

Public Safety Broadband Use of Current & Future Technologies

Major Steven A. Williams, Sr.



PUBLIC SAFETY USE OF COMMERCIAL DATA NETWORKS DEVICES

- Mobile Data Computers
- Tablet Computers
- Mobile Data Modems
- Handheld devices
- Mobile Command Vehicles



PUBLIC SAFETY USE OF COMMERCIAL DATA NETWORKS APPLICATIONS

- Computer Aided Dispatch (CAD)
- Automatic Vehicle Location (AVL)
- Local/State/Federal Database Inquiries



Query Vehicle By Tag

State: Florida

Tag Number: [input field]

Query Driver License By OLN

State: Florida [FL]

DRIVER'S LICENSE NUMBER (OLN): [input field]

Query Gun By Serial Number

SERIAL NUMBER: [input field]

Smith & Wesson [SW]

Buttons: Submit, Paste, Cancel



Query Wanted Person By Name And DOB

Last Name: [input field] First Name: [input field] Middle Name: [input field]

Gender: Male [M]

Race: White [W]

DOB: [input field] (0)

Buttons: Submit, Paste, Cancel, Scan

Background: A map interface showing a geographical area with various markers and data points.

PUBLIC SAFETY USE OF COMMERCIAL DATA NETWORKS APPLICATIONS

- Mobile Fingerprint Identification (RAPID-ID)



DataWorks Plus

RAPID-ID

[Stats Page](#)
[Transaction Search](#)
[Device Registrations](#)
[Administrate Users](#)
[Administrate User Options](#)
[Logout](#)

FHP Rapid ID System Stats

Current Month Stats		Last Month Stats	
Positive ID Leading to Arrest:	11	Positive ID Leading to Arrest:	26
Positive ID No Arrest:	24	Positive ID No Arrest:	35
AOA Positive ID Leading to Arrest:	7	AOA Positive ID Leading to Arrest:	8
AOA Positive ID No Arrest:	9	AOA Positive ID No Arrest:	9
DNA Processing Needed:	0	DNA Processing Needed:	0
DNA Processing Complete:	0	DNA Processing Complete:	0
No Match:	218	No Match:	228
Needs Review:	15	Needs Review:	5
Other:	5	Other:	2
Total for October: 289		Total for September: 313	

Total Identifications Leading to Arrest = 1782

Total Identifications no Arrest Required = 2569

Total Positive Hits = 4351

Total DNA Transactions = 0

Total Transactions = 24302

PUBLIC SAFETY USE OF COMMERCIAL DATA NETWORKS APPLICATIONS

- Facial Recognition

The screenshot displays a web application interface for the Florida Department of Highway Safety and Motor Vehicles. The header includes the department name, a logo with the text "A SAFER FLORIDA Highway Safety and Motor Vehicles", and the name "JULIE L. JONES EXECUTIVE DIRECTOR". Below the header is a navigation menu with tabs for "Leads", "Cases", "My Identifications", "My Groups", "My Watch List", "My Links & Exclusions", and "Find People". The main content area shows a "List View" with a count of "91". On the left, there is a sidebar with sections for "1:N Gallery", "Notes & Files", "Case History", "Linked Cases", "Case Dossier", and "Case Details". The "Case Details" section shows fields for "Level: Lead", "Case Origin: M", "In Use By: willias4", "Max. 1:N Candidates: 10", and "1:N Threshold: 0". The main area features a "1:N Gallery" of 12 portrait photos of individuals, with their eyes redacted by black bars. Below the gallery is an "Image Upload Details" form with fields for "Image Title: (50 Character Max)" and "Image Description: (250 Character Max)", and an "Update" button. The bottom of the screen shows a status bar with "Local intranet | Protected Mode: Off" and a zoom level of "100%".

PUBLIC SAFETY USE OF COMMERCIAL DATA NETWORKS APPLICATIONS

- License Plate Readers



Veriplate Client | Profile: Traffic Cameras | User: ndl

Live Video | Still Image | Pause Image | Capture Data | Search Data | System Monitor

Traffic Cameras

Hotlist Sync

Hotlist	Hotlist Modified Date	Last Sync Time
FCIC	4/4/2012 3:00:36 AM	4/4/2012 7:39:47 AM
NCIC	4/4/2012 3:00:21 AM	4/4/2012 7:40:53 AM
Default	3/14/2012 3:59:44 PM	4/4/2012 7:38:55 AM

Plate Detail Resist: 4% of 2%

Date: 4/4/2012 8:00:15 AM
Hotlists Checked: narcotics, Osceola Sex Offender List, Default, FCIC, NCIC

CMIS Results:

LB 19KD **L819KD**

Captured Plates: 228

Plate	Camera	Time
P459JE	Traffic Right IR	4/4/2012 8:00:49 AM
J00LH	Traffic Right IR	4/4/2012 8:00:45 AM
W0N9Y	Traffic Right IR	4/4/2012 8:00:42 AM
V579AG	Traffic Right IR	4/4/2012 8:00:33 AM
N633W	Traffic Right IR	4/4/2012 8:00:29 AM
L819KD	Traffic Right IR	4/4/2012 8:00:15 AM

Alerts: 0

LIVE CHECK | SWITCH CAMERAS | EDIT PLATE | MANUAL ENTRY | ADD TO HOTLIST | MAPME | MAPIT | END SHIFT | EXIT

PUBLIC SAFETY ADDITIONAL NEEDS FOR BROADBAND DATA NETWORK

- Upload of in-car / body-worn video recordings
- Streaming video from in-car /body worn video systems on demand
- Mobile Apps
- Body-worn telemetry
- In-car video conferencing
- Body-worn locator
- Situational Awareness (Command Level & Street Level)

PUBLIC SAFETY NEEDS FOR DEDICATED BROADBAND DATA SERVICE

- Upload of in-car video
- Streaming video from in car video systems on demand to dispatch/responding officers



PUBLIC SAFETY NEEDS FOR DEDICATED BROADBAND DATA SERVICE

- Upload of body-worn video
- Streaming video from body-worn video systems on demand to dispatch/responding officers



PUBLIC SAFETY NEEDS FOR DEDICATED BROADBAND DATA SERVICE

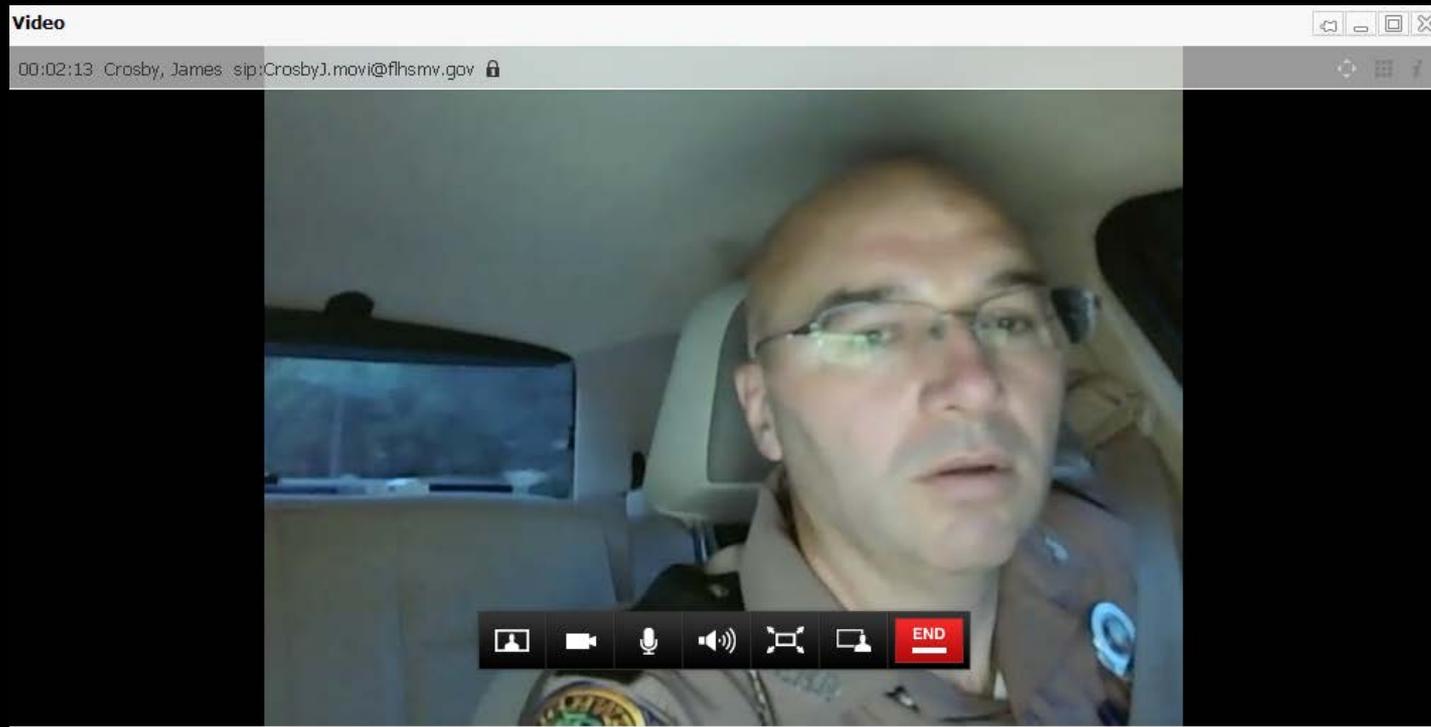
RAPID ID USE CASE



One of America's Most Wanted Captured

PUBLIC SAFETY NEEDS FOR DEDICATED BROADBAND DATA SERVICE

IN-CAR VIDEO CONFERENCING



PUBLIC SAFETY NEEDS FOR DEDICATED BROADBAND DATA SERVICE

- Program LMR radios (OTP)
- Backhaul for Mobile Radio Site (LMR)
- Extend LMR PTT service to non-mission critical devices



PUBLIC SAFETY BROADBAND USE COMMERCIAL CARRIER CAPACITY ISSUES

Cell use at Seahawks parade swamped wireless networks

Overwhelmed by hordes of cellphone users trying to snap pictures and text friends, the downtown wireless network grew sluggish and unresponsive. But police and fire officials say their emergency-communications work on radio frequencies and weren't affected.

By [Lynn Thompson](#)
Seattle Times staff reporter

Land and cellular phone service was severely disrupted, but people who could get through swamped the city's 9-1-1 system with non-stop calls for rescue and evacuation. During the height of the storm, Houston police and fire radios crashed when major public safety answering points were flooded out. Citizens, who awoke and found themselves in pitch darkness, without power or

The Federal Communications Commission reported on Tuesday that the superstorm had downed one out of every four cell towers in 10 states. On Wednesday the FCC issued a statement that affected communication infrastructure was recovering gradually, but that the biggest problems remained in states like New York and New Jersey. Verizon, AT&T, T-Mobile, Sprint and Comcast have not yet reported on how many customers lost service or have had service troubles as a result of the storm.

Cellphone networks overwhelmed after blasts in Boston

MIT professor says outage highlights need for upgrades so calls can go through during disasters

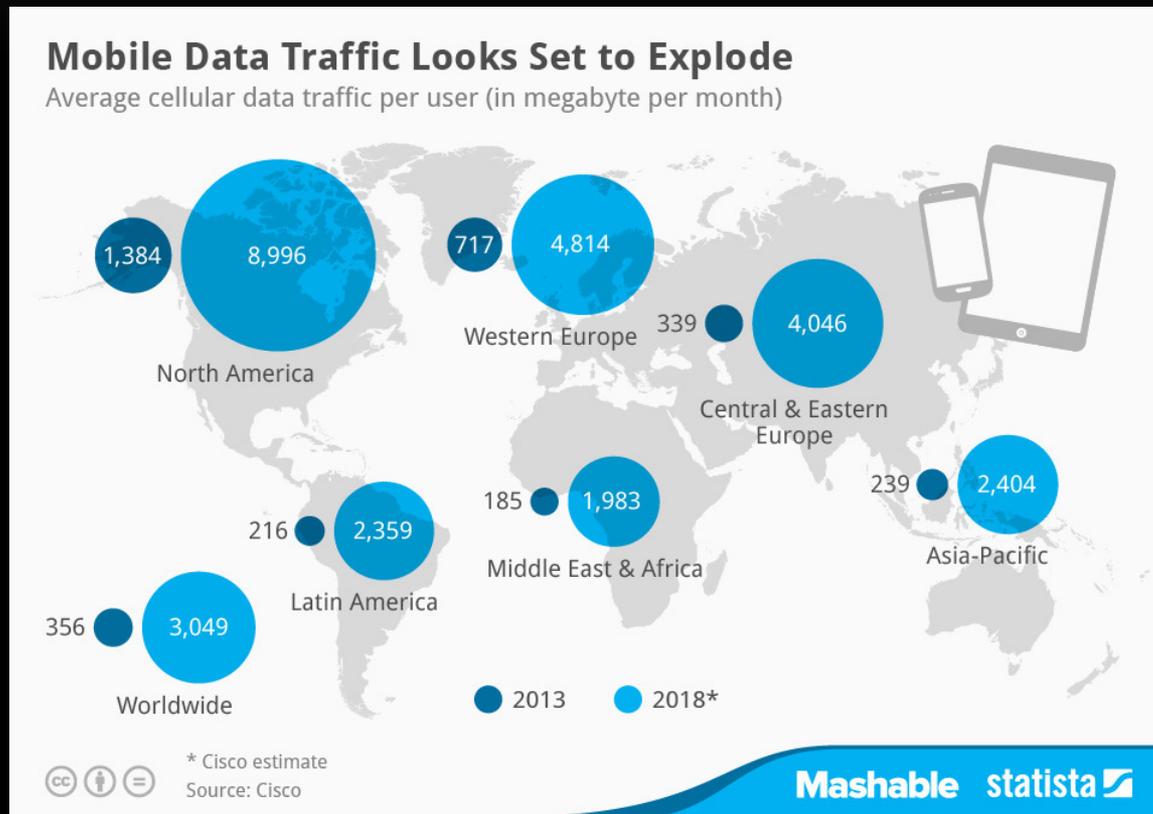
Cellphone service also was being restored in Estes Park, providing a vital communications that could reduce the number of people who were unaccounted for, he said.

Residents along the U.S. Eastern Seaboard are struggling with voice and data services in the aftermath of Hurricane Sandy, which has killed dozens and ravaged communication, transportation and utility infrastructure in the Northeast. Damages from the storm are **estimated in the tens of billions**. Millions on the Eastern Seaboard were left without power, cable or landline service in their homes, as well as spotty or non-existent mobile reception.

Florida Power and Light, the largest **electricity utility** in the state, reported more than 3,241,000 customers had lost power,^[14] equivalent to approximately 6,000,000 people. More than 20 days later, some residents and business owners remained without electric service. Cable television and internet services as well as cell phone services were unavailable for up to two months in some areas. Power outages in southeastern Florida, notably in Miami-Dade, Broward, and Palm Beach counties, compounded the difficulties South Floridians faced following Wilma. Any traffic lights still standing were not working, causing an increase in traffic problems. **Gasoline** was in high demand for cars and generators; six-hour waits were common, due to lack of power to pump the fuel. Much of Miami-Dade, Broward, and Palm Beach counties were placed under a boil water order. Communication was also difficult—land lines were damaged, while cellular towers were either damaged, without power, or overloaded in capacity. Many people later admitted they underestimated Wilma's power (Category 3) as it approached South Florida (Wilma was expected to weaken to a Category 1 as it reached the east coast), and failed to take the precautions that they would have taken with a stronger storm. Damage in Florida totaled \$20.6 billion (2005 USD; \$22.7 billion 2008 USD).^[4]

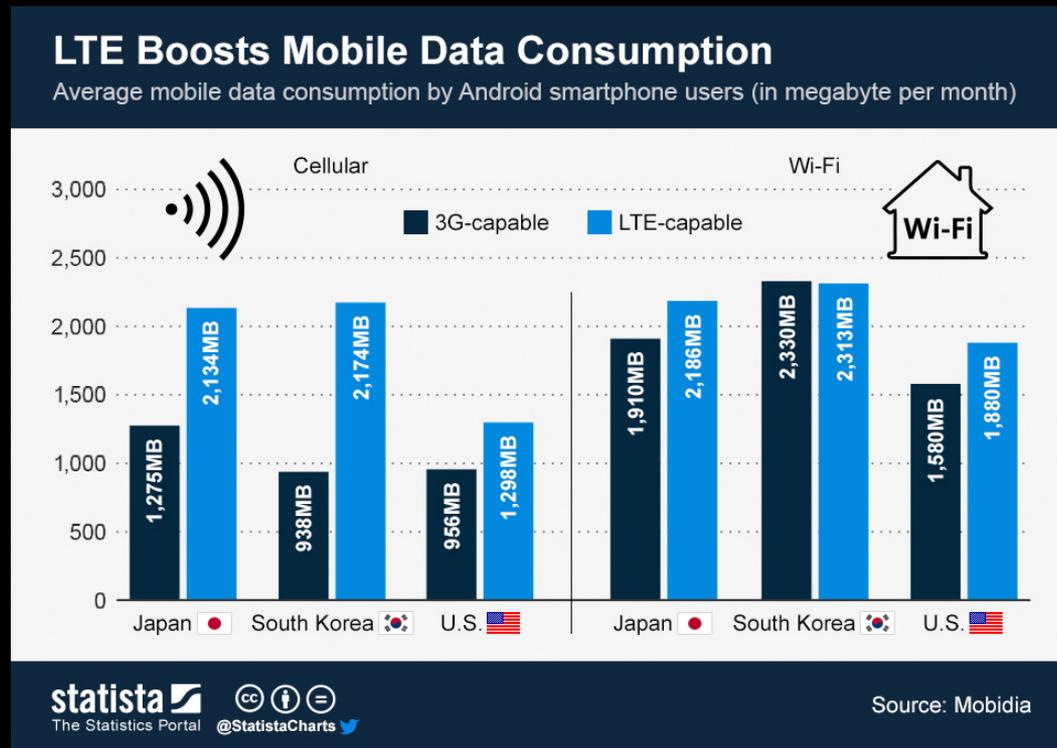
COMMERCIAL BROADBAND DATA USE

- Cell tower-based data traffic increased 81% worldwide in 2013
- Last year's mobile traffic was nearly 18 times the size of the entire Internet in 2000
- In 2013, mobile traffic per user averaged 356MB of data per month; that's expected to reach more than 3GB per month in 2018



COMMERCIAL BROADBAND DATA USE

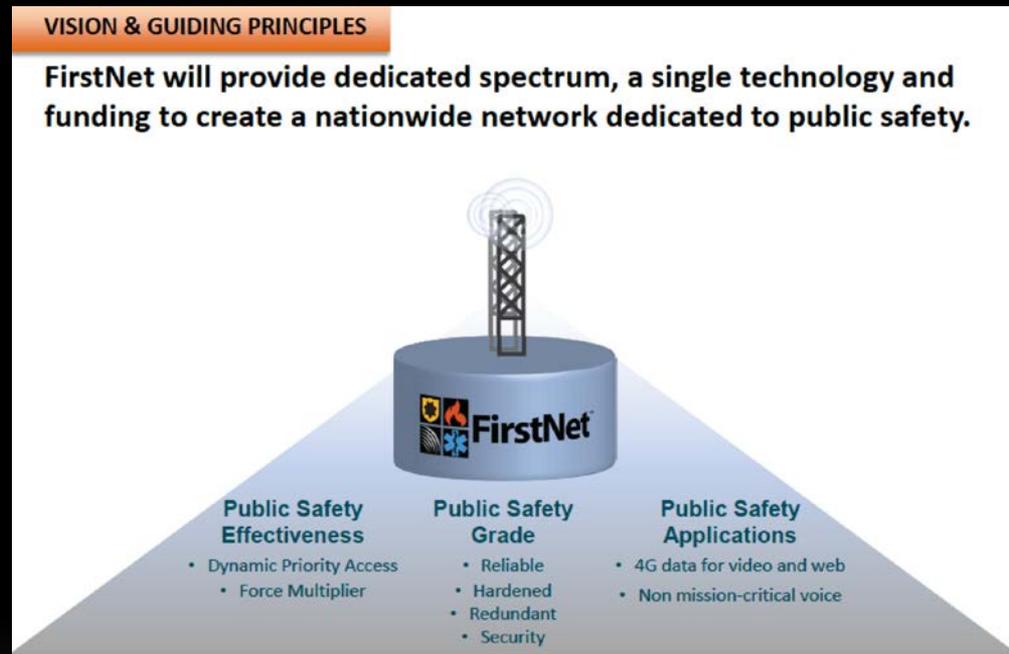
- LTE capability increases cellular data use of smartphone users significantly.
- In the United States, cellular data consumption of LTE customers is 36 percent higher than that of 3G-enabled smartphone users.
- In Japan and South Korea, the world's largest LTE markets, the difference is even larger at 67 and 132 percent, respectively.



PUBLIC SAFETY BROADBAND NETWORK



- Dedicated nationwide wireless broadband network for public safety
- Network available for everyday missions related to public safety
- Shared network for improved communications & interoperability
- Secure network
- Highly resilient and reliable network, public safety grade
- Priority access at large scale events and emergencies

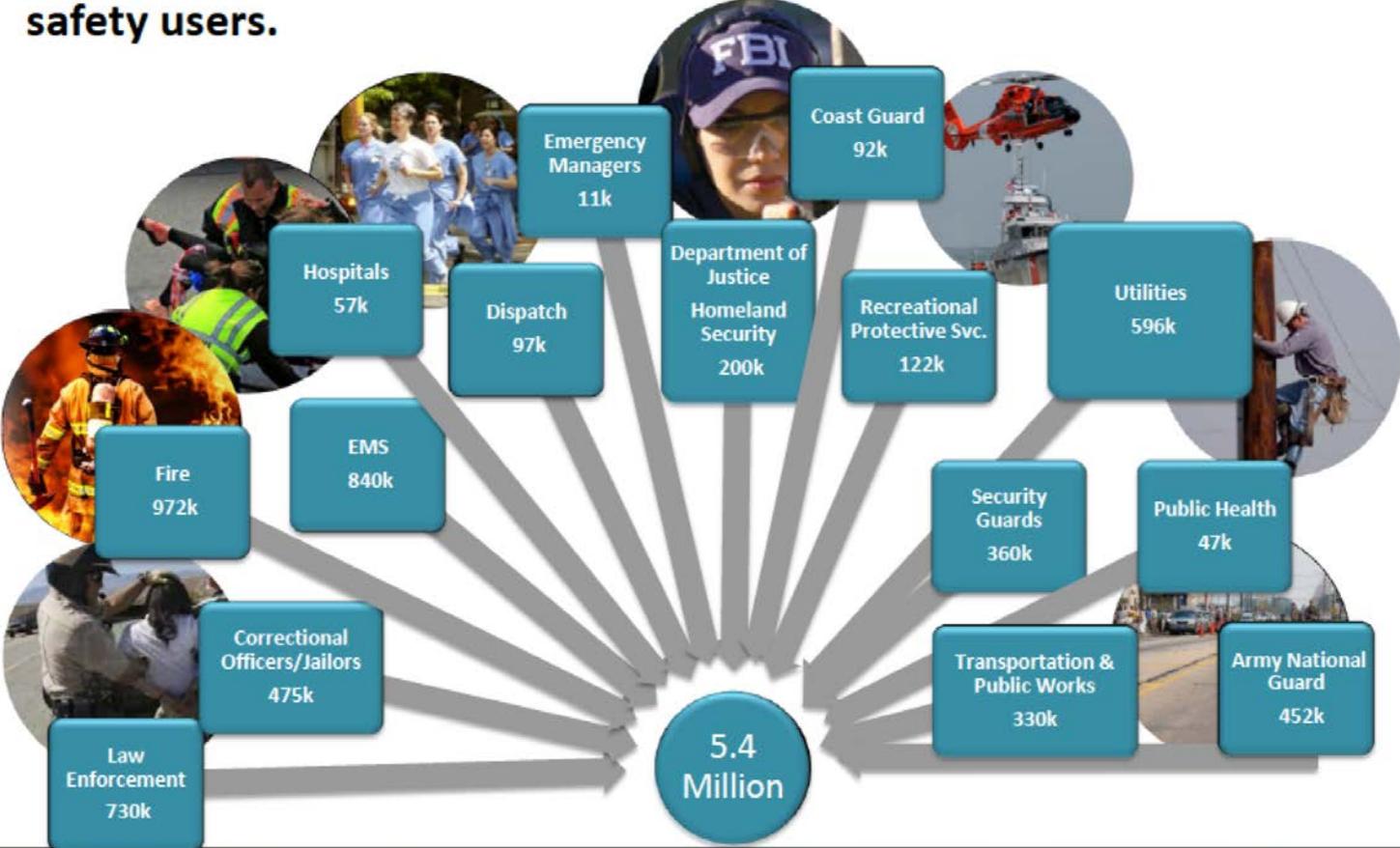


PUBLIC SAFETY BROADBAND NETWORK



VISION & GUIDING PRINCIPLES

FirstNet has the potential to support a broadly defined set of public safety users.





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