

# Verizon Smart Communities

## Industry Perspective March - 2017



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

# Agenda

- The World's 5 Smartest Cities
- What it takes to deliver a Smart Community
- General US Community challenges and P3
- Smart City Network Infrastructure needs
- Q&A

# Safe Harbor Statement

This document and any attached materials are the sole property of Verizon and are not to be used by you other than to evaluate Verizon's service. This document and any attached materials are not to be disseminated, distributed or otherwise conveyed throughout your organization to employees without a need for this information or to any third parties without the express written permission of Verizon.

Verizon makes no representation regarding your use or ability to use any product or service under any applicable legal or regulatory requirement. This document and any attached materials do not constitute a legally binding agreement or offer to contract. Verizon reserves the right to make any corrections necessary for accuracy and completeness, and the descriptions of products, services, practices and policies herein are subject to change. Verizon disclaims any and all liability for any damages of any kind associated with its inability to perform or provide any services proposed in this document. Any features, functionality and pricing are directional and for discussion purposes only. Actual pricing, benefits, revenues and cost savings are not guaranteed and will depend on various factors, including customer network architecture and configuration, market conditions and regulatory environment. Verizon makes no representation that it can or will provide any service, software, equipment, installation, maintenance, management or other services.

© 2017 Verizon. All rights reserved. The Verizon name and logo and all other names, logos and slogans identifying Verizon's products and services are trademarks and service marks or registered trademarks and service marks of Verizon Trademark Services LLC or its affiliates in the United States and/or other countries. All other trademarks and service marks are the property of their respective owners.

# The World's 5 Smartest Cities

# Recent U.S. Smart City Activity

## Singapore

- Smart nation program launched in 2014.
- Real time analytics on crowd control.

## Barcelona

- Multi-modal transportation strategy: electric cars , bike sharing, investing heavily in improving bus and parking.
- Digital bus stops / interactive experience / Wi-Fi.

## London

- Smart traffic implementation to curb congestion.
- Open data platform from its smart city initiatives called London Datastore.

## San Francisco

- Connected City initiative / smart parking.
- Sustainability and smart urban development initiatives.

## Oslo

- By 2020, the city is aiming to slash emissions by 50% by restructuring its transportation grid.
- Smart parking.

## Atlanta

- Bringing intelligent LED lighting solutions to the city that will ultimately help improve public safety and greater efficiencies.

## Boston

- Creating better, more efficient services utilizing technology.

## Chicago

- Citizen engagement with public Wi-Fi to improve city life.

## Columbus

- Adaptive Traffic signaling and increasing intersection safety, reduced fuel consumption, and decrease mobility delays.

## Seattle

- Increase free public Wi-Fi and bring internet closer to those who do not have access at home.

# What does it take to deliver a Smart Community?

...this is Different



Passion



Smart City Experience



Community Focus



Team Philosophy



Long Term Investment

"Someone's sitting in the shade today because someone planted a tree a long time ago"

-Warren Buffet



# Public Private Partnership between cities and Tech .

Non Exclusive Partnerships.

Tech Co. Investment in City

Partnership vs. Vendor.



## City & Partners on Same Side of the Table to Address Citizen Issues & Deliver Solutions



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

# Begin with City's key issues.

# Support via network & tech.

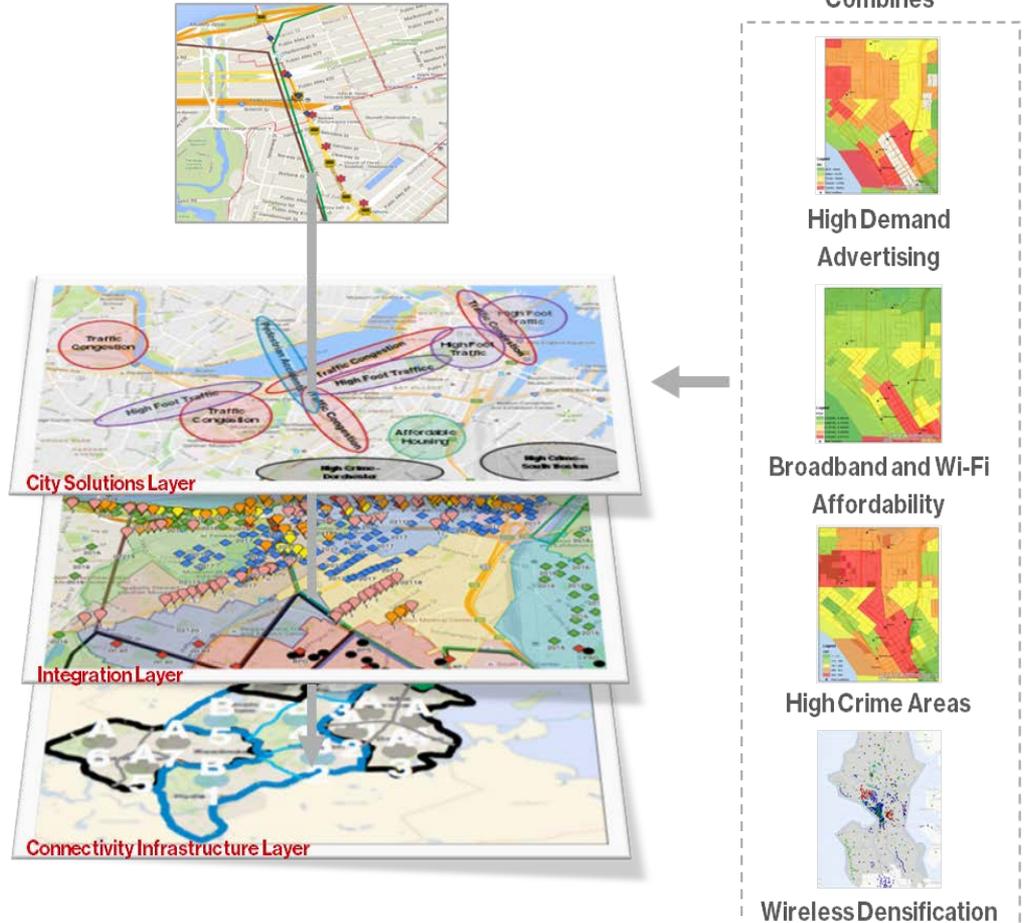
Avoid implementing technology in search of a problem

Single dig reduces cost & city disruption dramatically

Utilization of City sidewalks & key city assets

Inclusive of city's ecosystem with holistic architecture to minimize risk

Security & data privacy at core



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

# Wireless Evolution



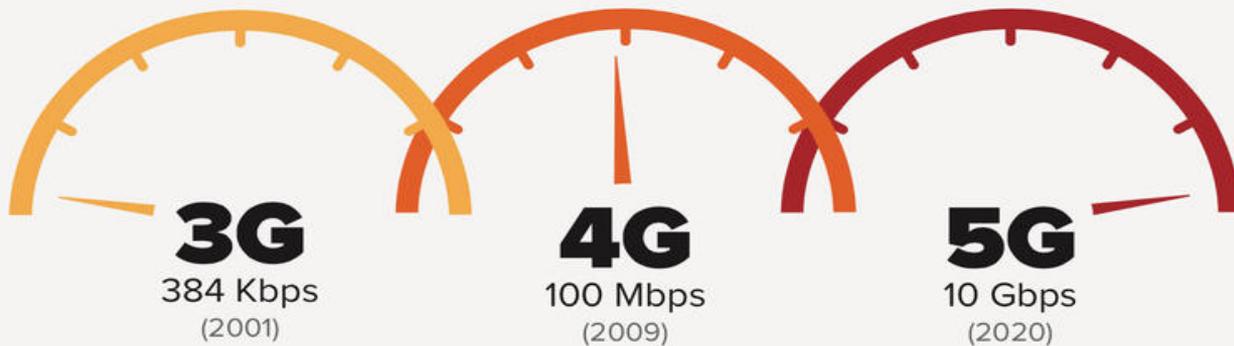
1G

2G

3G

4G

5G?



# Global mobile data traffic forecast



Internet of Things (IoT)

# 30<sup>B</sup>

Connected devices predicted by year 2020



Global mobile data traffic

# 8<sup>X</sup>

Increase of global mobile data traffic from 2015-2020

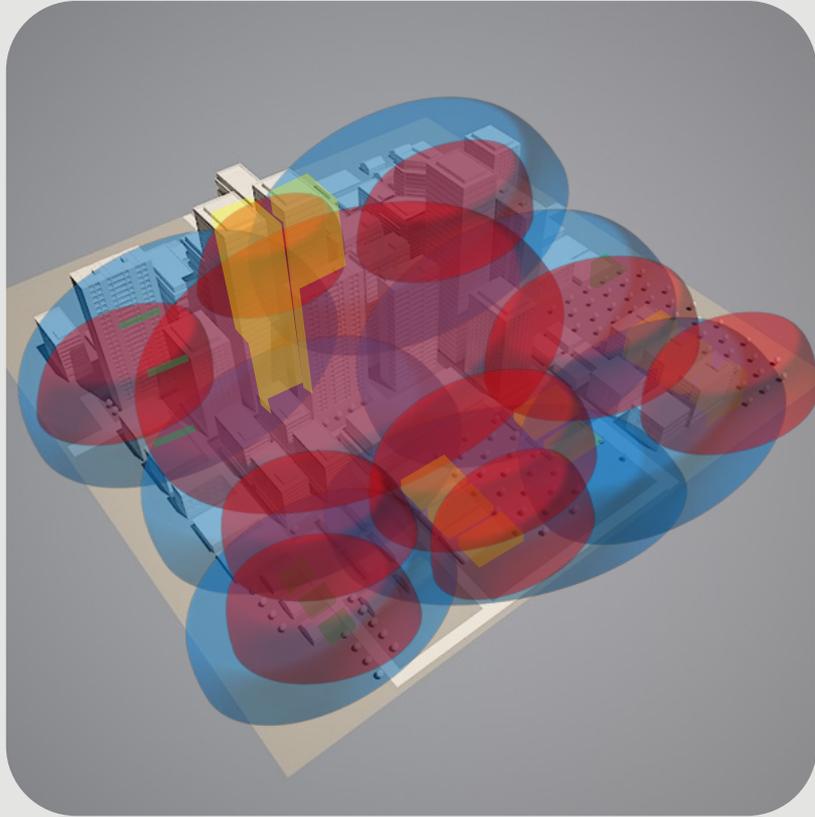
Exabyte's per month



\*Source: Cisco VNI Global Mobile Data Traffic Forecast 2015-2020

# Communications Network Needed

- **Macro Cell**
- **Micro Cell**
- **Small cell**
- **ODAS**
- **IDAS**
- **Municipal - WiFi**
- **Fiber deployments needed to support all of the above**



# Closing Remarks