



**PUBLIC UTILITIES COMMISSION**

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TO PARTIES OF RECORD IN RULEMAKING 12-12-011:

This is the proposed decision of Commissioner Baker. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's September 26, 2024 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

/s/ MICHELLE COOKE  
Michelle Cooke  
Chief Administrative Law Judge

MLC:jnf  
Attachment

Decision **PROPOSED DECISION COMMISSIONER BAKER**  
(Mailed 8/23/2024)

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on  
Regulations Relating to Passenger  
Carriers, Ridesharing, and New  
Online-Enabled Transportation  
Services.

Rulemaking 12-12-011

**DECISION ADOPTING NEW DATA REPORTING  
REQUIREMENTS FOR AUTONOMOUS VEHICLES  
DEPLOYMENT AND PILOT PROGRAMS**

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**DECISION ADOPTING NEW DATA REPORTING  
REQUIREMENTS FOR AUTONOMOUS  
VEHICLES DEPLOYMENT AND PILOT PROGRAMS**

**Summary**

This decision adopts, with modifications, the May 25, 2023 Autonomous Vehicle Data Reporting Staff Proposal which expands and adjusts the existing data reporting requirements in the Commission's Autonomous Vehicle (AV) Passenger Service programs. In doing so, the Commission continues with its efforts in promoting ongoing monitoring and evaluating of AV passenger service operations, as well as the continuing development of AV policies at the Commission in order to promote the safety of AV passenger services. The changes adopted herein address (1) the level of detail required for trip-level incident reporting; (2) the level of detail required for AV immobilizations; (3) the reporting protocols for the AV Pilot Program reporting; and (4) the collision reporting protocols.

This decision also clarifies the role of Commission staff in ensuring compliance with the Commission's data reporting requirements for AV passenger service operations.

This proceeding remains open.

**1. Background**

**1.1. Factual Background**

Decision (D.) 18-05-043 (*Pilot Decision*) created the AV Passenger Service Pilot program (AV Pilot) to allow for non-fared testing of AVs in passenger service. D.20-11-046 (*Deployment Decision*), as modified by D.21-05-017, expanded the Commission's AV programs in 2020 to provide for fared AV passenger service through the Phase I AV Passenger Service Deployment programs (AV Deployment). In either program, a carrier may hold permits allowing for

(1) drivered service with a safety driver present in the vehicle or (2) driverless service without a safety driver present in the vehicle. To participate in any Commission AV program, a carrier must first hold the relevant AV permit from the California Department of Motor Vehicles (DMV). By statute, the DMV is the agency responsible for issuing the initial AV operational permit,<sup>1</sup> while the Commission's regulation is focused on issuing permits to allow AV operators to pick up and transport passengers. Accordingly, participants in the Commission's AV programs must comply with the provisions of General Order (GO) 157-E,<sup>2</sup> which includes regulations related to insurance, drug and alcohol testing, inspections, and other requirements for Transportation Charter-Party carriers.

Participants in the Commission's AV programs are currently required to submit data on a quarterly basis.<sup>3</sup> Data reporting requirements differ for the AV Pilot and AV Deployment programs, with the Deployment program requiring more detailed reporting. Participants in the AV Pilot program report aggregated (*i.e.*, not trip-level) metrics around vehicle miles traveled, waiting time, vehicle occupancy, and wheelchair accessible rides. Participants in the AV Deployment program report more detailed trip-level data, including zip code and census tract level locations, and counts of incidents and complaints. Incident reporting includes counts of collisions, citations, and pickup and drop-off activity occurring more than 18 inches from the curb. Neither program requires

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<sup>1</sup> D.20-11-046 (as modified by D.21-05-017) at 30. *See also* California Vehicle Code § 38750, 13 CCR § 227.38, and 13 CCR § 228.06.

<sup>2</sup> General Order 157-E is available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M322/K150/322150628.pdf>.

<sup>3</sup> More information on data reporting requirements for the Commission's AV programs is available at: <https://www.cpuc.ca.gov/regulatory-services/licensing/transportation-licensing-and-analysis-branch/autonomous-vehicle-programs/quarterly-reporting>.

participants to submit detailed information about non-collision incidents, such as vehicle immobilizations.

The AV industry has evolved significantly since the initiation of the Commission's AV programs in 2018 and expansion in 2020. When the AV programs were created, driverless operations of AVs on public roads in California were very limited. While the first driverless passenger service permits were issued in 2021,<sup>4</sup> quarterly data reports indicate driverless passenger service operations did not become widespread until late 2022.<sup>5</sup> Prior to the 3-month reporting period beginning December 2022, driverless passenger service mileage averaged less than 10,000 miles per reporting period. Over 138,000 miles were reported in the next reporting period, increasing to over 672,000 miles reported for the June – August 2023 reporting period and over 1 million miles for September-November 2023. This upward trend has continued through 2024, with over 2 million driverless miles reported in the latest 3-month reporting period ending May of 2024. New challenges such as those described in the *Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (Ruling)*.<sup>6</sup> have accompanied this expansion in driverless operations, underscoring a need for a “proactive and flexible regulatory approach”<sup>7</sup> to continuously evaluate and develop AV policy at the Commission.

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<sup>4</sup> The first driverless pilot permit was issued to Cruise in June 2021. The first driverless deployment permit was issued to Cruise in June 2022.

<sup>5</sup> Quarterly AV data reports are available on the Commission's website at: <https://www.cpuc.ca.gov/regulatory-services/licensing/transportation-licensing-and-analysis-branch/autonomous-vehicle-programs/quarterly-reporting>.

<sup>6</sup> Upon her retirement, this proceeding has been reassigned to Commissioner Matthew Baker.

<sup>7</sup> *Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program* at 1.

## 1.2. Procedural Background

On May 25, 2023, the then Assigned Commissioner (Genevieve Shiroma) issued her *Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (Ruling)*. The *Ruling* acknowledged concerns regarding incidents where AVs have blocked traffic, interfered with public transit including light rail vehicles, or impeded the activities of first responders. Given these incidents and the need for deeper insights into AV passenger service performance, the *Ruling* aimed to develop policies to monitor and evaluate AV operations and the appropriateness of current policy as AV technology and operations continued to evolve.

The *Ruling* identified the following issues for resolution:

- What data, if any, that is not currently being collected by CPED is needed to monitor and evaluate the impacts of AV operations?
- What data, if any, is technically and operationally feasible to collect and report?
- What cadence is appropriate for data reporting?
- Is it reasonable to require AV data collection and reporting to begin immediately upon publishing of the new data reporting requirements?
- Should AV collected data be shared with stakeholders?

The *Ruling* included a proposal from the Commission's Consumer Protection and Enforcement Division (CPED) staff that addressed the above issues in order to expand AV data reporting across all Commission AV passenger service programs. Specifically, CPED proposed:

- Expanding AV Pilot reporting to match the more detailed requirements of the AV Deployment program.
- Instituting detailed collision reporting in AV Deployment, modeled on DMV form OL-316.

- Instituting monthly reporting for all AV program participants that includes operational data such as count of trips and vehicle-miles traveled (VMT), reporting on “minimal risk condition”<sup>8</sup> events, and reporting on passenger pickups and drop-offs occurring more than 18 inches from the curb.

The parties were invited to provide comments on the Staff Proposal and to state any interest in the sharing of relevant municipal data with CPED. On June 15, 2023, the following parties filed Comments: Waymo, Cruise, Zoox, Autonomous Vehicle Industry Association (AVIA), Silicon Valley Leadership Group (SVLG), San Francisco Taxi Workers Alliance (SFTWA) and, filing jointly, the San Francisco Municipal Transportation Agency and San Francisco County Transportation Authority (collectively, San Francisco).

On June 22, 2023, CPED hosted a public workshop that included parties and other stakeholders such as DMV and academic panelists. On June 27, 2023, the following parties filed post-workshop comments: Waymo, Cruise, Zoox, AVIA, SFTWA, and San Francisco. As we discuss in more detail herein, the parties raised questions relating to data and metrics, reporting timing, and data confidentiality.

Based on the Comments, the Commission will adopt the Staff Proposal but with updates that address issues covering trip-level incident reporting; AV Pilot reporting; collision reporting; vehicle immobilizations; reporting timing; confidentiality; and staff authority to collect AV data.

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<sup>8</sup> See 13 CCR § 227.02. “Minimal risk condition” is a low-risk operating condition that an autonomous vehicle automatically resorts to when either the automated driving systems fails or when the human driver fails to respond appropriately to a request to take over the dynamic driving task.



## 2. Issues Before the Commission

See Section 1.2 of this decision, *supra*.

## 3. Discussion and Analysis

### 3.1. Trip-Level Incident Reporting

#### 3.1.1. Discussion

Currently, incidents (e.g., citations, collisions, and complaints) and trips for AV carriers are reported separately. First, *trip-level* reporting includes information related to passenger trip time, location, vehicle miles traveled, and vehicle information such as VIN (vehicle identification number), fuel type, and wheelchair accessibility. Each passenger service trip, including unfulfilled trips, is represented as an individual row in each trip report.

Second, and in contrast, *incident* reporting is structured as aggregated counts of various types of incidents and complaints. These counts reflect a single aggregated number for the entire reporting quarter and, as such, do not reflect the details of any individual incident. The current required categories of reported incidents include collisions, citations, assaults, harassment, and other specific categories. A limited amount of location data is provided in the form of aggregated reporting of collisions and certain pickup and drop off information for each census tract in a carrier's Operational Design Domain (ODD). The Commission prescribed the general form of this report and delegated to CPED staff the authority to "in collaboration with stakeholders, ... develop a standard to identify and categorize these complaints and incidents."<sup>9</sup> Accordingly, CPED developed a data reporting template and posted it to the Commission's website in 2022.

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<sup>9</sup> D.20-11-046.

### 3.1.2. Requirements

The Commission finds it will be more efficient and provide greater insights into AV passenger transport operations to expand the trip-level reports to include information about incidents. Doing so would link incident reporting (including the new category of immobilizations) with trip-level reporting and will allow for more detailed monitoring and analysis of trends that may implicate passenger and public safety, while facilitating easier follow-up as needed on specific incidents. As we have noted above, incident reporting is currently highly aggregated and does not allow for the analysis of trends beyond broad numerical counts. For example, trends relating to particular locations or times of day cannot be easily ascertained through the existing aggregated reporting. Monitoring and analysis of incidents' locations and other contextual details, particularly non-collision incidents such as citations or immobilization, may provide leading indicators of potential passenger safety or customer service challenges before a more serious incident occurs. While CPED staff have the authority to request additional data from carriers, including data providing more details on aggregated incidents reported, requesting data on an *ad hoc* basis is not as efficient and does not provide the same level of transparency to the public as the required quarterly reports.

Accordingly, the Commission adopts the additional field to the trip-level reports:

- Whether there was a citation associated with the trip and if so:
  - Type of violation, including reference to the code violated, as applicable.
  - Location of violation, as listed on the citation.
  - Date and time of violation, as listed on the citation.

- Whether the citation was associated with pickup or drop off (within the period beginning five seconds prior to AV arriving at the pickup/drop off location through five seconds after the AV departs the pickup/drop off location).
- The entity issuing the citation.
- Whether there was a collision associated with the trip and if so:
  - The identification of any reports made to the National Highway Traffic Safety Administration (NHTSA) pursuant to its Standing General Order 2021-01 on Incident Reporting for Automated Driving Systems and Level 2 Advanced Driver Assistance Systems (SGO).
- Whether there was an immobilization associated with the trip and if so:
  - the unique identifier for that immobilization, as reported in the incident-level immobilization reporting, discussed below.
- Whether there was a complaint associated with the trip and if so:
  - The type of complaint (*e.g.* safety, pickup and drop off, accessibility, wheelchair accessibility, or customer service).
- Whether there was a claim of harassment associated with the trip.
- Whether there was a claim of assault associated with the trip.

### **3.2. AV Pilot Program Reporting**

#### **3.2.1. Discussion**

In the May 25, 2023 Staff Proposal, CPED proposed that participants in the AV Pilot programs would be required to submit quarterly data reports using the same templates as AV Deployment participants. Currently, AV Pilot participants submit a very limited set of data on aggregated VMT, vehicle occupancy, waiting

time, and WAV service. In contrast, AV Deployment participants submit a series of reports that include detailed trip-level data, including VMT and location data, and incident and complaint data.

San Francisco and SFTWA were supportive of expanding AV Pilot reporting, arguing that AV Pilot data should be evaluated to inform potential expansions of AV service, including expansions to fared AV Deployment. Cruise, Waymo, Zoox, AVIA, and SVLG (collectively, the AV Parties) opposed expansion of Pilot reporting, arguing such an expansion would be burdensome, especially to pre-commercial Pilot participants. These parties also argued that expansion of Pilot reporting is not aligned with the Commission's stated purpose of the Pilot to assess public interest in AV service.

### **3.2.2. Requirements**

We will require that that AV Deployment reporting requirements, including any new reporting requirements established, be extended to Pilot participants when their quarterly VMT exceeds 300 miles. That represents an average of 100 miles per month, which we believe represents a reasonable allowance for small-scale testing for pre-commercial participants. Per the most recent quarterly reports representing operations from March through May 2024, two of the Commission's four active Pilot Program participants exceeded this threshold.

We will also modify the reporting requirements for AV Pilot participants who provided no reportable service in a particular quarter. Currently all carriers must submit reports, even if those reports include only zeroes. Instead, carriers who provided no reportable service shall be required only to submit an attestation to that effect, rather than submit a full set of reports.

In adopting these requirements, we acknowledge party arguments around the potential burdens of expanded reporting on smaller, developing companies. But the potential passenger and public safety impacts of AV operations are not limited only to AVs collecting fares for passenger service. AV Pilot data is informative to both the Commission and the public in understanding and evaluating AV operations as they develop. Therefore, in order to strike what we believe is the proper balance between the burden on the companies and the Commission's continuing need for AV Pilot program information, we will include an allowance for reduced reporting for small scale testing operations to reduce burdens on early-stage companies. But as AV Pilot service for these early-stage companies scales upwards, they shall be required to report a fuller set of data to support monitoring and evaluation of Pilot operations and provide foundational data for future AV Deployment, if applicable.

While the original purpose of the AV Pilot as established in the *Pilot Decision* was to assess public interest in AV service,<sup>10</sup> the Commission must evolve its regulation and evaluation of AV service as technology advances, operations expand, and as we learn more about this growing industry. As such, the *Ruling* called for a "proactive and flexible regulatory approach that must continually evaluate and develop regulatory policy" to support the Commission's AV goals. We also believe that Pilot Program service and the data generated from it may provide a helpful context for carriers' future AV Deployment applications, to the extent they wish to advance to fared passenger service.

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<sup>10</sup> D.18-05-043 at 40.

To summarize, the level of detail that we require for the AV Pilot Program reporting includes the following:

- Participants in the Commission's AV Passenger Service Pilot (AV Pilot) programs reporting over 300 passenger service vehicle miles traveled in a quarter shall submit the expanded data reports currently required of participants in the Phase I AV Passenger Service Deployment (AV Deployment) programs.
- AV Pilot participants reporting less than 300 passenger service vehicles miles traveled in a quarter shall continue to submit the AV Pilot data reports described in the Pilot and Deployment Decisions.
- AV Pilot participants reporting no vehicle miles traveled in a quarter shall submit an attestation to that effect, rather than a full set of reports.
- AV Deployment and AV Pilot participants exceeding 300 quarterly passenger service vehicle miles traveled shall report incident-level and fleet-level data on vehicle immobilizations *i.e.*, situations where AVs become stuck and are not moving when they should be.
- All AV data shall be reported quarterly.
- Reporting quarters and deadlines shall be shifted to align with regular calendar year quarters: January 1 through March 31, reports due May 1; April 1 through June 30, reports due August 1; July 1 through September 30, reports due November 1; October 1 through December 31, reports due February 1.
- Reporting of any new data requirements adopted by the Commission will begin within 60 days of approval of the new requirements.

### **3.3. Collision Reporting**

#### **3.3.1. Discussion**

The Staff Proposal called for expanded collision reporting requirements for the AV Deployment program modeled on DMV form OL-316. Current reporting

requirements include only limited data on collisions occurring in Deployment operations.

Participants in the Commission's AV programs are required to submit simultaneously to the Commission any reports submitted to the DMV.<sup>11</sup> These include collision reports, such as DMV's form OL-316 or SR-1. DMV form OL-316 is an AV-specific collision reporting form that includes detailed location, road condition, and narrative information.<sup>12</sup> The DMV requires the submission of an OL-316 by manufacturers participating in the DMV's AV testing program for any collision that resulted in property damage, bodily injury, or death. DMV form SR-1 is a general collision form applicable to all vehicles (AVs or otherwise) that must be submitted if a collision resulted in an injury, death, or property damage in excess of \$1,000.<sup>13</sup> Form SR-1 contains general information about the collision location, parties involved, and collision damages, but lacks detailed location, conditions, and narrative information. Form SR-1 is submitted when required by all AV operators in testing or deployment. Both forms require submittal to the DMV (and to CPUC simultaneously) within 10 days of the collision.

Parties were generally not opposed to expanded collision reporting, but they differed in their implementation preferences. San Francisco supported enhanced collision reporting and requested the Commission collect additional information such as VIN, RideID, DMV and CPUC permit numbers, Automated Driving System (ADS) status and version, safety driver presence, and pre-

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<sup>11</sup> Pilot Decision Ordering Paragraphs (OPs) 5 and 8, and Deployment Decision OPs 5(h) and 7(g).

<sup>12</sup> AV collisions reported via DMV Form OL-316 are available on the DMV's website at: <https://www.dmv.ca.gov/portal/vehicle-industry-services/autonomous-vehicles/autonomous-vehicle-collision-reports/>.

<sup>13</sup> See <https://www.dmv.ca.gov/portal/dmv-virtual-office/accident-reporting/>.

collision speed. San Francisco also argued that identifying information about the ADS should not be redacted.

Cruise proposed that enhanced collision reporting in Deployment should be done through simultaneous submission of collision reports required by the NHTSA (SGO).<sup>14</sup> Waymo, although initially supportive of modeling reporting on form OL-316, supported Cruise's proposal. The SGO requires reporting of collisions where the ADS was in use any time within 30 seconds of the collision, and the collision resulted in property damage or injury. San Francisco noted that the SGO is currently planned to sunset in May 2026.

### **3.3.2. Requirements**

We agree that simultaneous submission of full, unredacted NHTSA SGO reports is appropriate for reporting of collisions in AV Deployment. When transmitting these reports to the Commission, carriers should note the specific authority (configuration) the AV was operating under when the collision occurred – *e.g.*, Drivered or Driverless Pilot, Drivered or Driverless Deployment.

The SGO reports contain similar, and in some areas more detailed, information to DMV form OL-316. Unlike OL-316, SGO reports are required for *all* AV collisions, whether in testing or deployment. The SGO requires reporting of a collision as soon as one calendar day after the incident, with provisions for extended reporting (five days or by the 15<sup>th</sup> of the following month) for less severe incidents. It also provides for updates to previously submitted incident reports, and submission of monthly reports confirming lack of reportable information if applicable.

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<sup>14</sup> Second Amended Standing General Order 2021-01 on Incident Reporting for Automated Driving Systems (ADS) and Level 2 Advanced Driver Assistance Systems (ADAS), National Highway Traffic Safety Administration. Available at: <https://www.nhtsa.gov/document/sgo-crash-reporting-adas-ads>.



In comments and in discussion at the AV Data Workshop, stakeholders repeatedly emphasized a desire to reduce duplicative data reporting across various government agencies. We agree that reducing duplication is desirable, as long as each agency, including the Commission, has the information it needs to regulate effectively.

As noted by San Francisco, the SGO will sunset in May 2026 unless otherwise amended or extended by NHTSA. As ordered in the *Deployment Decision*, the Commission will initiate Phase II of the AV Deployment program no later than February 2025 (3 years after the issuance of the first AV Deployment permits; Drivered Deployment permits were issued to Cruise and Waymo in February 2022). The Commission may revisit collision reporting as needed in this proceeding or through its staff. If the SGO sunsets prior to the establishment of additional reporting requirements, the Commission grants authority to staff to issue guidance continuing or modifying collision submission guidelines.

We summarize the new requirement as follows:

- AV Deployment participants shall simultaneously submit to the Commission unredacted collision reports currently submitted to the National Highway Traffic Safety Administration per its Standing General Order on Incident Reporting for Automated Driving Systems and Level 2 Advanced Driver Assistance Systems. When transmitting these reports to the Commission, carriers shall note the specific authority the AV was operating under when the collision occurred.

### **3.4. Vehicle Immobilizations**

#### **3.4.1. Discussion**

In her *Ruling*, Commissioner Shiroma expressed concerns about “incidents where AVs have blocked traffic, interfered with public transit including light rail

vehicles, or impeded the activities of first responders,” noting the need for new policies like expanded data reporting to monitor and track evolving AV operations. The Staff Proposal accordingly proposed reporting of every instance where an AV achieved a minimal risk condition (MRC). For each of these instances, CPED proposed that the carrier report identifying information about the vehicle involved, the date, time, and location of the instance, a narrative description of the instance, and information relating to the involvement of law enforcement, the resolution of the stop, the carrier’s response time, and impacts on any passengers in the vehicle.

Per 13 CCR § 227.02, a “minimal risk condition” is a low-risk operating condition that an autonomous vehicle automatically defaults to when either the automated driving systems fails or when the human driver fails to respond appropriately to a request to take over the dynamic driving task. An MRC event typically involves the AV coming to a stop, ideally safely pulled over out of traffic, but sometimes in an active travel lane. The AV may achieve MRC for a wide variety of reasons, and instances of a vehicle achieving MRC may be resolved in a variety of ways – including various levels of manual interaction (remotely or in-person) and/or the vehicle transitioning back into normal autonomous operations.

Cruise, Waymo, and Zoox argued that the Commission should instead collect a narrower set of data on incidents where stopped AVs required manual retrieval from the field, noting that MRC is a required feature per DMV regulations and that not all MRC events are indicative of a safety or operational problem. AVIA argued that MRC data is not relevant to AV safety. In contrast, San Francisco, citing the discussion at the June 22 workshop, indicated that reporting of every instance of where the AV calls for remote assistance could be

helpful even if not all such calls indicate a problem. San Francisco further advocated for a single clear definition for reportable events and noted a need for further discussion on other types of reportable events that are not unplanned stops. SFTWA supported full reporting of MRC events and non-MRC events such as erratic driving.

### **3.4.2. Requirements**

We agree that further refinement is needed to clearly define reportable events so that the Commission can gather data on incidents relevant to passenger safety. As highlighted in the *Ruling*, AVs occasionally become “stuck” and are not moving when they should. For purposes of this decision, an AV is not considered stuck when performing routine functions of the dynamic driving task like stopping at a stoplight, yielding to another road user, or during passenger pickup and drop-off. While other terms have been used in the record to describe instances where AVs are stuck, there is currently no industry-standard term for these types of non-collision events. Therefore, in order to establish new reporting requirements, we will define the term “immobilizations” to describe any vehicle stoppage not related to (1) stopping at a stoplight or stop sign; (2) yielding to another road user; or (3) stopping for a passenger pickup and drop-off. With this definition, the Commission expresses its purpose that the “immobilizations” is intended to yield reporting on stops that may have a variety of causes, resolutions, and that may result in various outcomes. For example, some immobilizations may be related to routine status checks or fail-safes designed to support operational safety. These types of immobilizations may be resolved quickly without in-person intervention and therefore may not create a hazard or extended disruption. However, the *Ruling* also noted that immobilizations can present hazards to passenger safety. Some immobilizations may require carrier

staff to physically go to the vehicle in the field and manually remove it, increasing the duration and disruptiveness of the immobilization.

The Commission believes that collecting information on the broadest types of immobilizations, targeted to those incidents with the highest risk to passenger safety, is prudent. Collecting inclusive data on this topic will allow us to monitor the causes, resolutions, and consequences of immobilizations in order to further refine data reporting needs and inform future rules and regulations. As AV operations and the regulatory landscape evolve, the Commission through its staff may continue to develop and refine its terminology. Transparent release of this data will also inform stakeholders and the public who currently must rely on anecdotal information regarding immobilizations to assess AV safety performance.

Thus, we will require the reporting of AV immobilizations in order to support staff efforts to: (1) Track and analyze incidents of concern, allowing us to follow up on specific incidents as needed and track patterns over time; and (2) understand AV performance generally, both as a snapshot of current performance and assessment of trends over time. This reporting will support the Commission in monitoring and responding to immediate challenges in AV passenger service operations while informing longer-term developments in AV policy, including the planned Phase II of AV Deployment ordered by the *Deployment Decision*.

We acknowledge that many significant consequences of immobilizations are within the regulatory purview of our sister agency, the California DMV, and/or the regulatory responsibilities of federal agencies (NHTSA, NTSB) or local law enforcement. We intend to use this data for our regulatory function: regulating passenger safety in this segment. Yet we acknowledge that the data

may also be useful for other regulatory bodies, some of whom communicate routinely with our staff on AV matters, who are responsible for vehicle safety, roadway safety, and traffic planning and roadway management.

Accordingly, we will require the collection of two categories of immobilization data: incident level and fleet level. These requirements shall apply to all participants in the AV Deployment program and participants in the AV Pilot program that have passed the 300-mile threshold described in Section 3.1 above.

The *immobilization definition* described above does not include support requests initiated by passengers, but rather situations where the automated driving system initiates the outreach. For the purposes of reporting here, an immobilization begins when a stopped AV contacts remote assistance for guidance. The immobilization is considered resolved when the AV moves from the location where it stopped, whether autonomously or manually (including vehicle removal such as towing). While we understand not every call from the AV to remote assistance necessarily indicates a system failure or other problem, and that there may be some stops that are not captured by this definition, we believe setting specific start and end points for what constitutes an immobilization will facilitate clearer reporting that is more consistent across carriers and more intelligible to staff and stakeholders.

*Incident-level reporting* is intended to provide detailed information about specific immobilization incidents of concern. We require that all immobilizations occurring in passenger service and lasting two minutes or more as defined above shall be reported with additional incident-level data (as outlined below) to provide context on each immobilization beyond its duration. A two-minute threshold will allow Commission staff to capture events more likely to be

disruptive or hazardous, while minimizing the burdens of reporting and analyzing a large set of minor events that are less likely to implicate immediate safety concerns.

*Fleet-level reporting* is intended to provide a monthly aggregation of fleetwide immobilization metrics across a larger underlying data set, allowing Commission staff to monitor trends more broadly without requiring detailed compilation and analysis of events that may not be impactful. For these aggregated metrics, we will focus on immobilizations lasting 30 seconds or more (as defined above), as well as any immobilization that requires manual in-person intervention. We explain each of these categories and their accompanying metrics below. A proposed updated data template, including an updated data dictionary, will be made available on the Commission's website.

The *incident-level reporting* requirements that we adopt for immobilization incidents are as follows: for all immobilizations lasting two minutes or more from the initial stop to the AV continuing with its journey or being removed from operations, the following information shall be required as part of incident-level report:

- Identifying information
  - Date/time of initial stop;
  - AV VIN;
- Location
  - Latitude and longitude of stop;
  - Whether the AV was stopped:
    - More than 18 inches from the curb;

- Blocking a travel lane or a transit-only lane;<sup>15</sup>
  - Blocking a bike lane;<sup>16</sup>
  - Blocking the driveway of a fire station;<sup>17</sup>
  - Blocking a crosswalk;<sup>18</sup>
  - Within the dynamic envelope of any rail grade crossing;<sup>19</sup>
- Passenger impacts
    - If a passenger was present in the vehicle, and if so:
      - If the ride was completed to its original destination;
    - If the vehicle was en route to pick up a passenger;
    - Report ID(s) associated with any report(s) made to NHTSA per the SGO in connection with this immobilization:
      - Highest Injury Severity Alleged, per NHTSA SGO report(s);
  - Resolution of immobilization
    - How the immobilization was resolved:
      - If manual in-person intervention was required;
      - If the vehicle was manually removed (by carrier staff or designees, first responders, others), if it resumed

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<sup>15</sup> An AV is blocking a travel lane or a transit-only lane if vehicles cannot legally proceed around the AV in their intended direction of travel – e.g., cars or transit vehicles need to cross a solid yellow line into a lane traveling the opposite direction.

<sup>16</sup> An AV is blocking a bike lane if any part of the vehicle is obstructing the bike lane.

<sup>17</sup> An AV is blocking a driveway if any part of it extends into the driveway past either curb cut, where the curb begins to slope downward to street level.

<sup>18</sup> An AV is blocking a crosswalk if any part of the AV is within the marked area of the crosswalk or if any part of the AV is blocking a curb ramp located inside or adjacent to the crosswalk.

<sup>19</sup> See [Manual on Uniform Traffic Control Devices, 2009 Edition with Revisions 1, 2, and 3, Section 8B.29](#).

normal operations (e.g., continued on its journey), or other categories as applicable;

- For incidents involving manual in-person intervention, response time milestones:
  - Time of carrier staff (or designee) dispatch;
  - Time of carrier staff (or designee) arrival; and
  - Time of resolution – no longer immobilized due to manual removal, resuming normal operations, etc.

The *fleet-level* reporting requirements that we adopt for all immobilizations lasting 30 seconds or more from initial stop to resolution and all immobilizations (of any duration) requiring manual in-person assistance shall be included in the fleet-level reports:

- Count of manual removals (AV physically driven away, towed, or otherwise removed from the street);
- Count of relaunches where carrier staff responded in person, but the vehicle was able to resume normal operations (no manual removal);
- Average response time – duration between initial stop and staff arrival at vehicle;
- Average resolution time – duration between initial stop and removal or relaunch;

For all immobilizations of 30 seconds or more:

- Average resolution time – duration from initial stop to removal or resuming normal operations;
- Median resolution time – duration from initial stop to removal or resuming normal operations; and
- Percent of these immobilizations requiring manual removal.



### **3.5. Reporting Cadence and Implementation Timing**

#### **3.5.1. Discussion**

Currently all AV program participants report data on a quarterly basis, using quarters that run from September 1 through November 30, December 1 through February 28 or 29, March 1 through May 31, and June 1 through August 31. Reports are due one month after the end of the quarter - *e.g.*, reports for the quarter ending August 31 are due on October 1. Two elements of timing are at issue here: the cadence of ongoing reporting and the timing of initial implementation of the new data reporting requirements.

CPED proposed that certain data related to AV operations, unplanned stops, and pickup and drop-offs be reported on a monthly basis, with monthly reports due on the 10<sup>th</sup> of the following month. While CPED did not propose a particular implementation timeline for the new reporting requirements, the *Ruling* asked for party feedback on whether data collection and reporting could begin immediately upon publishing of the new requirements.

#### *Reporting Cadence*

The AV Parties argued that reporting should be no more frequent than quarterly. Parties indicated that monthly reporting would be overly burdensome; Cruise indicated that monthly reporting would require hiring of additional personnel and redirection of personnel time to data collection rather than improving AV service. More broadly, the AV parties questioned the Commission's purpose in collecting more frequent data, as well as staff's capacity to intake and analyze data on a more frequent basis. In contrast, San Francisco supported monthly reporting of data, including monthly operations data.

*Implementation Timing*

AV parties generally advocated for a lag in implementation of the new reporting requirements, citing the need to modify internal systems in order to reduce potential errors from manual data compilation. San Francisco argued that new data collection and reporting should commence immediately or within 90 days if immediate implementation is not feasible. San Francisco also argued the Commission should require backdated reporting of all unplanned stops in driverless operations to date.

**3.5.2. Requirements**

We require that all data be reported on a quarterly basis. Quarterly reporting offers a reasonable balance between the data needs of the Commission and the public for monitoring AV operations and planning for future policy developments and burdens on AV carriers. Commission staff shall have the authority to seek information from carriers on an *ad hoc* basis as needed and may expedite the use of that authority if data is needed more urgently.

We further require that the quarters be shifted to align with regular calendar year quarters, rather than the offset quarters currently in place. Doing so will allow for a more organized analysis that is easier to compare to other data sets within and beyond the Commission. The new quarterly reporting periods would run from January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31. Reports will continue to be due one month after the quarter's close, on May 1, August 1, November 1, and February 1.

To transition to the new requirements, carriers should submit their next quarterly report according to the existing schedule. If the new reporting requirements are approved on September 26, 2024, carriers should expect to

report that data from November 26, 2024 onward. Accordingly, the first set of reports that include the new data would be due on February 1, 2025. New data should be reported for the period beginning November 26, 2024 and ending December 31, 2024. A full quarter of the existing data requirements should be reported as usual.

In summary, if the new data requirements are approved on September 26, 2024, the upcoming reporting dates for existing and or new data requirements are as follows:

- October 1, 2024: Existing data reports covering the period from June 1, 2024 through August 31, 2024.
- November 1, 2024: Existing data reports covering the period from September 1, 2024 through September 30, 2024.
- February 1, 2025: Existing data reports covering the period from October 1, 2024 through December 31, 2024 AND new data reports covering the period from November 26, 2024 through December 31, 2024.
- May 1, 2025: Existing AND new data reports covering the period from January 1, 2025 through March 31, 2025.

### **3.6. Data Confidentiality**

#### **3.6.1. Discussion**

The *Ruling* asked parties if the AV data should be shared with stakeholders, and any constraints that might limit sharing with stakeholders. No claims of confidentiality have been made for any of the AV Pilot reports and, as such, all existing AV Pilot reports are fully public and available on the Commission's website. For AV Deployment reporting, Cruise and Waymo have claimed confidentiality for certain information relating to trips, incidents and complaints, and EV charging.

San Francisco proposed that the Commission issue a confidentiality matrix with the new data reporting requirements to proactively settle confidentiality issues. San Francisco specified that license plates of fleet vehicles (such as those participating in the Commission's AV programs) and precise incident location data should be public. SFTWA agreed with San Francisco, arguing that data should be posted publicly with personally identifiable information redacted. SFTWA noted that additional information related to AV operations such as license plates and location information is disclosable because there are no privacy concerns as with human drivers. In response to San Francisco's arguments, Cruise and Zoox argued that the existing confidentiality rules under GO 66-D are sufficient.

### **3.6.2. Requirements for Claiming Confidentiality for AV Deployment Data Reporting**

Currently, AV data submissions are subject to the provisions of GO 66-D unless modified by the assigned Commissioner in an open proceeding.<sup>20</sup> GO 66-D provides a process for carriers to claim confidentiality of submitted information. These claims are evaluated by Commission Legal staff and ultimately disposed of by the Commission via a resolution.

But in this proceeding, the Commission has adopted an adjusted protocol for the assertion and evaluation of confidentiality claims. D.20-03-014 (*Decision on Data Confidentiality Issues Track 3*) required that TNCs file a motion for confidential treatment of materials to be included in their Annual Reports and file the legal support for each confidentiality claim. The motion must also be accompanied by a declaration explaining, in granular detail, the basis for each

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<sup>20</sup> GO 66-D is available as Attachment 1 to D.20-08-031 at: <https://www.cpuc.ca.gov/-/media/cpuc-website/proceedings-and-rulemaking/documents/d2008031.pdf>.

confidentiality claim. While D.20-03-014 concerned TNCs, we see no reason to apply a lesser standard when it comes to an AV company making confidentiality claims for the information included in their reports to the Commission since the Commission is requiring AV companies to provide the same trip data information as the TNCs.<sup>21</sup>

Cruise and Waymo recognize this and have attempted to satisfy D.20-03-014's requirements for their Driverless Deployment Quarterly Data Reports by submitting declarations with an Attachment A that identifies each claimed category of information for confidential treatment and the applicable legal authorities to support each claim.<sup>22</sup> The categories for confidential treatment on either privacy or trade secret grounds include trip-level data (including zip code and census block information of pick-up and drop-off locations and data related to the number and times of specified pick-up and drop-offs).

As for the legal grounds to support their confidentiality claims, Cruise and Waymo cite Government Code § 6254(k) of the California Public Records Act ("CPRA"), Civil Code § 3426.1(d) (defining trade secret), Civil Code § 1798.80 *et seq.* (process for protecting customer records), Civil Code § 1798.24 and Government Code §6254(c) (limiting disclosure of personal information),

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<sup>21</sup> For example, both TNCs and AV operators must provide the trip start date, the census tract for passenger pick up and drop off, the zip code for passenger pick up and drop off, time and date at which the vehicle accepted the ride, time and date at which the vehicle picked up the passenger, time and date that the vehicle dropped off the passenger, vehicle miles traveled in Periods 1, 2, and 3, information for waybills, and shared miles travels.

<sup>22</sup> Cruise provided the Declarations of Alicia Fenrick (dated September 30, 2022, December 22, 2022, March 31, 2023, June 29, 2023, ad September 27, 2023) and Derrick Robinson (dated December 20, 2023). Waymo provided the declaration of David M. Tressler (dated December 22, 2022) and covering the Driverless Deployment Quarterly Data Reports for the period of 6/1/2022 to 8/31/2022.

California Evidence Code §1060 (“If he or his agent or employee claims the privilege, the owner of a trade secret has a privilege to refuse to disclose the secret, and to prevent another from disclosing it, if the allowance of the privilege will not tend to conceal fraud or otherwise work injustice.”), Government Code §6255(a) (balancing test to be used to determine whether the claimed privilege or the public interest in disclosure should prevail), and the right of privacy guaranteed by Article I, Sect. 1, of the California Constitution.

For the moment, the Commission need not resolve AV operator claims of confidentiality as they relate to deployment data reporting because there are new data reporting categories (*e.g.* citation, collision, and vehicle immobilization data) that AV operators have not yet had an opportunity to address. Therefore, the Commission will wait until it has received a complete claim for confidentiality as to all required deployment data reporting categories (either on trade secret or privacy grounds, or both) that is made in conformity with the requirements of GO 66-D and D.20-03-014.

### **3.7. Staff Authority**

#### **3.7.1. Discussion**

The Deployment Decision states that CPED “has the authority to create and modify the data reporting template as needed to ensure the reports capture all the information necessary to evaluate the AV programs.”<sup>23</sup> In comments responsive to the *Ruling*, Waymo argued that CPED staff do not have the authority “to modify Commission-mandated requirements or add entirely new data elements.”

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<sup>23</sup> *Deployment Decision* at 74.

CPED recommends the Commission clarify staff's authority in regard to modification of AV data reporting templates. While staff may not alter or amend a Commission order, staff should have the authority to create and modify the data reporting templates within the parameters set forth by the Commission. This includes refinements and additional details built upon the general categories and structure set forth by the Commission. These refinements may include the addition of new reporting fields, or the elimination of reporting fields that are no longer necessary due to changed circumstances. In seeking this flexibility, staff intends to harmonize the Commission's data reporting requirements with those required by other regulatory agencies with jurisdiction over AV passenger service operators.

CPED claims that staff have applied this principle already. The *Deployment Decision* directed CPED to, in collaboration with stakeholders, develop a standard to identify and categorize complaints and incidents related to passenger or public safety.<sup>24</sup> In doing so, CPED staff developed categorizations of incidents and complaints and implemented these as part of the aggregated Incidents and Complaints report currently included in the Deployment data reporting requirements. Given the evolving nature of AV technology and operations, it is critical that staff maintain flexibility to revisit and evolve data reporting requirements when reasonable.

### **3.7.2. Requirements**

We agree that Commission staff should be given the authority to make additions and deletions to the AV reporting templates. New information about AV passenger operations may become known that makes it necessary for the

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<sup>24</sup> *Id.*, at 61.

templates to be updated. Similarly, information once thought to be relevant may become moot or no longer needed as staff gathers more information about AV operators and their business models. As we cannot predict now how the AV reporting templates may need to be updated, we find it prudent to vest staff with that authority so it may adjust the AV reporting templates as needed to ensure that the Commission receives up to date and comprehensive data to ensure that AV passenger operations are functioning prudently and safely.

#### **4. Summary of Public Comment**

Rule 1.18 allows any member of the public to submit written comment in any Commission proceeding using the “Public Comment” tab of the online Docket Card for that proceeding on the Commission’s website. Rule 1.18(b) requires that relevant written comment submitted in a proceeding be summarized in the final decision issued in that proceeding.

#### **5. Comments on Proposed Decision**

The proposed decision of Commissioner Matthew Baker in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission’s Rules of Practice and Procedure. Comments were filed on \_\_\_\_\_, and reply comments were filed on \_\_\_\_\_ by \_\_\_\_\_.

#### **6. Assignment of Proceeding**

Matthew Baker is the assigned Commissioner and Robert M. Mason III and Debbie Chiv are the assigned Administrative Law Judges in this proceeding.

#### **Findings of Fact**

1. Participants in the Commission AV pilot and deployment programs are currently required to submit data on a quarterly basis using a template provided by the Commission’s staff.



2. Participants in the AV Pilot program currently report aggregated (i.e. not trip-level) metrics around vehicle miles traveled, waiting time, vehicle occupancy, and wheelchair-accessible rides.

3. Participants in the AV Deployment program provide more detailed trip-level data, including zip code and census tract level locations, and counts of incidents and complaints.

4. Currently neither the AV Pilot program nor the AV Deployment program require AV participants to submit detailed information about non-collision incidents such as vehicle immobilizations.

### **Conclusions of Law**

1. It is reasonable to conclude that the AV trip data at issue will allow the Commission to determine if the AV operators are meeting their passenger safety requirements. Such data may also be useful to state, local, and federal regulators with responsibility for vehicle safety, roadway safety, roadway usage, and traffic management.

2. It is reasonable to conclude that the AV trip data at issue will allow the Commission to determine if the AV operators are conducting their business in a nondiscriminatory manner.

3. It is reasonable to conclude that the AV trip data at issue will allow the Commission to determine if persons with disabilities have equal access to AV services.

4. It is reasonable to conclude that the AV trip data at issue will allow evaluation of the impact of AV vehicles on traffic congestion, infrastructure, and airborne pollutants, some of which are overseen by other state, local, and federal regulatory bodies.

5. It is reasonable to conclude that Commission staff should be given additional authority to make adjustments (either additions or deletions) to the AV reporting templates without the need for a Commission decision modifying this decision.

## **O R D E R**

**IT IS ORDERED** that:

1. Autonomous Vehicle (AV) operators participating in the AV Deployment program and Autonomous Vehicle operators participating in the AV Pilot program that exceed 300 passenger service vehicle miles traveled in that quarter shall submit the following trip-level incident reporting in their reports to the Commission using the template that Commission staff will provide:

- Whether there was a citation associated with the trip and if so:
  - Type of violation, including reference to the code violated, as applicable.
  - Location of violation, as listed on the citation.
  - Date and time of violation, as listed on the citation.
  - Whether the citation was associated with pickup or drop off (within the period beginning five seconds prior to AV arriving at the pickup/drop off location through five seconds after the AV departs the pickup/drop off location).
  - The entity issuing the citation.
- Whether there was a collision associated with the trip and if so:
  - The identification of any reports made to NHTSA pursuant to SGO 2021-01.
- Whether there was an immobilization associated with the trip and if so:

- the unique identifier for that immobilization, as reported in the incident-level immobilization reporting.
  - Whether there was a complaint associated with the trip and if so:
    - The type of complaint (*e.g.* safety, pickup and drop off, accessibility, wheelchair accessibility, or customer service).
  - Whether there was a claim of harassment associated with the trip.
  - Whether there was a claim of assault associated with the trip.
2. The Autonomous Vehicle pilot program reporting requirements include the following:
- Participants in the Commission’s AV Passenger Service Pilot (AV Pilot) programs reporting over 300 passenger service vehicle miles traveled in a quarter shall submit the expanded data reports currently required of participants in the Phase I AV Passenger Service Deployment (AV Deployment) programs, as described in Decision 20-11-046 (Deployment Decision) as modified by Decision 21-05-017.
  - AV Pilot participants reporting no vehicle miles traveled in a quarter shall submit an attestation to that effect, rather than a full set of reports.
3. All Autonomous Vehicle (AV) data reports for all AV Pilot and AV Deployment participants shall be submitted as follows:
- All AV data shall be reported quarterly.
  - Reporting quarters and deadlines shall be shifted to align with regular calendar year quarters: January 1 through March 31, reports due May 1; April 1 through June 30, reports due August 1; July 1 through September 30, reports due November 1; October 1 through December 31, reports due February 1.

- Reporting of any new data requirements adopted by the Commission will begin within 60 days of approval of the new requirements.

4. Autonomous Vehicle (A)V Deployment participants shall simultaneously submit to the Commission unredacted collision reports currently submitted to the National Highway Traffic Safety Administration per its Standing General Order on Incident Reporting for Automated Driving Systems and Level 2 Advanced Driver Assistance Systems. When transmitting these reports to the Commission, carriers shall note the specific authority the AV was operating under when the collision occurred.

5. Autonomous Vehicle (AV) Deployment and AV Pilot participants exceeding 300 quarterly passenger service vehicle miles traveled shall report incident-level and fleet-level data on vehicle immobilizations.

- Incident-level immobilization data shall be reported for all immobilizations occurring in passenger service lasting 2 minutes or more.
- Fleet-level immobilization data shall be reported for all immobilizations occurring in passenger service lasting 30 seconds or more *and* all immobilizations where the AV required manual, in-person intervention.

6. The incident-level reporting requirements adopted for Autonomous Vehicle operators are as following for inclusion in their reports:

- Identifying information
  - Date/time of initial stop;
  - AV VIN;
- Location
  - Latitude and longitude of stop;
  - Whether the AV was stopped:
    - More than 18 inches from the curb;

- Blocking a travel lane or a transit-only lane;<sup>25</sup>
  - Blocking a bike lane;<sup>26</sup>;
  - Blocking the driveway of a fire station;<sup>27</sup>
  - Blocking a crosswalk;<sup>28</sup>
  - Within the dynamic envelope of any rail grade crossing;<sup>29</sup>
- Passenger impacts
    - If a passenger was present in the vehicle, and if so:
      - If the ride was completed to its original destination;
    - If the vehicle was en route to pick up a passenger;
    - Report ID(s) associated with any report(s) made to NHTSA per the SGO in connection with this immobilization:
      - Highest Injury Severity Alleged, per NHTSA SGO report(s);
  - Resolution of immobilization
    - How the immobilization was resolved:
      - If manual in-person intervention was required;
      - If the vehicle was manually removed (by carrier staff or designees, first responders, others), if it resumed

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<sup>25</sup> An AV is blocking a travel lane or a transit-only lane if vehicles cannot legally proceed around the AV in their intended direction of travel – e.g., cars or transit vehicles need to cross a solid yellow line into a lane traveling the opposite direction.

<sup>26</sup> An AV is blocking a bike lane if any part of the vehicle is obstructing the bike lane.

<sup>27</sup> An AV is blocking a driveway if any part of it extends into the driveway past either curb cut, where the curb begins to slope downward to street level.

<sup>28</sup> An AV is blocking a crosswalk if any part of the AV is within the marked area of the crosswalk or if any part of the AV is blocking a curb ramp located inside or adjacent to the crosswalk.

<sup>29</sup> See [Manual on Uniform Traffic Control Devices, 2009 Edition with Revisions 1, 2, and 3, Section 8B.29](#).

normal operations (e.g., continued on its journey), or other categories as applicable;

- For incidents involving manual in-person intervention, response time milestones:
  - Time of carrier staff (or designee) dispatch;
  - Time of carrier staff (or designee) arrival; and
  - Time of resolution – no longer immobilized due to manual removal, resuming normal operations, etc.

7. The fleet-level reporting requirements adopted for Autonomous Vehicle operators for inclusion in their reports include:

- Count of manual removals (AV physically driven away, towed, or otherwise removed from the street);
- Count of relaunches where carrier staff responded in person, but the vehicle was able to resume normal operations (no manual removal);
- Average response time – duration between initial stop and staff arrival at vehicle;
- Average resolution time – duration between initial stop and removal or relaunch;

For all immobilizations of 30 seconds or more:

- Average resolution time – duration from initial stop to removal or resuming normal operations;
- Median resolution time – duration from initial stop to removal or resuming normal operations; and
- Percent of these immobilizations requiring manual removal.

8. Commission staff shall have the authority to make adjustments (either additions or deletions) to the Autonomous Vehicle reporting templates attached to this decision without the need for a Commission decision to modify this decision.

9. Rulemaking 12-12-011 remains open.

This order is effective today.

Dated \_\_\_\_\_, at San Francisco, California