Slots

A slot generally refers to a specific time window. In aviation, these are mainly used for times when an aircraft must be in the air or, as a result, when it is allowed to leave its parking position.

Slots are mainly used when there is a high volume of traffic and helps the airport or air traffic controller to continue working as efficiently as possible. Each aircraft or individual aircraft can be allocated certain times.

Departure Slot

VATSIM offers the **vACDM tool** for certain airports, which takes a lot of the work out of departure control. Details can be found in this book. If the tool is not available or the controller does not use it for some reason, the capacity of the airport must be controlled manually.

For outbounds, this is best controlled via the aircraft's startup clearance. The number of aircraft cleared for startup may not be greater than the airport’s total capacity. All other airplanes must wait their turn accordingly.

> An airport with only one runway for take-off and landings has a capacity of around 20 to 30 aircraft movements per hour, depending on the ratio of inbounds to outbounds.

It is important to know the **airport's capacity** and to recognize the current bottleneck. If, for example, the airport has several independently usable runways and there is only congestion on one of them, it makes little sense for all aircraft to be allocated a slot. Outbounds that can take off from a runway without delay using normal procedures should not have to wait unnecessarily. The same applies to different departure routes, etc.

Queues at the holding point cannot be avoided even with the best systems. How they are processed and which traffic follows them are the most important considerations here.

To maintain an overview, the **TSAT** (Target Startup Approved Time) should be noted in the **scratchpad**.

If the workload for a controller and thus the waiting time for the pilots becomes too much, a **coordinator** can work with the controller on the Delivery position.

Example for 30 outbounds per hour

An airport runway has a capacity of **30 outbounds per hour**. On average, this means a **departure every 2 minutes**. If more than these 30 outbounds want to take off per hour or if they all request the startup clearance at the same time, it is time to act. The easiest way to do this is for Delivery to give startup clearances to outbounds on this runway every 2 minutes. The enroute clearance can also be given in advance, but only at 2-minute intervals startup clearances are issued and the aircraft are sent to ground/apron.

If there is another runway that can be used independently and has free capacity, the 2 minutes do not have to be used for outbounds via this runway.

It is also important for Delivery to have an overview of the holding points. If the holding point threatens to run empty, appropriate countermeasures should be taken and the start release of individual outbounds should be prioritized. The **taxi out time** for the individual aircraft should also be taken into account! The same applies to a situation where many departures have already been cleared for take-off via the same SID. Here it can be helpful for the tower controller if they can slot additional departures with other departure routes in between in order to reduce the necessary separation.

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