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"Where Are We?: Examining Positioning, Navigation, and Timing Capabilities in the United States."

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Chairman Hudson, Ranking Member Matsui, thank you for inviting me here today to speak on the important topic of the current state and evolution of positioning, navigation and timing ("PNT") systems. By far, the most commonly relied upon PNT system is the United States Global Positioning System – known to most people as "GPS." GPS ranks beside the internet as one of the most important contributions of the United States to the world in the 20th Century. Born of government investment and military necessity, the United States literally changed the world when with completion of the system in 1993, it made GPS available, for free, for civilian use. In the approximately 35 years since GPS became available to the public, it has saved countless lives and created over a trillion dollars in value.[1] Both the timing function and the positioning function have become essential to a diverse range of industries, from maritime navigation to mobile telephony.

As time has gone on, the need for more precise geolocation for public safety and other purposes has exceeded the capabilities of GPS. Additionally, as with any critical system, it has become the target of malicious actors. Because GPS relies on relatively weak satellite signals on known frequencies, it is easy to jam with drones or other emitters. Since it was built before cybersecurity became a concern, it is easy to generate false signals devices mistake for authentic GPS signals (spoofing). Both the Ukrainian and Iranian theaters of conflict have provided evidence of jamming and spoofing as common techniques to disrupt military operations.[2] In a dramatic demonstration of this tactic, Russia recently jammed the GPS capabilities of the RAF

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[1] O'Connor, et al., *Economic Benefits of the Global Positioning System (GPS)*, RTI Report Number 0215471, Sponsored by the National Institute of Standards and Technology (June 2019), available at https://www.nist.gov/system/files/documents/2020/02/06/gps_finalreport618.pdf

[2] Katie Hunt, "GPS Jamming is Emerging as an Increasingly Prevalent – and Troubling – Weapon of War," CNN (March 6, 2026) https://www.cnn.com/2026/03/06/science/gps-jamming-ships-planes-iran-war

jet carrying U.K. Defense Minister John Healey as he returned from a visit to the Baltic country of Estonia.[3]

The aircraft was still able to continue safely using non-GPS navigation and aviation systems, illustrating that alternative systems can supplement GPS in some contexts. But none of these alternatives, however, is as ubiquitous as GPS. The Federal Communications Commission has opened a proceeding to develop information on the current state of PNT technology and the availability of supplements to, and potential replacements for, the existing legacy GPS system.[4] To assist the FCC, The National Telecommunications and Information Administration has compiled a list of a wide range of PNT systems available in the marketplace.[5] Additionally, the military has initiated the GPS III Block III to improve the functioning of GPS.[6]

While many consider PNT a matter of engineering, I want to focus in this testimony on the important public interest concerns that arise from the current state of PNT. First, the ubiquity of GPS and the widespread reliance on the existing system mean that the United States cannot simply walk away from the current GPS system, or dramatically change the terms of access for any successor system. Any phase out of existing, legacy GPS must be carefully planned and executed over a long period of time. Additionally, the United States should continue to ensure provision of a basic tier of PNT for free to the general public. To move to a system where reliable PNT is only available at commercial rates would destroy much of the existing value of PNT, and put lives at risk.

Furthermore, while the marketplace can provide many useful supplements for PNT, only the U.S. can ensure the global, ubiquitous coverage that the current GPS system provides. This does not mean that the U.S. government must operate a global PNT system itself (although Public Knowledge believes this is probably the best course). But if it does not, the U.S. must ensure – through either subsidy or regulation – that a reliable PNT system with global coverage continues to exist as a public good. As the FCC docket reveals, many of the proposed or existing terrestrial PNT supplements focus primarily on coverage of the United States. Satellite systems cover maritime and international areas, but do not as yet have the ubiquity of GPS.

Second, it is not too early to begin planning for privacy by design and other means of enhancing privacy in next generation PNT. While no one can deny the benefits of free GPS, it has also created a crisis of privacy where location tracking – without consent or even awareness

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[3] Rory McKeown, "Russia 'Behind GPS Jamming Attack on RAF Jet,' MSN.com (May 25, 2026) https://www.msn.com/en-us/news/world/russia-behind-gps-jamming-attack-on-raf-jet-carrying-uk-defence-secretary/ar-AA23ZopM

[4] *In re Promoting the Development of Positioning, Navigation and Timing Technologies and Solutions*, Notice of Inquiry, WT Docket No. 254-110 40 FCC Rcd 2641 (adopted March 27, 2025) ("FCC PNT NOI").

[5] Letter of David Brodian, Chief Counsel, National Telecommunications Information Administration, to Marlene Dortch, Secretary, Federal Communications Commission, Docket No. 25-110 (filed May 27, 2025)

[6] Wikipedia, "GPS Block III," https://en.wikipedia.org/wiki/GPS_Block_III

– has become ubiquitous. Policy should encourage consideration of privacy at this early stage so that it can become "baked in" as next-generation PNT evolves.

Finally, I will address below two proposed private sector PNT alternatives represented at this hearing – NextNav's proposal for a terrestrial 5G PNT system situated in the 900 MHz band, and the PNT capabilities of ATSC 3.0. Both of these proposals share a common trait in requiring the FCC to take affirmative steps to make these technologies viable rather than simply building on existing available technologies, which may or may not require approval. NextNav requires both an enormous expansion of its spectrum access rights (what it calls a "spectrum swap"), changes in the rules currently governing the use of its licenses, and elimination of the long-standing FCC rule prohibiting destructive interference to unlicensed operations in the band.[7] Broadcasters have petitioned the FCC for a mandatory cut off date for existing DTV signals (ATSC 1.0) to force a transition to ATSC 3.0.

Public Knowledge, like virtually every other participant in the FCC's PNT docket, opposes the NextNav proposal.[8] As discussed below, the NextNav proposal would do incredible damage to a wide range of commercial operations, public safety systems and federal users, both in the proposed use band and in surrounding bands, by creating destructive interference to Part 15[9] unlicensed devices and neighboring licensed devices. It also would require years to develop the necessary 5G standards, and then more time to bring NextNav ready devices to market – assuming they are developed at all. Nor does NextNav offer any public interest obligations in exchange for expanded use of the public airwaves. In short, NextNav relies on an unproven technology that will likely cause widespread interference with multiple critical systems and billions of dollars in investment built on existing FCC rules, while receiving a public windfall in the form of billions of dollars worth of free spectrum rights. Nor would NextNav provide universal coverage, as it is a 5G system and would rely on existing wireless tower distribution. To use an old expression, this juice is not worth the squeeze.

The case of ATSC 3.0 is somewhat different. As the FCC's proceeding on the ATSC 3.0 transition has demonstrated, the transition from ATSC 1.0 to 3.0 raises important questions – such as the cost of the transition to consumers for new televisions – that remain unresolved. The PNT functions of ATSC 3.0 will potentially provide a useful service as the ATSC 3.0 transition moves forward. However, the value of ATSC 3.0's PNT service does not justify accelerating the

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[7] *See* NextNav Petition for Rulemaking, Enabling Next-Generation Terrestrial Positioning, Navigation, and Timing and 5G: A Plan for the Lower 900 MHz Band (902-928 MHz) (filed April 16, 2024); Letter of Robert Lantz, General Counsel, NextNav, Inc. to Marlene Dortch, Secretary, FCC, Re: Rules Supplement to NextNav Petition for Rulemaking (filed June 7, 2024). Available in WT Docket No.24-240.

[8] *See In re Promoting the Development of Positioning, Navigation and Timing Technologies and Solutions*, Notice of Inquiry, WT Docket No. 254-110 , Comments of Open Technology Institute at New America and Public Knowledge (filed April 28, 2026) ("OTI/PK Comments").

[9] Part 15 devices are devices authorized by the FCC under Part 15 of its rules (47 C.F.R. 15.1 *et seq*) that operate on unlicensed frequencies. In the 900 MHz band, Part 15 unlicensed devices operate in the 902-928 MHz band.

ATSC 3.0 conversion process until the questions raised in the ATSC 3.0 proceeding[10] are resolved.

I. PNT IN THE PUBLIC INTEREST.

Throughout our Nation's history, our government has assumed responsibilities to "provide for the common defense, promote the general welfare, and secure the blessings of liberty for ourselves and our posterity"[11] by creating public goods.[12] Once the government has assumed this responsibility, it assumes the further responsibility to manage this new "public good" in a responsible manner. The Federal highway system provides an excellent example. Although nothing legally requires the government to continue to maintain and expand our system of roads on which commerce depends, everyone agrees declaring the national highway project over and turning it over to the private sector would be a disaster for our economy and way of life.

Similarly, although no law or obligation formally requires the Federal government to maintain a public PNT system, it has become such a critical part of public safety and commerce that the failure to properly maintain and improve publicly accessible PNT would have dramatic impacts. GPS is used in all sectors of the economy, even though the general public sees only a handful of applications through our cell phones. Few people understand that GPS provides not simply location data for mapping apps, but timing for functioning cell phone towers. Agriculture, electricity, finance, mining, maritime shipping, emergency responders, all these sectors and more rely on the open and free availability of GPS.

At the same time, it is important to understand that while virtually everyone is dependent on GPS, few people access it directly. Rather, the relationship is similar to the relationship between unlicensed spectrum and Wi-Fi. The FCC permitted access to spectrum on an unlicensed basis. Private sector providers, in turn, found ways to utilize this resource for the creation of ubiquitous services such as Wi-Fi, RFID tags, smart meters, and countless other devices. As with public access to unlicensed spectrum, the private sector transmutes the public good into something that everyone can use and rely on.

When considering the future of PNT, therefore, Congress, the FCC and federal agencies must take this ongoing responsibility into account. The Federal government cannot simply walk away from GPS, or ignore the rise of jamming and spoofing. In its comments to the FCC in the ongoing proceeding on next generation PNT,[13] Public Knowledge urged the FCC:

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[10] *See generally In re Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard*, GN Docket No. 16-142.

[11] U.S. Constitution, Preamble.

[12] A "public good" is a product or service, generally provided by government, available to everyone without any one person's use diminishing the availability to everyone else. Lighthouses built by government to aid navigation are the classic example of a public good.

[13] FCC PNT NOI *supra* n.4

> Knowing these critical benefits to the public, the Commission must prioritize PNT technologies that strive to provide free access to critical services to the public. This is not to say that private, pay-to-play PNT networks should not exist, as they may have value-added uses for enterprise and the public sector. But it is the government's role to safeguard the public interest and foster the development of next-generation PNT technologies that are safe, secure, reliable and free. Above all else, the Commission should not ***mandate*** the use of pay-to-play PNT systems. Nor should the Commission mandate the use of proprietary systems where the owner of the system may require onerous or expensive licensing conditions.[14]

This applies with even greater force to Congress – as well as to other federal agencies and military branches such as the Space Force charged with maintaining existing GPS systems and developing next generation PNT. Congress must recognize that while the private sector will make valuable contributions, the private sector will not, on its own, provide PNT as a public good – especially not in those geographic areas that cannot provide a reasonable rate of return. Private sector terrestrial PNT technologies discussed in the FCC PNT NOI do not promise to provide global coverage. Indeed, they do not necessarily promise to provide complete coverage of the United States. Even satellite systems offering PNT – which at the moment offer the most effective way for maritime and aviation coverage and complete coverage internationally – are not required to offer global coverage, and depending on their constellation configuration (and market access permissions) may not have capacity to do so.

To conclude, the United States has a responsibility to ensure that free, reliable, secure, globally accessible PNT remains available to everyone. Just as the United States has continued to maintain and upgrade the national highway system over time, it must maintain and upgrade our global positioning system. While Congress should continue fostering private sector PNT development, Congress should not see this as an opportunity to privatize PNT. Nor should it allow existing PNT to degrade, inviting cyberattacks and leaving the millions dependent on quality PNT behind.

A. The United States Has a Responsibility to Manage an Orderly Transition to Upgraded PNT Systems.

As repeatedly noted above, existing GPS has become ubiquitous. Ideally, therefore, a replacement PNT system should be backward compatible with existing GPS receivers. This may

[14] OTI/PK Comments, *supra* n.7, at 3 (emphasis in original).

not, however, be feasible. In that case, Congress must recognize that effectively transitioning from the existing GPS system to a replacement PNT system will take years and require careful oversight and management.[15] During the transition, the U.S. Space Force will need to continue to maintain the existing GPS system. Congress should also consider, as the date of transition advances, necessary outreach to providers of GPS service and to the public.

It is no doubt tempting to leave consideration of this thorny problem for another day. And to some degree, this is a reasonable approach. Real planning cannot begin until the form of the replacement PNT system begins to take shape. But even at this early stage, Congress must recognize the responsibility to avoid any sort of "flash cut" from existing GPS to a new, non-backward compatible, PNT system. Indeed, Congress must avoid surprising the public, and must be ready for the inevitable backlash that occurs whenever there is a transition that leaves a widely adopted technology obsolete. The need for outreach and education about the transition should be baked in from the very beginning.

B. The United States Must Consider How an Upgraded Global PNT Can Better Protect Privacy.

Although the value of GPS is unquestionable, it has also created a crisis of privacy. It is tempting to regard the problem of privacy as purely one of policy and therefore out of bounds when considering successor systems to GPS. This would be a mistake. The question of whether PNT systems can meet the necessary requirements of accuracy, reliability, and openness while still operating on a "privacy first" or "privacy by design" principle should be considered and encouraged. As part of its general PNT NOI, the FCC can and should seek comment on this question.

In addition to considering design issues, the FCC and Congress should consider privacy policies that take advantage of the transition to a new PNT system to enhance privacy. This does not necessarily require new regulation. While any replacement for – rather than supplement to – the existing GPS system should avoid any onerous licensing terms, terms designed to specifically target privacy enhancement in exchange for federal access may be in the public interest. There is a useful analogy to the FCC's Part 15 rules allowing access to unlicensed spectrum. In addition to requiring compliance with technical rules designed to avoid harmful interference, the FCC also prohibits the use of Part 15 devices for unauthorized eavesdropping.[16] Here too, a largely technical process may be a suitable place to require limited, targeted privacy enhancements. At

[15] How long is not exactly clear. For comparison, the transition from analog television to digital television took approximately 4 years from the date Congress made the transition mandatory in the Digital Transition and Public Safety Act of 2005. Various shut downs of wireless technologies, such as the analog to digital conversion, the shut down of the 2G telephone mobile system, and the shut down of the 3G mobile system, have all taken different periods of time. Meanwhile, the phase out of the legacy phone network to an all-IP network, first contemplated as part of the National Broadband Plan in 2010, remains ongoing.

[16] 47 C.F.R. § 15.9.

the least, the FCC should explore this question. Potentially, Congress could ask other federal agencies, such as NIST, NTIA, or the U.S. Space Force, to explore this question as well.

II. THE CURRENT NEXTNAV PROPOSAL ASKS FOR TOO MUCH AND THREATENS TOO MUCH, FOR FAR TOO LITTLE PUBLIC BENEFIT.

It has become impossible to discuss PNT without discussing the NextNav proposal. Let me start with a general observation, as a veteran of more than 20 years of FCC spectrum proceedings. As a general matter, proposals to change the spectrum environment are contentious. Would-be proponents of new services invariably reassure the FCC's engineers that nothing bad could possibly happen and that any harmful interference that does occur (to licensed services, at least) can be swiftly remedied. By contrast, incumbents generally predict that any change will cause disastrous interference to vital services and the FCC should therefore protect the status quo.

What is striking with the NextNav proposal is the breadth of opposition, and the strength of the studies produced by opponents demonstrating harmful interference. Virtually everyone operating on or near the band has expressed strong opposition – public safety,[17] the security industry,[18] the aviation industry,[19] public utilities,[20] RFID manufacturers and users,[21] the U.S. Chamber of Commerce,[22] wireless ISPs,[23] toll collectors,[24] and the Wi-Fi alliance.[25] And this is only a modest sample of the diverse organizations, license holders, and unlicensed spectrum device manufacturers and users that oppose NextNav's proposal. By contrast, one can find precious little support for NextNav's proposal.

Even if one could ignore the interference concerns raised in the docket, NextNav's proposal, if granted, would constitute a fantastic windfall by "swapping" NextNav's existing 14 megahertz of shared, low-power and limited use spectrum with a partial national footprint in exchange for 15 Megahertz of valuable full-power flexible use spectrum.[26] By the company's own admission, its proposed PNT services would minimally occupy the spectrum band, using

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[17] *See* Letter of APCO, International Fire Chiefs Assoc., National Association of Chiefs of Police, National Sheriffs Assoc. (filed November 13, 2025). https://www.fcc.gov/ecfs/document/1119097196447/1

[18] Security Industry Association, "New Research Shows Flawed Spectrum Proposal Would Cause Public Safety Risk, Communications Disruption," (September 15, 2025). https://www.securityindustry.org/2025/09/15/new-research-shows-flawed-spectrum-proposal-would-cause-public-safety-risks-communications-disruption/

[19] Letter of Aviation Stakeholders (filed April 6, 2026). https://www.fcc.gov/ecfs/document/10406829216934/1

[20] Reply Comments of Utilities Technology Council (filed May 13, 2025). https://www fcc.gov/ecfs/document/10514353912521/1

[21] Stakeholder Letter (filed March 26, 2026). https://www fcc.gov/ecfs/document/1032712087821/1

[22] *Id.*

[23] *Id.*

[24] *Id.*

[25] *Id.*

[26] OTI/PK Comments at 9.

perhaps 5% of the network's total capacity for the PNT portion of the network. NextNav would then lease or sell the remaining spectrum to a mobile carrier.[27]

This represents billions of dollars in value. But NextNav does not even offer public interest obligations that it will provide in exchange for this expanded spectrum access. Nor does NextNav provide any sort of timeline or build out commitments. It is important to recognize that although NextNav bills itself as a 5G system, that does not make it "plug-and-play" or immediately deployable. It will take time to develop chips, find commercial partners, and deploy equipment. This lack of timeline becomes even more troubling when considering the history of NextNav and its predecessor license holders. For 25 years, and despite the grant of a significant waiver request in 2011,[28] the licensees have been unable to create a viable service.

Taking together the history of NextNav's inability to build out a successful network, its request to exchange its existing limited regional licenses for a high-power, full flexible use national license, and the lack of any sort of enforceable timeline to develop and build the proposed PNT system, "this deal looks worse all the time."[29] This looks less and less like a "swap" that will give taxpayers a free PNT system than an effort to persuade the federal government to trade valuable public airwaves for magic beans.

A. The Unique Nature of the 900 MHz Band Makes NextNav's Proposal Unacceptable.

As if this were not enough, NextNav also requests multiple rule changes. Of most concern, NextNav requests the elimination of the rule creating a safe harbor for unlicensed devices in the 900 MHz band against complaints of interference by the M-LMS licenses (the licenses held by NextNav) and elimination of the requirement that M-LMS licensees must demonstrate through testing that they will not cause "unacceptable levels of interference" to unlicensed devices. As explained below, the FCC created these rules as an essential condition of creating the M-LMS license service to protect existing unlicensed devices and encourage investment in unlicensed devices and services in the 902-928 MHz portion of the band. As a consequence of these regulatory assurances, industry and consumers have invested billions of dollars and become reliant on the devices these rules protect.

The 900 MHz band generally is, as the Commission has frequently recognized, crowded with multiple federal users, amateur radio service licensees, the LMS service used by toll operators for services such as "EZ-Pass," and "Industrial, Medical and Scientific" use

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[27] *Id*. at 10.

[28] The waivers were granted to the previous license holder, Progeny, to enable Progeny to offer a precise geolocation service to assist 911. *See Request by Progeny LMS, LLC for Waiver of Certain Multilateration Location and Monitoring Service Rules*, Order 26 FCC Rcd 16878 (WTB, OET) (2011).

[29] Lando Calrissian, *The Empire Strikes Back* (1980).

authorizations.[30] In addition, 900 MHz is home to the only "low-band" unlicensed spectrum[31] operating at useful power. When the FCC created the M-LMS service in 1995, it recognized both the crowded nature of the 900 MHz band generally and the important role already played by unlicensed devices operating in the band.[32] As a result, the Order creating the licenses held by NextNav observed in the first paragraph: "unlicensed Part 15 devices have developed and proliferated in this band and are providing services that are valuable and in the public interest."

The FCC therefore took the unusual step of providing limited protection for Part 15 devices in the band. The FCC created a safe harbor for operation of unlicensed devices in the 900 MHz band.[33] The FCC did this expressly "to balance the equities and value of each use without undermining the established relationship between unlicensed operations and licensed services." As the Commission further explained:

> To promote cooperative use of the 902-928 MHz band we are elaborating on this standard to define what is not harmful interference from both amateur operations and unlicensed Part 15 devices to multilateration LMS systems. This "negative definition" will promote effective use of the 902-928 MHz band by the various services by clearly establishing the parameters under which licensed Amateurs and unlicensed ***users of Part 15 devices may operate without risk of being considered sources of harmful interference*** to services with a higher allocation status. Part 15 and amateur operators who voluntarily operate within the following parameters ***will not be subject to harmful interference complaints from multilateration LMS systems at 902-928 MHz.***[34]

The FCC did more than provide a safe harbor for unlicensed devices to operate free from concern that an M-LMS licensee could require them to discontinue operation to avoid harmful interference. The FCC also took precautions to protect operators of unlicensed devices from destructive harmful interference by M-LMS operators. In addition to service rules limiting the

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[30] *See* Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition for Rulemaking, Public Notice, WT Docket No. 24-240 (August 6, 2024).

[31] Spectrum between 500 MHz and 1 GHz is generally referred to as "low-band spectrum" (as compared with other spectrum used for voice or data communication) and is prized for its unique propagation characteristics. Unlike higher band spectrum, it can carry significant data at a comparatively low energy cost while penetrating walls and other solid objects. Auctions of low-band spectrum, such as the 700 MHz auction in 2008 and the television incentive auction in 2016, have been among the highest grossing auctions in FCC history.

[32] *Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Service,* PR Docket No. 93-61, Report and Order, 10 FCC Rcd 4695 (1995).

[33] *Id.* at Par. 35-36.

[34] *Id.* Par. 36 (emphasis added).

power and activities of M-LMS licensees, the Commission added an additional testing requirement:

> [T]o ensure that the coexistence of the various services in the band is as successful as possible and to identify whether further refinements in our rules are necessary, we will condition grant of each MTA multilateration license on the licensee's ability to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to Part 15 devices . . . It is our expectation that such testing ***be accomplished through close cooperation between multilateration systems users and operators of Part 15 systems***.[35]

Congress itself would implicitly ratify these protections in the Balanced Budget Act of 1997.[36] Congress mandated that the FCC auction 55 MHz of spectrum below 3 GHz, but expressly prohibited auction of spectrum that had: "been allocated or authorized for unlicensed use pursuant to Part 15 of the FCC's regulations (47 C.F.R. Part 15), if the operation of services licensed pursuant to competitive bidding would interfere with operation of end-user products permitted under such regulations."[37] This protected operation of unlicensed devices in the 900 MHz band from unacceptable levels of interference from any newly licensed auction service, consistent with the FCC's decision to protect unlicensed operation in the 900 MHz band from the newly created M-LMS licensed service.

Based on these assurances by the FCC, implicitly ratified by Congress, a wide variety of stakeholders invested billions of dollars creating devices and services that utilize the 900 MHz band. The Internet of Things (IoT) rests on the shoulders of the unlicensed Part 15 devices that have proliferated across the band. The hundreds of millions of devices utilizing the band include audio and visual devices, panic buttons, drones, home security systems, medical devices, and devices that support agriculture, utilities, logistics, and retail operations.[38] Critical network protocols and operating systems rely on the lower 900 MHz band, including radio frequency identification technology (which wirelessly connects devices to the internet), Z-Wave (which ensures interoperability among certified smart devices), LoRaWAN (a Low Power, Wide Area networking protocol that supports smart cities, logistics, agriculture, and more), HaLow, and automatic vehicle identification systems.[39] The band is designated for industrial, scientific and

[35] *Id.* Par. 82 (emphasis added).
[36] Pub. L. 105-33.
[37] *Id.* at Section 3002(c)(1)(C)(v).
[38] Comments in Opposition of Open Technology Institute at New America, Public Knowledge et al., WT Docket No. 24-240, at 12-15 (filed Sept. 5, 2024) ("Comments in Opposition").
[39] *Id*. at 16-19.

medical applications at the ITU level, allowing scalability and global reach for the IoT devices that rely on it.[40]

The "balance of equities" between services (including the M-LMS licenses held by NextNav) the FCC and Congress created by offering limited protection to Part 15 devices operating on unlicensed spectrum achieved the desired goal of maximizing investment and efficient use of the band. Thirty years later, NextNav comes to undo that balance. As the record shows, NextNav has not sought to engage in "close cooperation" with Part 15 unlicensed device operators as envisioned by the 1995 Order to which it owes its existence. To the contrary, NextNav has consistently requested that the FCC eliminate the rules protecting unlicensed operations in the band since the creation of NextNav's licenses. Indeed, NextNav has sought repeatedly to portray the protections that the Commission created in 1995 not as a careful "balance of equities," designed to promote investment and innovation, but as some sort of inequitable aberration. Rather than the "cooperative use" envisioned by the FCC, NextNav has sought permission to annihilate billions of dollars in investment the 1995 Order actively protected and encouraged by demanding the FCC eliminate the safe harbor rule and the rule requiring field testing to demonstrate the service will not cause unacceptable levels of interference.

Even if NextNav offered a unique PNT service without equal – which it has not – wiping out critical operations and billions of dollars of investment in reliance on the determinations of the FCC and Congress to protect Part 15 devices in the 900 MHz band would be both inequitable and disastrous. But NextNav has not shown this much. Multiple terrestrial and satellite PNT services exist today capable of providing the same or superior level of service as NextNav promises it will provide in the future, without the need for spectrum windfalls or the annihilation of multiple industries.

To conclude, NextNav asks for billions of dollars in free spectrum rights. It wants freedom from rules that were central to the creation of its existing licenses 30 years ago – rules the FCC expressly adopted to encourage investment and innovation in Part 15 devices and services using the only low-band unlicensed allocation with usable power. In exchange, NextNav offers a ***potential*** PNT service that would require the development of new chips and standards in the hopes that wireless carriers ***might*** adopt it. To paraphrase Han Solo: "no PNT system is worth this."

[40] Letter from Chamber of Commerce et al. to Ms. Marlene H. Dortch, Secretary, FCC, Re: NextNav Inc. Petition for Rulemaking, WT Docket No. 24-240, at 4 (March 10, 2025).

III. ATSC 3.0 REQUIRES A CAREFUL AND WELL THOUGHT OUT IMPLEMENTATION PLAN, RATHER THAN RUSHING IMPLEMENTATION FOR PNT.

Finally, it is worth noting that the NAB has proposed a PNT solution available as part of the proposed upgrade to ATSC 3.0. Public Knowledge noted in its comments in the *FCC PNT NOI*[41] that the Broadcast Positioning System could provide a useful supplement to other PNT systems. While sharing the overall limitations of all terrestrial systems, the wide distribution of broadcast stations and the propagation characteristics of broadcast spectrum make BPS a potentially useful addition to the PNT toolbox.

However, Public Knowledge must inject a cautionary note that was not relevant in the context of the *FCC PNT NOI*. The potential transition, which would phase out the existing ATSC 1.0 standard and move entirely to ATSC 3.0, is an extremely complicated and – as a review of the FCC's docket in the relevant proceeding shows –extremely controversial process. It is well outside the scope of this hearing to discuss the details of the ATSC 3.0 proceeding and the concerns raised by Public Knowledge[42] and others with NAB's Petition to require all broadcasters to move from ATSC 1.0 to ATSC 3.0 (although Public Knowledge would recommend the ATSC transition as a suitable subject for its own hearing at a later date).

For purposes of this hearing, Public Knowledge stresses that the potential benefits of BPS do not justify rushing the existing FCC proceedings on the ATSC transition. As noted at length above, a full transition from existing GPS to a new system of PNT remains years in the future and will require careful planning. Additionally, multiple PNT services that act as supplements to or replacements for GPS already exist in the marketplace.[43] Accordingly, the FCC proceedings (and Congressional consideration) around the potential, industry-wide phase out of ATSC 1.0 in favor of ATSC 3.0 should continue at its own pace.

CONCLUSION

The development of new, robust, secure PNT systems to supplement or replace GPS is a critical necessity. But this is so much more than a technical engineering problem. PNT has become a public good, and must serve the public interest. This means maintaining a basic level of ubiquitous and freely available service that meets or exceeds what GPS offers today. While the private sector will play an important role, ultimate responsibility remains with Congress and the federal government to protect our national interests. At a minimum, Congress and the federal

[41] OTI/PK Comments at 6-7.
[42] *See* Comments of Public Knowledge, *et al.*, *In re Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard,* GN Docket No. 16-142 (filed January 20, 2026).
[43] *See* NTIA Letter *supra*. n.5.

government must reject efforts to hijack the need for advanced PNT for private gain at the expense of the public interest.

Thank you and I am happy to answer any questions.