

ATD2 Remote Demo (3/21/18) Chat Transcript

Michael Tsairides: Welcome all, for audio, please dial into the toll-free telecon line: 1-844-467-6272, Passcode: 592382#

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Al Capps: Feel free to ask questions in chat at any time!

Hamsa Balakrishnan: Are the runway assignments pre-determined?

Al Capps: Hey Hamsa, they start based on pre-adapted rules that have been vetted with ATC. However...

Al Capps: they can be updated based on a number of factors including known need of a runway for operational necessity by ramp, or need by ATC for overall facility runway usages/optimization

Al Capps: so inputs from users can update the runway assignments

Hamsa Balakrishnan: Thanks Al

Kerry Facer: A verbal conversation usually occurs between the TMC and Ramp Control when a need is determined to shift a portion of the load to another runway.

Hamsa Balakrishnan: Thanks Kerry

Sandeep Badrinath: Is the hold time assigned when the pilot calls ready or a few minutes prior to the flight's EOBT?

Al Capps: right now in the more tactical approach we started with, it is when the pilot calls in. With the logic that Isaac is discussing, we are evaluating sharing this information earlier

Al Capps: earlier. However, that requires an electronic connection to send the advisories to the pilots, which is part of a new surface SWIM feed being provided

Hamsa Balakrishnan: how far ahead is the DMP affirmed?

Al Capps: called TFDM Terminal Prototype (TTP)

Sandeep Badrinath: Thanks Al.

Al Capps: The length of time a DMP can be affirmed is adaptable, but perhaps Isaac can speak to how far in advance we are speculating prior to field evaluation

Dan Criswell: Al, is TTP actively being transmitted now as a SWIM feed?

Al Capps: Dan, no. NASA is collaborating with TFDM and SWIM program office to provide a prototype version (that matches FAA spec) to the SWIM R&D network. That is expected in coming months. In the meantime, we have other consumers reading this from an internal feed (like MITRE mobile app integration).

Isaac Robeson: Currently at CLT, the metering capability is normally turned on about 30 to 45 minutes prior to the scheduler actually triggering metering. I would expect that a DMP would be affirmed about that far in advance at CLT

Isaac Robeson: But that amount of lead time is expected to vary per airport

Hamsa Balakrishnan: So the plan is to declare the average and max gate-holds 30-45 min in advance?

Isaac Robeson: That is the plan but those numbers would be updated as the predictions are updated

Hamsa Balakrishnan: got it, thanks Isaac

Tom Reynolds: How accurate are the EOBTs you are getting at different critical lookahead times, e.g., 15, 30 and 45 mins ahead?

Al Capps: Hey Tom, at 25 minutes or greater, the EOBTs are the same as the L time data that has been sent for years on CDM

Al Capps: but getting closer to departure, they can improve as much as 30-40% over L time depending on the look ahead window

Al Capps:you are hitting on a key area that we believe the field demonstration can help inform how well the more strategic timeframe will work

Hamsa Balakrishnan:Is the L time the same as LGTD?

Al Capps:Yes, same

Al Capps:In particular, we need to watch the bank start to ensure it is not delayed at all. We will talk about that lesson learned here in a bit.

Al Capps:E.g. - front load

Tom Reynolds:Thanks Al. So is EOBT accuracy a limiting factor in any of your design? How much better would you like to see it?

Roger Sultan -ALPA:how does flight crew know if metering is occurring? ATIS message? Digital display at the gate?

Al Capps:EOBT is not a limiting factor in the design so much as - the EOBT can be transformative in the NAS if we see good improvement

Al Capps:They 30-40% are closer look ahead times help not only surface metering

Al Capps:they help scheduling into the overhead stream, they help determining load balancing strategies, and also downstream strategic planning

Al Capps:so many benefits of good EOBTs. If we have same value that we have always have, there will be less benefit.

Tom Reynolds:Thanks Al.

Sandeep Badrinath:What is the average excess queue time that is currently used?

Isaac Robeson:Sandeep, the target excess queue times have generally been around 10 minutes

Sandeep Badrinath:Is different for North and South flows?

Kerry Facer:South flow tends to have a greater impact on the ramp, than North flow. Access to one of the runways is directly adjacent to the passenger terminal.

Al Capps:Hey Roger, right now the pilot knows metering is on today if they are notified by ramp upon pushback. We have some posters and training, and general circular information that discusses the banks that we are targeting. With the new SWIM feed this data could be made available to pilots electronically.

Kerry Facer:That is, traffic gets backed up to or onto the ramp much quicker in a south configuration, versus a north configuration.

Hamsa Balakrishnan:what is the typical range of unimpeded taxi times?

Al Capps:Excess taxi out = delay

Marcus Smith:the ramp taxi time is ACARS based? or surveillance?

Al Capps:ramp uses ramp controller provide entries of when the pushback starts and when ramp taxi starts

Al Capps:which is available on the large majority of flights

Marcus Smith:thanks

Isaac Robeson:Hamsa, the unimpeded taxi times can vary greatly at CLT. Flights departing from gates close to 18L can have very short unimpeded taxi times. The unimpeded AMA taxi times can be less than a minute

Hamsa Balakrishnan:thanks

Isaac Robeson:but flights departing off of 36C can have unimpeded AMA taxi times that are more like 6 minutes

Hamsa Balakrishnan:the target excess times are ~10 min in these scenarios? What does it mean if the actual excess times are less than 10 min?

Roger Sultan -ALPA:thanks Al

Al Capps:Target excess times are applied to flight that experience 10 or more minutes of excess. Flights at the beginning of the bank or end that have less than 10 minutes excess time will have no gate hold

Steve Browning-ALPA:Does your data also take into account the number of planned departures each day? The data presented is during the winter schedule, and has both Thanksgiving (prior to metering), and Christmas. I would expect the scheduled departure numbers change greatly during and after the holidays.

Hamsa Balakrishnan:thanks Al

Hanbong Lee:Hi Sandeep, I think we missed your question. The target excess queue time can be different by traffic flow, or by runway, depending on the traffic demand. Tower controller or ramp manager can change the parameters.

Al Capps:Steve, good question. We are looking at a number of metrics. Most of the ones we are evaluating take into account the congestion on that day.

Marcus Smith:are you tracking excess NMA taxi time?

Kerry Facer:The TMC and Ramp Control Manager will converse during a bank if we see and need to shift runway load, and make the necessary adjustments.

Al Capps:The seasonal variation is especially important for A0/A14 type analysis. We will talk a little about that today.

Isaac Robeson:Hi Marcus, one of the previous slides had excess NMA taxi times

Sandeep Badrinath:Thanks Hanbong. I was wondering if South-Flow required a smaller excess queue time compared to North-Flow, on average.

Marcus Smith:thanks isaac

Sandeep Badrinath:Given that South-Flow has a marginally smaller mean taxi-out time.

Al Capps:In general, little to no delay is being purposefully taken in ramp for surface metering today. We are tracking it, it however.

Al Capps:For Sandeep, calibration of the metering parameters has a number of factors. At the moment East side is using a 12 minutes excess taxi time and West side is using a 10 minute, primarily because East is a dual use runway

Al Capps:that also has to account for arrivals. South versus North is a factor as well but it appears less so than other factors

Hanbong Lee:Sandeep, At CLT, departures usually have longer taxi distance in North flow. That's why we are looking at the excess taxi out time (taxi delay compared to unimpeded taxi time), instead of actual taxi time.

Sandeep Badrinath:Makes sense. Thanks.

Steven Lent:Do you keep statistics on planned departure order v. actual departure order?

Al Capps:Hey Steve. At what look ahead time? We have the data that could be used to assess this, but do not target this as a metric since it is not a system goal/measure of performance

Aditya Saraf:Was there any analysis done on APREQ flights separately? Is ATD-2 helping the APREQs more than regular non-APREQ flights?

Al Capps:Hey Aditya, yes, there is *much* work on APREQs. However, today is focused on surface metering.

Al Capps:APREQs and EDCTs are exempt from surface metering.

Al Capps:Let us know what type of data you would like to see on APREQs.

Steven Lent:Al, I guess what I was asking about was TMAT compliance, and the relationship between that and departure time compliance, In other words, does leaving the gate/ramp early result in taking off early. (This will be an important topic at airports with more than one primary flight operator...)

Kerry Facer:Prior to ATD-2, Ramp Control did not have an immediate view of APREQ flights. We had to search our gates and manually place a tag on the flight, which was not always efficient, especially when a destination requires APREQ's in the middle of a departure bank.

Aditya Saraf:Thanks AI. We are seeing beneficial impacts on TMI compliance data and taxi-out delays for APREQ flights in our ATD-2 fast-time simulations, it would be good to compare that with real operations

AI Capps:One of the exciting things we are seeing is improved APREQ compliance *during* surface metering. This makes logical sense given a less congested departure queue.

Kerry Facer:When an APREQ time is issued, the system also provides a recommended pushback time, this aids Ramp Control in providing recommended hold times to the flight crew and attempting to deliver the a/c to the FAA at the designated location.

Kerry Facer:That is delivering the a/c to the FAA at the designated location at the recommended (TMAT) time.

Aditya Saraf:Thanks Kerry and AI.

Hanbong Lee:AIBT: Actual In-Block Time (arrival's gate-in time)

Hanbong Lee:SIBT: Scheduled In-Block Time

Isaac Robeson:Hi Steve, one piece of data analysis we are starting to look at is the effect of prioritizing flights (substitution), exempting flights, and flights pushing back prior to TOBT. How does that effect the excess taxi time of those flights and other flights. The preliminary results are showing the benefits of prioritization at allowing those flights to go early, at the cost of adding additional gate hold/excess taxi time to other flights

AI Capps:Also for Steve, agree TMAT compliance is important. That is a different metric than flights being in the same sequence at end of runway versus what was predicted at various look ahead times. The main reason is the large window around TMAT.

AI Capps:What we are finding is that we have to accentuate compliance on FAA controlled flights, perhaps more than, that of surface metering flights. FAA controlled flights (APREQs, EDCTs) have a hard time to meet whereas surface metered flights do not.

AI Capps:Thus we color code TMATs associated with FAA controlled times in yellow so they pop out at ramp controller more.

AI Capps:At CLT, it was very important to provide TOBT, because ramp taxi calculation is very challenging and not something that folks want to leave to mental math

AI Capps:So, in summary of what Yoon said, the outbound A0/A14 initial analysis is looking really good.

AI Capps:The pilot may call earlier than EOBT. So pilot view of hold would be whatever system assigned plus early call in time. The ramp tool helps us capture these at a very detailed level.