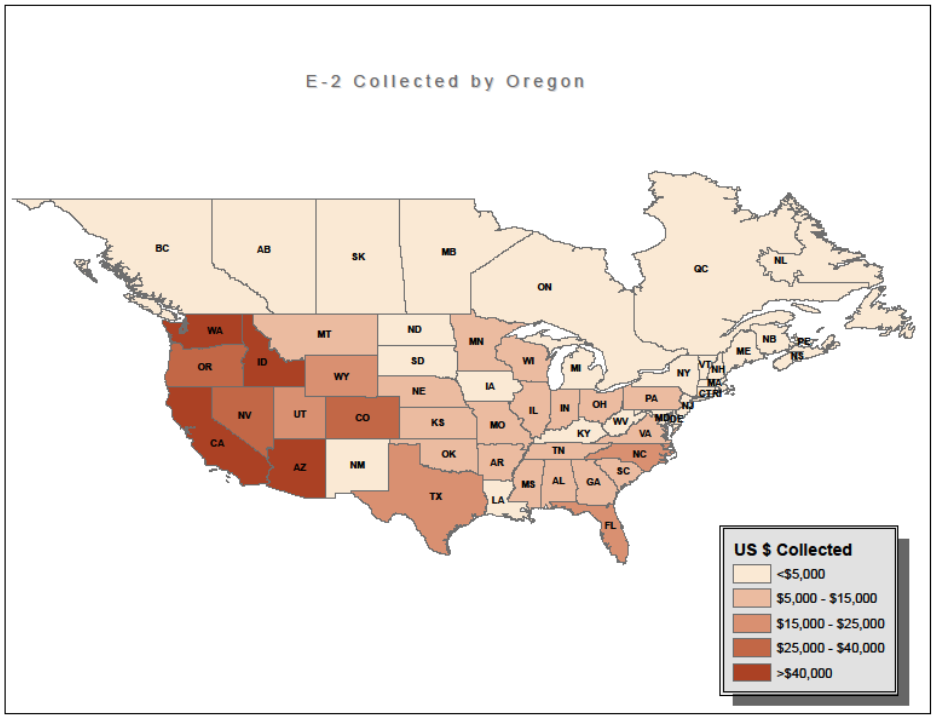


Figure 4-OR. Geographic distribution of apportioned values of FRP fees collected by Oregon.

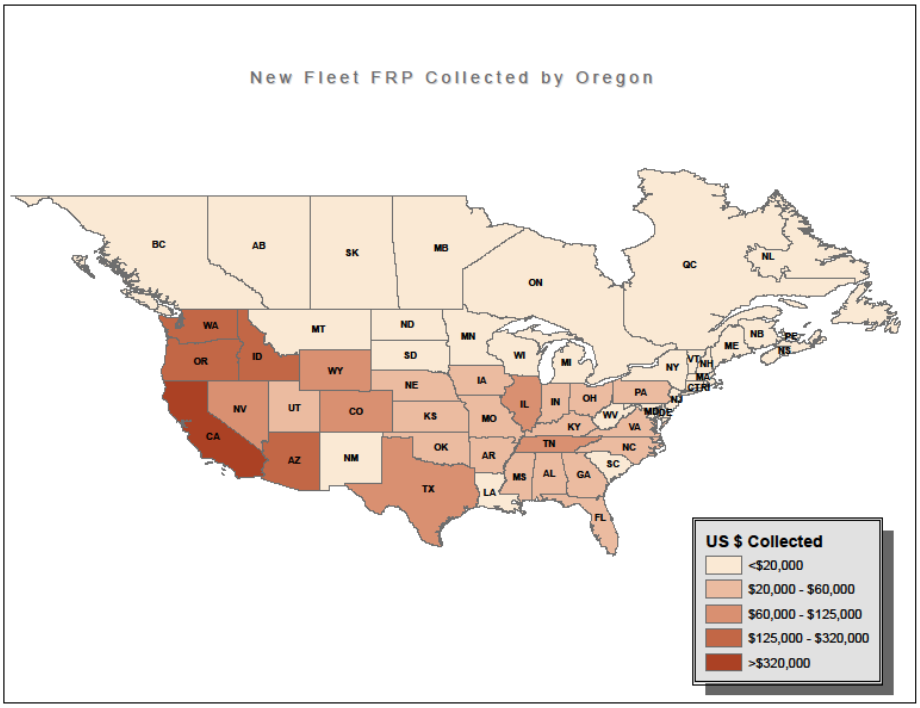
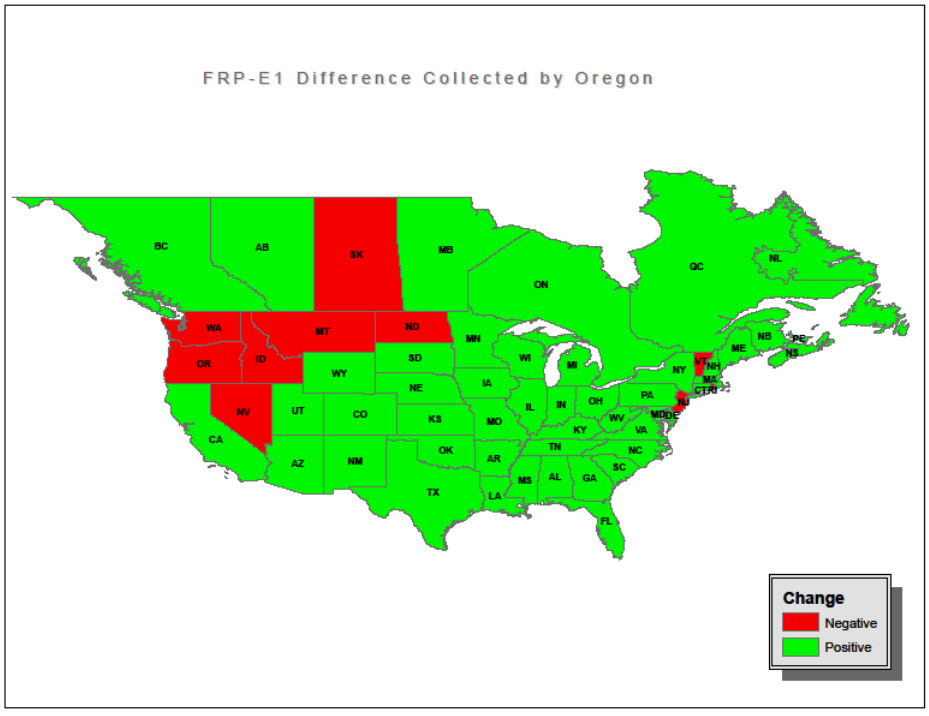


Figure 5-OR. Geographic distribution of fee difference between E-1 and FRP fees collected by Oregon.



MINNESOTA

Over the course of the previous five years, the annual retention rate of fleets within Minnesota has been largely stable, with retention rates in the upper-80's (Table 1-MN). Minnesota's new fleet registration steadily and significantly dropped between 2006 (1127) to 2011 (568) (Figure 1-MN). The average fleet size for new Minnesota fleets in 2011 was just slightly less than a two vehicle per fleet average (1.95). This average demonstrates slight skewness, 315 fleets have more than one vehicle and only 41 out of 1,217 fleets have more than five vehicles. The largest number of vehicles in a fleet is 318. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.[2]

Revenue Collected by Minnesota (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Minnesota totaled just over $70 million, with roughly 94% being generated by actual distance reports (Table 2-MN). The remaining 6% was split between E-1 and E-2 collections, with E-1's taking up 4% of this portion, and E-2 picking up the remaining 2%. Of the fees collected by Minnesota, the proportion that is retained within the state varies depending upon the source. Overall, 29% of the fees collected are retained, largely driven by the retention rate of the actual distance reports. The retention percentage of actual distance revenues, which at roughly $19.6 million, is nearly equivalent to that of the estimated distance miles (E-1). Thirty percent of actual distance revenue is retained, while 29% of E-1 is retained, again suggesting new registrants on average accurately estimate their proportions for which they will drive in-state. The E-2 portions kept in-state are negligible; a value that reflects the expectations that vehicles registering in Oregon rarely get categorized under E-2's (Table 3-MN).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-MN below highlights that under the new fee structure only 21% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 21% retention is lower than the current 29% retained under E-1. Additionally, the total value collected and retained from first-year registrants under the FRP does not exceed that collected by E-1 under the current system, until the average vehicles per fleet exceed 3.6 vehicles. **Thus, where Minnesota's fleet average is 1.95 vehicles, it is expected to see a decrease of $334,984 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the decrease in revenue is unchanged.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Minnesota will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of

[2] The 1,217 new fleets and thus 2,379 units reported by Minnesota for this report is significantly different than the value for new fleet reported in the 2012 Annual IRP report. The Annual report indicates 568 new fleets in Minnesota. Thus the 1,217 is utilized here only as a means to calculate the vehicle per fleet average.

renewing vehicles, the percentage of the fees retained from all renewals will approach 30%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-MN below depicts a portion of the potential revenue changes that Minnesota may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Minnesota, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $ 2,767,707 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-MN, that the expected revenue received from new IRP registrants is approximately 78% of the estimated distance revenue; a difference of $605,087. This represents a loss of 1.4% of the total revenue received under the IRP program for Minnesota.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-MN through 5-MN), we can observe that the fleets registering in Minnesota are largely nationally operating fleets, as much of their operations may center in the upper Midwest, but do however, have a substantial presence across the country. We can observe from the last of the four figures (Figure 5-MN) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 1.95 Vehicles per Fleet) results in negative changes to jurisdictions in most proximate to Minnesota, though positive to many others. This observation likely relates to the high E-1 values collected by Minnesota for other mid-western states that are reduced as the apportionment is spread more throughout all the jurisdictions, as exampled by the 9% drop for in-state retention portions when comparing E-1 to the new FRP for new fleets.

Figure 1-MN. Minnesota New Fleet Registration Trends

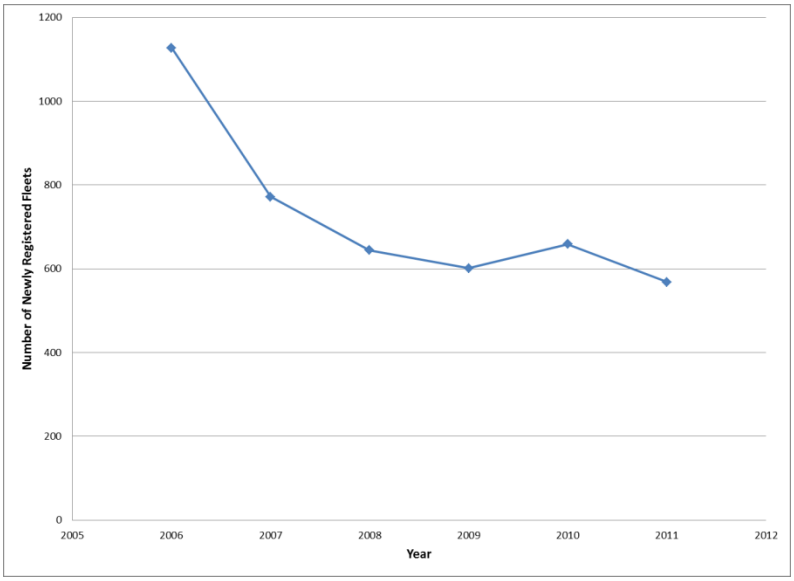


Table 1-MN. Minnesota Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	1127	6249	7376	-
2007	772	6267	7039	85%
2008	644	5986	6630	85%
2009	601	5756	6357	87%
2010	659	5638	6197	89%
2011	568	5578	6146	90%

Table 2-MN. Revenue collected by MN under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	2,609,733.39
Collection of 2nd and Subsequent-year Estimates (E-2)	$	1,630,683.53
Total Estimated Distance Revenue	$	4,240,416.92
Actual Distance Revenue	$	65,807,301.06
Total Revenue	$	70,047,717.98

Table 3-MN. Revenue collected and retained by MN under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	746,180.15	29%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	-	0%
Total Estimated Distance Revenue	$	746,180.15	18%
Actual Distance Revenue	$	19,587,738.93	30%
Total Revenue	$	20,333,919.08	29%

Table 4-MN. Expected FRP revenue collected from first year IRP vehicles using average vehicle per fleet assumptions.

1.95 Vehicles per Fleet		
Revenue Collected	$	1,989,415.74
Revenue Retained	$	411,196.50

Table 5-MN. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	2,767,707.16
Actual Distance Revenue	$	40,723,014.54
Total Revenue	$	43,490,721.70
Expected FRP Revenue Received From New IRP Registrants	$	2,218,072.20

Figure 2-MN. Geographic distribution of apportioned values of E-1 fees collected by Minnesota.

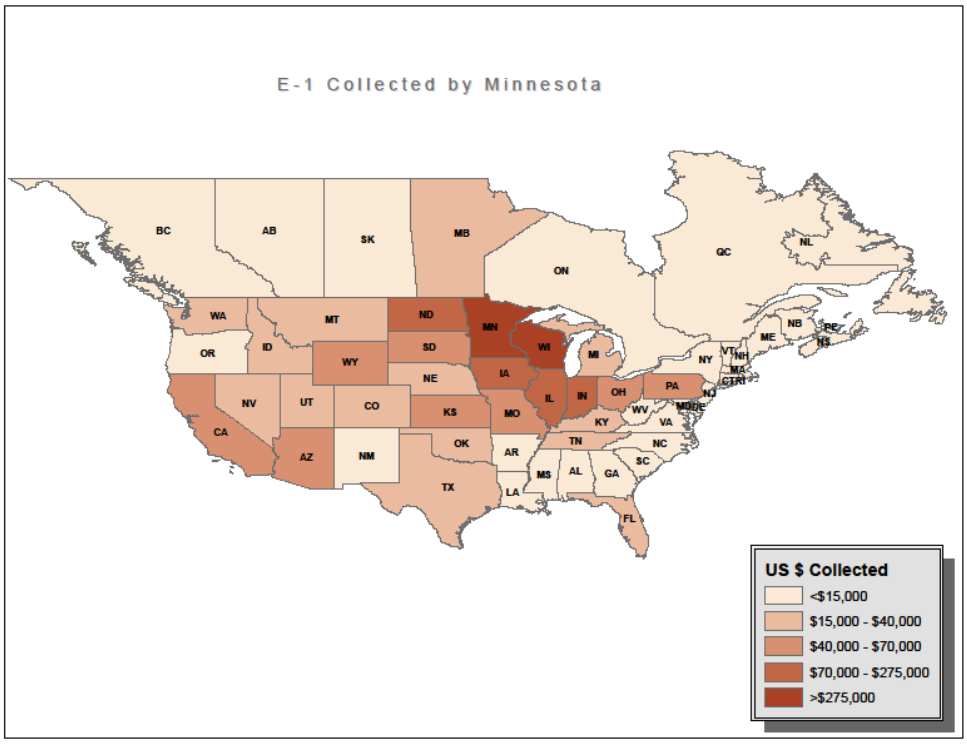


Figure 3-MN. Geographic distribution of apportioned values of E-2 fees collected by Minnesota.

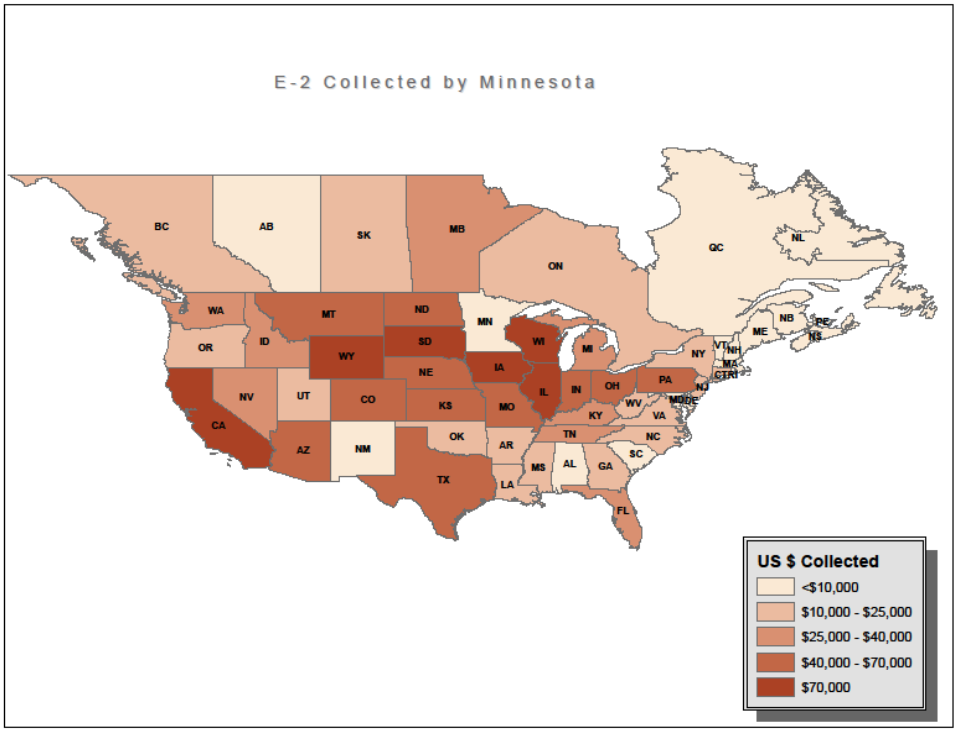


Figure 4-MN. Geographic distribution of apportioned values of FRP fees collected by Minnesota.

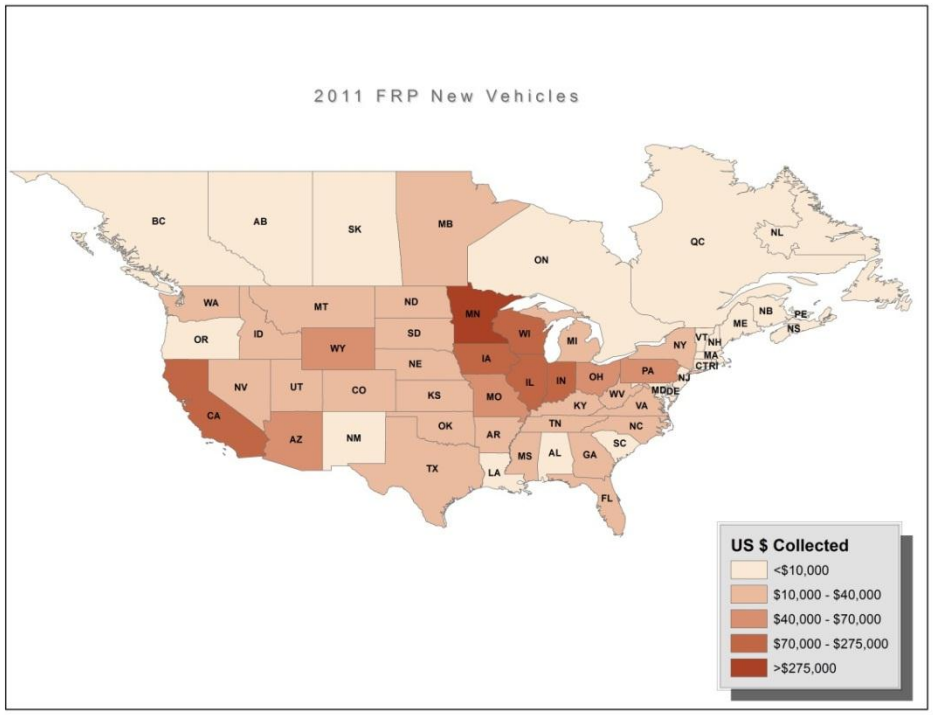
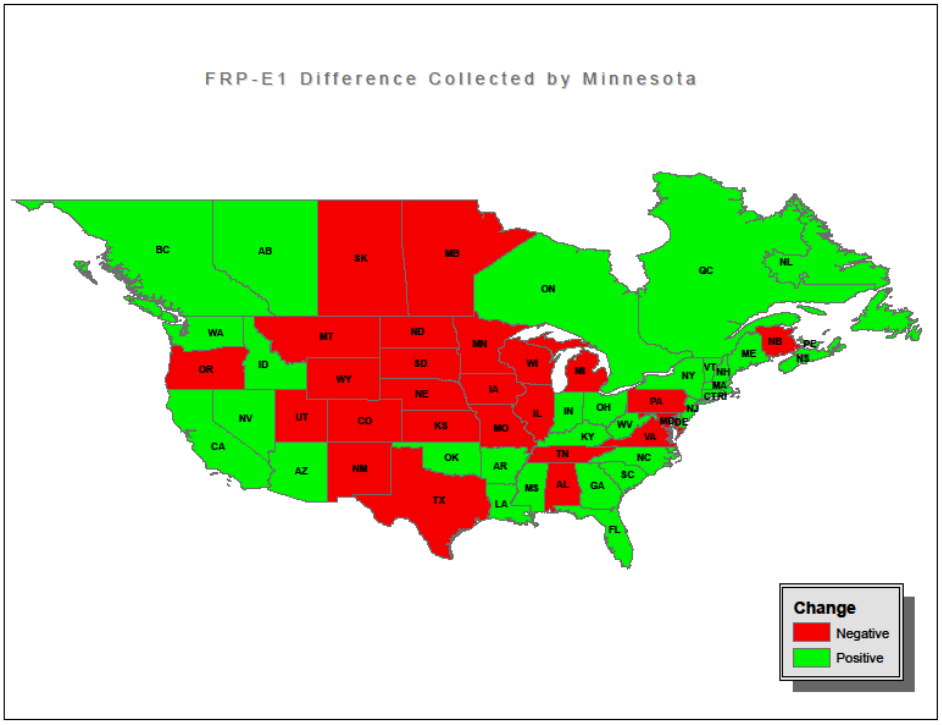


Figure 5-MN. Geographic distribution of fee difference between E-1 and FRP fees collected by Minnesota.



ILLINOIS

Over the course of the previous five years, the annual retention rate of fleets within Illinois has been highly variable, with retention rates as low as 69% (2008) to as high as 101% (2010) (Table 1-IL). Unlike most other jurisdictions, Illinois' new fleet registration has largely held steady over the last five years, averaging roughly 2,700 new fleets a year (Figure 1-IL). The average fleet size for new Illinois fleets in 2011 was less than a two vehicle per fleet average (1.51). This average demonstrates very slight skewness, 450 fleets have more than one vehicle and only 57 out of more than 2,400 fleets have more than five vehicles. The largest number of vehicles in a fleet is 49. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.

Revenue Collected by Illinois (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Illinois totaled just over $180 million, with slightly more than 93% being generated by actual distance reports (Table 2-IL). The remaining 6% was split between E-1 and E-2 collections, with E-1's taking up 4% of this portion, and E-2 picking up the remaining 2%. Illinois does not report its retained values to the clearinghouse, and thus we have no estimate of the value of retained dollars under the E-1 and E-2 collections. Overall, 15% of the fees collected are retained, largely driven by the retention rate of the actual distance reports (Table 3-IL).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-IL below highlights that under the new fee structure 27% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 27% retention is higher than the current 15% retained. Additionally, the total value collected and retained from first-year registrants under the FRP exceeds that collected by estimated distance revenue under the current system at the projected 1.51 vehicles per fleet. **Thus, where Illinois' fleet average is 1.51 vehicles, it is expected to see an increase of $2,089,892 in revenue from fees collected from new in-state registrants, as compared to Estimated Distance.** It is important to recall here that the retention value for Illinois is an imputed value using calculations developed in the Task I report, based on the jurisdiction estimated distance charts.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Illinois will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 15%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-IL below depicts a portion of the potential revenue changes that Illinois may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Illinois, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $13,820,082 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-IL, that the expected revenue received from new IRP registrants is approximately 57% of the estimated distance revenue; a difference of $5,993,533. This represents a loss of 3% of the total revenue received under the IRP program for Illinois.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-IL through 5-IL), we can observe that the fleets registering in Illinois are largely nationally operating fleets, as much of their operations may center in the upper Midwest, but do however have a substantial presence across the country. We can observe from the last of the four figures (Figure 5-IL) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 1.51 Vehicles per Fleet) results in negative changes to jurisdictions in many of the jurisdictions, though positive to a few others; typically those that are a substantial distance from Illinois and with little apportionment from it.

Figure 1-IL. Illinois New Fleet Registration Trends

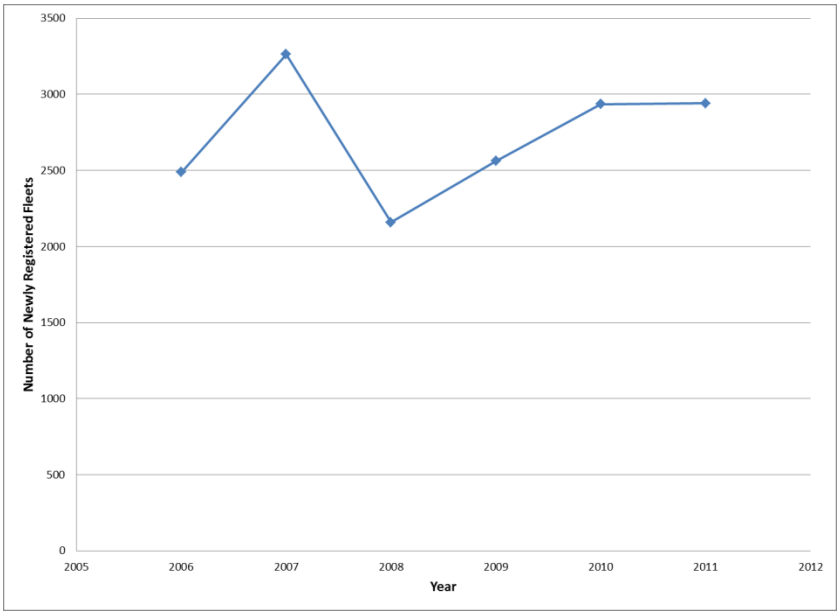


Table 1-IL. Illinois Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	2487	16140	18627	-
2007	3262	15604	18866	84%
2008	2158	13108	16953	69%
2009	2562	13550	16112	80%
2010	2934	16255	19189	101%
2011	2940	15973	18913	83%

Table 2-IL. Revenue collected by IL under current structure*

Source		Value
Collection of 1st -year Estimates (E-1)	$	7,355,339.07
Collection of 2nd and Subsequent-year Estimates (E-2)	$	3,012,457.78
Total Estimated Distance Revenue	$	12,161,638.53
Actual Distance Revenue	$	168,080,508.67
Total Revenue	$	180,242,147.20

*Note: we do not have E-1 and E-2 estimates for IL that are retained in-state.

Table 3-IL. Revenue collected and retained by IL under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	-	0%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	-	0%
Total Estimated Distance Revenue	$	1,793,841.68	15%
Actual Distance Revenue	$	24,791,875.03	15%
Total Revenue	$	26,585,716.71	15%

Table 4-IL. Expected FRP revenue collected from first year IRP vehicles using average vehicle per fleet assumptions.

1.51 Vehicles per Fleet	
Revenue Collected	$ 7,885,439.86
Revenue Retained	$ 2,089,891.94

Table 5-IL. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	13,820,081.69
Actual Distance Revenue	$	182,786,420.99
Total Revenue	$	196,606,502.68
Expected FRP Revenue Received From New IRP Registrants	$	10,366,289.18

Figure 2-IL. Geographic distribution of apportioned values of E-1 fees collected by Illinois.

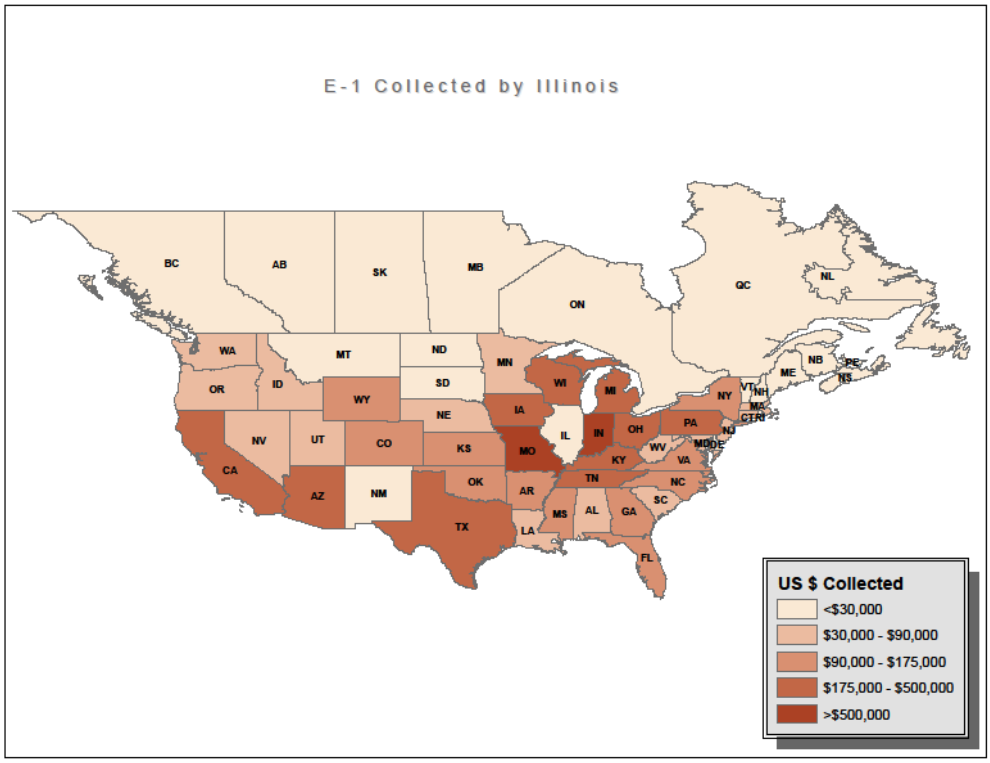


Figure 3-IL. Geographic distribution of apportioned values of E-2 fees collected by Illinois.

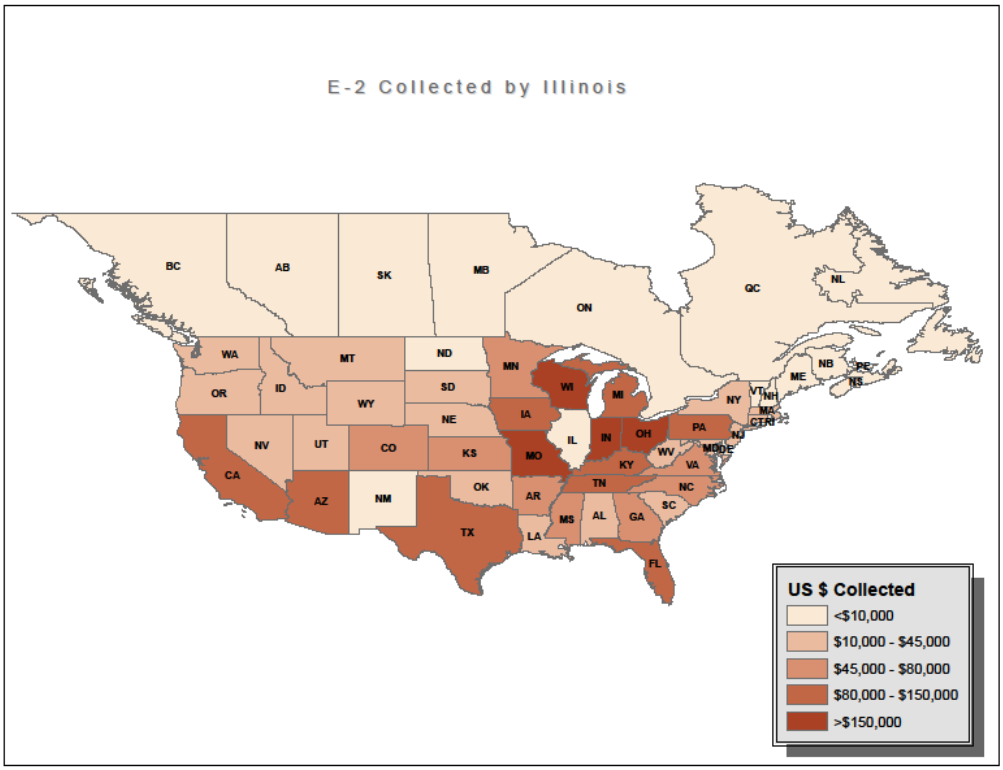


Figure 4-IL. Geographic distribution of apportioned values of FRP fees collected by Illinois.

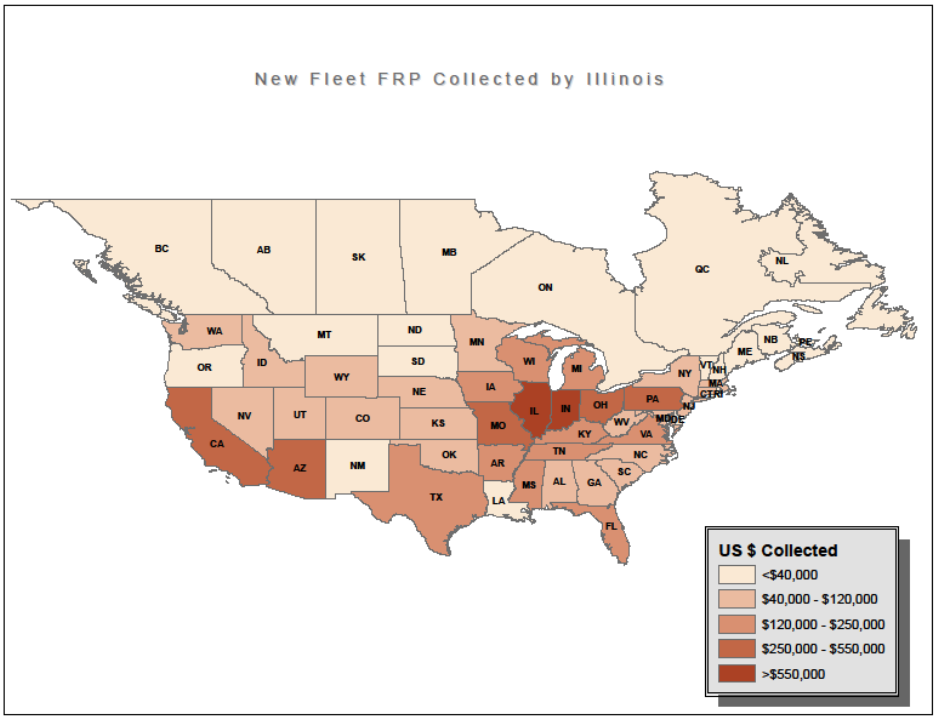
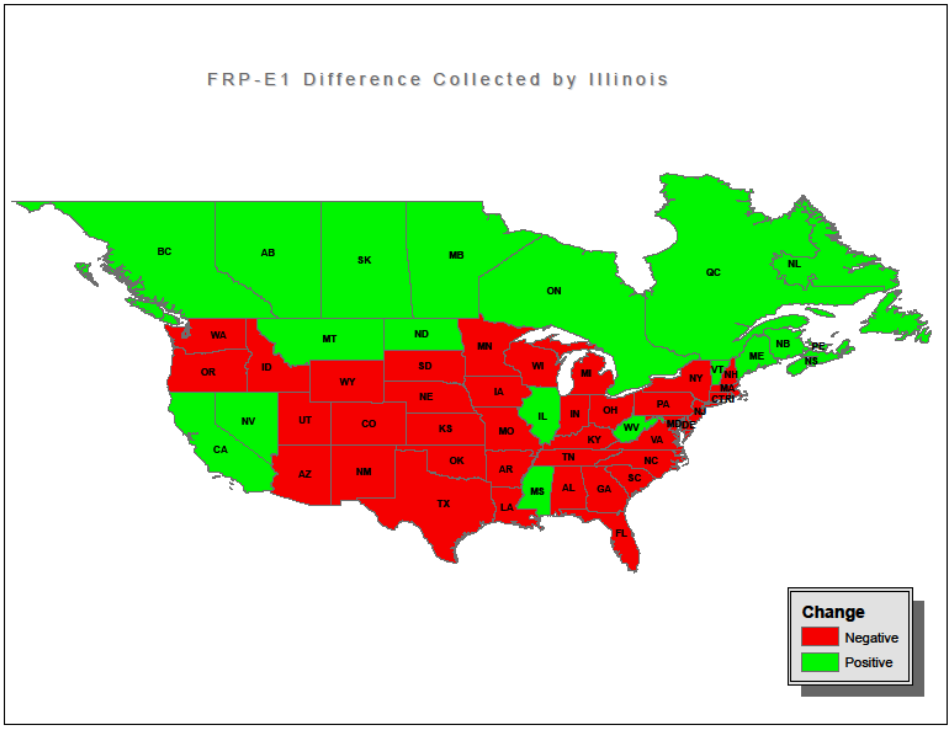


Figure 5-IL. Geographic distribution of fee difference between E-1 and FRP fees collected by Illinois.



Note: the Value for IL is not a true positive change, as E-1 values for IL have not been obtained.

MISSOURI

Over the course of the previous five years, the annual retention rate of fleets within Missouri has been largely stable, with retention rates in the mid-80's (Table 1-MO). Missouri's new fleet registration steadily and significantly dropped between 2006 (1283) to 2011 (822) (Figure 1-MO). The average fleet size for new Missouri fleets in 2011 was just slightly greater than a two vehicle per fleet average (2.08). This average demonstrates slight skewness, 215 fleets have more than one vehicle and only 38 out of 814 fleets have more than five vehicles. The largest number of vehicles in a fleet is 89. This makes the utilization of the average estimate a rather effective measure of the expected revenue under the new FRP.

Revenue Collected by Missouri (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Missouri totaled nearly $82 million, with roughly 92% being generated by actual distance reports (Table 2-MO). The remaining 8% was split between E-1 and E-2 collections, with E-1's taking up 3.4% of this portion, and E-2 picking up the remaining 4.2%. Of the fees collected by Missouri, the proportion that is retained within the state varies depending upon the source. Overall, 27% of the fees collected are retained, largely driven by the retention rate of the actual distance reports. The retention percentage of actual distance revenues, which at roughly $21.4 million, is nearly equivalent to that of the estimated distance miles (E-1). Twenty-eight percent of actual distance revenue is retained, while 26% of E-1 is retained, again suggesting new registrants on average accurately estimate their proportions for which they will drive in-state. The E-2 portions kept in-state are minimal at 4%; a value that reflects the expectations that vehicles registering in Missouri rarely get categorized under E-2's (Table 3-MO), though they do more so than many of the jurisdictions already discussed.

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-MO below highlights that under the new fee structure only 21% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 21% retention is lower than the current 26% retained under E-1. Additionally, the total value collected and retained from first-year registrants under the FRP does not exceed that collected by E-1 under the current system, until the average vehicles per fleet exceed 2.6 vehicles. **Thus, where Missouri's fleet average is 2.08 vehicles, it is expected to see a decrease of $146,006 in revenue from fees collected from new in-state registrants, as compared to E-1.** Additionally, if considering the revenue lost from the E-2 values no longer retained, the decrease in revenue is increased to $271,103.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Missouri will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 27%; the value currently achieved by actual distance revenue. We do not currently have the data available

to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-MO below depicts a portion of the potential revenue changes that Missouri may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Missouri, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $6,595,992 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-MO, that the expected revenue received from new IRP registrants is approximately 55% of the estimated distance revenue; a difference of $2,976,445. This represents a loss of 3.6% of the total revenue received under the IRP program for Missouri.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-MO through 5-MO), we can observe that the fleets registering in Missouri are largely nationally operating fleets, as much of their operations may center in the upper Midwest, but do however, have a substantial presence across the country; particularly towards California in the west. We can observe from the last of the four figures (Figure 5-MO) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2.08 Vehicles per Fleet) results in negative changes to jurisdictions in most proximate to Missouri, though positive to many others. This observation likely relates to the high E-1 values collected by Missouri for other mid-western states that are reduced as the apportionment is spread more throughout all the jurisdictions, as exampled by the 8% drop for in-state retention portions when comparing E-1 to the new FRP for new fleets.

Figure 1-MO. Missouri New Fleet Registration Trends

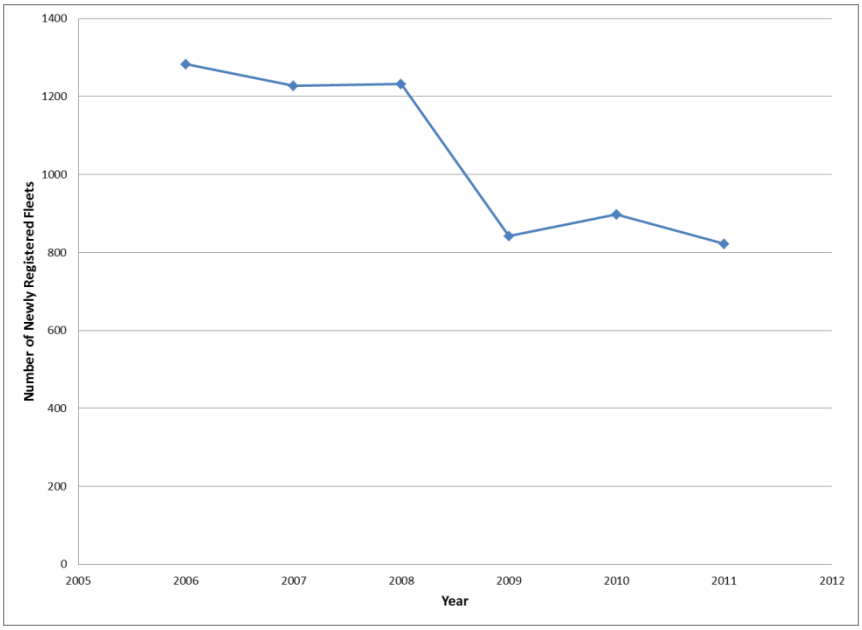


Table 1-MO. Missouri Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	1283	6778	8061	-
2007	1227	5548	6775	69%
2008	1232	5695	6927	84%
2009	842	5804	6646	84%
2010	897	5725	6622	86%
2011	822	5660	6482	85%

Table 2-MO. Revenue collected by MO under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	2,814,121.08
Collection of 2nd and Subsequent-year Estimates (E-2)	$	3,449,132.75
Total Estimated Distance Revenue	$	6,263,253.83
Actual Distance Revenue	$	75,586,332.69
Total Revenue	$	81,849,586.52

Table 3-MO. Revenue collected and retained by MO under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	728,007.95	26%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	125,097.53	4%
Total Estimated Distance Revenue	$	853,105.48	14%
Actual Distance Revenue	$	21,351,616.14	28%
Total Revenue	$	22,204,721.62	27%

Table 4-MO. Expected FRP revenue collected from first year IRP vehicles using average vehicle per fleet assumptions.

2.08 Vehicles per Fleet		
Revenue Collected	$	2,835,978.91
Revenue Retained	$	582,002.30

Table 5-MO. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	6,595,991.68
Actual Distance Revenue	$	76,578,945.33
Total Revenue	$	83,174,937.01
Expected FRP Revenue Received From New IRP Registrants	$	3,480,333.02

Figure 2-MO. Geographic distribution of apportioned values of E-1 fees collected by Missouri.

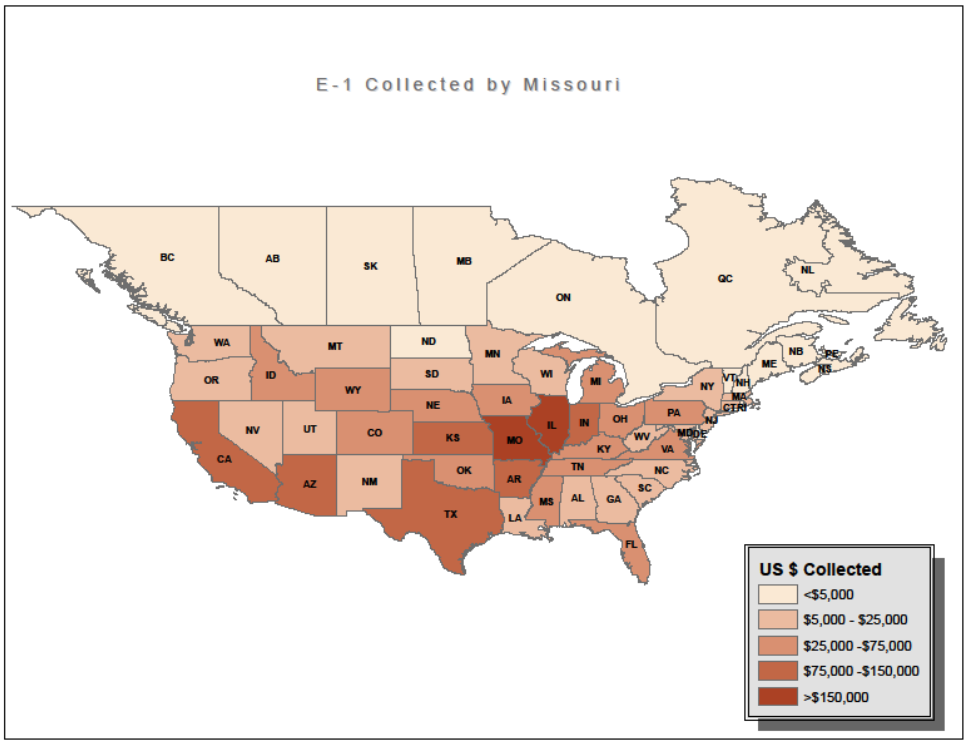


Figure 3-MO. Geographic distribution of apportioned values of E-2 fees collected by Missouri.

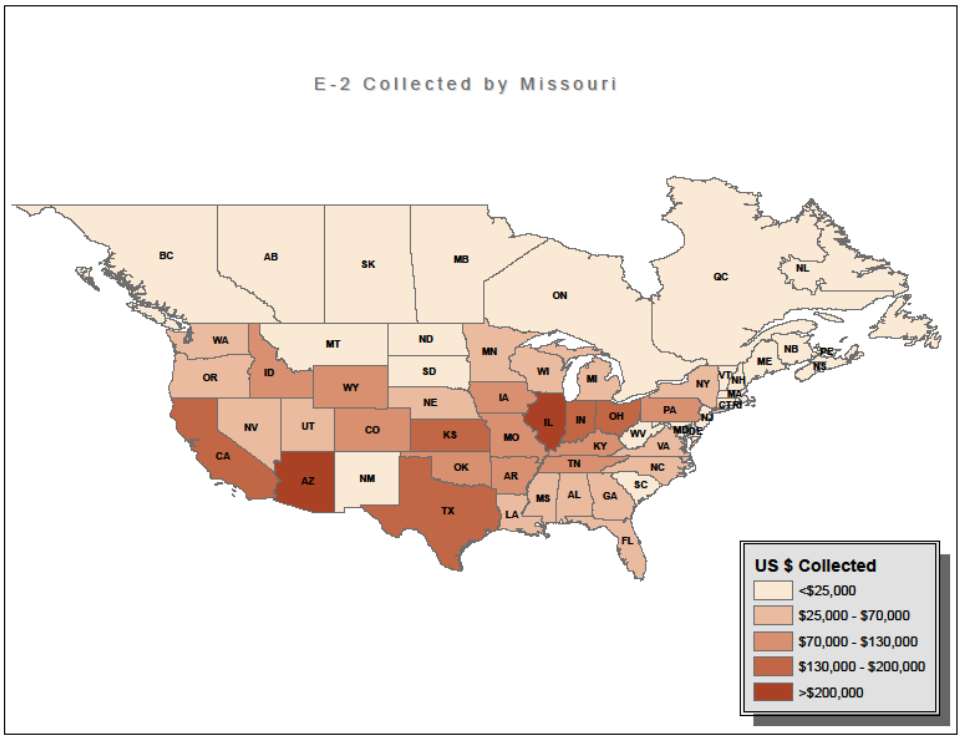


Figure 4-MO. Geographic distribution of apportioned values of FRP fees collected by Missouri.

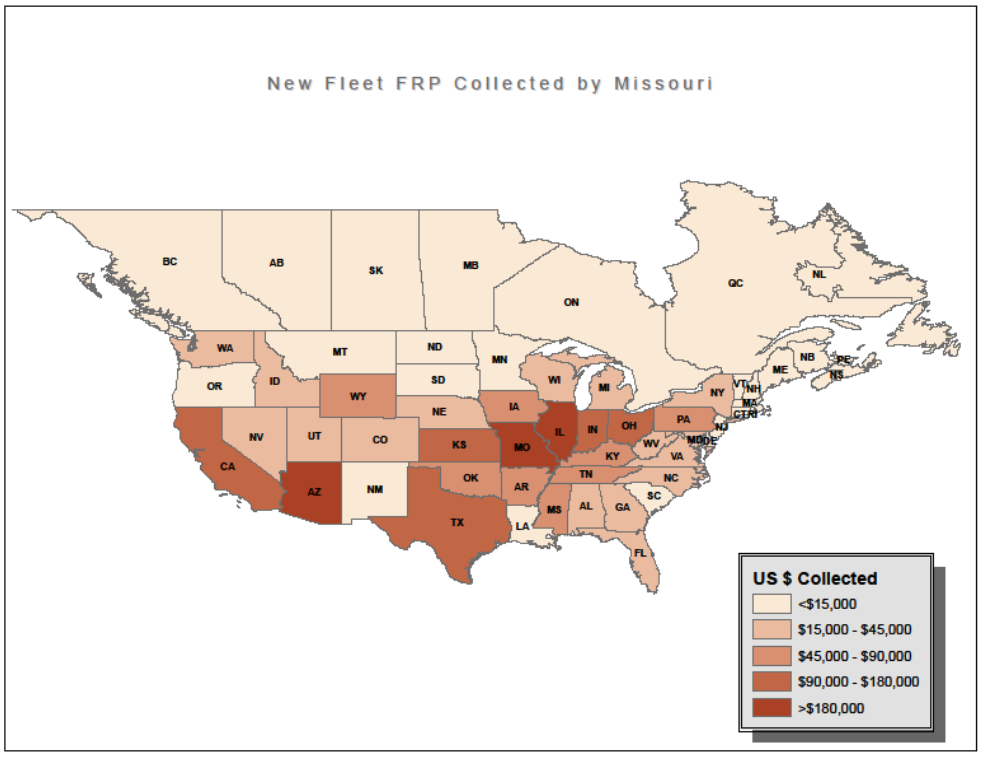
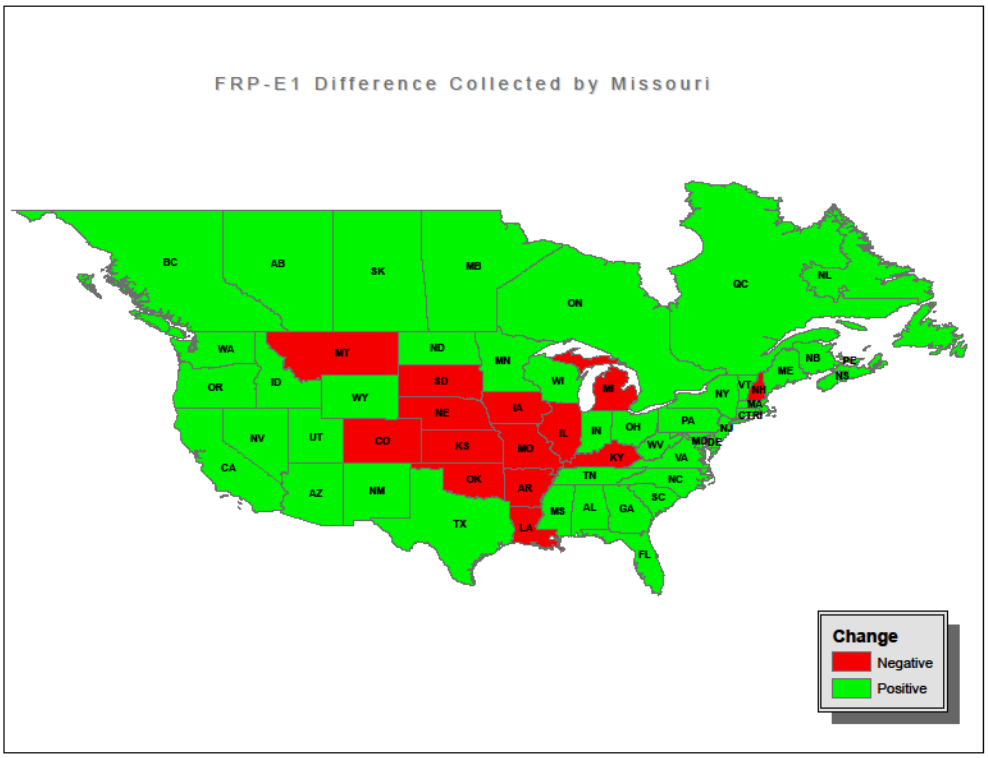


Figure 5-MO. Geographic distribution of fee difference between E-1 and FRP fees collected by Missouri.



MAINE

Over the course of the previous five years, the annual retention rate of fleets within Maine have maintained roughly consistent at near 80% (Table 1-ME). Maine's new fleet registration has steadily declined over the previous five years at from a high of 394 in 2006, down to 195 in 2011 (Figure 1-ME). This consistent trend increases the reliability of estimating the potential impact of the proposed FRP. At the time of this writing, the average fleet size for new Maine fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by Maine (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Maine totaled just over $7 million, with roughly 88.9% being generated by actual distance reports (Table 2-ME). The remaining 11% was split nearly evenly between E-1 and E-2 collections, with E-1 having the slight advantage at 54% .

Of the fees collected by Maine, the proportion that is retained within the state varies depending upon the source. Overall, 48% of the fees collected are retained. Not surprisingly, this is largely driven by the retention of actual distance revenues, which at roughly $3 million, is 51% of all of the actual distance revenue collected by the state. Of the revenue collected from the E-1 source, 41% is retained in-state for a total collection of nearly $173 thousand (Table 3-ME).

As highlighted in the previous section's example jurisdiction, one of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-ME below highlights that under the new fee structure, $228 thousand, or 35%, of the new vehicle fees will be retained in-jurisdiction under the assumption that new fleets in Maine average two vehicles. For Maine, this is potentially an over estimation given that revenues actually collected by Maine for E-1 totaled only $419 thousand in 2011. As such, we also provide FRP estimates under a one vehicle per fleet assumption, which would generate $114 thousand from new vehicle registration. Either estimate produces a 35% retention of fees collected, which as expected is a lower proportion than the 41% retained under E-1. However, the total value collected from first-year registrants under the FRP is greater than that collected by E-1 under the current system when the vehicle per fleet average exceeds 1.5 vehicles. **Thus, Maine's expected change in revenue from fees collected from new in-state registrants will depend upon the true vehicle average. An increase of $55,254 will be observed at 2 vehicles per fleet, as compared to E-1.** Additionally, there is no change when considering the revenue from the E-2 values no longer retained, given Maine does not record any E-2 values retained.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Maine will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of

renewing vehicles, the percentage of the fees retained from all renewals will approach 51%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-ME below depicts a portion of the potential revenue changes that Maine may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Maine, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $1,193,593 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-ME, that the expected revenue received from new IRP registrants is approximately 82% of the estimated distance revenue; a difference of $211,319. This represents a loss of 2.2% of the total revenue received under the IRP program for Maine.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-ME through 5-ME), we can observe that the fleets registering in Maine are largely regionally based fleets, as much of their apportioned values, based on the various estimated distances and the estimated distance charts, are allocated to jurisdictions in the Northeast. We can observe from the last of the four figures (Figure 5-ME) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in positive gains to nearly every other jurisdiction (with the exception of several of its immediate neighbors).

Figure 1-ME. Maine New Fleet Registration Trends

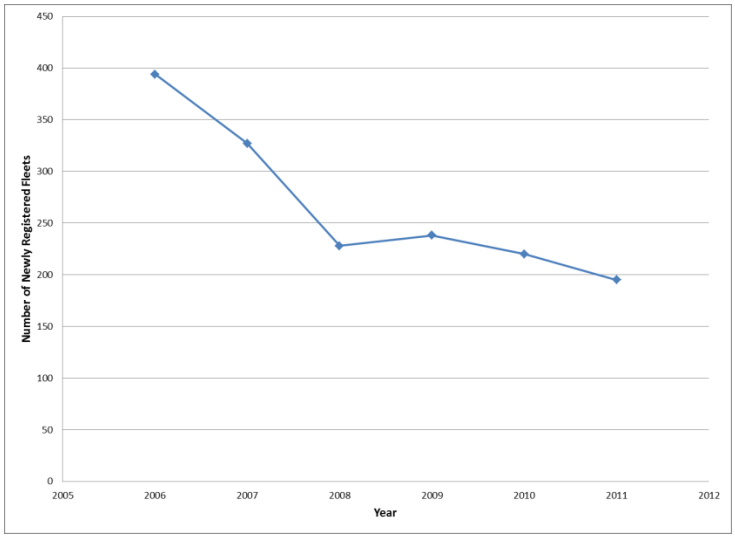


Table 1-ME. Maine Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	394	2084	2478	-
2007	327	2002	2329	81%
2008	228	1862	2090	80%
2009	238	1640	1951	78%
2010	220	1569	1849	80%
2011	195	1524	1746	82%

Table 2-ME. Revenue collected by ME under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	419,469.61
Collection of 2nd and Subsequent-year Estimates (E-2)	$	358,836.01
Total Estimated Distance Revenue	$	778,305.62
Actual Distance Revenue	$	6,259,288.09
Total Revenue	$	7,037,593.71

Table 3-ME. Revenue collected and retained by ME under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	172,826.17	41%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	-	0%
Total Estimated Distance Revenue	$	172,826.17	22%
Actual Distance Revenue	$	3,194,129.51	51%
Total Revenue	$	3,366,955.68	48%

Table 4-ME. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicles per Fleet	
Revenue Collected	$ 646,452.30
Revenue Retained	$ 228,079.80

1 Vehicle per Fleet	
Revenue Collected	$ 323,226.15
Revenue Retained	$ 114,039.90

Table 5-ME. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	1,193,592.69
Actual Distance Revenue	$	8,530,058.06
Total Revenue	$	9,723,650.75
Expected FRP Revenue Received From New IRP Registrants	$	982,273.28

Figure 2-ME. Geographic distribution of apportioned values of E-1 fees collected by Maine.

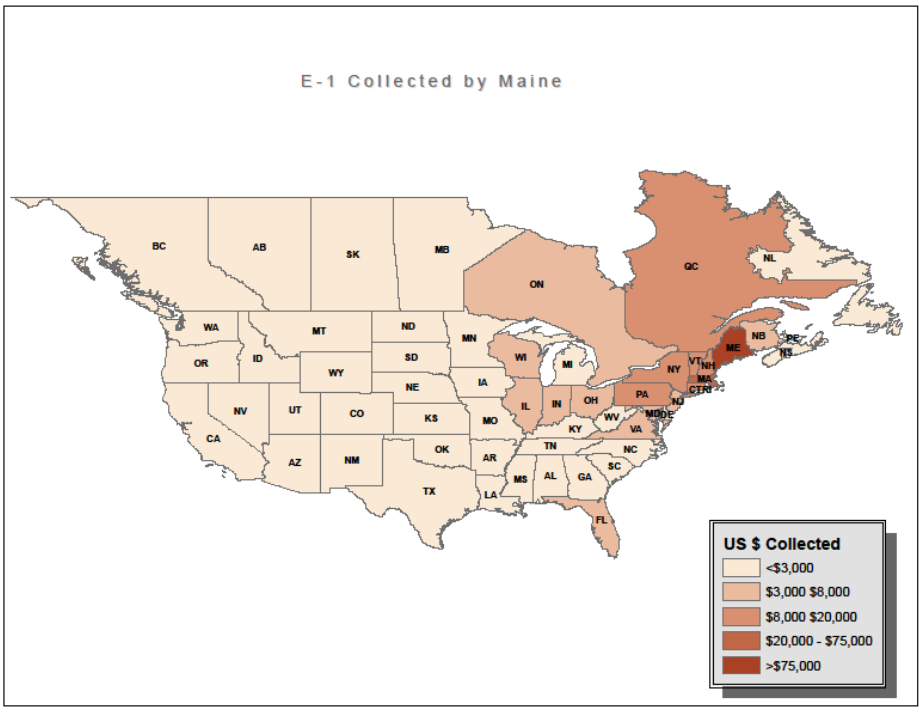


Figure 3-ME. Geographic distribution of apportioned values of E-2 fees collected by Maine.

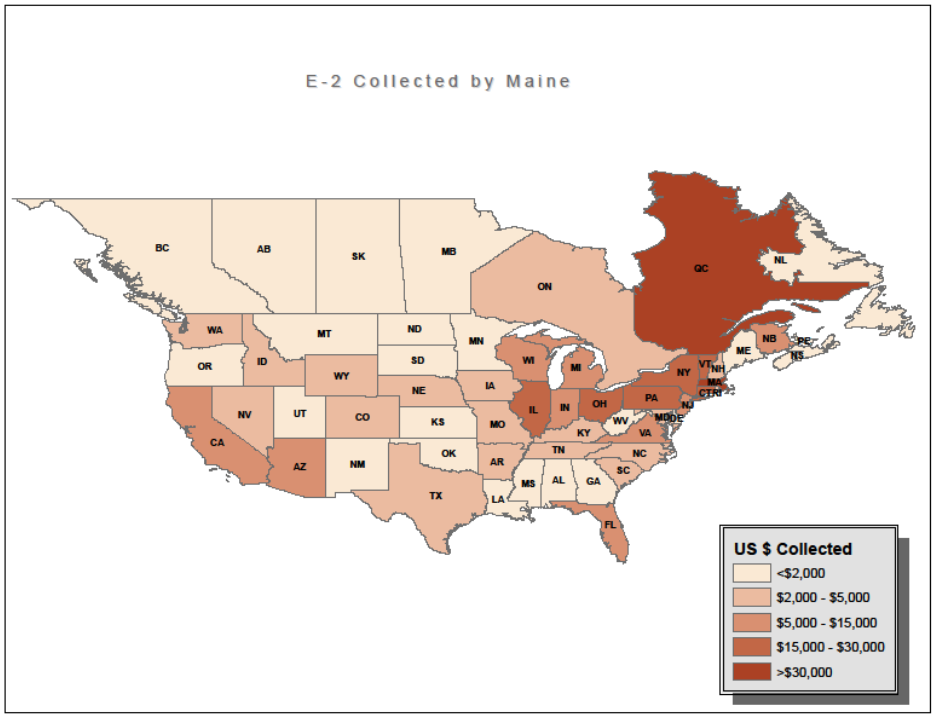


Figure 4-ME. Geographic distribution of apportioned values of FRP fees collected by Maine.

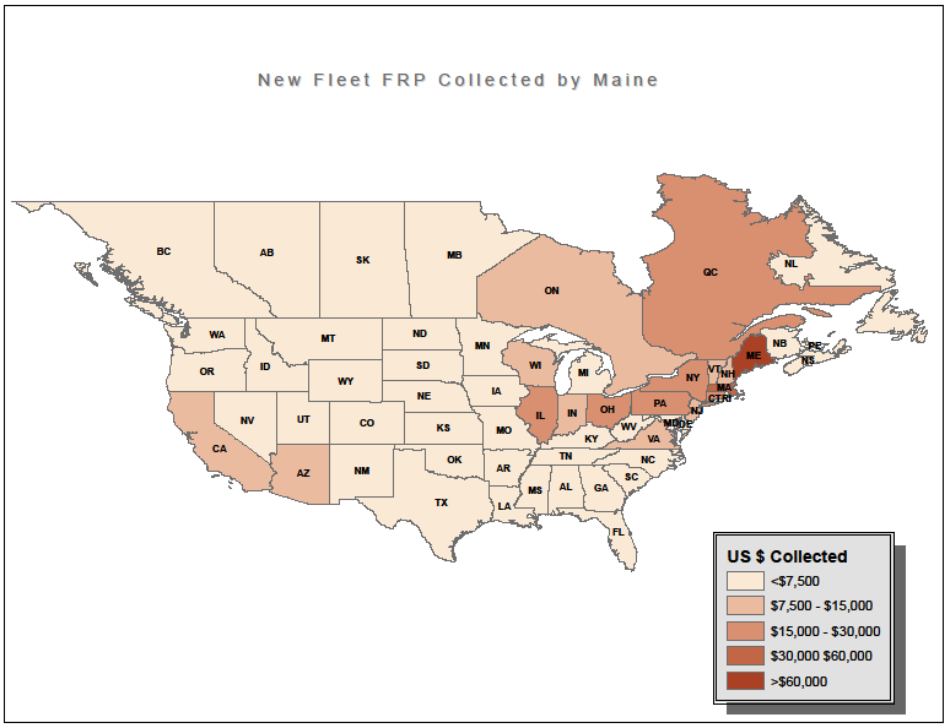
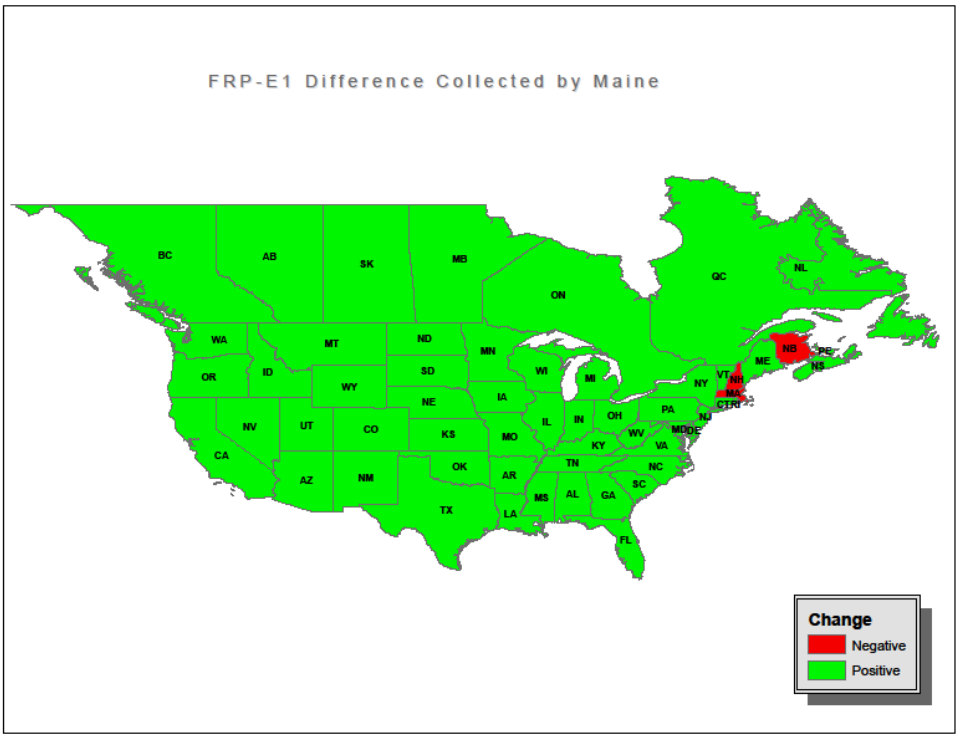


Figure 5-ME. Geographic distribution of fee difference between E-1 and FRP fees collected by Maine.



SASKATCHEWAN

Over the course of the previous five years, the annual retention rate of fleets within Saskatchewan have maintained roughly consistent at near or above 80% (Table 1-SK). Saskatchewan's new fleet registration has sporadically declined over the previous five years at from a high of 164 in 2006, down to only 39 in 2011 (Figure 1-SK). This inconsistent trend decreases the reliability of estimating the potential impact of the proposed FRP; however, the magnitude of variability is small. At the time of this writing, the average fleet size for new Saskatchewan fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by Saskatchewan (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Saskatchewan totaled just over $35 million, with roughly 95% being generated by actual distance reports (Table 2-SK). The remaining 5% was split between E-1 and E-2 collections, with E-1 having the large advantage at 95%.

Of the fees collected by Saskatchewan, the proportion that is retained within the state varies depending upon the source. Overall, 78% of the fees collected are retained. Not surprisingly, this is largely driven by the retention of actual distance revenues, which at roughly $26.3 million, is 78.3% of all of the actual distance revenue collected by the state. Of the revenue collected from the E-1 source, 72% is retained in-state for a total collection of over $1.1 million (Table 3-SK).

As highlighted in the previous section's example jurisdiction, one of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-SK below highlights that under the new fee structure, $101 thousand, or 35%, of the new vehicle fees will be retained in-jurisdiction under the assumption that new fleets in Saskatchewan average two vehicles. FRP estimates produce a 35% retention of fees collected, which is substantially lower proportion than the 72% retained under E-1. Additionally, the total value collected from first-year registrants under the FRP is substantially less than that collected by E-1 under the current system under any reasonable vehicle per fleet average, suggesting the strong likelihood for errors in the data generated for Saskatchewan. **Assuming the numbers are valid, Saskatchewan's expected change in revenue from fees collected from new in-state registrants will depend upon the true vehicle average. A decrease of $1,019,964 will be observed at 2 vehicles per fleet, as compared to E-1.** Additionally, the change when considering the revenue from the E-2 values no longer retained increases to a loss of $1,044,747.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Saskatchewan will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 78%; the

value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-SK below depicts a portion of the potential revenue changes that Saskatchewan may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Saskatchewan, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $2,958,708 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-SK, that the expected revenue received from new IRP registrants is approximately 72% of the estimated distance revenue; a difference of $836,508. This represents a loss of 1.8% of the total revenue received under the IRP program for Saskatchewan.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-SK through 5-SK), we can observe that the fleets registering in Saskatchewan are largely Canadian operating fleets, as much of their apportioned values, based on the various estimated distances and the estimated distance charts, are allocated to jurisdictions in Canada. Additionally, it is evident from Figure 3-SK, that much of the E-2 apportionment goes to U.S jurisdictions. We can also observe from the last of the four figures (Figure 5-SK) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in positive gains to most northern US jurisdictions, while having a negative result for many of the other jurisdictions.

Figure 1-SK. Saskatchewan New Fleet Registration Trends

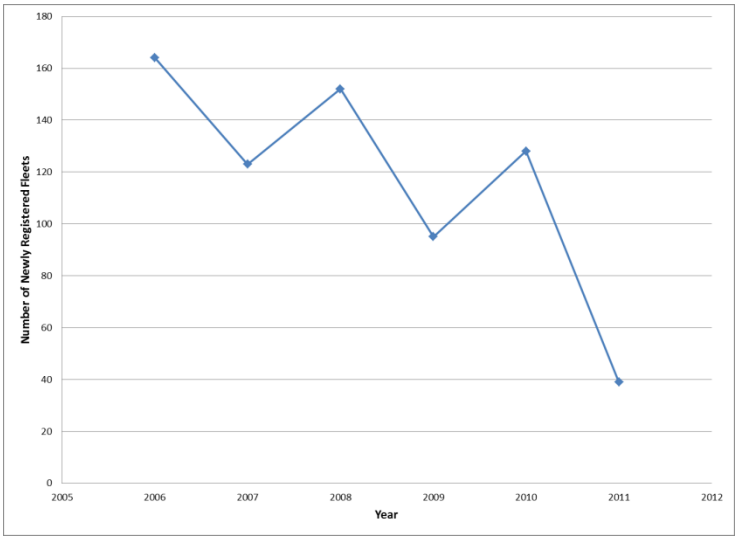


Table 1-SK. Saskatchewan Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	164	1057	1221	-
2007	123	1060	1183	87%
2008	152	946	1058	80%
2009	95	887	982	84%
2010	128	838	966	85%
2011	39	933	972	97%

Table 2-SK. Revenue collected by SK under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	1,548,979.30
Collection of 2nd and Subsequent-year Estimates (E-2)	$	82,329.84
Total Estimated Distance Revenue	$	1,631,309.14
Actual Distance Revenue	$	33,615,139.69
Total Revenue	$	35,246,448.83

Table 3-SK. Revenue collected and retained by SK under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	1,121,256.67	72.4%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	24,782.73	30.1%
Total Estimated Distance Revenue	$	1,146,039.40	70.3%
Actual Distance Revenue	$	26,334,475.29	78.3%
Total Revenue	$	27,480,514.69	78.0%

Table 4-SK. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicles per Fleet		
Revenue Collected	$	286,179.69
Revenue Retained	$	101,292.39

1 Vehicle per Fleet		
Revenue Collected	$	143,089.84
Revenue Retained	$	50,646.19

Table 5-SK. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	2,958,707.51
Actual Distance Revenue	$	44,329,042.19
Total Revenue	$	47,287,749.70
Expected FRP Revenue Received From New IRP Registrants	$	2,122,199.16

Figure 2-SK. Geographic distribution of apportioned values of E-1 fees collected by Saskatchewan.

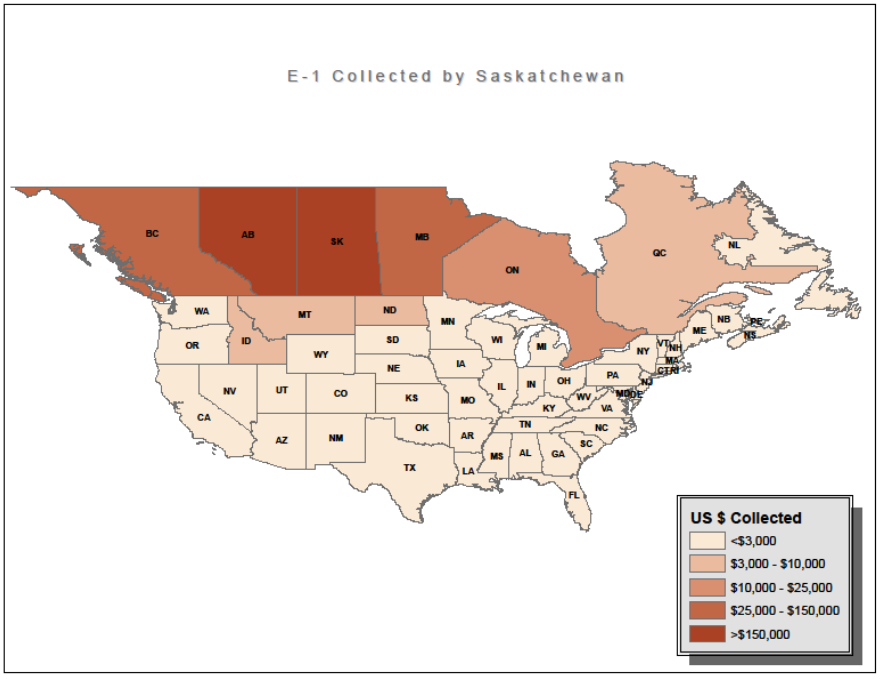


Figure 3-SK. Geographic distribution of apportioned values of E-2 fees collected by Saskatchewan.

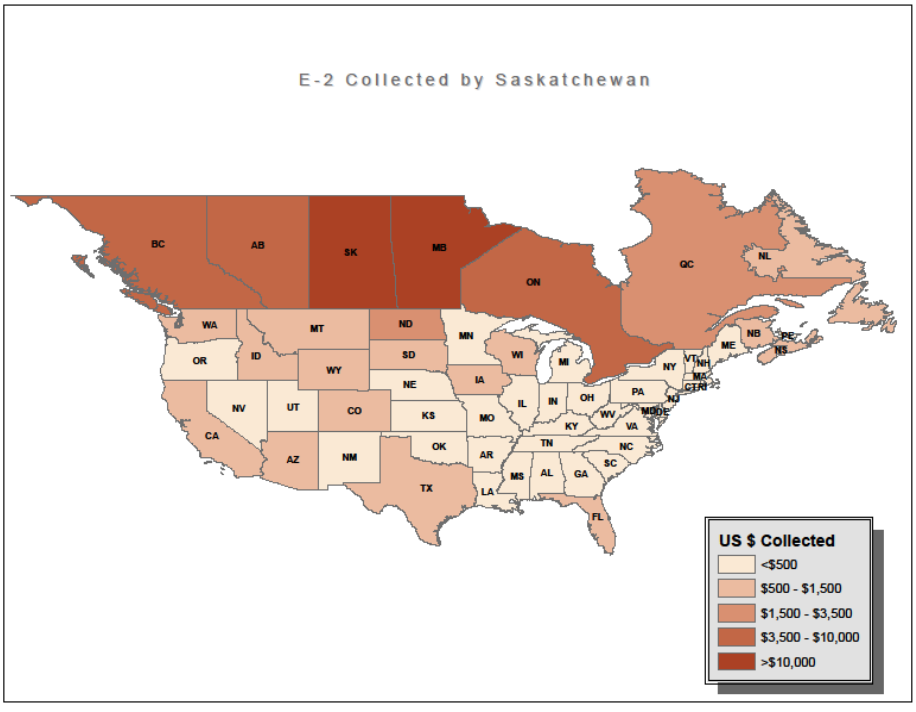


Figure 4-SK. Geographic distribution of apportioned values of FRP fees collected by Saskatchewan.

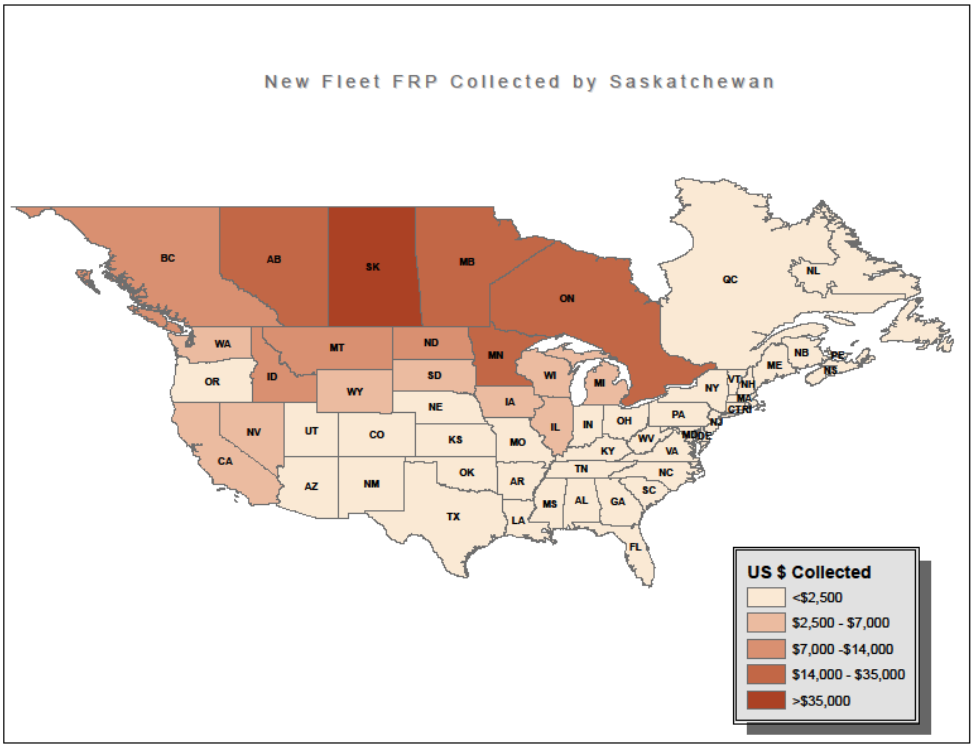
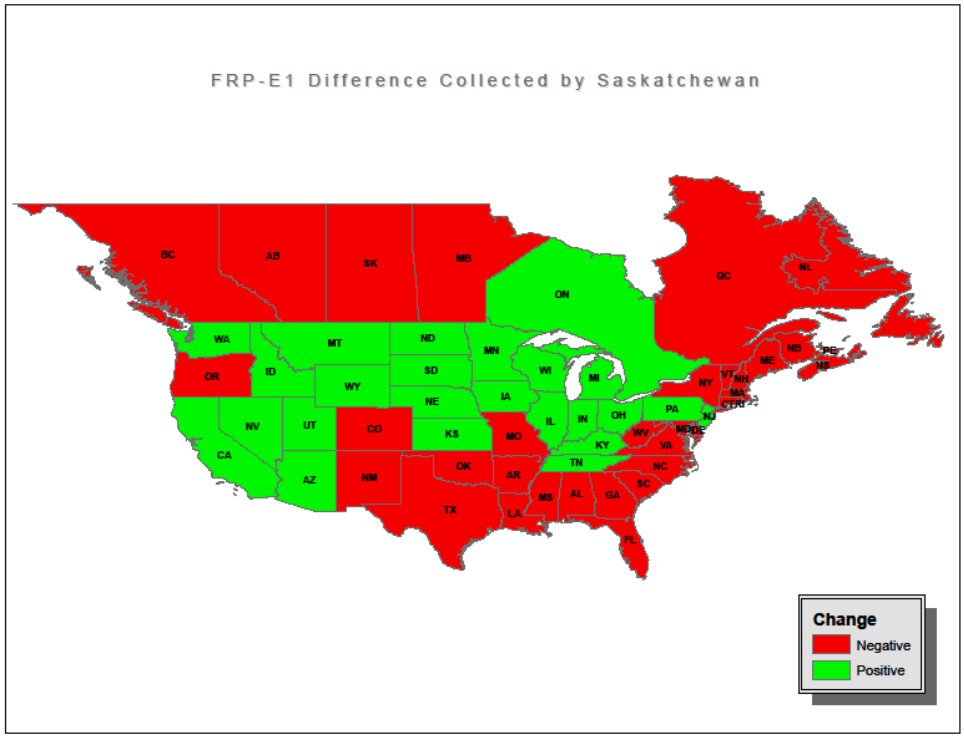


Figure 5-SK. Geographic distribution of fee difference between E-1 and FRP fees collected by Saskatchewan.



TEXAS

Over the course of the previous five years, the annual retention rate of fleets within Texas has been somewhat variable, with retention rates as low as 63% (2008) to as high as 76% (2009) (Table 1-TX). Like several other jurisdictions, Texas' new fleet registration was on a downward trend from 2006 (6474) through 2008 (3949), but has held relatively constant at around 3900 fleets since (Figure 1-TX). At the time of this writing, the average fleet size for new Texas fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by Texas (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Texas totaled just over $149 million, with slightly more than 77% being generated by actual distance reports (Table 2-TX). The remaining 23% was split between E-1 and E-2 collections. However, Texas does not report its values retained in-state and thus we cannot determine the how this 23% is exactly split. Overall, 41% of the fees collected are retained, largely driven by the retention rate of the actual distance reports (Table 3-TX).

One of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-TX below highlights that under the new fee structure 26% of the new vehicle fees will be retained in-jurisdiction under any vehicle per fleet level assumption. The 26% retention is lower than the current 41% retained. Additionally, the total value collected and retained from first-year registrants under the FRP is less than that collected by estimated distance revenue under the current system at the projected two vehicles per fleet. **Thus, where Texas' fleet average two vehicles, it is expected to see a decrease of $11,001,935 in revenue from fees collected from new in-state registrants, as compared to Estimated Distance.** It is important to recall here that the retention value for Texas is an imputed value using calculations developed in the Task I report, based on the jurisdiction estimated distance charts.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Texas will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 41%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-TX below depicts a portion of the potential revenue changes that Texas may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Texas, apportioned to it,

from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $20,751,044 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-TX, that the expected revenue received from new IRP registrants, $6,385,775, is approximately 31% of the estimated distance revenue; a difference of $14,365,266. This represents a loss of 11% of the total revenue received under the IRP program for Texas.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-TX through 5-TX), we can observe that the fleets registering in Texas are largely nationally operating fleets, as much of their operations have a substantial presence across the country. We can observe from the last of the four figures (Figure 5-TX) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in negative changes to jurisdictions in many of the jurisdictions, though positive to a few others; typically those that are a substantial distance from Texas and with little apportionment from it (e.g. all Canadian provinces, and several New England states), but also California, Arizona, and Mississippi.

Figure 1-TX. Texas New Fleet Registration Trends

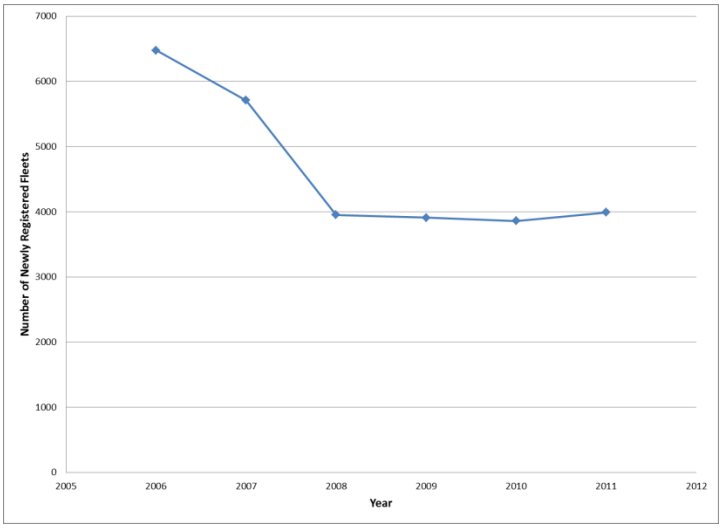


Table 1-TX. Texas Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	6474	13877	20351	-
2007	5709	14422	21031	71%
2008	3949	13283	17529	63%
2009	3910	13289	20548	76%
2010	3860	13855	20344	67%
2011	3990	14096	20759	69%

Table 2-TX. Revenue collected by TX under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	10,343,514.54
Collection of 2nd and Subsequent-year Estimates (E-2)	$	9,192,833.13
Total Estimated Distance Revenue	$	33,310,055.70
Actual Distance Revenue	$	115,730,009.29
Total Revenue	$	149,040,065.00

Table 3-TX. Revenue collected and retained by TX under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	-	0%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	-	0%
Total Estimated Distance Revenue	$	13,773,708.03	41%
Actual Distance Revenue	$	47,854,358.84	41%
Total Revenue	$	61,628,066.88	41%

Table 4-TX. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicles per Fleet		
Revenue Collected	$	10,565,599.80
Revenue Retained	$	2,771,773.20

1 Vehicle per Fleet		
Revenue Collected	$	5,282,799.90
Revenue Retained	$	1,385,886.60

Table 5-TX. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	20,751,041.44
Actual Distance Revenue	$	107,378,529.72
Total Revenue	$	128,129,571.16
Expected FRP Revenue Received From New IRP Registrants	$	6,385,775.16

Figure 2-TX. Geographic distribution of apportioned values of E-1 fees collected by Texas.

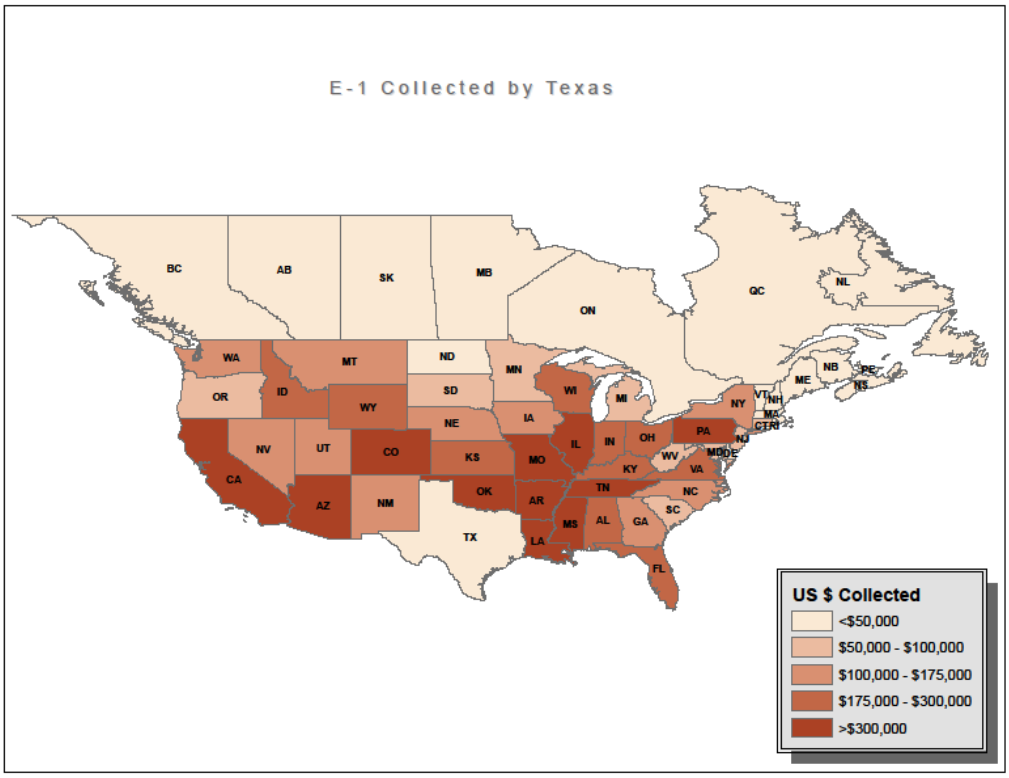


Figure 3-TX. Geographic distribution of apportioned values of E-2 fees collected by Texas.

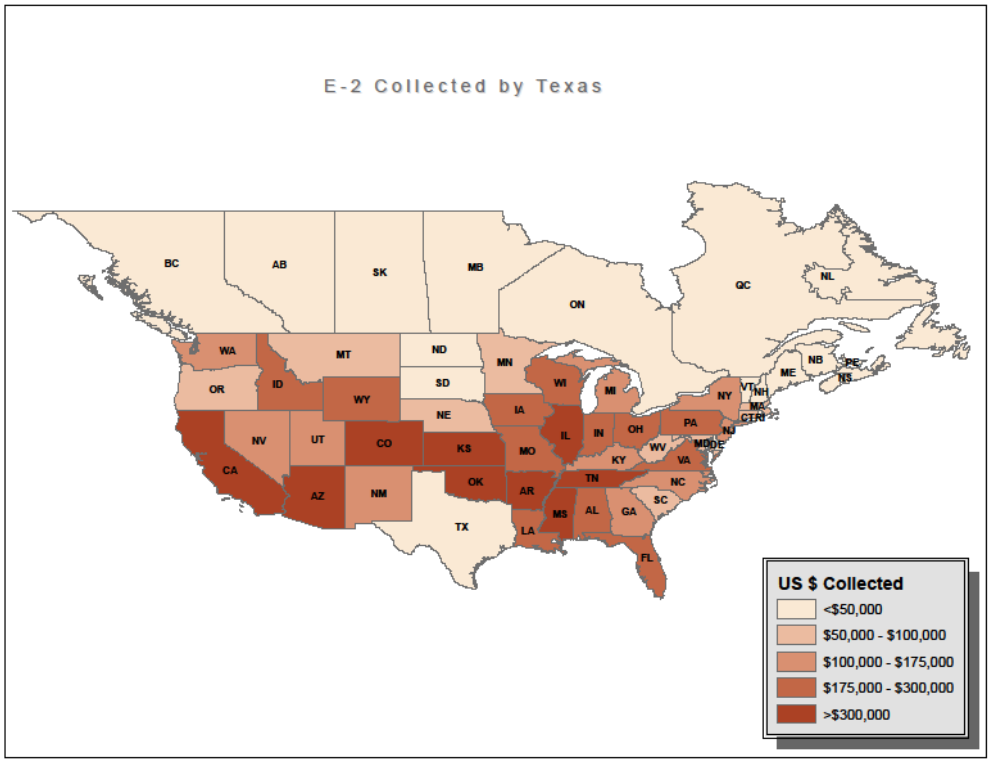


Figure 4-TX. Geographic distribution of apportioned values of FRP fees collected by Texas.

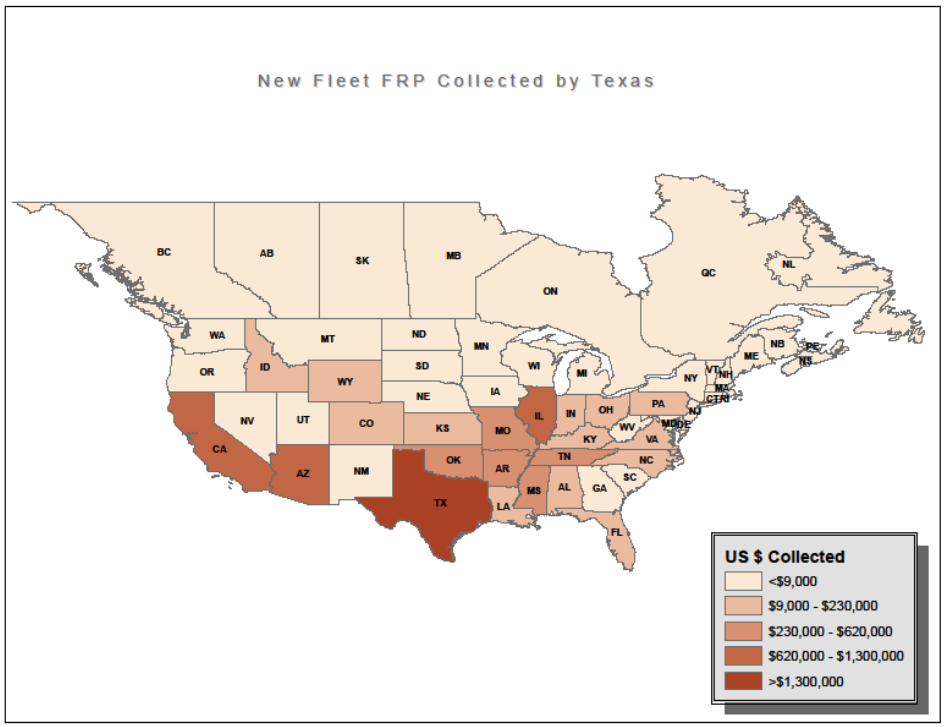
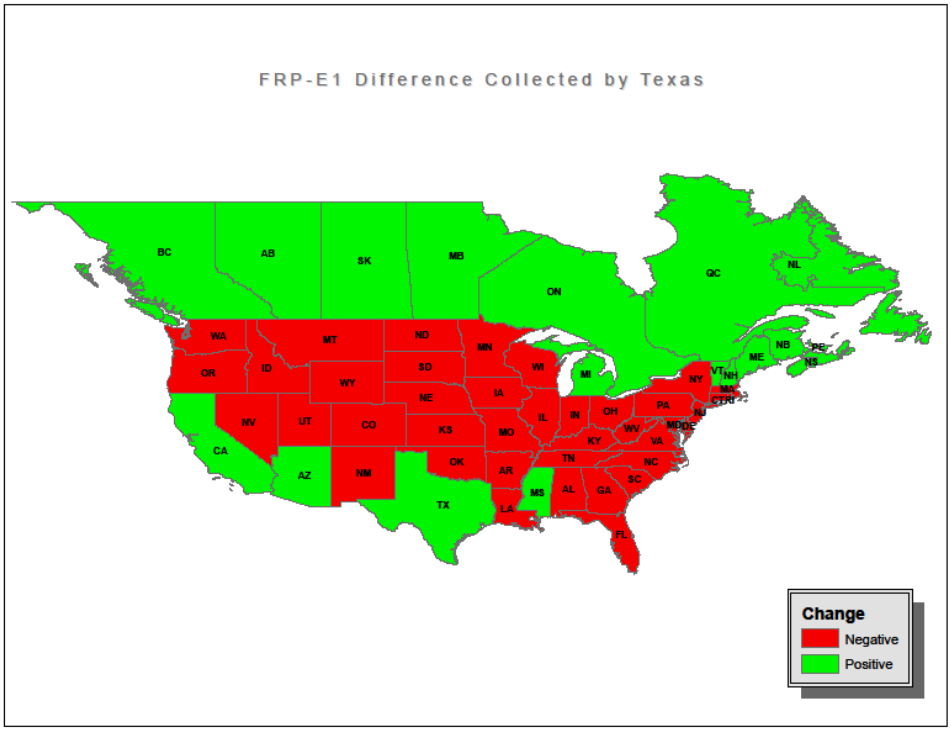


Figure 5-TX. Geographic distribution of fee difference between E-1 and FRP fees collected by Texas.



Note: the value for TX is not a true positive change, as E-1 values for TX have not been obtained.

KENTUCKY

Over the course of the previous five years, the annual retention rate of fleets within Kentucky has been relatively consistent, with retention rates in the mid 80's (Table 1-KY). Like several other jurisdictions, Kentucky's new fleet registration was on a downward trend from 2006 (1007) through 2008 (602), but has held relatively constant since (Figure 1-KY). At the time of this writing, the average fleet size for new Kentucky fleets was not available. As such, this section proceeds under the general assumption of two vehicles per fleet average.

Revenue Collected by Kentucky (2011)- Revenue collection indicates the amount of fees collected by the jurisdiction that is then apportioned out to the appropriate jurisdictions based on the calculated actual and/or estimated distances. In 2011, the collection of fees by Kentucky totaled just under $32 million, with roughly 90% being generated by actual distance reports (Table 2-KY). The remaining 10% was split between E-1 and E-2 collections, with E-1 having the advantage at 71%.

Of the fees collected by Kentucky, the proportion that is retained within the state varies depending upon the source. Overall, 50% of the fees collected are retained. Not surprisingly, this is largely driven by the retention of actual distance revenues, which at roughly $15 million, is 52% of all of the actual distance revenue collected by the state. Of the revenue collected from the E-1 source, 43% is retained in-state for a total collection of just over $1 million (Table 3-KY).

As highlighted in the previous section's example jurisdiction, one of the primary revenue changes resultant of switching to the proposed FRP structure will be the proportion of first year registrant fees that are retained in-jurisdiction. Table 4-KY below highlights that under the new fee structure, $549 thousand, or 29%, of the new vehicle fees will be retained in-jurisdiction under the assumption that new fleets in Kentucky average two vehicles. The FRP estimate of 29% retention of fees collected is substantially lower proportion than the 43% retained under E-1. Additionally, the total value collected and retained from first-year registrants under the FRP is substantially less than that collected by E-1 under the current system under vehicle per fleet averages less than four. **A decrease of $471,667 in revenue collected and retained from first year registrants will be observed at 2 vehicles per fleet, as compared to E-1.** Additionally, the change when considering the revenue from the E-2 values no longer retained increases to a loss of $486,294.

In addition to changes in revenue collected from first year registrants, there should be an expectation that the actual distance revenue collected by Kentucky will be affected. Recall the example described earlier in which the inclusion of estimated distances for jurisdictions a carrier wishes to add that allow the incorporation of the jurisdiction within 100%. This inclusion reduces the apportioned percentages allocated to jurisdictions in which actual miles were recorded. With the removal of the estimated distance jurisdictions from the fee calculation of renewing vehicles, the percentage of the fees retained from all renewals will approach 52%; the value currently achieved by actual distance revenue. We do not currently have the data available to estimate the proportion of E-1 fees that are new fleets versus those that are existing and choosing to add a jurisdiction for which they have not previously been apportioned. Absent this information, we cannot reliably estimate the value of this increased revenue.

Revenue Received from Other Jurisdictions (2011) - Table 5-KY below depicts a portion of the potential revenue changes that Kentucky may experience in converting to the proposed FRP structure. The changes in this table represent the values received by Kentucky, apportioned to it, from the other member jurisdictions (including itself). Under the new FRP structure, the estimated distance revenue of $5,542,117 will be eliminated. Without knowing the breakdown for every jurisdiction's E-1 and E-2 values, the expected countering increase to the Actual Distance revenue cannot be reliably calculated. The E-1 and E-2 apportionment breakout varies widely. Recall from the sample in the previous section that the first year estimated distance values are calculated within 100% along with the actual distance values to determine the apportionment to each jurisdiction a fleet wishes to register in. As the E-1 values are removed, the actual distance value apportioned to the remaining jurisdictions increases.

Despite the inability to calculate the potential actual distance revenue increase, we can see from Table 5-KY, that the expected revenue received from new IRP registrants is approximately 50% of the estimated distance revenue; a difference of $2,789,813. This represents a loss of 3.9% of the total revenue received under the IRP program for Kentucky.

Revenue Collected for Other Jurisdictions - The revenue collected and distributed to other jurisdictions will also be affected by the proposed changes to the fee structure. From the series of four figures below (Figures 2-KY through 5-KY), we can observe that the fleets registering in Kentucky are largely eastern US operating fleets, as much of their apportioned values, based on the various estimated distances and the estimated distance charts, are allocated to jurisdictions in the east. We can also observe from the last of the four figures (Figure 5-KY) that the jurisdictional impact of apportionment changes to new fleet registrations (assuming 2 Vehicles per Fleet) results in negative changes to those states in which most of their E-1 mileage is typically apportioned, while having a positive result for many of the other more distant jurisdictions.

Figure 1-KY. Kentucky New Fleet Registration Trends

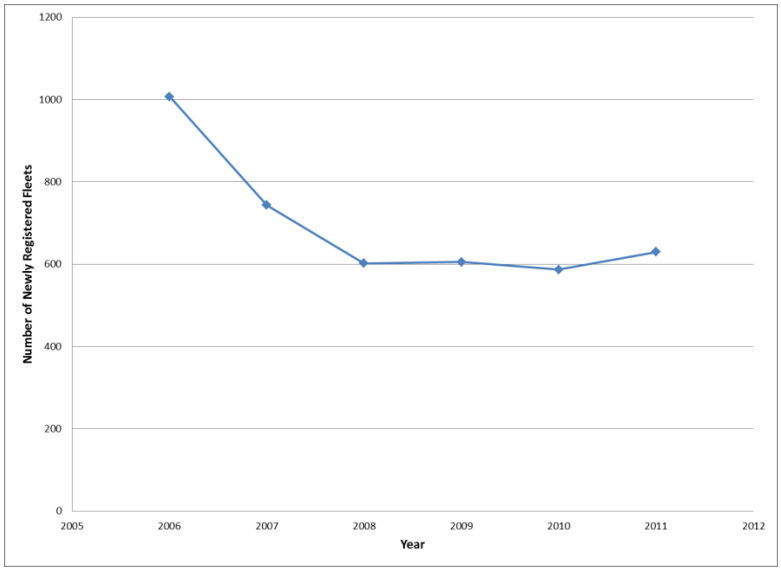


Table 1-KY. Kentucky Fleet Registrations

	New Fleets	IRP Renewed Fleets	Total IRP Fleets	Fleet Retention Rate
2006	1007	4575	5582	-
2007	743	4761	5504	85%
2008	602	4436	5038	81%
2009	605	4373	4978	87%
2010	587	4465	5052	90%
2011	630	4301	4931	85%

Table 2-KY. Revenue collected by KY under current structure

Source		Value
Collection of 1st -year Estimates (E-1)	$	2,374,452.45
Collection of 2nd and Subsequent-year Estimates (E-2)	$	962,398.71
Total Estimated Distance Revenue	$	3,336,851.16
Actual Distance Revenue	$	28,651,265.91
Total Revenue	$	31,988,117.07

Table 3-KY. Revenue collected and retained by KY under current structure.

Source		Value	Percent of Source Total
Collection of 1st -year Estimates (E-1)	$	1,020,611.03	43%
Collection of 2nd and Subsequent-year Estimates (E-2)	$	14,627.28	2%
Total Estimated Distance Revenue	$	1,035,238.31	31%
Actual Distance Revenue	$	15,038,089.46	52%
Total Revenue	$	16,073,327.77	50%

Table -KY. Expected FRP revenue collected from first year IRP vehicles with 2 and 1 vehicle per fleet assumptions.

2 Vehicles per Fleet		
Revenue Collected	$	1,892,444.40
Revenue Retained	$	548,944.20

1 Vehicle per Fleet		
Revenue Collected	$	946,222.20
Revenue Retained	$	274,472.10

Table 5-KY. Current IRP Revenue received and Expected FRP revenue received from first year registrants. Two Vehicle average per fleet assumption.

Current Revenue (2011) Received Values		
Estimated Distance Revenue	$	5,542,117.41
Actual Distance Revenue	$	64,811,286.30
Total Revenue	$	70,353,403.71
Expected FRP Revenue Received From New IRP Registrants	$	2,752,304.78

Figure 2-KY. Geographic distribution of apportioned values of E-1 fees collected by Kentucky.

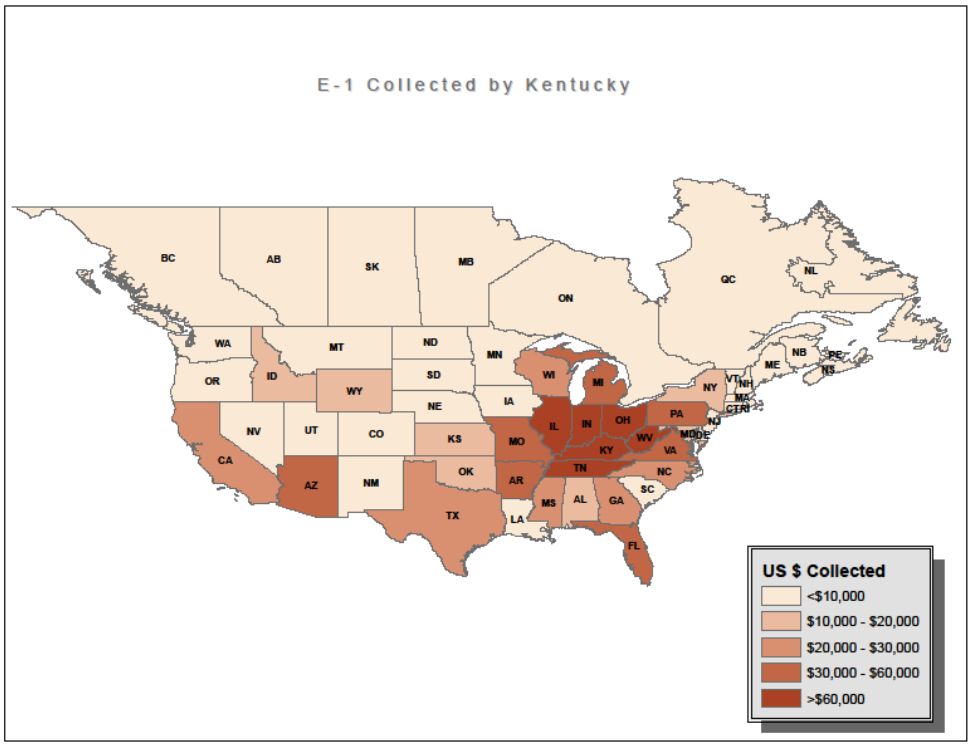


Figure 3-KY. Geographic distribution of apportioned values of E-2 fees collected by Kentucky.

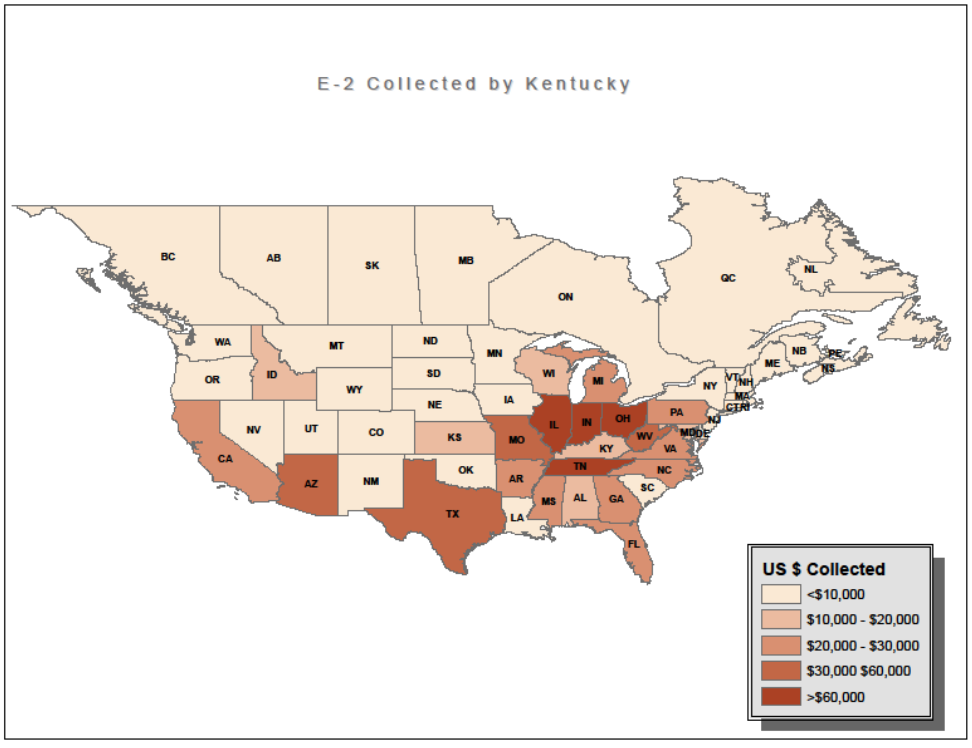


Figure 4-KY. Geographic distribution of apportioned values of FRP fees collected by Kentucky.

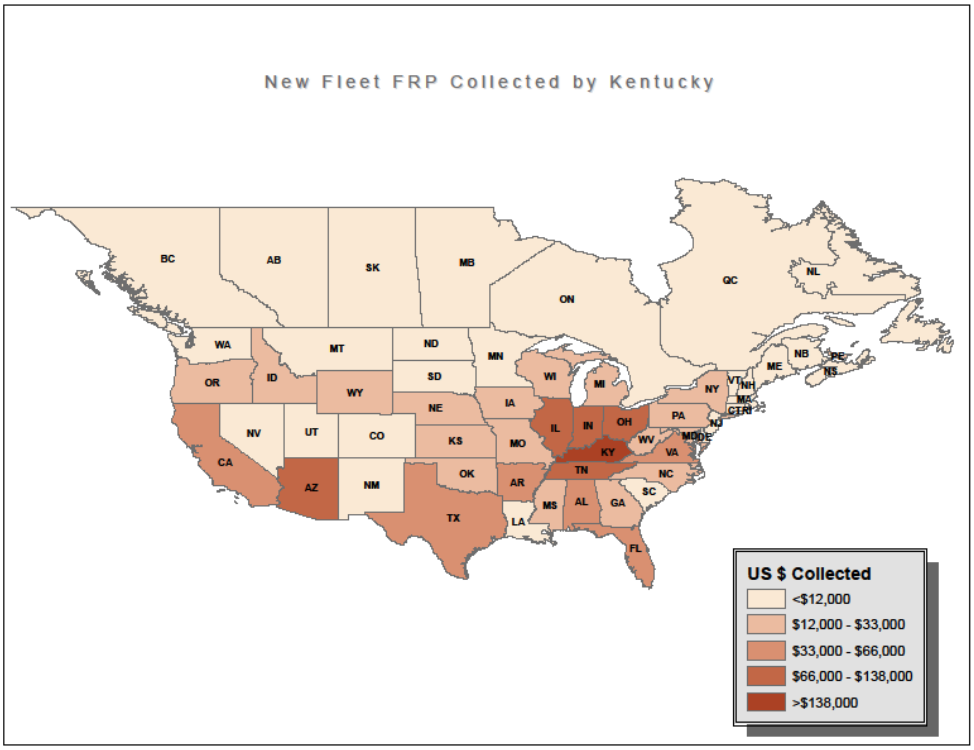
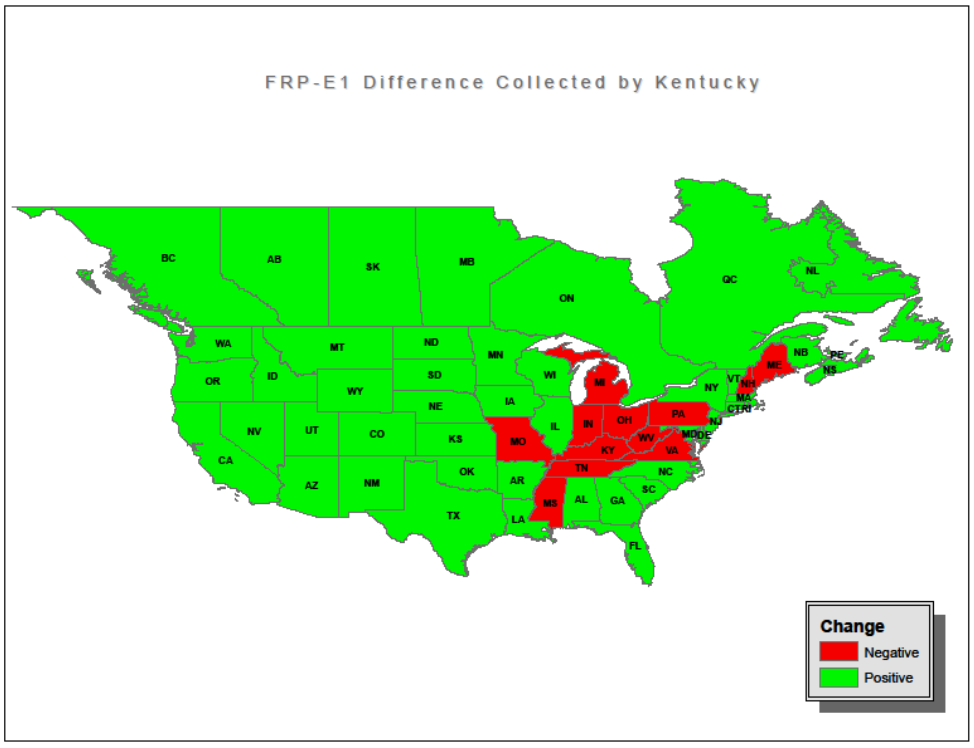


Figure 5-KY. Geographic distribution of fee difference between E-1 and FRP fees collected by Kentucky.



FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
TASK III AMENDMENT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

January 29, 2013

INTRODUCTION

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for nearly forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate it registration mechanics.

Through the Oregon Department of Transportation's (ODOT) *RFP #730-24948-12*, researchers with the Freight Policy Transportation Institute and Transportation Research Group (FPTI/TRG) in the School of Economic Sciences at Washington State University (WSU), in close collaboration with Dr. Catherine Lawson from the Department of Geography and Planning at the University at Albany, State University of New York (SUNY), have been contracted to provide the necessary economic research and evaluation services that will allow IRP to analyze the impacts of implementation of a new structure for collecting truck registration revenue under the proposed Full Reciprocity Plan (FRP).

The new structure to be evaluated against the currently implemented IRP is the Full Reciprocity Plan. The FRP, as currently structured, proposes to change the IRP fee process such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP, while simultaneously creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

Purpose of Task III Report

This Task III amendment report updates the third of five stages of evaluation of the proposed changes to the IRP fee process. This amendment improves upon the original by enabling a complete analysis that breaks out E-1 and E-2 values. Specifically, this amendment complements the Task III evaluation of the financial impact of the FRP on the cross section of 13 jurisdictions from the four regions:

Table 1. Cross section of jurisdictions considered for evaluation.

Region 1	Region 2	Region 3	Region 4
Connecticut	Alabama	Illinois	Alberta
Maine	Kentucky	Minnesota	California
	Missouri	Nebraska	Oregon
	Texas		Saskatchewan

AMENDED DATA AND METHODS

FRP New Registrant Fee Revenue

Consistent with the models previously produced, this report continues evaluation using a standard set of vehicle parameters, except where otherwise noted (Table 2). The associated fee values are determined using the Celtic Fee Estimator on the IRP website (http://www.irponline.org/).

Table 2. Base Vehicle Type.

Vehicle Type	Tractor (TR)	**Purchase Date**	2010
Model Year	2010	**Factory Price**	$80,000
Unladen Weight	17,000	**Purchase Price**	$70,000
Combined GVW	80,000	**Type of Operation**	For Hire
Axles	3	**Commodity Class**	All
Combined Axels	6	**Exchange Rate**	0.9857 USD
Fuel Type	Diesel	**Total Months**	12

Under the FRP, new IRP registrants will pay to the jurisdiction in which they register, an apportioned fee to all jurisdictions based on the estimated distance charts that are reproduced in a consolidated matrix form (Table 3). The columns of Table 3 represent a sampling of the component parts of the fees collected by the jurisdictions. For example, the registration fee charged to a vehicle meeting the classification of Table 2, and registering in Arkansas will be the column total ($1529.45). Of this collected fee, Arkansas will retain $329.82 (22%). Additionally, Arkansas will receive from other jurisdictions apportioned fees totaling (row total) $1329.26 (note this includes the fees they retain). The total revenue received by jurisdictions for new registrants is then based not only on the sum-product those vehicles registered in their jurisdiction and the associated fees charged, but also that of the portion they receive from all other jurisdictions.

Table 3. Sample output of Estimated Distance Charts. Units are in US dollars.

Jurisdiction	AB	AL	AR	AZ	…	Total
AB	976.00	1.00	2.00	33.00	…	2559.00
AL	0.84	212.55	20.88	5.62	…	826.06
AR	2.49	30.49	329.82	23.64	…	1329.26
AZ	26.02	87.36	128.33	916.76	…	5111.30
…	…	…	…	…	…	…
Total	3245.11	1264.75	1529.45	2206.34	…	109566.56

Current Registration Fees Collected

New motor carriers currently have the opportunity to either use their own estimated distances based on their business plans, or use an estimated distance chart maintained by each IRP jurisdiction. IRP requires each jurisdiction to update their estimated distance charts at least once every three years. Renewing carriers also have the ability to add new jurisdictions and can estimate their anticipated travel distances in those jurisdiction at the time of renewal. These estimated distances are calculated in conjunction with the actual distances travelled in registered jurisdictions in the previous year. These two groups of estimates comprise the E-1 and E-2 values used in this study. The intent of this report series is to evaluate the proposed new FRP program to the one currently in place. As such, we use the jurisdiction reported 2011 E-1/E-2 revenues to generate an estimate of the revenue that will be lost if the current program is replaced. Registrant estimated distances will no longer be used. Additionally, we evaluate the total revenue collected and received by jurisdictions to determine the overall effects.[1]

First Year Registrants

It is useful here, to provide an example of the manner in which revenue may change under the proposed FRP. Let us first consider a new fleet that has decided it will estimate its operations in various jurisdictions based on its own business plan. For simplicity, we assume a flat fee of $1000 across the jurisdictions the vehicle operates in. Typically, the base jurisdiction, its neighbors (first order neighbors), and those jurisdictions connected to the base via major freight networks receive the highest estimated distance apportionment, as well as actual distance apportionment. We begin with a carrier that estimates its operations in accordance with the following:

[1] Refer to the Task I report for a discussion of the methods used to correct for missing data in the E-1/E-2 and total revenue values.

Table 4.

Jurisdiction	Proportion of Travel Miles	E-1 Fees Collected
A (Base)	58.1%	$ 581
B	13.3%	$ 133
C	16.1%	$ 161
D	12.5%	$ 125
Total	100%	$ 1,000

Under the scenario above(Table 4), the base jurisdiction would collect and keep 58% of the $1,000 collected from this vehicle, and disperse the remaining 42% to the other three jurisdictions. Under the proposed FRP changes, the new vehicle registration will be apportioned out to all 59 jurisdictions (as described in the previous section). If we now apply the above example to Alabama (though maintaining the $1000 fee estimate), such that Alabama is 'A', Mississippi is 'B', Florida is 'C', and Tennessee is 'D', we can reassess the apportionment to these jurisdiction under the FRP. They would look roughly as follows:

Table 5.

Jurisdiction	Proportion of Travel Miles	FRP Fees Collected
A (Base)	26.1%	$ 261
B	6.0%	$ 60
C	7.2%	$ 72
D	5.6%	$ 56
Total	45%	$ 449

Given that the apportionment of this vehicle's fees are now dispersed about all 59 jurisdictions, it logically follows that those proportions initially collected under the E-1 system will be somewhat diminished for the base jurisdiction and its first order neighbors. This is evident in only 45% of the fees being apportioned to the four jurisdictions, leaving 55% to be spread amongst the other 55 jurisdictions.

This simplified example illustrates that a jurisdiction is likely to witness a reduced amount of revenue collected from first year registrants identifying it as their home base. Similarly, neighboring jurisdictions are likely to see a decline of similar proportions, though not as large in magnitude. The counter to this reduced revenue, is that a jurisdiction will increase its revenue received from many other jurisdictions. In essence, a jurisdiction will receive an apportioned fee from every vehicle registered in one of the 59 jurisdictions.

Second and Subsequent Year Registrants

Let us now assume that the registered vehicle in the above example desires to register for a second year. As planned, they operated in jurisdictions A-D, and wish to maintain registration in all four. Additionally, they would like to now operate in jurisdiction E. Under the current IRP process, the fee structure would utilize the actual distance accrued in the previous year in conjunction with the estimated distance for the new jurisdictions to determine the allocated fees

(within 100%) apportioned to each jurisdiction, assuming the criteria for such estimated distance usage is met in accordance with Section 405 of the IRP.

It is evident from the figure below that the incorporation of the estimated distance desired to travel in the E jurisdiction takes away from the apportioned percentage to the jurisdictions where the truck actually recorded miles. In this scenario, the E jurisdiction draws away $58 that would have been dispersed amongst the A-D jurisdictions. As the percentage value of that being estimated increases, the value drawn away from the jurisdiction where travel actually occurred in the previous year also increases.

Table 6.

	Member Jurisdiction	Actual/Estimate	Distance	Percentage
Calculation within 100%	A	A	47,168	54.729%
	B	A	10,797	12.528%
	C	A	13,071	15.166%
	D	A	10,148	11.775%
	E	E-1	5,000	5.802%
Total			86,184	100.000%

Under the new FRP, the estimated distance incorporated into the apportionment above would not be included. This would result in the jurisdictions where travel did occur receiving their full apportioned value based on proportion of miles travelled, as shown below. Thus it can be seen that while jurisdiction E loses the $58 dollars, it is gained elsewhere in the system. Should the vehicle under consideration actually utilize jurisdiction E during this period, they will be apportioned in the subsequent year.

Table 7.

	Member Jurisdiction	Actual/Estimate	Distance	Percentage
Calculation within 100%	A	A	47,168	58.100%
	B	A	10,797	13.300%
	C	A	13,071	16.100%
	D	A	10,148	12.500%
Total			81,184	100.000%

Complexity in the apportionment process occurs under several scenarios, and is magnified when consideration of second-year estimates must be made in excess of 100%. Where a fleet wishes to register in a jurisdiction in which it did not accrue distance during the previous period but has

been apportioned in the past. A fleet is considered to not have been apportioned for a jurisdiction in the past if it has neither owned or leased apportioned vehicles in the last 18 month, nor accrued any actual distance in any member jurisdiction during the reporting period. Refer to the International Registration Plan Section 405 for more explicit details. To further characterize this scenario, we draw from the IRP section 405 in the figure below:

Table 8.

	Member Jurisdiction	Actual/ Estimate	Distance	Percentage
Calculation within 100%	A	A	24,680	30.4%
	B	A	13,579	16.7%
	C	A	36,925	45.5%
	D	E-1	4,000	4.9%
	E	E-1	2,000	2.5%
Subtotal			**81,184**	**100.0%**
>100%	F	E-2	3,000	3.4%
	G	E-2	4,000	4.5%
Total			**88,184**	**107.9%**

Unlike the estimated distances calculated within 100%, the E-2 values are in addition to those values already being apportioned for actual and E-1 distances. As such, these values are added to jurisdictions F and G without detracting from the apportionment to the three jurisdictions where travel actually occurred. Under the proposed FRP system, these additional dollars to a jurisdiction will be removed and not made up for by redistributing to other jurisdictions. However, where apportionable miles do indeed occur, the jurisdiction will be appropriately compensated in the following registration year.

Amended Partitioning of E-1 and E-2

Additional data has been collected and utilized to generate this Task III-Amended report that allows for the partitioning of E-1 and E-2 values for most jurisdictions. The purpose of this additional definition of the value of fees collected is to ensure as accurate a comparison is made across the current and proposed plans. Original analyses that did not separate out the two, likely blur the real tradeoffs when considering the revenues generated from first year applicants.

This Amendment takes the following steps to achieve a recreation of the above examples for the full set of all 59 jurisdictions:

1) Partition E-1 and E-2 revenue collected by each jurisdiction where feasible.
    a. 11 jurisdictions do not report E-2 values: FL, IN, MB, NB, NC, NL, NS, NV, OK, ON, PE. This lack of reporting may lead to an underestimate of the revenue lost resultant of the elimination of E-2 revenue.

b. Those jurisdictions not reporting the estimated distance valued it collected and retained for itself (CA, GA, IL, KS, MD, TX) are assumed to have all of the estimated distance valued attributable to E-1. Where these jurisdictions do have E-2 revenue that is collected and retained, losses may be under estimated.

2) Subtract the E-2 revenue from each jurisdictions total revenue. The remaining revenue constitutes those values that are used to calculate fees within 100%.
3) Calculate the proportion of the remaining revenue that is attributable to actual distances reported. Using the samples above, this process would result in a calculation of:

Actual Miles Proportion = $942/$1000 = 94.2%

4) Recalculate the revenue apportioned to each jurisdiction once E-1 values are not included in the within 100% calculation. For jurisdiction A above, this results in:

'A' new revenue = $581/0.942 = $616 (a gain of $35)

5) The newly recalculated apportionment for actual miles accrued will then be added to the expected revenue from new first year registrants.

The anticipated changes to the registration fees received by each of the 13 sample jurisdictions are outlined below. The first table shows the revenue that was received under the current fee structure in 2011. The second table demonstrates the expected value of those fees if the FRP process had been in place during this same period. The revenue collected from new fleets assumes two vehicle average per new fleet.

Table 9.

Current Fee Structure				
	E-1	E-2	Actual	**Total**
AB	$ 3,218,588.94	$ 209,798.92	$ 45,957,037.05	**$ 49,385,424.91**
AL	$ 2,355,856.38	$ 1,050,664.12	$ 30,176,037.76	**$ 33,582,558.26**
CA	$ 13,111,303.47	$ 3,147,362.99	$ 130,977,976.35	**$ 147,236,642.81**
CT	$ 1,775,797.31	$ 1,201,530.76	$ 21,898,770.92	**$ 24,876,098.99**
IL	$ 9,769,580.82	$ 3,825,669.50	$ 182,786,420.99	**$ 196,381,671.31**
KY	$ 3,846,038.71	$ 1,583,542.53	$ 64,811,286.30	**$ 70,240,867.54**
ME	$ 681,697.12	$ 507,449.41	$ 8,530,058.06	**$ 9,719,204.59**
MN	$ 1,707,737.30	$ 1,057,236.05	$ 40,723,014.54	**$ 43,487,987.89**
MO	$ 4,405,001.37	$ 2,111,023.73	$ 76,578,945.33	**$ 83,094,970.43**
NE	$ 1,837,601.50	$ 1,107,701.13	$ 28,298,962.08	**$ 31,244,264.71**
OR	$ 1,836,776.05	$ 939,684.95	$ 29,266,827.28	**$ 32,043,288.28**
SK	$ 2,248,060.09	$ 713,795.39	$ 44,329,042.19	**$ 47,290,897.67**
TX	$ 18,386,154.29	$ 2,217,398.83	$ 107,378,529.72	**$ 127,982,082.84**

Table 10.

FRP Fee Structure			
	New Fleet	Actual	**Total**
AB	$ 2,113,304.20	$ 48,551,687.91	**$ 50,664,992.12**
AL	$ 1,751,418.96	$ 32,742,786.00	**$ 34,494,204.96**
CA	$ 15,156,686.00	$ 142,534,434.36	**$ 157,691,120.36**
CT	$ 2,044,399.74	$ 23,248,535.81	**$ 25,292,935.55**
IL	$ 10,366,289.18	$ 191,524,551.28	**$ 201,890,840.46**
KY	$ 2,752,304.78	$ 68,844,453.87	**$ 71,596,758.65**
ME	$ 982,273.28	$ 9,060,930.34	**$ 10,043,203.62**
MN	$ 2,218,072.20	$ 42,422,781.99	**$ 44,640,854.19**
MO	$ 3,480,333.02	$ 80,645,701.38	**$ 84,126,034.40**
NE	$ 1,414,016.90	$ 29,558,518.10	**$ 30,972,535.00**
OR	$ 1,368,793.50	$ 31,058,718.46	**$ 32,427,511.96**
SK	$ 2,122,199.16	$ 46,611,312.49	**$ 48,733,511.65**
TX	$ 6,385,775.16	$ 121,617,624.69	**$ 128,003,399.85**

Table 11.

Expected Revenue Change		
	Difference	% Change
AB	$ 1,279,567.21	2.6%
AL	$ 911,646.70	2.7%
CA	$ 10,454,477.56	7.1%
CT	$ 416,836.56	1.7%
IL	$ 5,509,169.14	2.8%
KY	$ 1,355,891.11	1.9%
ME	$ 323,999.03	3.3%
MN	$ 1,152,866.30	2.7%
MO	$ 1,031,063.97	1.2%
NE	$ (271,729.71)	-0.9%
OR	$ 384,223.68	1.2%
SK	$ 1,442,613.98	3.1%
TX	$ 21,317.01	0.0%

DISCUSSION

Consistent with the expected outcomes discussed in the full Task III document, the above tables demonstrate that for the majority of jurisdictions, the loss of collections of E-2 fees in excess of 100% will largely be offset by the recalculation of the apportionment to jurisdictions for whom actual miles were accrued. Given that 11 jurisdictions do not differentiate in their reporting between E-1 and E-2, the values above may be slight over estimates. The magnitude of this adjustment will be dependent upon the E-1 to E-2 split among these jurisdictions. In testing the increasing proportion of the estimated distance values of these jurisdictions going to E-2, the percent change in expected revenue produces nearly negligible changes in total revenue between the current process and the proposed FRP.

The second potential for variation in the expected revenue from the FRP is generated by the assumed vehicles per new fleet. Under the assumption of two vehicles per fleet, five jurisdictions may expect a negative impact on revenue, while 54 will see positive changes. Under and assumption of 1.5 vehicles per fleet, 11 jurisdictions may be expected to be negatively impacted, while the remaining 48 will show positive changes. Overall, it should be expected that most jurisdictions will not experience a revenue change in excess of four percent either positive or negative.

FULL RECIPROCITY PLAN FINANCIAL IMPACT STUDY REVIEW:
TASK IV SUMMARY REPORT

Prepared By:

Jeremy Sage, PhD
Washington State University
Transportation Research Group

Ken Casavant, PhD
Washington State University
Transportation Research Group

Catherine Lawson, PhD
University at Albany, SUNY
Department of Geography and Planning

Submitted To:

Ric Listella
Oregon Department of Transportation
Agency Project Manager

Freight Policy Transportation Institute
Washington State University
PO Box 646210
Pullman, WA 99164-6210
509-335-8489

February 11, 2013

SUMMARY

This Task IV Report is the fourth of five stages of evaluation of the proposed changes to the IRP fee process. Task IV seeks to utilize the previously developed models to explore the potential impacts the proposed FRP has on the fees paid by the trucking industry. Five different scenarios are explored on carriers from an array of jurisdictions:

Scenario 1: **A motor carrier who operates in three IRP jurisdictions.**
Scenario 2: **A less-than-truckload (LTL) motor carrier who operates in many jurisdictions throughout a North American region.**
Scenario 3: **A large motor carrier who operates in most or all jurisdictions throughout North America.**
Scenario 4: **A small commercial truck leasing company- one that registers vehicles for their lessee customers to use – with varied operations in a North American region.**
Scenario 5: **A large commercial truck leasing company with varied operations in most or all jurisdictions throughout North America.**

The above scenarios explore the fee impacts of various necessities to incur fees in excess of 100%. Several general themes arise through these scenarios:

- As the geographic variability of a fleet's operation diminishes (little-to-no change in the jurisdiction's in which registration is sought), the variance between the current fee process and the FRP also diminishes.
- As the number of jurisdictions in which a fleet routinely registers increases, the impact of a change to the FRP process shrinks.
- The FRP process frees carrier business expansion into new jurisdictions 'on the fly' as opportunity arises.
    - Eliminates need for adding jurisdictions at extra cost and/or obtaining relevant permits.

INTRODUCTION

Established in 1973, the International Registration Plan (IRP) has facilitated the inter-jurisdictional movement of freight and passenger carriers for nearly forty years. Though its design was intended to provide carriers with a simple process to register their fleets of vehicles, the IRP's payment allocation method has been questioned by governments and industry alike. Since the first decade of its existence, the IRP has been under considerable pressure to eliminate the components of the program requiring estimated distance calculations. Additional calls for the granting of registration privileges in all jurisdictions (all 48 contiguous-states, Washington D.C., and 10 Canadian provinces) have added to the necessity of IRP to thoroughly evaluate its registration mechanics.

Through the Oregon Department of Transportation's (ODOT) *RFP #730-24948-12*, researchers with the Freight Policy Transportation Institute and Transportation Research Group (FPTI/TRG) in the School of Economic Sciences at Washington State University (WSU), in close collaboration with Dr. Catherine Lawson from the Department of Geography and Planning at the University at Albany, State University of New York (SUNY), have been contracted to provide the necessary economic research and evaluation services that will allow IRP to analyze the impacts of implementation of a new structure for collecting truck registration revenue under the proposed Full Reciprocity Plan (FRP).

The new structure to be evaluated against the currently implemented IRP is the Full Reciprocity Plan. The FRP, as currently structured, proposes to change the IRP fee process such that all apportioned vehicles are granted full reciprocity in all member jurisdictions in a manner suggested to increase the administration efficiencies of IRP, while simultaneously creating a more equitable and flexible system for both member jurisdictions and registrants. To achieve these changes, the FRP contains two primary overhauls; first, it changes the fee structure for first year registrations of a fleet to a system in which the registrant pays based on the estimated distance chart composite fee derived from the average distance traveled in each jurisdiction by all current registrants in the fleet's base jurisdiction. Secondly, renewing fleets will continue to be granted full reciprocity in all jurisdictions, but pay fees based on actual distance traveled in IRP jurisdictions in the previous year.

Purpose of Task IV Report

This Task IV Report is the fourth of five stages of evaluation of the proposed changes to the IRP fee process. Task IV evaluates the proposed changes on a cross-section of the trucking industry in an effort to demonstrate the potential changes to the industry both upon initial entry into the registration process by a fleet, and for those fleets renewing their registrations.

VEHICLE TYPE MODELED

Consistent with the models previously produced, this report continues evaluation using a standard set of vehicle parameters, except where otherwise noted (Table 1). The associated fee values are determined using the Celtic Fee Estimator on the IRP website (http://www.irponline.org/).

Table 1. Base Vehicle Type.

Vehicle Type	Tractor (TR)	**Purchase Date**	2010
Model Year	2010	**Factory Price**	$80,000
Unladen Weight	17,000	**Purchase Price**	$70,000
Combined GVW	80,000	**Type of Operation**	For Hire
Axles	3	**Commodity Class**	All
Combined Axels	6	**Exchange Rate**	0.9857 USD
Fuel Type	Diesel	**Total Months**	12

FRP New Fleet Results

A primary outcome of a change to the FRP is the consistency of fees, of which new registrants can consider when seeking to begin operation. The fees, based on 2012 estimated distance charts and fees, are shown in Table 2. The fees range from a low of $1,183.74 (LA) to a high of $2,641.34 (MB). With the change to an FRP system, every newly registering fleet in 2012 in a given jurisdiction would have paid the same registration fee, placing all registrants on a balance and giving the jurisdictions a more confident estimate of revenue.

Table 2. FRP New Registrant Fees

AB	$ 2,010.98	IN	$ 1,639.51	ND	$ 1,734.38	QC	$ 2,164.23
AL	$ 1,264.75	KS	$ 1,656.25	NE	$ 1,616.66	RI	$ 1,435.37
AR	$ 1,529.45	KY	$ 1,501.94	NH	$ 1,381.93	SC	$ 1,279.01
AZ	$ 2,206.34	LA	$ 1,183.74	NJ	$ 1,444.20	SD	$ 1,715.57
BC	$ 2,243.23	MA	$ 1,517.87	NL	$ 2,154.02	SK	$ 2,563.83
CA	$ 2,008.66	MB	$ 2,641.34	NM	$ 1,448.08	TN	$ 1,524.75
CO	$ 1,791.73	MD	$ 1,602.65	NS	$ 2,109.88	TX	$ 1,324.01
CT	$ 1,541.22	ME	$ 1,657.57	NV	$ 1,939.53	UT	$ 1,693.93
DC	$ 1,673.48	MI	$ 1,707.44	NY	$ 1,416.70	VA	$ 1,464.59
DE	$ 1,495.21	MN	$ 1,796.15	OH	$ 1,630.69	VT	$ 1,746.80
FL	$ 1,435.18	MO	$ 1,658.70	OK	$ 1,545.74	WA	$ 1,856.98
GA	$ 1,207.24	MS	$ 1,610.97	ON	$ 1,955.43	WI	$ 1,975.40
IA	$ 1,714.47	MT	$ 1,627.49	OR	$ 1,667.34	WV	$ 1,689.25
ID	$ 1,888.11	NB	$ 2,217.72	PA	$ 1,584.71	WY	$ 1,886.61
IL	$ 1,776.24	NC	$ 1,426.86	PE	$ 2,479.63		

INDUSTRY EVALUATIONS

To garner information about potential impacts to the trucking industry, we evaluate five potential scenarios that represent a cross-section of likely fleet operations. Several identifiable occurrences are notable prior to proceeding through the scenarios:

- As the geographic variability of a fleet's operation diminishes (little-to-no change in the jurisdiction's in which registration is sought), the variance between the current fee process and the FRP also diminishes.
- For those fleets planning to register and operate in only a few jurisdictions close to their base jurisdiction, the net effect on first year registration changes to the FRP is dependent upon the relative cost of the area's fees in comparison to the entirety of the 59 jurisdictions. Fleets in areas where fees are currently on average low, may experience an increase, while those in areas where the fees are on average high, will likely see a decrease.
- As the number of jurisdictions in which a fleet registers increases, the impact of a change to the FRP process shrinks.
- The FRP process frees carrier business expansion into new jurisdictions on the fly as opportunity arises.
    - Eliminates need for adding jurisdictions at extra cost and/or obtaining relevant permits.

Scenario Evaluation

Scenario 1: A motor carrier who operates in three IRP jurisdictions

In scenario one, we assume that the carrier under consideration begins as a new carrier and accrues miles in the three states based on the estimated distance charts of the base state. They are additionally assumed to have registered in a fourth state, also based on estimated distance chart, but did not accrue any miles there during their first year of operation. In the second year, the operators wish to still be appropriated for the jurisdiction in which they did not accrue miles in during the first year in addition to the other three.

Scenario 1a: Oregon operator accruing miles in OR, WA, CA. Registered but no accrual in ID

Current Fee Structure:

New Registrant Fee:	**$1,854.21**
Renewal Fee:	**$1,943.15**

FRP Fee Structure

New Registrant Fee:	**$1,667.34**
Renewal Fee:	**$1,774.79**

Carrier experiences a reduced fee for both its first year and renewing year.

Scenario 1b: Alabama operator accruing miles in AL, MS, GA. Registered but no accrual in FL

Current Fee Structure

New Registrant Fee:	**$1,086.20**
Renewal Fee:	**$1,243.43**

FRP Fee Structure

New Registrant Fee:	**$1,264.75**
Renewal Fee:	**$1,044.44**

Carrier experiences a higher first year fee, but a lower renewal fee.

Scenario 1c: Alberta operator accruing miles in AB, BC, SK. Registered but no accrual in MB

Current Fee Structure

New Registrant Fee:	**$2,154.11**
Renewal Fee:	**$2,286.45**

FRP Fee Structure

New Registrant Fee:	**$2,010.98**
Renewal Fee:	**$2,147.29**

Carrier experiences lower fees for both first year and renewal fees.

Scenario 1d: Minnesota operator accruing miles in MN, IA, IL. Registered but no accrual in WI

Current Fee Structure

New Registrant Fee:	**$2,127.57**
Renewal Fee:	**$2,555.12**

FRP Fee Structure

New Registrant Fee:	**$1,796.15**
Renewal Fee:	**$2,005.93**

Carrier experiences lower fees for both first year and renewal fees.

Scenario 1e: Connecticut operator accruing miles in CT, NY, PA. Registered but no accrual in NJ

Current Fee Structure

New Registrant Fee:	**$1,485.66**
Renewal Fee:	**$1,625.29**

FRP Fee Structure

New Registrant Fee:	**$1,541.22**
Renewal Fee:	**$1,512.21**

Carrier **experiences higher first year fee and reduced renewal fee.**

Scenario 1f: Kentucky operator accruing miles in KY, MO, IL. Registered but no accrual in TN

Current Fee Structure

New Registrant Fee:	**$1,564.44**
Renewal Fee:	**$1,719.93**

FRP Fee Structure

New Registrant Fee:	**$1,501.94**
Renewal Fee:	**$1,586.02**

Carrier experiences lower fees for both first year and renewal fees.

Scenario 1g: California operator accruing miles in CA, AZ, NM. Registered but no accrual in TX

Current Fee Structure

New Registrant Fee:	**$2,511.32**
Renewal Fee:	**$2,844.68**

FRP Fee Structure

New Registrant Fee:	**$2,008.66**
Renewal Fee:	**$2,613.54**

Carrier experiences lower fees for both first year and renewal fees.

The first year fees paid by new registrants do not unanimously drop when switching to the FRP process. Both CT and AL registrants would see their first year fees increase, while the other five observe decreases. Additionally, evident from the scenarios above is the consistent lowering of renewal fees for these hypothetical carriers who, under the current fee structure, pay fees in

excess of 100% when renewing in a jurisdiction for which they were apportioned but did not accrue miles. The observed consistent lowering suggests that small carriers in only a couple jurisdictions largely stand to benefit from a FRP system through the elimination of over 100% fees.

Scenario 2: A less-than-truckload (LTL) motor carrier who operates in many jurisdictions throughout a North American region.

This next series of evaluation scenarios are carried out using one jurisdiction from each region as the base jurisdiction (ME, KY, IL, CA). The carriers are assumed to operate based on their individual descriptions.

Scenario 2a: Maine (Region I) operator potentially accruing miles in ME, CT, DE, DC, MD, MA, NB, NL, NH, NJ, NY, NS, ON, PA, PE, QC, RI, VT.

Under the current fee program: The operator begins registration by using the estimated distance chart to register in all of the US jurisdictions in Region I. When renewing for a second year, the operator will use their actual miles (equivalent to the estimated distance chart) along with estimated distances in the Region I Canadian Provinces. The estimated distances are within 100%

Under the FRP Program, the operator pays the estimated distance chart based fee apportioned to all jurisdictions. Upon renewal, the operator pays for those actual miles accrued during the first year. The actual miles will be in those US jurisdictions in Region I and the estimated distance chart will be used. The miles accrued in the Canadian Provinces do not enter into the fee schedule until year three, after miles have accrued.

Current Fee Structure

New Registrant Fee:	**$1,600.59**
Renewal Fee:	**$1,666.80**

FRP Fee Structure

New Registrant Fee:	**$1,657.57**
Renewal Fee:	**$1,600.59**

Carrier experiences higher new registration fee while lowering the renewal fee.

Scenario 2b: Missouri (Region 2) operator potentially accruing miles in KY, AL, AR, FL, GA, LA, MS, NC, OK, SC, TN, TX, VA, WV.

Under the current fee program: The operator begins registration by using the estimated distance chart to register in all of the US jurisdictions in Region II except OK and TX. When renewing for a second year, the operator uses their actual miles (equivalent to the estimated distance chart) along with estimated distances in TX and OK.

Under the FRP Program, the operator pays the estimated distance chart based fee apportioned to all jurisdictions. Upon renewal, the operator pays for those actual miles accrued during the first year. The actual miles are those in US jurisdictions in Region II except TX and OK, and the estimated distance chart will be used.

Current Fee Structure

New Registrant Fee:	**$1,300.02**
Renewal Fee:	**$1,332.99**

FRP Fee Structure

New Registrant Fee:	**$1,501.94**
Renewal Fee:	**$1,300.02**

Carrier experiences higher new registration fee while lowering the renewal fee.

Scenario 2c: Illinois (Region 3) operator potentially accruing miles in IL, IN, IA, KS, MB, MI, MN, MO, NE, ND, OH, SD, WI.

Under the current fee program: The operator begins registration by using the estimated distance chart to register in all of the US jurisdictions in Region III. When renewing for a second year, the operator uses their actual miles (equivalent to the estimated distance chart) along with estimated distances in the Region III Canadian Provinces.

Under the FRP Program, the operator pays the estimated distance chart based fee apportioned to all jurisdictions. Upon renewal, the operator pays for those actual miles accrued during the first year. The actual miles are those in US jurisdictions in Region III and the estimated distance chart will be used.

Current Fee Structure

New Registrant Fee:	**$2,274.05**
Renewal Fee:	**$2,274.06**

FRP Fee Structure

New Registrant Fee:	**$1,776.24**
Renewal Fee:	**$2,274.05**

Carrier experiences lower first year fees and a negligible difference in renewal fees.

Scenario 2d: California (Region IV) operator potentially accruing miles in CA, AB, AZ, BC, ID, CO, MT, NV, NM, OR, SK, UT, WA, WY.

Under the current fee program: The operator begins registration by using the estimated distance chart to register in all of the US jurisdictions in Region IV. When renewing for a second year, the operator uses their actual miles (equivalent to the estimated distance chart) along with estimated distances in the Region IV Canadian Provinces.

Under the FRP Program, the operator pays the estimated distance chart based fee apportioned to all jurisdictions. Upon renewal, the operator pays for those actual miles accrued during the first year. The actual miles will be in those US jurisdictions in Region IV and the estimated distance chart will be used.

Current Fee Structure

New Registrant Fee:	**$2,418.02**
Renewal Fee:	**$2,432.70**

FRP Fee Structure

New Registrant Fee:	**$2,008.66**
Renewal Fee:	**$2,418.02**

Carrier experiences reduced fees as both a new registrant and as a renewal.

Given the assumptions made for this set of scenarios, we can observe that the renewal fee under the FRP structure is equivalent to the first year fee under the current system. This occurs because we assume that the estimates generated for year one were an accurate representation. The new carriers' registering in ME and MO would experience an increase in first year fees, while those in IL, and CA would see a decline. Rather small changes in the renewal fees are experienced by these hypothetical carriers; ME experienced the largest reduction, about $66, in renewal fees.

Scenario 3: A large motor carrier who operates in most or all jurisdictions throughout North America.

For this evaluation we assume the motor carrier begins by registering its fleet in the 48 US states and the District of Columbia. Two scenarios are conducted, one for a carrier based in Oregon, and one based in Alabama. The operators are assumed to have utilized the estimated distance charts from both jurisdictions to register in the first year.

To complete these scenarios, we pick the carrier back up at a renewal point in which they are renewing for all 48 US states and the District of Columbia based on actual miles and will be required to estimate miles in excess of 100% in two Canadian Provinces, British Columbia and Alberta for the Oregon operator, and Alberta and New Brunswick for the Alabama operator.

Scenario 3a: Oregon – Per Vehicle

Current Fee Structure

New Registrant Fee:	**$1,725.61**
Renewal Fee:	**$1,837.78**

FRP Fee Structure

New Registrant Fee:	**$1,667.34**
Renewal Fee:	**$1,725.61**

Carrier experiences reduced fees as both a new registrant and as a renewal.

Scenario 3b: Alabama – Per Vehicle

Current Fee Structure

New Registrant Fee:	**$1,359.10**
Renewal Fee:	**$1,362.14**

FRP Fee Structure

New Registrant Fee:	**$1,264.75**
Renewal Fee:	**$1,359.10**

Carrier experiences reduced fees as both a new registrant and as a renewal.

Similar to scenario 2, the FRP renewal fee is equivalent to the new registration fee under the current system due to the assumption that the estimated distances in the first year were accurate and resulted in the same apportionment based on actual miles. In both jurisdictions, the new registrants would pay less under the FRP system. Renewal fees for the Oregon based carrier are considerably less under the FRP than the current process when fees are being charged in excess of 100%. The renewal fees for the Alabama carrier are much more consistent between the current system and the proposed FRP due to the very small apportionment that would be due to the Canadian provinces for which a fee in excess of 100% may be charged.

Scenario 4: A small commercial truck leasing company- one that registers vehicles for their lessee customers to use – with varied operations in a North American region.

For this scenario, we examine a carrier registering in Minnesota. The carrier uses the estimated distance chart to estimate their miles in the following jurisdictions for the first year: MN, ND, SD, IA, WI, IL, IN, and OH. When renewing for year two, the carrier wishes to add MO and will not renew in IN and OH. When renewing for year three, the carrier wishes to add back in IN and OH and retain all others from the previous year.

Current Fee Structure

New Registrant Fee:	**$1,993.36**
Year Two Renewal Fee:	**$2,026.28**
Year Three Renewal Fee:	**$2,260.43**

FRP Fee Structure

New Registrant Fee:	**$1,796.15**
Year Two Renewal Fee:	**$1,993.36**
Year Three Renewal Fee:	**$2,026.28**

Carrier experiences reduced fees as both a new registrant and as a renewal.

Following suit with the previous two scenarios, the renewal fees for the FRP structure in scenario four are one year lagged from those fees collected under the current fee structure for the first two years. In year three, the carrier operating under the current system pays apportioned fees to all the jurisdictions where actual miles accrued and pays a fee in excess of 100% to IN and OH given they had been apportioned there within the previous 18 months. The desired addition of IN and OH in year three will not be reflected in the fees collected under the FRP until year four.

Scenario 5: A large commercial truck leasing company with varied operations in most or all jurisdictions throughout North America.

As the number of jurisdictions in which a carrier registers increases towards registration in all jurisdictions, the difference between the current system and the proposed FRP decreases. So long as the carrier maintains registration and accrues miles in each jurisdiction such that no fees are needed to be calculated in excess of 100%, the only difference between the current and proposed fee system will be the first year of registration if the carrier used its own business plan to estimate its fees. Assuming the carrier has knowledge of the fee that would be charged based on the estimated distance chart, they would not register based on a business plan that caused the fee to be in excess of that generated by the chart.