Blue text indicates revisions to vision based on meeting discussions
Red text indicates items that need more discussion

Source	Slide	Topic	Summary Points of Discussion
W1	9	Connectivity	Road vehicles should support short-range wireless; not necessarily true for other transport user systems
W1	9	Connectivity	Some users might not be connected to METR
W1	9	Connectivity	All ~mobile~ METR-enabled transport user systems should support mobile wireless internet
W1	9	Connectivity	Mobile wireless internet is not guaranteed for any location
W1	9	Connectivity	Mobile wireless internet might not be available (at any time) for some locations
W1	9	Connectivity	METR should support user systems that might not be mobile. For example, a home PC used for planning a journey and understanding the rules when travelling in other areas
W1	9	Connectivity	Users have a need to indicate their preferred internet connectivity mechanism, but user systems must always stay up-to-date per agreements with disseminator
W1	9	Connectivity	User systems might support the ability to download rules in advance of a long journey
W1	9	Connectivity	METR should support ordinary traffic (i.e., driver support systems)
W1	9	Connectivity	METR should cover the full scope of surface transport (e.g., ITS)
W1	9	Connectivity	Need to support rules related to specific types of users (e.g., accessible parking permits/placards) in a manner that allows integration with the user system
W1	14	Trustworthiness	Trustworthiness should include non-repudiation under accountability
W1	17	Roles	METR should indicate the level of legal precedence that the electronic rules have (e.g., compared to physical traffic control devices)
W1	17	Roles	Users should have a way to report discrepancies between electronic rules and physically observed rules (and this should be shown on diagram)
W1	17	Roles	We should emphasize that the types of regulators and translators shown in Slide 17 are just examples
W1	17	Roles	Some regions might wish to have a system manager to manage portions of METR
W1	17	Roles	Should provide sample diagrams showing implementations of the role-based architecture; multiple examples will be needed to prevent implying that there is a preferred approach
W1	17	Roles	The role model should add a role between the regulator and the translator that represents the "competent authority". In other words, the regulator might define a regulation, but the "competent authority" is responsible for implementing the regulation where it can then be translated.
W1	17	Roles	The ConOps should provide practical use cases that explain the varied types of rules that might be disseminated and how the process would work
W1	17	Roles	The ConOps needs to identify accountability needs that demonstrate that each METR component is fulfilling its responsibilities (e.g., non-repudiation that its responsibilities were completed at each point in time)
W1	21	Modes	The concept of modes does not seem to apply to our collaborative system of systems

Source	Slide	Topic	Summary Points of Discussion
W1	21	Modes	State of rules in force on the transport network needs to be conveyed through the state of each rule (e.g., through real-time data; see Workshop 3, i.e., use of C-ITS data)
W1	21	Modes	State of rule availability should be captured using a catalogue for each provisioning system
W1	21	Modes	The ConOps should reference ISO/IEC/IEEE 15288 and indicate which type of "system of systems" best describes METR
W1	21	Modes	All rules should be defined in a language-neutral format
W1	30	Push/Pull	METR should be based on a centralized pull of static data coupled with dynamic data being provided by a combination of (1) provisioning from a central system and (2) pushing/broadcasting from local source(s)
W1	30	Push/Pull	It should be the responsibility of the user system to pull data when needed (e.g., periodically and when entering new area)
W1	31	Push/Pull	Each METR rule (e.g., give way to emergency vehicles) needs to support being associated with conditional logic such that the rule is only active when the condition is true. The conditional logic might need to reference external variables (e.g., "it is snowing", "workers are present", "children are present", "it is after dusk"), which might be provided by a METR system component or another source (e.g., C-ITS data, vehicle sensor array, etc.).
W1	32	Push/Pull	Withdrawn/rescinded rules need to be publicized in a fashion similar to publicizing new rules (i.e., static when possible, dynamic otherwise)
W1	32	Push/Pull	METR will rely upon existing standards when appropriate
W1	32	Push/Pull	User systems need high confidence that they have all active rules
W1	32	Push/Pull	Development team needs to contact field crew stakeholders to determine if they have concerns about the work flow changes being proposed (e.g., ensuring that electronic rules are activated simultaneously with field deployment of rules)
W1	33	Push/Pull	Use of push should be minimized while still providing a high certainty of delivery for ~all~ vehicles entering the area of applicability (e.g., even those that just turned on and are entering the roadway); otherwise communication channels are easily overloaded.
W1	33	Push/Pull	Push is probably needed for coordination of installation of signs
W1	33	Push/Pull	Hierarchy of rules should support the concept of default speed limits that can be overridden by local speed limits (and similar local override concepts)
W1	34	Push/Pull	Pull process must support filtering
W1	34	Push/Pull	Centralized dynamic rules either need true broadcast (e.g., broadcast over a metropolitan area) or needs to support filtering (e.g., publication/subscription rather than broadcast, or pull at more frequent rates than for static data)
W1	34	Push/Pull	Filtering should include almost all parameters that can be identified, including: vehicle classification, user classification (e.g., driver's license type, police officer), road classification, location, type of rule, temporal constraints, nature of load, possession of a permit (e.g., parking), vehicle characteristics (e.g., mass), etc.
W1	34	Push/Pull	There is a lack of consistent terminology and meanings within rules. What exactly does "stop" mean, what are differences between zones, areas, etc.

Source	Slide	Topic	Summary Points of Discussion
W2	12	Roles	The definition of a "regulator" needs to be flexible enough that a regulator can enter data in an electronic format (i.e., also perform the role of translator)
W2	12	Roles	ConOps should explain that all components will need to be certified into the trust domain and jurisdictions might require additional certifications.
W2	14	Roles	The ConOps needs to assign the responsibility to perform consistency checks to one (or more) of the roles. (probably the disseminator and regulator and perhaps supplemented by others). Resolving consistency checks will likely involve coordination of regulators.
W2	17	Roles	The preferred implementation is that the regulator also performs the role of translator during the creation of the rule. This allows the most timely digitization of the rule and the greatest opportunity to publicize the rule prior to its activation.
W2	17	Roles	The preferred implementation is that a user relies on a single disseminator; this will simplify processing and minimize the potential for conflicting rules being received by the user. However, jurisdictions might require use of a specific disseminator for some functions (e.g., freight management operations) while a vehicle uses a different disseminator for more general purposes. Finally, all users will need to be able to supplement their METR data with C-ITS data (e.g., locally broadcast data). The multiple sources of data will require additional consistency checks by the ITS user system to ensure that there are not any real-time rule conflicts.
W2	19	Roles	Peer roles need the ability to coordinate to ensure that they have consistent data.
W2	19	Roles	METR must provide accountability such that the source of any inconsistency can be identified
W2	21	Roles	Disseminators need to be able to share cross-boarder information and allow for discovery via a defined service (e.g., national access point)
W2	22	Roles	A mobile refresh provider should be characterized as a mobile disseminator as it will need to fulfil the responsibilities of a disseminator rather than a user
W2	22	Filters	Need to be able to filter rules based on location (e.g., GIS based distribution services)
W2	23	Discrepancies	The feedback loop needs to include the regulator (and competent authority) in case the physical signage is in error
W2	23	Data Distribution	The ConOps should be written to allow for the use of mainstream data distribution technologies, if they meet user needs.
W2	23	Discovery	The ConOps should mention that automated discovery is a likely possibility but explain that there does not appear to be a pressing need to standardize the interface or requirements.
W2	23	Data Sources	METR should distinguish between "rules" and "C-ITS data" that is used to support rules. METR disseminators are responsible for distributing rules; C-ITS data is provided by a "C-ITS data provider" role.
W2	23	Data Sources	To the extent that C-ITS data is exchanged electronically; it should be provided in an open manner (e.g., broadcast to all for no charge)

Source	Slide	Topic	Summary Points of Discussion
W2	26	Catalogue	There needs to be a fifth catalogue state, which is a rule that is electronically available but references details that are not electronic. For example, a postal vehicle might be exempted from some parking/stopping rules but the parking rule likely does not specify that exemption directly
W2	27	Terminology	Validity should apply to rules; we need another term to describe the required refresh period of downloaded catalogues (e.g., expiry period)
W2	32	Privacy	User privacy needs to be protected, especially for the data requests that are submitted
W2	32	Case Study	Australia will be issuing a report soon that describes high priority categories of rules
W2	33	White Paper	Need examples that can be presented to government managers and used to sell METR; this should probably be documented in a white paper rather than the standard so that it will remain freely available
W2	32	Roles	The disseminator is responsible for ensuring that all rules meeting a user's criteria are delivered to that user
W2	23	Data Sources	Users need a way to discover disseminators using an ITS service (external to METR)
W2	11	Roles	When showing multiplicity in diagrams other than UML, use "n" rather than "*" to prevent confusion with the concept of "all"
W2	26	Filters	METR filtering needs to accommodate the possibility that some users might qualify as different types of vehicles for different jurisdictions (e.g., a national "moped" and a local "scooter")
W3	11	Rule types	Remove the rule types from the state machine diagram; if the diagram needs to show specializations for the different types, break the diagram into a separate diagram for each specialization so that each conforms to UML rules.

Source	Slide	Topic	Summary Points of Discussion
W3	11	Rule types	When discussing rule types, we need to consider the terminology and perhaps adopt the terminology used by DATEX II (rules issued by 1) competent authorities, 2) ad-hoc, 3) planned dynamic, and 4) authorized actors). After further review, we propose: "unposted rules": not posted with traffic control devices and fully publicized in advance of activation "persistent rules": traffic control devices that are deployed without any expectation of a termination and fully publicized in advance of activation "temporary rules": traffic control devices that are deployed with an expectation of a future termination and fully publicized in advance of activation "ad-hoc rules": rules that are implemented prior to the expiration period of previously downloaded rule sets (i.e., not fully publicized in advance of activation); these rules must be distributed via C-ITS. An example is a police officer on scene directing traffic or imposing a road closure "state-triggers": Events that affect the practical impacts of a rule for a user (e.g., state of a traffic signal, current value of a variable speed limit, rain causing the activation of a slower speed limit rule, etc.) These require either on-board sensors or C-ITS data from outside sources to implement. Within our definitions we should attempt to capture any synonyms used by different regions of the world for particular terms
W3	22	Rule types	When discussing planned rules, indicate that they may require authorization, which might be a period for months, even though the actual implementation of the rule may just be a for a few days
W3	29	Trustworthiness	User requests should be confidential and privacy aspects should be disclosed (i.e., allow alternate uses only when disseminator discloses such use and allows user to opt in)
W3	30	Rule characteristi	See slide for examples of rule characteristcis that need to be considered
W3	31	Rule characteristi	METR should allow rule characteristcis to be stated in both positive and negative fashion (e.g., "only trucks" or "except trucks")
W3	32	Evacuation plans	Evacuation plans should be distributed in advance to the extent possible when the threat provides little advance notice and might disable disseminator channels (e.g., an earthquake). However, plans will often need to be updated to reflect real-time conditions (e.g., blocked roadway); so there is a need to support high availability during these events and to support dynamic updates (e.g., C-ITS notice that an update is available and all users need to download)
W3	29	Responsibilities	The disseminator is responsible for publicising the filters/categories of data that it has available and the expiry period for each rule set delivered
W3	29	Responsibilities	The user is responsible for requesting a refresh of all rules that the user needs prior to their expiration
W3	29	Responsibilities	All roles are responsible for 1) identifying conflicts and inconsistencies among rules, 2) correcting the conflict/inconsistency, if the issue is due to an error on its part, and 3) notifying the source(s) of the rules of the identified

Source	Slide	Topic	Summary Points of Discussion
W3	8	Roles	The term "C-ITS data source" should perhaps be revised to be more consistent with other role names. For example, perhaps "C-ITS data provider". We should also be clear that the C-ITS data provider likely supports services external to METR (i.e., it is cooperative)
W3	8	Roles	The ConOps should describe why we are distinguishing between the disseminator and the C-ITS data provider. This is partially due to the fact that we want to emphasize the different roles (e.g., push vs pull) and the fact that some C-ITS data might come from other sources (e.g., on-board clock, rain sensors, weather service, etc)
W3	10	Lifecycle	The ConOps should provide a brief mention that proposed rules can have review periods as a part of the approval process and that new proposals can be initiated to refine existing rules
W3	10	Characteristics	The ConOps should explain that rules might be deployed for a test user community or a specific testing location. This is likely more of a rule characteristic rather than a unique operational state of a rule.
W3	8	Roles	What is the legal standing of C-ITS data. We should probably have a discussion in the ConOps that discusses the legal aspects and explain that it is likely to vary by jurisdiction and might need the ability for METR to convey whether particular C-ITS data providers are "official"
W3	11	Rule types	The ConOps should explain that the rule types have their own aspect of hierarchy. In other words, all rules start with legislative action that enact laws. Some laws will empower road authorities to define persistent traffic rules using traffic control devices. Other rules empower road operators, police, etc to impose temporary rules (e.g., road work rules), ad-hoc rules (e.g., snow chain requirements), and to distribute C-ITS data (e.g., SPaT and variable speed limits) to activate/update state-triggered rules.
W3	18	Use cases	The ConOps should include a use case that explains the process for installing and removing a permanent traffic control device (e.g., a parking sign) and explain how the process needs to work in real time to ensure consistency in information, especially when a traffic control device installation does not occur on schedule and the system needs to flag the discrepancy. And also perhaps for what happens with a missing device (e.g., missing speed limit sign as approaching or leaving a town on a rural highway)
W3	25	Use cases	The ConOps should also include a use case for emergency response deploying traffic control device to make a crash site safe
W3	29	Responsibilities	The "when" responsibility should apply to all roles, not just users
W3	29	Responsibilities	We need to indicate that each system needs to support non-repudiation to show what it knew when while also documenting the constraints applicable to the component as to how much storage might be available. We need to be able to indicate what sort of time limit the non-repudiation needs to be available for. We also need to determine if the level of non-repudiation needed requires a bi-directional confirmation (i.e., return receipt) or unidirectional (i.e., self reporting that information was received)

Source	Slide	Topic	Summary Points of Discussion
W3	29	Responsibilities	Clarify text of responsibilities (as shown on slide) that the users are responsible for requesting and processing the applicable rules that are available from the disseminator (they cannot be held responsible for rules that the disseminator fails to provide)
W3	31	Filters	Some conditions might require dynamic data, such as OBE inputs (e.g., sensor, clock data) or C-ITS data (e.g., SPaT/MAP) and in some cases the data could be from either (e.g., is it raining). Rules might need to indicate the source for official definition of the state of a rule (e.g., "when raining" is based on NWS; "holidays" are based on calendar from X).
W4	7	Conflicts	The ConOps should describe a process by which agencies can verify their electronic rules against as-built infrastructure, which might be a way to reduce liability.
W4	7	Conflicts	The ConOps should allow flexibility for a user system to report any conflicts in rules to the trusted source of its choice, who can then forward to the appropriate disseminator. For example, it may report to an OEM, who provides data to the disseminator.
W4	7	Conflicts	The ConOps should allow any vehicle (that has the ability) to report any discrepancy that they detect. Jurisdictions, OEMs, and/or others might define detection and reporting requirements; but the METR ConOps should be general enough to allow for multiple deployment scenarios (i.e., where some jurisdictions do not have reporting requirements)
W4	7	Conflicts	A vehicle reporting a conflict should have the option of providing an image, but may choose not to (e.g., due to current data limitations)
W4	8	Conflicts	A disseminator should not publicize reported conflicts until they have been confirmed; at which point the electronic rule should be corrected (if needed) as quickly as possible. It is possible that in the future there might be a need for a disseminator to publicize conflicts to reduce the number of reports received, but at present it is unlikely that the number of reports will present a problem.
W4	8	Ownership	The ConOps should probably stay agnostic about what entity would be involved in the data ownership but recognize that the OEMs might be involved from the analysis (i.e., cameras correctly or incorrectly identifying conflicts) and/or ownership perspectives.
W4	9	Refresh	A rule refresh should only provide the changed rules rather than requiring a complete download. At some point, a user might need to download the complete data set.
W4	11	Expiration	Each individual rule should have its own "validity" period (i.e., the times at which the rules are enforceable such as the hours for a parking restriction) while every batch of rules should have its own "expiration" time
W4	11	Communications	The ConOps should provide an example of a mixture of types of communications
W4	11	Authentication	Unless otherwise indicated, the ConOps should assume that the rules are sent authenticated (signed) but unencrypted.
W4	11	Expiration	The ConOps should indicate that we assume that ADS will only work when rules are not expired, but it is up to the manufacturer to determine their precise policies.

Source	Slide	Topic	Summary Points of Discussion
W4	12	Expiration	The ConOps should provide an example use case of a car starting in an area without any connectivity.
W4	12	Expiration	The ConOps should indicate that for the near-future, we assume that ADS-equipped vehicles will allow for a human driver mode. If not, care should be taken to ensure that the rules do not expire while the car is parked.
W4	12	Expiration	Any remote refresh would have to be provided by a trusted source; it is still unclear exactly what the requirements would be for such a source.
W5	6	Categories	The ConOps should allow the definition of "user profiles" within its category system. For example a passenger car profile that could be used by a large portion of the user population.
W5	8	Vehicle types	Vehicle types regulated by a jurisdiction need to be defined by the jurisdiction and conveyed via METR
W5	8	Vehicle types	The characteristics used by a jurisdiction to classify a vehicle might include usage characteristics (e.g., delivery or not), emission characteristics, and other characteristics
W5	9	Road types	Road types regulated by a jurisdiction need to be defined by the jurisdiction and conveyed via METR
W5	10	Rule locations	METR needs to convey the location for every rule (e.g., the location of every stop sign)
W5	12	Vehicle character	METR needs to support rules that characterize vehicles based on various characteristics, including: presence of hazardous materials, the current purpose of the vehicle (e.g., delivery, emergency response), etc.
W5	12	Vehicle character	METR users need to be able to identify which rules they need access (this will allow vehicles to support a change of state as needed, such as switching from a general use private vehicle to a delivery vehicle)
W5	13	Graphics	METR does not need to convey the graphics related to rules
W5	14	Rule updates	The METR ConOps will be written so that METR can distinguish between a planned change to a rule (e.g., changing the speed limit next week) and a plan for a new rule (e.g., implementation of a new parking restriction next week)
W5	14	Rule updates	METR needs to be able to advertise when new signs are installed in real-time.
W5	12	Vehicle character	Characteristics should include permits, toll tags, type of driver's license (e.g., commercial), driver fatigue state, etc.
W6	6	Trustworthiness	All rules should be signed by the translator and the disseminator
W6	7	Terminology	Conform to the terminology of ISO 22736 (SAE J3016)
W6	14	Content	Rules provided by METR should be complete for a defined "domain" (e.g., geographic and functional scope) and accurately represent the laws that the jurisdictions have passed as closely as possible.
W6	14	Conflicts	When any conflict is discovered, it should be reported and it is left to the user/user system to determine the best real-time response.
W6	17	Terminology	We should use the terms "low latency" and "high latency" rather than "short range wireless" and "cloud"
W6	18	Variable speeds	Look at CEN ISO/TS 17426 Contextual speeds

Source	Slide	Topic	Summary Points of Discussion
W6	18	Scenarios	The operational scenarios should provide an example of how a vehicle might have digital commentary to explain its actions. See https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2021-press-releases/june/digital-commentary-driving-the-new-safety-technique-that-can-help-put-automated-vehicles-on-our-roads/
W6	6	General	In order to be trustworthy and relied upon to provide normative information; METR needs to provide all rules for a "domain" (i.e., category of rule coupled with location characteristcis such as motorways within certain city limits)
W6	6	General	In order to claim support for any rule domain, a disseminator must also be able to offer all other rules that are required by that domain and indicate that they are required. For example, to support speed limits, the disseminator must be able to provide any default speed limits and to support default speed limits, the disseminator must be able to support the definition of any road types referenced by the default speed limits (e.g., default speed of 90 kph on rural roads)
W6	6	General	Users need to be aware of when they should be receiving dynamic data (e.g., signal locations, variable speed limit systems) so that if the data is not being received for any reason, the user system is aware that it is missing. (NOTE: Beacons could advertise the location of other nearby beacons - especially ad hoc)
W6	6	ODD	Regulators might establish rules that require certification of vehicles before they are allowed to operate within certain ODDs and the agencies need to be able to advertise the boundaries where ODD restrictions apply. These ODDs can be very specific (e.g., a particularly complex traffic circle)
W6	6	Ad Hoc	Responders and field crews often have needs to implement rules that are not easy to codify on the fly; they have a need to be able to advise users that the normal rules (e.g., static/variable rules) are currently being overridden but the details of the override are not provided electronically. This will notify ADS-equipped vehicles that there is a change in the ODD.
W6	9	ADS Fallback	Between METR and the map data, ADS-equipped vehicles need to be aware of locations where they can drive to in order to achieve a "minimal risk condition"when ODD boundaries are encountered (and in some locations to identify alternate routes that avoid crossing the ODD boundary).
W6	6	Completeness	METR needs to be able to indicate how complete the METR ruleset is for any point in time and space. (Might be a part of map or a part of METR)
W6	6	Certification	METR providers might need to be certified (some local jurisdictions might require)
W6	8	Dynamic bounda	Identification and responding to dynamic ODD boundaries is outside the scope of METR
W6	11	Redundancy	METR cannot rely on just one path for data; there must be redundancies in case of a problem
W6	12	ORDS	Identification of the disseminator is outside the scope of METR but will need to be handled by an external ITS service (e.g., national access points, ORDS, offline searches, etc)

Source	Slide	Topic	Summary Points of Discussion
W6	18	Presentation	The ConOps should structure at least one of its operational scenarios using the terminology of "data" (e.g., sensors), "information" (processed data), and "delivery" (connections) to clearly indicate how it addresses these three key aspects of ITS deployments
W6	18	Location	The ConOps should indicate the importance of location accuracy (details will be left to the requirements)
W6	18	Example	The ConOps might include a scenario with a variable speed limit system that has a fixed schedule that can be overridden by events.
W6	18	Terminology	Define "static rule", "dynamic rule" and "dynamic data"; "dynamic rule" should be defined to be a type of "dynamic data", while also being a rule defined by a regulator
W7	7	Terminology	Distinguish between "governmental" and "private" rules. Private rules are established by campus owners rather than governmental jurisdictional entities
W7	7	Trustworthiness	We need an example scenario that describes a graceful fallback when traffic control devices are not consistent with METR information (e.g., a private facility where METR data has not been updated)
W7	7	Trustworthiness	Transport user systems need insights into the confidence level of the information (e.g., high res mapping tools vs online selection on map, private property where owner may change rules without updating system, the information was self reported vs being verified by third party, etc.); OEMs and/or jurisdictions might require levels for types of facilities/rules (e.g., stop sign locations are more critical than parking regs)
W7	7	Meta-data	Need to support (and convey to users) the type of authority that has imposed the rule (e.g., government, private party)
W7	7	Authentication	Users need all rules to be digitally signed by the translator, at a minimum
W7	7	Jurisdictions	METR needs to be able to accommodate higher authority (e.g., national) roads passing through a lower authority's (e.g., town, campus) jurisdictional area.
W7	7	Jurisdictions	METR needs to be able to accommodate roads managed by the lowest level jurisdiction within an area (e.g., town, campus roads in the town/campus).
W7	7	Jurisdictions	METR needs to be able to accommodate jurisdictions with non-contiguous areas (sometimes called islands).
W7	7	Enforcement	METR needs to be able to accommodate enforcement of rules within private facilities by private and/or public entities (according to whatever local rules that might apply)
W7	7	Jurisdictions	METR needs to be able to accommodate independent jurisdictional areas that are surrounded by another jurisdiction (e.g., a city-state, an embassy)
W8	11	Changes	It might be worth including an optional deployment date within the rules so that a driver support system could alert the driver to new rules.
W8	6	Proxy	Within one of its scenarios, the METR ConOps should indicate support for proxy data entry services

Source	Slide	Topic	Summary Points of Discussion
W8	7	Mapping	METR rules need to define areas reserved for accessibility purposes such as loading/unloading areas and curb cutouts; this is a detail that might take a while to populate
W8	8	Validation	Within one of its scenarios, the METR ConOps should indicate that the process for entering METR rules might include some type of validation per the requirements of the containing jurisdiction
W8	11, 12	Permits	METR needs to provide a way to link rules to permits (including the permit type and permit issuer). These should include any permit that might affect traffic, including those issued by non-transport related authorities (e.g., a permit for scaffolding on public right of way)
W8	11	Permits	METR needs to provide a way for the vehicle to become aware of permits currently associated with the vehicle.
W8	11	Permits	A METR operational scenario should indicate that a vehicle might be aware of a permit (and apply associated rules) or might not (and provide warnings to the driver)
W8	11	Permits	METR should provide a way for an entity (e.g., an automated gate, an enforcement officer) to query the vehicle for its permits
W9	6	Process	Process to deploy known rules includes publicizing first (perhaps with expected date) followed by activation of rule (with deployment of traffic control device) and announcement that the rule is active. All planned events should be in METR.
W9	7	Roadwork access	METR needs to support both permits that are vehicle-based (e.g., emergency vehicle) and that are person-based (e.g., accessible parking). Access to road works might use either depending on the specific situation.
W9	8	Temporary Lanes	METR should include pavement markings, including no passing zones and changes to lane geometry should be a part of METR.
W9	10	Activated/Ad Hoc Rules	Locally implemented/activated rules might need to be conveyed to the METR distribution system so that they can be transmitted to users at a distance to consider during trip planning.
W9	10	Activated/Ad Hoc Rules	Locally implemented/activated rules need to be conveyed to METR users in the immediate vicinity through a instant push mechanism. Some ad hoc rules might use a generic message such as "ad hoc rules in effect"
W9	11	Detours	Ad Hoc rules might provide detour information as (1) a simple shift lane, (2) an indication that a turn manouver is prohibited, (3) an indication that a road or lane link is closed, or (4) a complete alternative path. In the first three cases, it is up to the DDT to determine the revised path to follow.
W9	11	Terminology	We need to define "regulator"
W9	12	Road Closures	Road closures are in the scope of METR
W9	13	Evacuations	Evacuations are in the scope of METR
W9	14	Overrides	Overrides of normal traffic control is a part of METR
W9	15	Emergencies	METR needs to be resilient as possible in times of major disasters

Source	Slide	Topic	Summary Points of Discussion
W9	6	Coverage	For the foreseeable future, METR should be viewed as a supplement to existing traffic control devices rather than a replacement of those features. However, it is likely that this will evolve over time and systems need to convey the level of reliability that vehicles should have on METR data. In the near-term, it is expected to assist ADS/ADAS vehicles to discover information in advance and to more clearly disambiguate details (e.g. some text on sign might be hard to read or sign might be partially obstructed), but our assumption is that vehicles must provide for sufficiently safe operations even if conditions are not completely entered within METR when the jurisdiction claims to support METR (e.g., it should be able to detect a lane closure and respond appropriately; it should be able to detect that it is going well above the prevailing speed and slow down as needed). This might imply some operational changes in the way that emergency responders and other field crew perform their jobs
W9	9	Interface	An ADS-equipped vehicle might need some information entered by the user; for example, whether snow chains are currently on the wheels. (while sensors might be able to assess this condition, there might be a practical need to receive confirmation from the user as well)
W9	15	Communications	In some cases, authorities might disable communication systems to prevent misuse (e.g., during 7/7 in London, the authorities diabled the cellular system to prevent potential coordination among terrorists). This should receive a small mention in the ConOps somewhere. Conversely, it was mentioned that updates can become critical in some cases, such as an earthquake moving an entire roadway.