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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* DMITRI YUDANOV

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Appeal 2019-000213  
Application 15/486,080  
Technology Center 2600

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Before ERIC S. FRAHM, JAMES W. DEJMEK, and  
STEPHEN E. BELISLE, *Administrative Patent Judges*.

BELISLE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1–20. App. Br. 3. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> Throughout this Decision, we use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42 (2017). Appellant identifies the real party in interest as Advanced Micro Devices, Inc. App. Br. 1.

STATEMENT OF THE CASE

*The Claimed Invention*

Appellant’s invention generally relates to a traffic management system with an intelligent traffic signal (“ITS”) for managing traffic flow at an intersection.” Spec. ¶ 8.

According to the Specification, the “[ITS] is operable to periodically acquire positions and speeds of one or more vehicles traveling toward the intersection. *Id.* The ITS “compute[s] a recommended speed for the one or more vehicles to transit the intersection without stopping based on the positions and speeds and a time to red or a time to green of the [ITS].” *Id.* The ITS “transmit[s] the recommended speed to the one or more vehicles,” which have “a receiver to receive, and a device to convey, the recommended speeds to the one or more vehicles.” *Id.*

According to the Specification, “[a] technical aim is to provide multiple vehicles the capability to transit an intersection without stopping” (*id.* ¶ 11), which reduces certain costs associated with vehicles repeatedly accelerating and decelerating in and around intersections, such as fuel consumption and tire and brake wear (*id.* ¶ 7).

Claim 1, reproduced below, is illustrative of the subject matter on appeal:

1. A traffic management system, comprising:  
an intelligent traffic signal for managing traffic flow at an intersection, the intelligent traffic signal being operable to periodically acquire positions and speeds of one or more vehicles traveling toward the intersection, to compute a recommended speed for the one or more vehicles to transit the intersection without stopping based on the positions and speeds and a time to red or a time to green of the intelligent traffic signal, and transmit the recommended speed to the one or more vehicles; and

one or more vehicles having a receiver to receive and a device to convey the recommended speeds to the one or more vehicles.

App. Br. 23 (Claims Appendix).

*The Applied References*

The Examiner relies on the following references as evidence of unpatentability of the claims on appeal:

Publicover	US 2008/0012726 A1	Jan. 17, 2008
Daniel	US 2014/0063196 A1	Mar. 6, 2014
Lee	US 2014/0118168 A1	May 1, 2014

*The Examiner's Rejections*

The Examiner made the following rejections of the claims on appeal:

Claims 1–9 and 11–20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Daniel and Publicover. Final Act. 2–6.

Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over Daniel, Publicover, and Lee. Final Act. 6–7.

ANALYSIS<sup>2</sup>

Appellant disputes the Examiner's findings that various combinations of Daniel, Publicover, and Lee render obvious claims 1–20. App. Br. 14–21; Reply Br. 2–5. Appellant argues all appealed claims, except claim 8, as a group, and separately argues claim 8. *See* App. Br. 14–21. Thus, for purposes of our analysis, we select independent claim 1 and dependent

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<sup>2</sup> Throughout this Decision, we have considered Appellant's Appeal Brief filed June 15, 2018 ("App. Br."); Appellant's Reply Brief filed October 3, 2018 ("Reply Br."); the Examiner's Answer mailed August 9, 2018 ("Ans."); the Final Office Action mailed January 17, 2018 ("Final Act."); and Appellant's Specification filed April 12, 2017 ("Spec.").

claim 8 as the representative claims, and any claim not argued separately will stand or fall with our analysis of the rejection of claims 1 and 8.

*See* 37 C.F.R. § 41.37(c)(1)(iv). We turn to the teachings of Daniel and Publicover.

Daniel generally relates to “a comprehensive and intelligent traffic and emergency services management system.” Daniel ¶ 15. In particular, Daniel discloses:

a plurality of location determination means positioned on or near traffic signals and vehicles, which are used to determine the relative speed and position of vehicles from traffic signals, and inform drivers as to whether or not they should proceed through an intersection given the time until a traffic signal turns red and the position and speed of a vehicle.

*Id.* ¶ 6. Daniel also discloses “a first location determination means electronically connected to [a] processor, positioned on or near a traffic signal at an intersection,” and that the processor is programmed “to determine how long it will take [a] first vehicle to reach the intersection, [and] display a count-down until the traffic signal shows a red light . . . on [a] first display means,” “positioned within the first vehicle . . . and visible to a driver.” *See id.* ¶ 15.

Similarly, Publicover generally relates to a smart traffic control device (“TCD”) (e.g., a smart traffic light) that “transmits information to approaching vehicles regarding its current and future state enabling vehicles to control their speed to avoid arriving at the traffic control device until it permits the passage of traffic, thus avoiding stopping, idling and reaccelerating when reaching the traffic control device.” Publicover, Abstract. In particular, Publicover discloses “[a] vehicle has a receiving device to collect signals from the TCD, the receiving device being operative

to ascertain the vehicles position with respect to the TCD and determine a preferred rate of speed so as to arrive at the TCD while it is in the ‘green’ state, thus avoiding the deceleration, waiting at the TCD and acceleration to driving speed.” *Id.* ¶ 30. Publicover also discloses various types of notifications of such information to drivers, including “visual stimuli in graphical, digital, analog, numerical, or color-coded displays, *audio stimuli in the form of voice or tones*, or touch stimuli in the form of vibration or motion.” *Id.* ¶ 67 (emphasis added).

*Claims 1–7 and 9–20*

Appellant argues neither Daniel nor Publicover discloses:

the intelligent traffic signal being operable to . . . compute a recommended speed for the one or more vehicles to transit the intersection without stopping based on the positions and speeds and a time to red or a time to green of the intelligent traffic signal, and transmit the recommended speed to the one or more vehicles.

App. Br. 14–15. Appellant concludes, “therefore the combination of Daniel and Publicover does not disclose all the limitations of claims 1-9 and 11-20.”

*Id.* at 15. According to Appellant, “[t]he reason that Publicover fails to disclose the missing limitations is that in Publicover, the device 115 that communicates a recommended speed to a vehicle’s driver is in the vehicle, not in the traffic light (TCD).” *Id.* (emphasis added); *see* Reply Br. 2–4.

We find Appellant’s argument unpersuasive, particularly as the argument ignores the teachings of Daniel and Publicover *in combination*, as discussed below. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)

(“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”) (citing *In re Keller*, 642 F.2d 413, 425–26 (CCPA 1981)).

The Examiner finds Daniel discloses all of the limitations recited in independent claim 1, except for the feature of “computing and transmitting the recommended speed.” Ans. 5. In relevant part, the Examiner finds Daniel discloses “an intelligent traffic signal for managing traffic flow at an intersection” that is operable to compute “whether the one or more vehicles should or should not proceed with the intersection based on the positions and speeds and a time to red or a time to green of the intelligent traffic signal,” and “[to] transmit whether the one or more vehicles should or should not proceed with the intersection.” *Id.* at 4–5 (citing Daniel ¶¶ 6, 15, 19, 29, 34, Fig. 1b). The Examiner also finds Daniel discloses “one or more vehicles having a receiver to receive and a device to convey the information about whether the vehicle should proceed with the intersection or not to the one or more vehicles.” *Id.* at 5. In short, the Examiner finds Daniel discloses “computing *data* ‘at a computing device at the intelligent traffic signal’ for the one or more vehicles to transit the intersection without stopping” based on the same parameters as recited in claim 1, and “transmit[ting] [and conveying] the computed *data* to the one or more vehicles.” *Id.* (emphasis added). The Examiner turns to Publicover only “to show that it was well known in the art of traffic management to compute and convey *recommended speed* for vehicles.” *Id.* The Examiner finds Daniel in view of this teaching in Publicover renders obvious claim 1, and specifically the above-noted limitation contested by Appellant. We agree, and adopt as our own these findings of the Examiner.

Appellant does not meaningfully address the Examiner’s rejection as outlined above (and set forth in the Answer and Final Action), but rather argues, in Publicover, “the device . . . that communicates a recommended

speed to a vehicle's driver is in the vehicle, not in the traffic light (TCD).” App. Br. 15. But, as a preliminary matter, this argument concedes the Examiner's point—Publicover teaches “communicat[ing] a recommended speed to a vehicle's driver.” See Ans. 4–5. As discussed above and contrary to Appellant's argument here, the Examiner relies on *Daniel*, not Publicover, for teaching a device that computes and conveys data to vehicles based on the same parameters as recited in claim 1. The Examiner finds, and we agree, the combination of Daniel and Publicover teaches not only computing and conveying data as in Daniels, but computing and conveying to vehicles data concerning recommended speeds. Based on the foregoing, we find Appellant has not persuasively shown that the Examiner erred in finding Daniel and Publicover render obvious claim 1.

Accordingly, we sustain the Examiner's rejection under 35 U.S.C. § 103 of independent claim 1. For similar reasons, we sustain the Examiner's rejection under 35 U.S.C. § 103 of claims 2–7 and 9–20, which depend therefrom and were not argued separately.

#### *Claim 8*

As for remaining dependent claim 8, Appellant characterizes the Examiner's position, and “points out” the disclosure in Publicover, but does not otherwise set forth a clear argument for the separate patentability of claim 8. See App. Br. 19.

Claim 8 broadly recites “the device comprises an audio output system.” In independent claim 1, a vehicle has “a device to convey the recommended speeds to the one or more vehicles.” So, claim 8 requires that the vehicle device conveying recommended speeds have an audio output system. The Examiner cites Publicover “to show that it was well known in

the art of devices to include a device that comprises an audio output system,” and “for disclosing known types of notifications such as “audio stimuli in the form of voice or tones.” Ans. 6 (citing Publicover ¶ 67).

We agree with the Examiner, and find Appellant has not persuasively shown that the Examiner erred in finding Daniel and Publicover render obvious claim 8.

Accordingly, we sustain the Examiner’s rejection under 35 U.S.C. § 103 of dependent claim 8.

#### DECISION SUMMARY

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–9, 11–20	103	Daniel, Publicover	1–9, 11–20	
10	103	Daniel, Publicover, Lee	10	
<b>Overall Outcome</b>			1–20	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

*See* 37 C.F.R. § 41.50(f).

**AFFIRMED**