



GEORGIA TECH PANAMA
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PANAMA PORT-TO-PORT TRUCKING OF CONTAINERS FOR TRANSshipment

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II. Executive summary

Motivation: Transshipment of ocean containers drives Panama’s sea connectivity and is therefore critical to Panama’s continued growth as a logistics hub. Panama has unique potential for transshipment between the Pacific and the Atlantic but only if the land transportation piece between ports on the Atlantic and ports on the Pacific can be reasonably competitive to single port transshipments with regard to the key metrics of cost, time and reliability. Panama is fortunate to have both truck and rail options for moving containers across the country but the truck option has some significant barriers, mostly created by government, that decrease its competitiveness. The result is a cost of approximately \$375 for each round-trip (often involving moving a full container in one direction and returning empty) by truck between Balboa and MIT. A single container move by rail between Balboa and MIT costs approximately \$150.

Improving the competitiveness of truck transportation of containers is extremely important to the competitiveness of Panama as a transshipment hub. One of the most important reasons is that trucks potentially provide a far more responsive option than rail in moving highly time dependent shipments since rail usually waits for a full train rather than operate on a schedule. However, it is also the case that rail capacity is limited in both volume and connectivity (i.e., there is no rail connection to the PSA terminal) and particularly after a disruption, the flexible capacity provided by truck is crucial to getting back on schedule. Finally, given the high cost of trucking there is little motivation for rail to be more competitive with regard to either responsiveness or price.

Goal: “Determine why port-to-port trucking of intermodal containers across Panama is so expensive and what could be done to improve competitiveness.”

Study Methodology:

1. The Center staff, with support from Panama Maritime Chamber and Juan Carlos Croston as project leader, facilitated a workshop for critical stakeholders to define the issues and gather input regarding potential improvements in the processes for transporting containers by truck between Panama’s container terminals.
2. The Center staff then constructed and analyzed detailed process models of container transshipment that involves movement of containers by truck between Panama’s container terminals of Balboa and Manzanillo. For comparison purposes, detailed process models were also developed for transshipment involving container movements between these terminals by rail and for transshipment that is totally within each terminal, and therefore does not require either truck or rail transport.
3. The results were analyzed and together with recommended actions were validated by a second workshop involving the critical stakeholders.

Key Issues Identified:

1. For transshipment within the same port, there are no government holds to clear or paperwork to process. Communication and documents between shipping line and port are electronic. For transshipment between ports by rail, government holds are cleared electronically without paperwork. Communication and documents between port, rail, shipping lines and government are electronic. For transshipment between ports by truck government and port paperwork must be cleared physically at both ports.
2. Customs is only open from 8:00 am until 6:00 pm at Manzanillo and from 8:00 am until 10:00 pm at Balboa. Some shipping lines (e.g., Maersk) pay for customs to be opened on weekends to

facilitate truck moves. While delaying truck moves until the weekend reduces delays for the truckers and makes trucking more efficient, it adds significant time to the transshipment process and makes Panama much less attractive as a transshipment hub.

3. Clearing the paperwork is very cumbersome requiring visits to 5 different lines to get bill of lading approval.
4. Four hours is an optimistic estimate of the time required to move a container between Balboa and Manzanillo (3 hours to clear paperwork, 1 hour for loading and unloading the containers at the ports and 1 hour for port to port transportation. Problems with lines at the windows, traffic on the roads and congestion at the ports often doubles this time. The excessive time to process paperwork together with customs not being open 24 hours often results in either one or two containers moved per day by a truck. This is the key reason that trucking is not a very competitive option.
5. Customs charges a \$5/container tariff for all transshipment containers that are transported between ports. There is an additional \$4 charge for a metal seal for containers transported by truck. Quarantine charges an additional \$9 for fumigation if the container is transported by truck. Additional charges up to \$17 total may be charged by AUPSA and Quarantine if the container is defined as "high risk."

Recommendations: According to the Panama Maritime Authority, Panama's transshipment business was down by approximately 5% last year. Given the impact that transshipment has on Panama's attractiveness as a distribution hub, trucking is one of several areas that must be addressed in reestablishing competitiveness.

1. Establish clear performance goals and metrics for all network components based on minimizing maximum transfer times, minimizing transfer costs and maximizing reliability and then have these metrics monitored by a neutral party to eliminate finger pointing.
2. Reduce/eliminate government charges associated with transshipment containers. These charges both raise the cost of transshipment and irritate the customers since they do not appear to get any value from the charges. Have Customs, AUPSA and Quarantine all use one single seal to reduce cost.
3. Change laws and government processes to eliminate most/all holds and provide electronic capability for facilitating any remaining holds. Transshipment trucking service (currently stated by law as provisional (Resolution No. 139-July 13, 2012), should be changed to a permanent transshipment option.
4. Establish systems, including a SIGA module and a single window to enable electronic communications between parties.
5. Have Customs open 24/7.
6. Improve road infrastructure between ports and consider special truck lanes
7. Establish clear and effective contingency plans for disruptions.
8. Establish a Logistics Ministry or other government entity to facilitate integration and monitor potential disruptions in the transshipment processes.

III. Background

The National Customs Authority issued Resolution No. 904-04-127 OAL of April 2, 2012 as an alternative plan to the rail due to Balboa's congestion in 2012. Shipping lines were now able to massively transship containers through Panama City, yet only on weekends.

Nevertheless, the backhaul of containers was still slow. Shipping lines through the Panama Maritime Chamber (CMP) requested Customs to authorize transshipment by truck at any day and time of the week. The resolution was derogated, and replaced with Customs Resolution No. 113 of June 20 2012 which describes trucking as a temporary service option to rail.

In Resolution No. 139 of July 13 of 2012, Customs adopted Decree No. 6 of March 13 2002 as the process baseline for transshipment by truck. This decree establishes the regulations for moving non-nationalized cargo in Panama's primary and secondary territories. Transshipment trucking services will require the paper form "Control of non-nationalized merchandise", payment of TAST¹ tariff and placement of customs container metal seal.

IV. Study Motivation

In order for Panama to become the transshipment hub of the Americas, key providers in transshipment services should work in sync throughout the supply chain. Trucking and rail transshipment operations should be smooth and constant, acting as two parallel conveyor belts of continuous cargo. Though it is well known that Panama's high connectivity leverages on the fact that ports at the Atlantic and Pacific are relatively close to each other by land (through rail and a road network), and sea (by the Panama Canal), still the connectivity can only be exploited if services react appropriately to demand signals and meet customers' expectations.

Transshipment by truck services will process containers in conjunction with the usual local services: imports, exports, and re-exports, making it time consuming, which translates into high service costs and negative impact on competitiveness.

The result is a cost of approximately \$375 for each round-trip (often involving moving a full container in one direction and returning empty) by truck between Balboa and MIT. A single container move by rail between Balboa and MIT costs approximately \$150.

Shipping lines are now able to move containers at more flexible schedules than rail, still trucking services require improvements to increase competitiveness and respond accordingly to market demand.

V. Objective and Participants

The objective of this study was to understand current process, benchmark against other services, identify problems, and present findings to key stakeholders (shipping lines, ports and trucking companies) in order to increase Panama's competitiveness in transshipment services.

The industry stakeholder of this study was Manzanillo International Terminal, with the support of the Panama Maritime Chamber. The initiative was called upon different stakeholders in the transshipment by truck supply chain. These were:

- **Ports:**
 - Colon Container Terminal (CCT)

¹ TAST (Tasa Administrativa de Servicio de Trasbordo-*Administrative Transshipment Service Tariff*): Transshipment customs fee, charged per each container moved between at least two primary zones. This tariff is not applicable when transshipment is within the same port.

- Manzanillo International Terminal (MIT) - Industry Leader
- Panama Ports Company (PPC)
- Port of Singapore (PSA)
- **Shipping lines:**
 - APL
 - CMA-CGM
 - Hamburg Sud
 - Maersk Line
 - MOL
- **Trucking companies:**
 - Bless Agency, S.A.
 - Panama Transshipment Group, S.A.
 - Transportes Sogri
 - Transportes IMO
 - Transportes Freddy
- Panama Maritime Chamber (CMP²) – Organizer and Host
- Autoridad Nacional de Aduanas (ANA³)
- Cámara Nacional de Transporte de Carga (CANATRACA⁴)
- Georgia Tech Panama Center

VI. Study Methodology

The methodology consisted on five main phases:

1. First Workshop
2. Data Collection
3. Process mapping and analysis
4. Second Workshop
5. Presentation of results

The study began with its first workshop on November 28, 2013. Time frame of the project was approximately five months. Results were presented to the correspondent government entity in an executive summary format on April 15, 2014 (See Table 1 for a more detailed view on the activities carried out throughout the project).

Year	2013				2014														
	Nov.		Dec.		Jan.				Feb.				Mar.				Apr.		
Month	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Week #	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1 First Workshop																			
2 Onsite visits and interviews for data collection																			
3 Process mapping and analysis																			
4 Process validation meetings																			
5 Process adjustment and analysis																			
6 Second Workshop																			
7 Process adjustments																			
8 Presentation of results																			

Table 1: Project Timeline (in weeks)

² Panama Maritime Chamber

³ Customs National Authority

⁴ Freight Transportation National Chamber

1. First Workshop:

The purpose of the first workshop was to clearly define the problem, establish the project's scope, map and document the process macro model, identify issues and brainstorm on possible improvement opportunities.

Participants of this initial meeting were: PPC, MIT, CCT, PSA, CMA-CGM, Maersk Line, MOL, Hamburg Sud, APL, Transporte Sogri, Bless Agency, CMP, and GT Panama Center.

2. Data Collection:

The macro-model documented on the first workshop was then validated on-site visits and interviews at Manzanillo and Balboa Ports. Process activities and metrics were documented by interviewing service providers and users in the supply chain. Interviews further along the study, allowed validating processes and understand root causes on key issues.

A total of 14 meetings were held throughout the project. These consisted on interviews for data collection, process and result validation. Meetings were held in Panama as well as in Colon City. Table 2 shows these meetings in chronological order, their purpose and participants.

Location	Date	Meeting Description	Participants	Organized by
Panama	Nov. 28, 2013	1. First Workshop	*See first workshop attendees	CMP
Colon	Dec. 10, 2013	2. Trucking industry perspective	Transportes Sogri	GT Panama
	Dec. 13, 2013	3. MIT government service windows	Customs, AUPSA and Quarantine at MIT	GT Panama/MIT
Panama	Dec. 26, 2013	4. Balboa port service windows	Balboa related staff	GT Panama/Balboa
Colon	Jan. 2, 2014	5. MIT port service windows and rail interphase	MIT related staff	GT Panama/MIT
Panama	Jan. 14, 2014	6. Balboa government service windows	Customs, AUPSA and Quarantine at Balboa	GT Panama/Balboa
Panama	Jan. 23, 2014	7. MIT process validation	Juan Carlos Croston	GT Panama
Colon	Jan. 29, 2014	8. Transshipment within port model	MIT related staff	GT Panama/MIT
Panama	Feb. 26, 2014	9. AUPSA transshipment legal framework	AUPSA Admin	GT Panama
	Mar. 6, 2014	10. Quarantine transshipment legal framework	Quarantine Admin	GT Panama
	Mar. 7, 2014	11. Customs transshipment legal framework (D6)	Customs Admin	GT Panama
	Mar. 12, 2014	12. Shipping Line perspective	CMA-CGM	GT Panama
	Mar. 30, 2014	13. Second Workshop	*See Workshop 2 attendees	CMP
	Apr. 15, 2014	14. Presentation of results	GT Panama	GT Panama

Table 2: Meeting details

3. Process Mapping and Analysis:

Processes were mapped and documented at MIT and Balboa ports. The models identified were:

- Retrieve and Drop containers at MIT (by truck)
- Retrieve and Drop containers at Balboa (by truck)

- Transship containers through rail
- Transshipment of containers within the same port at MIT

These four models were mapped using xBPM, a business process modelling tool. Process mapping displays graphically the activities, service providers, customers, and documents within a process. The rail model was based on a previous study by GT Panama on PCRC operations, and validated with MIT rail operations.

These four models were then aggregated into three block macro models summarizing key activities. These block models were: transshipment within port, transshipment by rail, and transshipment by truck.

Process analysis consisted on reviewing each model, identifying issues, its metrics and benchmark services with each other.

The key metric for this study was total service time. Activity times were obtained from interviews both at MIT and Balboa. Times were found to be relatively similar in both ports, and then were aggregated.

4. Second Workshop

In this workshop, findings from process mapping and analysis were validated with all stakeholders in order to confirm that the study results resembled reality, and that the recommendations provided by GT Panama, were in accordance to stakeholders interests.

Participants of this final validation workshop were: MIT, PPC, Maersk Line, Hamburg Sud, MOL, Transportes IMO, Transportes Freddy, ANA, CANATRACA, CMP, and GT Panama.

5. Presentation of results

After the validation, an executive summary was prepared, delivered and presented to the study's decision making entity.

VII. Transshipment Service Models

The study was based on three macro block models for transshipment services: within same port, by rail and by truck. Figure one shows these three models.

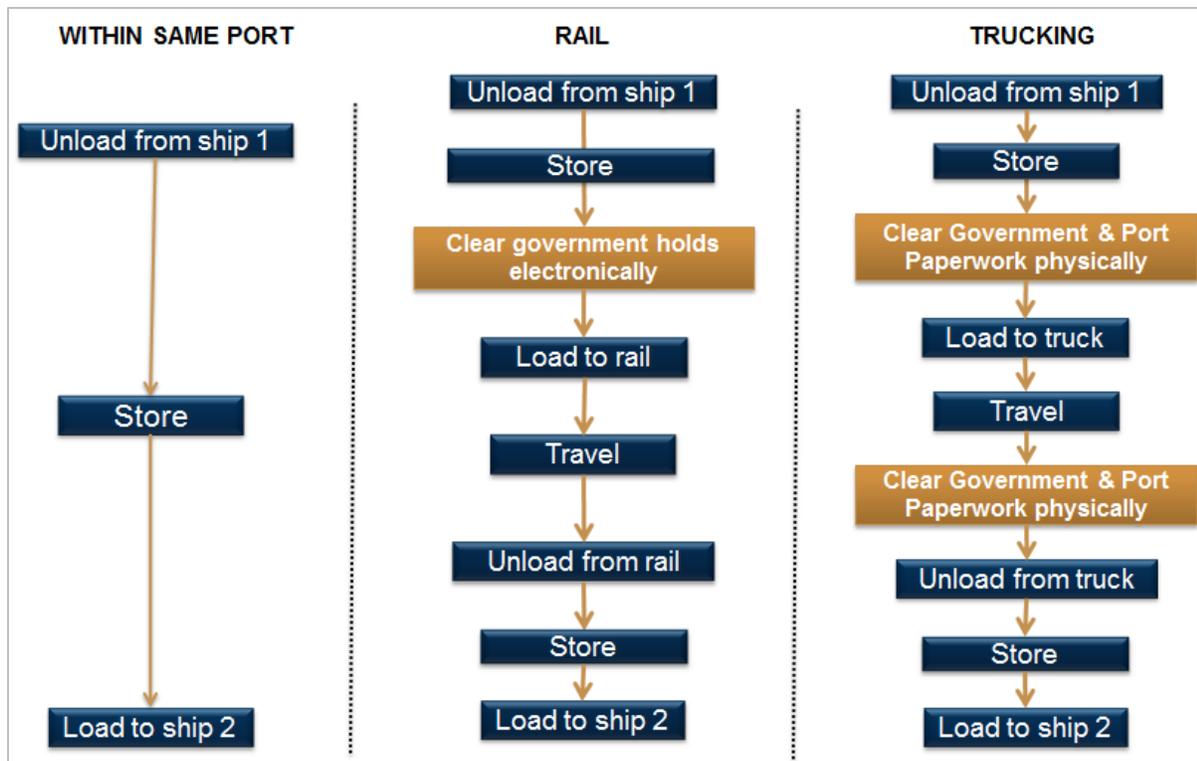


Figure 1: Panama Transshipment Services

Figure 1 provides a broad description of the main activities and complexity of all services. Blue blocks represent activities that enable container physical flow in the process; golden blocks are activities that require documentation before the container can continue to the next process.

In order to have a deeper understanding on what these holds entail, these models have been described below.

Transshipment within same port

This service has no government holds. The process begins when the shipping line sends the entry manifest⁵ to the port of arrival, port of connection and Customs (usually, 24 to 48 hours before ship arrives). This manifest lists all containers to be unloaded. When containers are ready to be transhipped, the shipping line will send an exit manifest⁶ to all related parties.

Quarantine⁷ charges \$0.25 per container as a security perimeter fee. There are no customs nor AUPSA⁸ related charges. AUPSA will only regulate cargo entering or moving through the country.

⁵ Entry manifest: also known as unloading list. It details: containers for local imports, inter-terminal containers (meant to be moved by rail or truck), and containers that will be transhipped within the same terminal.

⁶ Exit manifest: also known as loading list. Details all containers meant to leave the terminal (exports and transshipment containers).

⁷ Quarantine: Dirección Ejecutiva de Cuarentena Agropecuaria – Agriculture Executive Department.

⁸ AUPSA: Autoridad Panameña de Seguridad de Alimentos - Panamanian Food Safety Authority

Customs purpose is to verify that all entries equal to exits when ship departs at the port of destination. Quarantine security fee is for the safekeeping of containers within port perimeters, and emergency control.

Transshipment by rail

Transshipment by rail has government holds before the container can leave the port of origin. Shipping lines send the list of containers in an excel format (provided by the rail) to PCRC (Panama Canal Rail Company) and government authorities (Customs, AUPSA and Quarantine). The container list will detail commodity description.

AUPSA and Quarantine authorities will review the commodity description, and assess their risk. If containers have commodities regulated by any of these two entities, authorities will then place a hold on 'risk' containers. Authorities will either place the hold themselves in the port system (in the case of MIT port) or request the port to place hold on containers (at Balboa).

Shipping lines will deliver special documents (licenses and notices) to AUPSA and Quarantine at port service windows. AUPSA and Quarantine will review paperwork, and remove holds. Containers with hold on port systems will not be able to leave the yard.

At the port gate exit to the rail, AUPSA and Quarantine will place plastic seals on 'risk' containers, which will be checked at the port of destination to ensure that containers were not breached.

Quarantine and AUPSA will place electronic holds on port system, as well as plastic seals, in order to identify containers with high or medium risk and respond to emergencies accordingly.

Transshipment by truck

This service requires the clearance of holds at the port of origin and at destination. Holds will be removed when the required paperwork is presented physically at the port service windows. This service can be divided in two main phases: pick container at port of origin and drop container at port of destination.

Pick container at origin

When the container is ready to be retrieved from the port of origin, shipping lines will usually give truckers 10 copies of the bill of lading (BL). Five copies are meant for the port of origin, and the other five for the port of destination. Trucker takes printed BLs to the port of origin's service windows. Each window will place a stamp on the BL as proof that the document was revised. Each window will keep a copy.

A port service window consists of five windows from the port and government authorities. These windows are AUPSA, Quarantine, Customs, Port and Gate. The first three, are public entities in charge of regulating different aspects of commodities. Port and Gate are private windows belonging to the port. Here, port charges are cancelled and yard locations, whether for retrieving or dropping a container, are

provided. There is no fixed sequence in which windows should be visited, as long as government windows are visited first.

When the BL is revised at the windows, the authorities will remove the hold in the port system (in the case of MIT) or request port to remove hold (Balboa). If a container has special commodity requirements (containers is viewed as risk), AUPSA and Quarantine will request an in-transit notice and/or phytozoosanitary license, respectively. Authorities will also provide trucker a plastic seals.

Trucker will move on to customs windows. Customs agents will fill out by hand the form Decree 6, charge \$9.00, and give the trucker a metal seal.

At port window, the trucker will pay port services (if they haven't been cancelled beforehand), and then stop at the gate window. At this window, trucker will give BL with all stamps, and receive the yard location where the container has been stored.

Trucker will then proceed to retrieve container and travel to the port of destination (this can be at the Pacific or Atlantic side).

Drop container at destination

Dropping a container will vary on the configuration of the port of destination. At Balboa, truckers will stop at the port gate, and turn in Decree 6 form to on-site customs agent. Truckers will stop at the gate window and retrieve the location where container should be dropped.

At MIT, truckers will go through AUPSA and Quarantine windows to hold in the port system. Then, go through Customs window. There, truckers will turn in the Decree 6, and hold will be removed. Lastly, they will stop at the gate window to retrieve the container's yard location.

The decree 6 form allows customs to ensure that the container arrived intact to the port of destination. AUPSA and Quarantine at MIT remove holds due to port process configuration. And the port ensures that all holds have been removed in order to give yard location.

Figure 2 provides an overview of the trucking service and the sequence of its activities from origin to destination. The example assumes that a container is retrieved at MIT and then delivered to Balboa.

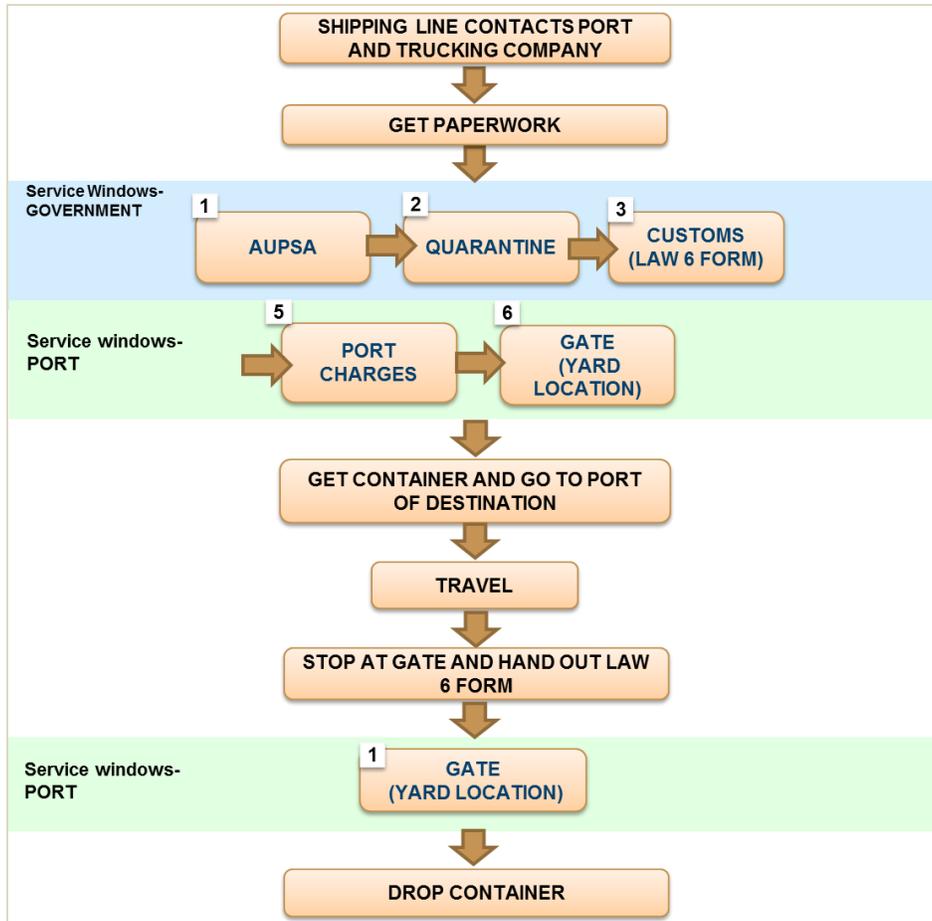


Figure 2: Trucking Service (MIT to Balboa Example)

VIII. Differences between transshipment services

As shown in figure 1, same-port transshipment requires no government paperwork or holds. Communication and documents between shipping lines and ports are electronic. Rail service though not as expedite as within-same port still has very little paperwork, and communications between rail, shipping lines and government are electronic.

Nevertheless, it is noticeable that trucking services have the most time consuming activities of all three services. Trucking companies will need to clear the paperwork physically not only at origin but also at destination (may vary on the port process configuration).

Government holds have great impact on total service times, and related costs. Table 3 details the government charges for each of the transshipment services.

Authority	Charge Description	Charge Cost	Within same port	Rail	Trucking	**High Risk
Customs	Decree 6 form and metal seal (includes TAST)	B/. 4.00			X	
	Transshipment Tariff (TAST)	B/. 5.00		X	X	
AUPSA	Transit notice	B/. 2.00				X
	Plastic seal	B/. 5.00				X
Quarantine	Plastic seal	B/. 5.00				X
	Fumigation	B/. 9.00		X	X	
	Security Fee	B/. 0.25	X			
Total			B/. 0.25	B/. 14	B/. 18	B/. 17

**** Only applies for containers transshipped by rail and truck considers as high risk for Aupsa and/or Quarantine.**

Table 3: Government charges for container clearance

Assessment on Customs Charges

For within same port transshipments, Customs requires no forms or seals. On the other hand, for transshipments by rail, shipping lines will need to send to Customs the list of all containers meant to be moved by rail. In SIGA⁹, Customs agents will virtually move containers from port of origin to port of destination, and manually compare these volumes against the load plan sent by PCRC each time a train leaves. Customs will charge shipping lines a TAST of \$5.00 per container for using the SIGA system. Containers transshipped by rail do not require metal seals, the position of containers on the wells ensure that these cannot be opened.

Customs charges for trucking are higher than rail service. Containers transshipped by truck require a metal seal, and a Decree 6 (D6) form¹⁰. Shipping lines will send Customs the list of containers meant to be moved by truck. In SIGA, Customs will transfer virtually all containers (belonging to one shipping line) from one port to the other, and then compare manually against the D6 form at the port of destination. D6 allows tracking the physical movement of containers. The D6 form is filled out by hand by a customs agent, this document will only be valid for one day and each container will require an individual form. Customs will charge a TAST of \$5.00 for moving virtually containers in SIGA, and this charge will be paid in advance by the shipping line. Additionally, truckers will pay at customs service window the metal seal (\$3.00) plus the D6 form (\$1.00). Customs has no credit line for D6 charges, and can only be paid in cash at the window.

⁹ SIGA: Sistema Integrado de gestión de Aduanas – Customs management system.

¹⁰ Decree 6 form: (D6) document for moving non-nationalized cargo outside Panama’s primary zones.

Assessment on AUPSA Charges

AUPSA only regulates cargo going into and moving through the country. It regulates containers with fresh and/or frozen meats and produce, semi-processed and processed foods. All containers with any of these products are classified as “risk containers”

AUPSA has no requirements for within-same port transshipment. Therefore, this authority will place hold on “risk” containers transshipped by truck and rail. All containers moved by rail or truck will require a transit notice, plastic seal, packing list, and copy of sanitary certificate from origin.

Transit notices can be issued 24 to 48 hours before ship arrives. This timeframe could be an issue for ships departing from near ports in the region, where lead time can be less than two days. Once the notice has been issued, it will be valid for 10 days before and after the notified date. Each type of commodity on the container will require an individual transit notice and will have a cost of \$2.00. It is important to mention that though transit notices are generated electronically in AUPSA’s information system (SISNIA), these will need to be printed and presented physically at window (this is the case for trucking and Balboa/rail process).

Plastic seals are given at the AUPSA service window, and have a cost of \$5.00. The purpose of plastic seals is to prevent that containers are opened during transit which could be a contamination risk. Seals are placed by an AUPSA agent before container departs to the port of destination on both trucking and rail services. The seals are verified and removed by AUPSA agent before the container is loaded onto its connecting vessel.

Containers with lead times lower than 24 hours, usually have the more delays due to the time needed for processing notices, and also the time needed for shipping lines to get the copy of the certificate from origin. Containers will stay at the port until the documents are on-hand and holds can be removed.

Assessment on Quarantine Charges

Quarantine is in charge of regulating agricultural products coming in or moving through the country. It regulates containers with commodities such as: fertilizers, seeds, live animals, plants and wood. All containers with any of these products are classified as “risk containers”

Quarantine is the only government authority involved in the within-same port transshipment. Shipping lines will need to pay a security fee of \$0.25 cents per containers. This fee is to ensure the safeguarding of the port yard in case a contamination occurs. For Quarantine, there are three security areas inside a port: high, medium and low risk. Transshipment containers will be disaggregated in accordance to their contents. At MIT, Quarantine has access to MIT port system to know the content of containers beforehand. At Balboa, shipping will need to send the packing list of the containers in PDF files. A quarantine official will check each pdf to know in which area the container will be placed.

For truck and rail transshipment services, Quarantine will place holds on “risk” containers. To remove holds, containers will require a phytozoosanitary licenses and plastic seals. Both have a cost of \$5.00. Shipping lines will fill out licenses electronically using the on-line MIDA portal, and charges if preferred

by the shipping line can be paid in credit. Plastic seals prevent containers to be breached intentionally through their transit.

All containers leaving the port gate (whether to continue a transit by truck, rail or import) will need to go through the fumigation arch. This fumigation cost is \$9.00.

IX. TRANSSHIPMENT BY TRUCK ANALYSIS

The activities and paperwork for clearing government holds have great impact truck service time and costs. Understanding the purpose of each of these holds allowed identifying root causes of delays in the process.

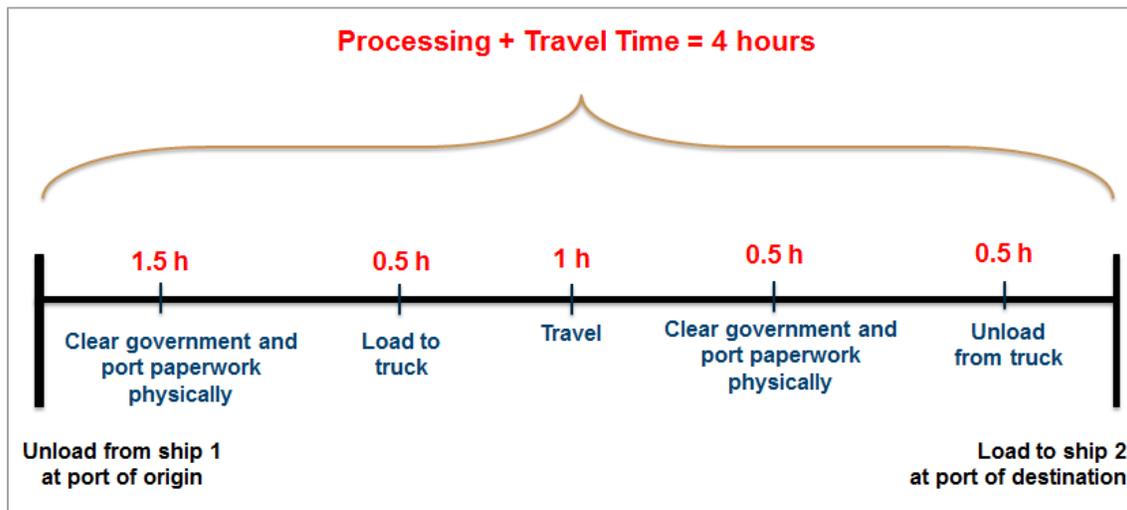


Figure 3: Trucking service time

As figure 3 shows, it can ideally take 4 hours to move one container from origin to destination. Retrieving a container takes 2 hours, travel to the other port is 1 hour, and dropping the container at destination takes approximately 1 hour. It is said to be ideal because this metric assumes that the container has no special requirements, port charges have been cancelled beforehand, and yard times are assumed to be 30 minutes. It is assumed that a container is being moved from MIT to Balboa. If compared with reality, containers may require AUPSA and Quarantine clearances and congestion at port as well in the cities could easily double this total service time.

When analyzing the timeline for retrieving, travelling and dropping a container, truckers can make at most 2 trips per day in ideal conditions (Figure 4). The number of trips will be highly dependent on traffic conditions both in port and cities, as well as Customs service times in each port.

Usually, transshipment will be on weekends to minimize congestion and increase number of trips. Shipping lines will need to pay late-gate costs¹¹ to ensure a continuous flow of containers.



Figure 4: Trucking service timeline

After analyzing trucking service operations and holds, these are the key findings on transshipment by truck service:

- Truckers will need to get BL stamped at all windows before being able to drop or retrieve a container. At origin, trucker will need to move through 5 windows (AUPSA, Quarantine, Customs, Port charges, and Port gate), and make lines in order to get BL cleared as well if there any special requirement from AUPSA and/or Quarantine. All these windows also provide service to imports, exports and reexports, causing long lines and greatly increasing container pick-up and dropping time.
- It seems that each window requires 1 BL copy per container. Shipping lines can make up to 10 copies of BL per container (number of copies may vary depending on the trucker, shipping line, port and government offices judgment). The original BL is stamped and one copy will be left at each window. During interviews, it was widely variable which offices would keep a copy.

¹¹ Late gate: shipping lines pay port for operating its containers after closing port hours. Shipping lines will notify in advance, detail the number of units to be moved, and port will provide the number of hours needed for the operation. Costs include port operations as well as opened service windows.

- It seems that dropping and retrieving processes, times and number of copies will vary according to the port. Though overall time of service is relatively the same, each process within port given its unique configuration will vary on activity and waiting times for each service window. For example: containers dropped at Balboa will only stop at gate, and then Gate window to retrieve location. At MIT, truckers will need to go through all five windows in order to remove the hold in its port system.
- Truckers can make **at most 2 trips per day** given that container processing at windows is time consuming. Government holds and paper clearance at port increase the time needed in order to transship a container. Processes in each window are highly variable; it can take minutes to hours to go through a window.

Though, trucking companies have assigned “service” clerks (which are in charge of only clearing paperwork and making lines). The number of containers needed to be processed is so large that still impacts on the number of trips a trucker can do in a day. The worst case scenario is that truckers will only be able to make one transshipment trip per day.

Trucking is currently not competitive with rail as a mode to move containers from port to port across the country. Each round-trip (often involving moving a full container in one direction and returning empty) by truck between Balboa and MIT costs approximately \$375. A single container move by rail between Balboa and MIT costs approximately \$150.

- Customs has a SIGA module that virtually moves all containers from port of origin to port of destination. However, there is no SIGA module for D6 transshipment form. This form was created as a rapid response to Balboa’s congestion in 2012. The D6 form is not registered in SIGA, only filed.

D6 forms are filled out by hand to keep track of containers while in transit. Each container will require an individual D6. In weekends, shipping lines may move up to 300 containers or more, and D6 forms are all generated manually.

- AUPSA and Quarantine requirements impact containers arriving from ports with lead times less than 24 hours. Time window for processing and getting clearance documentation is too short. Containers will stay at the port until the documents are on-hand and holds can be removed. In occasions, shipping lines decide on transship the container within the port, instead of moving it through Panama City (this is usually for movements between ports in the same side).
- A container with no special requirements will pay \$9.00 to Customs for transshipment costs and \$9.00 for Quarantine’s fumigation arch. Containers with special requirements from AUPSA and Quarantine (assuming one type of commodity), will need to pay additionally \$12 (includes plastic and metal seals, forms, licenses, notices and fumigation), which means that a special container could have total clearance costs of at least \$30.

X. Recommendations

According to the Panama Maritime Authority, Panama's transshipment business was down by approximately 5% last year. Given the impact that transshipment has on Panama's attractiveness as a distribution hub, trucking is one of several areas that must be addressed in reestablishing competitiveness.

1. Establish clear performance goals and metrics for all network components based on minimizing maximum transfer times, minimizing transfer costs and maximizing reliability and then have these metrics monitored by a neutral party to eliminate finger pointing.
2. Reduce/eliminate government charges associated with transshipment containers. These charges both raise the cost of transshipment and irritate the customers since they do not appear to get any value from the charges. Have Customs, AUPSA and Quarantine all use one single seal to reduce cost.
3. Change laws and government processes to eliminate most/all holds and provide electronic capability for facilitating any remaining holds.
4. Transshipment trucking service (currently stated by law as provisional (Resolution No. 139-July 13, 2012), should be changed to a permanent transshipment option.
5. Establish systems, including a SIGA module and a single window to enable electronic communications between parties.
6. Have Customs open 24/7.
7. Improve road infrastructure between ports and consider special truck lanes
8. Establish clear and effective contingency plans for disruptions.
9. Establish a Logistics Ministry or other government entity to facilitate integration and monitor potential disruptions in the transshipment processes.

XI. REFERENCES

- Customs Resolution No. 904-04-127 OAL of April 2, 2012
- Customs Resolution No. 113 of June 20 2012
- Customs Resolution No. 139 of July 13, 2012.
- Customs Cabinet Decree No. 6 of March 13, 2002.
- Agreement between Ministry of Agriculture (MIDA), Panama Ports Company, Manzanillo International Terminal, Maersk Sealand and Panama Canal Railway. April 22, 2002.
- Resolution AUPSA - DINAN-020-2010. April 22, 2010

XII. APPENDIX

TRANSSHIPMENT PROCESS MODELS

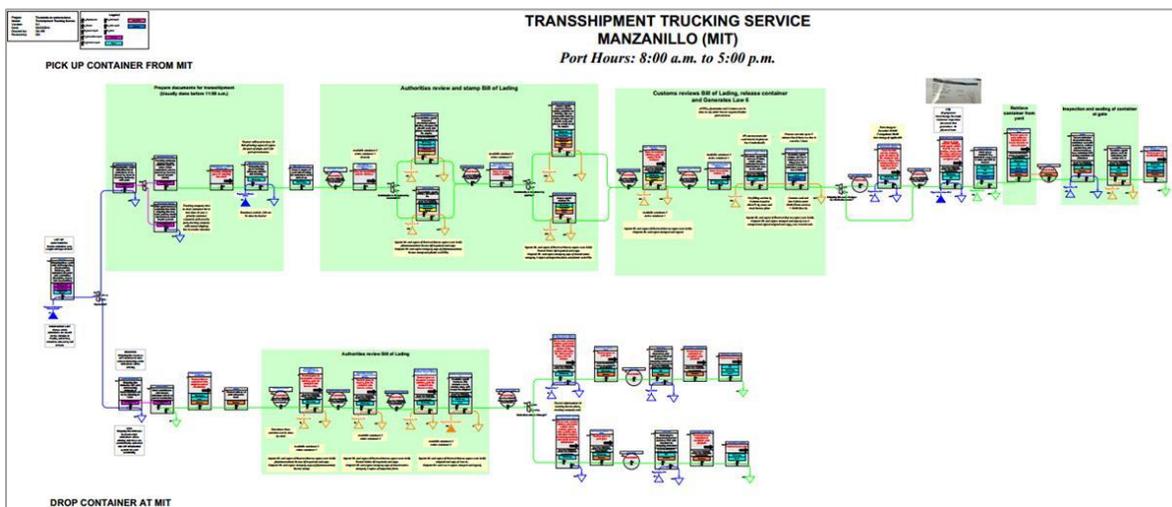


Figure 5: MIT Transshipment Trucking Model

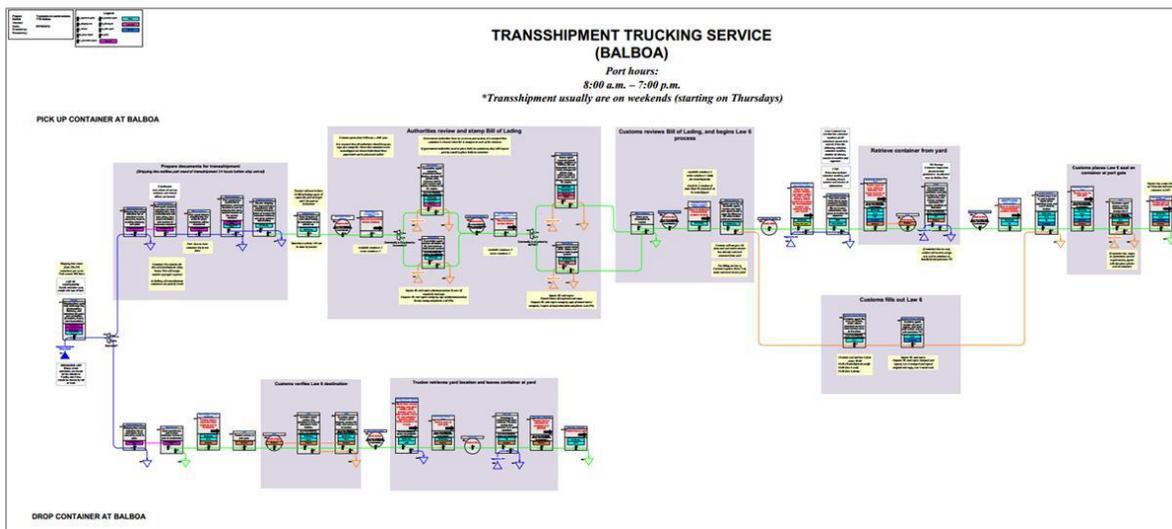


Figure 6: Balboa Transshipment Trucking Model

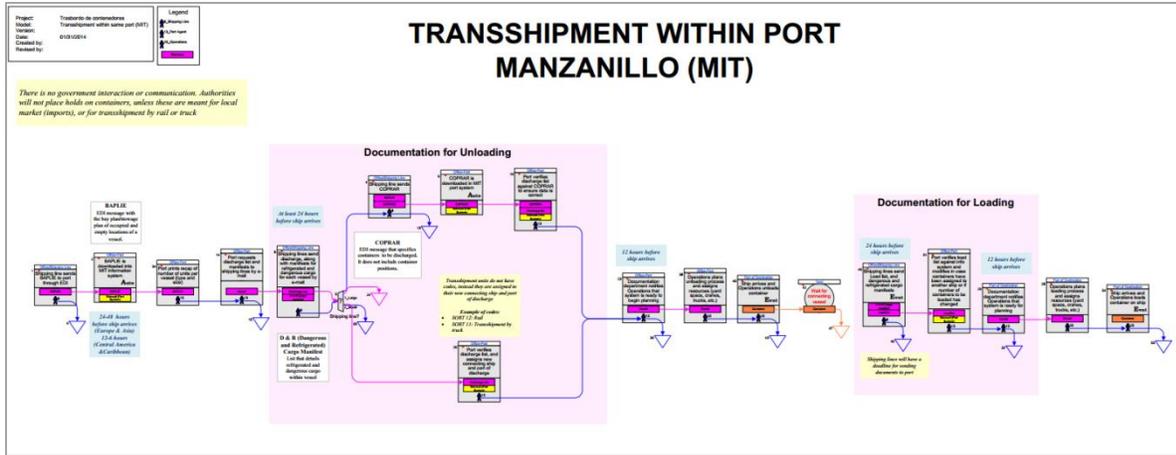


Figure 7: MIT transshipment within same port model

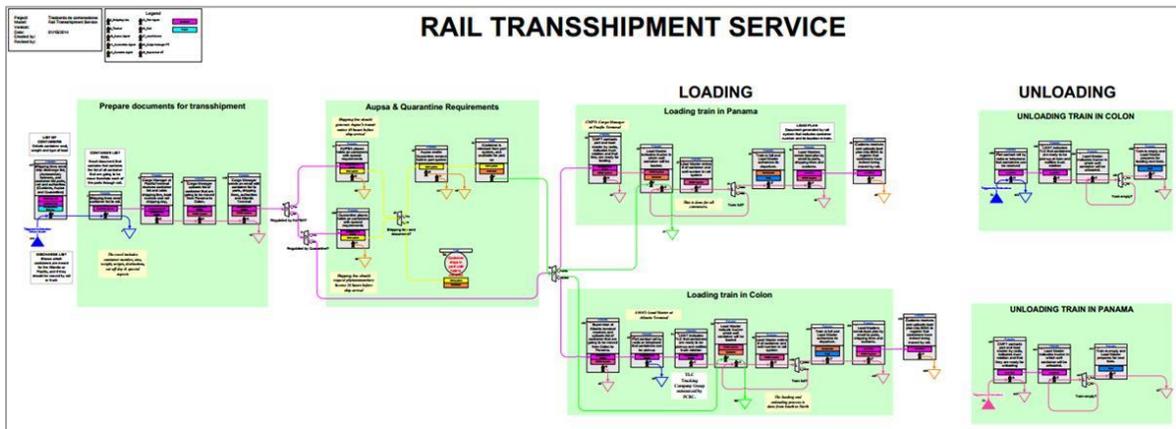


Figure 8: PCRC transshipment model