CAMPUS
REGULATIONS
KENNETH VAUGHN
JIM MAROUSEK
16 Novenber 2021
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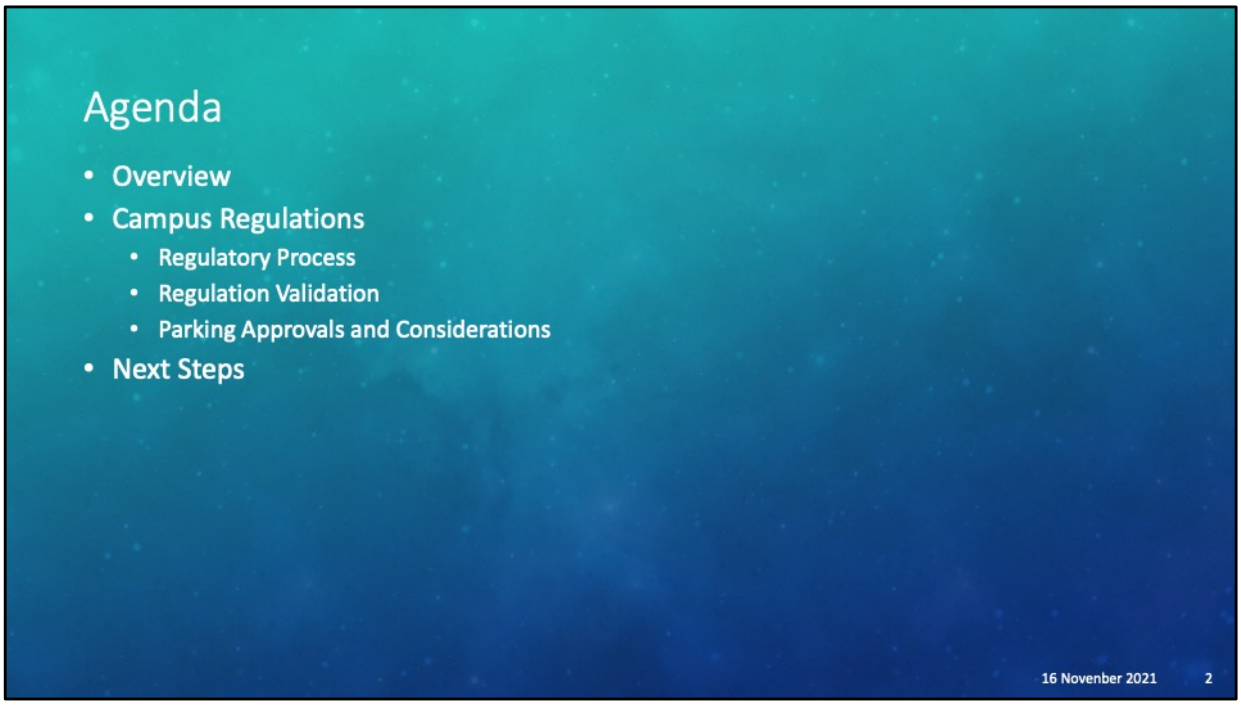
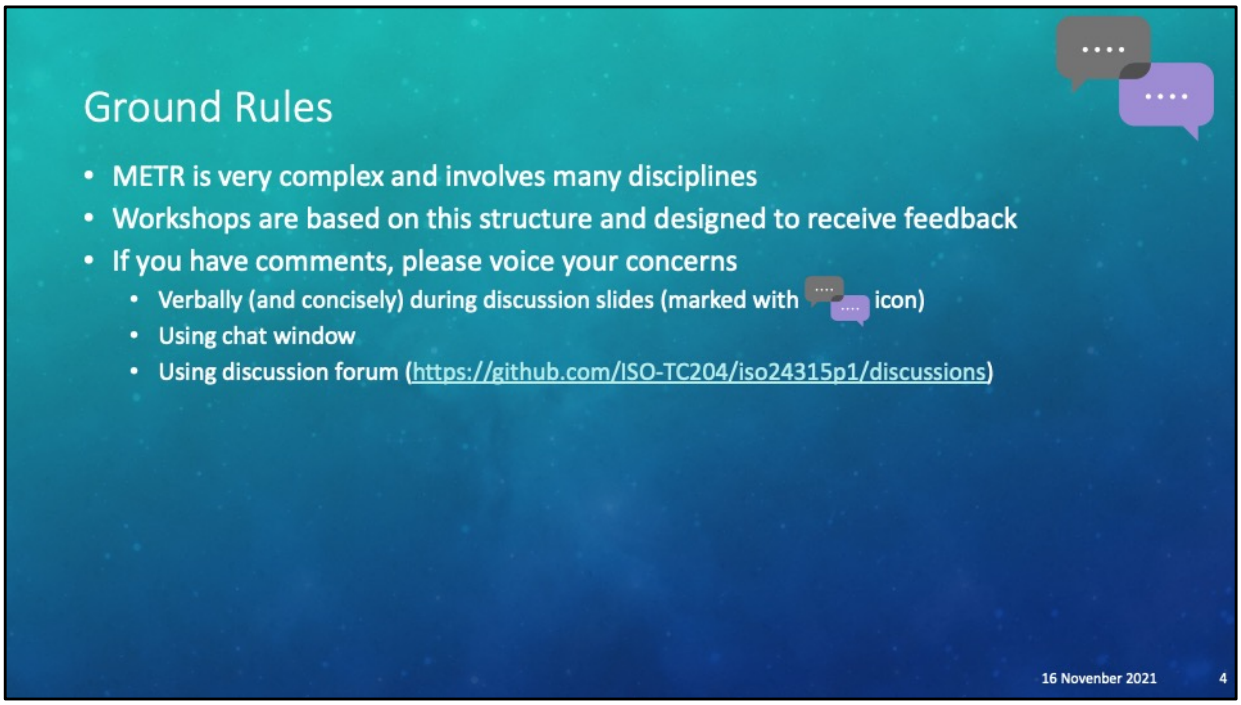


Today's topic is related to details related to campus regulations and parking and the process to implement these.

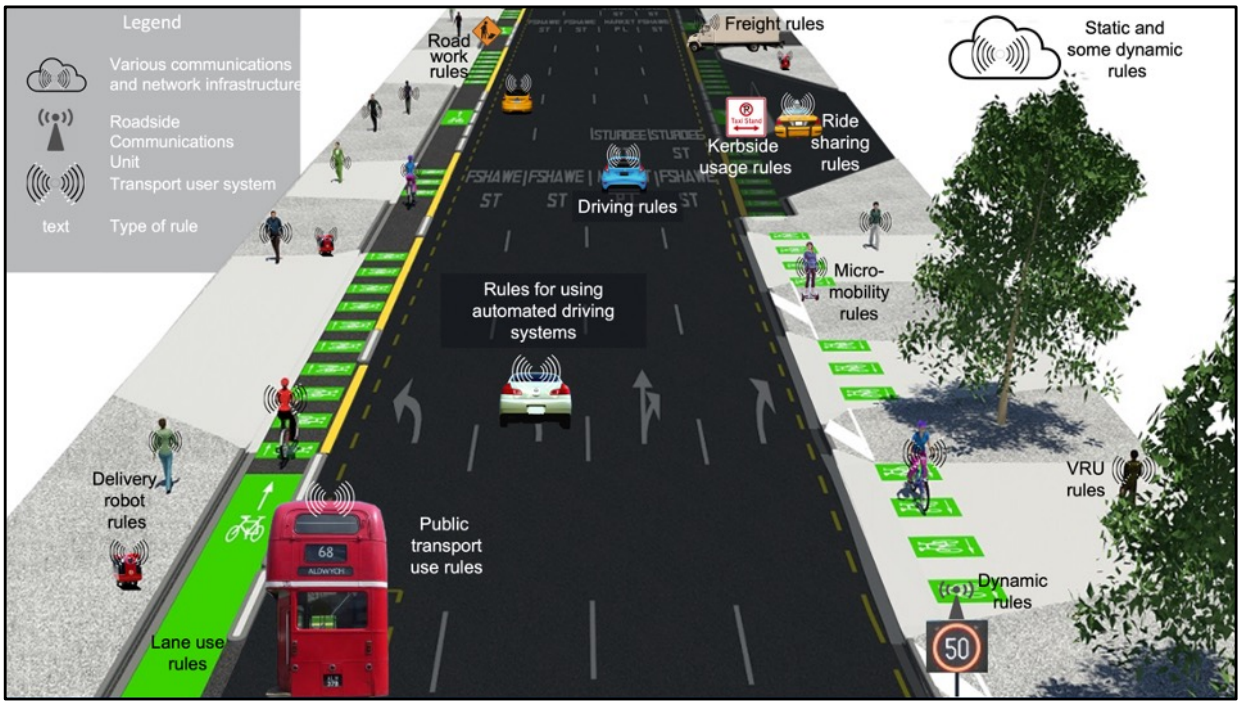
It is important to acknowledge that the materials developed to date represents a team effort. While there is a core editing group, as shown in the upper left, the concepts presented within this presentation already reflect valuable inputs from the review team shown on the right. In addition, the overall document is being prepared under the auspices of ISO/TC 204/WG 19, and especially its METR Drafting Team.



Before we begin, it is useful for everyone to understand the ground rules of our conversation. The development of the ConOps is intended to be a cooperative effort that reflects the input from stakeholders from different perspectives. To facilitate this process, the development team has prepared the workshops to gain feedback from stakeholders – but your feedback does not have to be limited to the topics presented.

The workshops are generally structured to present a topic and then gain feedback. Participants are welcome to voice their concerns during the workshop presentations, either verbally or using the chat window, but we request that verbal feedback is made when we are on discussion slides. We also recognize that our workshops are time limited and comments should be kept fairly concise. If major topics of discussion arise we can schedule additional meetings to focus on specific points, as needed. We have also established a discussion forum on the Github site to promote off-line conversations and encourage everyone to use the facility,

After we complete the workshops, we expect to prepare a draft ConOps early next year, and there will be ample opportunity for additional comments on the document once distributed.

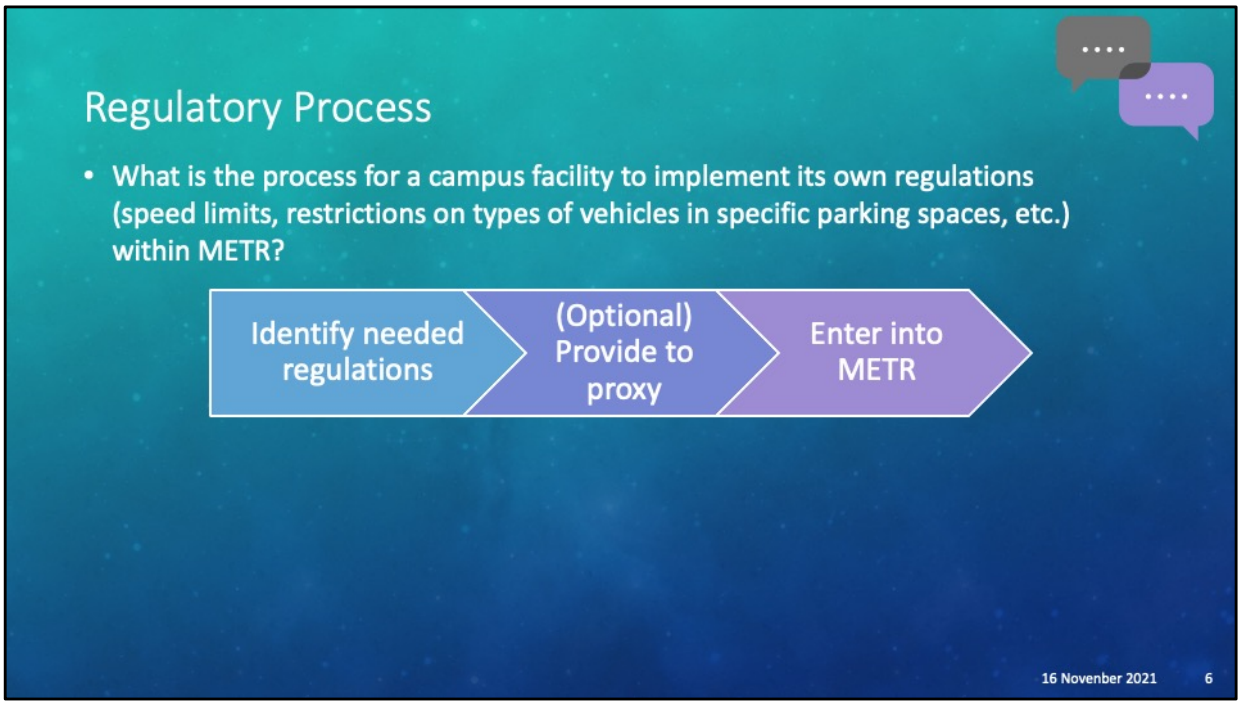


METR is intended to support all transport user systems. This includes: vehicle systems (e.g., automated driving systems and driver support systems), sidewalk delivery robots, and other devices such as smartphones used by pedestrians and perhaps units on-board micromobility devices (e.g., e-scooter interfaces)

The information provided to these users would potentially include all rules related to using the transport facilities, such as (from top and proceeding clockwise) any special rules for freight delivery or for the operation of heavy vehicles, kerbside usage rules (e.g., bus stop, taxi stand), ride sharing rules (e.g., what forms of ride sharing are allowed), micromobility rules (e.g., are e-scooters allowed in cycle lanes), VRU rules (e.g., is the sidewalk closed to pedestrians), dynamic rules (e.g., variable speed limits, lane control signals), public transport use rules (e.g., does my ticket quality me for a transfer, what are the fare zones), lane use rules (e.g., bike only, bus only, HOV-2), delivery robot rules (e.g., what is the maximum speed for a delivery robot for this sidewalk), road work rules (e.g., speed limit for the work zone). METR is intended to be flexible enough to address all of the transport rules, these are just a few examples that demonstrate the breadth of the effort.

Importantly, in order to cover all rules, the scope must include rules that can change

or be imposed in a dynamic fashion. For example, temporary lane closures due to unplanned incidents and signal timing information need to be considered and handled in a trustworthy way, even when long-range communications may not be available. Thus, the full scope of METR will likely need to rely on both cloud based delivery mechanisms as well as local broadcast of exceptional data.



Our first question today focuses on the process to enter information. Given the security and accuracy requirements to enter this information might make it more than some would prefer to do on their own, is it reasonable to allow private campuses to use a proxy to enter information (e.g., submitting data through a government website or hiring a third party to collect and enter information)?

Supplemental Information

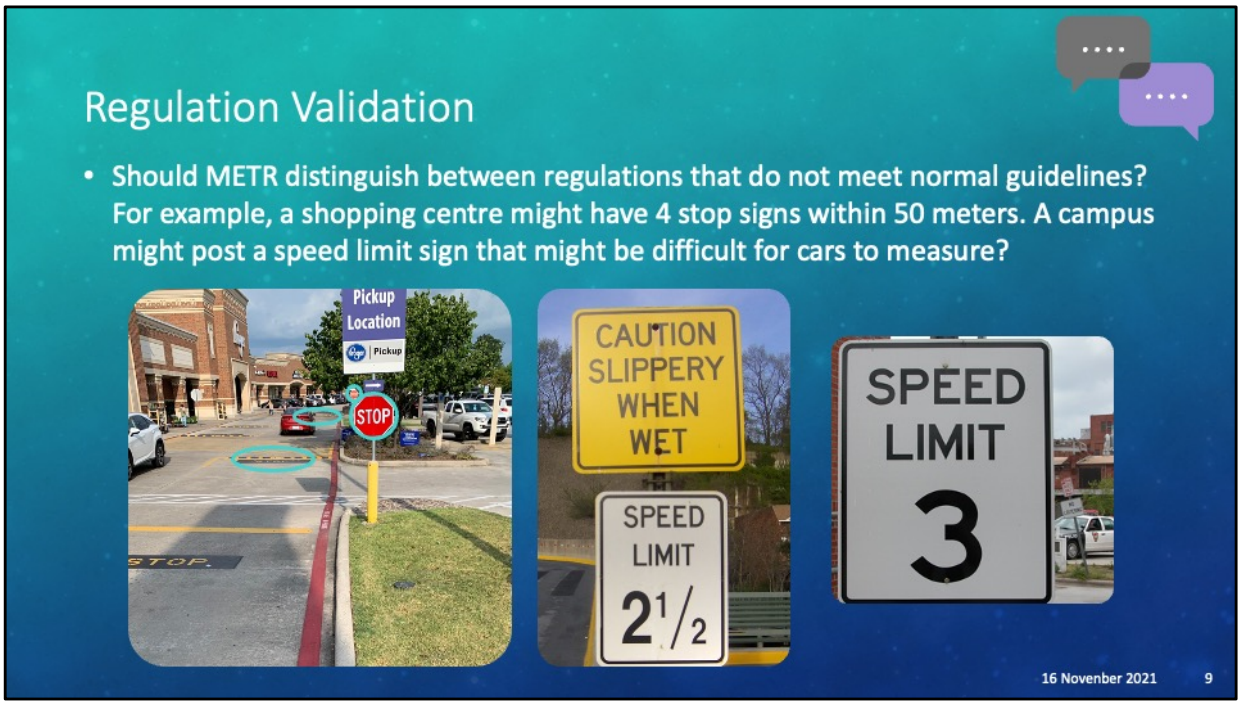
- What is the boundary between METR and mapping systems? For example
  - Does METR indicate regulations that restrict a parking space to those with disability decals?
  - If so, does METR indicate the exact parking spaces with these restrictions?
  - If so, does it provide any supplemental data, such as:
    - The location (left or right side) of a ramp and/or wide clearing for wheel chair access
    - In other words, how does an ADS-equipped vehicle know where to park (and orientation of parking) in order to best provide for the safety and comfort of its passenger with disabilities

16 November 2021 7

When entering parking information, does METR need to demark areas that are reserved for special types of vehicles, loading and unloading areas, curb cutouts, wheel chair ramps, etc. Or should these features be considered part of the mapping system?

https://www.ada.gov/restriping_parking/images/shared-van-car-space-2010.jpg

Do campus rules need to be validated in any way prior to entry? For example, do they need to be approved by the government for appropriateness from a traffic engineering perspective or do they need to be validated against signs and markings that are in the field?



Should METR distinguish between normal rules (e.g., developed by governmental authorities) and those developed by others, especially when they are known not to conform to solid engineering principles?

Multi-Stop - Ken Vaughn
2.5 limit sign - https://www.flickr.com/photos/joeshlabotnik/497312470/
3 limit sign - https://commons.wikimedia.org/wiki/File:2004-05-02_Speed_Limit_3.jpg

Supplemental Information

- Are there any additional needs to allow METR to better support the adherence to and enforcement of campus regulations?

16 November 2021 10

To what extent should METR convey details about rules? For example, do they need to provide all of the caveats associated with parking restrictions, which can become rather lengthy?

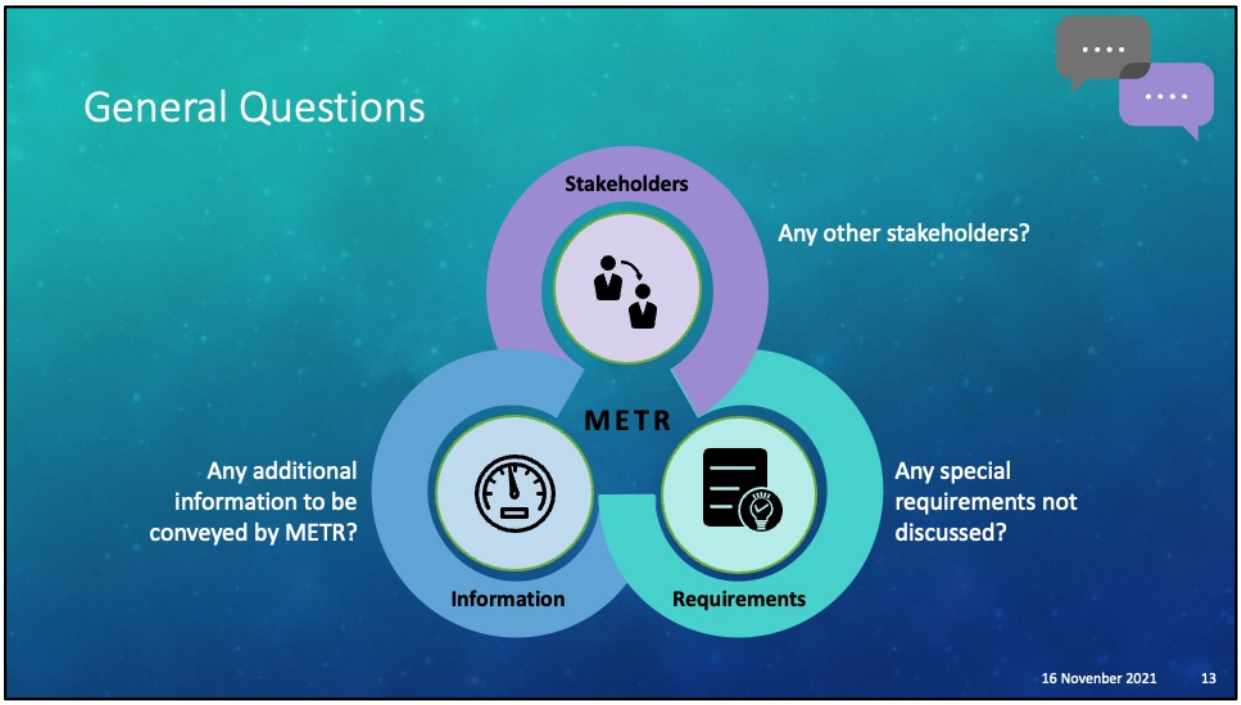
Multi-Stop - Ken Vaughn
3 limit sign - https://commons.wikimedia.org/wiki/File:2004-05-02_Speed_Limit_3.jpg
Complicated parking sign - https://upload.wikimedia.org/wikipedia/commons/7/79/SF_parking_sign.jpg
Parking permit signs - https://commons.wikimedia.org/wiki/File:Complicated_conditional_parking_restrictions_2018-06-11_17_50_54_HDR.jpg

How should parking permits be handled? For example, does the vehicle (user system) need to be aware of whether the vehicle has a required permit or not?

Handicap parking sign - https://images.myparkingsign.com/img/plamd/K/handicapped-parking-permit-required-sign-k-6247_pl.png
Parking permit sign - https://images.myparkingsign.com/img/plamd/K/parking-by-permit-sign-k-6156_pl.png
Warning sing - https://www.stopsignsandmore.com/images/product/medium/307.jpg
EV sign - https://images.myparkingsign.com/img/plamd/K/electric-vehicle-parking-permit-sign-k-9466_pl.png

Finally, what other considerations does METR need to consider in relation to on-street parking?

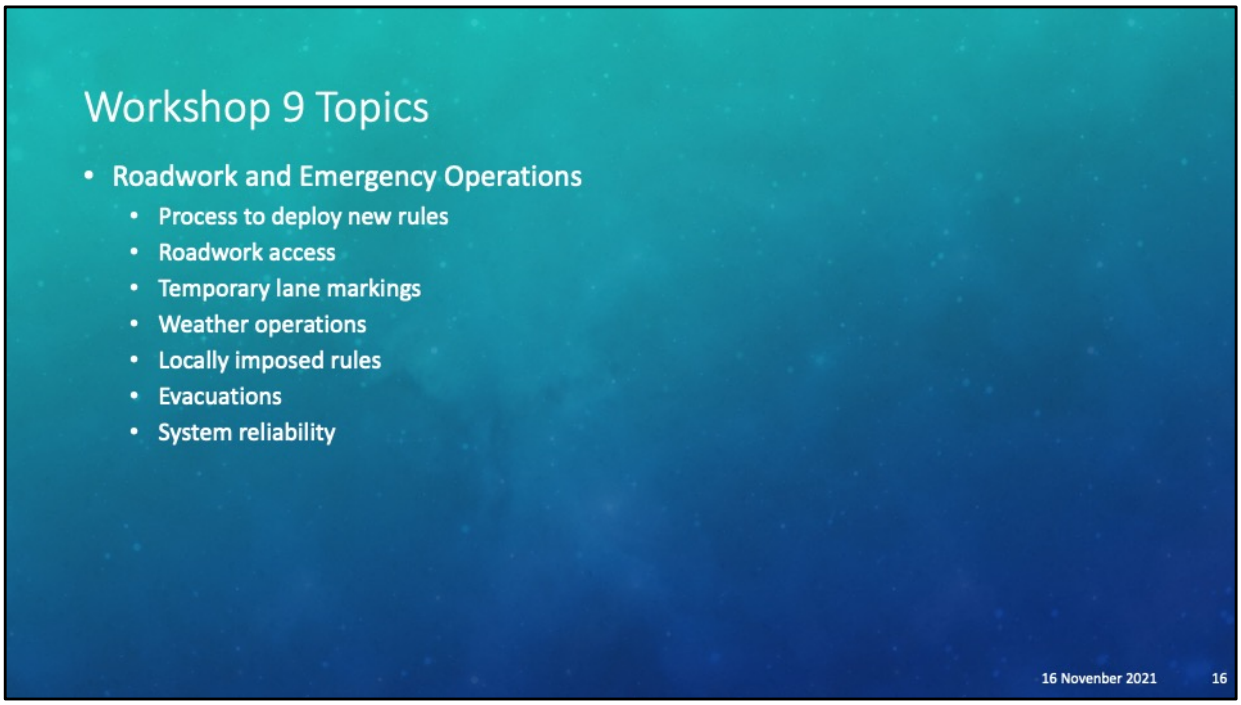
Complicated parking sign - https://upload.wikimedia.org/wikipedia/commons/7/79/SF_parking_sign.jpg
Parking permit signs - https://commons.wikimedia.org/wiki/File:Complicated_conditional_parking_restrictions_2018-06-11_17_50_54_HDR.jpg
Tow Zone - https://www.brooklinema.gov/ImageRepository/Document?documentID=12685
Snow sign - https://upload.wikimedia.org/wikipedia/commons/9/9e/Chicago's_Proudest_Neighborhood%2C_No_parking_when_snow_is_over_2_inches%2C_street_cleaning_7am-9am_Wednesdays_(37921507876).jpg



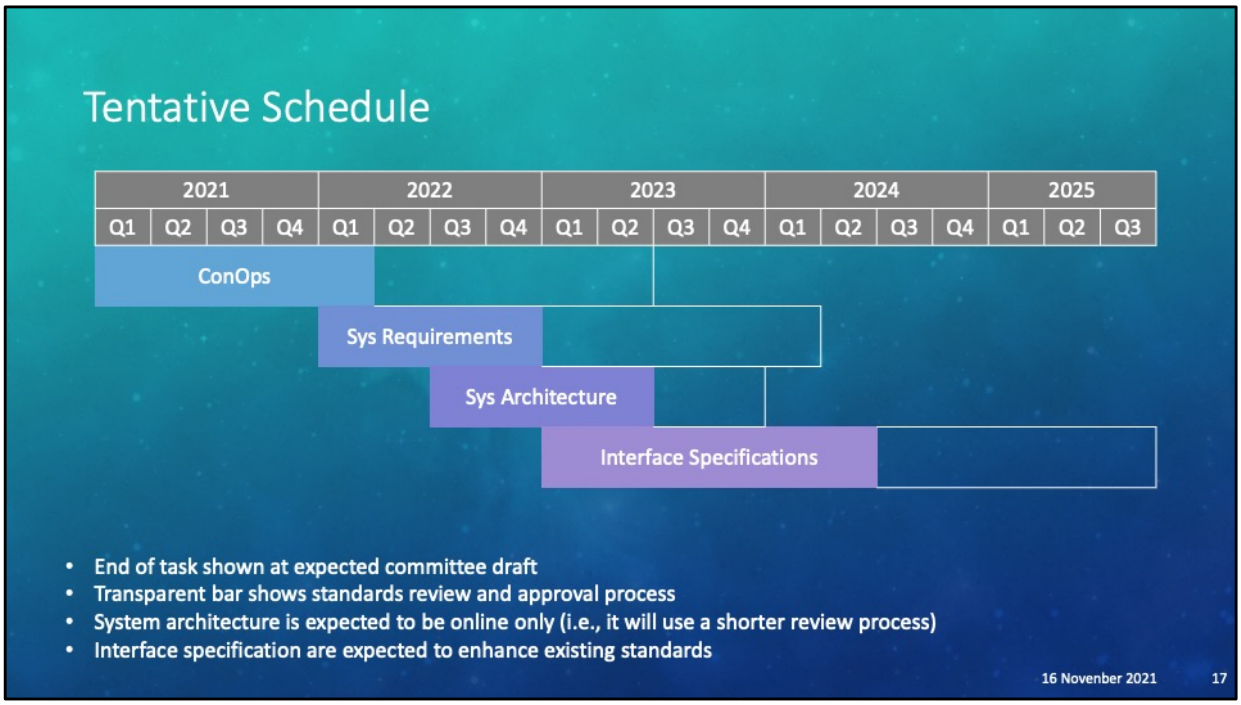
Have we forgotten anything?

NEXT STEPS
16 November 2021
14

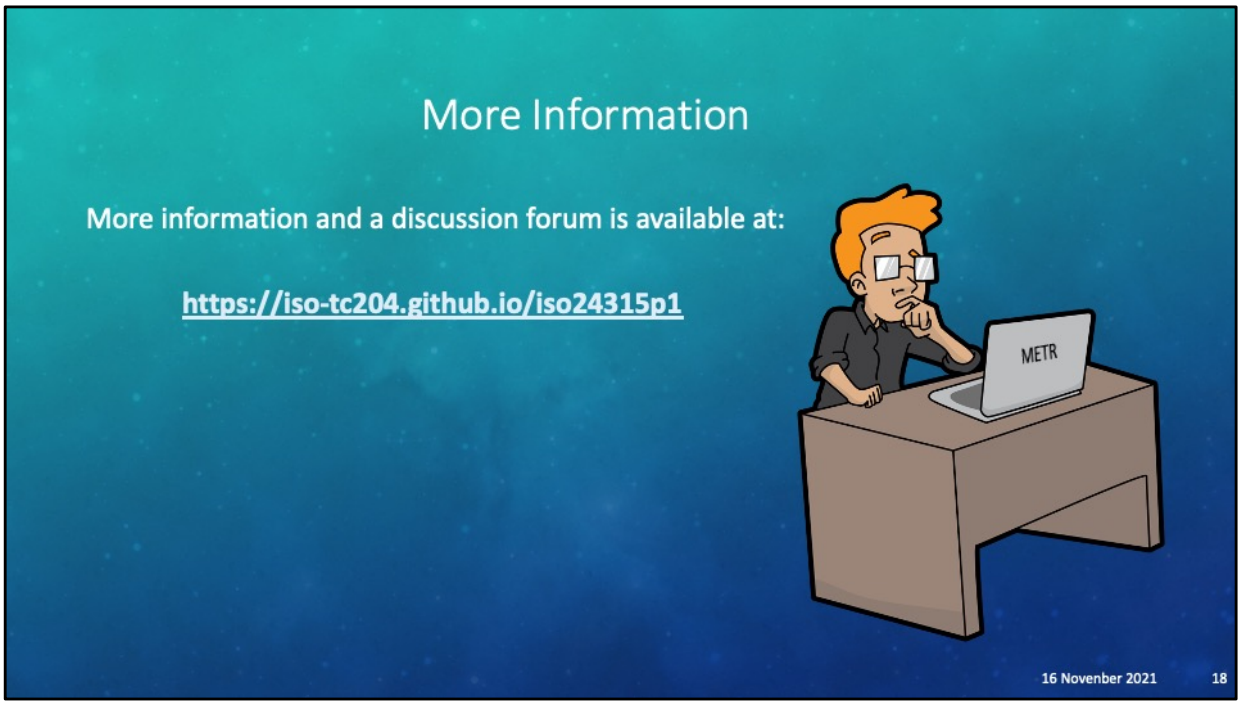
We've now completed 8 of our 12 workshops. Our next workshop will focus on roadwork and emergency operations



The workshop will focus on the topics shown on this slide



As a reminder our current expected timeline is shown here. We hope to have a ConOps draft in early 2022, whereupon it will start the standardization process (of multiple reviews prior to standardization)



More information about the project and the latest developments will be posted on our GitHub site. This will include a PDF of weekly presentation files to be posted after our meetings each week.

https://upload.wikimedia.org/wikipedia/commons/thumb/2/24/Cartoon_Guy_In_Deep_Thought_Using_A_Computer.svg/1200px-Cartoon_Guy_In_Deep_Thought_Using_A_Computer.svg.png