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PRESENTATION

Hans Vestberg - *Verizon Communications Inc. - Chairman & CEO*

Good evening, everyone, and thank you for being with us tonight. This is a great day for Verizon. I would go so far as to say it's one of the most significant days in our 20-year history. That's because today, we're announcing our results in the FCC C-band spectrum auction. And most importantly, how this new spectrum will amplify our strategy and accelerate our growth. This was a highly successful auction for Verizon, a once in a lifetime opportunity, and I'm thrilled with what we were able to accomplish.

This was the largest auction in the history of the industry, and there will not be another one like it in the foreseeable future. Our disciplined strategy and strong balance sheet enable us to be aggressive, and this spectrum investment now sets up Verizon for the next stage of growth and beyond.

We succeeded in more than doubling our existing mid-band spectrum holdings by adding an average of 161 megahertz of C-band nationwide for \$52.9 billion, including the clearing cost. Verizon's C-band licenses will cover the entire United States. This was the best spectrum available in this auction and when combined with our other holding, makes our spectrum position the strongest in the industry. And the best spectrum position, combined with our superior network, means Verizon is best positioned to deliver the most powerful 5G experience.

Our new C-band position, combined with our mmWave, means we're the only carrier suited to deploy the fastest, most powerful 5G experience to the most people or, as we all call it, 5G built right. This means we have an unparalleled opportunity to shape and monetize the next chapter of

growth built on the 21st century's infrastructure: mobility, broadband and cloud. This is not an asset that is going to be deployed at some point in the future nor is the growth years away, no. This is going to impact us as soon as 2022.

We acquired this C-band spectrum because it fits perfectly with our Network-as-a-Service strategy and accelerate our growth into 2022 and beyond. What C-band does is significantly enhance our ability to go after and monetize the immediate opportunities we have in 5G mobility, fixed wireless access, both in the home and office, and the mobile edge compute in particular.

So today is about growth. We have all the tools we need in our toolbox to accelerate our growth. We have spoken to you before about getting to GDP plus growth. Well, today, I can be more specific. Today, I can say that we are going to grow more than 3% for years to come, along with the strong earnings and cash flow generation. That is our goal, and that is why we acquired C-band.

We started on a journey 4 years ago when we launched Verizon's Intelligent Edge Network. We continue to expand our Intelligent Edge Network by deploying fiber in cities across the country. This network not only provide us with cost advantages, it also enables us to deploy technologies fast and more quickly to realize the advantage of 5G before anyone else.

This is an important point because when you talk about networks and next-generation technologies, having first-mover advantage matters. Being first on 5G home, 5G mobility and 5G Edge has afforded us 17,000 5G sites already deployed and the ability to capitalize on opportunities quickly, like our partnership with Apple to launch the first ever 5G iPhone and the first and only mobile edge compute offering in the world.

And being fast and first is more important than ever before. In the weight of the pandemic, digitalization globally has leaped from 5 to 7 years. I'm happy to say Verizon was ready for this acceleration. And with the best network, biggest distribution, best brand and customer base, we are positioned for growth as we recover as a society.

Our growth model is based on a clear vision, we're a multipurpose network company with the best networks architected by the best engineers on the planet. This idea of a multipurpose network at scale is our strategic foundation to maximize growth and put us in a position to realize the best return on investment in the fully-networked economy. This multipurpose network is built on 4 generations of award-winning networks that combine the power of wireless broadband and cloud to provide new capabilities and new sources of growth. It will allow us to deliver leading customer propositions like no other company.

Mobility expansion, home broadband, fixed wireless access, mobile edge compute, our leadership is not just talk. Third-party evaluators, like J.D. Power and RootMetrics, consistently rank us as best in class and fundamentally better than our competition. That is no surprise.

We have been leading for the last 4 generations of wireless connectivity. We have the engineers, strategy and consistent investment in place to deliver on network innovation in the coming years. And we're the only network provider that can say that. These core fundamentals propelled a strong 2020 financial performance for our company and allowed us to start 2021 with strong momentum.

Our growth model and these assets will position Verizon to win. Verizon's 5G leadership puts our company in a very powerful growth position. You're well aware of our aggressive deployment of 5G from ultra wideband to nationwide and the 5G Edge. The addition of C-band is nothing short of rocket fuel for our build. Think of the C-band we have acquired as an accelerator or the extra premium pump at the gas station. And Verizon has the only vehicle with the design, technology and infrastructure to put it in good use.

Since we began building 5G, we have had a first-mover advantage. We're more than a year ahead in building and selling mmWave with our 5G ultra wideband service and still the only company with commercial mobile edge compute. Now we intend to extend our lead by accelerating our deployment of C-band. We will increase our capital by \$10 billion over the next 3 years to put this spectrum into use as quickly as possible; the faster, the better. This \$10 billion CapEx is on top of our annual ongoing capital investment.

We're already moving on this. We have equipment ordered, and we have started to work on 7,000 to 8,000 sites for this year. We are ready to go as soon as the first local spectrum is cleared for use later this year. So this is what I mean when I say we're accelerating our growth. And remember,

we are deploying these new assets on our Intelligent Edge Network. It's the most efficient, cost-effective network infrastructure in the industry. This means we can leverage our fiber infrastructure and cost advantage for decades to come.

And after the 3-year period, when we have finished deploying the additional \$10 billion in CapEx, you can expect our ongoing capital intensity to decrease. This highlights not only the growth opportunities from C-band, but the efficiency of our model and what we can deliver when we combine all of our assets. If you have been following Verizon for a while, you know that we had this focused strategy to roll out the Verizon 2.0 in 2019, a strategy that we remain purposely focused on executing today for our 4 stakeholders: shareholders, customers, employees and society.

This past year, we launched Citizen Verizon, our responsible business plan for economic, environment and social advancement. This initiative is core to our business strategy because technology is a vital component of progress. The same is true for our customers. We have known that 5G would transform our relationship with our customers, but we also knew that we need to transform our company to match that reality.

Verizon 2.0 did that by putting responsiveness to the customer at the center of all we do. That is why we reorganized the company into 3 business units: consumer, business and media, organized around our customer-facing operations and supported by our Network-as-a-Service strategy, and we have seen very good traction from our customers. You're going to hear from Ronan and Tami, our consumer and business group leaders who will outline how we capitalize on our assets to drive our growth agenda for 2021 and beyond.

And while you won't hear from Verizon Media leader Guru tonight, I'm super excited about the turnaround and the recent growth in that business that we expect to accelerate. Whatever it is through 5G mobility, fixed wireless access or mobile edge compute or any of these other technologies we are looking at breakthroughs that both solidify and expand the total addressable market that Verizon serves, setting us up for a more than 3% growth goal.

As I presented before, all 5 vectors of growth are in play, and the business opportunities are amplified with C-band. By now, you should be familiar with our strategy, which remains unchanged and how we have been preparing for this moment for some time. Likewise, our capital allocation priorities remain: first, we invest in the business. And as Matt and I have said, if we find assets that enhance our return on the investment profile, we will increase investments like we are with C-band; second, we will put our Board in a position to continue to grow the dividend in the years to come; thirdly, and as Matt will explain, we will pay down debt to deleverage over the next few years; and finally, we will be in a position to consider share buybacks at a later date.

Let me summarize this in what you will hear from my executive team: one, our strategy is unchanged; two, unmatched spectrum and network position; three, accelerate our 5 vectors of growth; four, amplify our business opportunities; and five, more than 3% growth going forward.

To get us started, I'm introducing Kyle Malady.

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

Thanks, Hans. I'm excited to be here tonight to share more about our network and technology plans now that we've secured a game-changing amount of C-band spectrum. As Hans mentioned, our 5 vectors of growth have not changed. This new C-band spectrum will only amplify and accelerate our strategy. We're already preparing and working so that we will be ready to deploy the spectrum as soon as we have access to it.

As we all know, spectrum is the lifeblood of our industry, and it's a scarce resource. Also, we do not see another auction of this size and scale coming anytime soon. So we decided it was very important to use this opportunity to further grow our strong spectrum portfolio.

As the leader in the wireless industry, we have consistently deployed a deep portfolio of strong spectrum holdings with the best-in-class technology capabilities. This same focus will continue to position us for growth for years to come.

Our 5G leadership started with the acquisition of mmWave spectrum from Straight Path and Nextlink Wireless. This was timed perfectly with the FCC spectrum frontiers order that brought vast amounts of flexible use mmWave bandwidth into the industry. We then strengthened our leading mmWave position in the 28 gigahertz auction, allowing us to add mmWave depth.

And we didn't stop there. We've been busy since our last Investor Day adding over 500 megahertz of bandwidth in the 37 to 39 gigahertz range. We also augmented our existing deployments of unlicensed CBRS spectrum by adding up to 40 megahertz of priority access licenses in key markets, increasing our nationwide mid-band average depth by 16 megahertz. This bandwidth is ideally suited for our small cell network and has a clear and imminent path to 5G.

Also, you've heard me say before that a 5G network is really a deep fiber network with a bunch of small cells hanging off of it. And we're putting a lot of those cells on our own fiber, more than anyone else in the industry. We have an aggressive fiber build program in more than 60 markets outside of our ILEC footprint. About 1/3 of our 4G and 5G cell sites are serviced by our own fiber today, and we plan to increase that number to more than 50% in the next 3 years, more than any other in the industry. This gives us both a cost and performance advantage.

So that brings us to the recent C-band auction. Tonight, we're happy to announce we won between 140 and 200 megahertz of C-band spectrum in every available market. Let's dive into this in a little bit more detail.

We won a minimum of 140 megahertz of total bandwidth in the contiguous United States and an average of 161 megahertz nationwide. That's bandwidth in every available market, 406 markets in all. Specifically, we secured a consistent 60 megahertz of early clearing spectrum in the initial 46 markets, targeted for use by the end of 2021, assuming it is cleared on time. Only one other operator secured spectrum in this early clearing phase.

Additionally, we won up to 200 megahertz in 158 mostly rural markets covering nearly 40 million people. This will further enhance our broadband solution portfolio for rural America. The spectrum bands we want are contiguous, which will streamline our ability to deploy the spectrum across the mainland United States.

I'm also very happy to report we secured the A1 block as our anchor in every market, furthest from legacy satellite operations. This will also help us deploy the spectrum quickly and efficiently and avoid re-tuning in a few years. Bottom line, this represents a 120% increase in spectrum holdings in the sub-6 gigahertz band. We now have a very competitive position in low and mid-band to go along with our leading level of mmWave holdings.

One final point about the spectrum we secured. It's not just about the quantity of spectrum, it's about the quality. In fact, the contiguous nature of the spectrum across the mainland United States will enhance the user experience far and wide. The quality of the spectrum and the depth of license holdings represent the premier asset in the industry with the best capacity and performance that our competitors can't match. Also, it's important to understand that not all mid-band spectrum is created equal. We create a distinct advantage with this auction result.

Let me summarize a few key points for you. C-band is a widely used spectrum band throughout the world and will allow for roaming opportunities and economies of scale. The licenses are contiguous. Much like 700 megahertz was at the dawn of LTE, this is beachfront property. And we will license the spectrum outright. We're not leasing it, and our rights extend from coast to coast without gaps.

C-band also has better coverage than mid-band spectrum that others are using for 5G. Coverage for C-band is a combination of spectrum characteristics and FCC defined use rules for these bands.

Finally, Verizon's initial C-band build is focused on existing locations. We have the density on our existing LTE network to execute rapidly and benefit from our strong relationships with our tower partners and landlords. We expect to add C-band radios to 7,000 to 8,000 cell sites this year. So now let's talk about how and when we intend to put these assets to work.

We have a history of efficiently using spectrum assets, and we will continue to flex our engineering muscle as strong stewards of spectrum licenses. We consistently get the most out of what we have. We have the largest customer base in the industry. We're consistently rated best by third-party rating agencies like RootMetrics and J.D. Power and achieve an industry leadership while using less spectrum than our competitors.

In roughly the next 12 months, we intend to have incremental 5G bandwidth available to 100 million POPs in the initial 46 markets, delivering 5G ultra wideband performance on our C-band spectrum with peak speeds of 1 gigabit per second. These great speeds and throughputs are just the beginning.

Over 2022 and 2023, we'll increase the coverage to more than 175 million POPs in the 46 markets. And when the remaining C-band is cleared, we'll cover more than 250 million POPs in 2024 and beyond. We've been planning for this for many, many months and are already working with our equipment and infrastructure partners to make this the fastest deployment of new spectrum ever.

Now before I talk about acceleration of our strategy, let me quickly touch on a continued deployment of mmWave. We will continue to expand our mmWave footprint and deliver game-changing experiences and capacity for the densest parts of our network. We ended last year with more than 17,000 mmWave sites and expect to build another 14,000 in 2021. This will bring our total to over 30,000 sites online by the end of this year, and we'll keep building after that.

In terms of expectations and depending on COVID, we feel confident that at least 5% of our overall network usage will be on mmWave by the end of the year. This could increase as much to 10%, depending on how quickly we emerge from the pandemic and return to stadiums and venues. Over the next few years, we see a path for as much as 50% of our urban usage moving to mmWave in some of our densest markets, and our build plans target this footprint.

One of the great use cases we can unlock with mmWave and this additional C-band spectrum is fixed wireless access. We're continuing to aggressively build on our network to support broadband use cases. We expect to cover nearly 15 million homes by the end of this year and expect to reach 30 million homes by the end of 2023, using both 4G and 5G. With fixed wireless access across all of our spectrum holdings and our industry-leading Fios service, we can serve mobile home and business broadband use cases across the board. Ronan will talk about the go-to-market plan for our consumer broadband strategy, and Tami will discuss the business opportunities in a few moments.

Another way our technology platform perfectly complements our ultra wideband network is mobile edge compute. Last year, we were the first in the world to deploy a public MEC solution with AWS. We deployed 10 zones in 2020 and will deploy an additional 10 this year. We anticipate that C-band will accelerate MEC adoption. In addition, we will start private MEC deployments in partnership with Microsoft that feature 5G in-building solutions. You will hear more from Tami and our industry-leading public and private edge compute solutions.

Before I close out, I want to leave you with 2 final thoughts. First, we have the network design and spectrum assets not only to be the best-performing network, but the most efficient from a cost perspective. Second, we will deploy our C-band and mmWave assets as quickly as possible to accelerate growth and capture market opportunities. I think you can tell why we're excited and confident in our position.

I now turn it over to Ronan to talk about how we're using these new and existing network assets to serve our customers.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Thank you, Kyle. I want to start by reminding all of you of the winning strategy that we've been building and executing over the past few years. It's all based around enhancing and expanding customer experience by leveraging our core platform capabilities. By doing this, we reinforced a premium position, profitability and growth prospects of our core Verizon-branded business while leveraging our scale and capability across a wider range of other consumer growth opportunities. This, coupled with our investment in networking capabilities, creates the underpinning for our 5 vectors of growth.

First is our great network that you've all experienced it, and you've just heard Kyle and Hans describe how the best is getting even better with exciting network developments. Founded on the best and most reliable 4G network with the continued expansion of ultra wideband capabilities nationwide, now including C-band, we can power incredible immersive experiences for all our customers. Network-as-a-Service is the foundation of our growth platform.

The second is distribution. Today, we have over 100 million mobile and broadband consumer connections and with TracFone pending regulatory approvals, we will have over 120 million. We have both physical and digital assets that allow carefully selected brands to reach our entire base, and this allows us to develop best-in-class partnerships across a range of verticals to deliver high-quality curated experiences for our customers that enhance our differentiated value proposition, quality, choice and experience.

And finally, it's billing and service. We have the relationships and platforms that enable companies pivoting to direct-to-consumer models to engage high-quality, loyal consumers. This is a powerful value proposition for them and us. The more we leverage these capabilities, the more efficient we become. So we build once and sell multiple times. It allows us to power multiple market segments that address diverse customer needs, premium and value direct and via wholesale and partners.

Starting with our core Verizon brand. We can expand our premium value proposition to new verticals, leveraging partnerships and 5G-enabled capabilities such as gaming and AR, expand to new digital audiences through visible to the underserved value segment through our impending acquisition of TracFone and expand reach and offering in the growing wholesale market. We will continue to bring on partners that enhance value for our customers and extend our reach to consumers generally.

So let's talk about how this winning strategy translates into the key vectors of growth for the consumer group. Let's start with 5G adoption. With the work we've been doing in the global 5G ecosystem on devices, equipment, capabilities such as edge compute, we were already convinced that 5G adoption would be faster than every other G.

With what we know today and the ability to deliver 5G ultra wideband nationwide even faster, we're more convinced than ever that we will deliver the fastest mobility adoption curve and an expanded opportunity for home broadband on a nationwide scale, accelerated and amplified by C-band, its first adoption of 5G handsets to access the enhanced coverage and capability and expands the addressable market for 5G home, dovetailing seamlessly with our mmWave to deliver depth of capacity and capability on a nationwide basis and unparalleled performance in dense traffic environments. C-band will enhance our ultra wideband value proposition and will be included in all our premium unlimited plans.

The second part is compatible handsets and CPE. Many of our customers already have C-band compatible devices in their hands today. The Samsung S21 series and Google Pixel 5 are all C-band compatible. And there's more. Every device in Apple's U.S. iPhone 12 lineup is C-band compatible.

Overall, we have 10 million 5G ultra wideband devices in the hands of customers on our network today. And of those, some 70% are already C-band compatible. Going forward, all new 5G handsets we sell to postpaid customers will be C-band compatible.

Customers are migrating to 5G in earnest. As of year-end 2020, some 9% of our consumer postpaid phone base were on a 5G device. With the exciting device lineup we have in store and the superior 5G experience that we deliver, we expect to reach 50% some 18 months ahead of the GSMA forecast and end 2023 ahead of even the more ambitious Ericsson Mobility Report forecast.

As I've said, we are bullish on Home. As Kyle mentioned, we're now able to accelerate our ambition. That is why we're investing in building the ecosystem it takes to win in this market. Today, I'd like to unveil our new Home CPE devices, which will all be available in 2021.

C-bands compatible, these devices have sleek industrial design and will power our fixed wireless access Home Internet offerings. They're all 'self setup', featuring AR guidance, simple instruction videos and in-app chat and call support. We have the Verizon 5G Internet Gateway, Verizon Internet Gateway and the Verizon smart display. This is amazing new hardware that delivers incredible speeds and is super easy for customers to install.

Now the next vector of growth is network monetization. Network monetization starts with the continued growth of our base, both postpaid and prepaid. We anticipate a significant second half rebound in volumes from 2020 levels, and it's about increasing the ARPA of our customer base as they step up to unlimited and premium unlimited. And lastly, we see wholesale as a key element of our strategy and one where we continue to expand our offering through new partners and new services.

We have a strong relationship with our wholesale partners, which we continue to extend and deepen. Now we compete directly with our wholesale partners in the mobile marketplace. Delivery of a nationwide home broadband offering will further reinforce our capability to bundle competitive offerings. So when our wholesale partners win customers from across all carriers, that drives further profitable utilization of our network and improves network economics for our Verizon customers. We see healthy growth from our existing partners and a robust pipeline of new partner opportunities.

The next vector is customer differentiation. This is the core of our premium strategy, unlocking value in our base. We've seen tremendous step-ups from our customers from metered to unlimited and unlimited to premium unlimited, as we discussed back in November. We continue to see this with over 20% of our postpaid accounts ending the year on a premium unlimited plan. We expect this number to grow to over 30% this year and circa 50% by 2023. We offer customers many reasons to step up to a premium unlimited plan, centered around our core value proposition, mix and match. First and foremost is access to the power of our 5G ultra wideband network. With C-band included, we think step-ups to premium will only accelerate.

Then there are a number of other value inclusions, where we bring best-in-class partners like Disney and Discovery and others in the future to our customers as part of our mix and match reward strategy. Not just better on Verizon, but also better with Verizon. But this is only one part of the story.

We have proven our credibility and earned the trust of our customers by providing them with products and services beyond connectivity. If you look at our ARPA, which we expect to continue to grow at a 2% plus compound annual rate, it is driven by both the increasing premium mix and connected device adoption as well as increasing penetration of existing products. We expect product revenue as a category to grow at double digits for each year of the next 3 years, as we expand our offerings across mobility and home and our penetration of the base.

Now the final vector of growth is new markets. Visible has just been named one of Adweek's Challenger Brands of the year. We see product announcements, including 5G, Party Pay enhancements, eSIM and an innovative referral program are already showing traction in the marketplace and spurring growth.

TracFone, subject to regulatory approvals, provides us with a superb opportunity to participate directly and deliver growth in the value market through enhanced focus and by bringing affordable access and new products and innovation to customers.

Our greatest new market opportunity is Home. Let's look at why this is a game changer.

We are bullish on our ability to capture the large and increasing total addressable market. Across the technologies available to us, we see a nationwide home broadband opportunity as consumers increasingly look to cord cut, seek higher speed, more reliable home broadband solutions. We see the ability to leverage our core mix and match strategy to provide differentiated content and connectivity choices. We are already disrupting the home broadband market, delivering customers' choice in their internet provider.

As we roll out C-band, we will accelerate and amplify. And by the end of 2021, we will have between 1 million and 2 million mmWave 5G Home open for sale and some 15 million in total with the arrival of the first tranche of C-band. By the end of 2023, this will have risen to more than 30 million households we can serve.

Today, over 6 million customers have Verizon Home Internet through our Fios product, and this continues to grow. And through mobility, we are already in 33 million customers' homes, which represents a unique cross-sell and bundling opportunity. We are positioned to serve these customers for all their connectivity needs. We see the opportunity over time to not just take home broadband market share, but convert the majority of those households to Verizon mobile and home customers as home broadband becomes as simple and reliable as another line on your Verizon wireless account.

But that's just the start. Once we do that, it provides us the platform to drive a home subscription model that we can deliver through Verizon and other partner branded products and services.

In closing, to capture our excitement, we are very well positioned with our strategy and our assets and our strategic momentum is accelerating. We have a multi-vector growth plan with tremendous headroom in each vector. C-band means that our growth strategy is fully in play. I'm bullish for where we're taking the consumer business: superior, sustainable growth built on great customer outcomes; winning in connectivity and winning beyond connectivity; making Verizon the partner of choice.

Now let me turn over the floor to Tami.

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Thanks, Ronan, and good evening. When we formed Verizon Business in 2019, we set out with a clear intention to become the partner of choice for our customers' digital transformation journey. Two years later and our multipurpose network strategy with the unmatched benefit of 5G ultra wideband capability remains strong. And if the past year has shown us anything, it's that the network matters now more than ever.

For Verizon Business, the cornerstone of our Network-as-a-Service approach is an end-to-end offering that delivers agility and efficiency for customers as they accelerate their digital transformation. We've made great progress introducing a new go-to-market model to capture growth. And most importantly, we've been there for our customers as they reacted and responded to COVID, and now as they reimagine their future.

The foundation for our growth has been the ability to effectively build, sell and scale a product and platforms portfolio for today and tomorrow, including 3 core revenue drivers.

First, let me talk about wireless growth. Since the start of 2.0, we have continuously grown wireless subscribers and are the leader in every segment we serve. We expect to continue in that position in 2021 and beyond.

Second, we've seen strong unlimited adoption. Since we launched late last year, 2/3 of small business customers who choose a new unlimited plans are choosing premium unlimited, which includes 5G ultra wideband and new value adds such as Business Mobile Secure.

Third, we're winning in the network, providing next-gen fiber and software-defined networking solutions. And we're winning beyond connectivity, scaling our One Talk, BlueJeans, security and other business solutions. And as more and more customers prepare to transition to 5G, we've begun to see the benefit of industrial IoT investments, adding 10 million incremental machine-to-machine LTE connected devices last year alone and delivering double-digit connections and revenue growth.

This year, we expect to see continued growth as we scale our IoT practice, installing devices that will be supported as customers evolve from our 4G to 5G network. Core to our product suite is Verizon's differentiated 5G ultra wideband. I'm proud to say that today, we are the only B2B player live and in market with a coverage of 5G nationwide and the capacity and capabilities of 5G UWB, enabling 5G mobility, 5G fixed wireless access and 5G Edge, the first commercialized public mobile edge compute platform.

As 5G is becoming available in more and more places, we're seeing this demand for 5G technology grow. Customers like Corning, GM and Honeywell are working with us to transform their R&D labs, factory floors and distribution centers and headquarters, respectively. They are looking to provide unique connectivity for their employees to enable data-intensive applications and benefit from solutions like computer vision, augmented reality and machine learning, all built to increase productivity, provide enhanced security and reduce latency in ways that WiFi will never be able to enable. The demand is there for 5G and MEC, and we are rapidly growing the ecosystem to scale, further commercialize and extend our competitive advantage.

Now let's turn our attention to C-band, where we unlock new monetization paths that will increase 5G adoption, grow share and create new markets.

First, the addition of C-band will enhance our competitive position for mobility, bringing faster speeds to more users, backed by the reliability of Verizon's network expertise.

Next, C-band will unlock the ability for us to provide business customers with an alternative to their current broadband. Today, we serve a limited number of businesses with a fixed broadband solution, primarily in our Fios footprint. 5G business Internet changes all of that. With the expansion of fixed wireless access, we will give customers more broadband choices, including many businesses we currently have a strong wireless relationship with. By using a high-powered fixed 5G receiver, we will bring business customers the broadband speeds they need, but the reliability from Verizon they have come to expect.

We've just launched 5G Business Internet in 3 markets on mmWave, with plans to bring it to more than 20 markets before the end of the year. C-band will accelerate the market size we can serve. In total, we believe 5G Business Internet, with all of our broadband technologies, will more than double our present day broadband addressable opportunity, which is incremental to the consumer opportunity you saw earlier.

Finally, we believe the addition of C-band will accelerate NextGen B2B applications, including expanding the reach and adoption of public mobile edge compute. This is especially important as it extends our ability to tap into more and more use cases where mobility becomes crucial.

Overall, we have a strong first-mover advantage to build a nationwide mobile edge compute platform and be both a market leader and a market maker. This is not just an idea, it's happening. Companies in every industry are finding exciting ways to bring 5G and 5G Edge to life, leveraging the full capabilities of 5G from throughput and ultra-low latency to sensor densification and rock-solid reliability, not only for B2B but also B2B2C. Let's take a look.

(presentation)

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Those are just a few examples of what is happening right now, and the market demand is strong. By the end of 2022, we estimate the edge compute total addressable market in the U.S. will reach \$1 billion. And by 2025, we see rapid adoption of edge compute, creating a \$10 billion addressable marketplace. To scale this opportunity, we've stood up 2 distinct models. First, a public model. Last year, we partnered with AWS Wavelength, the biggest cloud provider on the planet, and immediately connected their 1 million-plus developer community to our nearly 170 million end devices across Verizon's 4G and 5G nationwide networks at the edge. Overnight, we unlocked an innovation sandbox for latency-sensitive and mobile apps, and accelerated commercialization of the MEC model.

Developers today are building use cases spanning a wide array of commercial applications from health care, AI analytics at the edge to sports and entertainment, education and more, all through an easy on-ramp in the AWS portal, where they can move their workloads to the edge of our network automatically triggering a recurring revenue share for Verizon and AWS.

And we're not stopping there. We've also announced a collaboration with Microsoft to deliver a private MEC model for customers that want a completely dedicated edge compute infrastructure, enabling ultra-low latency at the premise, higher levels of security and deeper customization. The private model is a premium service that generates revenue for us similar to a solution sale and increases long-term customer retention.

This fully integrated Verizon solution creates value for our customers and benefits us in 3 ways. First, with Verizon private edge, where we combine the power of Microsoft Azure cloud and edge capabilities with 5G on the customer premise. Second, with Verizon connectivity from the additional private network component, which is forecast to be a \$10 billion global marketplace by 2025. And third, with co-developed solutions, enabling real-time applications like intelligent logistics, predictive maintenance, robotics and factory automation on the Private Edge platform.

We have a direct line of sight to the applications and solutions marketplace, another \$12 billion addressable opportunity by 2025 that we will commercialize through our growing partner ecosystem. And we're not wasting any time. We've already started developing enterprise solutions with IBM, Cisco, Deloitte and SAP across many industry verticals, including manufacturing, retail, distribution and logistics.

Verizon business is well positioned to capture significant edge compute share through our existing assets. We are in market today with leading cloud providers and expect to continue growing our roster of market making partnerships. We believe that the demand for MEC services unlocks a total market that is forecast to exceed \$30 billion by 2025, revenue we will share with our partners. With C-band, we expect a wide and fast path to monetization.

So as I wrap up tonight, it's important to note that we will continue to leverage our multipurpose network strategy with the added benefit of C-band assets to increase our market-leading position, fortify and extend our competitive advantage and grow our customer base and revenue.

We're 2 years into a 3-year business transformation program designed to take costs out, deliver revenue, manage margins and stem wireline headwinds, all while delivering the service excellence we envisioned when we launched 2.0. And thanks to the hard work of the team, we've begun to recognize significant EBITDA contributions. We anticipate segment margins to remain above 25% and expand as we scale 5G opportunities. There is strong momentum in our business, and our investments will help deliver profitable, sustainable growth well into the future. We have never been in a better position to accelerate 5G for business. To fuel our customers' business communications, lead their digital transformation and be their partner of choice.

I'll now turn it over to our CFO, Matt Ellis.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Thanks, Tami, and good evening, everyone. The C-band auction is a key milestone for Verizon that enables many significant future opportunities and is a part of the journey that we have been on for the past few years. Our Network-as-a-Service strategy is our foundation when considering significant investments. We've leveraged that framework, investing in key strategic areas such as spectrum, network assets, partnerships and disciplined M&A to position us for this next technology era.

In Spectrum, we've been building our portfolio to support our 5G plans for several years, beginning with our straight path purchase in addition to FCC auctions to build the strongest mmWave spectrum position in the industry. The C-band acquisition is a crowning moment of activity across our mid-band portfolio from both the primary and secondary markets, including last year's CBRS auction. The result is a combination of low, mid and mmWave bands that gives Verizon the best spectrum holding in the market.

Another key area has been our investment in network assets. Fiber serves as the critical backbone to our 5G deployment and provides us with a unique competitive advantage. Our commitments with our vendor partners, such as Samsung, Nokia, Ericsson and Corning represent key long-term strategic agreements to drive innovation in 5G.

In addition to network investments, we've leveraged partnerships and M&A to bring more value to our customers and better complement our competitive position in areas where we were previously underpenetrated to support the Network-as-a-Service strategy. Years of a very deliberate and disciplined approach have positioned us to support all 5 vectors of growth.

Let me recap some of the key information you heard from my colleagues with milestones that will lay out the foundation and path for our accelerated revenue growth. This begins with our build phase. Kyle mentioned all the work his team will be doing within our existing tower footprint between now and when we receive the 60 megahertz in the initial 46 markets. We intend to cover roughly 100 million POPs with C-band within the next 12 months. And as a result of our preplanning with our vendors around C-band compatible phones, including the iPhone 12, we expect more than 20% of our phone base will have such devices at the time of launch, allowing those customers to experience the benefits in just a short period of time.

As you've heard from Ronan and Tami, C-band will be a key accelerator for our fixed wireless home and office products, allowing us to expand fixed wireless access households covered to 15 million homes in the next 12 months, including 1 million to 2 million through mmWave. That 15 million, plus millions of more businesses, will enable us to be a true disruptor in the broadband space outside of our Fios footprint.

Furthermore, on mmWave, as we continue to build with another 14,000 sites this year, we expect more than 5% of overall usage will be on mmWave by the end of 2021, offering the ultimate experience in 5G to more and more of our customers. 2022 and 2023 will be a period to scale our C-band 5G deployments. During this period, as we cross over 175 million POPs covered and penetrate 55% of our phone base with 5G-capable devices and cover 30 million households with fixed wireless access, you'll see our revenue growth starting to scale as well.

Mobility revenue will benefit from customer growth in consumer and business in addition to the accelerated 5G penetration that you heard from Ronan, which will drive the uptick in unlimited and premium unlimited. Fixed wireless approach is becoming a \$1 billion annual business and 5G Edge revenues begin to scale. In 2024 and beyond, as the second phase of C-band spectrum goes into service, we'll pass 250 million POPs delivering

nationwide coverage. We'll hit full stride in terms of unlocking our new growth opportunities. The coverage, device adoption, fixed wireless open for sale, 5G Edge and the transformative experience of mmWave puts Verizon in a position where our competitors can't go.

With our best-in-class 4G, best-in-class 5G, critical fiber backbone with owners economics, we believe 2024 and beyond will usher in elevated levels of revenue growth combined with the best-in-industry cost structure.

Getting more specific with revenue growth across the build, scale and nationwide periods, let me first bring you back to our 2021 guidance with 2% plus growth in service and other revenue. As I previously stated, that strong guide was made on the back of the momentum we've been seeing in our core operations across the second half of 2020, with strong wireless service revenue as well as 5G mobility gains associated with higher adoption of unlimited and premium unlimited plans, combined with the growth we delivered in Fios and Verizon Media.

You've heard from both Ronan and Tami about the optimism they have to their businesses now and into the future. Ronan talked about his platform model in support of our Network-as-a-Service strategy, the operating leverage inherent in our business and our ability to harness those strengths to deliver multiple sources of revenue. Tami talked about the success her team is having growing subscribers and in selling both network and above the network layer services.

As we get into the scale period 2022 to 2023, we're taking it up a notch, expecting to deliver 3% more service and other revenue growth. 5G mobility gains become even more material and are complemented on the consumer side by fixed wireless and on the business side by MEC and real-time enterprise solutions.

In our nationwide phase, 2024 and beyond, this is where we will fully unlock the benefits of nationwide C-band deployment and fully unlock the benefits of our mmWave build. With fixed wireless generating well over \$1 billion a year in revenue and the expansion of our MEC business, you will see us expecting to deliver service and other revenue growth of 4% or more on the back of strong performances from all of our segments.

As we accelerate revenue, you can expect us to maintain our normal cost discipline, resulting in strong EBITDA growth over this time frame. Our strategy is working. Our core business is producing revenue growth today. More customers are experiencing the benefits of 5G Ultra Wideband every month on our mmWave spectrum, and C-band helps us accelerate the timeline and expand upon that growth.

Now let's move from the value we expect from acquiring the C-band spectrum to how we will finance it and other impacts on the financial statements. We have 2 payments to the FCC due this month. The first was the initial 20% minus the upfront payment we made in the fourth quarter that was due earlier today. This was for \$8.2 billion and was financed by our cash on hand, which was \$22 billion at the end of 2020, including the \$12 billion bond issuance last November.

The remaining balance of approximately \$36 billion is due later this month. As you saw in our recent 10-K filing, we have arranged a \$25 billion bank facility, and we expect to access the public debt market soon, assuming favorable conditions. We have payments to the satellite companies for clearing costs and incentive payments over the next few years, and we will provide more detail as the amounts are finalized.

Now for the nonrevenue-related case impacts from C-band. There are 3 main components that impact cash payments. First is the increase in capital expenditures. As highlighted earlier, we plan for an additional \$10 billion in capital expenditures over the next 3 years as we deploy C-band. Kyle has full approval to spend as quickly as possible, and we will provide updates throughout the year on the progress of the deployment. This spend will be in addition to our capital expenditure guidance of \$17.5 billion to \$18.5 billion for 2021, which you can expect will be at comparable levels through 2023.

Next, cash interest payments are expected to be approximately \$4 billion higher over the next 3 years, reaching a full year run rate of \$1.4 billion by 2022. This represents a use of cash and reflects the full financing for the debt associated with C-band. Lastly, cash taxes are expected to be approximately \$5 billion lower for the next 3 years, with a peak benefit of approximately \$2 billion in 2022. The cash tax line represents benefits due to tax appreciation on the \$10 billion of CapEx, the higher interest expense as well as tax amortization of the spectrum over 15 years.

The net cash outflow for these specific items over the next 3 years is expected to be approximately \$9 billion, with the reduction in cash taxes more than offsetting the higher interest payments during that period. Excluding the CapEx component, the total net cash flow statement impact associated with cash interest and cash taxes will be minimal in 2021 with slight benefits in 2022 and 2023.

We do want to take a moment to remind everyone of the treatment of interest expense within the cash flow statement. For the interest costs related to the spectrum acquisition, it will initially be capitalized and appear in acquisitions of wireless licenses as part of cash flows from investing. Once that spectrum is determined to be in service, this interest will then flow through cash flow from operations. Additionally, capitalized interest associated with build-out costs will be included in the capital expenditures line as interest during construction. Thus, the capital expenditures line within cash flows from investing should reflect more than the \$10 billion CapEx spend.

The C-band transaction will also impact the income statement. Excluding the anticipated incremental revenue and EBITDA growth expectations, I've outlined the impact to the following below-the-line items. Depreciation and amortization will increase as a result of the additional \$10 billion of capital spending, which will be depreciated over 7 to 8 years on average. The interest expense line will be impacted by the higher debt level, although this impact will be reduced in the next few years as the interest cost is capitalized while the spectrum and CapEx is being made ready to put into service. We expect the net impact from these items will be insignificant to 2021 adjusted EPS and that 2022 will be impacted by approximately \$0.10 and 2023 by approximately \$0.20.

While there is an impact to our balance sheet from the auction, our capital allocation policy that has served us so well will remain the same. You have heard details about the first priority to invest in our business, including the \$10 billion of CapEx over the next 3 years. You heard Hans mention earlier that we expect our capital intensity to reduce after this period.

Our second priority remains our commitment to the dividend. We understand that the dividend is important to our shareholders and expect no change in our dividend policy, which is seeing us announce annual increases for 14 consecutive years. With the strength of the business and revenue growth trajectory, we look forward to putting the Board in a position to raise the dividend again later in the year.

Our third priority is to have a strong balance sheet. We will continue to have a leverage target of 1.75x to 2.0x, and while the investment in the acquisition and deployment of C-band will delay us achieving our targeted leverage and get into our fourth capital allocation priority by a few years, we continue to be committed to being at a point in time where we are able to execute on all 4 of our capital allocation priorities, including returning capital to shareholders in addition to dividends. We ended 2020 with our leverage metric of net unsecured debt to EBITDA at the upper end of our target range. We expect this to increase to about 2.8x at the end of the year and get back to the target range in a 4- to 5-year period.

Our balance sheet leverage has expanded in the past when we have made important acquisitions. After those events, we committed to reducing our leverage, and we delivered on those commitments. We intend to do so again.

Let me close by saying I'm very confident with the path we're on to continue to execute our strategy. That focus has positioned us across the 5 growth vectors and to deliver GDP plus revenue growth consistently moving forward. We believe the top line trajectory and disciplined cost management will translate to EBITDA and cash flow growth consistent with our revenue expectations, which will enable us to generate strong returns on our investments to fund all of our capital allocation goals.

With that, I'll hand it back over to Hans.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thanks, Matt. I hope you have heard excitement from me and my leadership team over the past hour. But just in case, I will sum it up. In a couple of weeks, my executive team and I will meet with our Board for our annual strategy retreat to present our 5-year plan. While I cannot share everything we will tell them, I want to give you a glimpse of how we will describe Verizon 5 years from now as we pioneer the ways that 5G will transform our lives and accelerate and amplify our growth.

We will be a company with revenues growing better than GDP, with strong margins, dividends and EPS growth, a company with a strong balance sheet, cash flow and leverage within our target range. Through strategic investment, we will have C-band fully deployed across the country, paired with mmWave in dense location, delivering the best and unique 5G experience only possible with 5G built right. And we will remain the industry leader in consumer mobility, 5G home and office and the partner of choice for small businesses, large enterprises and governmental customers, enabling incredible application not previously possible.

I will leave you with this. When we launched 4G, the market could not see what was coming around the corner. Or that in matter of years, stepping out of the curb and hailing a cab will become obsolete. We're about to turn that corner again. And there we being the next-generation unicorns ready to innovate on what we are building. That's not a prediction, it's a promise. It's an exciting time for us with tremendous opportunities ahead. We look forward to having you on this journey with us.

Brady Connor - Verizon Communications Inc. - SVP of IR

Thanks, team. I hope you all enjoyed the presentations tonight. I want to take this opportunity to point out that we are posting an infographic to our investor website as we speak.

Next up, we're going to take a short break as we transition to Q&A. Stay tuned. When we come back, we'll open up the lines for analysts to ask questions.

(Break)

QUESTIONS AND ANSWERS

Brady Connor - Verizon Communications Inc. - SVP of IR

Okay. Great. We're back and ready to start questions and answers. First up is Phil Cusick from JPMorgan. Phil?

Philip Cusick - JPMorgan Chase & Co, Research Division - MD and Senior Analyst

Hans, maybe 2 if I can. One, Hans, can you talk about how you see wireless and fixed competition impacting your model on accounts and pricing? What's the base case on competitive levels over the next 4 or 5 years? And then Matt, there's another auction possibly coming later this year. Given your 50-plus billion spending in C-band, should we assume that you are still interested, not interested? What have you told the rating agencies?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thank you, Phil. I can start with the competition. I think that we have had -- as long as I have been here at least, a very competitive market, and we foresee that going forward as well. But I think that our positioning, I'm really happy with our positioning. First of all, we are leading the market. We have done a lot of transformation. We are now adding assets so we can even accelerate. And we have models both in consumer with Ronan and with Tami on the business side that we have now developed, and we're seeing good traction in all of them. And some of the growth vectors we have talked about today are definitely accelerated with this asset that we are now acquiring.

So I have to say, I feel good about competing, and that's also why we talk about the growth trajectory that we see in front of us. And that's, of course, based on the plans and based on that's going to be competition. But again, we will compete effectively in this market with the assets we have and the way we have set up the company.

And before we go to Matt then on the spectrum piece, as always, we will always look into all spectrum and see if that would enhance our way of dealing with data growth. But we also need to say we're very pleased with the assets we have today. But we will always look into it and see if it fits

in for us. But right now, I can tell you that we have a line of sight of the growth that we already started last year and enhancing that. And that excites me and my team.

Matt?

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes, thanks, Phil. Good evening. Good to see you. So look, as we think about where we are today, we're just very excited about the spectrum we just launched. But as Hans said, we look at every option that comes up. We have a model that we use that values different spectrums, and we'll wait to see how that plays out. But right now, we're focused on getting to work starting tomorrow morning with the spectrum we just won in this auction.

Brady Connor - Verizon Communications Inc. - SVP of IR

Okay. Thanks, Phil. Next up is Brett Feldman from Goldman Sachs. Brett?

Brett Feldman - Goldman Sachs Group, Inc., Research Division - Equity Analyst

Two if you don't mind. So first, you talked about getting your 5G handset base, your postpaid phone handset base to greater than 50% penetration of 5G C-band capable devices by 2023. How do you plan on getting there? Is that the natural penetration you expect just based on the normal upgrade rate you see in your base? Or do you intend to stimulate that through either subsidies or promos or other incentives?

And then I just wanted to clarify the CapEx guidance. Is it fair to say that what you're expecting is that this \$18-ish billion dollar a year run rate will remain intact? And then you're layering on top of that, over the next few years, an incremental \$10 billion? And whatever the right answer is, is that \$10 billion reasonably consistent? Or is it going to be front or back end loaded?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thank you, Brett. I will try to remember the questions. I think when it comes to competing in the wireless area, which I will hand to Ronan as well, we are, of course, feeling good about everything we have done since the unlimited launch 2017. The models we have in mix and match that Ronan talked about and the value propositions we have, and that, of course, is a migration we see together with 5G. And that's why I think me and Ronan and the whole team feel really good about it. But also remember, we have a really good traction on the business side with 5G as well as Tami talked about. I will come back after Ronan.

But answering on the other question on the CapEx, just to clarify, then if it wasn't clear. Yes, we're going to have \$10 billion over these 3 years. That's going to be on top of our business as usual. We have basically told Kyle to go as fast as he can. So we don't have any more information about that right now. But if he can spend it as soon as possible, he will do it. But of course, there are some things that are enablers here as well.

And finally, after that 3 years, and I think both Matt and I said it in the remarks, there's a lot of things that is also coming down. And that would be the 4G capacity. We will be well into our mmWave build. We're also coming to the end of the fiber build. And then also CDMA will go to the end of life. So all that, together with the Verizon Intelligent Edge Network that we started in 2017, Kyle and me, that will then enable us to be even more cost-efficient on our capital expenditures from those 3 years. So that means that it will be lower than a BAU that we have today.

Ronan, on the 5G phones.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

So let me add to that. So look, we had a very strong kick off on 5G. And as we said in the previous remarks, 70% of the 10 million devices in my base already are C-band compatible.

What we see is we see the work that we've done at the ecosystem, which has brought the price of access to a 5G Ultra Wideband compatible device below \$500 as integral to it becoming the device of choice across all the range of customers. That in itself will accelerate a natural adoption where previously we saw in the 4G, it was premium devices only. So that's the first thing we've done.

Second thing as we roll out the C-band and as we broaden out the availability of Ultra Wideband and the opportunity to bring a home broadband proposition, we will see opportunities for targeted growth there that will allow us to accelerate the natural adoption curve. And that's why we believe that even Ericsson's most ambitious plan of 55% by the end of 2023 we believe we can exceed that.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And before we move on there, Brady, anything you want to add on the CapEx? Or do you think I clarified it?

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes. Look, I think exactly right. I mean, just to be crystal clear with everyone, the \$10 billion we referenced is extra amount cumulatively over the next 3 years. That's on top of the \$17.5 billion to \$18.5 billion this year, and we expect the next couple of years the non-C-band to be at a comparable level to what you see for this year and the past few years. So that gives you a sense there. And as Hans said, we're just really excited as we think we get past that time period, there's a number of tailwinds as we think about where the capital intensity should be. Obviously, the capital intensity will be helped by the revenue growth. But even when we look at the absolute number, the intelligent edge network spend will be largely done. The one fiber build, the core build in the cities will be largely done there, still have this success-based stuff, but the main upfront build, that will be done, and Hans mentioned CDMA retirement. And as we get all this traffic over to 5G, the amount going on to add capacity to LTE will be reducing as well. So we're pretty excited about that picture as we look a little further into the future.

Okay. Thanks. Next up is John Hodulik from UBS. John?

John Hodulik - UBS Investment Bank, Research Division - MD, Sector Head of the United States Communications Group and Telco & Pay TV Analyst

Great. Two quick ones I think. Thanks for the revenue guidance. Do you guys think you can grow or expand consolidated EBITDA margins despite the aggressive build-out that you'll have over the next few years, each year? That's number one. And then number two, in the past, on the fixed wireless side, you've talked about a 20% penetration rate longer term. And I think that was associated with the mmWave build-out and the 30 million homes. With the addition of C-band, is that 20% penetration rate still in the same neighborhood? Or are there some potential benefits to that going forward?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

I didn't get the first question. You did get that, Matt?

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

I did.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

If you answer that one, we -- Ronan and I will take the other one.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes, so, John, I think your first question was on the EBITDA margins. And we certainly expect to see EBITDA dollars grow in line with the revenue growth trajectory that we laid out.

When you think about the 2 different parts of the business, the 2 reporting segments, obviously, in consumer, we have best-in-class margins. And so the opportunity here is really drive the revenue growth and have that revenue growth we expect to see comparable EBITDA growth in dollar terms within consumer.

And you heard Tami mention earlier, a lot of good stuff going on. They've got the revenue opportunity in front of them. You combine it with the transformation work. They probably see flattish margins over the next couple of years or so with the opportunity to expand above 25% after that. But again, that's revenue growth seeing that -- those -- that fall down to the EBITDA dollar line in proportional type levels. So really excited about what we could see at EBITDA line and then what that does through to cash flow as well.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

On the home broadband, of course, we are very excited over that, that we can now serve the nationwide with broadband. And especially as we have seen what's happening in the pandemic with the demand of broadband, we're right in place. But remember, we have multiple ways of doing it, all the way from mmWave, C-band, and we're doing 4G today, and we have the Fios. And all of them are playing into that way we can serve our customers with the right proposition. And remember also, what we talked about right now was, of course, households. We know that Tami also mentioned that 5G internet is a great opportunity as well because suddenly we are broadband enabled nationwide as well. So we're excited over that and what we can offer. And I ask Ronan because there were some particular questions there about what market share we believe it can take.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Yes. So I think the key here is, look, and we have evidence already in our Fios footprint. We've developed a model mix and match, which has got real resonance with our customers. We started in wireless, we brought it into the Fios footprint. We already see that our ability to compete in the Fios footprint and to cross-sell mobile and home is stronger. And so it affords us an opportunity of a greater market share.

And as I said in my previous comments, I see the opportunity, not just simply to go after share in home as an isolated segment, but more particularly to convert as many of those homes as possible once that we already are in as a wireless provider into mobile and home customers. And if we're successful in doing that, not only will necessarily the cost of acquisition potentially be lower, but I do see a path to potentially exceeding a sort of 20% penetration rate. And that's why I'm so excited about the fact that we've got this scale nationwide now because you bring the best wireless, nobody debates, the best wireless carrier in the marketplace who's already got the market share now has an opportunity to add another line to your wireless plan, which is a residential broadband that can meet and exceed your opportunity. That's why we're excited about this.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And some great devices coming out at the same time. I will actually pivot also to Tami to ask her a little bit about the opportunity also with 5G internet, which is the name of the product that you are using for this?

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Yes. So we're also very excited about Verizon business internet, which is the name of our broadband. And we announced that we're live in 3 markets today and we'll expand that by another 20 markets by the end of the year. It's a natural extension for us as we serve our wireless customers today.

As I shared in my remarks, we lead in overall wireless market share in every segment we serve. And now the ability to expand that and extend it into Verizon business internet positions us perfectly to serve customers in a way that we know they need from a connectivity standpoint and then above connectivity around advanced comms and security. So really excited about the opportunity, very well positioned.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And this is a payoff also of the hard work that Kyle and the team have done for years preparing us a 5G home with the technology and all of that in devices. And no, I think -- I hope you hear our excitement over it. Back to you, Brady, sorry.

Brady Connor - Verizon Communications Inc. - SVP of IR

Yes, thanks, John. We're ready for the next question. Next question is going to come from Simon Flannery from Morgan Stanley. Simon?

Simon Flannery - Morgan Stanley, Research Division - MD

Great. Ronan, you mentioned a significant acceleration in second half volumes. I wonder if you could just unpack that a little bit what gives you confidence there. And then, Kyle, if you could just talk about any opportunity to work with the satellite companies to get some early clearing given you've got that A1 anchor position, particularly around the December '23 deadline.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Simon, I'll start, and I will ping it over to these. I mean the consumer question you can take. On the spectrum clearance, you have to be clear that for us, we have been in anti-collusion rules until it's 1 hour and 20 minutes. So we haven't been speaking to anyone because we're not allowed. So I don't think that we can give you so many highlights on that. We are working with the FCC timelines that they have given us on the spectrum clearing. That's what we are presenting here and how we're executing on that. I start with you and then see if Kyle has anything more.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Sure, and Simon, my earlier comments, there's a number of things. We have a natural seasonality to our business, as you know. We also see an accelerating recovery from the pandemic that will certainly play out in the second half. And we also have availability. I started the quarter in -- the first quarter with 250 stores closed. And as I Tweeted out earlier today, I'm now essentially 100% open.

So all of those plus the increasing resonance of my mix and match proposition just give me the confidence that there will be a better market opportunity there. The other thing is that as we go through the year and subject to our regulatory approval, we're excited about the opportunity to not just be in the premium switcher pool, but also participate in the prepay switcher pool. So more to go there as well, and then closing out the year with the opportunity to fire up the C-band and go after that opportunity.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

You Tweeted today?

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

I did.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Okay. Kyle?

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

The -- Hans covered it. The only thing -- a couple of things I'd say is we're focused really on the process right now of getting this cleared on time, so we can use this as quickly as we can. But we did anchor ourselves down in A1 to give us optionality. So we're furthest away from the satellite operations, and we feel really good about where we ended up because we're in A1 across all the markets.

Brady Connor - Verizon Communications Inc. - SVP of IR

Great, thanks, Simon. We're ready for the next question. We're going to go to David Barden from Bank of America next. Dave?

David Barden - BofA Securities, Research Division - MD

The first one I would have maybe for Hans or Matt. This 3% guidance for revenue growth. Can you match that to the 2% growth expectation for ARPA? And is TracFone in that? What percentage of -- how does volume contribute to that? And then what's the X factor that contributes to that 4% as we get into the kind of nationwide deployment fact element?

And I guess the second question is for Kyle. The A1 anchor block focused away from the incumbent satellite providers. It's also nearest to the CBRS providers. And there has been concern that it could be the noisiest of the blocks of C-band that are out there. Can you kind of communicate why you're comfortable that, that's the best place to be?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Yes. Let's unpack the revenue, and I'll let Matt do that. And then we come over to your question on the spectrum.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes. So thanks, Dave, for the question. So as you think about the revenue, I mean certainly, it's anchored on the growth that we're expecting to see this year, service and other revenue, 2 plus percent, built off the strong momentum you saw at the back end of last year, not just in wireless but also in Fios and Verizon Media as well. So then as you come into what you -- we think about getting into 2022 and 2023, what you're going to see there as we bring on those first 46 markets in mobility, we already saw this late last year where customers have the opportunity to get on our Ultra Wideband Network, we see the upgrade rates increase. And so obviously, as we have more customers with that opportunity, we expect to see the revenue increase on the mobility side as a result of that. Obviously, the fixed wireless access, we expect to bring on a number of homes as open for sale this year. And then we'll get the sales machine going against that. And then we'll obviously start building revenue in '22. And then that flywheel will start getting going.

And then on the B2B side, Tami obviously will also participate in both the mobility and the fixed wireless access. But on top of that, you heard her talk about the opportunities really starting to show up in 2022 from a revenue standpoint. Won't be that large in '22, but again, it's good and that flywheel started sort of as you get into the out-years, it's growing from there. So then that's the pivot from 2% to 3%. And then as you get to '24 and beyond, there's a 4-plus percent is built on the fact we get to do that nationwide across all 48 states, no gaps in the coverage anywhere. We'll

have got the momentum in the first 46 markets behind fixed wireless access. That should really be expanding then. And then certainly, the mobile edge compute opportunities become much more material at that point in time, too. So when you bring that all together, that adds up to the -- what we think is a very exciting revenue forecast and outlook that we looked at earlier. So that's how we'll build there.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thank you. Kyle... (inaudible)

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

Yes, so in terms of the CBRS spectrum, I mean, we've been working with the CBRS spectrum for years and years and years. This is spectrum that's very well understood by us, and we do not see any problem whatsoever being up against our C-band holding here. So we think it actually complements it very well. We're starting to put the CBRS out there. We're getting momentum with that. And adding C-band to it is just going to really amplify things here. So we are very, very comfortable with our position here.

Brady Connor - Verizon Communications Inc. - SVP of IR

Great. Thanks, David. We're going to move the next question. Next question is going to come from Craig Moffett of MoffettNathanson. Craig?

Craig Moffett - MoffettNathanson LLC - Co-Founder, Founding Partner & Senior Research Analyst

So 2 questions, if I could, and they're related. First, the \$10 billion is presumably about primarily densification. What assumption do you make about the uplink band for that densification? Is the assumption that you'll be using the 3.7 uplink and downlink? Or are you assuming a lower frequency for uplink? So what frequency and how do you clear it?

And then I guess a related question for Matt is, what are the margin implications of that? The \$10 billion presumably has some meaningful pull-through of OpEx as well as CapEx. So whether it's tower leasing or even powering costs that we hear a lot from China about how much it costs to power a 3.7 network. So maybe if you can just talk about the OpEx associated with deploying this spectrum.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thanks, Craig. I can start, and then I will ask, Matt then. I think first of all, as we said in our prepared remarks here that, first of all, we're using an existing grid. Because our existing grid is good, so we're using the towers that we already have when we're deploying right now. So that's the 7,000 to 8,000 sites we're doing. So we feel really good about that.

And then when it comes to Opex, that has, of course, an implication that we're using whatever we have. And -- but Kyle?

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

Yes. No, so our network is already very, very dense. We build our network to have overlapping coverage. We don't engineer our network to have cell edges just meet at the fringe. We have a lot of overlapping coverage. So the C-band fits exactly right in this perfectly into the overlapping coverage we already have. We don't see a need to go down into low-band spectrum to augment an uplink. That's not what we have to do. Now like we just said before, we've been able to talk about this for 1.5 hours. At some point, we'll definitely come back and we'll talk about what our band plans are and how this will work. But right now, we have such a dense, great network. We're going to put this spectrum to work on the assets we already have.

Now certainly, in rural areas over time, we'll probably need to do some fill in. But right now, it's all about space, power, cooling, getting the antennas on there and getting the connectivity to the cell sites to supplement the bandwidth required. So that's -- we feel we have a great line of sight here. We'll do this very efficiently.

The other thing I think that's really important is this is a global band, and so there's economies of scale here already, and it will only amplify as we put this out there and drive more into the ecosystem here. So we feel really good about how efficiently we can deploy this asset.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Yes. And we shouldn't forget that we actually have the absolute best 4G network in the nation, and we're building on top of that. I mean it's the reason why we have this position we have. So I would say this is basically extending our lead. That's what this is doing to our business with this new asset. And that's why we're so bullish on the acceleration of the growth and the amplification on our business opportunities. Matt?

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes. So Craig, as you think about the OpEx, when we spoke earlier about, obviously, the revenue growth, and we said the EBITDA should grow by a similar profile as the revenue growth, that includes the assumption around any OpEx associated with running the network. 5G is going to be a more efficient network to run on a per-gig basis. And so we know what to expect to come here and certainly to build those sites out. And we see the costs come through. That's already baked into our assumptions. So very excited about the revenue growth and EBITDA growth that we're going to generate as a result of having this spectrum in our portfolio now.

Brady Connor - Verizon Communications Inc. - SVP of IR

Go right to the next question. Next, we're going to go to Cristina Rosenberg from Citigroup. Cristina?

Cristina Rosenberg - Citigroup - Analyst

Two questions, one for Matt and one for Hans. Matt, as you mentioned, you've been at the high end of your target leverage range for the better part of this year. So what advantages do you see in having low A light spreads in credit metrics?

And then for Hans, in light of that question and with respect to your financial policies, is it important to you and to the Board to achieve that leverage target again and potential credit rating uplift given your 5 growth sectors and all the investment opportunities you presented for us tonight?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thank you, Cristina. Yes, definitely. I mean as we outlined, we have, of course, have a very tight conversation with our Board through this process and the auction. And we also have clearly said that we think it's good for our company and for the flexibility that we are in the target range we have talked about. I mean you just look at what we have been able to do in the last 12 months, and we have refinanced all the balance sheet. Matt and our Treasurer, Scott Krohn, has done a fantastic job because we have that rating. And remember also, we have had several of these type of iterations all the time. We had the Alltel acquisition. We had the Vodafone buyout. Both of them brought up our leverage. But ultimately, we have been very committed to come back, and we're committed to come back right now as well. But it's part of our capital prioritization and which is not changing because of this. I think we have proven over time that we're really good at this, and I'm really excited with my treasury department because they're doing great job. So no, this is important to us because it gives us the flexibility. And that it gave us the flexibility, what we're doing here today. We are talking about these assets that we're now adding to our portfolio and strengthening the leadership in this market. So yes, it is important to us, and it's important to our Board.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes, Cristina. So -- and Hans has really hit the point there. It's the ability to take advantage of opportunities when they come up, opportunities that allow us to grow the business, to accelerate the strategy. Having a strong balance sheet lets us do that, not just to get the spectrum we won in the auction, but then to also be able to deploy the \$10 billion of CapEx, so we can deploy the spectrum as quickly as possible and generate returns as quickly as we can. So that's obviously incredibly important to us. As Hans said, we've been on this journey before with Alltel and then Vodafone. We put the balance sheet back in a great position.

And when you think about the rating agencies, we've had some great conversations with them. I think they've all now come out and showed that they're keeping their ratings where they were. They understand the importance of spectrum to us. There couldn't be a more on straight down the middle of the fairway acquisition that we can do in terms of something that's consistent with our strategy. And so you see Fitch has maintained the A- rating and Moody's BAA1, S&P at BBB+ because they understand not only the importance of it but the track record of delivering on our commitments around the balance sheet, so we can tend to do that again. And finally, as a result of that, it gives us access to a variety of funding sources out in the marketplace, which helps us with our overall cost of capital. So having a strong balance sheet has a number of benefits for us. It's served us incredibly well. And based off that, you should expect us to continue with that policy.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And I just want to add on that, I mean these are generational commitments that we're doing to shareholders and bondholders. I mean neither Matt or I was here or anybody else when we did the transaction of Vodafone, you were there but in the Treasury function but the commitment that my predecessor was doing. And we have that commitment, and the Board is fully supporting for it. And that goes also for the deployment and the acceleration we're doing. And hopefully, you have seen the track record of the commitments we're doing, we're delivering on. And the same is going to happen with the things we're talking about today. So for me, that's important to tell to all the investors out there and the bondholders that we are extremely committed to the plans that we're presenting today. We've been working, I can tell you this team has worked 24/7 to see that we have a holistic thinking on what we're doing. And I'm extremely proud of the team and where we are right now. And I have said I'm excited. I said it before, so I don't say it anymore.

Brady Connor - Verizon Communications Inc. - SVP of IR

Thanks, Hans. We're going to go to the next question. Next question is from Colby Synesael from Cowen. Colby, how did I do? Did it get it right?

Colby Synesael - Cowen and Company, LLC, Research Division - MD & Senior Research Analyst

Yes. You mentioned as far as fixed wireless, that you're intending to pass 15 million homes, I think, by the end of this year. You mentioned, I think, 1 million to 2 million of those are mmWave, the remainder are some 6 gigahertz. Curious, for the sub-6 gigahertz, what's the speed that you're thinking you'll be able to get off of that network? And are you planning to price the 6 -- the mmWave and the sub-6 gigahertz at the same price given probably different value propositions?

And then also, when are you expecting to actually start breaking out the subscribers for your fixed wireless product? I have to imagine most people haven't yet put it into their models. It would be helpful obviously to start seeing those numbers. Trying to get a sense of what the pricing and ARPU is going to be so that we could start to kind of see for ourselves how you get to that 3% and then ultimately that 4%.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Yes, I will start, and I will have some help over here. First of all, we will have competitive speeds on our broadband offerings. We have all the assets we need right now to have very competitive offering all the way from our mmWave to the C-band. So I think that we can play in all the different layers of broadband in the market, and that's why we're so excited. And historically, we have had a great spectrum but maybe not most spectrum in the market, but we also have the best engineers that actually can put this together better than anybody else. And sometimes we are a little bit

too focused on one asset. Remember, we have all the assets to actually deliver on what we're talking about today. And that's needed. You need the best engineers. You need the best spectrum assets. You need sort of the distribution, that Tami and Ronan have. And you need to have a brand that we've worked enormously in the last couple of years. So for me, this is a holistic work we're doing in the Verizon 2.0 era.

And I'm really happy with how it's coming together with our strategy. Now remember, we're -- this is just amplifying our strategy. We're not changing our strategy. We have a Network-as-a-Service strategy, multipurpose network, and we have a go-to-market that is defined. And now we're adding just this strength. So I will ask you two to comment on what you're seeing here.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Colby, thank you. What you should think about is we've built a model which is mix and match. We've already created the concept of tiering within value, within our unlimited plans. And as we go into the residential broadband market now, potentially on a nationwide basis over the next couple of years, you should think about that as an augmentation and amplification of a strategy that's a seamless strategy around mix and match, around choice for customers. So this idea of tiered value, not all the elements necessarily purely network elements but also other value elements with the partners that we have and things like content and -- in other places. And so you should see that as the approach that we'll adopt. And to a large extent, I'm going to be somewhat bearer agnostic. I'm going to have a holistic home strategy, which we'll have within it fiber assets, we'll have 4G LTE assets, and we'll have 5G assets. What you should generally expect is that our ultra wideband proposition will include our C-band and our mmWave, so that it's clear and simple for the customer. But the opportunity for us to tier value is something that our customers appreciate already, so I think it's a natural thing for us to do as we expand that. And as I said on the comments earlier is, the ultimate opportunity for us is that we're essentially selling another line and actually getting paid for that extra line, which is really good. When we offer our customers the opportunity to have home broadband is just another line on their wireless account.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Before I come to Matt and maybe Kyle, we have been fantastic to manage capacity. And the question is also can you do all this within I mean with the assets we have and how we design the network, how do you see home capacity going forward?

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

I mean, we're putting -- we're more than doubling the amount of spectrum we have that we've -- up to this point for 30 years. And so now we'll be able to put this to work really quickly and along with all of the other assets, to Ronan's point we've become kind of agnostic. We're going to put all of our assets, all of our spectrum together, whether it be sub-6 or mmWave, and we'll meet the market with that extra capacity, so we can do both mobility cases and we can support a fixed wireless access product nationwide. That's the key here. We're excited about it as engineers and can't wait to start getting after it and building it.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And we didn't forget the question about the metrics when we start reporting, and I will ask Matt for that.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes, thanks. So as you think about the metrics on fixed wireless access, as you get to that significant increase in open for sale this year, obviously, the -- really getting the flywheel going on the mmWave. You see the volumes we've talked about there, 1 million to 2 million by the end of the year. The LTE home, we haven't spoken a lot about. We launched, what was it, October of last year? So we'll see that. And then obviously, as the C-band gets turned on, be a big component there. So I would say, imagine that as you get towards the end of this year, we'll see enough customers as part of that and revenue associated with that, that it would make sense for us to report against it.

Brady Connor - Verizon Communications Inc. - SVP of IR

We're ready for the next question. Next question is going to come from Doug Mitchelson from Credit Suisse. Doug?

Doug Mitchelson - Crédit Suisse AG, Research Division - MD

So Kyle, I'm glad you're getting good night sleep tonight. I thought you'd be starting right after this call. So look, I appreciate the sizing, Hans, of the MEC driven revenue opportunities, \$30 billion by 2025. I'm trying to figure out how much the value lies with Verizon versus, say, the hyperscale cloud operators. And what kind of market share should we be thinking about for Verizon? The reason I ask is I'm trying to tie the \$30 billion revenue opportunity versus the incremental point of growth in 2023 then another incremental point of revenue growth in 2024 and beyond, which is sort of \$600 million-plus incremental revenue per year?

And then perhaps for Ronan, the well over \$1 billion of fixed wireless access, how much of that is coming from existing Fios or DSL customers coming over to fixed wireless versus just incremental fixed wireless customers, incremental customers to the company?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Thank you. I can start on the mobile edge compute. I mean your question is great. I mean now we're formulating how big the market we believe it is. Now remember, we're the only one in the market with this offering, so I think that is very clear. We are absolutely lead in mobile edge compute. We have been working on this for 2, 3 years with Kyle, with Amazon, and now we're including on the private side with Azure and Microsoft. So we are actually -- we're the market maker here. We are building this market. And as Tami said, there are 2 different models here. One is, of course, the revenue share we have when it's a public cloud, where basically, Amazon is distributing this, they are taking the lead, and then we have a share of the total revenue. And we cannot tell you exactly what it is because it's a little bit confidential, but we are happy with the deal.

And then on the private side, we'll talk about the private network and all of that. That's basically enterprise solutions. That's what we see. But maybe you want to expand on that.

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Yes. So we're super excited to be in-market with edge compute today. It's the only one in-market, and Amazon has certainly been, AWS, a great partner as we've opened up the capability to their million developers around the world to really develop applications and solutions. And as Hans said, while I can't give you the details of those rev share models, what I can tell you is that we expect MEC to be a multibillion-dollar opportunity over the 5-year period of time. And it really does come from the fact that we have 2 models, 1 public, 1 private, and then we have the opportunity to participate in private networks. And as we're talking to customers around the world in their transformation efforts, and those have accelerated over the last 12 months, they view private networks as an important part of that transformation. And then on top of that, we have the ability to develop enterprise solutions, real-time enterprise solutions, and we're seeing incredible use cases today around health care, around retail, around manufacturing. So it isn't something we're just talking about. We've made this market, and we're just getting started, and there couldn't be a better time to lean in and help our customers as they reimagine and transform their business with digital at the core. So I'm super excited.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And just to add on that, I mean 2018 and I'd say 2019, 2020, we talked about customers who talk about what edge is and the eight currencies and all of that. Now in 2020, we started doing trials with them. And in '21, we're starting to do commercial deals with them. So this is something we are actually establishing in the market, and we have the best partners you can ever imagine. And so...

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Yes. And I think, as Matt said, we're tracking to that 2022 revenue, and it will scale after that. It's one of the key levers of my margin accretion and the ability to scale that.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Yes. That's true. Ronan, there was a question about some broadband and Fios.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

So what you should imagine is that we see growth in the Fios footprint. In our fiber business, we see growth in 4G LTE as fixed wireless access product. And we see growth in 5G fixed wireless access. The only place we see cannibalization is that as Kyle builds out the C-band network, it's likely to be the case that I will have the opportunity to upgrade many of my 4G fixed wireless access customers for them to take a superior 5G product. But it's growth across all of the vectors and then an upgrade path for those customers who would currently enjoy the 4G fixed wireless access product.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

But again, what we're creating with the Network-as-a-Service, we create optionalities. Optionalities of different type of broadband solutions. And as well as what type of content you want on top of it, as well as if there are other solutions we want on it. But again, that's the way we're working to moving our customers with us and seeing that they get even more value. And that goes both for the Business side and for the Consumer side, built on the -- I am repeating myself with that Verizon Intelligent network because this was the idea that started 2017 because then we can monetize better than anybody else, better return on investment. So for me, it's coming together.

Brady Connor - Verizon Communications Inc. - SVP of IR

Next question is from Peter Supino with Bernstein. Peter?

Peter Supino - Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst

I'm going to ask about 5G Home. I apologize in advance for a couple of numbers here. But if we do achieve a 20% penetration of a 30 million home footprint, that would be 6 million 5G Home customers. By our math, a family's home presently consumes about 15x the data per month of a family's postpaid wireless account, assuming about 3 lines. 6 million homes times that 15 number puts a demand on the network that looks a lot like 90 million wireless accounts, basically doubling your postpaid phone business, with consumption rising and C-band propagation, a fraction of your core low-band portfolio. I would love to help with conviction -- your help with conviction about how you can commit to that type of load.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

So first of all, I think we have said it, but I will also ask my colleagues here, but we feel really good about the capacity. Remember, we have a capacity all the way from mmWave, and we are just using a fraction of that. We're just getting the C-band, which I said, it's 120% more than we had since we started wireless. And that was, I don't know how many years ago. It was long ago, long before me and this team. So I think that what we -- the spectrum is one thing, but that's how we engineer it, how we put it together. And we have been constantly managing capacity better than anybody else in the market. And even I remember because I entered this company when we launched unlimited. And everyone said, "Oh, you will never be able to manage that. It's going to be 3x, 4x." We have managed that, as you can see, no interruption at all, and people are using the network more than ever. I have the confidence in the guy and his team to the left here. They have done miracles with our network. They will continue to do it. So I'm convinced, hopefully, we can convince you, but I will try with some other people here to the left of me.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

So Peter, let me start, and then I'll hand it to Kyle here. But I'd just reference you back to the point that Hans made in the arrival of unlimited. Traffic went up 98%. Traffic in the busy period went up by less than 20%. This is about yield management on Network-as-a-Service. This is about optimizing throughput. This is about the opportunity to actually develop a range of products and services that maximize the utilization of the depth of capacity and capability that we will be able to deliver in this network. And the seamless integration of our mmWave with our C-band affords us the opportunity to have a depth of capacity. If I was asking the question, I'd ask the question about cable guys. They will probably have more capacity challenges than I will in the short, medium term. Kyle?

Kyle Malady - Verizon Communications Inc. - Executive VP & CTO

Yes. So I mean Ronan hit it right on the head. I mean, we're bringing a lot more spectrum to market. We didn't really talk about CBRS so much today. We're bringing that in the portfolio. And we have a massive amount of mmWave. So we're having the spectrum, but we're also working on technology. So the technology advancements will keep coming, and we will keep getting more out of the spectrum. Like we talked about earlier, we are -- we've been great stewards of the spectrum in driving more and more efficiencies. And we'll continue to do that. And we can bring on more and more and more usage onto our network. We'll have the capacity for it.

Now another key thing is the fiber. Fiber is very important. The backhaul is very, very important. We've been working on this for years through our OneFiber program and others. And that is another piece of the equation.

And finally, the core network needs to be able to scale and handle this amount of data, and we've been working on this for years. It's all part of the Intelligent Edge Network and all of the upgrades and the modernizations we're doing, so we can take on this amount of usage onto our network.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And as the usage are moving as well, and you usually say that, Kyle, all our spectrum is going to be 5G, if all the phones are on 5G, as we've done from the 3G to 2G migration. So I think we have clear line of sight that we can handle this, and we would be happy to see all those customers that we are calculating coming onto our network.

Brady Connor - Verizon Communications Inc. - SVP of IR

Yes, that would be great. Okay. Next question. I think we've got time for 2 more. First up, we're going to go to Frank Louthan with Raymond James. Frank?

Frank Louthan - Raymond James & Associates, Inc., Research Division - MD of Equity Research

Great. So 2 quick questions. When we look at the investment that we have here, what kind of return on invested capital can investors expect with what you're spending here on the spectrum and in the additional CapEx?

And secondly, you mentioned the cable companies. How does this fit in with them? Is there anything in the change in the renewal of the MVNO contract that make you more inclined to spend this much on the spectrum. How should we think about that?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

I can start with both of them, and then I'm going to hand over. When it comes to return on investment, I think that there is a reason why we want to accelerate these assets to coming out in the market as soon as possible in order to get the best return on investment, so we can monetize it as

soon as possible. And hopefully, you heard from us tonight that we are really committed to that monetization very quickly, as soon as we have the spectrum clear, we have business plan, we have products, so that is a very important piece for us.

Do you want to add something on that, Matt?

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes. Just real quick on that. So as you think about any time that we have a spectrum auction, we have a priority model that we've used for many, many years now as we think about how individual pieces of spectrum are valued versus other ways that we can bring functionality into the network. That model has served us incredibly well, and it did so again in this auction. So we have definite line of sight to a return well above our cost of capital as a result of the investment we made, both the investment in the auction and also the \$10 billion of capital to deploy it as quickly as we can. The return is significantly driven by the revenue generation we spent a good amount of time this evening talking about. So when we see those revenue opportunities, we compare it in terms of what it will cost to get that out of the network versus the auction. We feel very good about getting a -- as I was saying, above cost of capital return here that I think we'll be proud of over the years.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And Ronan, on the MVNO partners?

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Yes. So when I think about the wholesale partners, I think really around the strategy which is built around the capabilities that Kyle delivers, which says we have capability and capacity at scale on a nationwide basis. As a result, we are the partner of choice. In the wholesale market, it's a clear strategy for us. But we have a hierarchy of opportunities, and we work very, very closely with our strategy to make sure that our premium Verizon customer is #1 in that hierarchy, but we have the opportunity to open up new addressable markets for the quality of network and the capacity and capability we have. And that's why we believe we're an excellent partner with Network-as-a-Service. And to the context of that, we see more opportunity in that space as we deepen and broaden existing relationships and enhance the capabilities available. But we also see a pipeline where we're confident that we can continue to grow in that, which just simply complements the opportunities in our premium and, subject to regulatory approval, our opportunity to have direct access to the value market.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Yes. And as we have said several times as well, these MVNO partners, wholesale partners, they are like super important enterprise customer for us, so we work with them -- as we would do with any of your customers, Tami. So this is important for us, and I think that Ronan and team has done a fantastic job to work with them, together with Kyle, to see that they get the right technology and the right capabilities from the network. And we are happy with the partnership, and it seems like they are happy as well, so we will continue.

Brady Connor - Verizon Communications Inc. - SVP of IR

Great. For our last question, we're going to go to Kannan Venkateshwar from Barclays. Kannan, how did I do, did I get it close?

Kannan Venkateshwar - Barclays Bank PLC, Research Division - Director & Senior Research Analyst

[Close enough, Brady. So I guess a couple of things on the revenue model. I mean broadly, the way you guys have described this growth trajectory, accelerating 100 basis points next year and beyond, it feels like a lot of that growth is pricing dependent more than unit dependent. And the unit

growth will come from fixed wireless, but of course, that has different dimensions. It's not volume dependent, it's more a flat price kind of an environment. So first of all, I just want to get a sense for that particular interpretation, whether that's correct at all or not.

And then secondly, when you think about the wholesale partnership opportunity, I mean we tend to think about cable as essentially the set of opportunities that you guys have on the wholesale side. But is there anything beyond? Because earlier when you were describing the opportunity, I felt like there were some other opportunities even beyond cable you guys might be thinking about. So if you could just expand on that.

And lastly, just for Matt, the capital intensity comment, I just wanted to get this clear. When you say it drops beyond the 3-year deployment period, does it drop back to the \$18 billion in absolute terms? Or are we talking about essentially the network efficiency also kicking in and making that lower than the \$18 billion number?

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Okay. I was standing up. It's a little bit hard to sit here. Now I'm sitting again, sorry. Kannan, on the first question, remember, we have 5 vectors of growth, and we have them all-in play right now. Some we basically don't have any revenues today. Like the mobile edge compute, it's a market where basically every dollar is a new revenue. The other is, of course, the 5G Home, which is going from the Fios footprint we have together with mmWave and C-band. We're just going to a new market together both -- on the both sides. And then, of course, we have all this expansion together with our customers, especially on the Consumer side. And then we can compete effectively with our -- on the market. So I think there are many different things. And that's why we talk about the 5 vectors of growth. These are 5 vectors that are underpinned of the network we're building, where we have a cost advantage.

But maybe you want to add something, Ronan.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Yes. Kannan, what I would say to you is that if I take and interpret pricing as in one needs to move prices to, we have demonstrated with our mix and match strategy and our tiering within our unlimited the ability to expand engagement with our customer and actually tier-up where we add incremental value. Some of it network based, some of it other. That's all value creating. And we see the opportunity to continue to do that and then to broaden out from that in the vectors of growth that Hans described. So we essentially said to you, underpinning that is our ARPU and ARPA growth and volumes. Within that, it's the subscriptions itself, but it's a growing subscription base as we think about products that are growing as well, cloud and other things, where we have significant growth opportunity. You then add in the opportunities like residential broadband. So in that regard, we see a great opportunity for us to expand what is essentially the share of wallet and the share of engagement we have with the high-quality customers that we have a relationship with today.

And I give you an example of going into home, of course, the primary opportunity, it starts with accessing the home and selling a residential broadband offering. But in the home, there's a significant opportunity for us to scale up in the other products and services that we sell either directly or in partnership. And we've evidenced our ability to do that. So we're very confident that we have more than enough levers to grow, both in the quality of the core base, growth in the base itself and then expanding out the engagement and opportunity with those high-quality customers.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

Matt, do you want to qualify the -- our comment on the capital intensity.

Matt Ellis - Verizon Communications Inc. - Executive VP & CFO

Yes, exactly. So let me put some numbers around it, Kannan, to help be clear. So as you think about the capital intensity, the BAU capital intensity over the last 2, 3 years, we said at the midpoint of the guidance, this year is \$18 billion. We've been in that level. The capital intensity based off of

that has been fairly consistent. So when we talk about the capital intensity reducing, we're talking against that, not against the elevated level that includes the \$10 billion over the next 3 years. So certainly, even if we just came back down to \$18 billion after those 3 years, and you have the revenue growth that we've described that we're going to deliver, that would mean your capital intensity came down. On top of that, we have the opportunity with some of those tailwinds we mentioned earlier around that -- we see it coming through the CapEx, such as on the Intelligent Edge Network, the OneFiber, the CDMA retirement, et cetera. When you get those headwinds -- sorry, tailwinds start to come in at the same point in time, we're looking at the opportunity of can you see the actual cap -- absolute CapEx number come down. Now we're too far away from that right now to say it with certainty, but it's pretty interesting for us when we think about what that opportunity might look like when we get out to that point. So it's the reduction in intensity, not just driven by the increase of revenue but also when you think about where the absolute level of CapEx dollars might be.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And also another question also on the beyond wholesale, what can we see there, what about the customers, I mean you work with this every day.

Ronan Dunne - Verizon Communications Inc. - Executive VP & Group CEO of Verizon Consumer Group

Yes. And I think that's where -- look, we see further growth in what I would describe as traditional wholesale but by redefining the relationship with the facilities provider and the partner, and that's something that we're doing today. So that creates opportunities in itself. But I think we absolutely can go beyond that, and we see relationships as we think about categories like AR, VR, gaming, other things like that, where you might see new concept, new types of partnership model. So when we call it wholesaling or partnering, I wouldn't get too caught up. But our partnering platform, we are the largest direct-to-consumer distributor of digital product and service in the U.S. We think that's an incredibly valuable asset to be used very discerningly with high-quality brands. And as a result, we will evolve the model that we -- in the way we work with those brands. So, watch this space.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And also pivoting that even though some of these opportunities will materialize a little bit later for you, Tami, and we didn't speak so much about it today, but with the fiber and the wholesale because we have the same opportunities in your area. And -- but we also said on the OneFiber, so we're clear on that, that we focus firstly on our own 4G and 5G network, which you talked about. But after that, when that's over, then also the opportunity for you, both in wholesale but also building on top of this.

Tami Erwin - Verizon Communications Inc. - Executive VP & CEO of Verizon Business

Yes. And I think it's really important as we step back and look at 2.0 and we set out on 2.0, we said we'll serve customer segments, small and medium, global enterprise and our public sector. And we've continued to do that. We have never been better positioned to meet the needs of our Business customers. And the ability to clearly articulate and deliver, not only network products but above network on platforms and solutions, whether it's mobile edge compute, whether it's private networks, what we're doing around real-time enterprise solutions. One of the areas we haven't talked about tonight but is a growing area is -- and I acknowledged it in my remarks, we had 10 million new machine-to-machine connections last year alone. And as you think about mobile edge compute, the sensors that go out, the sensor densification, the ability to really be there for our customers, small and medium, global enterprise, public sector, not only with connectivity but really winning above connectivity, we are very well positioned to not only deliver from where we are today but grow into new models where we are in today and will only continue to expand.

Hans Vestberg - Verizon Communications Inc. - Chairman & CEO

And I just want to reinforce that the scalability that we have seen in Consumer and that we were talking about all your platforms and how we now are growing, that is now coming to Business as well. And that's how we set up Verizon 2.0 with Kyle, not in the bottom but I always think in PowerPoint slides, so I shouldn't do that. But he is sort of supporting with a Network-as-a-Service, and then we can scale on both sides here. So not

-- you can hear our excitement around what we have in front of us and how we have been building our 5-year plan, how we started in Verizon 2.0 and all the work.

And I know we're at the end here, but I also want to say Verizon Media Group, we don't talk much about them today because it was very much around our asset acquisition, but we also need to thank them because the turnaround the Verizon Media Group has done from when we started and actually had growth for the first time ever in the fourth quarter last year, and that was not a bad growth neither. So they are also on the way to start leveraging their scale, which was also the plan from beginning, even though it's changed the business plan totally for them. So yes, we are in a scaling mode right now. That's where we are Brady. Do you want to say something more?

Brady Connor - Verizon Communications Inc. - SVP of IR

No, I think that's a great place to finish, Hans. And we are now 2 hours and 1 minute past the anti-collusion period. And I know Kyle's team is ready for them to get upstairs to get to work. So everybody, thanks for a great night. Be safe, and we'll talk to you soon.

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