



Connected City
Smart City

- 9:05** Introduction: Peter Murray, Executive Director, Dense Networks
- 9:15** Keynote: Raimundo Rodulfo, Chief Innovation Officer/IT Director, Coral Gables
- 9:35** Panel 1: Smart Cities Innovation-Moderator, Peter Murray, Dense Networks
 Raimundo Rodulfo, Chief Innovation Officer, Coral Gables
 Ana Chammas, Chief Innovation Officer, Miami-Dade County
 Ernie Fernandez, VP, Public Sector, Microsoft
 Kurt Jacobs, Director, JMA Wireless
- 10:30** Mobility Hub Project-Kevin Kinney, Director, Parking, Coral Gables
- 10:45** Break
- 11:00** Public Safety Communications
- Keynote 2: Edward Hudak, Jr., Police Chief, Coral Gables
- Keynote 3: Marcos De La Rosa, Fire Chief, Coral Gables
- Keynote 4: John Foley, Managing Director, Safer Buildings Coalition
- 11:35** Panel 2: Smart Buildings and Networks
 Nelson Gonzalez, Asst. IT Director, Coral Gables
 James Jacobellis, VP, Geoverse
 Eric Toenjes, National Market Manager, Wireless, Graybar
 Dan Hakker, CRO, Summit Broadband
 Fernando Perez, VP, JMA Wireless
- 12:30** Lunch
- 2:00** Closing Words-Peter Murray, Dense Networks
- 2:10** Tour of Smart City Center, Public Safety Building
- 3:00** Tour of Smart City District



Smart
Cities
Council

"GETTING
TO SMART"



Smart Building Innovations

When: March 3rd, 11 am Eastern



Rob MacDougall
Advisor, Marcon



Cris Kimbrough
Director, Greystar



Scott Redfern
GM, Siemens

Presenting Sponsor: **GraybaR.**

www.densenetworks.com



DenseNetworks.com



Connected Cities Tour
"Getting to Smart"

Presenting Sponsor: **GraybaR.**

2022

The Tour returns in 2022 with a focus on how Network Technology and the Cloud are enabling innovative new capabilities and services.

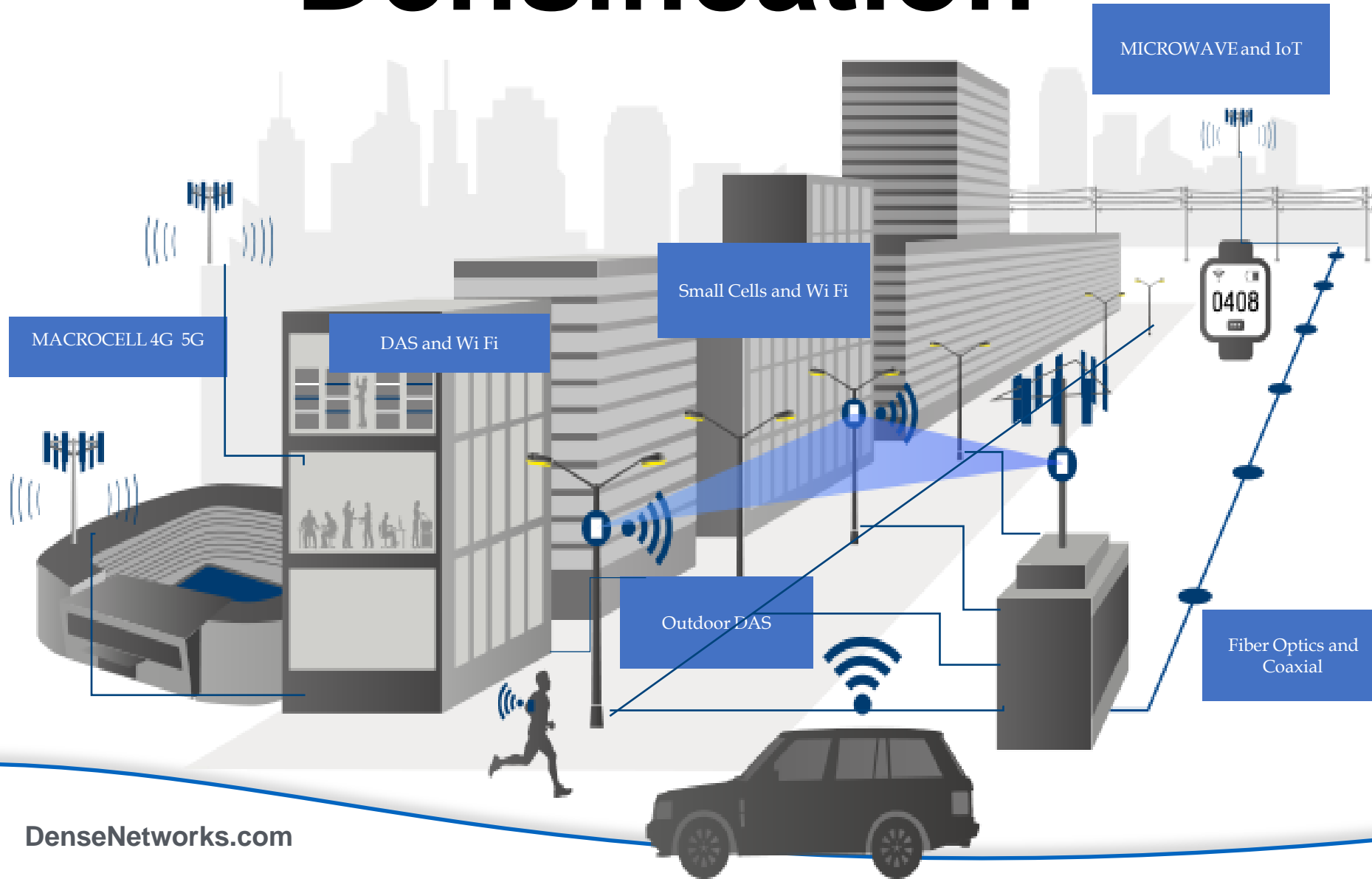
We will look at successful Use Cases, Technology Architectures, Business Models and Funding mechanisms for Cities, Schools, Building Owners, Utilities and Transportation.

For More Information Contact:
PeterMurray@DenseNetworks.com
267-237-5907

February	24	Coral Gables	Connected Cities Tour
April	07	Scottsdale	Broadband Summit West
April	14	Orlando	Smart Hospitals
April	28	Peachtree Corners	Connected Cities Tour
May	12	Charleston	Broadband Summit East
May	24	Denver	Smart Cities Week
June	16	NYC	Smart Buildings
August	11	Philadelphia	Connected Cities Tour
September	15	Dallas	Connected Cities Tour
October	26	Los Angeles	Connected Cities Tour
November	10	Chicago	Smart Buildings

www.densenetworks.com

Densification



CURRENT PROGRAMS:

Federal Communications Commission

1. Connect America Fund Program
2. Schools and Libraries (E-Rate) Program
3. Rural Health Care Program
4. Lifeline Program
5. Rural Digital Opportunity Fund
6. 5G Fund for Rural America
7. Emergency Connectivity Fund
8. **Emergency Broadband Program***
9. COVID-19 Telehealth Program

Rural Utilities Service (USDA)

1. Rural Broadband Access Loan Program
2. Telecommunications Infrastructure Loans Program
3. Community Connect Grant Program
4. ReConnect Program*
5. Distance Learning and Telemedicine (DLT) Grant Program*

National Telecommunications and Information Administration

1. **Connecting Minority Communities**
2. **Broadband Infrastructure Program**
3. **Tribal Broadband Connectivity Grant Program***

Treasury Department

1. **Coronavirus State and Local Fiscal Recovery Funds**
2. Coronavirus Capital Projects Fund

Over \$100 Billion in Funding

*Renewable



Allocation	Amount	Agency
Federal Broadband Infrastructure Funding	<i>\$65 Billion allocated (\$0.06 billion for other)</i>	NTIA
Middle-Mile Broadband Deployment Grant Program	\$1.0B	NTIA
Digital Equity Competitive Grant Program	\$1.25B	NTIA
State Digital Equity Capacity Grant Program	\$1.5B	NTIA
Distance Learning, Telemedicine, and Broadband (DLT) Program & ReConnect Program	\$2.0B	USDA
Tribal Broadband Connectivity Program	\$2.0B	NTIA
Affordable Connectivity Program	\$14.2B	FCC
Broadband Equity, Access, and Deployment Program	\$42.45B	NTIA



- Based in Washington DC and Sydney, Australia
- Smart Cities Week-Annual Event (This year Denver 5/23-25)
- Readiness Challenge-5 years
 - Focus on Projects and Use Cases-80+ applications last year
 - 3 Winners in 2021-Nashville, Orange County, Fl, Brisbane
 - City, Real Estate and Utility Highest Engagement
 - Past Winners: Philadelphia, Orlando, Las Vegas, Cary, Indianapolis, Miami, Austin, Baltimore, San Diego, Montgomery, Louisville
- Innovation Forum-Winners 2022 Coral Gables and Tucson
 - Activator Database
 - National, Regional and City Specific Workshops
 - Focus On Infrastructure

A Smart Miami is:

- *Connected*
- *Equitable*
- *Resilient*
- *Sustainable*
- *Transparent*
- *Self-Aware*



CITY OF CORAL GABLES

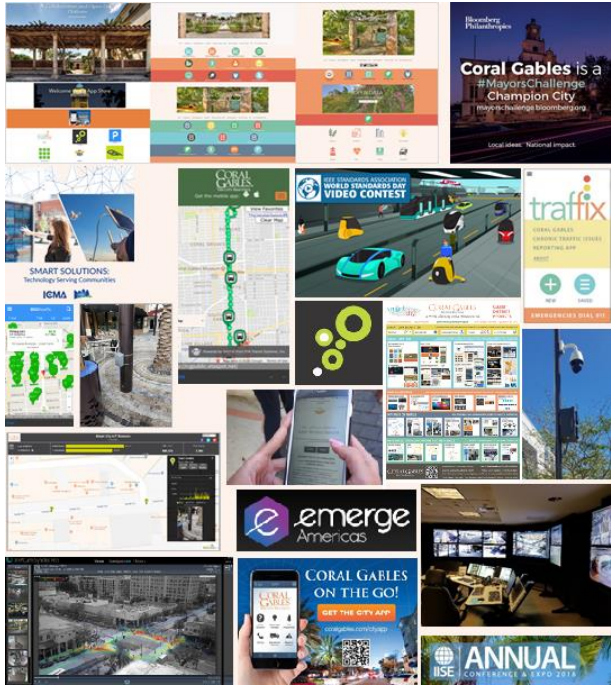
SMART CITY STRATEGIC PARTNERSHIP, RESEARCH AND COLLABORATION MODEL

OUTREACH, CO-INNOVATION, CO-CREATION, BENCHMARKS, STANDARDS AND BEST PRACTICES

Performance Benchmark and Awards Organizations



Citizen Engagement, Outreach and Communication



Research & Development Co-Innovation



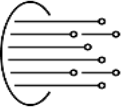
Strategic Partnerships: Industry, Academia, Government, Nonprofits

Improve Programs, Augment Capacity
Sustainability, Resilience, Workability, Livability



Digital Infrastructure

Fiber IoT Cell-Macro, Small & DAS Wi Fi Private LTE & 5G Smart Poles Devices



Lighting +



Cameras



Kiosks



Computers/Tablets



Sensors

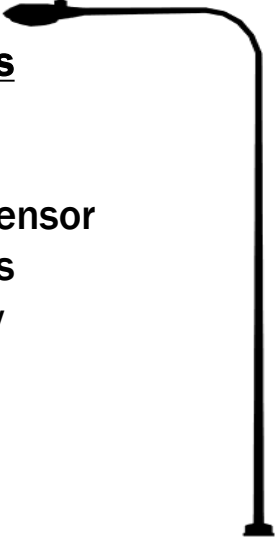
San Jose Broadband Strategy

STREETLIGHT

Light/Safety

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density

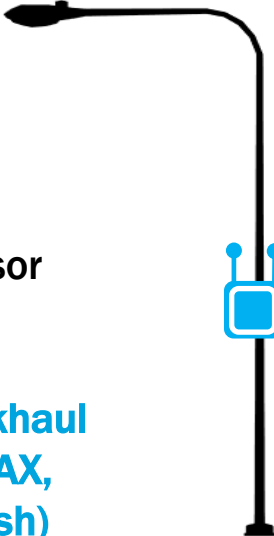


SMALL CELLS

Broadband Digital Infrastructure

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density
- **Data Backhaul (Fiber, COAX, Radio mesh)**

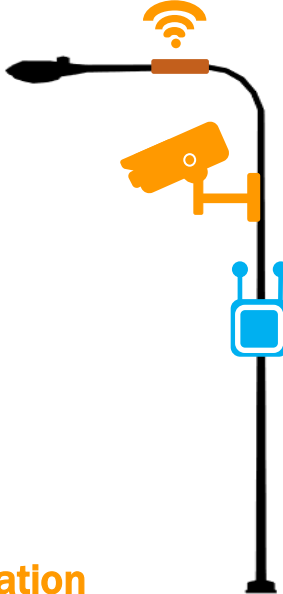


INTERNET OF THINGS

Smart Cities

Properties

- Height
- Power
- Light Sensor
- Lumens
- Density
- **Data Backhaul**
- **Sensors**
- **Cameras**
- **2-way Communication**
- **Banner Advertising**



Maturity:

Mature

Emerging

Extremely Immature

Possible Action: Proceed w/ LED Light Replacement Only

Re-examine in Broadband Strategy

Seek to Understand with Knight IoT Grant

Smart City AI-Powered Modular Pole Next Generation - First in the U.S.

Coral Gables Custom Design (current pilot, version 3):

Public Wi-Fi

Traffic Safety cameras and sensors

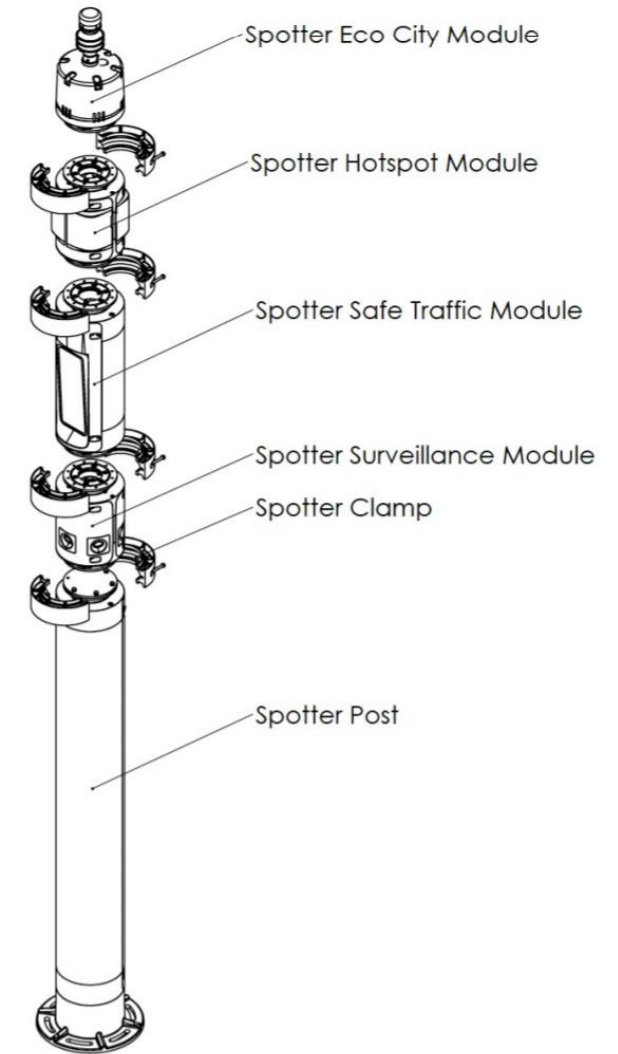
Traffic counters (multimode, vehicle, pedestrian...)

Environmental sensors (air quality, weather...)

Hurricane wind resistant structural design

New Features/Modules (version 4):

Enhanced communications, enhanced cameras,
Coral Gables industrial design and aesthetics,
smart lighting, noise sensor, announcer...



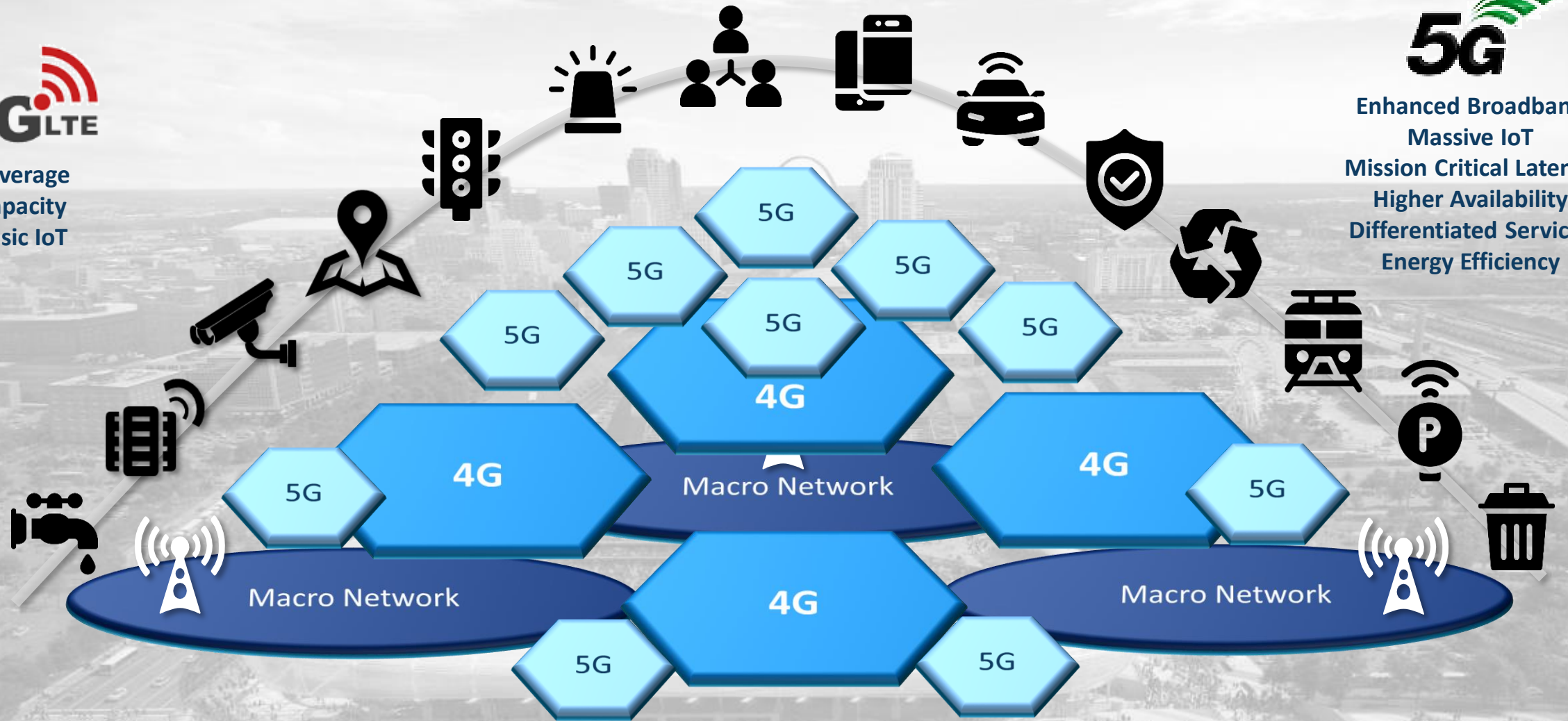
Smart City Network Densification

4G LTE

Coverage
Capacity
Basic IoT

5G

Enhanced Broadband
Massive IoT
Mission Critical Latency
Higher Availability
Differentiated Services
Energy Efficiency



A Robust Foundation of High-Speed, High-Capacity, Secure, Smart & Resilient Communications Infrastructure

Enables and facilitates:

- Real-time urban, environmental, and economic visibility
- Actionable information and analytics
- Access to scalable, highly-available clouds and mobile platforms
- The delivery of services, tools, enterprise applications, and actionable data to a Smart City ecosystem: people, businesses, organizations, smart/autonomous systems
- Alignment with strategic goals, mission, and vision of excellence



STRATEGIC PLANNING – INNOVATION

CONTINUOUS IMPROVEMENT

CUSTOMER SERVICE – QUALITY OF LIFE

SMART CITY ECOSYSTEM

COLLABORATION, PARTNERSHIP, INTELLIGENCE / CUSTOMERS, STAKEHOLDERS AND TECHNOLOGY

PEOPLE



BUSINESSES



ORGANIZATIONS



THINGS



I.T. SYSTEMS



SMART CITY HUB

VALUE, TRANSPARENCY, OPEN DATA AND ANALYTICS, ACTIONABLE INFORMATION, EFFICIENCIES
CITIZEN ENGAGEMENT, MOBILITY, ACCESSIBILITY, INCLUSION, CROWDSOURCING, COLLABORATION

DATA MARKETPLACE

OPEN DATA PORTALS



IoT DASHBOARDS



GIS PORTALS



APP STORE



ENTERPRISE SYSTEMS • eGOV



TRANSPARENCY PORTALS



CITIZEN ENGAGEMENT



CRIME INTELLIGENCE CENTER



DATA PLATFORMS

DATA AGGREGATION, INTEGRATION AND CORRELATION / BUSINESS INTELLIGENCE AND ANALYTICS BACKEND

PUBLIC & PRIVATE CLOUDS & DATACENTERS



BIG DATA-AGGREGATION & ANALYTICS



ARTIFICIAL INTELLIGENCE & MACHINE LEARNING



VIDEO ANALYTICS



OPEN DATA & APIs



HORIZONTAL & VERTICAL INTEGRATION



INTERNET OF THINGS

REAL-TIME URBAN AND ENVIRONMENTAL VISIBILITY / PHYSICAL INTERFACING

SMART LIGHTS



TRAFFIC & PARKING SENSORS



PUBLIC SAFETY SMART EQUIPMENT



ENVIRONMENTAL SENSORS & ACTUATORS



SMART DEVICES



SMART KIOSKS & DIGITAL SIGNAGE



ROBOTICS & SMART VEHICLES



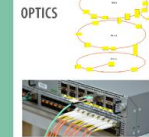
HIGH SPEED COMMUNICATIONS AND RESILIENCE

ROBUST, RESILIENT SMART CITY NETWORK FOUNDATION

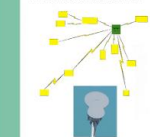
RESILIENT NETWORK



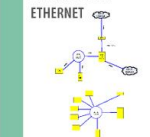
FIBER OPTICS



WIRELESS BACKBONE



METROPOLITAN ETHERNET



PUBLIC & PRIVATE WI-FI NETWORKS

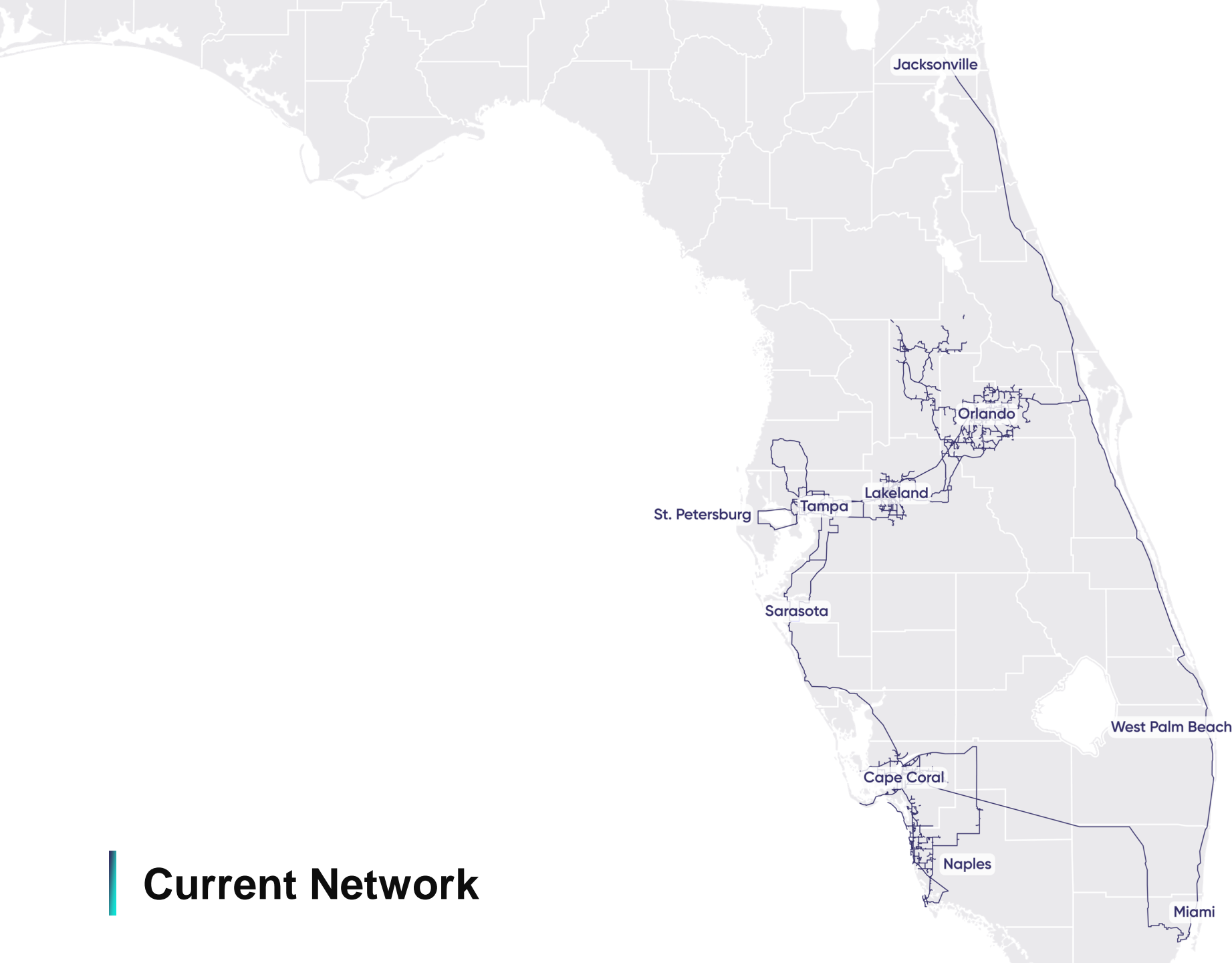


SATELLITE & CELLULAR COMMUNICATIONS



SMART ENERGY RESILIENCE





Jacksonville

Orlando

Lakeland

Tampa

St. Petersburg

Sarasota

West Palm Beach

Cape Coral

Naples

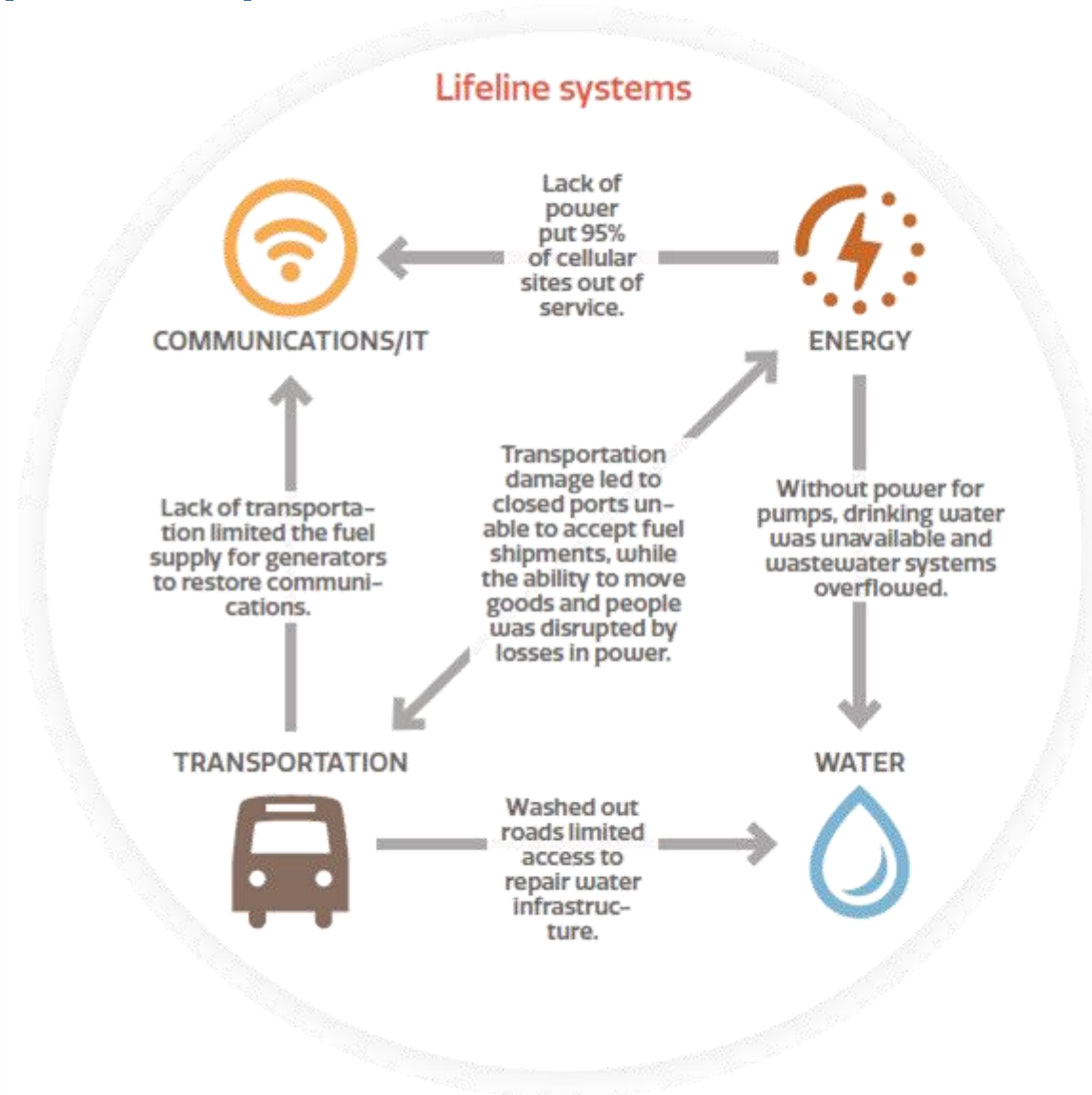
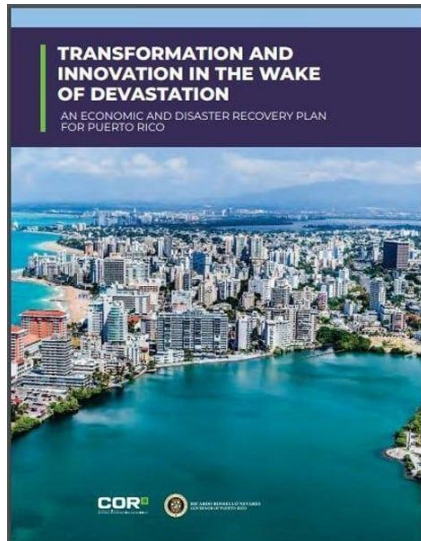
Miami



Current Network



Connectivity Dependence – 4G World



And without those lifeline systems:



Many healthcare facilities were not open, and people were unable to travel to those that were.



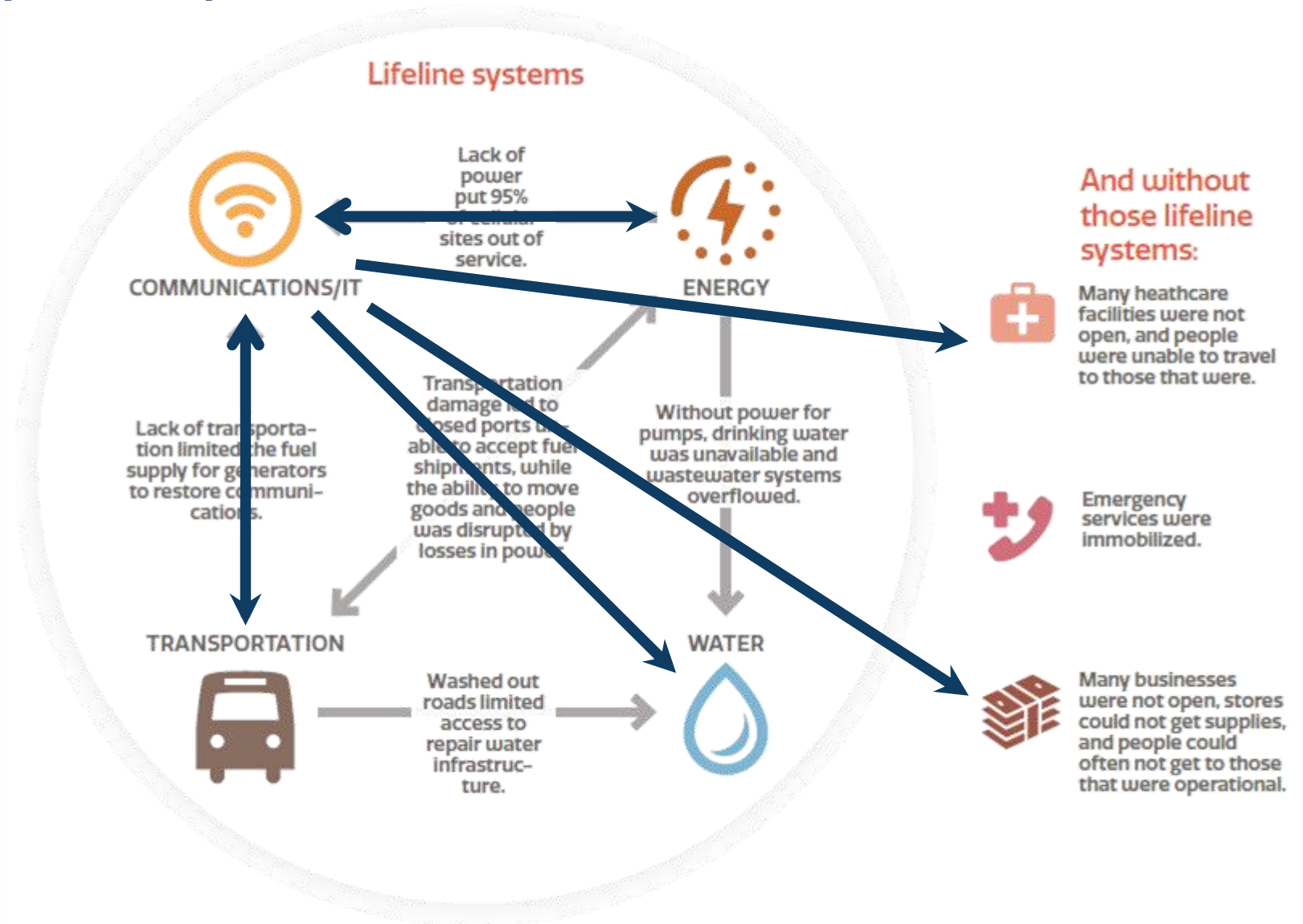
Emergency services were immobilized.



Many businesses were not open, stores could not get supplies, and people could often not get to those that were operational.

Connectivity Dependence – 5G World

- Smart Grid
- Smart Health
- Smart Enterprise
- Smart Water
- Smart City
- Autonomous and Connected Vehicle



Public Safety

Chief Edward Hudak, Jr.
Coral Gables



Chief Marcos De La Rosa
Coral Gables



John Foley, Managing Director
Safer Buildings Coalition

