



Memorandum

TO: SMART CITIES AND SERVICE
IMPROVEMENTS COMMITTEE

FROM: Rob Lloyd

SUBJECT: FIRSTNET STATUS REPORT

DATE: February 19, 2021

Approved

Date

23 February 2021

RECOMMENDATION

Accept staff's report on the City's migration to FirstNet and the status of implementation, including approach, milestones, challenges, and next steps.

OUTCOME

Provide a report reviewing the progress of the City's adoption of FirstNet, the national interoperable public safety broadband network for first responders, including project status to date, timelines, and path to completion.

EXECUTIVE SUMMARY

The City of San José ("City") engaged in a direct public-private partnership with AT&T to deploy over 3,900 FirstNet devices to all public safety personnel and emergency response staff by January 29, 2021. The City and AT&T expect this deployment to be a model for cities seeking to maximize the ability of emergency responders to work together via a dedicated and highly resilient network, smart devices powering enhanced communications, and prioritized communications traffic over dedicated bandwidth.

The City's current proposed total FirstNet deployment is 3,946 devices citywide. This effort provides smart phones, tablets, hotspots, and/or vehicle modems/routers for all of the City's primary (Police Department ("PD"), Fire Department ("FD"), and Office of Emergency Management ("OEM")) and extended primary (all other departments) responders.

Currently, the FirstNet deployment is in yellow status because the deployment is planned for completion in May 2022 instead of December 2020. Ninety-six percent (96%) or 3,777 of the 3,946 new FirstNet devices have been procured and approximately 2,684 (68%) have been deployed and are in-use citywide.

BACKGROUND

Emergency management, preparedness, and response is dependent on reliable communications between law enforcement, fire, and emergency medical first responders; field operations staff; and government leaders. FirstNet is the nationwide emergency communications network established by Congress for this specific purpose. FirstNet was born of lessons from the 9/11 terrorist attacks in New York, which identified public safety communications as critical to large-scale coordination in major crisis events.

In June 2019, the City became the first municipality in the country to embrace FirstNet to strengthen its emergency response communications citywide¹. This includes all “primary” emergency responders– PD, FD, and OEM – as well as all “extended primary” emergency responders that function through the City’s Emergency Operations Center (“EOC”) in qualifying disasters. Bringing department operations centers, Mayor and City Council members, district disaster offices, and other leaders and field personnel under a unified communications umbrella enhances situational awareness for response and recovery.

FirstNet is built and operated by AT&T based on a 25-year, \$46.5 billion public-private-partnership with the independent First Responder Network Authority (“FirstNet Authority”)². FirstNet provides the nation’s first responders and other disaster workers with dedicated network coverage, capacity, and priority to communicate and coordinate together to save lives every day and in any emergency.

In addition to using all of the AT&T network frequencies (called “Bands”), the FirstNet network has a dedicated wireless frequency range— called Band 14— for use by emergency responders during emergencies and disasters. This provides the best possible voice and data communications in an emergency by avoiding the congestion public cellular networks invariably experience.

First responders gain priority on the FirstNet network through a City-initiated process called “Uplift”, which provides preemptive access to the network by moving non-FirstNet users off of the network at the time of need. This enables first responders to make voice calls and to utilize data connectivity for mobile application services such as optimized transportation routes, text alerts, geospatial information, and other data-centric services that cannot be provided by voice-only (radio) communications.

¹June 25, 2019 City Council Meeting. Actions Related to the Purchase of AT&T FirstNet Wireless Communications Services and Devices.

<https://sanjose.legistar.com/LegislationDetail.aspx?ID=3978549&GUID=AE5DFF99-2D90-43FE-9DE8-B5FC113ECE7F>

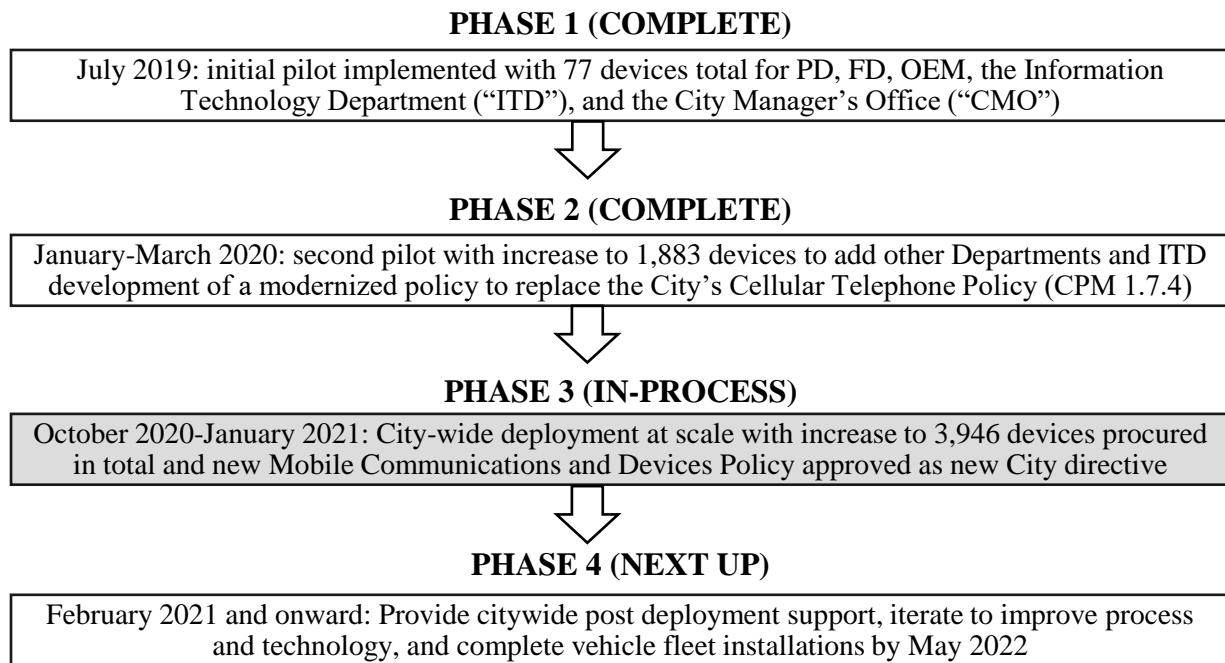
² <https://www.commerce.gov/news/press-releases/2017/03/firstnet-partners-att-build-465-billion-wireless-broadband-network>

FirstNet adds the greatest value when deployed to all emergency responders. As of September 30, 2020, over 14,000 public safety agencies and organizations across the country are subscribed to FirstNet³. This scale promotes maximum connectivity across emergency responders and minimizes operational costs. FirstNet is a complementary communications system to the Silicon Valley Regional Communications System (SVRCS), which provides emergency responders a P25 radio network for voice communication regionally and Statewide. FirstNet complements SVRCS by providing a voice + data communications layer between field units and dispatch centers, providing new capacity for information dissemination and collection. Visual maps that cannot be communicated by a voice-only system, as well as mobile applications and the FirstNet Push-to-Talk feature that mimics a radio system on the cellular network and complements existing radio systems, are now possible.

ANALYSIS

The FirstNet deployment is currently on track to achieve the City’s public-private partnership commitment with AT&T to deploy 3,900 FirstNet devices. However, the FirstNet deployment status is yellow because the full deployment is not yet complete and will take longer than planned. The current citywide FirstNet need is 3,946 devices. As of February 16, 2021, 3,777 devices have been procured and approximately 2,684 are deployed and in-use.

The FirstNet deployment has four major phases:



³ AT&T. Press Release. December 8, 2020. https://about.att.com/story/2020/fn_fbi.html

The FirstNet deployment is now in Phase 3, focused on completing citywide deployment and publishing a modern City policy for cellular phones and connected devices. See Attachment A: FirstNet Deployment Timeline for additional details.

The modern Mobile Devices and Communication Policy from Phase 2 is expected to be published in the City Policy Manual in March 2021. The new policy will replace the outmoded Cellular Telephone Policy and will provide guidance on cellular device procurement, usage, service options, department and user responsibilities, and device management protocols. These steps resolve 6 recommendations from the 2016 City Auditor's Report on mobile devices⁴.

Currently, the overall deployment is in yellow status due to:

- 1) Six-month deployment delay between March 2020 and September 2020 related to the City's EOC activation for COVID-19 and stabilization of the City's pandemic response and resources;
- 2) 160 devices yet to be procured for FD pending Santa Clara County grant approval, nine phones for the Information Technology Department ("ITD");
- 3) Four-month delay between October 2020 and February 2021 to incorporate citywide stakeholder feedback into the Mobile Devices and Communication Policy for publishing;
- 4) Department of Transportation ("DOT") and Environmental Services Department ("ESD") network testing to finalize device needs; and,
- 5) PD and FD vehicle modem/router installation delay due to the pandemic, equipment procurement negotiation, and complexity of installations.

In March 2020, the City activated the EOC to respond to the COVID-19 public health emergency. The EOC remains activated as of February 2021⁵. In addition, over the past eleven months, the City's first responders, EOC, and other public safety responders have also managed the emergency response to wildfires, public safety power shutoffs ("PSPS"), flood risk, and civil unrest. During such emergencies and disasters, effective communications are foundational to protecting public safety and saving lives. FirstNet provides this foundation.

AT&T and key departments, including ITD, City Manager's Office ("CMO"), PD, FD, OEM, the Department of Public Works ("DPW"), as well as all other City departments and offices, have collaborated during the ongoing COVID-19 public health emergency to prioritize and successfully accelerate and advance FirstNet deployment.

Extensive support and joint effort from every City Department allowed the deployment to catch up pace between October 2020 and January 2021, through a highly accelerated mass rollout. As

⁴ City of San Jose. Office of the City Auditor Report December 2016. Mobile Devices: Improvements Needed to Ensure Efficient, Secure, and Strategic Deployment.

<https://www.sanjoseca.gov/Home/ShowDocument?id=33880>

⁵ Covid-19 Disaster Declaration: <https://www.fema.gov/disaster/4482>

of February 16, 2021, 3,777 devices have been procured. 3,135 are smart phones, tablets, or hotspots, of which 551 are being prepared for deployment and 2,584 are deployed and in-use. 642 of the 3,777 devices are vehicle modems/routers, of which 100 have been installed and 542 are awaiting install. The remaining 169 devices (nine phones and 160 tablets) to reach the 3,946 total are expected to be procured and deployed in March 2021. However, deployment of all procured devices will not be complete until May 2022.

The modem/router installations for PD, FD, and OEM vehicles were anticipated to take approximately one year, with completion by December 2020. Commencement was initially delayed in January 2020 due to ongoing equipment negotiations, then further impacted by the pandemic response and stabilization between March and September 2020 – nine months total delay. Installations began in October 2020 and 100 installations are complete as of February 16, 2021. The remaining 542 installations are expected to be complete in May 2022. The DPW hired two full-time, overstrength staff to accelerate installations. However, due to the complexity and time necessary to carefully remove existing equipment and install FirstNet hardware, only ten installations can be completed on average per week. Once done in May 2022, this will complete the citywide deployment, bringing the total to 3,946 deployed devices.

The total deployment of FirstNet devices is shown in Figure 1: *Device Deployment Totals*.

Figure 1: *Device Deployment Totals**

	Total FirstNet Devices	Total Procured	Total Deployed	Percent Procured	Percent Deployed
Phone, Tablet, Hotspot	3,304	3,135	2,584	95%	78%
Vehicle Modem/Router	642	642	100	100%	16%
Total	3,946	3,777	2,684	96%	68%

* Deployment data as of February 16, 2021.

Lessons Learned

- **Select the Right Tool** – Rather than forcing a single device across the City, each department selected the device most appropriate to their tasks during an emergency or disaster. The Police Department and Civic Innovation, PD and CMO performed extensive “crash testing” of various devices to ensure usability, extensibility, and durability.
- **Focus on Security and User Experience** – First responders must be equipped with more than “just another phone.” Advanced mobile device management (“MDM”) software was identified and procured to keep data protected and to ensure the City retains control over confidential information. For example, if a mobile device is lost or stolen, MDM can remotely lock and wipe all data, as well as locate devices.

- **Coordinate with Department Liaisons** – Departments identified FirstNet Liaisons that coordinated with ITD to lead their department’s migration to FirstNet, including identifying FirstNet-eligible staff, ordering, deploying, and managing new devices, and coordinating the return of existing devices for buy-back credits.
- **Create Guidelines** – A modernized Mobile Communications and Devices policy has been created for the City Policy Manual. Publication is expected in February/March 2021. It will provide guidance on procurement, usage, service options, department responsibilities, and device management protocols, as well as close audit findings.
- **Create General and Individual Communications for Employees** – The cultural shift of having separate business and personal phones was more impactful than expected. The Mobile Communication and Devices Policy allows the continuation of existing stipends and the City can reassess use of stipends in the future. However, stipend recipients who are issued a FirstNet device are to use the FirstNet device as the primary communications device for all City business and carry the FirstNet device in addition to any personal device.
- **Manage Resource Contention** – The FirstNet deployment and the implementation of the Silicon Valley Regional Communications System (“SVRCS”) overlapped and contended for time from the same key staff members, especially within the Police Department.

CONCLUSION

The citywide FirstNet deployment is on track for completion with additional time and costs. Citywide deployment is tracking to be completed in May 2022. The City and AT&T continue to test the FirstNet network to identify areas for improvement, new technology, and feature enhancements.

EVALUATION AND FOLLOW-UP

Iterative FirstNet network evaluation and feedback is being provided to AT&T as remaining devices are deployed during Phases 3 and 4. FirstNet Band 14 is deployed across the country and there has been significant network expansion and infrastructure investment in San Jose based on AT&T’s contract with the FirstNet Authority. The City will continue to work with AT&T to identify any areas for improvement in the FirstNet network deployment and device capability as City staff provide feedback on network availability and performance, as well as device usability.

Given the cross-departmental nature of the FirstNet deployment, ITD is the primary point of contact responsible for managing the citywide deployment and coordinating directly with AT&T, including evaluation of the program and follow-up. ITD is currently implementing a telecommunications billing system to handle all FirstNet invoices and produce optimization reports. These were recommendations from the City Auditor’s 2016 report titled: Mobile Devices: Improvements Needed to Ensure Efficient, Secure, and Strategic Deployment.

ITD and CMO provide an annual FirstNet report to the Smart Cities and Service Improvements Committee. The report includes progress made and the ongoing performance measures on the effectiveness and efficiency of the roll out and FirstNet use citywide.

PUBLIC OUTREACH

The Office of Emergency Management and the City Manager's Office have discussed San Jose's support for a regional deployment of FirstNet with other agencies and jurisdictions given the area's risks of earthquakes, floods, and other disasters within Silicon Valley and the larger San Francisco Bay region.

This memorandum will be posted on the City's website for the March 4, 2021, Committee Agenda.

COORDINATION

This memo was coordinated with the City Attorney's Office, City Manager's Budget Office, Police Department, Fire Department, Public Works Department, Office of Emergency Management, Information Technology Department, and Office of Employee Relations.

FISCAL/POLICY ALIGNMENT

Any City employee who is a primary or extended primary user may need to use two phones (FirstNet versus personal). At this time, any employee who receives a FirstNet phone and receives a stipend may continue to receive the stipend until further evaluation by CMO. City employees must use assigned FirstNet device for all City business and as their primary work mobile communications device.

ITD staff configures all FirstNet devices to comply with City and departmental security, data privacy, and retention policies, and will maintain compliance into the future.

COST SUMMARY/IMPLICATIONS

The 2020-2021 Operating Budget includes a \$1.9 million allocation in the General Fund for the purchase and installation of the FirstNet devices, which includes \$1.5 million of funding carried over from prior years and the ongoing allocation of \$410,000 that represents the Administration's original estimate from 2018-2019 for the net additional ongoing cost increases associated with the transition to FirstNet devices. As the implementation process continued, it became apparent that additional funding for FirstNet implementation would be necessary due, in part, to a reassessment of the number of necessary devices, required accessories, and higher than expected costs for data plans and

their associated taxes, fees, and surcharges. As a result, the actions included in the 2019-2020 Annual Report reserved an additional \$750,000 in the General Fund to provide sufficient capacity to ensure full implementation.

Based on staff's revised assessment, the \$1.9 million currently allocated for FirstNet implementation costs in 2020-2021 is expected to be sufficient, though a small portion of the reserve may be needed. However, once the FirstNet deployment is fully completed in May 2022, the necessary budget to sustain the program is preliminarily expected to be approximately \$500,000 higher than the \$410,000 that is budgeted annually in the General Fund for the FirstNet voice and data plans. This is due to higher than estimated monthly service costs for the various plans and associated taxes, and a reassessment of how the ongoing budget will be spread between the General Fund and various Special Funds. Any additional costs in 2021-2022 will be offset by the \$750,000 currently in reserve for the FirstNet implementation. Pending final analysis of the devices and the associated monthly service costs, it is expected that the additional funding to bridge the ongoing shortfall will be incorporated into the 2022-2023 Base Budget development process.

However, it is important to note the Administration continues to pursue cost avoidance strategies to reduce the shortfall such as moving FirstNet users to lower cost service plans, seeking grant funding, and ensuring that non-FirstNet plans are canceled as appropriate.

Given the number of variables in this project, the projected budget need beyond 2020-2021 may change. The Administration will closely monitor progress of the FirstNet deployment and return to the City Council with recommended budget adjustments, as necessary.

CEQA

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action.

/s/


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For questions on the FirstNet deployment, please contact Abigail Shull, FirstNet Product Owner, at 408-535-8100, and Ashish Lakhiani, FirstNet Project Manager, at 408-390-4970.

Attachment A: FirstNet Deployment Timeline

FirstNet Deployment Timeline



Time Period	Nov 2019	Jan 2020 – October 2020	October 2020 – March 2021	March 2021 – May 2022
Phase	Phase 1 77 Devices	Phase 2 1883 Devices	Phase 3 3946 Devices	Phase 4 Fleet Installations Complete
What's Happening	<ul style="list-style-type: none"> Rollouts for subset of phones for Police, Fire, OEM, CMO, and ITD Gather lessons learned 	<ul style="list-style-type: none"> Rollouts for Primary and Extended Primary departments Gather lessons learned Creation of deployment plans Pause Extended Primary rollout due to OEM activation Modernize Cellular Telephone Policy 	<ul style="list-style-type: none"> City wide roll out for Extended Primary departments and remaining Primary departments Purchase of vehicle connectivity equipment Start vehicle installations Send trade-ins to ATT Financial projections * as of Feb 16 	<ul style="list-style-type: none"> Uplift Process design and implementation Continue vehicle installations Send trade-ins to ATT Remaining Extended Primary rollouts if any Transition to maintenance mode and support usage Continue to work with ATT for maximum network coverage efficiency