T-MOBILE FOR GOVERNMENT

5G INTERNET FOR GOVERNMENT FROM T-MOBILE

WHITE PAPER

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1 Executive Summary

In today's digitally connected world, efficient governance and public service delivery are increasingly dependent on robust internet connectivity. Recognizing the unique needs of federal (FED) as well as state, local, and education (SLED) organizations, T-Mobile® has developed a fast internet (HSI) solution, 5G Internet for Government from T-Mobile, that harnesses the power of 5G cellular technology. This innovative solution offers a compelling alternative to traditional internet service providers (ISPs) for FED and SLED entities. It enables practical applications such as empowering schools to quickly set up mobile classrooms or police departments to establish internet connectivity at a shared community outreach post. With broad coverage, swift installation, and cost-effective deployment, our HSI solution redefines connectivity for government and educational institutions.

While T-Mobile for Government (TFG) provides various connectivity solutions for the FED and SLED sectors, this document focuses on the HSI offering. Our solution offers clients a range of benefits, such as cost-effective unlimited fast internet connectivity plans (subject to availability), diverse capped data options nationwide, a productivity filter to optimize application performance, static IP options (available with selected routers), competitive deployment costs, and the flexibility of a SIM-only plan for the Bring Your Own Device (BYOD) option or with T-Mobile certified equipment.

Our HSI services are uniquely positioned to play a pivotal role in the digital transformation of FED and SLED organizations by addressing a variety of practical challenges and offering a wide range of use cases. This includes enhanced judicial and administrative process efficiency, robust backup connectivity for uninterrupted service delivery, and advanced remote work connectivity. Our HSI networks come with advanced security, encryption, and VPN support for secure connections, which is crucial for navigating the demands of a digitally evolving landscape.

2 5G Internet for Government Overview

We offer various rate plans and premium devices, allowing our clients to choose the one that best suits their needs. However, it is important to note that these plans are exclusively designed for wireless devices, such as routers and gateways. While our 5G Internet for Government plans are incompatible with direct use on mobile devices like smartphones and wearable devices, mobile devices can still be authorized to interact with and access the internet through the router or gateway connected to the HSI network.

5G Internet for Government features transparent pricing, ensuring clarity and eliminating ambiguities. It is designed to meet the diverse requirements of government institutions, ranging from expansive statewide departments to local educational entities. Our solution emphasizes the importance of seamless deployment and integration as essential requirements for these organizations.

We've introduced SIM-only HSI plans to address the tech-driven environment. This offering enables entities to use their existing devices, provided they are part of the T-Mobile certified device roster, which ensures optimal performance on the T-Mobile 5G/LTE network. Furthermore, this solution provides simplified capped and unlimited plans at a competitive price for eligible service addresses, thus ensuring that government entities receive value for their investment.

2.1 Solution Highlights

2.1.1 Comprehensive 5G Connectivity

5G Internet for Government leverages the latest 5G technology to deliver superior performance and connectivity benefits. We are committed to providing clients with the best possible 5G experience. This is achieved by meticulously verifying network coverage and capacity at the cell site and sector level to ensure clients receive optimal results.

2.1.2 Device Versatility

Through rigorous testing and certification, we ensure that every device operates optimally on our 5G/LTE network. Our top priority is ensuring that our devices are designed to offer a smooth and effortless user experience. The device setup process is straightforward, with easy-to-follow instructions for customization.

We recognize the diverse device preferences of our clients. We offer SIM-only plans to accommodate this, providing flexibility and convenience to government entities who wish to integrate their devices with our network. However, this seamless integration is contingent upon the devices being part of our approved list, ensuring a hassle-free BYOD experience.

2.1.3 5G Internet for Government Advanced Router Solutions

We've partnered with top industry leaders to provide an array of fixed wireless broadband gateways that cater to various government connectivity requirements. These advanced gateways deliver dependable, high-performance connectivity backed by cloud-based management platforms, facilitating remote configuration, real-time health monitoring, and access to firmware updates and advanced analytics. This integration helps government entities to securely and efficiently manage and scale their wireless networks. The gateways' reliability and performance make them an ideal choice for enterprise-grade wireless network connectivity.

2.1.4 Enhanced Features

In the digital age, security and content relevance are vital. TFG, with our deep understanding of the multifaceted needs of government entities, offers features like content filtering and static IP options. These features prioritize security and ensure government entities access relevant content, fostering a safe and efficient online environment.

2.1.5 Comprehensive Support Solution

We support customers throughout the entire implementation process, taking a "360 approach" from conducting initial solution discovery sessions, engaging in design discussions, managing service provisioning, overseeing device configuration, to facilitating service activation and beyond with continuous optimization. The team is committed to delivering a seamless customer experience by providing customized solutions that cater to the specific needs of each client.

2.2 Key Considerations for 5G Internet for Government

When considering the solution, it is important to establish clear expectations and understand its specific use cases.

Here are some key points to consider:

- **Location-dependent within network service:** Our solution is designed to provide robust connectivity within the T-Mobile network coverage area. This service is optimized for specific locations agreed upon during the sign-up process. Devices connected to the solution should be stationary, and they cannot access data services outside of the T-Mobile network coverage footprint. It's important to note that relocating the HSI equipment to different locations, even within our network, may result in suboptimal performance.

- **Performance distinction from gigabit internet:** While 5G Internet for Government leverages the power of 5G to offer fast connectivity, it is essential to understand its capabilities. Its design and functionalities are fine-tuned for distinct use cases, ensuring that government entities experience consistent and reliable internet connectivity. For real-time speed insights, users can refer to the T-Mobile open internet page.

3 Security

We have implemented a comprehensive and multilayered strategy to ensure the security of our network and devices. At every interaction point, measures are in place to maintain the confidentiality, integrity, and availability of fixed cellular connections. This section provides an overview of the security controls that we have employed to help ensure the network remains safeguarded from malicious internet traffic.

3.1 Device Certification

T-Mobile stays up to date with the latest wireless industry standards and specifications by actively participating in various standard bodies such as 3GPP, GSMA, and CTIA. We collaborate with device manufacturers to ensure compliance with these industry standards through a comprehensive certification process. This process aims to align with the most recent industry benchmarks and improve the performance and integrity of T-Mobile branded devices.

A critical component of this certification process is the emphasis on robust security measures. As part of our commitment to safeguarding customer data and network integrity, every branded device must undergo a rigorous third-party penetration test. This test is conducted by a team of experienced, ethical hackers who perform a comprehensive security review to identify and address vulnerabilities. To achieve certification, all high and critical security issues identified during this penetration testing must be resolved, ensuring T-Mobile branded devices are technologically advanced with leading-edge security against evolving cyber threats. By offering devices that pass this thorough certification, including security assessments, we remain dedicated to improving the security and functionality of our network devices by regularly providing firmware over the air (FOTA) updates.

As the BYOD trend keeps gaining momentum, we now require all newly added non-stock HSI gateway modules and chipsets to undergo the certification process. This includes evaluation by the prestigious PCS Type Certification Review Board (PTCRB) certification program. This rigorous process guarantees that non-stocked HSI devices meet the performance standards we've set for our network.

3.2 T-Mobile Cellular Infrastructure Security

Our wireless network infrastructure is built on a multilayered security approach that ensures robust protection for Radio Access and Core Networks. The network is protected with multiple layers of security protocols that strengthen data protection as it navigates through the network. Every device that connects to the T-Mobile network is subjected to SIM-based authentication, limiting access to only authorized devices. We have implemented security controls, including SIM blocking, to prevent attempts at account takeover.

To further secure data over the air, our network uses strong encryption algorithms, making it difficult for cybercriminals to intercept and gain unauthorized access. To protect our network against malicious threats, firewalls are the primary barrier against unauthorized access attempts. Comprehensive access control lists (ACLs) define permissible access parameters and resource accessibility. Our advanced technology is designed to detect and neutralize distributed denial-of-service (DDOS) attacks. This is achieved by filtering invalid packets, blocking unsolicited traffic, and implementing session, packet, and connection rate limitations. In the unlikely event of a security incident, our dedicated response team is on standby, helping facilitate swift containment and resolution.

We are proactive in our approach to security, conducting regular vulnerability assessments to pinpoint and rectify potential security gaps. Our network architecture is designed with redundancy to eliminate any single point of failure. With an agile patch management system, we ensure that the latest security patches are deployed promptly.

Refer to Figure 1 for a detailed visual representation of the T-Mobile cellular infrastructure security measures.

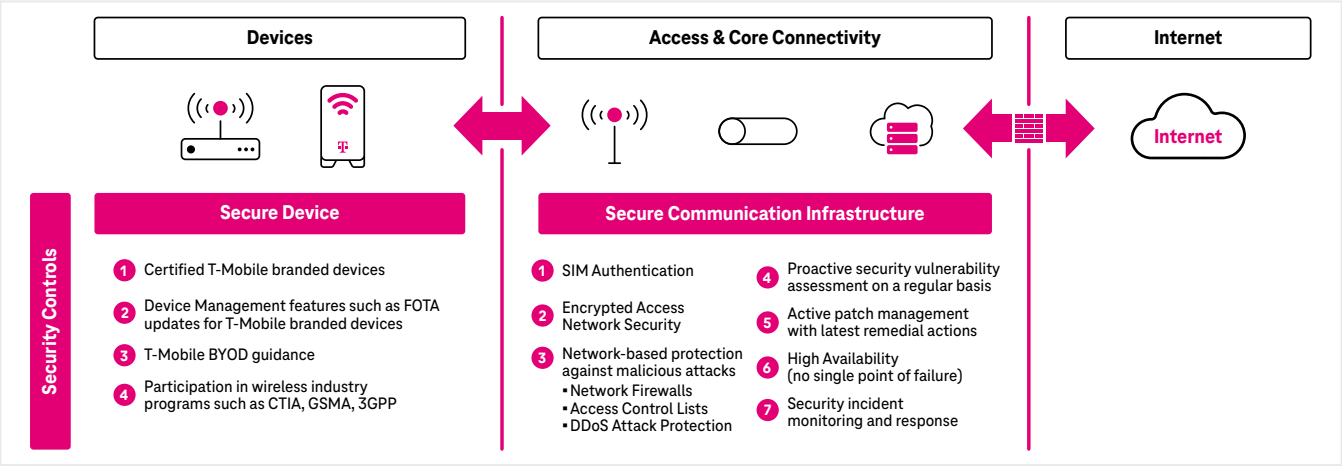

Figure 1: *Cellular Infrastructure Security*

3.3 Optional Enhanced Security with Secure Access Service Edge

5G Internet for Government is built with top-tier security measures to protect network infrastructure and safeguard customer data. However, some customers may have specific security needs or prefer additional control over their security policies. For such customers, we offer the Secure Access Service Edge (SASE) as an optional, purchasable product that can be bundled with 5G Internet for Government.

T-Mobile SASE is a cloud-native solution that integrates advanced security functions. It includes private access, a more secure alternative to virtual private networks (VPNs), that uses highly secure direct connectivity to the corporate intranet. It also includes zero trust network access (ZTNA) and micro-segmentation to limit access to internal resources and prevent lateral movement. SASE also offers Secure Internet Access, a next-generation firewall that scans transmitted files for malware and viruses, prevents hacker intrusion, and stops phishing attempts and other security breaches.

FED customers interested in exploring SASE as an addition to 5G Internet for Government should contact us directly for the most current information on availability and integration options.

4 T-Mobile Cellular Broadband Network

We've deployed advanced cellular broadband nationwide using low band/mid band spectrum, significantly enhancing the 4G/5G experience. This rollout has led to notable improvements in speed and connectivity, ensuring wide-scale network coverage that delivers consistent and high-quality performance. Independent assessments conducted by Ookla's SpeedTest and OpenSignal have recognized our network for its exceptional speed and comprehensive coverage, highlighting its superior performance in the telecommunications industry.

4.1.1 High-Level Architecture

Our network architecture represents a significant advancement from traditional setups, as it embraces a large-scale deployment that focuses on software-centric solutions. This shift from hardware-focused systems allows for a more dynamic and adaptable network environment, catering to the growing demands of 5G and 4G technologies across the low band/mid band spectrum.

By strategically managing traffic and data processing, our network architecture ensures optimized performance and scalability. The network's design aims to minimize latency and maximize reliability, providing an optimized user experience that leverages the strengths of both 5G and 4G capabilities.

4.1.2 Radio Access Network

5G Internet for Government is powered by a state-of-the-art radio access network (RAN) with exceptional technical capabilities integral to delivering exemplary performance across various geographical regions. The RAN is engineered to leverage advanced network technologies, ensuring reliable connectivity, lower latency, and improved data transfer rates. This network foundation is critical in providing an exceptional internet experience.

Our network strategy encompasses top-notch connectivity, seamlessly integrating the cutting-edge 5G technology without overlooking the crucial role of 4G LTE. This helps ensure that all customers, whether on the latest 5G devices or relying on 4G LTE technology, receive the dependable service they expect. Our RAN stands out for its utilization of a diverse range of spectrums, which includes low band spectrum (600, 700, and 850 MHz) and mid band spectrum (1700, 1900, 2100 MHz, and 2.5 GHz). The low band spectrum is critical for providing extensive coverage, especially in rural and suburban areas where traditional connectivity options may be limited, benefiting fast internet users. The mid band spectrum is versatile and necessary to provide reliable performance of the fast internet service in urban and suburban areas, catering to a wide array of applications and online activities ranging from online browsing to video conferencing.

4.1.3 Packet Core Infrastructure

The core of our network is designed with modern technological principles, incorporating advanced methods such as network function virtualization and software-defined networking. These innovations facilitate seamless integration with the existing network infrastructure, enhancing overall efficiency and preparing the network for future advancements.

Our distributed core deployment strategically places the network closer to data processing locations, ensuring that data doesn't need to traverse long distances within the network. This leads to faster data access and reduced latency for users, resulting in quicker downloads, smoother video conferencing, and an overall improved online experience, especially for our 5G Internet for Government users.

The core layer of our infrastructure seamlessly supports 5G and LTE technologies so that whether a user is on 5G or LTE, they experience consistent and high-quality service.

For a visual representation of how the HSI Gateway at customer premises taps into our infrastructure, please refer to Figure 2.

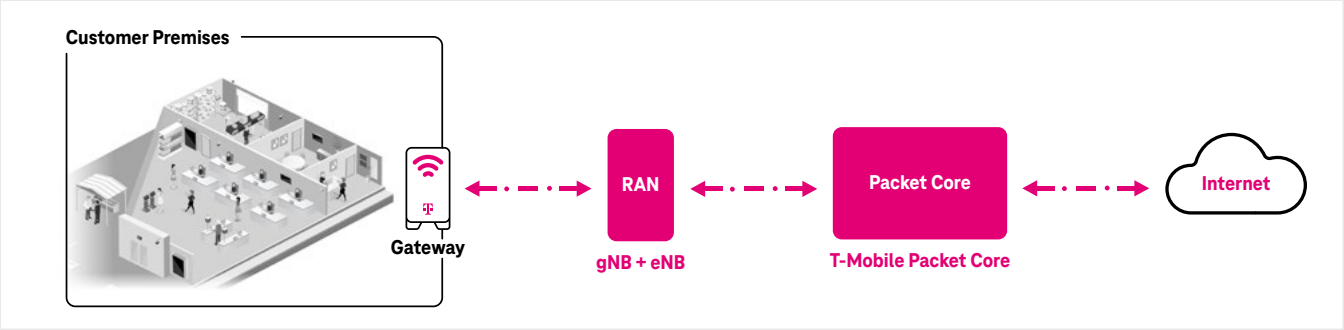

Figure 2: High-Level Architecture Overview

5 Use Cases

The benefits of a nationwide 5G network, especially when combined with fixed wireless, are compelling. 5G Internet for Government is a perfect fit for situations requiring constant and stable connectivity. If a primary connectivity solution is already in place, our solutions can easily supplement it without causing any interruption in service, making it a highly dependable option.

This section delves into case studies across FED and SLED organizations, showcasing the significant impact of this technology.

5.1 Remote Government Workers

Use Case:

Many government agencies, including the Department of General Services (DGS), have embraced the flexibility of remote work, allowing employees to perform their tasks from home or other remote locations. This shift has become more prominent due to global events requiring social distancing and safety measures. However, with this flexibility comes the challenge of ensuring these remote workers have secure, reliable, and fast internet connectivity to access government databases, collaborate with colleagues, and perform their tasks efficiently.

Challenges:

- **Diverse Locations:** Remote government workers are spread across urban, suburban, and rural areas, leading to variability in internet connectivity that can significantly impact access and reliability.
- **Security Concerns:** The importance of security in government operations means that remote workers accessing sensitive data from potentially less-secure home networks are at increased risk of cyber threats.
- **Internet Speed Variability:** Inconsistent internet speeds across different regions can severely affect productivity, causing inefficiencies and delays in critical government operations.

Potential Solution:

To address these challenges, government agencies consider HSI a pivotal component of their remote work strategy. Our solution, built on a 5G/LTE network, offers several advantages:

- **Consistent Fast Connectivity:** 5G Internet for Government provides reliable fast internet connectivity, allowing for smooth video conferencing, quick data access, and efficient collaboration.

- **Rapid Deployment:** 5G Internet for Government can be swiftly deployed for government workers who relocate or are temporarily assigned to different regions, ensuring minimal downtime and continuous connectivity.
- **Backup Connectivity:** 5G Internet for Government can serve as a steadfast backup even for remote workers with existing internet solutions. In case of disruptions with their primary connection, 5G Internet for Government can seamlessly take over, ensuring uninterrupted work.
- **Enhanced Security:** 5G Internet for Government is built on a secure 5G/LTE network that offers robust encryption and security protocols. This helps remote workers access government data securely, minimizing the risk of cyber threats. For those seeking an additional layer of security, T-Mobile SASE can be integrated with the solution. SASE provides advanced security features such as ZTNA and a comprehensive suite of protection tools, further enhancing the security posture for remote government operations.
- **Scalable Solution:** As government agencies grow and the number of remote workers increases, 5G Internet for Government can easily scale to meet the rising demands, ensuring consistent performance.

By adopting 5G Internet for Government, government agencies can help ensure that their remote workforce remains productive, secure, and always connected.

5.2 Temporary Office Setup in Remote Locations

Use Case:

Government agencies often undertake projects that require them to establish temporary offices in remote or underserved locations. These projects can range from environmental studies and archaeological excavations to community outreach programs. In such scenarios, having a trustworthy and fast internet connection is crucial for seamless communication, data collection, and real-time collaboration with the main office.

Challenges:

- **Lack of Infrastructure:** Remote locations often lack the necessary infrastructure for traditional wired internet connections, making it challenging to establish a dependable connection.
- **Short Duration:** Given the temporary nature of such offices, investing in extensive infrastructure like cable or fiber may not be feasible or cost-effective.
- **Data Intensity:** Government projects often involve collecting large amounts of data, requiring a stable and fast internet connection for real-time data uploads and communication.

Potential Solution:

To address these challenges, government agencies are considering cellular broadband HSI as their “go-to” solution. The advantages of using HSI, like 5G Internet for Government, in this scenario include:

- **Rapid Deployment:** 5G Internet for Government can be set up swiftly without the need for extensive cabling or infrastructure, making it perfect for temporary setups.

- **Reliable Connectivity:** Cellular broadband HSI offers a consistent and fast connection, helping ensure that the temporary office remains connected at all times.
- **Cost-Effective:** Given the short duration of such projects, 5G Internet for Government provides a cost-effective solution without the need for significant infrastructure investments.
- **Scalability:** As the project grows or if more personnel are added, 5G Internet for Government can easily scale to meet increased data and communication demands.
- **Enhanced Security:** 5G Internet for Government is built on a secure 5G/LTE network that offers robust encryption and security protocols. This helps remote workers access government data securely, minimizing the risk of cyber threats.

By adopting cellular broadband HSI, government agencies can help ensure that their temporary offices in remote locations remain as efficient and connected as their main offices, advancing the success of their projects and initiatives.

5.3 Education – Virtual Classrooms and Digital Campuses

Use Case:

In the digital education age, institutions are exploring new ways to leverage online resources and real-time connectivity beyond traditional classroom settings. A state university with campuses spread across vast geographical distances is committed to offering equal educational opportunities to all their students, irrespective of their location. Their vision is to establish an interconnected digital campus where the educational experience remains uniform across all locations.

Challenges:

- **Geographical Diversity:** Ensuring consistent connectivity across all campuses, especially those located in remote or challenging terrains, presents a challenging logistical hurdle.
- **High-Bandwidth Needs:** The university's vision to facilitate real-time lecture streaming, virtual labs, and digital collaboration tools demands stable, fast internet.
- **Infrastructure Limitations:** Older buildings or sites may have restrictions on modifying the structure for wired connections. Additionally, temporary locations, such as event venues or pop-up campuses, may not have the infrastructure for traditional broadband.

Solution Approach:

A hybrid strategy presents a viable solution. While an upgraded Wi-Fi network connected via a traditional wired WAN connection could cover a large portion of the required coverage areas, 5G Internet for Government could serve as a complementary solution. In areas where Wi-Fi coverage could be weak, inconsistent, or challenging due to terrain, temporary setups, or post–natural disaster scenarios, the solution can augment the connectivity.

Additionally, in scenarios where the primary Wi-Fi connection faces congestion or disruptions, 5G Internet for Government can act as a backup connection.

The advantages of the solution include:

- **Speeds:** Leveraging 5G technology, 5G Internet for Government delivers internet speeds previously unreachable in certain campus environments.
- **Low Latency:** With 5G's low latency, students can participate in real-time remote laboratory experiments.
- **Future-Proof Infrastructure:** The 5G framework not only caters to the current digital tools, it also offers scalability for future technological integrations and campus expansions.

5.4 Court Systems – Ensuring Uninterrupted Digital Operations

Use Case:

A reliable and uninterrupted internet connection has become essential as the court system increasingly integrates digital platforms into daily operations. The use of digital tools has increased significantly, from digital recordkeeping and online case management to video conferencing. A robust and stable internet connection has become an absolute necessity to ensure seamless and efficient operations.

Challenges:

- **Operational Impact:** Any disruption in the primary internet connectivity can have significant effects on court functions, ranging from deferring hearings to the potential loss of crucial real-time data.
- **High User Concentration:** Courts often host a high concentration of diverse individuals, encompassing lawyers, media personnel, and the general public. This diversity can lead to unexpected spikes in Wi-Fi demand, resulting in network congestion and degraded connection quality.

Potential Solution:

5G Internet for Government emerges as an optimal choice for improving connectivity, offering a cost-effective and efficient alternative to investing heavily in redundant wired backup systems. The advantages of the solution include:

- **Immediate Failover:** In scenarios where the primary connection is compromised, 5G fast internet can provide an immediate and smooth transition, allowing court operations to continue seamlessly.
- **Adaptive Bandwidth Allocation:** During periods of high network demand, the court system can strategically offload nonessential traffic to the 5G network. This strategy ensures that critical court functions always maintain the required bandwidth, even during high-demand intervals.
- **Resilience:** While wired and wireless networks both have advantages, cellular networks offer greater resilience to specific disruptions. Unlike wired networks, they do not rely on physical cables or wires, making them less vulnerable to damage caused by incidents such as construction crews inadvertently cutting a cable.

  As a result, cellular networks can often provide uninterrupted connectivity during events that disrupt traditional wired networks, helping ensure critical communication channels remain open. This resilience is one of the key reasons why cellular networks are widely used for emergency communication and disaster response.

By integrating 5G Internet for Government, the court system can help ensure their digital operations remain efficient, adaptive, and consistently operational, irrespective of the demand or other challenges.

5.5 Transportation Departments – Smart Traffic Monitoring

Use Case:

Transportation departments are rapidly transitioning toward intelligent infrastructure to optimize traffic flow, enhance incident response times, and enable real-time monitoring. A pivotal component of the Department of Transportation's strategy involves deploying an integrated network of traffic cameras. These cameras are essential for monitoring traffic patterns and supporting swift responses to emergencies or congestion. A dependable, high-performance connectivity solution is required to bring this vision to fruition.

Challenges:

- **Diverse Deployment, Consistent Connectivity:** Traffic cameras are strategically placed in a variety of settings, from busy urban intersections to remote highway stretches. The inconsistency in connectivity solutions across these regions presents notable challenges.

- **Geographical Limitations:** Traditional wired connections, while offering a degree of reliability, are often constrained by geographical challenges, especially in difficult terrains. Implementing wired infrastructure in such areas is not only time consuming but also financially challenging and can be very disruptive to traffic flow when being installed.

Potential Solution:

To address these challenges, the DoT is considering the integration of cellular broadband HSI. The advantages of HSI in this context include:

- **Versatile Connectivity:** 5G Internet for Government can serve as the primary connectivity source or as a backup, providing uninterrupted camera operation even if the primary connection experiences disruptions.

- **Seamless Integration:** The solution simplifies the process of incorporating new camera units into the existing system, eliminating the need for extensive infrastructural modifications.

- **Cost-Effective Deployment:** 5G Internet for Government offers a financially viable solution, reducing the costs and time associated with establishing connectivity in challenging terrains.

By embracing 5G Internet for Government the DoT can help ensure their traffic monitoring remains efficient, adaptive, and consistently operational, irrespective of geographical challenges.

5.6 Law Enforcement Operations

Use Case:

Law enforcement agencies require a reliable and uninterrupted internet connection to ensure public safety and operational efficiency. This need becomes more critical during emergencies, unexpected outages, or when setting up operations in remote, temporary, or specialized locations such as storefront substations. The ability to quickly access and share information, coordinate responses, and maintain communication channels is vital for the effectiveness of law enforcement activities, including those conducted from storefront substations that serve as local law enforcement hubs within communities.

Challenges:

- **Operational Continuity:** Any disruption in internet connectivity can severely impact law enforcement operations, hindering communication, data access, and response coordination.
- **Critical Communications:** In high-stakes scenarios, ensuring reliable communication channels is vital for law enforcement agencies. Traditional networks can have unique vulnerabilities, particularly in situations where physical infrastructure is compromised.
- **Remote and Temporary Operations:** Setting up operations in remote areas or temporary locations, such as during large-scale events or investigations, often creates a requirement for more infrastructure for traditional internet connectivity.

Potential Solution:

5G Internet for Government offers an internet connectivity option for law enforcement agencies, effectively addressing these challenges:

- **Backup Connectivity:** In the event of a primary connection failure, the solution provides a failover, maintaining internet access when connectivity is crucial.
- **Rapid Deployment and Flexibility:** 5G Internet for Government can be quickly deployed anywhere, providing immediate internet access. This is particularly beneficial for temporary or remote operations where traditional infrastructure is not feasible.

The Government HSI solution can significantly enhance operational resilience and flexibility often required of law enforcement agencies. This technology can help ensure they remain connected and operational, regardless of location or external challenges, thereby maintaining public safety and effective law enforcement activities.

5.7 Fire Department Operations

Use Case:

Fire departments, particularly those that rely on volunteer or semi-volunteer staff, face hurdles with budgets, outdated technology, and poor security. These departments are essential in emergency response and require strong communication and data access for efficient coordination. This need becomes even more critical for larger, non-volunteer fire departments that operate multiple stations across various jurisdictions.

Challenges:

- **Limited Infrastructure:** Facing challenges with outdated technology and insufficient IT infrastructure, volunteer fire departments struggle with effective communication and data management.
- **Budget Constraints:** Limited funding makes it challenging to find connectivity solutions that are both cost-effective and reliable.
- **Operational Coordination:** Seamless communication and coordination across different stations, particularly during emergency responses, are vital for effective and timely operations.

Potential Solution:

5G Internet for Government meets the unique needs of fire departments:

- **Cost-Effective Connectivity:** Offers affordable, fast internet access, aligning with the budgetary limitations of volunteer fire departments.
- **Rapid Deployment and Scalability:** Easily deployable across multiple locations, this solution ensures consistent connectivity, even in remote or underserved areas, crucial for widespread fire department operations.

5G Internet for Government can boost the operational efficiency of fire departments by providing fast internet connectivity, necessary for emergency response coordination, training programs, and administrative tasks. It's a cost-effective and scalable solution that helps fire departments maintain communication standards and operational readiness, ultimately enhancing public safety and emergency response effectiveness.

5G Internet for Government not available in all areas; customers ineligible for 5G Internet for Government may be eligible for 4G LTE or other fixed wireless options. Fast & Reliable: Based on T-Mobile analysis of 5G-eligible customer speed data reflecting consistent broadband speeds. Delivered via 5G cellular network; speeds vary due to factors affecting cellular networks. During congestion, 5G Internet for Government customers may notice speeds lower than those of other customers due to data prioritization. See T-Mobile.com/OpenInternet for additional details.

6 Abbreviations

TERM	DESCRIPTION
3GPP	3rd Generation Partnership Project
4G	4th Generation mobile network
5G	5th Generation mobile network
ACL	Access Control List
BYOD	Bring Your Own Device
CTIA	Cellular Telecommunications and Internet Association
DDoS	Distributed Denial-of-Service
DGS	Department of General Services
DoT	Department of Transportation
EPC	Evolved Packet Core
FED	Federal
FOTA	Firmware Over The Air
gNB	Next-generation NodeBs
GSMA	Global System for Mobile Communications

TERM	DESCRIPTION
HSI	Fast Internet
HSS	Home Subscriber Server
IoT	Internet of Things
ISP	Internet Service Provider
LTE	Long-Term Evolution
NR	New Radio
PTCRB	PCS Type Certification Review Board
RAN	Radio Access Network
SASE	Secure Access Service Edge
SIM	Subscriber Identity Module
SLED	State, Local, and Education
TFG	T-Mobile for Government
VPN	Virtual Private Network
ZTNA	Zero Trust Network Access