Port Runners – Impacts and Solutions

FINAL REPORT 563

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16. Abstract

This purpose of this research is to quantify the occurrence of port running in the State of Arizona. Port running is the term used to describe the action of evading or bypassing ports of entry. The Arizona Department of Transportation (ADOT) uses various ports of entry scattered throughout the state to monitor the commercial truck traffic that travels through the state for compliance with weight limits, safety regulations, and fee payments. Port runners create a large problem for ADOT because they potentially endanger the safety of other motorists, they over-stress our highways, causing major maintenance issues, and they avoid paying the fees that ADOT uses to maintain and construct new roadways. In addition to noncompliance, port runners are sometimes found carrying unlawful cargo, such as uninspected agriculture and/or illegal aliens, which create large economic and security risks for the State.

This report contains a literature review of the current research that has been performed on this issue. An understanding of the existing literature on port runners and overweight commercial trucks helps to provide a framework for the rest of the research. It reveals estimated volume, safety, revenue, and pavement impacts related to this problem. It also begins to show the extent to which this problem affects other states and the methods they use to deter port runners.

The research includes a study of the current data collected by the ADOT on traffic and revenue. These data have been used to estimate the volume of port running that occurs in Arizona. These data also offer insight into the actual dollar cost this problem presents for the State.

A survey of all other state department of transportations was conducted to gain a better understanding of the prevalence of this problem. The survey questions were directed to gain each state's estimate of the volume of port evasion that occurs in the state and how it is monitored. The survey also reveals techniques used by other states to reduce the frequency of port running, if any. This data were compiled and the results shown in tabular and graphical formats.

A significant portion of this project consisted of field time—time spent at various ports of entry through out the state. The researchers conducted a sampling of the commercial truck traffic at carefully selected ports. Researchers monitored the number of trucks that successfully passed though the weigh station in a given amount of time. Researchers also recorded the number of trucks that were not inspected but rather waved through, along with trucks that passed through when the weigh station is not open. Finally, routes that could be used to bypass the weigh stations were staked out, and the number of trucks that passed along those routes in a given amount of time was recorded. These data was used to estimate the total volume of trucks that are evading Arizona's weigh stations.

The report concludes with a summary of the impact of port running on the State of Arizona. It also offers operational, structural, and business-related recommendations ADOT can use to reduce the prevalence of this activity.

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SI (MODERN METRIC) CONVERSION FACTORS*

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
	AREA			
in^2	square inches	645.2	square millimeters	mm^2
ft^2	square feet	0.093	square meters	m^2
yd^2	square yards	0.836	square meters	m^2
ac	acres	0.405	hectares	ha
mi^2	square miles	2.59	square kilometers	km^2
	VOLUME			
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft^3	cubic feet	0.028	cubic meters	m^3
yd^3	cubic yards	0.765	cubic meters	m^3
	NOTE: Volumes greater than 1000L shall be shown in m^3.			
	MASS			
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000lb)	0.907	megagrams (or “metric ton”)	mg (or “t”)
	TEMPERATURE (exact)			
$^{\circ}F$	Fahrenheit temperature	5(F-32)/9 or (F-32)/1.8	Celsius temperature	$^{\circ}C$
	ILLUMINATION			
fc	foot candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m^2	cd/m^2
	FORCE AND PRESSURE OR STRESS			
lbf	poundforce	4.45	newtons	N
lbf/in^2	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
	AREA			
mm^2	Square millimeters	0.0016	square inches	in^2
m^2	Square meters	10.764	square feet	ft^2
m^2	Square meters	1.195	square yards	yd^2
ha	hectares	2.47	acres	ac
km^2	Square kilometers	0.386	square miles	mi^2
	VOLUME			
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m^3	Cubic meters	35.315	cubic feet	ft^3
m^3	Cubic meters	1.308	cubic yards	yd^3
	MASS			
g	grams	0.035	ounces	oz
kg	kilograms	2.205	pounds	lb
Mg	megagrams (or “metric ton”)	1.102	short tons (2000lb)	T
	TEMPERATURE (exact)			
$^{\circ}C$	Celsius temperature	1.8C + 32	Fahrenheit temperature	$^{\circ}F$
	ILLUMINATION			
lx	lux	0.0929	foot-candles	fc
cd/m^2	candela/m^2	0.2919	foot-Lamberts	fl
	FORCE AND PRESSURE OR STRESS			
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in^2

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EXECUTIVE SUMMARY

Mass transportation of materials can occur by air, water, or over land. One common means of transporting materials is by truck. The State of Arizona experiences a high volume of truck traffic that crosses into and through its borders. This traffic is regulated by the Arizona Department of Transportation (ADOT) at ports of entry that are scattered along the state's borders. One of ADOT's concerns is port runners, or truckers who avoid ports of entry.

This project was commissioned to investigate the prevalence of port running in the State and its effects. This project was broken up into four sections. The first section studies published literature on this topic and related issues. The second section summarizes the results of a survey distributed to the appropriate parties in all 49 states (Arizona was excluded) to gain an idea of the pervasiveness of this activity. A third section studied the data currently collected by ADOT on its traffic and revenue patterns to see if a connection between traffic, revenue, and port running could be established. The fourth section of this report was a field investigation of several of Arizona's ports of entry. This field time was used to observe how the ports operate as well as to collect first-hand data on the numbers of port runners that evaded the port in a certain amount of time. The principal findings of this report are listed below:

Literature Review

- The issue of port running is considered a serious concern by many states, as it damages state roadways and potentially causes harm to roadway users.
- There appear to be a multitude of reasons for port/weigh station evasion including noncompliance with state/federal regulations, unlawful weight loads, unlawful cargo, uninspected agriculture, and illegal immigrants.
- Port running includes using bypass roads to avoid encountering a port of entry or waiting until the port is closed to drive past it.
- Other states have implemented a variety of approaches to reduce this activity including:
    - Installation of weigh-in-motion (WIM) systems.
    - Restructuring the fee system to increase fines for noncompliance.
    - Utilizing pre-clearance systems including automatic vehicle identification and PrePass.
    - Mobile WIM equipment for use in random sting operations.
    - Virtual Weigh Stations.
    - Increasing the number of patrols/officers.

Survey

- Roughly half of the states surveyed feel that port running is a serious problem.
- Regarding principal causes for port running, responses were evenly divided between overweight loads, illegal immigrants, contraband, illegal drugs, uninspected agriculture, and noncompliance with safety regulations.
- Almost all responding states use WIM systems to help monitor truck traffic.
- Almost no states had performed any research on this issue.

Field Investigation

- Mainline WIM sensors do not provide complete information to ADOT regarding truck traffic, as they only are present in one of the two lanes of traffic, if a port uses WIM at all.
- Due to recent budget cutbacks, ADOT has been forced to cut hours at all of its ports. Nighttime hours are cut first, but are often the busiest time for truck traffic.
- The queue in San Simon is not long enough to accommodate a long line of trucks so many trucks are not weighed or inspected, but rather waived through during high traffic periods.
- Arizona's pre-clearance system (PrePass) and WIM systems do not communicate, so personnel are required to monitor all trucks approaching the port, even those prequalified by PrePass to ensure compliance with weight limitations. Trucks that subscribe to PrePass but are overweight are sent conflicting signals about whether to bypass or enter the port.
- At San Simon and Ehrenberg, two of Arizona's busiest ports, trucks heading out of the state are not counted or monitored. Only incoming traffic is monitored at both locations.

Traffic and Revenue Data

- Arizona truck traffic has increased 20% since 1996.
- Hours of Arizona port operation have decreased 39% since 1998.
- Permit Revenue from Arizona's ports of entry have decreased significantly in recent years due to:
    - Lack of fine enforcement by local court systems.
    - Reduced hours of port operations.
    - Reduced port personnel.
    - Increased use of mail-in permit applications

In their current situation, Arizona ports are struggling to perform the mission with which they have been entrusted. While increasing port funding and port personnel seem to be the most obvious solutions to the port running problem, project researchers generated several more carefully narrowed recommendations to help improve operations.

Recommendations related to port operations include installing WIM sensors across the entire roadway to ensure accurate truck counts and increasing the hours of port operations. Other operational recommendations include creating a communications link between the PrePass and WIM systems so that the systems could work together to pinpoint violators and eliminate law-abiding vehicles. Structural recommendations were also offered to help make the ports more efficient, including creating longer truck queues and the installation of mainline WIM systems at all high traffic ports and heavily traveled bypass routes. The final vein of recommendations revolved around legal and business alternatives. One recommendation suggests instilling a business/profit-center focus at the major ports. If the heavily used ports were designed to run like any for-profit entity, each port would work to eliminate its inefficiencies and become more productive. Statutorily limiting a court's ability to reduce or eliminate port fines would also make ports more cost efficient by increasing the revenue generated by port activities.

There are many possible approaches that can be investigated to help combat port running in Arizona. In order to fulfill the mission of keeping Arizona's roads safe, it is imperative as truck traffic volumes increases in the years to come, that the inadequacies in the current port system be addressed. Researchers believe that implementation of the recommendations suggested in this report will help to make Arizona a safer state in which to travel.

CHAPTER 1
INTRODUCTION

The purpose of this research is to quantify the occurrence of port running in the State of Arizona. Port running is the term used to describe the action of evading or bypassing ports of entry. The Arizona Department of Transportation (ADOT) uses various ports of entry scattered throughout the State to monitor the commercial truck traffic that travels through Arizona for compliance with weight limits, safety regulations, and fee payments. Port runners create problems because they potentially endanger the safety of other motorists, they over-stress the State's pavement system, which increases maintenance costs, and they avoid paying the fees that ADOT uses to maintain and construct new roadways. In addition to noncompliance, port runners are sometimes found carrying unlawful cargo, such as uninspected agriculture and/or illegal immigrants, which create large economic and security risks for the State.

A recent newspaper article, "Trucking Industry Sees Trouble on the Horizon"[1] highlighted the importance of this research by featuring the following results from several related studies on trucking growth. Forecasters in one recent study, published by the Federal Highway Administration (FHWA),[2] predicted that "the demand for freight transportation will double over the next 20 years," causing the number of trucks on highways to increase considerably. Currently, the trucking industry accounts for 68% of all freight moved in the United States, and the numbers continue to rise. A similar study by The Road Information Program (TRIP)[3] found that between 1998 and 2002, truck travel increased by 102% and it is expected to grow by another 49% by 2020. Port running is currently a problem for the State of Arizona, and unless addressed, it will only get worse. A joint legislative and executive budget report affirms that "without weight enforcement, roads designed to last 15 to 20 years can fail within 2 years." Additionally, a 10% increase in overweight vehicles could cause a $20 million annual increase in road repair and maintenance costs." [4] The gravity of these numbers combined with the predicted boom in trucking throughout the country reinforce the pressing need for an in-depth look at the effectiveness of Arizona's port of entry system.

This project began with a literary review of the current research that has been performed on this issue. An understanding of the existing literature on port runners and overweight commercial trucks provided a framework for the rest of the research. It revealed estimated volume, safety, revenue, and pavement impacts related to this problem. It showed the extent to which this problem affects other states and the methods they use to deter port runners. The result of this literature review is found in Chapter 2.

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[1] Yantis, John. "Trucking Industry Sees Trouble on the Horizon." *East Valley Tribune* 18 Apr. 2004, B1+.

[2] U.S. Department of Transportation. *Comprehensive Truck Size and Weight Study*. Volume 1—Summary Report. August 2000: Pages 1-12.

[3] The Road Information Program. 2004. *America's Rolling Warehouses: The impact of increased trucking on economic development, congestion, and traffic safety*. http://www.tripnet.org/TruckingReport020904.PDF

[4] "Arizona Ports of Entry--Arizona Department of Transportation 2000 Strategic Program Area Review." *JLBC/OSPB Joint SPAR Report*. 2000: Pages A4-A6.

Upon completion of the literature search, a survey of all other state departments of transportation was conducted to gain a better understanding of the prevalence of this problem. The survey questions were directed to gain each state's estimate of the volume of port evasion that occurs in their state and how they monitor it. The survey also revealed techniques used by other states to reduce the frequency of port running, if any. This data was then compiled, and the results shown in tabular and graphical formats in Chapter 3.

Chapter 4 relates the current manner in which the Arizona ports of entry operate and then describes how the physical data collection effort was accomplished. This description included the layout of the structures, the personnel who man the ports and their roles in the process, and the process by which they conduct their operations. In order to adequately study the process, it was necessary for the researchers to go to several ports and visit with the ADOT personnel working at these locations to better understand the constraints under which they operate. A significant portion of this project consisted of field time—time spent at various ports of entry throughout the State. Once a rudimentary understanding of the process was attained, the researchers conducted a sampling of the commercial truck traffic at two ports. They monitored the number of trucks that successfully passed though the weigh station in a given amount of time. They also recorded the number of trucks that were not inspected but rather waved through, along with trucks that passed when the weigh station was not open. These data were used to estimate the total volume of trucks that are bypassing or not being monitored by Arizona's weigh stations.

Chapter 5 of the report includes a study of the current data collected by ADOT on traffic and revenue. The State currently collects and compiles an extensive amount of data regarding how many trucks pass through its ports and how much revenue is gained from such traffic. These data were reviewed and analyzed to determine an estimate of the volume of port running that occurs in Arizona. This review also offered insight into the actual dollar cost (or potential lost revenue) this problem presents to the State.

Chapter 6 gives the study's conclusions and summarizes the impact of port running on the State of Arizona. It also includes several recommendations for ADOT regarding how to reduce the prevalence of this activity, based on insight gained while working on this project.

CHAPTER 2
LITERATURE REVIEW

An extensive literature search on the topic of "port runners" yielded very little information directly relating to the subject. This points to the conclusion that very little research has been performed solely on port runners (commercial vehicles that evade weigh stations). Faced with this obstacle, the researcher decided to break the situation down and search for literature related to the primary reason that port running occurs—noncompliance with state and federal regulations. This noncompliance can be related to weight, safety, or the nature of a trucker's cargo. A literature search on overweight trucks revealed several studies pertinent to port running.

A Washington State Department of Transportation study, "Evaluation of Violation and Capture of Overweight Trucks: A Case Study,"[5] was conducted to investigate the effectiveness and appropriateness of Washington State's fee and fine system. This study was one in a series of reports conducted by the State of Washington to evaluate the prevalence of overweight trucks. Trucks that are overweight cause significant damage to state roads, which has great economic impacts on surrounding businesses. In addition to damaging the roadway system, overloaded trucks also have an unfair economic advantage over law-abiding trucking companies. This study compared the numbers of overweight citations at permanent scale houses with the number of overweight citations at portable scales at random locations and found that a significant majority of citations (81%) occur at the permanent weigh stations.

The violation rate (proportion of overweight trucks to the total truck traffic) is based on the numbers of citations given at weigh stations. While weigh stations are almost 100% effective at detecting overweight trucks, "most weigh stations don't operate continuously, many trucks are known to avoid weigh stations when stations are in operation, and some trucks simply do not use roads where weigh stations occur." According to this study, "avoidance activity around weigh stations varies, depending on the site and the ease and accessibility of bypass routes." The prevalence of this avoidance activity means that the actual occurrence of overweight trucks is probably significantly higher than the violation rates calculated at each weigh station. The study also states that the amount of avoidance activity can be calculated by comparing the violation rate when the weigh station is open to the violation rate when the weigh station is closed. If the rates are close, then avoidance is not a problem.

This study found that occurrence of overweight trucks on Washington roads was primarily driven by business factors. The higher the demand for transportation, the more trucks on the road and proportionally, the more overweight trucks. Overall, the study found very little difference in the violation rates during open and closed periods. This indicates that for the sections of roads tested, avoidance activity is not a serious problem.

[5] Jessup, Eric L., and Kenneth L Casavant. *Evaluation of Violation and Capture of Overweight Trucks: A Case Study*. Washington State Department of Transportation. 1996: Pages 1-20 & 44-45.

A study performed by the Virginia Transportation Research Council[6] focused on determining the amount of weigh station avoidance around selected Virginia weigh stations. The researchers on this study decided to use WIM (weigh in motion) screening without enforcement in order to prevent truckers from communicating about the presence of monitoring. Weigh stations were selected for monitoring based on the availability of close bypass routes. During the study, data was collected from the chosen weigh stations as well as from WIM sensors installed in the roadway in both directions of particular bypass routes. In order to simplify the collection, any overweight truck that passed over the WIM sensors was assumed to be avoiding the weigh station.

Another area of concern for the researchers in this study centered on runbys. Runbys occur when heavier trucks gather behind a long line of properly loaded trucks as they approach a weigh station. The lighter trucks reach the weigh station first and fill the entrance lane to the weigh station. To avoid causing traffic delays, trucks are typically instructed to bypass the weigh station when the entrance lane is full. This method of gathering trucks together allows the overweight trucks to "run by" the weigh station without getting caught and without technically avoiding the weigh station.

Results from this study found very significant evidence of abuse of the weigh station system. The study found that 11% to 14% of trucks on bypass routes are overweight. Furthermore, the study found major evidence of runbys. On Sunday nights, WIM systems found that 38% of trucks passing the weigh station when the queue was full ("runbys") were overweight. This study recommended increased monitoring at the stations as well as increased enforcement activities around the bypass routes.

A similar study published by the *Transportation Research Record*[7] looked at truck evasion of weigh stations in Florida. The Florida Department of Transportation (FDOT) collected data from two permanent weigh stations and compared these to data collected from temporary WIM sensors located on four nearby bypass routes. FDOT picked testing areas for this study based on several factors. First, the area had to be suspect for evasion activity. Secondly, the area needed to be in a traffic corridor defined to be "a set of highway sections carrying traffic, particularly long-haul traffic, in the same general direction." The area also needed a weigh station with a permanent scale and the capability to handle WIM equipment. Finally, the area needed a limited number of bypass routes to help control study monitoring.

The study results showed that the numbers of overweight vehicles decrease as enforcement activity increases. Increased enforcement activity at weigh stations, however, also leads to increased activity on bypass routes. The study also found that weight violations at the permanent weigh stations tended to be negligible and attributable to interstate vehicles, while bypass routes experienced a much higher volume of grossly overweight trucks that tended to be local. Another angle of the study involved opening

[6] Cottrell, B.H., Jr.. *The Avoidance of Weight Stations in Virginia by OverweightTrucks*. Virginia Transportation Research Council. 1992: Pages 1-6 & 27-29.
[7] Cunagin, Wiley D. "Evasion of Weight Enforcement Stations by Trucks." *Transportation Research Record* 1997: Pages 181-191.

one of the weigh stations on the weekend. This station, typically closed on Saturdays and Sundays, experienced a much higher number of violators on the weekend it was open than the station typically experiences during the week. This indicates that truckers take advantage of weigh stations being closed on the weekends to run heavier loads. Overall, the study suggested that the best way to reduce both overweight violations and avoidance activity is to increase enforcement activity (both random and planned).

FDOT's remedy to reduce weigh station avoidance was supported by an article in *Traffic Technology International*[8] The article argued that overweight trucks unfairly impair the roadways without reimbursing the state for damages incurred. This puts the general public and law-abiding truckers at a disadvantage. According to the article, "a federally funded study undertaken in the [United States of America] in 1990 indicated that overweight truck axles cost between $160 million and $670 million per year in pavement damage." The article referenced another study the findings of which showed that 14% of traffic was found to be avoiding a weigh station when it was open and that truckers will travel up to 160 miles out of their way to avoid a weigh station. The article also referenced research showing that runbys were a common occurrence, and that "over 38% of the vehicles running by the station as a result of these convoys were shown to be overloaded." The article's answer to weight violations and avoidance activity was enforcement. It maintained that in areas where enforcement is visible and constant, overweight violations are negligible.

The U.S. Department of Transportation's *Comprehensive Truck Size and Weight Study*[9] provided an in-depth history on federal regulation of truck traffic and looked at the significance of relaxing rules on LCVs (longer combination vehicles). Until the 1950s, the federal government did not regulate Truck Size and Weight (TS&W). In 1956, however, Congress decided that the federal government's investment in a federal highway system warranted federal regulation of the vehicles allowed on the roadways. The original limitations placed on trucks were as follows:

- Maximum gross weight = 73,280 lbs.
- Maximum weight on single axle = 18,000 lbs.
- Maximum weight on tandem axle = 32,000 lbs.
- Maximum vehicle width = 96 inches.

These limitations have changed over the years, but a significant piece of legislation in 1982 restricted the use of LCVs on many state roadways. Trucking companies have been lobbying ever since to increase the capacity of trucks allowed on roadways.

Ultimately, this study found that productivity would increase greatly if heavier vehicles were permitted to travel, but in many cases the heavier vehicles would be LCVs. The

[8] "Heavyweight Safety." *Traffic Technology International Annual Review 2000*: Pages 234-237.
[9] U.S. Department of Transportation. *Comprehensive Truck Size and Weight Study*. Volume 1—Summary Report. August 2000: Pages 1-12.

federal government is hesitant to lift its restrictions on these long trucks because of the "significant infrastructure costs, adverse impacts on railroads, and potentially negative safety impacts." One of the issues with changing federal regulations is that the federal government is not able to recover any money from larger trucks through user taxes. Assuming that fee programs are set up successfully, this could be an area of financial recovery for state transportation organizations.

In its study on the "Preliminary Assessment of Pavement Damage Due to Heavier Loads on Louisiana Highways,"[10] the Louisiana Transportation Research Center investigated the impact of increasing the gross vehicle weight (GVW) for vehicles allowed to operate on state roadways. In the state of Louisiana, trucks hauling sugar cane, rice, timber, and cotton are allowed to carry up to 100,000 pounds. Many in the business and trucking industries would like to increase the current limitations. This study looked at the effects of increasing this limit on areas of the roadway system where these commodities are often hauled.

This study also performed a cost allocation analysis to analyze the highway costs related to each type of vehicle that used the highway. Costs to the state were then compared to money supplied to the state through its fee program. Costs included "pavement reconstruction, rehabilitation, and resurfacing, construction of new bridges, system enhancements including safety, transportation system management, intelligent transportation systems, transit, weigh stations," etc. Fees included "fuel taxes, vehicle excise taxes, tire taxes, and a heavy vehicle use tax." Interestingly, the study found that while user fees for personal use vehicles (automobile and pickup trucks) more than covered the costs associated with their presence on the roadways, the equity ratio for larger trucks decreases as the weight of the truck increases. In other words, the fee system is not being proportionately levied so that as truck weight increases, the percentage of associated costs covered by large truck fees goes down.

Overall, the Louisiana study also found that increasing the GVW decreases the amount of time before another road overlay is required. The cost of increasing the GVW would precipitate the need to restructure the current fee system in the state so that truckers are more adequately paying for the damage caused by their use of the roadway.

One recent innovation in the transportation arena has been the evolution of weigh-in motion-devices (WIM) and other intelligent weighing systems. WIM systems can be deployed both on highway mainlines or on the ramps at weigh stations. Several articles were found that focus on the advantages of these systems and how they are improving the capture of overweight trucks.

David Halvorsen's article, "A Weight off the Mind,"[11] discusses the benefits of the WIM as an evaluation tool. A WIM device weighs the truck as it passes over the device in the

[10] Roberts, Freddy L., and Ludfi Djakfar. *Preliminary Assessment of Pavement Damage due to Heavier Loads on Louisiana Highways.* Louisiana Transportation Research Center. 1999: Pages 2-26.
[11] Halvorsen, Donald. "A Weight off the Mind: Weigh-in-motion Sensors Do More Than Catch Illegal Operators on the Hop." *Traffic Technology International Annual Review 2000*: Pages 230-232.

pavement. In simple terms, a WIM weighs vehicles without requiring them to pass over a static scale. While weigh stations are typically not operational 24 hours a day, 7 days a week, WIM systems placed in the road are "on" all the time. Therefore, the WIM is useful in collecting data when none are available from a permanent weigh station. The use of WIM systems also presents significant time and monetary savings to both law enforcement and the trucking industry if the proper technology is available. These savings occur when WIM systems are deployed in conjunction with a pre-clearance system, such as PrePass, in which a participating commercial vehicle's credentials are verified electronically. The WIM sensor is placed some distance before a permanent weigh station. If a commercial vehicle's gross weight is under weight limits and the credentials are in order, the truck can bypass the weigh station. In addition to saving time for the truckers, "[WIM] implementation for enforcement purposes lowers the cost of weigh stations in terms of staffing and disruption to traffic flow." While initially costly, the long-term impact of WIM systems is to "save taxpayer's money and increase the longevity of [our] roads."

Another article "Keeping Overweight Trucks from Getting A-weigh" published in the *Texas Transportation Researcher*[12] also documents the benefits of using a WIM system. According to the article, current methods for weighing trucks are inefficient and ineffective, considering that most trucks operating on roadways are legally loaded. As a truck passes over WIM sensors, the system processes the data to determine if the truck is overloaded. If the truck exceeds weight limitations, a picture of the truck is taken and sent to state troopers. These suspicious trucks can then be directed to static scales for further weight regulation, while trucks that fall under allowable limits are instructed to bypass the port. This same process is outlined in a similar article, "Colorado's Open Door."[13] The states of Texas and Colorado seem pleased with this new innovation, as it translates to fewer trucks being weighed at static scales and shorter inspection lines. Ultimately, it means less delay for law-abiding truckers and safer roadways for all drivers.

In a 2002 presentation to the American Association of State Highway and Transportation Officials (AASHTO), engineer Daniel Shamo outlined the "virtual weigh station" as "a new approach to truck weigh enforcement."[14] An overview of the virtual weigh station is included as Figure 2-1. A virtual weigh station has many of the components of a traditional weigh station with the exception of a fixed scale. In this system, the WIM sensor is fixed, but scale inspection sites are portable. Computers are used to send data from the WIM to the portable inspection site to help officers identify questionable trucks. This system, in effect, eliminates the need for a fixed weigh station by allowing a mobile site to exist anywhere along the roadway. The enforcement site's mobility helps to make avoiding the virtual weigh station more difficult by adding an element of "surprise."

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[12] Middleton, Daniel. "Keeping Overweight Trucks from Getting A-Weigh." *Texas Transportation Researcher* Vol 3. No 3. 1999.

[13] Brookes, Joni. "Colorado's Open Door." Supplement to *Engineering News Record (ENR*). V. 234. 13 March 1995: Pages 15-16.

[14] Shamo, Daniel E. "Virtual Weigh Stations." *American Association of State Highway Transportation Officials Subcommittee on Highway Transport.* 10 May 2002.

Shamo explained that this screening tool is beneficial because fixed weigh stations are avoidable and enforcement resources are limited. This system can help transportation agencies improve compliance rates by remotely identifying offenders while not disturbing law-abiding truck traffic.

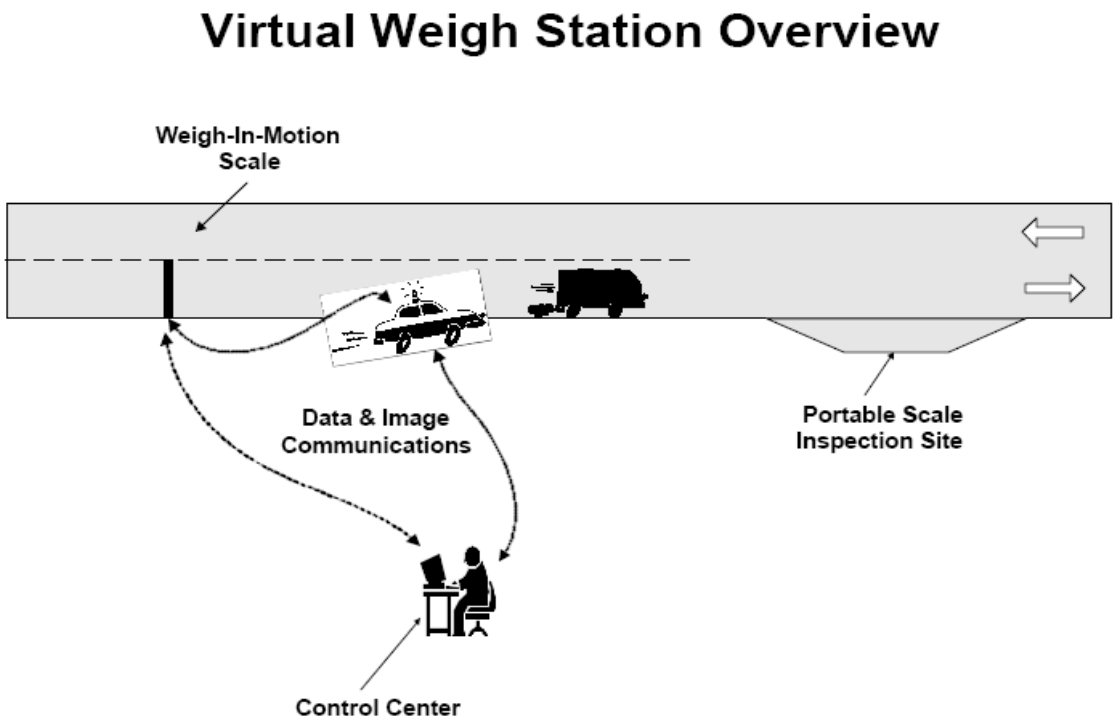


FIGURE 2-1 ~ VIRTUAL WEIGH STATION OVERVIEW

"A Weighty Problem Solved," published in the October 2001 edition of *World Highways*,[15] also praises the WIM system as a means to identify overweight trucks. The article states that "virtual weigh station systems can be located between permanent facilities or on known bypass or secondary highways." The advantage to this is that it reduces the incentive for overloaded trucks to use these smaller, less enforced roadways. This, in turn, helps to level the playing field for truckers that abide by weight regulations and reduces damage to the roadway caused by overloaded trucks.

While transportation agencies around the country are concerned with keeping their roads safe and their maintenance costs manageable, many are worried about the costs of implementing the new technologies available to track and catch heavy trucks and those that are running by fixed ports. According to the aforementioned AASHTO presentation, WIMs can vary drastically in price. A 1998 study[16] compares the accuracy and cost

[15] Huber, Signalbau. "Weigh in Motion: A Weighty Problem Solved." *World Highways/Routes Du Monde* October 2001: Pages 70-71.
[16] Bushman, Rob, and Andrew J. Pratt. *Weigh In Motion Technology – Economics and Performance*. NATMEC. Charlotte, NC. 1998.

(initial installation and life-cycle) of the three most common WIM technologies: single load scale, bending plate scale, and in-road sensors (piezoelectric). The following table, Table 2-1, reports the study's findings. Initial costs include the system's purchase price as well as costs related to installation supervision, subcontracting work, and traffic control. Twelve-year life cycle costs were calculated using the Net Present Value of sensor failure costs, semi-annual maintenance, and calibration visits, while taking into account the life of the system and replacement needs.

TABLE 2-1 ~ WEIGH IN MOTION COST AND ACCURACY COMPARISONS

	Piezoelectric	Bending Plate	Single Load Cell
Accuracy (95% Confidence)	+/- 15%	+/- 10%	+/- 6%
Expected Life	4 years	6 years	12 years
Initial Installation Cost	$9,000	$21,500	$48,000
Annual Life Cycle Cost	$4,750	$6,400	$8,300

There were significant trends presented by this data. As installation cost and annual life cycle costs increase, so does the accuracy and expected life of the device. This kind of information is invaluable to transportation agencies as they evaluate their agency objectives and budgets and select the "best fit" for their particular organization.

A study by the Oregon Department of Transportation[17] was designed to "demonstrate the feasibility of integrating state-of-the-art AVI (automatic vehicle identification), WIM, automatic vehicle classification, and on-board information systems to identify, weigh, classify, and direct selected heavy vehicles in advance of weigh stations and ports-of-entry." This study tested whether WIM and AVI, already used on entrance ramps at moderate speeds in Oregon, could also be functional and accurate on regular stretches of roadways with trucks at high speeds. The State of Oregon has been using WIM and AVI to sort heavy vehicles on port-of-entry ramps since 1984, but the use of variable messaging signs often confuses both truckers and passenger vehicles. This study tested whether the PASS system could be the answer to this confusion.

The PASS system would set up a "transponder technology [that] offers hope of direct communication with each truck driver, thereby reducing confusion, misread signs, and potential safety problems." Basically, the truck will have a transponder in it that will receive messages from the roadway systems. Once the truck is identified (by the AVI system) and weighed (by the WIM system) it will then receive a signal to either "bypass" or "report" to the weigh station. The study found that these systems do work well in "real

[17] Oregon Department of Transportation. *Port of Entry Advanced Sorting System (PASS) Operational Test*. 1998: Pages 1-9 & 17-19.

world" situations and offer a multitude of benefits. These benefits included:

- Improved weigh station productivity and increased enforcement revenues.
- Automatic and continuous check on weights, licenses, registrations, permits, etc.
- Significant time and operating expense savings for legally operating motor carriers who are pre-cleared.
- Decline in large truck queues, thereby improving weigh station safety.
- Elimination of confusing variable message signs.
- Utilization of existing weigh stations without massive reconstruction to handle increased truck volumes.
- Focusing of static weight enforcement and safety inspections on trucks most likely to be in violation of weight or operation regulations.
- Acquiring continuous traffic volume, classification, and weight data for highway planning and maintenance.

All of the above are benefits associated with the PASS system or similar type system that incorporates WIM and AVI with a two-way communication between the trucker and the monitoring system.

Similar to Oregon's PASS system, Arizona and many other states across the country utilize the PrePass system. According to the PrePass website,[18] "PrePass is an AVI system that allows participating transponder equipped commercial vehicles to bypass designated weigh stations, port-of-entry facilities and agricultural interdiction facilities." PrePass is designed to serve as a tracking system that truckers subscribe to that keeps up-to-date records of a truck's registration, permitting, and safety compliance. All trucks that subscribe to the PrePass system are outfitted with an electronic transponder that enables equipment in the port to identify it and a signaling light in the truck's cab. As a truck approaches the port, an electronic message is sent to the port with that truck's document status. This website maintains that the PrePass system is also designed to interact with WIM scales at each participating port that measure the overall and axle weight of each truck passing over. If both weight and credentials are acceptable, the truck is notified via a green light in the truck's cab and an audible signal to bypass the port. If either weight or credentials are not in compliance, the driver is advised to pull into the port by a red light and audible signal.

While much of the literature summarized in this review did not deal specifically with port runners, all of the material, in one way or another, related to the monitoring of roadway systems. Port runners are the "bad guys" that these systems are trying to track and prevent. Researching this material uncovered information on the methods by which truckers try to avoid weigh stations as well as the reasons for why they do it. The information on intelligent monitoring systems, such as WIM, also provided helpful insight into methods useful for preventing the occurrence of port running.

[18] "What is PrePass?" 5 May 2005 http://www.prepass.com.

CHAPTER 3
SURVEY

3.1 SURVEY INTRODUCTION

A survey was created to glean information about how the issue of port running is dealt with by other states. Traditionally, surveys sent out for research purposes have an average response rate of approximately 40%. In order to ensure the most favorable response for this project, the survey was kept to one page with most of the questions limited to multiple-choice answers. The methodology behind the survey was to gain a better understanding of how other states view port running, the causes they attribute it to, and what, if anything, they do to prevent it from occurring. A copy of this survey has been included in Appendix A.

All 49 states (except Arizona) were contacted and in most cases, a state employee with experience in the traffic system was identified. The one-page survey was then emailed out to each state's contact person along with a cover letter from ADOT explaining the research and the purpose of the survey. A sample cover letter has been included in Appendix A. Arizona's weigh stations are all located on the state's border and are thus called ports of entry. To avoid confusion, survey respondents were instructed to use the terms port of entry and weigh station interchangeably. Surveys were emailed to the 40 states for which the researchers were able to secure a contact person. Responses were collected from 28 states over the weeks following distribution. In addition to the 28 replying states, 3 states responded that they did not employ weigh stations or ports of entry. In sum, the survey achieved a 63% response rate. The data from the responding states were tabulated and are shown both in tabular and graphical form.

3.2 SURVEY METHODOLOGY

Question 1—Is port running viewed as a problem in your State?

The first question of the survey simply asks the responder if port running is viewed as a concern in his state. The researcher included this question to determine the prevalence of this problem.

Question 2—How much avoidance activity do you estimate occurs at your State's weight stations?

This question was asked to qualify the concern addressed in Question 1. The idea was to find out how much truck traffic is estimated to be is avoiding the state's weigh stations. The higher the estimated percentage of avoidance, the greater the concern this issue is for most states.

Questions 3-8—What percentage of port running in your State do you estimate can be attributed to overweight vehicles, illegal immigrants, contraband, illegal drugs, uninspected agriculture, or noncompliance with safety regulations?

These questions were asked in order to identify what is believed to be the major causes for trucks running each State's ports. The survey asked respondents to specify the amount of port running due to each of the possible motivating factors.

Question 9—Does your State employ weigh-in-motion (WIM) sensors?

This question was asked to determine what percentage of states uses WIM systems, an intelligent weight system, as a method of tracking and preventing port running.

Question 10—Does your State employ any other type of intelligent weight system?

While WIM systems are a popular intelligent weight system, this question was asked to determine if there are other effective systems that states are using to monitor truck traffic.

Question 11—Has your State transportation department performed any research on the topic of port running?

This question identifies what percentage of states have done any research on this issue.

Question 12-13—Has your State transportation department attempted to reduce the occurrence of port running? If yes, what techniques have been tried?
Please briefly describe and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

These questions focus on whether or not the State has used its resources to try and reduce the occurrence of port running. Question 13 is the sole question on the survey that requires a fill-in response. The question asks respondents to name and rate the techniques they have used to combat avoidance activity on the following scale:

1 = very ineffective
2 = rather ineffective
3 = neutral
4 = rather effective
5 = very effective

3.3 SURVEY RESULTS

Question 1
Is port running viewed as a problem in your State?

TABLE 3-1 ~ SURVEY QUESTION 1 RESULTS

Yes	No
16	14

The responses to this first question were rather evenly divided. Sixteen states (53%) declared that port running was viewed as a problem while 14 states (47%) did not. Researchers had expected a larger percentage of states to feel that avoidance activity was problematic and yet almost half denied that it was. This question clearly showed that while ADOT feels that port running is a large problem to contend with, there are a number of states that are not as concerned with this issue.

Question 2
How much avoidance activity do you estimate occurs at your State's weigh stations?

TABLE 3-2 ~ SURVEY QUESTION 2 RESULTS

0-10%	10%-20%	20%-30%	30%-40%	40%+
12	19	7	1	0

Almost half of the respondents (12 states) felt that less than 10% of their trucks engage in avoidance activity. Roughly one-third of respondents (19 states) felt that 10% to 20% of truck traffic was running state ports, while another eight states felt that over 20% of the trucks that travel through their states are port running. This last number is the most significant. In practical terms, eight states felt that one in every five trucks that passes through its borders is evading weigh stations. That points to a significant amount of avoidance activity.

Question 3
What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

TABLE 3-3 ~ SURVEY QUESTION 3 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
2	21	5	0	1

A significant number of states responded that less than 25% of port running occurs because a truck is overweight. Only five states felt that 25% to 50% of its port running was due to heavy loads. The state of Michigan was the only outlier, attributing potentially all of its port running to overweight vehicles.

Question 4

What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

TABLE 3-4 ~ SURVEY QUESTION 4 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
14	15	0	0	0

This question resulted in close to an even split between states that felt that illegal immigrants were never a cause for port running and states that felt that up to a quarter of their avoidance activity is due to this issue. States that felt illegal immigrants were one of the causes for port running included, but were not limited to, many of those that border Mexico and Canada, such as California, Maine, and New Mexico, while interior states such as Tennessee and New Jersey did not view this as a problem.

Question 5

What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

TABLE 3-5 ~ SURVEY QUESTION 5 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
3	25	1	0	0

This question asked states to estimate the percentage of trucks that evade weigh stations because they are carrying contraband. A large majority of responding states (90%) felt that this only accounted for 25% or less of evading traffic.

Question 6

What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

TABLE 3-6 ~ SURVEY QUESTION 6 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
4	22	3	0	0

While 76% of responding states felt that drug trafficking was responsible for less than 25% of port evasion, Kentucky, Maine, and New Jersey attribute up to half of their port running to illegal drug transportation. Four states felt that illegal drugs were not responsible for any port running activities.

Question 7

What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

TABLE 3-7 ~ SURVEY QUESTION 7 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
13	16	0	0	0

One of the major concerns the State of Arizona has with port runners is the potential it allows for agriculture to enter the State without being inspected. Survey results showed that other states do not view uninspected agriculture as a major problem. While over half of the responding states agreed that uninspected agriculture results in at least a small portion of evading traffic (less than 25%), the other 45% of states felt that it was a non-issue.

Question 8

What percentage of port running in your State do you estimate can be attributed to noncompliance with safety regulations?

TABLE 3-8 ~ SURVEY QUESTION 8 RESULTS

None	0-25%	25%-50%	50%-75%	75%-100%
1	17	7	4	0

Survey responses to this question showed that noncompliance with safety regulations is one of the biggest concerns for most states. While 17 states responded that noncompliance was responsible for up to a quarter of its port running, 7 states felt that it contributed up to half of port running occurrences while 4 states attributed up to 75% of port evasion to noncompliance.

Question 9

Does your State employ weigh-in-motion (WIM) sensors?

TABLE 3-9 ~ SURVEY QUESTION 9 RESULTS

Yes	No
30	1

Thirty of the 31 states that responded to this question testified to employing WIM systems on their roads. South Dakota was the only state that reported to not using this method of weight management.

Question 10

Does your State employ any other type of intelligent weight system? If yes, please briefly describe.

TABLE 3-10 ~ SURVEY QUESTION 10 RESULTS

Yes	No
8	22

Seventy-three percent of responding states confirmed that WIM systems were the only intelligent weight system used by the state while 27% responded that they used additional weight tracking and monitoring systems:

- Arkansas reported that it is in the planning stages for implementing two virtual weigh stations, and Kentucky already has one in use.
- Illinois, West Virginia, and Wisconsin use a pre-clearance system (PrePass) with high-speed WIM at all interstate weigh stations.
- Michigan is developing a Truck Weight Information System that archives weight data and performs various analyses of legal and overweight trucks.
- Rhode Island has employed vehicle loop counters to help combat this issue.
- Washington uses a pre-clearance system that allows trucks to be equipped with a transponder that communicates to truckers whether they need to stop at a weigh station based on their safety rating.

Question 11

Has your State transportation department performed any research on the topic of port running?

TABLE 3-11 ~ SURVEY QUESTION 11 RESULTS

Yes	No
1	29

All responding states except Hawaii replied that the state transportation department had not performed any research on the topic of port running.

Question 12

Has your State transportation department attempted to reduce the occurrence of port running?

TABLE 3-12 ~ SURVEY QUESTION 12 RESULTS

Yes	No
12	18

Over half of the responding states said that no efforts have been made to reduce the occurrence of port running.

Question 13

If yes (to Question 12), what techniques have been tried?
Please briefly describe and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

Of the 40% of states that are attempting to reduce the occurrence of port running, several responded with the methods they are using and the effectiveness of those methods. States that responded to this question are noted as follows:

- Alaska uses outreach (rating = 3) and education (rating = 2).
- Arkansas constructed two new weigh stations with very inaccessible bypass routes (rating = 5). They also deploy patrol units near weigh stations and bypass routes to catch offenders (rating = 3).
- Hawaii increased the hours of weigh station operation and rely on police to return runners (rating = 5).
- Idaho has bypass-stopping authority and performs traffic stops on all vehicles that bypass an open fixed or roving port-of-entry site (rating = 5). Idaho has also created a bypass log that is shared with all port-of-entry sites to monitor frequency or trends by various companies (rating = 3). Idaho also relies on a close working relationship with local and State law enforcement with timely responses to requests for assistance (rating = 4).
- Illinois uses semi-portable scales and wheel load weigher scales on bypass routes (rating = 5).
- Ohio uses portable scale teams located throughout the State (rating = 1).
- South Carolina patrols the back roads near the scales (rating = not given).
- Utah has tried to reduce port running by making it easier to obtain permits, imposing heavy fines for evading a weigh station, and using the highway patrol to catch runners (rating = 4).
- Virginia uses 13 mobile weigh crews and patrols its bypass routes (rating = 5).
- Washington employs enforcement personnel to stand by during peak traffic times to catch port runners and stop trucks that run (rating = 5).

CHAPTER 4
FIELD INVESTIGATION

4.1 PORT LOCATIONS IN ARIZONA

According to the ADOT website, the mission of Arizona's Port of Entry program is to "ensure that all commercial vehicles operating on Arizona highways are properly credentialed, and in safe operating condition while providing efficient, fair, and friendly treatment to all of our customers and citizens of the State of Arizona." At Arizona's ports of entry, compliance officers "monitor and screen all commercial traffic entering the State of Arizona for registration, motor tax, size and weight restrictions, commercial driver's license requirements, insurance requirements, and motor carrier equipment safety requirements."

There are 21 fixed ports of entry in the State, six of which are located on the Arizona-Mexico border. This research focuses on the non-border ports of entry. A map of all Arizona port of entry locations has been included as Figure 4-2. All Arizona ports perform the regulatory functions mentioned above, however several provide other services for ADOT as well. According to the Strategic Program Area Review Report,[19] "the ports at Springerville and Teec Nos Pos provide driver licensing and the Page and Fredonia ports provide driver licensing and vehicle title and registration services."

4.2 PORT LAYOUT

Most of the ports in Arizona have the same basic layout. The port of entry complex is formed out of several trailers linked together (Figure 4-1). There is a small intake area where truckers can come into the office to purchase permits if they are not in compliance when they arrive. The building also contains several offices for the port personnel to maintain and store records. On the highway side of the port is a canopied area where trucks are directed for inspection purposes during inclement weather.

FIGURE 4-1 ~ PORT OF ENTRY COMPLEX

[19] "Arizona Ports of Entry--Arizona Department of Transportation 2000 Strategic Program Area Review." *JLBC/OSPB Joint SPAR Report*. 2000: Pages A4-A6.

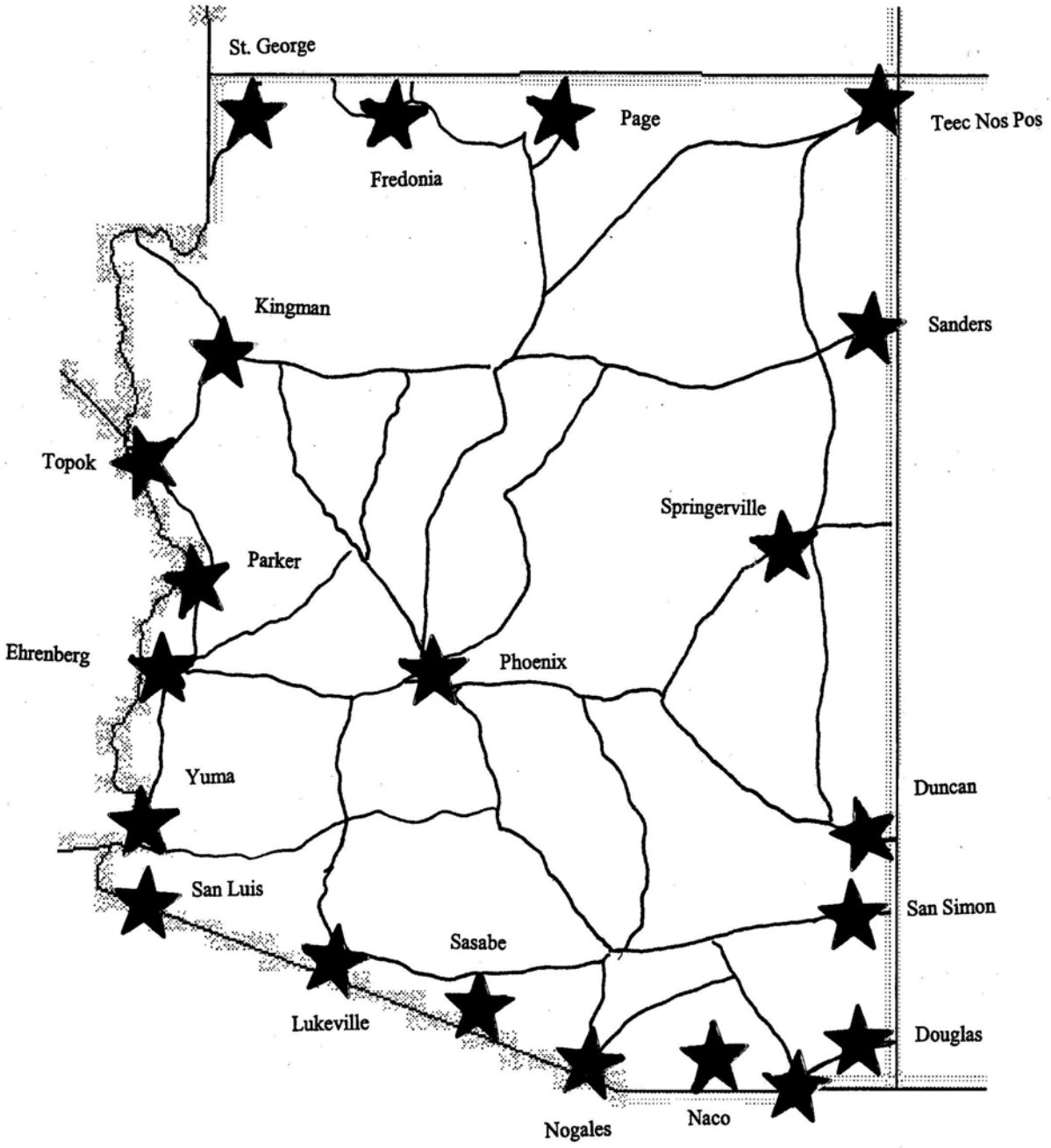


FIGURE 4-2 ~ ARIZONA PORTS OF ENTRY LOCATIONS

Truckers approaching an Arizona border are notified of a port of entry by highway road signs that increase in frequency as one approaches the port (regardless of whether the port employs WIM sensors). Arizona has six ports with mainline WIM sensors: San Simon, Ehrenberg, Kingman, Sanders, Topock, and St. George. At these ports, truckers are instructed to stay in the right-hand lane as they approach the port to ensure that they drive over the WIM sensor. Arizona embeds WIM sensors in the right-hand lane of the roadbed about one mile in front of the port so that truckers are weighed as they approach. As trucks drive over the WIM sensors, stationary cameras take pictures of the vehicle. WIM sensors communicate data to the port of entry only to help port officials identify possible offenders. There is no system in place at these six ports that notifies truckers whether or not they are in compliance with weight limitations based on the WIM sensor readings. Therefore, regardless of whether a port is equipped with a WIM sensor, all trucks are instructed, via signs, to exit the highway and enter the port. Each port of entry has an exit ramp that leads to a paved entrance lane between the roadway and the port of entry where the trucks form a queue while waiting to be weighed at the static scale and have their credentials checked. This is shown in Figure 4-3. (Trucks that subscribe to PrePass are not required to follow the posted signage and enter the port if notified by a green light in the truck's cab and audible sound that all their documentation is in compliance with State regulations).

FIGURE 4-3 ~ TRUCK QUEUE

As trucks approach the port office building, there are two lanes available for them to drive through, and the trucks are directed to one lane or the other by a traffic light system shown in Figure 4-4. Most ports of entry are equipped with either a static axle or full-length scale, shown in Figure 4-5, over which the trucks drive as they approach the pass-through window shown in Figure 4-6. The room with the pass-through window contains several computer screens and television monitors constantly flashing the operating personnel with weight readings and pictures of each truck for identification purposes. In addition to checking weight, the ports also check that trucks are in compliance with size requirements as they drive past this window. Beyond the port is a parking lot for truckers who have to adjust their loads or buy the proper registration or permits before continuing on their way.

4.3 PORT PERSONNEL

While small ports operate with as few as two people, the larger ports in Arizona are often staffed with four to six compliance officers at any one time. Compliance officers work under the Motor Vehicle Enforcement Division of ADOT and have a ranking status much like the military. These compliance officers execute a variety of functions. Depending on the size of the port, one or more officers are in the intake room granting permits and licenses to drivers who come through the port without the necessary paperwork. One compliance officer is stationed at the port's pass-through window checking the weight of each truck as it drives over the static scale as well as a trucker's permit and registration. During busy periods, a port often opens both lanes and has another officer checking the second lane of trucks.

FIGURE 4-4 ~ SIGNAL SYSTEM FOR PRIMARY AND BYPASS LANE

FIGURE 4-5 ~ FULL-LENGTH STATIC SCALE

FIGURE 4-6 ~ TRUCK AT PORT PASS-THROUGH WINDOW

While much of a compliance officer's work deals with regulatory maintenance, a large portion of the job addresses safety issues. It is not uncommon to find a port officer in the back of a truck inspecting the goods being carried or crawling under the truck to make sure it is safe to travel on Arizona's roads. Officers are responsible for issuing citations to truckers who are either overweight or out of compliance with Arizona's regulations. Compliance officers are in constant communication with local law enforcement and Department of Public Safety (DPS) officers, and rely heavily on their help to catch runaway trucks and inspect trucks carrying illegal loads. The job of a compliance officer, however, is to maintain safe roadways for all motorists, so in isolated situations where safety is an immediate concern, a compliance officer is allowed to pursue questionable trucks and bring them back to the port for further inspection.

4.4 PORT OPERATIONS

The process that occurs at each weigh station varies little from port to port. All trucks are required to exit the roadway and pass through the port of entry except:

- Trucks that are three-quarter ton and below are exempt from Arizona registration regulations
- Trucks that are properly credentialed by subscribing to Arizona's PrePass system and within weight limits (measured by WIM if available at port)

Trucks form a queue as they approach the port. One by one, they are brought forward to the pass-through window. Before reaching the window, each truck drives over a static scale that sends a digital weight reading into the officer at the pass-through window. The majority of Arizona ports do not have WIM sensors. Thus the static scale is ADOT's one opportunity to check a truck's weight compliance. However, if the port employs WIM sensors, the truck is, in effect, weighed twice. Static scales are more accurate than the WIM scales, so officers are afforded the opportunity at the static scale to verify an overweight reading from the WIM sensor. At all ports, as they pull up to the window, truckers show their registration and permits to the compliance officer. If all the necessary

documentation is present and current and the truck is under weight limits, the truck is allowed to proceed.

The maximum weight limit for a truck on Arizona highways without a special permit is 80,000 pounds. For a typical five axle vehicle, this limit is further detailed to a 12,000 pound limit on the front axle of the cab followed by 34,000 pound limit on each of the dual axles that carry the trailer load. If the truck's weight is over Arizona's limits, the officer directs the driver to park his truck. If the truck is overweight but less than 2,500 pounds over per axle, the officer has the option of writing a citation, but will typically give the driver a chance to adjust his load. This can be done by physically moving the load in the truck or by shifting the placement of the trailer on its axles. The trucker is then required to pass back over the scales to ensure that the truck passes regulations. If a truck weighs in at 2,500 pounds an axle or more over the allowed weight, it is automatically cited. A schedule of citation levels is included in Appendix D. Once citations are issued, they are no longer under the purview of the Motor Vehicle Enforcement Division, but the Arizona court system. Similarly, if a truck does not have the proper permitting or registration, the officer tells the driver to park his vehicle and come into the office to purchase the necessary documents. An Arizona permit costs $1,800 annually, which makes it one of the most expensive states in the nation to drive in.

As described in the literature review, a small, but growing, contingent of truckers, those using PrePass, are not required to stop at ports of entry. However, the State is not equipped to use PrePass at every port. Currently, Arizona has PrePass available at all six ports that also have mainline WIM sensors: Ehrenberg, San Simon, Sanders, Topock, St. George, Kingman, and Yuma.

Contrary to information on the PrePass website, one of the major problems with the current system used at Arizona's PrePass ports is that the PrePass system and the WIM sensors do not talk to each other. This is problematic because a PrePass truck may get a green light for its registration but still be overweight according to the WIM sensor's measurements. Per one Arizona compliance officer, the port officials can then manually "override" the PrePass notification system to flash the trucker's red cab light but it is often ignored due to the initial green light signal given by the PrePass system. It causes confusion for the truckers and results in fewer overweight trucks coming in to be weighed and more overweight truckers running the port.

4.5 DATA COLLECTION—PART ONE

Out of Arizona's 21 ports, two were chosen for study and data collection: San Simon and Ehrenberg. These ports were chosen based on their high traffic activity as well as their location on one of Arizona's busiest freeways. San Simon is located in eastern Arizona on Interstate 10 (I-10) about five miles from the New Mexico border. Ehrenberg is located in western Arizona on I-10 about three miles from the California border.

San Simon

The westbound port of entry at San Simon is open seven days a week, 20 hours a day. The compliance officers run two 10-hour shifts. The port is closed from 1:00 AM to 5:00 AM every day. Officials at the port indicated that the port is busy all day long, but they suspect that truckers who are "running heavy" often wait for the port to close to travel by on the freeway rather than attempting any of the rather treacherous bypass routes in the area. The westbound port is equipped only with a single axle static scale. This requires the truck to stop several times on its way to the pass-through window in order for each axle to be weighed on the static scale.

The eastbound port of entry at San Simon is not in use. There is a full-length static scale at that location, but it has been inoperable for years. The end result of this lack of use is that overweight or out-of-compliance trucks that begin their trip in Arizona and head out of the state through San Simon never are accountable to the State of Arizona for the roadway damage or safety violations that they cause.

The researchers visited this port of entry on three occasions. Each time several sets of data were collected. The number of trucks that bypassed the port were counted and compared to the number of PrePass trucks that received a green light. The difference was assumed to be a count of the trucks that simply ran by. The number of trucks that were waived through (not weighed or inspected) was also recorded for each period. Trucks were waived past the port only when the line of trucks waiting in the queue grew to the point of spilling onto the freeway and becoming a safety hazard. Finally, the traffic count of trucks traveling east past the unused port of entry was also documented. The data collected is shown in Table 4-1.

TABLE 4-1 ~ SAN SIMON PORT TRAFFIC DATA

San Simon								
Eastbound (port closed)			Westbound (port open)*					
Date	Time	Number of Trucks	Date	Time	Number of Trucks	Number of Prepass	Number of Runners	Number Waived Through
2/28/2004	1700-1800	299	3/13/2004	1700-1800	41	40	1	0
3/14/2004	1245-1345	123	3/14/2004	1245-1345	81	93	0	41
3/14/2004	1345-1415	49	3/14/2004	1345-1415	32	35	0	84
3/28/2004	1200-1300	111	3/28/2004	1200-1300	1*	0	1	76
3/28/2004	1300-1400	123	3/28/2004	1300-1400	8*	0	8	147
AVERAGE / HR		161			39	41	2	86

[*PrePass not working--all trucks required to stop]

One interesting account of avoidance activity at San Simon was shared by compliance officer Claudia Elliot. She explained that car carriers loaded with large vehicles—full

size trucks and SUVs—often come in overweight. The carrier drivers know when they are overweight and so they will stop before reaching the port and unload one of their vehicles. The trucker will then pay someone or use a driving partner to drive the vehicle past the port to an exit on the west side of San Simon, where the car carrier driver will load it back on. As a result, the researchers paid special attention to car carriers as they counted trucks each day.

Researchers were collecting data on March 28, 2004 when they noticed a car carrier enter the port loaded with seven large pick-up trucks and Suburbans along with one open space on its trailer. The car carrier was weighed and passed through the port with no apparent problems. The researchers left the port shortly thereafter driving westbound on the I-10, towards Phoenix. Less than an hour down the road, they passed the same car carrier they had seen earlier at San Simon, carrying the same seven trucks and Suburbans along with one car now located in what had previously been an open space! The car had definitely been added since the researchers viewed the car carrier at the port.

Ms. Elliot made it clear that while the compliance officers know that this kind of activity occurs, they do not have the manpower to send officers after the trucks to catch them and bring them back to the port. The compliance officers in the port of entry office can identify when a trucker is running by the port and yet, they are in no position to do anything to stop them. The compliance officers rely on DPS officers to pursue trucks that run by the port, and yet there are simply not enough officers available to respond to the port's requests for help.

Ehrenberg

During the time that the researchers were performing their fieldwork, the port at Ehrenberg was closed for repaving. To prevent a total shutdown of operations, a rest stop 60 miles from the California border was equipped with a mobile weighing unit and trucks heading eastbound on the I-10 were directed to stop as they would at the port. This makeshift facility is open five days a week for 10 hours each day and is closed on weekends. (Normally, Ehrenberg is open 10 hours a day including weekends.) Similar to the port situation at San Simon, the outbound port of entry location (westbound in this case) is not manned, however, there are renovations scheduled. When completed, the outbound port will be opened intermittently based on traffic needs and staffing resources.

The researchers visited this site on three occasions—twice during the day on weekends and one weekday night. Since the makeshift port was not open while the researchers were there, they did not collect the range of data that was obtained at San Simon. Rather, the researchers counted the total volume of trucks heading westbound (out of Arizona into California) and the total volume heading eastbound (out of California into Arizona). The data collected during these visits is shown in Table 4-2. The eastbound count represents the number of trucks that would be going through the port had it been open. The researchers counted these trucks to estimate how many trucks are being missed due to the fact that the port closed. One interesting conclusion reached was that a trucker that loads up in California on Friday and starts his trip Friday afternoon can travel I-10 all the way through the State of Arizona without having to stop at a port of entry. In fact,

Ehrenberg is the first scale that many vehicles are subject to all the way from Canada, depending on which ports of entry in California and Oregon have enough staffing to be operated.

TABLE 4-2 ~ EHRENBERG PORT TRAFFIC DATA

Ehrenberg					
Eastbound (port closed)			Westbound (port closed)		
Date	Time	Number of Trucks	Date	Time	Number of Trucks
3/13/2004	1200-1300	188	3/13/2004	1200-1300	112
3/13/2004	1300-1400	196	3/13/2004	1300-1400	118
3/20/2004	1015-1115	246	3/20/2004	1015-1115	138
3/20/2004	1145-1245	215	3/20/2004	1145-1245	135
3/30/2004	1900-2000	296	3/30/2004	1900-2000	301
3/30/2004	2100-2100	261	3/30/2004	2100-2100	269
AVERAGE/HR		239			179

4.6 DATA COLLECTION–PART TWO

In order to obtain a better understanding of how many trucks are running Arizona's ports of entry when they are closed and/or using bypass routes, the researchers opted to further study traffic at the San Simon port of entry.

Data collection for counting the number of trucks was divided into three segments; one location at the San Simon port of entry and the other two locations at port bypass roads at Duncan and I-10 Exit 5, leading to Portal. A map of the selected bypass route data collection points and the San Simon port of entry is shown in Figure 4-7. Data collection followed the same general process each night. First, the researchers sat on one of the two bypass locations for several hours before midnight to count the number of trucks using the bypass road while the San Simon port was open. The researchers also used this time to interview the local convenience store workers about truck activity on the bypass roads. As midnight approached, the researchers moved to the port to collect truck data from 12:00 midnight to 5:00 AM. The San Simon weigh station is operation until 1 AM in the morning and reopens at 5:00 AM. The Arizona Department of Agriculture also uses the port of entry for an inspection service that runs throughout the night. The chosen time frame for collection gave a comparative idea of the number of trucks passing through the port during working hours and non-working hours. Daily logs of all data collected during this second phase of the field research are presented in Appendix E.

FIGURE 4-7 ~ DATA COLLECTION–PART TWO LOCATION MAP

San Simon

The counting was divided by hour from midnight to 5:00 AM in the morning. During the time of observation, the maximum numbers of trucks passed through between 12:00 AM to 1:00 AM in the morning. While the number of trucks going through the port slows down when the port is closed, the observation of the agriculture personnel is that the majority of trucks passing after 1:00 AM in the morning are overweight. This leads to the conclusion that overweight truck drivers will wait for the port to close to pass through the port in order to avoid citations. There were 12 to 15 port runners every evening during the hours of observations. The number of trucks that pass through the night falls steadily till 4:00 AM in the morning and again picks up till 5:00 AM in the morning.

The days of heavy traffic are Tuesday, Wednesday and Thursday. Through interaction of the persons in charge, it was confirmed that the heavier traffic days are Wednesday and Thursday.

Bypass Roads

Duncan

- Interaction with the convenience store owner hints at the nature of this traffic. She declared that the traffic passing through is mostly local and the trucks are often not in ideal shape. The traffic is also divided as the some of it pass through State Route (S.R.) 92 and S.R. 75.

Exit 5

- This route has heavier traffic. According to the interaction with the owner of the convenience store, it basically handles the business of small towns along this route.

4.7 PORT DATA ANALYSIS

In their first visit to San Simon, the researchers counted trucks for one hour. In that period of time, 40 trucks were cleared by PrePass to bypass the port, and yet one researcher counted that 41 trucks drove past. The port officials confirmed that one truck had run the port in that hour. Port officials were able to determine according to the WIM sensor, the port runner was 18,000 pounds overweight.

The second set of data from San Simon shows several inconsistencies. On March 14, the researchers counted 113 trucks bypassing the port in the hour-and-a-half time period. In that same 90 minutes, however, port officials said that 128 PrePass trucks received a green light granting permission to bypass the port. That means that of the 128 truckers that could have legally bypassed the port, 15 did not, choosing instead to come into the port of entry and be weighed. There are several explanations for this aberration in the numbers. First, the number of PrePass trucks that are green lighted each hour are hand counted and hand recorded off of a computer screen every several hours. It is possible, even probable, that the number of PrePass trucks for that 90-minute period was miscounted. Another alternative is that several PrePass approved trucks stopped at the port of entry to check their compliance with Arizona's size and weight requirements. Researchers also noted on this visit that 27 of the 113 counted trucks approached and passed by the port in the left hand lane meaning that almost 24% of trucks bypassing the port in that time period were not weighed by the WIM sensor. While all 27 of those trucks might have received a green signal to pass the port due to their paperwork compliance, the weight of these vehicles was never checked. This creates a loophole in the system for PrePass-subscribing trucks that are overweight.

In the researchers' last visit to the port, the PrePass system was not working. As a result, every truck was required to come into the port to be inspected and weighed. That made it easy to identify the nine port runners, as they were the only trucks not stopping at the port. The equipment malfunction also resulted in a spike in the number of trucks waived through the port. When the queue backs up to the point that trucks are waiting in line on the roadway to enter the port, it becomes a public safety risk. To prevent this from happening, port officials have to "run" trucks through the port when the line begins to get long. When trucks are waived through the bypass lane, they are not weighed and their

manifests and registrations are often not checked. Figure 4-8 shows the bypass lane without a scale. Once the line of trucks in the queue dwindles, normal port operations are resumed.

FIGURE 4-8 ~ BYPASS LANE (NO SCALE)

According to the data taken at San Simon, there was an average of two port runners each hour. While the port officials can identify the trucks that run, there is very little they can do to stop them. It is reasonable to assume that trucks that run by the port are either overweight, out of compliance with Arizona mandates, or carrying illegal cargo. It is also reasonable to assume that this activity is heightened during periods when the port of entry is closed.

While port runners were not counted at Ehrenberg, the number of trucks passing by that port uninspected was staggering. An average of 239 trucks per hour passed the port heading eastbound on I-10. That calculates to 11,472 trucks each weekend that travel into Arizona unmonitored. Even if only a small percentage of those trucks are not in compliance, the amount of potential roadway damage and public safety concern is tremendous. The amount of truck traffic on I-10 at night during the week was significantly higher in both directions than during the day on the weekends. This would indicate that if the port were to remain open for more hours, it would be better served (from a pure numbers basis) to increase its weekday hours rather than open longer on the weekends.

CHAPTER 5
TRAFFIC AND REVENUE DATA

5.1 INTRODUCTION

Traffic and revenue data is gathered from all of the State's ports of entry and compiled and maintained by ADOT in the ADOT Flagstaff Office. Data is gathered daily regarding hours of operation, traffic volume passed, permits and citations issued, and many other related pieces of information. This material is compiled on a monthly and annual basis both by port and at the statewide level. The researchers looked at the traffic volume data, the hours of operation of the State's ports of entry, and finally the revenue data generated by the issuance of permits and citations. The purpose of this analysis was to determine the effect that port-of-entry avoidance activities is having currently on the State and to project the future consequences of such activities.

5.2 TRAFFIC VOLUME

While Arizona has not experienced the 102% growth in truck volume reported in the newspaper article "Trucking Industry Sees Trouble on the Horizon,"[20] it has seen a significant increase in truck traffic of approximately 20% since 1996. The aggregate data for all of Arizona's ports are displayed in Figure 5-1. While there was a slight dip in 2001-2002 (probably attributed to economic events surrounding 9/11), according to the data, there has been a significant increase in truck traffic at Arizona's ports of entry since 1996. Unfortunately, the total truck traffic count that ADOT maintains is not completely accurate. Each port records its total traffic count according to its WIM sensor's count. The problem lies in the fact that not all of the ports of entry have WIM sensors in the roadway leading up to the port. Of Arizona's six ports that do have this technology operating, the WIM sensors are not placed across the entire roadway but only in the right-hand lane. While trucks are instructed to get in the right-hand lane as they approach the port, there is no accurate way to tell what percentage of trucks ignores that instruction. Trucks that drive past the WIM sensor in the left lane are never counted. If a driver knows that he is "running heavy," he would certainly be inclined to drive past the WIM in the left-hand lane to avoid getting weighed at all. Therefore, the reported numbers of truck traffic are actually low estimates of the true numbers of trucks that drive Arizona's roads. The researchers confirmed the existence of this problem while measuring truck traffic at the ports, and the compliance officers readily admit that they can always see the truck running the port, however they usually do not have sufficient manpower to pursue the individual. If the incident occurs during the hours of darkness, the photo system is inadequate with regard to identifying the vehicle, so that even if a DPS officer was available, the compliance officers are hesitant to call due to the difficulty in positively identifying the runner.

[20] Yantis, John. "Trucking Industry Sees Trouble on the Horizon." *East Valley Tribune* 18 Apr. 2004, B1+.

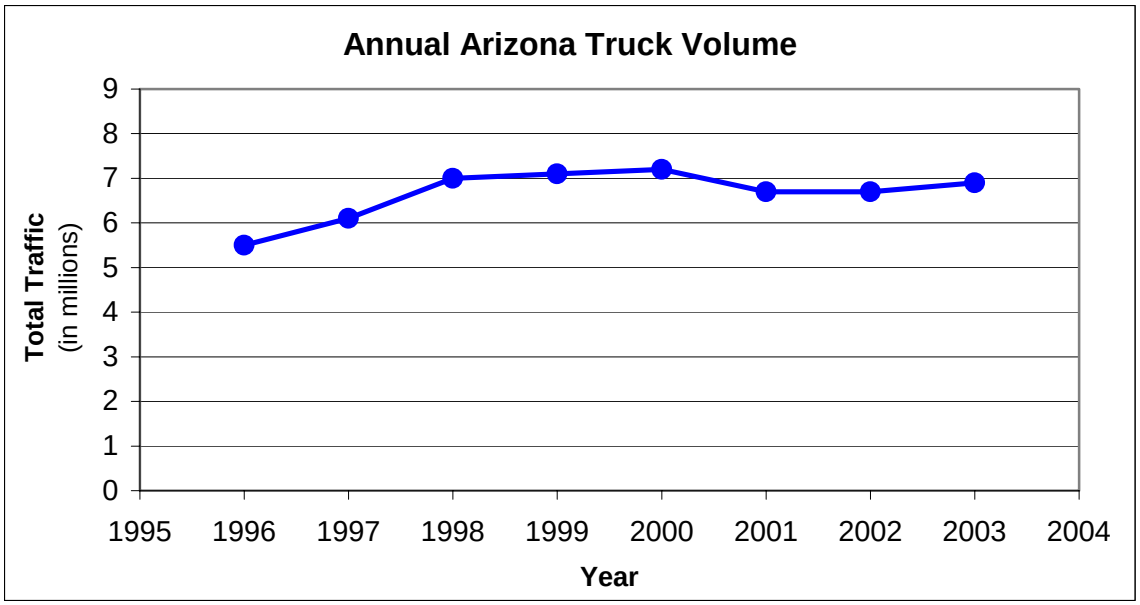


FIGURE 5-1 ~ ANNUAL TRUCK VOLUME IN ARIZONA

5.3 PORT HOURS OF OPERATION

For years, many of Arizona's 21 ports were open 24 hours a day, 364 days a year. A lack of recent funding, however, has resulted in a drastic reduction of open port hours. Figure 5-2 shows total hours of operation for all Arizona ports from 1998 through 2003.

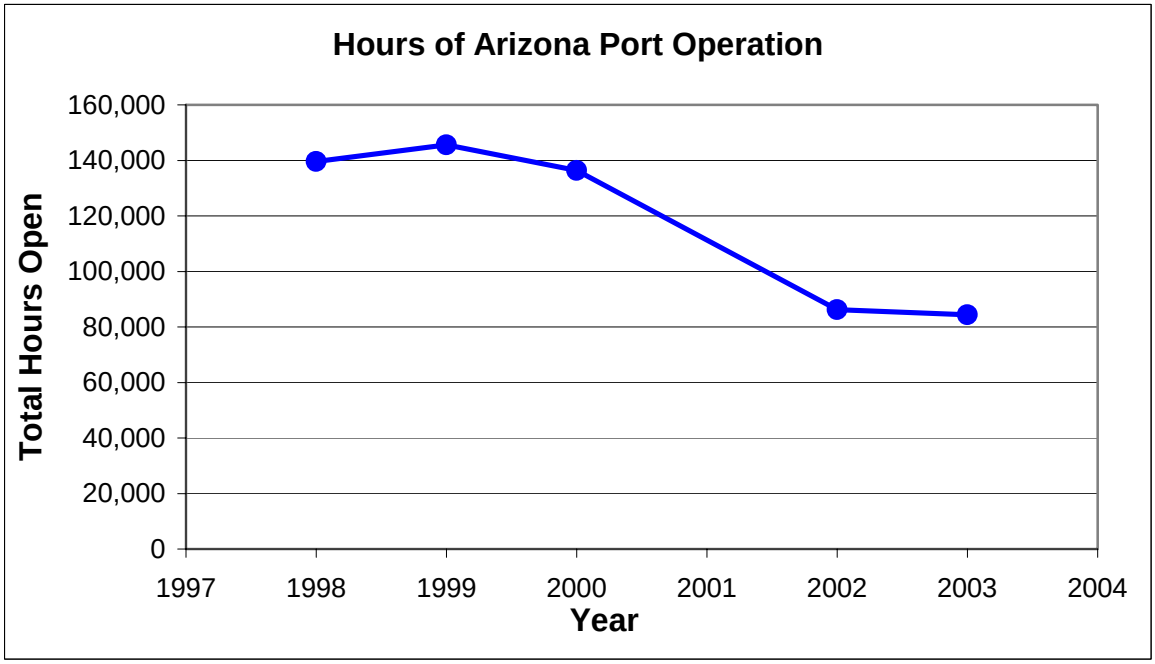


FIGURE 5-2 ~ HOURS OF ARIZONA PORT OPERATION

The total hours of port operation were not available for 2001, but as shown in Figure 5-2, there was a 37% reduction in the aggregate number of open port hours between 2000 and 2002. Data for 2003 shows a continued decline of over 2%. That same trend is demonstrated when looking at individual port operations. Speaking with the officers stationed at the ports revealed that, in most cases, as the number of staff was reduced, the port's ability to pursue runners was usually the first activity to be eliminated. As more positions were cut, the operating hours of the port began to decline as well. Figure 5-3 shows the operating hours for the ports at Ehrenberg and San Simon where the researchers conducted their field studies. Despite heavy traffic volumes, these ports also experienced a significant reduction in operating hours from 1998 to 2003.

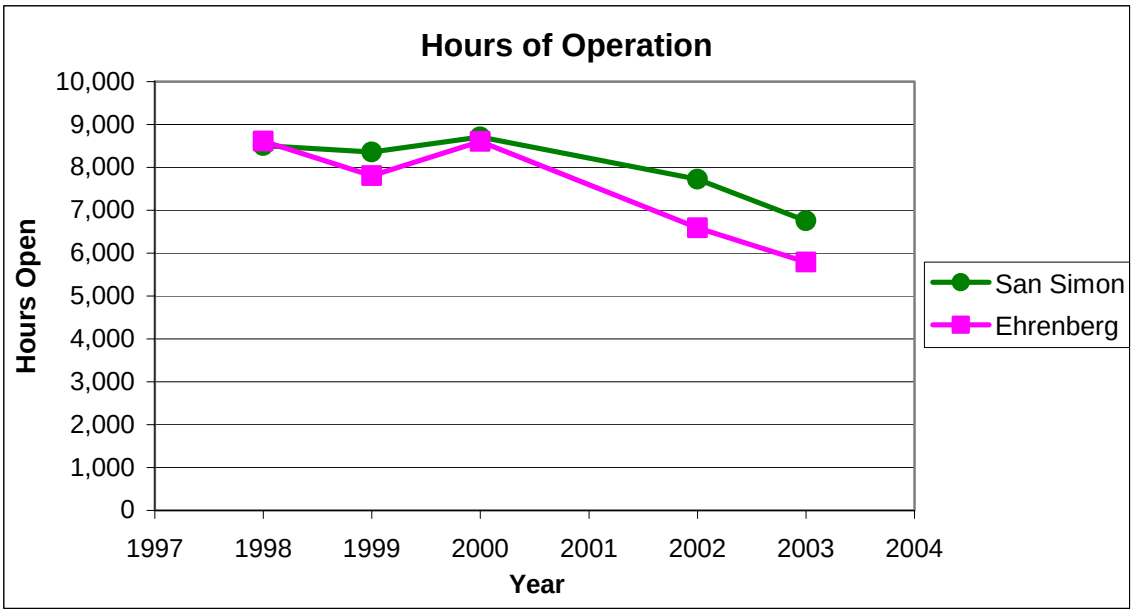
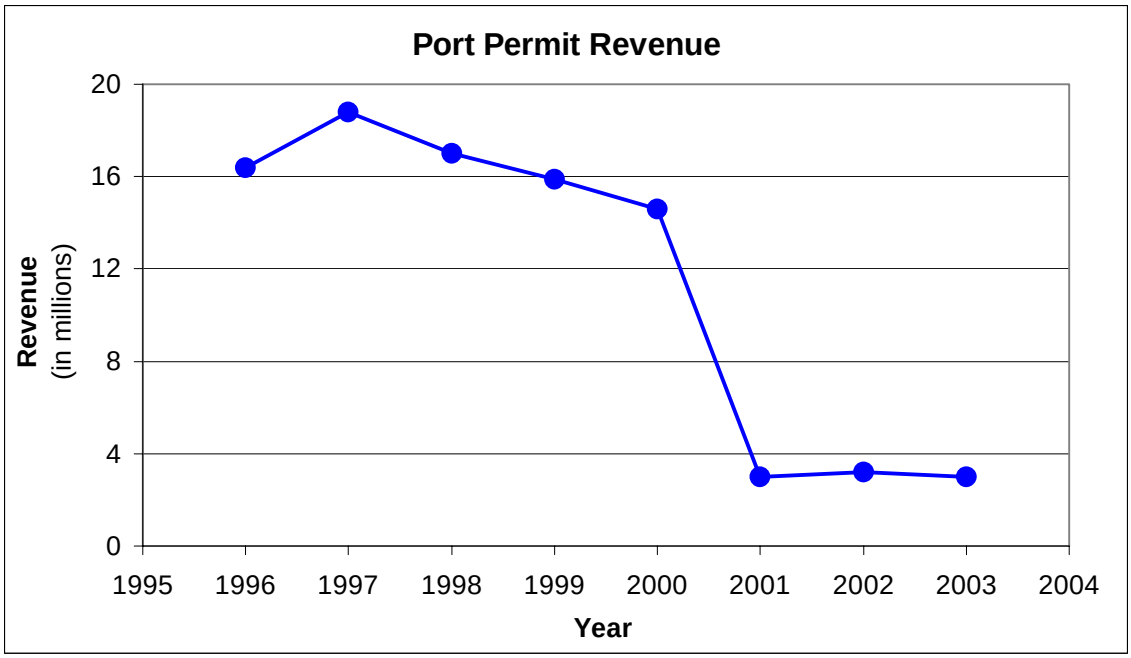


FIGURE 5-3 ~ HOURS OF OPERATION AT EHRENBERG AND SAN SIMON

5.4 REVENUE DATA HISTORY

Revenue is generated by Arizona's ports of entry in two forms: revenue from permits and revenue from citations. All trucks that drive through the State of Arizona must be properly permitted. Until recently, the ports were intermediaries between the trucking companies and ADOT for collecting permitting fees. The only way to obtain an Arizona permit was to purchase one at a port upon entering the State. Several years ago, however, ADOT set up a centralized permitting system that allows truckers to mail their information and permitting fee into the Phoenix office and receive a permit by mail. This has led to a significant decrease in permit revenues collected at Arizona's ports of entry as seen in Figure 5-4. Although not confirmed by the research, this fact is widely believed by the compliance personnel to be the primary reason for the reduction in positions suffered in recent years at all of the ports of entry. The port staff members believe that significant revenue is being generated for which the port is no longer receiving credit.



5-4 ~ PERMIT REVENUE AT ARIZONA'S PORTS

The other area through which ADOT generates port-related revenue is through citations issued. These citations can be issued for trucks being overweight, oversized, having a safety violation, or any number of other issues, however the vast majority of citations are for weight violations. While port officials are responsible for issuing citations, the port is not in charge of tracking that citation to ensure that it is paid. Rather, the citation falls under the purview of the local court system. Many local judges uphold citations, yet a fair number of citations get reduced and some are discarded completely. Of those that are upheld, not all citations are paid. Since the citation payment is now a civil court action, the ports are not responsible for collecting revenues on citations, and they do not "see" any of the citation money returned to their budget. The Motor Carrier Enforcement Division does track the amount of revenue that <u>should</u> be collected from the number of fines issued. Shown in Table 5-1, for the years 2002 and 2003, the ports of entry personnel issued over 5,000 citations worth a projected 3.5 million dollars.

TABLE 5-1 ~ TOTAL PROJECTED CITATION REVENUE FOR ALL PORTS

	Total Citations	**Total Fines**
2002	1,997	$1,382,411
2003	3,222	$2,141,458

These projected revenue numbers, combined with data on the percentage of time the ports are closed, were then analyzed to estimate the amount of citation revenue each port is missing while closed. Since the field data collection was conducted at Ehrenberg and San Simon, these two ports were studied to estimate the potential lost citation revenue

that was not gathered in 2003 due to the fact that these ports were closed a significant part of the time. Table 5-2 shows the total citations issued with projected fines, for both ports along with the hours open and closed.

TABLE 5-2 PROJECTED 2003 CITATION REVENUE (EHRENBERG AND SAN SIMON)

Port of Entry	Total Citations	Total Fines	Hours Open	Hours Closed
Ehrenberg	1,488	$1,027,938	5,792	2,968
San Simon	608	$423,360	6,756	2,004

Dividing the total fines by the hours open yields a revenue per hour ratio that when multiplied by the number of hours closed, results in the prospective revenue lost while the port was not in operation. A similar process is applied to the total citations number to produce a missed citation estimate.

Ehrenberg

$\frac{\$1,027,938}{5,792 \text{ hrs}} = \$177.48/\text{hr}$

$\frac{\$177.48}{\text{hr}} \times 2,968\text{hrs} = \mathbf{\$527,354}$ **(Missed Revenue)**

San Simon

$\frac{\$423,360}{6,756 \text{ hrs}} = \$62.66/\text{hr}$

$\frac{\$62.66}{\text{hr}} \times 2,004\text{hrs} = \mathbf{\$125,570}$ **(Missed Revenue)**

Ehrenberg and San Simon were the two highest-ranking ports in potential citation revenue for 2003. The above calculations show that by not having these ports open 24 hours a day, the State lost over $650,000 in revenue. To capture this lost revenue would have required the ports to be open for an additional 4,972 hours. This revenue loss is significant considering that it could be spent fixing the damage overweight trucks cause Arizona roads.

Overall, the data show that Arizona's ports of entry are struggling to perform the mission with which they have been charged. Port traffic has risen significantly and according to several sources, will continue to grow at even faster rates. While Arizona has experienced 20% growth in truck traffic between 1998 and 2003, its hours of port operation have tapered by 39%. This points to a severe disparity in the matching of Arizona's resources with its needs. Furthermore, a close look at the missed revenue due to a lack of port operations leads to the conclusion that Arizona is losing money by not operating at least its busiest ports at their full capacity. This lost money is funding that could be used to repair and improve road systems, increase the monitoring of bypass routes, or update the State's intelligent weight tracking systems.

CHAPTER 6
RECOMMENDATIONS

6.1 INTRODUCTION

The mission of this research was to quantify the occurrence of port running, which was defined as the action of evading or bypassing ports of entry. The research work began with a search of the existing literature to determine what, if anything, had been published in this area, and while very little published information was found addressing port running, a much broader range of documents was found pertaining to overweight vehicles and non-compliance. States including Louisiana, Washington, Oregon, Virginia, Texas, and Colorado have studied the effects of overweight vehicles and how WIM and other intelligent monitoring devices were successful in deterring port running. The literature review was followed by a survey that was sent to each of the 49 state departments of transportation to determine the nature of the problem and if any unpublished work had been finished since the literature review began. The survey results were evenly split and revealed that half of responding states viewed port running as a problem. The factor that many states felt most influenced truckers to run ports was non-compliance with safety regulations. The survey also provided researchers with a list of methods used by other states in an attempt to reduce port running along with an effectiveness rating of each technique. The researchers then conducted field data collection to determine the frequency of port running and the physical issues that contribute to it. Finally a study was conducted of the traffic and revenue data gathered by the State in an attempt to characterize the financial impact of the problem. The researchers recommendations can be broken into three categories:

- Operational Recommendations
- Structural Recommendations
- Legal/Business Recommendations

6.2 OPERATIONAL RECOMMENDATIONS

1) The study found it is easy to bypass ports in Arizona simply by driving past them. During the field data collection, the researchers found that 24% of trucks that bypassed the port due to PrePass clearance were driving in the left-hand lane. That means that they passed by the port without being weighed by the WIM sensor. Even when the port is open, a driver that just does not stop, in most cases, is successful at running the port. The compliance officers at the ports that the researchers visited, in many cases, lack the necessary manpower to pursue port runners. While port officers work closely with DPS officers and local law enforcement, those agencies also do not have the number of officers needed to enforce Arizona's ports of entry. One recommendation of this research is to increase the number of officials that are available to pursue and apprehend port runners.

2) Another significant problem is the reduced number of hours that the ports are in operation. The ports cannot monitor trucks for weight and compliance when they are closed, and they are currently closed more hours than they are open. This not only results in a significant loss of revenue to the State from missed citations, but it also leads to increased pavement infrastructure damage and safety hazards on Arizona's highways. The lack of cargo inspection (when ports are closed) presents the opportunity for drugs, unhealthy animals, and uninspected produce to enter the State. Increasing the hours of port operations would drastically reduce these concerns.

3) Port operations would dramatically improve if the technology were employed that would allow the PrePass system and the WIM systems to speak to each other. The lack of communication between these two systems causes confusion at ports when truckers are sent conflicting signals. When this occurs, the driver invariably will choose to obey the green signal and ignore the red stop sign. This places the port officers in the position of pursuing the runner or calling DPS for assistance. If the systems were linked so that the WIM system could override the PrePass system in cases of an overweight vehicle, truckers subscribing to PrePass would receive only one signal from a port as they approach. This would affect all overweight trucks currently using PrePass that right now, do not stop at a port once the PrePass system has issued a green light for their paperwork compliance, resulting in more of them coming into the port.

4) One class of offenders that researchers observed was car carriers. According to port personnel, it is not uncommon for these vehicles to travel heavy. When they are approaching a port, they will unload a vehicle and have someone drive it to a meeting point on the other side of the port. The car carrier then passes through the port and reloads the vehicle several miles down the road. One recommendation that would curb this practice would be a requirement that a car carrier's manifest specify the number and type of vehicles being carried as well as each vehicle's destination. It would then be difficult for a car carrier heading west through the port at San Simon to explain why he only has six of the seven pick-up trucks that he is responsible for delivering to California.

6.3 STRUCTURAL RECOMMENDATIONS

1) Researchers observed in their field studies that the length of the ramp space available between the port and the highway mainline heavily influences the number of trucks that are waived through a port. While the port is in place to check trucks for safety compliance, port operations itself cannot create a safety risk to the driving public. Therefore, when truck traffic is heavy and the line of trucks exiting the freeway to stop at a port begins to back up onto the mainline, port officials must wave the trucks through the port. This helps to empty out the line of trucks and prevents a stopped lane of traffic on the freeway, but it also results in a large number of trucks passing the port without being checked for weight or paperwork. Extending the length of the truck queue at all Arizona ports to a standard length of 1.5 miles or longer, would help to address this issue.

2) Another key area of concern revolves around the thoroughness of the data collection and traffic monitoring functions of Arizona's WIM systems in their current capacity. Presently, WIM sensors are placed only in the right-hand lane of the roadbed a mile outside of a port of entry. These sensors are used to alert port officials to heavy trucks and record total truck traffic at a port. Because the WIM sensor is not located in both lanes, trucks traveling in the left-hand lane are never counted or weighed and can bypass the port unaccounted for. This matter could be handled by adding a WIM sensor in the left-hand lane of the roadbed. The cost effectiveness of these systems, discussed in the literature review, illustrate that for the initial purchase price and a life cycle cost of several thousand dollars each year, a second WIM sensor could be added into the roadway. This would ensure that all trucks are weighed and counted before reaching the port.

3) Researchers also believe that adding WIM sensors on heavily traveled bypass routes would be an excellent way of catching trucks trying to avoid Arizona's fixed weigh stations. Virtual Weigh Stations with fixed WIM sensors, but mobile enforcement units, are designed so that the WIM sensor alerts enforcement officials to overweight trucks traveling on its roads. These systems require significantly less manpower than a mobile scale unit and provide much more consistent and thorough data.

6.4 LEGAL/BUSINESS RECOMMENDATIONS

1) One of the major complaints heard from port officials focuses on the fact that while ports issue citations for violations of state law, often judges in certain parts of the State will significantly reduce or dismiss the citation if it is contested. This results in a loss of money paid to the State to cover damages as well as a lowering of port officer morale. It also sends a very clear signal to truckers that Arizona does not regard port running or noncompliance with Arizona laws as a serious issue. The laws governing the civil penalties issued for weight violations are located in Arizona Revised Statutes Chapter 28. Researchers believe that this section of law should be amended to limit the discretion of the judicial system in reducing penalties. Requiring judges to enforce at least 50% of the issued penalty would help to address this concern.

2) Another legal technique that could be used to ensure that truckers who harm the roadways in Arizona are paying for the damage they cause would entail adding a surcharge to citation penalties. While some may claim that surcharges are a "hidden tax" on the user, only those who break the rules would have to face this fee. While current citation revenues are directed toward the Arizona General Fund, this surcharge fee could be applied back to the port the citation came from to help cover enforcement costs.

3) Finally, the researchers believe that the ports would run more efficiently if they operated in a more entrepreneurial atmosphere. Running Arizona's ports like a business—a for-profit entity—would require that ports look at their own operations and eliminate inefficiencies in their current systems. For this to be effective, each port would need to receive, at the very least, a direct proportion of the revenue that it

brings into the State. This revenue would be used for maintenance and operations of the port. The researchers feel that this would impact the Arizona port of entry system positively, because it would make the ports accountable for the work they perform. Currently, ports see very little of the revenue that their activities generate. A larger operating budget, more workers, and newer equipment would give port workers a tangible end goal to strive for.

6.5 CONCLUSION

As previously stated, commercial vehicle traffic is projected to increase significantly in the State of Arizona in the years to come. As the numbers of vehicle registrations and permits rise, so will the occurrence of port running. This problem must be addressed now to minimize the loss of revenue associated with port running and its potential impact on public safety. Researchers believe that implementation of these recommendations will lead to a more efficient, productive port of entry system with safer, better maintained roadways throughout the State of Arizona.

REFERENCES

"Arizona Ports of Entry--Arizona Department of Transportation 2000 Strategic Program Area Review." *JLBC/OSPB Joint SPAR Report*. 2000: Pages A4-A6.

Brookes, Joni. "Colorado's Open Door." Supplement to *Engineering News Record (ENR*). V. 234. 13 March 1995: Pages 15-16.

Bushman, Rob, and Andrew J. Pratt. *Weigh In Motion Technology – Economics and Performance*. NATMEC. Charlotte, NC. 1998.

Cottrell, B.H., Jr.. *The Avoidance of Weight Stations in Virginia by OverweightTrucks*. Virginia Transportation Research Council. 1992: Pages 1-6 & 27-29.

Cunagin, Wiley D. "Evasion of Weight Enforcement Stations by Trucks." *Transportation Research Record* 1997: Pages 181-191.

Halvorsen, Donald. "A Weight off the Mind: Weigh-in-motion Sensors Do More Than Catch Illegal Operators on the Hop." *Traffic Technology International Annual Review 2000*: Pages 230-232.

Huber, Signalbau. "Weigh in Motion: A Weighty Problem Solved." *World Highways/Routes Du Monde* October 2001: Pages 70-71.

Jessup, Eric L., and Kenneth L Casavant. *Evaluation of Violation and Capture of Overweight Trucks: A Case Study*. Washington State Department of Transportation. 1996: Pages 1-20 & 44-45.

Middleton, Daniel. "Keeping Overweight Trucks from Getting A-Weigh." *Texas Transportation Researcher* Vol 3. No 3. 1999.

Oregon Department of Transportation. *Port of Entry Advanced Sorting System (PASS) Operational Test*. 1998: Pages 1-9 & 17-19.

Roberts, Freddy L., and Ludfi Djakfar. *Preliminary Assessment of Pavement Damage due to Heavier Loads on Louisiana Highways*. Louisiana Transportation Research Center. 1999: Pages 2-26.

Shamo, Daniel E. "Virtual Weigh Stations." *American Association of State Highway Transportation Officials Subcommittee on Highway Transport*. 10 May 2002.

Taylor, Brian, Dr. Art Bergan, Norm Lindgren, & Dr. Curtis Berthelot. "Heavyweight Safety." *Traffic Technology International Annual Review 2000*: Pages 234-237.

The Road Information Program. 2004. *America's Rolling Warehouses: The impact of increased trucking on economic development, congestion, and traffic safety*. http://www.tripnet.org/TruckingReport020904.PDF

U.S. Department of Transportation. *Comprehensive Truck Size and Weight Study*. Volume 1—Summary Report. August 2000: Pages 1-12.

"What is PrePass?" 5 May 2005 http://www.prepass.com.

Yantis, John. "Trucking Industry Sees Trouble on the Horizon." *East Valley Tribune* 18 Apr. 2004, B1+.

APPENDIX A

SURVEY

SURVEY COVER LETTER

Port Runner Questionnaire

PART I — Responder Information

Name:	Agency:
Email:	Position:
Phone Number:	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☐ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☐

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☐

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report. Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Arizona Department of Transportation
Transportation Planning Division
206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor Mendez
Director

Dale Buskirk
Division Director

Dear _____:

We are undertaking research in order to identify more effective ways to deal with the problem of port-runners (i.e., vehicles that intentionally bypass ports-of-entry in order to avoid payment of fees or enforcement of regulations). We have commissioned Ms. Julie Ernzen to do a review of port enforcement practices that have been employed around the nation and the world. The costs and benefits of these practices will then be examined to determine if Arizona Department of Transportation's (ADOT) current port-of-entry practices could be improved. We will also be publishing and sharing the results as part of our FHWA funded research program.

One of the tasks of this project is a survey of all states with fixed ports of entry in hopes of gaining a better understanding of the prevalence of port running and how other State Transportation Agencies deal with this problem. It will greatly help our project if you could take a few minutes to complete and return the attached survey to Julie Ernzen at julie.ernzen@asu.edu.

Our desired target date for responses is on or before, **Friday, February 27.**

If you would like to receive a copy of the final report that will be published later this year please indicate who should receive the report and where it should be sent.

Thank you for your assistance.

Sincerely,

John Semmens
Project Manager
Arizona Transportation Research Center
Mail Drop 075R
phone 602-712-3137 fax 602-712-3400
e-mail jsemmens@dot.state.az.us

APPENDIX B

SURVEY CONTACT LIST

Survey Contact List

State	Title	First	Last	Email	Phone Number
AK	Director	Aves	Thompson	aves_thompson@dot.state.ak.us	(907)345-7750
AL	only 1 port in the state--> do not send email (no contact)				(334)242-4395
AR	Chief	Ronnie	Burks	FAX (501)568-4921	(501)569-2358
CA		Steve	Sowers	steve_sowers@dot.ca.gov	(916)654-9614
CO		Jerry	Pierce	jpierce@spike.dor.state.co.us	(303)205-5684
CT	Sgt.	Donald	Dridge	donald.dridge@ct.org	(860)263-5446
DE		Barbara	Conley	Barbara.Conley@state.de.us	
FL	no weigh stations				(866)374-3368
GA				mvehicle@dmvs.ga.gov	(678)413-8400
HI		Alexander	Kaonohi	alexander.kaonohi@hawaii.gov	()692-7620
IA				omve@dot.state.ia.gove	(800)925-6469
ID		Alan	Frew	afrew@itd.state.id.us	(208)334-8694
IL		Rich	Telford	TELFORDRO@nt.dot.state.il.us	
IN		Steven	Baumgardt	sbaumgardt@isp.state.in.us	(317)615-7373
KS				mc@kdor.state.ks.us	(785)296-3566
KY	Major		Maffett	FAX 502-564-5027	(1800)928-2402
LA	Director	William	Withers	billw@lpsc.org	(225)342-4439
MA		Mike	Lyons	FAX 508-473-0865	(508)473-4778
MD	Captain	Walter	Landon	wlandon@mdsp.org	(410)694-6100
ME		Robert	Wiliams	robert.a.williams@maine.gov	(207)624-7083
MI		David	Schade	schaded@michigan.gov	(517)241-0032
MN	Captain	Ken	Urquhart	ken.urquhart@state.mn.us	(651)405-6180
MO		Sherrie	Martin	sherrie.martin@modot.mo.gov	
MS		Jim	Moak	jmoak@mdot.state.ms.us	(601)359-7034
MT		Drew	Livesay	dlivesay@state.mt.us	(406)444-7638
NC	Major	Charlie	Carden	charlie.carden@ncshp.org	
ND		Doyle	Schultz	dfschulz@state.nd.us	(701)328-2621
NE	Sgt.	Vicki	Streeter	vstreete@nsp.state.ne.us	(402)471-0105
NH	Sgt.		Hanley	FAX (603)271-1760	(603)271-3339
NJ	Sgt.	Lee	Lyons	LPP4074@gw.njsp.org	(609)882-2000
NM	Captain	Ron	Cordova	rcordova@dps.state.nm.us	(505)827-0321
NV	no ports or weigh stations--use weigh in motion temporary				
NY		John	Connolly	jconnolly@dot.state.ny.us	(518)457-3406
OH	Sgt.	Dave	Lee	DLee@dps.state.oh.us	
OK		Steve	Smith	ssmith@oktax.state.ok.us	(405)425-2424
OR		Gregg	Dal Ponte	gregg.L.DalPonte@odot.state.or.us	
PA		Wendy	Keezel		(717)787-1168
RI	Lt.	Matthew	Giardina	mgiardina@risp.state.ri.us	(401)444-1140
SC		Anna	Amos	peburwell@scstp.org	(803)896-5500
SD		Janet	McKenzie	janet.mckenzie@state.sd.us	(605)773-3105
TN	Lt.	Joel	Moore	joel.moore@state.tn.us	(615)251-5166
TX				mcd-respond@dot.state.tx.us	(800)299-1700
UT		Richard	Clasby II	rclasby@utah.gov	(801)965-4156
VA	Lt.	H.B.	Bridges	hbridges@vsp.state.va.us	(804)378-3489
VT		William	Elovirta	william.elovirta@state.vt.us	(802)828-2078
WA	Lt.	Daniel N.	Devoe	Dan. Devoe@wsp.wa.gov	(360)704-6340
WI		Benjamin	Mendez, Jr.	benjamin.mendez@dot.state.wi.us	
WV		Jeff	Davis	jdavis@psc.state.wv.us	(304)558-2881
WY	Captain		Poage	vernon.poage@dot.state.wy.us	(307)777-4375

APPENDIX C

SURVEY RETURNS

Port Runner Questionnaire

PART I — Responder Information

Name: Dan Breeden	Agency: ADOT&PF
Email:Dan_Breeden@dot.state.ak.us	Position: Chief, MSCVE
Phone Number: 907-341-3210	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☒ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☒ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐ But the information at the port of entry is used for traffic data purposes only.

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried? Outreach and education.
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective. 3 = Outreach / 2 = Education
If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Ronnie Burks	Agency: Arkansas Highway Police
Email: ronnie.burks@ohtd.ar.us	Position: Police Chief
Phone Number: (501)569-2421	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☐

If yes, please briefly describe (or attach documents that describe).

We are in the planning stages of implementing 2 virtual weigh stations.

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- The Arkansas Highway Police is a division of the Arkansas Highway and Transportation Department. As such, we staff both weigh stations and deploy patrol units statewide. Selected patrol units are stationed near and patrol those highways that have been identified as primary weigh station by-pass routes. Effectiveness = 3

- In addition, the department recently constructed two new inbound weigh stations on I-40 and I-55 entering from Tennessee. These stations were constructed just west and north of the Mississippi River Bridges on I-40 and I-55 respectively. In order to bypass these locations, commercial traffic would have to travel quite a distance north to Missouri or south to Mississippi to cross the Mississippi River in order to enter Arkansas. Effectiveness = 5

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

- Same as above.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Steve Sowers	Agency: Caltrans
Email: steve_sowers@dot.ca.gov	Position: Sr. Transportation Engr
Phone Number: 916.654.6914	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

Static scales at weigh stations and mobile scales for CHP and Permit inspectors.

Note: Your question numbers are out of sequence. The explanation for answer 11 is we utilize mobile road enforcement officers (MRE) in the field to look for violators bypassing the Commercial Enforcement Facilities. Additionally, we deploy patrol vehicles at the Commercial Enforcement Facilities to stop drivers bypassing the facility. I would say it is effective and rate it a 3 to 4.

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Jerry Pierce	Agency: Colorado Port of Entry Section
Email: jpierce@spike.dor.state.co.us	Position: Chief
Phone Number: 303-205-5684	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Mark Collender	Agency: Delaware State Police
Email: mark.collender@state.de.us	Position: Lieutenant
Phone Number: 302-378-5230	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Susan Chang	Agency: Hawaii State Highways Division - MVSO
Email:	Position: Motor Carrier Safety Officer
Phone Number: 808-692-7657	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

Fixed weigh stations

11) Has your State transportation department performed any research on the topic of port running?

Yes ☒ No ☐

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Increased hours of operation at the weigh station and have police return those who run the scale. (5)

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Reymundo Rodriguez	Agency: Idaho Transportation Dept. Port of Entry
Email: rrodrigu@itd.state.id.us	Position: Idaho Port of Entry Operations Officer
Phone Number: 208-334-8699	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☒ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Idaho Port of Entry (POE) has bypass stopping authority and we can perform traffic stops on any vehicles who have bypassed an open fixed or roving POE site. Rating 5
- Idaho POE has created a bypass log which is shared with all POE sites to monitor frequency or trends by various companies. Rating 3
- Idaho POE has a close working relationship with local/state law enforcement and response time by those organizations to requests for assistance is excellent. Rating 4

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

- Please send electronic copy of report to Idaho Port of Entry Manager Alan Frew at afrew@itd.state.id.us and also to myself at rrodrigu@itd.state.id.us Thank you!

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Richard O. Telford	Agency: Illinois Department of Transportation
Email: telfordro@nt.dot.state.il.us	Position: Weight Enforcement Engineer
Phone Number: 217-782-2984	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

PrePass with high-speed weigh in motion is used at all interstate weigh stations.

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?

- We use semi portable scales and wheel load weigher scales on bypass routes. The wheel load weigher scales are very effective.

Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

- See business card. Thank you.

Port Runner Questionnaire

PART I — Responder Information

Name: Steven R. Baumgardt	Agency: Indiana State Police/CVED
Email: sbaumgardt@isp.state.in.us	Position: Zone Coordinator
Phone Number:	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Steve Maffett	Agency: Kentucky Vehicle Enforcement
Email:	Position: Major
Phone Number: 502-564-3276	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☒ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

Virtual weigh station on I-75 Wavine County

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: J.Darrell Ouellette	Agency: Maine State Police
Email: j.darrell.ouellette	Position: Troop Commander
Phone Number: 207-532-5400	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Suzanne Benton	Agency: Michigan Department of Transportation
Email: bentons@michigan.gov	Position: Motor Carrier Specialist
Phone Number: 517-335-2917	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☐ 30%-40% ☒ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☒

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☐

If yes, please briefly describe (or attach documents that describe).

MDOT has developed a Truck Weight Information System (currently in the development phase) This system archives weight data and performs various analyses of legal and overweight trucks.

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Drew Livesay	Agency: Montana Department of Transportation
Email: dlivesay@state.mt.us	Position: Adminstrator, Motor Carrier Services Division
Phone Number: 406-444-7638	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Vicki Streeter	Agency: Nebraska State Patrol
Email:	Position: Sgt.
Phone Number: 402-471-0105	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Lee Lyons	Agency: New Jersey State Police
Email: LPP4074@GW.NJSP.ORG	Position: Administration Sergeant
Phone Number: 609-882-2000	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Ron Cordova	Agency: DPS-Motor Transportation Division
Email: rcordova@dps.state.nm.us	Position: Captain
Phone Number: 505-827-0302	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

The WIM's are not deployed at by-pass routes, only on the mainline entering the facilities or ramps.

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: William Leonard	Agency: New York State Department of Transp.
Email: wleonard@dot.state.ny.us	Position: Bureau Director
Phone Number: 518-457-2019	

PART II — Survey → NYS DOES NOT HAVE PORTS OF ENTRY

1) Is port running viewed as a problem in your State? Yes ☐ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☐ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☐

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☐

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Doyle F. Schulz	Agency: North Dakota Highway Patrol
Email: dfschulz@state.nd.us	Position: Director, Motor Carrier Division
Phone Number: 701-328-2590	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☐ 50%-75% ☒ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Ray Joseph	Agency: Ohio State Highway Patrol
Email: rjoseph@dps.state.oh.us	Position: State Trooper
Phone Number: 614-466-6382	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Portable scale teams located throughout the state. Effectiveness = 1

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Gregg Dal Ponte	Agency: ODOT
Email: gregg.L.dalponte@state.or.us	Position: Deputy Director Motor Carrier Transportation Division
Phone Number: 503-378-6351	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

http://www.odot.state.or.us/trucking/its/green/light.htm

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Lt. Matt Giardina	Agency: RI State Police, Commercial Enforcement
Email: mgiardina@risp.state.ri.us	Position: Unit Commander
Phone Number: 401-444-1140	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

Vehicle Loop Counters

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Richard Shell	Agency: DPS / Transport Police
Email: rgshell@scstp.org	Position: Captain, Field Enforcement
Phone Number: 803-896-5500	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Patrolling the back roads near our scales.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Lt. Kevin Karley	Agency: South Dakota Highway Patrol
Email: kevin.karley@state.sd.us	Position: Asst Commander, Motor Carrier Services
Phone Number: 602-773-4578	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☐ No ☒

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Lt. Joel R. Moore	Agency: TN Dept. of Safety (Commercial Vehicle Enforcement
Email: joel.moore@state.tn.us	Position: Admin. Lieutenant
Phone Number: 615-687-2326	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Richard Ollerton	Agency: Utah DOT – Motor Carriers
Email: rollerton@utah.gov	Position: Operations Manager
Phone Number: 801-965-4880	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Use of AVI, ease of obtaining permits, signing, heavy fines, highway patrol response and return of runners. Effectiveness = 4.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Lt. William Elovirta	Agency: Vermont DMV Enforcement
Email: william.elovirta@state.vt.us	Position: Chief of Safety, Safety & Enforcement
Phone Number: 802-828-2078	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☐ 20%-30% ☒ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

- Please email to William Elovirta.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Herb Bridges	Agency: Virginia State Police
Email: hbridges@vsp.state.va.us	Position: Lieutenant
Phone Number: 804-378-3489	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

CVISN

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Frank Fague	Agency: Washington State Police
Email: ffague@wsp.wa.gov	Position: Supervisor at the Ridgefield Port of Entry
Phone Number: 360-696-6049	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☒ 10%-20% ☐ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐ No interaction with immigrants.

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐ Unknown.

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

Vehicles equipped with transponders are allowed to bypass or required to report depending on their safety rating.

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☒ No ☐

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

- Enforcement personnel standby during times of peak traffic times for vehicles that fail to report at the POE. Traffic stops are conducted and appropriate enforcement is taken. This is rated as very effective (5).

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Port Runner Questionnaire

PART I — Responder Information

Name: Jefferson L. Davis	Agency: PSC - Weight Enforcement
Email: Jdavis@psc.state.wv.us	Position: Deputy Director- Weight Enforcement
Phone Number: 304 558-2881	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

Prepass - System

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Sandra Huxtable	Agency: Wisconsin State Patrol
Email: sandra.huxtable@dot.state.wi.us	Position: Major
Phone Number: 608-267-9522	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☐ No ☒

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☒ 0-25% ☐ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

8) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☐ 25%-50% ☒ 50%-75% ☐ 75%-100% ☐

9) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

10) Does your State employ any other type of intelligent weight system? Yes ☒ No ☐

If yes, please briefly describe (or attach documents that describe).

PrePass

11) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

12) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

13) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

Port Runner Questionnaire

PART I — Responder Information

Name: Richard Smith	Agency: Highway Patrol
Email: Richard.Smith@Dot.state.wy.us	Position: Port Technical Support Manager
Phone Number: 307-777-4878	

PART II — Survey

1) Is port running viewed as a problem in your State? Yes ☒ No ☐

2) How much average avoidance activity do you estimate occurs at your State's weigh stations?

0-10% ☐ 10%-20% ☒ 20%-30% ☐ 30%-40% ☐ 40%+ ☐

3) What percentage of port running in your State do you estimate can be attributed to overweight vehicles?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

4) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal immigrants?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

5) What percentage of port running in your State do you estimate can be attributed to vehicles carrying contraband?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to vehicles carrying illegal drugs?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) What percentage of port running in your State do you estimate can be attributed to vehicles carrying uninspected agriculture?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

6) What percentage of port running in your State do you estimate can be attributed to non-compliance with safety regulations?

None ☐ 0-25% ☒ 25%-50% ☐ 50%-75% ☐ 75%-100% ☐

7) Does your State employ weigh-in-motion (WIM) sensors? Yes ☒ No ☐

8) Does your State employ any other type of intelligent weight system? Yes ☐ No ☒

If yes, please briefly describe (or attach documents that describe).

_____

9) Has your State transportation department performed any research on the topic of port running?

Yes ☐ No ☒

If yes, tell us how we may obtain a copy.

10) Has your State transportation department attempted to reduce the occurrence of port running?

Yes ☐ No ☒

11) If yes, what techniques have been tried?
Please briefly describe (or attach documents that describe) and rate the effectiveness of each technique using a scale of one through five with one = very ineffective and five = very effective.

If you would like a copy of the final report for this project please provide a name and e-mail or postal address for the person who should receive the report.

Thank you for completing this questionnaire.
Please return your completed survey either by email to julie.ernzen@asu.edu OR
by fax to (480) 965-1769, Attention: Julie Ernzen.

APPENDIX D

CIVIL PENALTY SCHEDULE

CIVIL PENALTY SCHEDULE

Excess Weight (lbs)	Minimum Civil Penalty ($)
1,001 – 1,250	100.00
1,251 to 1,500	200.00
1,501 to 2,000	300.00
2,001 to 2,500	400.00
2,501 to 3,000	500.00
3,001 to 3,500	840.00
3,501 to 4,000	980.00
4,001 to 4,500	1120.00
4,501 to 4,750	1260.00
4,751 to 5,000	1400.00
5,001 and over	1400.00 plus an additional $100 for each 1000 pounds of excess weight

** Values subject to Arizona Revised Statute 28-1101

APPENDIX E

DATA COLLECTION–PART TWO DAILY LOGS

DAILY LOGS

Tuesday, June 29, 2004

- Location: Duncan AZ
- Purpose: Counting truck traffic on bypass road.
- Time: 8:30 PM -11:00 PM
  - **Total Number of trucks: 22**

- Location: San Simon Port of Entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-1 ~ JUNE 29—SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0400	0400-0500
Number of trucks Westbound	134	122	83	65	113
Number of trucks Eastbound	126	114	63	60	86

Wednesday, June 30, 2004

- Location: I-10 Exit 5 toward New Mexico S.R. 80
- Purpose: Counting truck traffic on bypass road.
- Time: 8:30 PM -11:00 PM
  - **Total Number of trucks: 32**
- During this time interval, there are 100+ trucks passing each hour on I-10.

- Location: San Simon Port of entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-2 ~ JUNE 30 SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0400	0400-0500
Number of trucks Westbound	118	107	72	67	94
Number of trucks Eastbound	94	56	63	64	77

Thursday, July 1, 2004

- Location: Duncan AZ
- Purpose: Counting truck traffic on bypass road.
- Time: 9:15 PM -11:00 PM
  - **Total Number of trucks: 17**

- Location: San Simon Port of entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-3 ~ JULY 1—SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0400	0400-0430
Number of trucks Westbound	142	95	86	90	57
Number of trucks Eastbound	94	63	58	58	44

Friday, July 9, 2004

- Location: I-10 Exit 5 toward New Mexico S.R. 80
- Purpose: Counting truck traffic on bypass road.
- Time: 9:15 PM -11:00 PM
  - **Total Number of trucks: 17**
- During this time interval, there are 100+ trucks passing each hour on I-10.

- Location: San Simon Port of entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-4 ~ JULY 9—SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0400
Number of trucks Westbound	117	101	89	76
Number of trucks Eastbound	99	82	85	74

Saturday, July 10, 2004

- Location: San Simon Port of entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-5 ~ JULY 10—SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0400
Number of trucks Westbound	128	116	82	71
Number of trucks Eastbound	109	72	49	54

Sunday, July 11, 2005

- Location: I-10 Exit 5 toward New Mexico S.R. 80
- Purpose: Counting truck traffic on bypass road.

TABLE E-6 ~ JULY 11—EXIT 5 DATA

Time	0000-0100	0100-0200	0200-0300	0300-0330
Number of trucks	12	9	7	3

- Location: San Simon Port of entry
- Purpose: Counting truck traffic passing closed port of entry.

TABLE E-7 ~ JULY 11—SAN SIMON DATA

Time	0000-0100	0100-0200	0200-0300	0300-0330
Number of trucks Westbound	112	101	72	38
Number of trucks Eastbound	102	75	68	31