



VESSEL TRANSIT SCHEDULING AT THE PANAMA CANAL

This document intends to provide our clients with a better understanding of vessel scheduling in the Panama Canal. For any questions not addressed in this document, please contact our customer service department at CustomerService@pancanal.com.

Panama Canal Vessel Traffic Management and Operation

The main objective of the Transit Operations Division of the Panama Canal Authority is to provide all vessels with a safe, reliable, and expeditious transit through the Canal.

The Marine Traffic Control Unit of the Transit Operations Division is responsible for the scheduling, coordination, and monitoring of vessel traffic through the Panama Canal, including the terminal ports of Balboa, in the Pacific side, and Cristobal, in the Atlantic side. The daily elaboration of the vessel transit schedule is an extremely complex process due to a number of rules, regulations, restrictions, and conditions that exist in the Canal. Weather, vessel mix and availability of resources are also some of the conditions that influence the daily schedule.

NUMBER AND ORDER OF VESSELS IN THE SCHEDULE

Q. WHAT DETERMINES THE NUMBER OF VESSELS IN THE SCHEDULE?

A. The number of vessels that can be accommodated in the schedule depends basically on the mix of vessels available for transit (types and dimensions); vessels' drafts (vessels with deeper drafts require longer lockages); Canal conditions (availability of infrastructure and resources); and the vessels' restrictions in the Canal (for example, if the vessel is restricted to daylight transit or if she can meet opposing traffic in navigation channels). The higher the number of restricted vessels, the lower the number of vessels in a schedule.

Q. WHAT DETERMINES THE ORDER IN WHICH VESSELS BEGIN AND / OR FINISH THEIR TRANSIT?

A. For non-booked vessels, their arrival time determines their turn in transit in relation to other non-booked vessels. They are normally scheduled around booked vessels that must be scheduled taking into account the 18-hour in-transit-time requirement. US military vessels have priority in transit and must be also be considered. Once it is determined which vessels rate to transit on a particular day, the scheduler will arrange them in the best possible order so as to optimize the Canal's capacity and the use of resources, and taking into account the arrival, ready times, and transit restrictions of each vessel. For these reasons, the order in which vessels start their transit is not necessarily the same as the order in which they finish their passage through the Canal.

Q. WHY WAS A VESSEL SCHEDULED TO TRANSIT BEFORE ANOTHER VESSEL THAT ARRIVED LATER?



A. In general this happens with vessels that have booked their transit. The booking system allows for vessels to transit on a specific date, without needing to wait for their turn in transit based *solely* on their arrival. The transit order may also be affected by the vessel's restrictions or transit conditions.

Q. WHY ARE SOME VESSELS SCHEDULED TO ANCHOR IN GATUN LAKE OR TO STAY AT THE TIE-UP STATIONS?

A. Certain vessels are restricted to daylight transit and / or are restricted from meeting opposing traffic in some areas of the Canal. For this reason, and to assure that booked vessels transit within the 18-hour requirement, it is necessary to regularly schedule some vessels to anchor or tie-up at different areas of the Canal. The use of the tie-up stations, mooring areas and anchorage facilities allows the locks infrastructures to be used more efficiently, therefore optimizing the Canal's capacity.

SCHEDULE CHANGES

Q. WHAT ARE SOME OF THE CAUSES FOR SCHEDULE CHANGES?

A. The daily schedules are constantly affected by changes in vessels' status or conditions such as: changes in ETA (Estimated Time of Arrival) or arrival times, changes in ready times for transit, changes in vessels' status (for example: changes in orders or transit cancellations), changes in restrictions due to cargo or visibility, changes in drafts, and deficiencies. Changes might also be due to breakdowns at the locks, tugs, launches, highway traffic, weather (fog, rain), etc.

Q. HOW OFTEN IS THE TRANSIT SCHEDULE CHANGED?

A. The transit schedule is constantly revised and updated, and changes may occur at any time.

Q. WHY DO SOME VESSELS THAT WERE ORIGINALLY SCHEDULED FOR A FULL TRANSIT, STAY OVERNIGHT IN GATUN LAKE? WHY ARE SOME VESSELS' TRANSITS INTERRUPTED OR CANCELLED?

A. Sometimes issues that happen during a transit day, such as breakdowns of the locks or other equipment or resources, unavailability of resources, vessels' delays or deficiencies, weather conditions, etc., cause a cumulative schedule deterioration that impedes the scheduled transit plan from becoming a reality. In such cases, and in order to prevent further delays from impacting the following transit schedule, some vessels' transits are interrupted or postponed for the next day.

Q. WHY ARE SOME BREAKWATER TIMES CHANGED WITH SUCH A SHORT NOTICE?

A. Unfortunately, many changes that occur in the schedule cannot be prevented nor predicted. The breakwater times for some southbound vessels depend on the northbound vessels departing Gatun Locks. If, for example, these northbound vessels experience delays in their clearing times, the lockage times for the southbound vessels will also be delayed, requiring breakwater times to be adjusted, sometimes with short notice.



The breakwater times may also be affected by pilot availability. If the pilot suffers any delay in his transportation to the Atlantic side or to the arriving vessel from a previous assignment, the breakwater time will need to be adjusted accordingly, and again, sometimes with short notice.

PILOT TIMES

Q. WHY DO THE PILOT TIMES CHANGE SEVERAL TIMES WITHIN A DAY?

A. The pilot times are affected by changes in the schedule. For example, when a vessel cancels its transit, this transit slot must be assigned to another vessel and therefore its pilot time changes, sometimes with very short notice. At times one single event may cause a domino effect in the schedule, changing the pilot times of several vessels in the convoy.

Q. WHY ARE VESSELS NOT NOTIFIED EVERY TIME THERE IS A CHANGE IN THEIR PILOT TIME?

A. The vessels are not provided with a new pilot time every time the transit schedule is modified because there could be many changes during the day and it is not practical to contact the vessel every time these changes occur. In order to reduce the number of times a vessel is contacted for this reason, the pilot-time notifications are done twice a day, approximately between 1100 and 1200 hours for vessels scheduled to transit in the afternoon convoy, and between 2000 and 2200 hours for vessels scheduled to transit in the morning convoy of the following day. Other notifications may occur during the day depending on operational needs or if there is a significant change in the pilot time previously provided.

Q. WHY WAS THE PILOT NOT ON BOARD AT THE PILOT TIME GIVEN?

A. The pilot time given during the notification period is an estimated time based on the vessel's scheduled lockage time at the time of the notification. The actual time that the pilot will be on board may be affected by changes in the vessel's lockage time. Additionally, issues arising while the pilot is being transported to the vessel may affect the time that he or she actually gets on board.

Q. WHY WAS THE VESSEL NOT GIVEN A PILOT TIME FOR A HARBOR MOVEMENT?

A. For harbor jobs, the projected pilot times is usually provided from the harbor controller to the vessel's agent, who is the one responsible for advising the Panama Canal with the ready times for docking and undocking, based, among other things, on information provided by the ports' operations departments and/or by the vessel's master. The harbor controller then coordinates with the agent the time that the job will be performed, taking into consideration other issues such as traffic restrictions or availability of resources. It is expected that the agent will pass on this information to his client. However, if the vessel is unable to contact its agent, the master may obtain a tentative pilot time by contacting the signal station.



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TRANSIT DURATION

Q. WHY CAN'T ALL TRANSITS BE COMPLETED IN 10 HOURS? WHY DOES IT TAKE LONGER IN SOME OCCASIONS THAN IN OTHERS?

A. The number of vessels that can be accommodated in the schedule depends basically on the mix (types and dimensions) of vessels available for transit; vessels' drafts (vessels with deeper drafts require longer lockages); Canal conditions (availability of infrastructure and resources); and the vessels' restrictions in the Canal (for example, if the vessel is restricted to daylight transit or if she can meet opposing traffic in navigation channels). These conditions vary each day and consequently, each schedule is different. That is why in some occasions a vessel's transit may be fairly straight through while in others it may be interrupted and therefore take longer hours.

The Canal strives to provide a safe and efficient service to customers of different requirements and restrictions, taking into account many infrastructure, environmental, and regulatory considerations. Every effort is made to reduce both the waiting time and the in-transit time as much as possible, as well as changes in the transit schedule, but they are all inherent to an operation as dynamic as the transit through the Panama Canal.

Q. WHY DOESN'T THE SCHEDULE CONSIDER THE VESSEL'S CREW REST PERIODS?

A. The Canal strives to provide a safe and efficient service to all vessels, taking into account many infrastructure, environmental, and regulatory considerations. Therefore, in order to maximize the Canal's capacity, it is necessary to anchor or tie-up vessels in different locations of the Canal. Since the transit through the Canal is a 24-hour operation, crew rest periods of each vessel cannot be considered since doing so would increase the waiting times, and decrease both the amount of vessels scheduled for each day and the level of service provided.

In order for this dynamic and complex operation to be successful, vessels shall plan the availability of their crew in such a way that the vessel is manned both in number and qualification as required in order to provide a safe transit.

Q. WHY ARE PILOTS RELIEVED IN SOME TRANSITS?

A. Pilots may have to be relieved in order to comply with pilot assignment duration limitations as specified in their Collective Bargaining Agreement. Pilots may also be relieved due to vessel deficiencies or other special conditions as determined by the Canal Port Captain.

Q. WHY DO VESSELS SOMETIMES HAVE TO WAIT SEVERAL DAYS TO START TRANSIT? WHY IS A BACKLOG OF VESSELS FORMED?

A. Since the Panama Canal is affected by the seasonal activities of its clients, there are periods during the year in which the number of daily arriving vessels exceed the amount of vessels that may be scheduled for transit. This is the main reason for an increase in the backlog of vessels expecting a transit slot, although in some times of the year Canal maintenance works (especially at the locks) and weather



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conditions may also impact the said backlog. The number of days that a vessel will be awaiting transit will depend on several issues; usually, restricted non-booked vessels will have to wait longer than vessels that have been able to secure a booked transit, or vessels that have none or few transit restrictions. During periods of increased backlog, the Canal will put in effect the necessary measures in order to reduce this backlog as soon as possible; the measures may include increasing the availability of resources, modify the conditions of the Transit Reservation system, and postpone maintenance works, among others. The Panama Canal is constantly looking for ways to keep these delays to the minimum possible, as allowed by the current circumstances.

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