

February 17, 2026

The Honorable Edward Markey  
United States Senate  
Washington, D.C. 20510

Dear Senator Markey,

Our mission at Waymo is to be the world's most trusted driver, and we are committed to earning the public's trust through transparency and proven road safety outcomes. As we expand our fully autonomous service across the United States, we are making long-term infrastructure investments and creating thousands of jobs for mechanics, professional drivers, and operations experts in America that support our service. We appreciate the opportunity to address your questions dated February 3, 2026, and to clarify the distinct nature of our fully autonomous driving technology.

The United States is facing a roadway safety crisis, with approximately 40,000 fatalities every year. Waymo's Autonomous Driving System (ADS) is designed specifically to address this by eliminating human errors—such as distraction, fatigue, and impairment—while strictly adhering to posted speed limits.

**As we scale, we are providing safer, more accessible transportation options to a growing number of people across the country:**

- We provide more than 400,000 paid trips per week across 6 U.S. cities and have surpassed 20 million lifetime trips.
- We operate a fleet of over 3,000 vehicles across six major U.S. cities.
- In our first 127 million fully autonomous miles, the Waymo Driver was involved in 90% fewer serious injury crashes or worse compared to human drivers in the same areas—a tenfold increase in safety.

**It is critical to distinguish Waymo's architecture from other systems that may rely on teleoperators or remote drivers.**

**The Waymo Driver is fully autonomous.** Our ADS is responsible for all real-time driving tasks and decision-making. We do not utilize remote drivers. While your letter drew a comparison to aircraft dispatchers, I can tell you based on my decade of experience as a U.S. Naval Aviator flying F-14s and F/A-18s there are fundamental differences:

- Aircraft Dispatchers: Responsible for active flight monitoring, weather routing, and mechanical oversight for the duration of a journey.
- Waymo Remote Assistance: These agents do not continuously monitor a vehicle or set of vehicles. Instead, they respond to specific requests for information initiated by the ADS. The agent provides a piece of data or advice, which the ADS then decides whether to use or reject. This interaction typically lasts only seconds before the agent returns to a general pool, ready to handle another request from another vehicle.

Waymo leads the industry when it comes to transparency, regularly sharing detailed safety data with the National Highway Traffic Safety Administration (NHTSA) and through our public Safety Impact Reports. We remain committed to working with Congress to enact a national AV framework.

Detailed responses to your specific inquiries are included below.

*1. A complete description of Waymo's remote assistance operations, including:  
1(a) The roles and responsibilities of the remote assistance operator, such as whether the operator is limited to providing advice or instruction or is permitted to change's [sic] the vehicle's trajectory or driving path;*

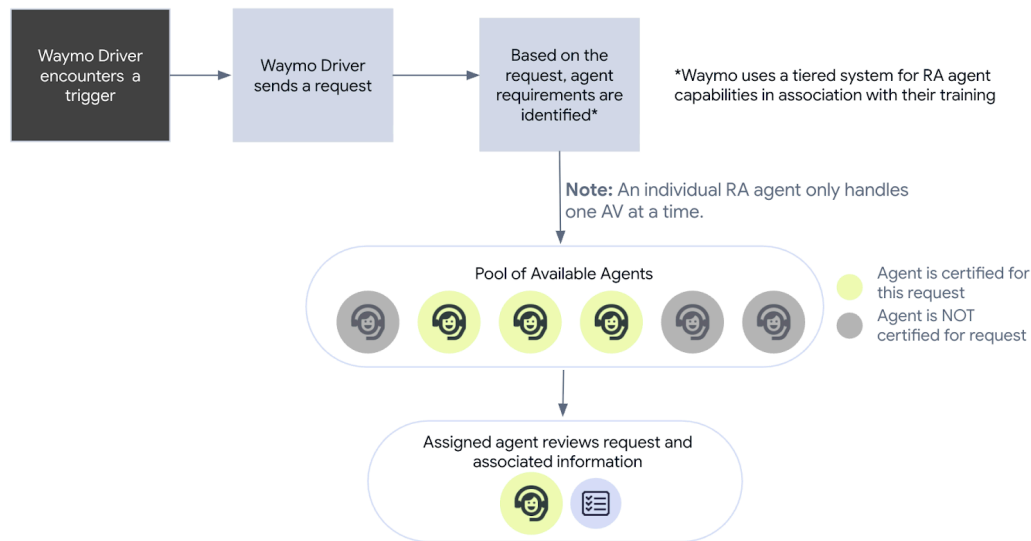
**Response:** Waymo deploys its ADS, consisting of redundant compute, sensors, and software, to safely and fully autonomously navigate public roads. Waymo uses Remote Assistance (RA) agents, who provide advice only when requested by the ADS on an *event-driven* basis.

**Waymo's RA agents provide advice and support to the Waymo Driver but do not directly control, steer, or drive the vehicle.<sup>1</sup>**

Additionally, Remote Assistance agents are not passively monitoring a vehicle or group of vehicles with the expectation to identify when intervention is needed. **Rather, the ADS reaches out to Remote Assistance when the vehicle encounters an ambiguous situation in which it may benefit from more context, even if the ADS can confidently proceed** – a helpful safety redundancy. The ADS will only be matched with an available agent who is trained and certified for the specific request.

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<sup>1</sup> For more information about the distinctions between Remote Assistance and remote driving, see Automated Vehicle Safety Consortium. 2023. AVSC Best Practice for ADS Remote Assistance Use Case. SAE Industry Technologies Consortia, available at <https://avsc.sae-itc.com/>; SAE J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles (2021), especially sections 3.23 and 3.24.



The average amount of time that elapses between a request to RA and the delivery of advice to the ADS - including both round-trip latency in the transmission and time for the agent to review and input a response - is a matter of seconds. During that time, the ADS remains in control of the Dynamic Driving Task, and continues to make decisions independently based on all information available to it. Most of the time, the ADS resolves its question on its own. In the event RA delivers advice to the ADS and the system proceeds, the agent returns to the “work assignment pool” where they await the next request from another vehicle that reaches out for assistance. The ADS can also reject RA suggestions if it deems it appropriate. This distinction is fundamental to our safety model, ensuring the vehicle’s onboard system remains the primary, real-time authority for safe operation. By nature, RA requests aren’t designed to help the AV with real-time collision avoidance - the ADS handles real-time driving, including evasive actions, braking or other behavior needed to avoid collisions.

Different requests to RA require different tools, and agents of different certification levels use the tools they are certified for in response to an ADS reaching out for advice.<sup>2</sup> The tasks performed by RA agents exist on a spectrum of complexity, and range from simple vehicle occupancy or cleanliness checks to suggesting paths around obstacles. The ADS remains independently in-control of the vehicle and is designed to refuse path suggestions that are unsafe, based on real-time conditions.<sup>3</sup> We validate that the system performs as designed in every software release cycle.

<sup>2</sup> An example of a request for assistance from the ADS can be found in the [first video](#) available in our [2024 explainer](#).

<sup>3</sup> An example of the Waymo Driver choosing to delay taking a suggested route because it has spotted a bicyclist who will shortly be in the proposed pathway can be found in the [second video](#) available in our [2024 explainer](#). When the road clears, the Waymo backs up to create space, and the remote assistant proposes the ADS re-merge onto the road. The ADS obliges and continues on its way.

**Remote Assistance agents who are certified for more complex, emergent tasks are exclusively based in the United States.** This specialized team is referred to as the Event Response Team (“ERT”).

Members of ERT are the most senior and experienced assistants who have received specialized training. Their primary objective is to resolve field events and support operational resilience, robustness, and stability. Activities undertaken by ERT include, but are not limited to, responding to collisions, interfacing with law enforcement and the rider, collecting data for regulatory reporting, and coordinating towing.

*1(b) Whether your company ever allows RAOs to tele-drive a vehicle, beyond providing guidance to the AV;*

**Response:** Waymo has not used remote driving or “tele-operations” where a human performs the Dynamic Driving Task. As mentioned above, we do not have humans passively monitoring the AVs as if they are engaging in normal driving, nor are there humans who are able to start driving an AV remotely.

Waymo has developed a tool that is reserved as an additional safeguard for a rare set of potential situations to assist a stopped AV fully onto the shoulder from the adjacent lane on a high speed road. In such situations, a specially trained, U.S.-based ERT agent could prompt the AV to move forward at 2 mph for a short distance at fixed steering angles to exit the travel lane. **To date, this functionality has never been used outside of training.**

*1(c) The frequency with which remote assistance sessions are invoked (for example, number of sessions per vehicle-mile or per trip), and the proportion of sessions that result in human input that alters the vehicle’s driving plan;*

**Response:** Waymo maintains detailed internal metrics on the frequency of Remote Assistance requests, categorized by city, time of day, and trip/mileage projections to ensure adequate staffing. The frequency of requests does not grow in a 1-1 ratio with vehicle miles; rather, continuous improvements to the ADS have materially reduced the rate of RA requests per mile over time. We expect this significant rate of improvement to continue, and our staffing levels will change accordingly.

This is in part why the raw number of requests to RA from the ADS, which we understand you are referring to as “invoked sessions,” is not material to understanding the performance of the ADS. Furthermore, as described above, a significant portion of requests from the ADS to RA do not result in an agent providing advice; a vast majority of requests that the ADS makes are independently resolved by the ADS before an agent even provides an answer.

*1(d) The number and location (city/state/country) of remote assistance centers or teams and number of RAOs at each location;*

**Response:** Waymo operates four geographically redundant locations in Arizona, Michigan, and in two cities in the Philippines to support its fleet. As Waymo expands around the world, it will maintain a mix of local and international RA functions to ensure seamless, safe, 24/7 global operations that match our scale.

At any given time, there are approximately 70 Remote Assistance agents on duty worldwide. Approximately half of our RA agents are located in the United States, including the entire ERT staff, with the other half located in the Philippines. These agents represent a relatively small portion of the staff supporting Waymo's fleet as we provide 400,000 trips and drive more than 4 million fully autonomous miles every week. The number of RA agents pales in comparison to the local jobs we create through our investment in our AV operations partners. In the cities we serve, we bring hundreds of job opportunities supporting our operations, including: professional drivers who validate our technology; mechanics who work on our vehicles; electricians who build and maintain our charging infrastructure; building trades professionals who construct our purpose-built depots; service specialists who ensure vehicles are ready for passengers; security personnel who keep our operations safe; and facilities managers and supervisors who oversee it all. Not only are these jobs valuable on their own, but they also provide a pathway to long-term careers in the AV industry.

*1(e) Whether any remote assistance operators are located outside the United States, and if so, the countries and jurisdictions involved, and how your company conducts oversight, supervision and qualification of such overseas operators;*

**Response:** Waymo utilizes personnel in Arizona, Michigan, and the Philippines. Overseas Remote Assistance agents must meet high standards, including: (1) possession and maintenance of a valid driver's license recognized by the Philippine Land Transportation Office, which we continuously verify; (2) achievement of a minimum B2 CEFR English proficiency level; and (3) passage of drug tests and possession of clean driving records. These agents are provided extensive training tailored to the specific tasks they will complete and their performance is closely monitored, and despite never remotely driving the vehicles, are trained on local road rules.

Oversight is conducted through vendor partners with direct Waymo supervision. Supervisors provide real-time support and conduct quality assurance that is collaborated upon with Waymo program managers. All agents are retrained every six months, and undergo drug and alcohol screening. As noted above, these agents do not handle the most complex emergent tasks, which are handled exclusively by U.S.-based ERT agents.

*1(f) The average and worst-case latency (broken down by location of each RAO center) between the vehicle and remote assistance operator from the time a request is generated by the vehicle until a human begins interaction and the time from human intervention to vehicle execution of any instruction;*

**Response:** Unlike other [U.S.](#) and [Chinese](#) companies with ambitions in autonomous driving, Waymo does not and never has used remote teleoperations because it is far more sensitive to latency than context-based Remote Assistance.

**However, your assumptions about the effect of latency on RA across distances are incorrect.** In this context, latency is the time required to transmit a piece of information between the RA agent and the AV (and is distinct from the time for a request to be assigned, reviewed, and issued a response). Latency by its nature can change and some latency is unavoidable, but physical distance is significantly less important than network distance. Waymo's U.S.-based RA operation centers are more than 1,000 miles apart, yet have the same latency to the vehicles. Median one-way latency is approximately 150 milliseconds for U.S. based centers and 250 milliseconds for RA based abroad. **For context, a single blink of a human eye typically lasts between 100 and 400 milliseconds.**

Alerts to confirm the occurrence of a collision are designed to reach operators in approximately 100 milliseconds. The ADS is designed to pull over with or without this confirmation upon detecting a collision. If significant latency occurs, operators are instructed to escalate, and the ADS is designed to find a safe place to pull over if they cannot maintain a stable connection. Waymo monitors the connection and has protocols for failover if operations sites go down, connections are insufficient, or other issues occur.

Furthermore, the inherent design of our ADS is optimized for handling these levels of latency because the ADS remains in charge of the Dynamic Driving Task. During communication with RA, the ADS will continue to validate suggestions from RA in performing the Dynamic Driving Task, and if the world around the vehicle has changed, the ADS is designed to respond appropriately.

As discussed above in response to question 1(a), the average total time from when the ADS issues a request until it receives a response from the RA agent, including both latency and time to review and input a response, is a matter of seconds.

*1(g) Whether all remote assistance operators are required to obtain and maintain a valid driver's license while serving as an operator;*

**Response:** Waymo requires continued licensure and clean driving records, and more details can be found above in response to question 1(e). Beyond a standard license, agents must pass

extensive internal training and certification tests for each specific task they perform. Operators must consent to the initial and periodic pulling of their driving records throughout their employment to ensure they maintain their status.

*1(h) The background screening process for remote assistance operator applicants, including past experience with alcohol impaired driving;*

**Response:** Waymo's screening process for Remote Assistance agents is rigorous and focuses on safety and the relevant skillsets for Remote Assistance tasks. Applicants must consent to a review of their driving history, including records of traffic violations, infractions, and driving-related convictions, ensuring a minimum of five years with a clean record, in addition to thorough criminal background checks. Candidates must pass drug testing as part of the hiring process, as well as color blindness and spatial recognition assessments.

*1(i) Procedures and protocols in place to prevent remote assistance operators from being intoxicated while performing their duties as operators;*

**Response:** As described in response to question 1(e) above, to ensure safety and performance, Waymo implements several protocols and procedures. Remote Assistance agents must consent to random drug testing throughout their employment. Every 3 months 45% of Remote Assistance agents undergo a random drug and alcohol test. Drug and alcohol tests are also administered at the time of hiring and for reasonable suspicion.

*1(j) A summary of the cybersecurity architecture protecting the link between vehicle and Remote Assistance infrastructure, including network encryption protocols, authentication of operators, redundancy and resilience measures, and data retention and access policies; and*

**Response:** Cybersecurity is core to Waymo's design and our safety mission. We consider comprehensive cyber threats in advance, and the safety of our ADS is protected by its design: it is independently in control of the vehicle and can refuse any guidance it deems unsafe. We have rigorous cybersecurity protocols, multi-level training programs for our RA agents, and have already participated in an [independent audit](#) of our RA program, which included cybersecurity. That's also why Waymo strongly supports the [Department of Commerce's BIS connected-vehicle rule](#), which addresses national security risks from foreign AV technology, including both software and hardware.

Our Remote Assistance tools are protected by sophisticated cybersecurity measures which use hardware backed multi-factor authentication. All Remote Assistance occurs on corporate devices which use cryptographic authentication to access corporate networks and are managed and monitored for cybersecurity.



Waymo also encrypts all communications between its vehicles and offboard support systems, including Remote Assistance, over a mutually authenticated connection.

Individual agent accounts are only granted access to the features those individual agent accounts have been certified for. Training certification is enforced by systems that these personnel do not have access to under strict controls. To maintain focus and security, personal electronic devices are strictly prohibited on the operations floor, and access to RA facilities is strictly controlled via pre-printed badges and badge-restricted areas. In the event communications with RA are lost, Waymo's vehicles are capable of continuing to drive safely to find an appropriate place to pull over.

The geographic redundancy of our operations centers further hardens our system against attack. If one center experiences an outage, work is automatically reassigned to another facility and additional agents can be deployed when needed.

*1(k) The procedures by which remote assistance involvement is logged, audited, and reviewed for safety analysis, particularly during crashes or other safety incidents.*

**Response:** Every interaction between an agent and a vehicle is meticulously logged and subject to regular audits. All RA actions are documented in proprietary databases. For crashes or safety incidents, our dedicated, U.S.-based Event Response Team ("ERT") manages the operational response, such as documenting the scene with photos, police reports, and sensor logs for internal and external reporting (e.g., to NHTSA and DMV).

Additionally, in 2025 Waymo's Remote Assistance Program underwent a comprehensive independent third-party audit by TÜV SÜD, a global standards and certification organization, to verify that internal safety processes and quality standards are being followed. The audit evaluated the robustness and safety of training and implementation practices including a multiple-day site visit to a Remote Assistance facility to observe training and daily operations firsthand. In addition, the audit evaluated if activities met the definition of Remote Assistance (as compared to remote driving). The audit confirmed the adherence of Waymo's policies and practices with the industry [best practice on Remote Assistance Use-Cases produced by the AVSC](#) consortium. To our knowledge Waymo is the first company to undertake such an audit to the Best Practice, which is considered state of the art.



*3. A description of your company's training, qualification, and monitoring practices for remote assistance operators, including how performance is measured, what credentials and oversight apply, how many hours RAOs work per shift, and how your company manages fatigue, distraction, and user-error for remote operators.*

**Response:** Our Remote Assistance program, which has been [independently audited](#) as described above, is designed to match the level of training to the complexity of the scenarios the vehicle might encounter. Qualifications are described in response to question 1(e) above.

The training program includes knowledge and skill-based education, guided observation, simulations, hands-on practice, supervised time on the live tools, and evaluation by an experienced Remote Assistance Instructor for each level. Agents must demonstrate mastery through certification testing for each specific request type before handling live requests. In addition to training at the time of hire, agents also regularly attend recurrent training as part of continuous quality improvement efforts. Additionally, training material itself is regularly audited. Training includes academic-style lectures on ADS concepts and capabilities, shadowing operators, knowledge assessments, and multiple types of skills assessment including hands-on simulation training using playback of real recorded events.

Agent performance is measured through correctness and handling time. Team leads conduct monthly coaching sessions and use quality assurance sampled events to address knowledge gaps. Agents typically work staggered shifts and dedicated shifts (e.g., 5 AM–2 PM, 1 PM–10 PM, or 9 PM–6 AM).

Fatigue is managed through a Wellness & Resilience program that assesses cognitive overload and mental health as well as a system design that keeps interactions short, allowing agents to log out and take breaks easily as tasks are automatically reassigned. Agents are encouraged to log out and take a break if fatigued; the system immediately removes them from the work assignment pool until they reconnect. Waymo imposes instant decertification for mistakes and requires remedial training before the agent can return to live operations. Waymo also requires recertification training for all agents every six months.

### **Confidential Business Information and Data - Questions 1(c), 2, and 4**

Waymo is committed to safety and transparency, and we regularly share detailed safety performance data with the National Highway Traffic Safety Administration (NHTSA) and through our public Safety Impact Reports available at <https://waymo.com/safety/impact/>. Unlike some other reporting companies, Waymo does not redact or seek Confidential Business Information (CBI) protection over the narratives in our collision reports submitted to NHTSA. However, the specific information requested in Questions 1(c), 2, and 4, such as granular

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incident-level logs, internal operational manuals, operator-to-vehicle ratios, and specific system boundaries, constitutes CBI, and is not appropriate to share in a letter such as this one which may be published or shared without legal assurance of proper protections.

With respect to question 1(c), the specific data requested constitutes strategic operational metrics and trade secrets related to the performance of our ADS. Disclosing this information would provide competitors (both domestically and internationally) with deep insights into Waymo's internal engineering progress, operational scaling strategies, and customer service functions. Such a disclosure would cause significant and unfair competitive harm to Waymo's position in a highly contested global market.

Similarly, the documents and data points requested in questions 2 and 4 contain information on technical capabilities and limitations of our ADS, strategic operational metrics, and trade secrets related to the performance of the Waymo ADS. Disclosing this information would provide competitors with insights (both domestically and internationally) into Waymo's internal processes, operational scaling strategies, and specialized safety frameworks. Such a disclosure would cause significant and unfair competitive harm to Waymo's position in a highly contested global market as well as a national security risk.

Furthermore, our internal Standard Operating Procedures (SOPs) and fallback protocols reflect Waymo's unique knowledge and expertise, and are tailored to specifics of Waymo's operations. While we cannot provide the underlying proprietary documents or procedures, we can confirm that all Remote Assistance operations are governed by rigorous safety-first principles described in detail above.

Waymo remains willing to engage with your office about Waymo's ongoing and growing operations, quantifiable safety impact, and the limited, supporting role of Remote Assistance.

To discuss these matters, please contact Stefania Yanachkov, Senior Manager of Federal Policy, at [stefaniay@waymo.com](mailto:stefaniay@waymo.com).

Sincerely,

A handwritten signature in black ink, appearing to read "R McNamara", with a long horizontal line extending to the right.

Ryan McNamara

Vice President and Global Head of Operations, Waymo