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INFORMATION REDACTED PURSUANT TO THE FREEDOM OF INFORMATION ACT (FOIA), 5 U.S.C. 552(B)(6)

WAYMO

Waymo LLC
1600 Amphitheatre Pkwy
Mountain View, CA

July 9, 2024

Via U.S. DOT's SLFTS and Confidential Business Information Portal

Adam Raviv
Chief Counsel
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
West Building W41-227
Washington, D.C. 20590

Re: Waymo LLC – Request for Confidential Treatment; Waymo's second response to May 23, 2024 Office of Defects Investigation's Preliminary Evaluation Information Request ID PE24016-1

Dear Mr. Raviv:

This letter serves as the request by Waymo LLC ("Waymo") for confidential treatment of the enclosed documents, which are being submitted as a second response to the Agency's May 23, 2024, Information Request in the above-referenced investigation.

NHTSA has taken the position that electronic submissions, using email or secure File Transfer Protocol (FTP), is an acceptable method for submitting confidential business information.[1] In addition, NHTSA has taken the position that CBI Portal Pilot participants[2] may submit requests and files containing CBI to NHTSA's Office of the Chief Counsel via the Confidential Business Information Portal ("CBI Portal").[3] As instructed by the information request letter, Waymo will be (1) submitting this information via the CBI Portal, and (2) Waymo requested a secure file transfer link from NHTSA's Office of the Chief Counsel to electronically submit this information via the U.S. Department of Transportation's "Secure Large File Transfer Solution" ("SLFTS"). Because Waymo is submitting this information electronically, the request includes a single copy of the confidential files.

In accordance with 49 C.F.R. § 512.5, Waymo is submitting the files with the file names marked "CONFIDENTIAL BUS INFO" and their contents, where possible, marked "CONFIDENTIAL BUSINESS INFORMATION." The files contain or otherwise disclose highly

[1] https://www.nhtsa.gov/coronavirus/submission-confidential-business-information.
[2] Waymo LLC is currently a CBI Portal Pilot participant.
[3] https://www.nhtsa.gov/submit-confidential-business-info.

confidential information regarding, among other things, detailed descriptions of the technology and capabilities of Waymo's ADS; the resolution, quality, and range of images generated by Waymo's custom autonomous driving sensor suite; the field of view, dynamic range, and other performance capabilities and characteristics of cameras and images generated by cameras installed on Waymo vehicles, both individually and in combination; the field of view, dynamic range, and other performance capabilities and characteristics of lidars and point cloud images generated by lidars installed on Waymo vehicles, both individually and in combination; the graphical user interface and visualization methods and capabilities of internal tools used by Waymo to review driving data; the detection and classification capabilities of Waymo's perception systems; information about Waymo's trip planning and behavior prediction capabilities; information about autonomy states and fallback states, information about Waymo's proprietary high-resolution maps, and information about Waymo's data processing and classification capabilities.

The autonomous vehicle (AV) industry was kick-started by the Defense Advanced Research Projects Agency (DARPA) in their 2004 Grand Challenge, to accelerate the development of autonomous ground vehicles for use in the public sector. The seeds of Waymo's origin began with a team that participated in that 2004 Grand Challenge. However, 20 years later, commercially viable AV technology and the AV industry as a whole, is still at a very nascent stage. AV companies continue to face many challenges in advancing, scaling, and commercializing this technology – including developing software, hardware, and other technology that allow AVs to operate effectively and safely and are commercially viable; performing resource intensive gathering and annotating of data to train AVs to navigate a wide variety of road environments; and making deep investments in conducting extensive testing and research on AVs' real-world operations and customer and bystander experience. Waymo's cutting-edge technological research and development (R&D) efforts are supported by large software and hardware engineering teams, data collection and analytics teams, and safety and testing teams, and has been recognized by patent offices around the world, which have collectively granted Waymo 4700+ patents worldwide. The USPTO alone has cited Waymo patents and published patent applications as prior art against others in 3000+ instances.

These R&D efforts take many years and an enormous financial investment. The investment in Waymo's AV technology began when Google's founders convinced a Grand Challenge winning team -- the Stanford Racing Team -- to join Google and begin the Google self-driving car project in 2009; the project was spun-out of Google in 2016 as a separate company -- Waymo. Accordingly, Waymo's investment in AVs began 15 years ago, and has included truly significant amounts of research and development into safe and commercially viable AV products and services that attract and delight customers.

Waymo also has invested significant time and financial resources to maintain a competitive advantage over other manufacturers and service providers in the AV space. As a result, Waymo has been able to achieve many industry firsts. For example, in 2015, Waymo took a legally blind man on the world's first fully autonomous ride on public roads in Austin, Texas. Three years later, in 2018, Waymo was the first company in the world to offer an autonomous, customer-facing AV ride hailing service in the United States: the Waymo One™ ride hailing service in the Metro Phoenix area, including Chandler, Tempe, Mesa, and Gilbert, Arizona. In 2022, Waymo began offering fully autonomous rides in San Francisco, becoming the first company to offer fully autonomous ride-hailing services in more than one state. Since then, Waymo has expanded to offer fully autonomous paid rides in 2023 in San Francisco and in 2024 in Los Angeles. Waymo has also greatly expanded the Waymo One™ service to include 315 square miles of the greater Phoenix,

Arizona area, including downtown Phoenix and Phoenix's Sky Harbor International Airport.[4] We are also testing fully autonomous rides across 43 square miles of Austin, Texas, including downtown and Barton Hills. We plan to open the Waymo One service to members of the Austin public later this year.[5] Assembling the technological, driving and operational experience required to launch and grow our public service in Arizona, California and Texas have required an enormous amount of time, expertise and financial investment.

Waymo's program has spanned across multiple states and allowed it to broadly develop its AV operations, to iterate on its AV software and other features to safely and effectively respond to real-world roadway and environmental conditions, and to adapt its products and services (AV technology, fleet operations, ride-hailing app, to name a few) to address consumer and bystander expectations and experiences. Waymo's deep investment in and broad experience with developing, testing, and operating AVs has in turn allowed it to make significant progress over its competitors in developing and commercializing AV technology.

Because Waymo is a pioneer in the AV industry, domestic and foreign competitors closely scrutinize Waymo's activities. To protect these valuable investments, Waymo makes extensive efforts to maintain the confidentiality of the information described herein through executing and enforcing confidentiality agreements, access controls and restrictions to sensitive information, and physical restrictions[6] to maintain the confidentiality of this information.[7,8] In accordance with 49 C.F.R. § 512.4(b), Waymo has enclosed a Certificate in Support of Confidentiality.

As set forth below, Waymo requests confidential treatment for the enclosed materials on the ground that they contain trade secrets and/or confidential, proprietary information that is kept private or closely held by Waymo and would likely subject Waymo to substantial competitive harm if disclosed. *See* 49 C.F.R. § 512.3(c)(1) and (2); *Food Marketing Institute v. Argus Leader Media*, 139 S. Ct. 2356, 2364 (2019) (FOIA Exemption 4 protects information that "is customarily kept private, or at least closely held, by the person imparting it"); *Critical Mass. Energy Prof. v. Nuclear Regul. Comm'n*, 975 F.2d 871, 879 (D.C. Cir. 1992) (en banc) (information is confidential under Exemption 4 "if it is of a kind that would customarily not be released to the public by the person [or entity] from whom it was obtained); *Public Citizen Health Research Group v. FDA*, 704 F.3d 1280, 1288 (D.C. Cir. 1983) (a trade secret is a "secret, commercially valuable plan, formula, process or device that is used for the making, preparing, compounding, or processing of trade commodities and that can be said to be the end product of either innovation or substantial effort"); *Center for Auto Safety v. Nat'l Hwy. Traffic Safety Admin.*, 93 F. Supp. 2d 1, 16 (D.D.C. 2000), *remanded for further proceedings*, 244 F.3d 144 (D.C. Cir. 2001) (air bag specifications representing "years of research and development and enormous financial investment" not subject to FOIA disclosure); see also *Renewable Fuels Ass'n v. U.S. Envtl. Prot. Agency*, 519 F. Supp. 3d 1 (D.D.C. 2021) and *Naumes v. Dep't of the Army*, No. 21-1670, 2022 WL 17752206 (D.D.C. Dec. 19, 2022).

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[4] https://waymo.com/blog/2024/06/largest-autonomous-ride-hail-territory-in-us-now-even-larger/

[5] https://waymo.com/blog/2024/03/scaling-waymo-one-safely-across-four-cities-this-year/

[6] Physical restrictions include restricting physical work areas using security badges, guards, and other mechanisms to limit, control, and oversee physical access.

[7] Waymo has also successfully defended this type of information from public disclosure by state regulators. *See Waymo LLC v. Calif. Dept. of Motor Veh.,* Case No. 34-2022-80003805 (Super. Ct. Sacramento).

[8] Waymo has pursued civil litigation to secure its confidential information. *See Waymo LLC v. Uber Technologies, Inc. et al, N.D. Cal. 3:17-cv-00939.*

Release of the enclosed information would permit competitors to learn more about Waymo's closely held information regarding its AV testing, operations, and technologies, and to thereby advance their own competing AV programs, products and services without incurring the substantial investment and time that would otherwise be required. Thus, substantial competitive harm to Waymo is a reasonably foreseeable consequence of public disclosure.

Specifically, Waymo requests confidential treatment for the information provided in the following files, all of which (as described above) is treated by Waymo as highly confidential:

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_SVC_F_5.mp4**
    - This file contains video of data captured from Waymo's custom-designed camera system. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's cameras and data processing systems. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.
- **CONFIDENTIAL BUS INFO_PE24016-1_R2_BP_8.mp4**
    - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of processed lidar data generated by Waymo's ADS, the Waymo ADS's planned trajectory, selected perception objects, the predicted trajectories of relevant road users, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were

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acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_ADS_27f.mp4**

  - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of processed lidar data generated by Waymo's ADS, the Waymo ADS's planned trajectory, selected perception objects, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's

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- **CONFIDENTIAL BUS INFO_PE24016-1_R2_ADS_28.mp4**

  - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of processed lidar data generated by Waymo's ADS, the Waymo ADS's planned trajectory, selected perception objects, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_BP_28.mp4**

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classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_ADS_29.mp4**

    - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of the Waymo ADS's planned trajectory, selected perception objects, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera system, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_BP_29.mp4**

    - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of the Waymo ADS's planned trajectory, selected perception objects, the predicted trajectories of relevant road users, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which

Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera system, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_PE24016-1_R2_ADS_30.mp4**

  - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of processed lidar data generated by Waymo's ADS, the Waymo ADS's planned trajectory, selected perception objects, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities, information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

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- **CONFIDENTIAL BUS INFO_PE24016-1_R2_ADS_31.mp4**

  - This file contains a video with a composite rendering of data captured from Waymo's custom-designed sensing and perception system, including a graphical representation of the scene that, among other information, presents graphical representations of processed lidar data generated by Waymo's ADS, the Waymo ADS's planned trajectory, selected perception objects, and information about the subject Waymo AV's velocity and acceleration. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into the performance and technical capabilities of Waymo's camera and lidar systems, Waymo's data processing and classification capabilities, Waymo's graphical user interface and visualization methods, the technical capabilities of internal tools used by Waymo to review driving data, the detection and classification capabilities of Waymo's perception systems, information about Waymo's trip planning and behavior prediction capabilities,

information about autonomy and fallback states, information about Waymo's proprietary high-resolution maps, and the evolution of a portion of the above over time. This in turn will allow competitors to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

- **CONFIDENTIAL BUS INFO_Waymo's 2nd response to NHTSA Information Request (PE24016-1).pdf**

  - This file contains information associated with Waymo's business and technical capabilities. Disclosure of this information, which contains details which Waymo keeps confidential, both individually and in conjunction with the other information provided in this response, would provide competitors and others who can obtain economic value from the disclosure or use of the information with valuable insight into how Waymo classifies events, and Waymo's technical and data processing capabilities. This, in turn, could inform competitors' decisions about their own resource allocation and the development of their business operations, thereby allowing them to adapt their own strategies and decisions based on Waymo's confidential business and technical strategies, all of which were developed by Waymo through considerable investment of time, money, expertise and effort. Therefore, disclosure of this information would harm Waymo by allowing Waymo's competitors to benefit tremendously off of Waymo's substantial investments.

The information identified above, both individually and collectively, represents many years of extensive R&D work and financial investment. All of this valuable, commercial information is "customarily kept private" and "closely held"[9] by Waymo using a multi-layered approach to protection noted above. As the Agency is aware, the transportation industry is highly competitive and companies closely guard against public disclosure of information pertaining to AV technology, research and development. Domestic and foreign companies and governments have invested billions of dollars and countless years into developing AV technologies. As described above, disclosure of the enclosed information would permit Waymo's competitors and others who can obtain economic value from the disclosure or use of the information to take advantage of its extensive R&D efforts and investment for their own benefit, and to Waymo's detriment. What took Waymo 15 years and significant amounts of money to develop could be used by others domestically and internationally to develop and improve their own products and services more quickly and at a fraction of the expense. Accordingly, Waymo requests that this information be granted confidential treatment for an indefinite period of time.

Please contact me if you have any questions or need additional information.

[9] *See Food Marketing Institute v. Argus leader Media, supra.*

Sincerely,

[redacted]

Amar Mehta
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