



Appendix C: AV Permit Monthly Data Reporting

Appendix C reports shall be submitted for each calendar month to NYC Department of Transportation by the last business day of the month following the reporting period (e.g., January data must be transmitted by the last business day in February). Entity may delay the submission of the first report by up to one month, transmitting the first two reports in one submission (e.g., if testing begins mid-January, the first transmission could occur on the last business day of March, covering data for January and February). This delay is to allow permit-holders to set up the necessary data reporting structures and does not apply to permit extensions or renewals.

Reports shall be submitted through a secure file transfer via traditional SFTP or a cloud object storage platform hosted by Entity. Each Appendix C report shall be CSV files in the formats below, with the following title conventions. Dates should be the dates of the testing period the data covers.

- Folder or single CSV with all sheets included: Entity_MM.DD.YYYY-MM.DD.YYYY
- If submitting as individual tables: Entity_[Table Name]_MM.DD.YYYY-MM.DD.YYYY

There are seven required reporting tables:

- Vehicle
- Driver
- Session
- Control Mode
- Location
- Collision
- Violation

The required data fields in each category and descriptions of each field are included below.



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Term in Appendix C	Definition
Session	A testing session is any continuous period of vehicle operation during which the AV technology has been activated and a single test vehicle operator is in the driver's seat; testing sessions include instances when the test vehicle operator or a remote operator assumes control of the vehicle. A test vehicle operator's shift may contain multiple testing sessions punctuated by breaks during which the vehicle is not operating. <i>A testing session ends when the test vehicle operator responsible changes.</i>
Control Mode	The engagement status of the autonomous vehicle technology (engaged or disengaged). Intervention by a test vehicle operator or remote operator to assume full or partial control of the dynamic driving task is considered a disengagement of the autonomous vehicle technology.
Violation	An event in which a test vehicle equipped with the autonomous vehicle technology violates a traffic or parking rule. The Violation tab of Appendix C must include all violation events for which a citation was issued to a vehicle whose plates are actively approved for testing. Summary statistics of violation events which occurred in a vehicle whose plates are actively approved for testing but did not result in a citation must be reported separately in a summary report, detailed in Appendix C.1.
Safety-related disengagement	Any disengagement event where the test vehicle operator or remote operator took manual control of the vehicle to prevent or intervene in potentially unsafe driving behavior, to avoid a potential collision or safety-relevant traffic violation, or because the AV technology initiated the disengagement or had a system failure.
Congestion-related disengagement	Any disengagement event where the test vehicle operator disengaged the AV technology to prevent the vehicle from slowing or blocking traffic.
Hard Braking	Any braking event that produces speed decrease of 3 m/s or more from braking at a deceleration rate that exceeds 5 m/s/s for at least 0.5 seconds during the operation of an autonomous vehicle with the AV technology engaged on a public road, within 30 seconds preceding or following a disengagement event.
System Failure	Any instance in which an autonomous vehicle test driver took over performance of the dynamic driving task, or performed the dynamic driving task fallback, in response to a dynamic driving task performance relevant system failure. All dynamic driving task performance relevant system failures that led to a disengagement shall be reported, irrespective of the results of simulations that predict the likely outcomes of crashes or events.
"When Required" variable	Indicates whether every observation in the submitted data must include this variable, or just a subset.



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Vehicle

Naming convention: Entity_Vehicle _MM.DD.YYYY-MM.DD.YYYY

Field	Type	When Required	Description
vin	varchar	Always	The vehicle's vehicle identification number (VIN)
vehicle_make	varchar	Always	The make of the vehicle
vehicle_model	varchar	Always	The model of the vehicle
vehicle_license_num	varchar	Always	The license plate number on the vehicle
vehicle_license_state	varchar	Always	The state that issued the license plate

Driver

Naming convention: Entity_Driver _MM.DD.YYYY-MM.DD.YYYY

Field	Type	When Required	Description
driver_id	varchar	Always	unique identifier for the test vehicle operator
driver_license_number	varchar(20)	Always	The test vehicle operator's driver license number
driver_state_issued_license	varchar(2)	Always	The state in which the driver's license of the test vehicle operator was issued
driver_license_issue	datetime	Always	The date when the driver's license of the test vehicle operator was issued
driver_license_expiration	datetime	Always	The expiration date of the test vehicle operator driver's license
driver_training	datetime	Always	The most recent date that the test vehicle operator completed the test vehicle operator training program



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Session

Naming convention: Entity_Session_MM.DD.YYYY-MM.DD.YYYY

Field	Type	When Required	Description
session_id	varchar	Always	Unique identifier for the testing session
driver_id	varchar	Always	Unique identifier for the test vehicle operator during that session
vin	varchar	Always	The VIN number for the vehicle used during the testing session
session_start_datetime	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	Date/time when testing session began
session_end_datetime	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	Date/time when testing session ended
session_start_lat	float	Always	GPS latitude of session start location with values in decimal degrees of 6 decimal places of precision
session_start_long	float	Always	GPS longitude of session start location with values in decimal degrees of 6 decimal places of precision
session_end_lat	float	Always	GPS longitude of session end location with the value in decimal degrees of 6 decimal places of precision
session_end_long	float	Always	GPS latitude of session end location with the value in decimal degrees of 6 decimal places of precision
staff_pax	int	Always	Maximum number of staff members or contractors in vehicle during testing session
nonstaff_pax	char(1):Y,N	Always	Was the AV transporting members of the public that were not employed or contracted by the company? (Y/N)
session_miles	float	Always	The total number of miles driven during the testing session with autonomous vehicle technology engaged
session_manual_miles	float	Always	The total number of miles driven during the testing session without autonomous vehicle technology engaged
session_time	int	Always	Total time in seconds for testing session



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oot_time	int	Always	For sessions that leave New York City, the estimated average session time spent outside of city boundaries
oot_miles	float	Always	For sessions that leave New York City, the estimated average session distance spent outside of city boundaries



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Control Mode

Naming convention: Entity_Control Mode _MM.DD.YYYY- MM.DD.YYYY

Field	Type	When Required	Description
cme_id	varchar	Always	Unique identifier of the vehicle control mode event
session_id	varchar	Always	Unique identifier of the testing session during which the control mode event occurred
driver_id	varchar	Optional	Unique identifier of the test vehicle operator in the vehicle when the control mode event took place. Must be provided in the Session sheet, optional to include in Control Mode sheet.
vin	varchar	Always	The vehicle identification number of the test vehicle involved in the control mode event
cme_type	char(1):1,2	Always	"1": entity identified by cme_responsible engaged AV technology "2": entity identified by cme_responsible disengaged AV technology
cme_responsible	char(1):1,2,3,4	Always	"1": AV technology was responsible for the control mode event (e.g., AV technology initiates disengagement to hand control over to test vehicle operator or remote operator) "2": test vehicle operator was responsible for the control mode event (e.g., test vehicle operator disengages the AV technology) "3": remote operator was responsible for the control mode event (e.g., remote operator initiates disengagement of AV technology) "4": other entity was responsible for the control mode event
cme_time	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	Date and time of the control mode event



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cme_lat	float	Always	GPS latitude of vehicle at moment of control mode event with value in decimal degrees of 6 decimal places
cme_long	float	Always	GPS longitude of vehicle at moment of control mode event with value in decimal degrees of 6 decimal places
disengagement_facts	varchar	If cme_type = "2"	Required for all control mode events that involve disengaging the AV technology. A description of the facts causing the disengagement. For control mode events where the AV technology was disengaged for a safety-related reason or to prevent congestion or potentially violating a traffic or parking rule, or where cme_responsible = 1 or hard_brake = 1, the disengagement facts must be specific (e.g., "Test vehicle operator disengaged to prevent a rear-end collision while traveling straight," or "Test vehicle operator disengaged to proceed through an unprotected left turn without stalling traffic.") For control mode events where failure_event = 1, disengagement facts must include a description of the underlying causes using the following categories: type of software issue, type of hardware issue, actions of other road users, weather conditions, road surface or traffic conditions, construction, loss of communication, other emergencies, or collisions. The description should be written in plain language with enough detail that a non-technical person can understand the circumstances. For control mode events where hard_break = 1, disengagement facts must include the type of object(s) that the AV technology or test vehicle operator perceived to trigger the braking action (e.g., emergency vehicle, another non-emergency vehicle, vulnerable road user, object on the road, roadside object, or no recognized object), and the highest braking rate, averaged over 0.5 second interval, during the braking event. For all other control mode events where the AV technology was disengaged, disengagement facts must be provided but may be categorical rather than specific (e.g., for a disengagement event because the test operator took a break or because



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			the vehicle reached the edge of the operational design domain, the fact provided may be "Test vehicle operator disengaged for routine operations"; for a disengagement event related to minor driving behavior unrelated to safety, traffic law, or congestion, the fact provided could be "Test vehicle operator disengaged for driving style.")
failure_event	char(1): 1,2	If cme_type = "2"	"1": The disengagement event was in response to a Dynamic Driving Task performance relevant system failure. Any instance in which an autonomous vehicle test driver took over performance of the dynamic driving task, or performed the dynamic driving task fallback, in response to a dynamic driving task performance relevant system failure. All disengagements in response to a dynamic driving task performance relevant system failures that shall be reported, irrespective of the results of simulations that predict the likely outcomes of crashes or events. "2": The disengagement event was not in response to a Dynamic Driving Task performance relevant system failure.
failure_type	char(1):1,2,3,4, 5,6,7,8,9	If failure_event = "1"	Enter all underlying causes that apply: Software issue = 1 Hardware issue = 2 Actions of other road users = 3 Weather conditions = 4 Road surface or traffic conditions = 5 Construction = 6 Loss of communication = 7 Other emergencies = 8 Collisions = 9
hard_break	char(1): 1,2	If cme_type = "2"	"1": Within 30 seconds preceding or following the disengagement event, there was a braking event that produced a speed decrease of 3 m/s or more from braking at a deceleration rate that exceeded 5 m/s/s for at least 0.5 seconds during the operation of an autonomous vehicle with the AV technology engaged on a public road. "2": There was not a braking event that produced a speed decrease of 3 m/s or more from braking at a deceleration rate that exceeded 5 m/s/s for at least 0.5 seconds within 30 seconds preceding or following the disengagement event.



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Location

Naming convention: Entity_Location_MM.DD.YYYY- MM.DD.YYYY

Field	Type	When Required	Description
vin	varchar	Always	The vehicle's vehicle identification number (VIN)
driver_id	varchar	Always	unique identifier for the test vehicle operator
session_id	varchar	Always	Unique identifier for the testing session
datetime	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	date/time in of the vehicle location reading at a frequency of at least once every 10 seconds
vehicle_lat	float	Always	GPS latitude of vehicle with value in decimal degrees of 6 decimal places
vehicle_long	float	Always	GPS longitude of vehicle with value in decimal degrees of 6 decimal places
control_mode	char(1):1,2	Always	"1": the AV technology was engaged at the time of the location reading "2": the AV technology was not engaged at the time of the location reading



Collision

Naming convention: Entity_Collision_MM.DD.YYYY- MM.DD.YYYY

Field	Type	When Required	Description
collision_id	varchar	Always	Unique identifier of the collision event
session_id	varchar	Always	Unique identifier of the testing session during which the collision occurred
driver_id	varchar	Always	Unique identifier of the test vehicle operator in the vehicle when the collision occurred
vin	varchar	Always	The vehicle identification number of the test vehicle involved in the collision
collision_other vehicle	char(1): Y,N	Always	Did the collision involve another vehicle (including motorcycles or mopeds)? (Y/N)
collision_pedestrian	char(1): Y,N	Always	Did the collision involve a pedestrian? (Y/N)
collision_bicycle	char(1): Y,N	Always	Did the collision involve a human-powered bicycle? (Y/N)
collision_micromobility	char(1): Y,N	Always	Did the collision involve a person using a micromobility device other than a human-powered bicycle (e.g., an e-bike, a standing e-scooter, a seated e-scooter, or a skateboard)? (Y/N)
collision_emergency vehicle	char(1): Y,N	Always	Did the collision involve an emergency vehicle? (Y/N)
collision_transit vehicle	char(1): Y,N	Always	Did the collision involve an transit vehicle (e.g., a bus)? (Y/N)
collision_object	char(1): Y,N	Always	Did the collision involve a non-vehicular object (e.g., street furniture or a barrier)? (Y/N)
collision_other	char(1): Y,N	Always	Did the collision involve another entity or object not represented by the other categories? (Y/N)
collision_lat	float	Always	Latitude of instance where vehicle collided with a person or object with value in decimal degrees of 6 decimal places
collision_long	float	Always	Longitude of instance where vehicle collided with a person or object with value in decimal degrees of 6 decimal places



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collision_datetime	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	Date/time when collision occurred
collision_control_mode_10	char(1):1,2,3,4	Always	"1": AV technology was performing the dynamic driving task 10 seconds prior to the collision "2": test vehicle operator was performing the dynamic driving task 10 seconds prior to the collision "3": remote operator was performing the dynamic driving task 10 seconds prior to the collision "4": other entity was performing the dynamic driving task 10 seconds prior to the collision
collision_control_mode_0	char(1):1,2,3,4	Always	"1": AV technology was performing the dynamic driving task when the collision occurred "2": test vehicle operator was performing the dynamic driving task when the collision occurred "3": remote operator was performing the dynamic driving task when the collision occurred "4": other entity was performing the dynamic driving task when the collision occurred
police_report	varchar	If a police report was filed	If a police report was filed, the ID number for that report
collision_facts	char(255)	Always	A description of the facts surrounding the collision



Violation

Naming convention: Entity_Violation_MM.DD.YYYY- MM.DD.YYYY

Field	Type	When Required	Description
violation_id	varchar	Always	Unique identifier of the violation received during a testing session
during_session	char(1):1,2	Always	"1": The violation occurred during a testing session "2": The violation occurred outside of a testing session
session_id	varchar	If during_session = 1	Unique identifier of the testing session during which the violation occurred
driver_id	varchar	Always	Unique identifier of the test vehicle operator in the vehicle when the violation occurred
vin	varchar	Always	The vehicle identification number of the test vehicle involved in the violation
citation_ID	varchar	Always	The ID number of the citation issued
violation_datetime	datetime(yyyy-mm-dd hh24:mm:ss EDT/EST)	Always	Date/time traffic violation occurred
violation_lat	float	Always	Latitude of traffic violation with value in decimal degrees of 6 decimal places
violation_long	float	Always	Longitude of traffic violation with value in decimal degrees of 6 decimal places
violation_code	varchar	Always	The NYPD violation code associated with the violation
violation_control_mode	char(1):1,2	Always	"1": the AV technology was engaged at the time the violation occurred "2": the AV technology was not engaged at the time the violation occurred
violation_desc	char(255)	Always	A description of the facts surrounding the violation. This should be specific to the event, e.g., "Received a citation for speeding approximately 15 miles per hour faster than the posted speed limit."