TO REGULATE, OR NOT TO REGULATE?

Regulating traffic is a trade-off decision that may involve a variety of complexities. **Anders Ellerstrand** recounts one such decision: to regulate, or not to regulate.

KEY POINTS

- **In a messy environment, goal conflicts are harder to understand and manage, and trade-offs often involve ambiguous alternatives.**
- **Getting extra resources is a good mitigation for many problems, but the request needs to be made in good time.**

Many years ago, one Saturday in October, I went to work to do an afternoon shift as a Watch Supervisor at the ATC Centre. I was to be the only supervisor there but expected a calm day at work. That day did not turn out as expected.

It is 14:20. I am in a bit early and, as the ATC centre supervisor, I send my colleague home from his morning shift. As I'm preparing for the afternoon briefing, one of the controllers points out that one colleague is on the roster, although he is sick. I am lucky to have an extra controller on the shift for the first few hours but after that, I will need to find a replacement. The missing colleague is also on the roster for Sunday morning, so I must find a replacement for tomorrow as well. Finding staff for a Saturday afternoon and a Sunday morning is never easy and to add to that, this is in a period where the union is in negotiations with our employer. I also must prepare for a dataset change coming the same night. That includes informing the Network Manager of a change of configuration and setting up traffic regulations, sending out information to surrounding flight information regions, and printing checklists.

Only 30 minutes after the briefing, sector 5 calls and tells me that the 'Probe' function is not working. There are no checklists or routines prepared for that kind of error, but my assessment is that it shouldn't affect the capacity of the sector. I get no system warning and assume it is a local problem, so I call the technical supervisor to discuss a restart of the MMI for the position that is handling sector 5.

Then I get a call from sector 8, saying that sector 9 needs to be opened. I do the arrangements but when sector 9 is open they also report that the probe function is not working. Soon after other sectors call in and I realise, the probe function is now out of service for all sectors. I also get a few other reports of strange system behaviour.

I am still trying to find a replacement for the missing controller and finally manage to find a controller who is now on his way. However, I still have a vacancy for the next day and keep on making my phone calls. I now get a call about the need to open sector 6.

I realise I am too busy and have not followed up on the 'occupancy' graphs presentation from CFMU. The controller says he had to handle too much traffic and decides to write an incident report. In the report is a complaint concerning the technical problems we're having: I should have regulated traffic to 50% of capacity. The controller is referring to another problem where we have a checklist, which includes a missing probe function, but also the medium-term conflict detection (MTCD). For that problem we regulate traffic to 50% of our capacity. My assessment is different, since the MTCD is working and I do not have any system alarm.

With traffic going down (it is a Saturday evening), and with my assessment that this is a minor system problem, I decide not to regulate traffic. One reason is that regulating traffic now will push traffic towards the night shift and produce new problems. I decide though to regulate traffic for the night, because of the coming new dataset to be implemented.

Still, I worry about the situation. The ATM system is not performing as normal and I'm still too busy. I need help and call a supervisor colleague. While waiting for him to arrive, I write an incident report on the failing probe function and I handle four other reports being filed; an error on technical transfer for a flight, the high load on sector 6, a missing conflict warning, and another one for conflicting call signs.

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My colleague arrives. It is now two and a half hours since I started on the shift. Half an hour later there is an unexpected request to open sector W. The reason is high traffic volume in combination with the missing probe function, which according to the controllers is reducing their capacity. Now, all controllers of that rating group are in position. My newly arrived colleague has a valid rating in that group, so I let him work there instead of helping me out. I also file a report for having all controllers working with no-one in stand-by.

I realise I have to change my assessment of the situation and start preparing to regulate the traffic. The technical supervisor has been trying to solve the problem by rebooting one of the system servers in different ways. This must be timed to avoid reboots during traffic peaks. Another system expert has arrived and is saying we might get worse technical problems if we are not able to sort this out. Coordination is made with the neighbouring centre's Watch Supervisor and with other system experts. One of the issues is if the problems could affect the coming change of dataset on the same night.

Sectors are kept open and I ask one controller to stay on overtime while also having my supervisor colleague still working as a controller rather than supporting me. I finalise the change of configuration and regulations for the night shift.

Finally, the technical supervisor tries a reboot of our flight data processing system. This suddenly solves the problem! Five and a half hours after arriving to the shift we are back to normal operations.

A few incident reports were written during that shift and I was worried about being criticised for my decisions, which is why I made memory notes. This is what made it possible to write this story. Nothing too bad happened and I heard nothing about it afterwards. Still, I have looked back to that day many times and I also have my own hindsight bias, realising there could have been another outcome. I hope I learned something from it: don't wait to call for help when you need it.

Anders Ellerstrand works as a Watch Supervisor at the Malmö ATC Centre in southern Sweden. He has been working as an ATCO in Sweden for over 30 years but also in ICAO Projects in African countries. He has been a safety assessment specialist for the Malmö Centre and is presently studying for an MSc Human Factors in Aviation with Coventry University.

anders.ellerstrand@gmail.com

No, we don't need flow control. The situation is normal.