



June 11, 2024

VIA EMAIL

Matthew Schwall
Director, Safety & Incident Management
Waymo LLC
1600 Amphitheatre Parkway
Mountain View, CA 94043

Subject: Information Request ID PE24016-2

Dear Mr. Schwall:

This letter requests certain information under Preliminary Evaluation (PE24016), which was opened to investigate incidents of unexpected driving behaviors involving vehicles equipped with the Waymo 5th Generation automated driving system (ADS) manufactured by Waymo LLC (Waymo).

This office opened PE24016 following 22 reports of unexpected driving behaviors leading to crashes and potential traffic safety law violations in certain vehicles equipped with the Waymo 5th Generation ADS. Subsequently, ODI identified additional incidents in its initial May 23, 2024 information request to Waymo (ID PE24016-1). Incidents identified in that letter include collisions with stationary and semi-stationary objects, such as gates and chains, collisions with parked vehicles, and instances in which the ADS appeared to disobey traffic safety control devices or rules (e.g., ADS-equipped vehicles driving in opposing lanes with nearby oncoming traffic and driving into construction zones).

ODI is concerned that ADS-equipped vehicles exhibiting such unexpected driving behaviors may increase the risk of crash, property damage, and injury. Although this office is unaware of injury allegations, several of the incidents involved collisions with clearly visible objects that a competent driver would be expected to avoid. A number of these incidents also occurred in the proximity of other road users, including pedestrians.

Unless otherwise stated in the text, the following definitions apply to these information requests:

- **Subject Vehicles:** All vehicles equipped with the Waymo 5th Generation ADS in the United States, including, but not limited to, current U.S. territories and possessions.

- **Subject System**: The suite of software, hardware, data, and any other related systems on or off the vehicle that contributes to the operation of the automated driving system (ADS) of the subject vehicles.
- **Subject Incidents**: In addition to each incident identified as a subject incident in Information Request ID PE24016-1, subject incidents include any additional instance in which Waymo is aware of an allegation of a subject behavior defined herein.
- **Subject Behavior**: Subject behaviors include any of the following subject vehicle driving behaviors with the subject system in use:
 - Physically contacting a stationary object or vehicle in a manner that could reasonably lead to or actually led to property damage (including damage to subject vehicles) or injury.
 - Inappropriately or unexpectedly responding to actual traffic control devices or devices perceived to be traffic control devices. This includes a failure to respond to those devices or false positive responses, such as:
 - Unauthorized driving in construction zones and similar areas segregated from normal traffic flow;
 - Unauthorized driving on private properties.
 - Driving behavior that is likely in violation of traffic safety laws or that could be reasonably understood by Waymo to have led to traffic law citations. This includes, but is not limited to:
 - Actual citations or notification by law enforcement or government officials of an actual or likely violation;
 - Inappropriately driving in opposing lane(s) of travel;
 - Failing to follow instructions from people authorized to direct traffic (e.g., law enforcement, first responders, crossing guards).
- **Traffic Control Device**¹: Traffic control devices include all signs, signals, markings, channelization devices, or other devices that use colors, shapes, symbols, words, sounds, and/or tactile information for the primary purpose of communicating a regulatory, warning, or guidance message to road users on a street, highway, pedestrian facility, bikeway, pathway, or site roadway open to public travel. To the extent that gates, chains, signs, markings, and items like those enumerated above are used to control traffic on private properties accessible to the subject vehicles, such items are also considered traffic control devices.
- **Operational Design Domain (ODD)**: The operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including, but not limited to, environmental, geographical, and time-of-day restrictions, and/or the requisite presence or absence of certain traffic or roadway characteristics.

¹ Definition partially taken from the 11th Edition of the Manual on Uniform Traffic Control Devices (MUTCD), December 2023. Available at https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm

- **Passengers:** Occupants of the subject vehicles who are not intended to perform driving tasks or to supervise the subject system.
- **Waymo:** Waymo LLC, all of its past and present officers and employees, whether assigned to its principal offices or any of its field or other locations, including all of its divisions, subsidiaries (whether or not incorporated) and affiliated enterprises and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of Waymo (including all business units and persons previously referred to), who are or were involved in any way as of January 1, 2014, with any of the following related to the Waymo 5th Generation ADS:
 - a. Design, engineering, analysis, modification or production (e.g., quality control);
 - b. Testing, assessment or evaluation;
 - c. Consideration or recognition of potential or actual defects; reporting, record-keeping and information management (e.g., complaints, field reports, warranty information, part sales); analysis; claims, lawsuits or arbitrations; or
 - d. Communication to, from or intended for zone representatives, fleets, dealers, or other field locations, including but not limited to people who have the capacity to obtain information from dealers.
- **Document:** “Document(s)” is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, mailgrams, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative filings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by Waymo, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document which contains any

note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any non-identical copies are not available, “document(s)” also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. Furnish all documents whether verified by Waymo or not. If a document is not in the English language, provide both the original document and an English translation of the document.

- **Other Terms:** To the extent that they are used in these information requests, the terms “claim,” “consumer complaint,” “dealer field report,” “field report,” “fire,” “fleet,” “good will,” “make,” “model,” “model year,” “notice,” “property damage,” “property damage claim,” “rollover,” “type,” “warranty,” “warranty adjustment,” and “warranty claim,” whether used in singular or in plural form, have the same meaning as found in 49 C.F.R. § 579.4.

For my staff to evaluate the issue for a potential safety defect, certain information is required. Pursuant to 49 U.S.C. § 30166, please provide numbered responses to the following information requests. Insofar as Waymo has previously provided a document to ODI, Waymo may produce it again or identify the document, the document submission to ODI in which it was included and the precise location in that submission where the document is located. When documents are produced, the documents shall be produced in an identified, organized manner that corresponds with the organization of this information request letter (including all individual requests and subparts). When documents are produced and the documents would not, standing alone, be self-explanatory, the production of documents shall be supplemented and accompanied by explanation.

Please repeat the applicable request verbatim above each response. After Waymo’s response to each request, identify the source of the information and indicate the last date the information was gathered.

1. List all states and cities, counties, or other local jurisdictions in the United States in which Waymo operates or has operated the subject vehicles on public roadways and provide the total number of subject vehicles that are or have been operated within each jurisdiction on public roadways. Additionally, for each subject vehicle operated on public roadways in the United States to date by Waymo, state the following:
 - a. Vehicle identification number (17-character VIN);
 - b. ADS version equipped on the subject vehicle when first operated on public roadways;
 - c. Date of initial operation on public roadways (MM/DD/YYYY);
 - d. The state(s) and jurisdiction(s) in the United States where the vehicle and system have been operated (postal abbreviation);
 - e. By each discrete geographical area in which the vehicle has operated, the number of miles driven on public roadways with the ADS engaged from July 1, 2021, through June 30, 2024, by month and year:
 - i) in total;
 - ii) with onboard human supervision (regardless of whether or not passengers were

- present);
 - iii) without onboard human supervision (regardless of whether or not passengers were present);
 - iv) with passengers and with onboard human supervision; and
 - v) with passengers and without onboard human supervision.
- f. By each discrete geographical area in which the vehicle has operated, the number of subject incidents from July 1, 2021, through June 30, 2024, by month and year:
- i) in total;
 - ii) with onboard human supervision (regardless of whether or not passengers were present);
 - iii) without onboard human supervision (regardless of whether or not passengers were present);
 - iv) with passengers and with onboard human supervision; and
 - v) with passengers and without onboard human supervision.
2. State the number of each of the following, received by Waymo, or of which Waymo is otherwise aware, which relate to, or may relate to, the subject incidents or subject behaviors involving the subject vehicles from July 1, 2021, through June 30, 2024:
- a. Consumer complaints;
 - b. Fleet operator complaints or reports;
 - c. Field reports;
 - d. Reports involving a crash, injury or fatality;
 - e. Property damage claims;
 - f. Third-party arbitration proceedings, both pending and closed, where Waymo is or was a party to the arbitration;
 - g. Lawsuits, both pending and closed, in which Waymo is or was a defendant or codefendant; and
 - h. Legal claims asserted against Waymo before formal proceedings began.

For subparts “a” through “h” state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

For items “f” through “h,” identify the parties to the action, and where applicable, identify the caption, court or arbitral forum, docket number, and date on which the complaint or other document initiating the action was filed.

3. Separately, for each subject incident from July 1, 2021, through June 30, 2024, and for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:
- a. Waymo’s file number or other identifier used;
 - b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
 - c. The identification number for any related incident report submitted in response

- to Standing General Order 2021-01;
 - d. The subject vehicle's 17-character VIN;
 - e. The subject vehicle's ADS version at the time of the incident reported at a level of specificity to capture software and hardware updates;
 - f. Incident date (MM/DD/YYYY) and local time;
 - g. Report or claim date (MM/DD/YYYY);
 - h. Incident location (GPS coordinates);
 - i. Whether the subject vehicle was operating with or without onboard human supervision;
 - j. The number of passengers in the subject vehicle;
 - k. Whether a potential or actual collision was detected by the subject vehicle or subject system;
 - l. Whether a collision was verified;
 - m. Whether property damage is alleged;
 - n. Number of alleged injuries, if any;
 - o. Number of alleged fatalities, if any; and
 - p. Whether property damage is alleged.
4. For each incident within the scope of your response to Request No. 3, provide a summary description of the incident and identify causal and contributing factors, material underlying facts, as well as Waymo's assessment of the incident, with a summary of the significant underlying facts and evidence. This summary shall include but not be limited to:
- a. Waymo's file number(s) or other identifier(s) used for any item(s) within the scope of your responses above related to this action;
 - b. How Waymo initially learned of the incident. For complaints, identify the reporting mechanism through which Waymo received the report. For internally identified incidents, identify the internal process or mechanism through which Waymo learned of the incident;
 - c. Relative position and description of traffic control devices relevant to any unexpected or inappropriate behavior;
 - d. Whether the subject vehicle and subject systems were operating within the specified ODD and within any other expected operational limits;
 - e. Whether the subject vehicle or any subject system was operating in a degraded state;
 - f. Cause(s) of any subject system disengagement, exit of the specified ODD or any other expected operational limits, inappropriate behavior, or degraded state(s);
 - g. Whether the subject system was returned to operation immediately;
 - h. If applicable, how the subject vehicle was removed from the scene of the incident;
 - i. Whether, following the incident, the subject vehicle or any subject vehicle was grounded from operation on public roadways or if public roadway operations were otherwise altered or restricted;
 - j. Reason(s) for any grounding or public roadway operation restrictions;
 - k. Any action(s) taken to return the subject vehicle or subject system to operation on public roadways; and
 - l. Any resulting actions taken that affected other subject vehicles or subject systems.

5. Produce copies of all documents related to each item within the scope of Request No. 3. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Waymo used for organizing the documents.
6. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, “actions”) that relate to, or may relate to, the subject incidents and subject behaviors that have been conducted, are being conducted, are planned, or are being planned by, or for, Waymo. For each such action, provide the following information:
 - a. Action title or identifier;
 - b. The actual or planned start date;
 - c. The actual or expected end date;
 - d. Waymo’s file number(s) or other identifier(s) used for any item(s) within the scope of your responses above related to this action;
 - e. Summary of the subject and objective of the action;
 - f. Engineering group(s)/supplier(s) responsible for designing and for conducting the action;
 - g. A description and values of all measures, metrics and criteria used to assess the safety, reliability, and prediction performance of the subject vehicles and subject systems, individually and in aggregate, operating with and without onboard human supervision; and
 - h. A summary of the findings and/or conclusions resulting from the action.

For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

7. Describe all modifications or changes made by, or on behalf of, Waymo in the design of the subject system since March 4, 2020, which relate to, or may relate to, the subject incidents and subject behaviors. For each such modification or change, provide the following information:
 - a. The date or approximate date on which the modification or change was incorporated into the subject system;
 - b. A detailed description of the modification or change;
 - c. Which sets of subject vehicles the change was deployed on (e.g., supervised, unsupervised, etc.);
 - d. The reason(s) for the modification or change;
 - e. The version of the subject system prior to modification;
 - f. The version of the modified subject system;
 - g. Whether the original unmodified subject system was withdrawn from operation, and if so, when; and
 - h. Whether the modified component can be interchanged with earlier versions.

Also, provide the above information for any modification or change that Waymo is aware of which may be incorporated into the subject vehicles within the next 120 days which relate to, or may relate to, the subject incidents and subject behaviors.

8. Describe each discrete geographical ODD(s) of the subject systems and all modifications or changes to each ODD and geographic area of the subject vehicles' operation since March 4, 2020. Provide ODD boundaries in a format compatible with Google Earth (e.g., kml). Provide this information separately for vehicles operating with and without onboard human supervision. For each such modification or change, provide the following information:
 - a. The date or approximate date on which the modification or change was incorporated into vehicles in operation;
 - b. A detailed description of the modification or change; and
 - c. The reason(s) for the modification or change.

Also, provide the above information for any ODD changes that Waymo is aware of which may be incorporated into vehicles in operation within the 120 days of any response to this request.

9. Describe and produce documents related to any policies, practices, processes, procedures, or safeguards (collectively, "actions") which Waymo employs that are intended to identify, characterize, reduce, or mitigate the safety risks to passengers and other road users associated with risks arising from the subject incidents and behaviors. This request includes any actions pertaining to the conditions under which subject vehicles are operated with and without onboard human supervision. At minimum, include documents pertaining to:
 - a. Incident response processes that can lead to fleet grounding, implementing operational restrictions, and changes to ODD or other operational specifications.
 - b. How Waymo designs and initiates changes to the remote assistance interface.
 - c. How Waymo chooses specific roadways, publicly accessible areas, and private properties within a given geographical area for mapping.
 - d. Waymo's approach for detecting, classifying, and ensuring authorized ADS operation near or within gated properties and private properties.
 - e. Waymo's approach for minimizing the impact to ADS operations of traffic control devices that are repositioned after initial mapping of an ODD.
 - f. Waymo's methodology for documenting and evaluating changes to its ODD specification(s).
 - g. How Waymo defines and designs for conditions under which vehicle can operate in opposing lanes or other lanes of travel (e.g., bike lanes) where the vehicle should not travel when a normal travel lane is unobstructed.
 - h. How the subject system accounts for objects that are normally stationary, but are detected as moving (e.g., objects being towed in a trailer).
 - i. How Waymo monitors and assesses ADS competency in obeying traffic control devices and traffic safety laws.
10. Furnish Waymo's assessment of each subject behavior in the subject vehicles, including:
 - a. The causal or contributory factor(s);
 - b. The failure mechanism(s);
 - c. The failure mode(s);

- d. The risk to motor vehicle safety that it poses;
- e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the subject behavior was occurring, or subject system was malfunctioning; and
- f. The reports included with this inquiry.

11. Describe in detail the search methods and search criteria used by Waymo to identify the information responsive to each Request above. Include a list and description of the record systems and data types searched.

Legal Authority for This Request

This letter is being sent to Waymo pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to request reports. It constitutes a new request for information.

Civil Penalties

Waymo's failure to respond promptly and fully to this letter could subject Waymo to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. (Other remedies and sanctions are available as well.) The Vehicle Safety Act, 49 U.S.C. § 30165(a)(3), provides for civil penalties of up to \$27,168 per violation per day, with a maximum of \$135,828,178 for a related series of daily violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. *See* 49 C.F.R. § 578.6(a)(3). This includes failing to respond completely, accurately, or in a timely manner to ODI information requests.

If Waymo cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney client, attorney work product, or other privilege, Waymo does not submit one or more requested documents or items of information in response to this information request, Waymo must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

Submission Instructions

If Waymo's response contains any information that you claim is confidential business information, Waymo must submit a request for confidential treatment directly to NHTSA's Office of the Chief Counsel by following the instructions in Enclosure 1, Information for Requests for Confidential Treatment. Please see Enclosure 1 for additional instructions on submitting a request for confidential treatment that is compliant with 49 C.F.R. Part 512 (specifically, a request for confidential treatment must include the four required parts that are discussed in enclosure 1).

In addition, you must request two secure electronic file transfer links from Neil Dold at neil.dold@dot.gov. One secure electronic file transfer link is for submitting a duplicate copy of your request for confidential treatment to ODI. The second secure electronic file transfer link is for your non-confidential response to this letter. Do not submit any information that you claim is confidential business information with your non-confidential submission. Please refer to PE24016 in Waymo's response to this letter and in a request for confidential treatment that Waymo may submit.

Due Date

Waymo's response to this letter must be submitted to this office by **August 6, 2024**. If Waymo finds that it is unable to provide all of the information requested within the time allotted, Waymo must request an extension from me at (202) 366-5864 no later than five business days before the response due date. If Waymo is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information Waymo then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Neil Dold of my staff at (202) 366-7352.

Sincerely,

Scott Simmons

Scott Simmons, Chief
Advanced and Emerging Technology Division
Office of Defects Investigation

Enclosure 1, Information for Requests for Confidential Treatment.

ENCLOSURE 1 – INFORMATION FOR REQUESTS FOR CONFIDENTIAL TREATMENT

If you believe that your response contains any material that you claim is confidential business information, submit these materials to NHTSA’s Office of the Chief Counsel in accordance with 49 C.F.R. Part 512. **All requests for confidential treatment must be submitted directly to the Office of the Chief Counsel.**

As a CBI Portal Pilot participant, you may submit your request and files containing CBI to NHTSA’s Office of the Chief Counsel via the Confidential Business Information Portal. If you are not currently registered for the CBI Portal, please send a registration request to cbi-helpdesk@dot.gov. Alternatively, if you do not want to use the CBI Portal for this specific IR response, upon request, ODI will provide you with a secure file transfer link for your submission to the Office of the Chief Counsel.

Requests for confidential treatment are governed by Part 512. A current version of this regulation is available on the internet at <http://www.ecfr.gov> by selecting Title 49 “Transportation,” selecting “Parts 500 – 599” and then selecting Part 512 “Confidential Business Information.”

How to request confidential treatment:

NHTSA is currently treating electronic submission as an acceptable method for submitting confidential business information to the agency under Part 512. If you claim that any of the information or documents provided in your response constitutes confidential business information within the meaning of 5 U.S.C. § 552(b)(4), or is protected from disclosure pursuant to 18 U.S.C. § 1905, you must request a secure file transfer link from the ODI contact listed in your Information Request. ODI will copy a representative from the Office of the Chief Counsel on the secure file transfer link for your request for confidential treatment. You must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with Part 512, to the Office of the Chief Counsel. Do not send a hardcopy of a request for confidential treatment to NHTSA’s headquarters.

Your request must include a request letter that contains supporting information, pursuant to Part 512.8. Your request must also include a certificate, pursuant to Part 512.4(b) and Part 512, Appendix A.

You are required to submit one unredacted “confidential version” of the information for which you are seeking confidential treatment. Pursuant to Part 512.6, the words “ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION” or “CONFIDENTIAL BUSINESS INFORMATION CONTAINED WITHIN BRACKETS” (as applicable) must appear at the top of each page containing information claimed to be confidential. In the latter situation, where not all information on the page is claimed to be confidential, identify each item of information for which confidentiality is requested within brackets: “[].”

You are also required to submit one redacted “public version” of the information for which you are seeking confidential treatment. Pursuant to Part 512.5(a)(2), the redacted “public version” should include redactions of any information for which you are seeking confidential treatment

(i.e., the only information that should be unredacted is information for which you are **not** seeking confidential treatment).

For questions about a request for confidential treatment, please contact Dan Rabinovitz in the Office of the Chief Counsel at Daniel.Rabinovitz@dot.gov or (202)366-8534.