

unique bands of service providers.

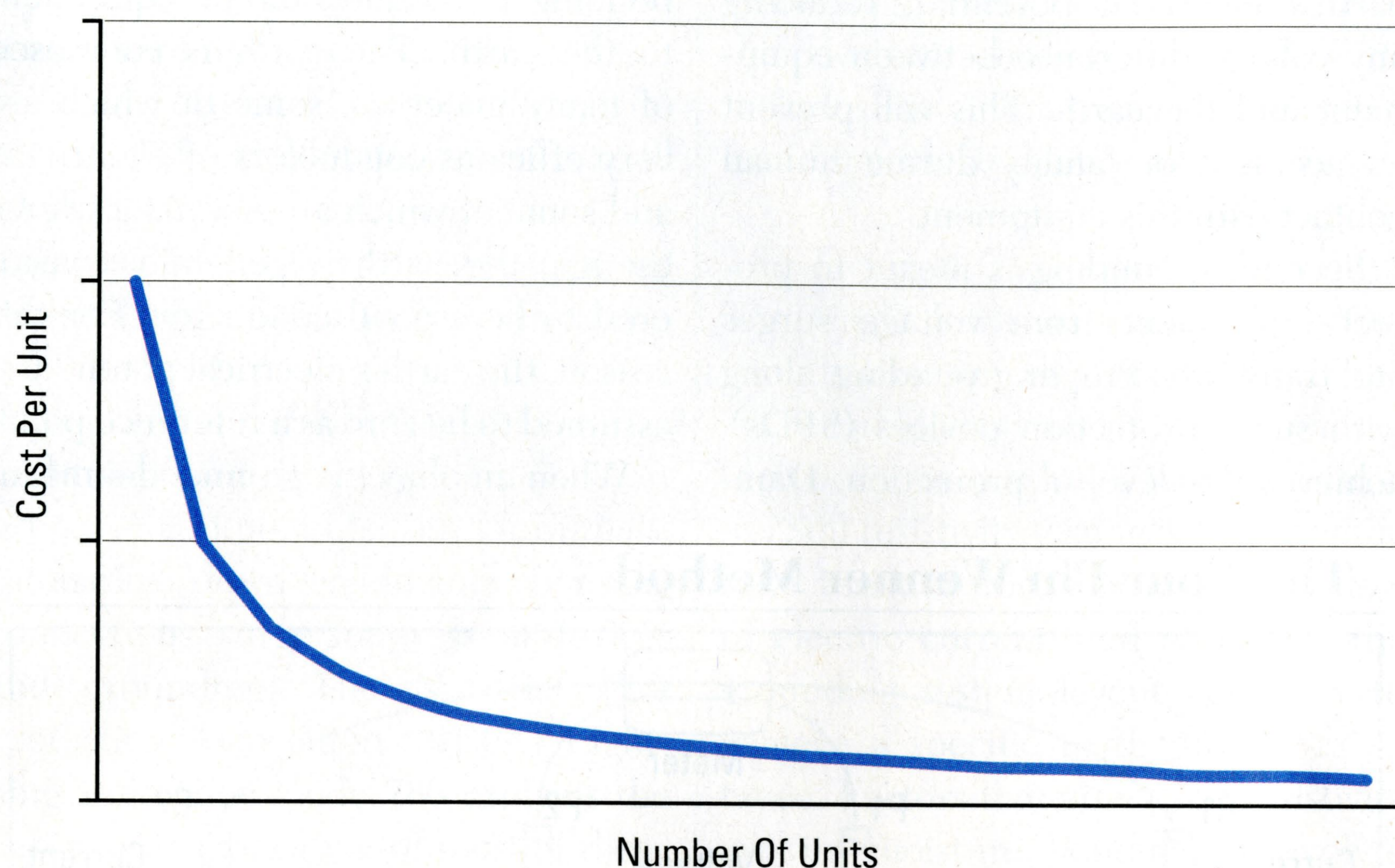
Device manufacturers must sell sufficient quantities of their product to deliver the required return on investment necessary to support the custom band configuration. In other words, the chip alone is not enough to secure a band class 14 iPhone, iPad, Samsung Galaxy S or other commercially favored devices. It is unclear whether public safety volume

supplied devices if the public safety band is not also integrated into devices sold to consumers. Without that scale, the cost to provide devices could be very high.

If FirstNet establishes a partnership with consumer-based carrier partners (e.g., Verizon, AT&T, Sprint and others) and those consumer devices use band class 14 on a secondary basis, the volume equation shifts. In that case, major device

Considering that governments only fund a fraction of the devices used in public safety, FirstNet devices may need to fulfill the personal requirements of public safety responders. Consider, for example, a volunteer firefighter. There may be valuable apps on a FirstNet device that are integral to that firefighter's participation in an emergency response, but if that volunteer is expected to pay the service fees, then the device must also satisfy the firefighter's personal needs. This may necessitate dual profiles—one secure and restricted profile, and one personal profile with the flexibility to deliver consumer capabilities.

### Fixed Costs Per Device



### GATHERING INPUT

Ultimately, the State and Local Implementation Grant Program (SLIGP) is the opportunity for public safety professionals to define and establish their needs for both existing consumer devices and custom devices. It is critical for us to understand these requirements as soon as possible, as they will likely be a challenge to incorporate into devices. It may take years to develop these products and field test them to ensure they fit the bill.

It will also be important to aggregate the volume of public safety users to avoid one-offs and best manage the cost of the devices. Collecting information directly from public safety users and working to understand their requirements will become a critical component of FirstNet's overall solution. This data will also support FirstNet negotiations with the device vendor community to develop acceptable equipment. SLIGP is the logical place to begin understanding public safety device requirements, given the outreach and needs assessment scope of the program.

Public safety agencies can learn an important lesson from the commercial device marketplace. In the early days of the smartphone, a compelling device (i.e., the iPhone) caused users to leave other carriers in droves. FirstNet must offer the right mix of devices at the right price. Delivering custom solutions on these devices, such as unique public safety applications, could be an important factor in supporting the FirstNet solution as the easy choice for public safety entities across the country. **PSC**

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alone is sufficient to entice these device leaders to expand their products to support the public safety band class 14. And though it is entirely possible that other vendors could step in to fill the void if leading manufacturers decline to meet public safety requirements, those other vendors may be unable to provide similar advanced features at the common price points already set by market leaders.

### COMMERCIAL PARTNERS

It is an expensive undertaking to develop new LTE devices. Extensive engineering, product design, software development, testing, regulatory approvals and ancillary support is required to develop a marketable device. Much of this cost is fixed and must be recovered over the lifecycle of the device sales. With a net public safety marketplace one-hundredth the size of the commercial marketplace, non-recurrent expenses must be spread over far fewer devices, resulting in a higher cost share per device. In other words, it will be difficult for FirstNet to compete with the commercial cellular carriers and their

makers could be pressured by commercial carriers to support the band across tens of millions of devices and use the same suite of devices available in the commercial marketplace for public safety applications.

While these devices may not meet all public safety operational requirements, some are already widely used by public safety and will likely continue to be used for some time in the future. There are also commercial devices that meet stringent military specifications for ruggedness that would experience a higher probability of migration to FirstNet under this commercial carrier/FirstNet partnership model.

Other custom devices could further complicate the situation. For example, if a dual mode LTE and Project 25 (P25) device is required by the public safety community, that type of device would be fairly unique. It would have to accommodate the variance of P25 radios (e.g., band class, trunked or conventional, etc.) and we would have to know how those technologies may eventually interact. If there's a need for push-to-talk functionality over LTE, that will bring additional challenges.