

March 31, 2021

James C. Owens  
Deputy Administrator  
National Highway Traffic Safety Administration  
M-30, U.S. Department of Transportation, West Building  
Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590

Re: Docket No. NHTSA-2020-0106

Dear Deputy Administrator Owens,

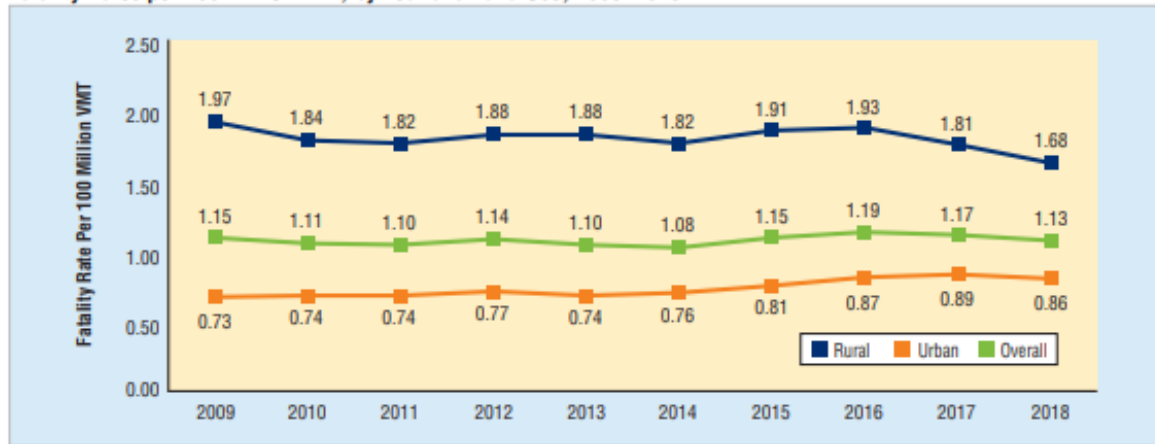
Thank you for the opportunity to comment on the National Highway Traffic Safety Administration (NHTSA)'s proposed Framework for Automated Driving System (ADS) Safety (Docket No. NHTSA-2020-0106). My name is Stephen Soko, and I am a third-year law student at the University of Iowa College of Law. I have spent most of my life in Iowa, driving two old trucks through rural roads. Currently, I am enrolled in a class titled Transportation Law taught by Professor Greg Shill which analyzes the intersection of law, economics, urban planning, history, and sociology in transportation policy. This comment will respond to your questions with information from cited sources to advocate for an ADS safety framework which fully appreciates and accounts for rural roads and rural communities.

**Question 1. Describe your conception of a Federal safety framework for ADS that encompasses the process and engineering measures described in this document and explain your rationale for its design.**

My conception of a federal safety framework would be one that includes rural roads and rural communities and accounts for their differences with urban roads. This framework should include considerations for rural road characteristics, rural road users, and rural cellular infrastructure.

Why should the framework consider rural roads and communities? In 2018, 45% of the traffic fatalities occurred in rural areas.<sup>1</sup> However, only 30% of all total vehicle miles were traveled in rural areas, and only 19% of the U.S. population lives in rural areas.<sup>2</sup> This has occurred while: (1) there are less alcohol-impaired fatalities in rural areas as opposed to urban (4,714 to 5,649, respectively);<sup>3</sup> (2) rural occupants had a higher seat-belt use rate than urban occupants (90.1% to 89.4%, respectively);<sup>4</sup> and (3) speeding-related fatalities occurred “in almost equal proportions” in rural and urban areas (26% to 25%, respectively).<sup>5</sup>

Figure 2  
**Fatality Rates per 100 Million VMT, by Year and Land Use, 2009–2018**



Sources: FARS 2009–2017 Final File, 2018 ARF; VMT – FHWA

Source: NHTSA, *supra* note 1.

From 2009 to 2018, 177,930 families lost a father, mother, daughter, son, or grandparent to a violent crash on a rural road.<sup>6</sup> For comparisons sake, it would be as if the entire population

<sup>1</sup> *Rural/Urban Comparison of Traffic Fatalities*, Traffic Safety Facts, NHTSA (May 2020) <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812957#:~:text=However%2C%20rural%20areas%20accounted%20for,all%20traffic%20fatalities%20in%202018.&text=from%2019%2C323%20in%202009%20to,2009%20to%2019%2C498%20in%202018.&text=in%20rural%20areas%20than%20in,1.68%20and%200.86%2C%20respectively.>

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

of Salem, Oregon died a sudden, violent death, leaving a ghost-town.<sup>7</sup> Thus, it is very clear — just as the fatalities do not discriminate, neither should the ADS framework.

Where are these rural crashes happening? Contrary to common belief, only fourteen percent (14%) of crashes in rural areas are on interstates or highways.<sup>8</sup> Rather, twenty percent (20%) are on local roads, forty-two percent (42%) are on collector roads, and twenty-four percent (24%) are on arterial roads.<sup>9</sup> These crashes are closer to rural communities and on less-developed roads than provided by the interstate system.

Rural roads are much different than urban roads. Rural roads often have rough and loose road surfaces, such as gravel and dirt.<sup>10</sup> These roads often have limited road markings and infrequent road maintenance, including potholes, limited snow removal, and poor drainage.<sup>11</sup> The roads have limited shoulders, narrow lanes, sharp curves, dead ends, and steep hills.<sup>12</sup> Finally, the roads have fewer traffic signs which are often faded or hidden and unmarked intersections (including railroad crossings).<sup>13</sup> All of these differences should be accounted for in the ADS framework or else rural communities, which are already disproportionality impacted by traffic fatalities, could be hit even harder.

---

<sup>7</sup> *The 200 Largest cities in the United States by Population 2021*, World Population Review (accessed March 11, 2021 at 3:23 PM) <https://worldpopulationreview.com/us-cities>.

<sup>8</sup> *Fatality Facts 2019*, Urban Rural Comparison, INSURANCE INSTITUTE FOR HIGHWAY SAFETY (March 2021) <https://www.iihs.org/topics/fatality-statistics/detail/urban-rural-comparison#where-crashes-occur>

<sup>9</sup> *Id.*

<sup>10</sup> *Rural Road Crashes, They're Preventable!*, IOWA DEPARTMENT OF TRANSPORTATION (IDOT) (accessed March 11, 2021 at 5:37 PM) [https://iowadot.gov/mvd/resources/rural\\_discussion\\_guide.pdf?did=361](https://iowadot.gov/mvd/resources/rural_discussion_guide.pdf?did=361)

<sup>11</sup> *Id.*

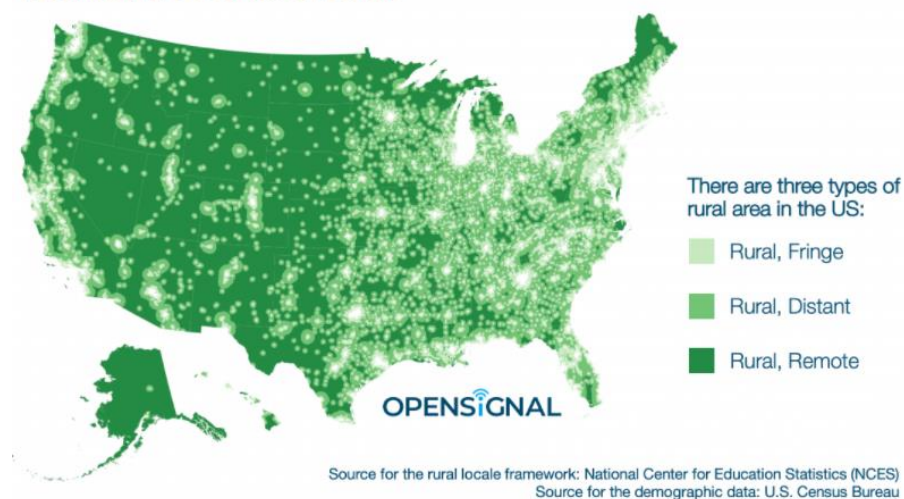
<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

Rural roads are shared by users that are uncommon in urban areas. Non-traditional vehicles, such as slow-moving farm equipment, working ATVs, buggies, and over-sized vehicles frequent rural roads.<sup>14</sup> Domestic and wild animals can be found using rural roads, such as horses for travel, livestock being transported, deer and other wildlife.<sup>15</sup> Finally, rural roads often lack sidewalks and bike lanes, so pedestrians and bicyclists share the road. Therefore, it is imperative that the ADS framework accounts for the different types of rural users or else more crashes and deaths will happen.

Rural areas are generally more remote. This means that rural areas have worse wireless cellular infrastructure which impacts mapping devices and cellular communication.<sup>16</sup> The ADS framework should ensure that ADS technology can be effective in remote areas, or else rural users will be subject to more crashes and more deaths.

Rural areas cover 97 percent of the US land area, and contain 19.3 percent of the population (about 60 million people)



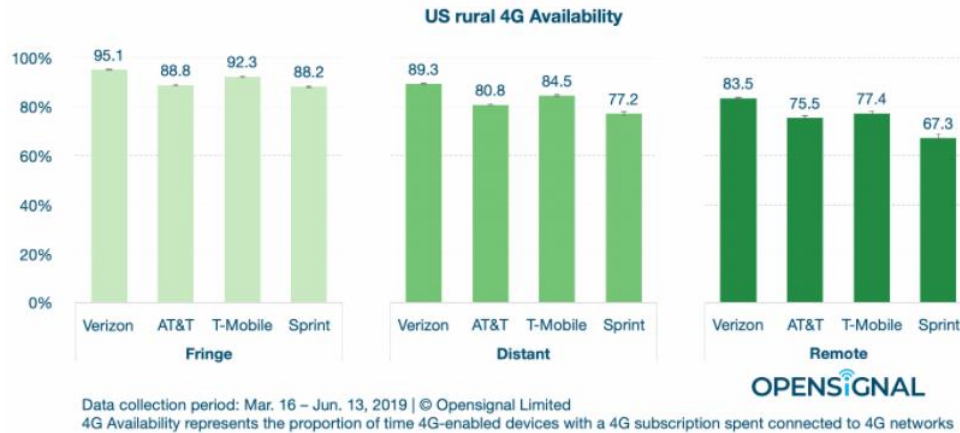
Source: Open Signal, *supra* note 9.

---

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> See Francesco Rizzato, *Mobile Experience in Rural USA - An Operator Comparison*, OPEN SIGNAL, (September 24, 2019) <https://www.opensignal.com/2019/09/24/mobile-experience-in-rural-usa-an-operator-comparison>



Source: Open Signal, *supra* note 9.

It is important that the ADS framework accounts for rural roads, users, and cellular infrastructure to prevent crashes because, when crashes occur, they can be dangerous for rural users. The less-available help and unique dangers of rural roads make rural crashes dangerous. Rural roads are farther from healthcare facilities and are less frequented by other motorists who can call for help (assuming that the phone has service in the first place).<sup>17</sup> On rural roads, there are often no guardrails and roadside hazards which can endanger motorists, such as deep ditches, utility poles, tall crops, trees, and bodies of water.<sup>18</sup> Thus, it is important that the ADS framework accounts for rural roads or else more crashes will happen and more lives will be lost.

Considering the cost of human life and the unique characteristics of rural roads, rural users, rural cellular infrastructure, and rural crashes, an ADS federal safety framework should equally account for rural roads as it does for urban roads.

**Question 2. In consideration of optimum use of NHTSA’s resources, on which aspects of a manufacturer’s comprehensive demonstration of the safety of its ADS should the Agency place a priority and focus its monitoring and safety oversight efforts and why?**

<sup>17</sup> *Rural vs. Urban Roads - Which are Riskier?*, LYTX (accessed March 11, 2021 at 5:57 PM) <https://resources.lytx.com/blog/rural-vs-urban-roads-which-are-riskier#:~:text=Higher%20speeds.,speed%20limits%2C%E2%80%9D%20Kolosh%20said.>

<sup>18</sup> Iowa DOT, *supra* note 10.

The Agency should regulate how ADS functions in rural communities by establishing safety thresholds for rural roads that are equal to urban roads and requiring testing in various rural locations across the United States. The framework should ensure that automated driving systems are equally safe in rural communities as it is in urban communities. When considering an optimum use of NHTSA’s resources, two reasons support this recommendation.

First, and most importantly, more people will die in crashes if the ADS framework neglects rural characteristics. As mentioned, despite less miles traveled on rural roads (30%) and significantly smaller rural population (19%), rural fatalities are almost half (45%) of all traffic deaths.<sup>19</sup> This is despite rural areas having lower or equal levels rates of alcohol fatalities, speeding fatalities, and lack-of seat-belt use.<sup>20</sup> In order to minimize crashes, the framework should account for less-developed rural roads, the various non-traditional rural users, and the lack of cellular infrastructure in rural locations.<sup>21</sup>

Second, when considering the use of resources, NHTSA should consider the social costs and potential backlash to ADS if rural communities are neglected. Rural states (which are considered to have “disproportionate” federal legislative power,<sup>22</sup> transport most of America’s freight,<sup>23</sup> and are generally blue-collar communities with large trucker populations) may become more averse or resistant to ADS. Thus, in order to promote public opinion and the proliferation

---

<sup>19</sup> See *supra* note 1 and accompanying discussion on page 2.

<sup>20</sup> *Id.*

<sup>21</sup> See discussion on pages 3–5.

<sup>22</sup> Emily Badger, *As American as Apple Pie? The Rural Vote’s Disproportionate Slice of Power*, NY TIMES (November 11, 2016) <https://www.nytimes.com/2016/11/21/upshot/as-american-as-apple-pie-the-rural-votes-disproportionate-slice-of-power.html>

<sup>23</sup> *The Challenges and Opportunities of Improving a Critical Link of the Agriculture Supply Chain*, FARM BUREAU (May 18, 2020) <https://www.fb.org/market-intel/the-challenges-and-opportunities-of-improving-a-critical-link-of-the-agricu>. “Rural roads and bridges are a critical link in our nation’s food supply chain.” *Id.*

of ADS, NHTSA should ensure that rural communities are not adversely impacted compared to their urban counterparts.

**Question 6. Do you agree or disagree with the core elements (i.e., “sensing,” “perception,” “planning” and “control”) described in this document? Please explain why.**

I agree with the core elements described in this document. I will provide examples of each in the rural context to show how these core elements are applicable and different.

“Sensing” may need to be amplified in rural environments to account for poor visibility and dust, wild animals, or roads with sharper curves and steeper hills.<sup>24</sup>

“Perception” would require a broader understanding on rural users. For example, an ADS would have to be able to perceive livestock and farm equipment on the road.<sup>25</sup>

“Planning” in a rural environment may require an ADS system to be able to adapt to poor wireless connection and limited signage in more remote areas.<sup>26</sup>

“Control” is different on a rural road as compared to an urban road. For example, a car has to stop earlier on a gravel road as compared to paved road.<sup>27</sup>

Thank you for this opportunity to comment. I look forward to when ADS systems are part of our daily public life, regardless if you’re in New York City or a rural town in Iowa.

Sincerely,

Stephen Soko

---

<sup>24</sup> See discussion on

<sup>25</sup> See discussion on page 4.

<sup>26</sup> See discussion on pages 4 and 5.

<sup>27</sup> See discussion on page 3.