Regional Showcase Panel: West Coast

**Moderator:** Renil Paramel, Co-Founder and Senior Partner, Strategy of Things

**Jon Walton,** Chief Information Officer, County of San Mateo, CA

**Dominic Papa,** Vice President, Smart State Initiatives, Arizona Commerce Authority

**Danielle Hughes,** Capital Program Manager, Tahoe Transportation District

**Jerry Power,** Chief Executive Officer, I3 Systems

**Joyce Edson,** Deputy Chief Information Officer, City of Los Angeles, CA
San Mateo County Regional Initiatives

Digital Divide

Innovation

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What are the digital divide challenges?

- Federal data of broadband availability is wrong
- Some areas lack both cable and cellular connectivity for internet
- Increasing connectivity is economically challenging, especially to rural areas
- Economic barriers for individuals and families to get connected
- Having enough bandwidth and data for education, works, health, etc.
- Online government and business services cannot be accessed without connectivity
Six Successful Years of the SMC Public Wi-Fi Project

**Purpose**
- Create Wi-Fi hotspots in public areas to enhance public access to online information
- Economic zone enhancer for small business and events
- External in public spaces. Internal in County buildings

**Results**
- 100+ Wi-Fi Sites
- 1,000,000 + user hours per month
- 150,000 users annually
- 10+ year list of site expansion requests
- Great public acceptance and support
... And then COVID-19 happened ...

Health Care and Tele-Health
Health care organizations and health care partners needed to envision new ways to provide health care to the public with new applications which require better connectivity and increased bandwidth.

New Technology is needed
New applications and solutions are needed to provide better seamless service now in the “new normal” of social distancing. Data needs to be aggregated and analyzed in order to make good decisions.

Government and School Went “Online”
The pandemic has dramatically accelerated the county, cities, schools, and NGO’s move to online services putting pressure on institutions to provide workers better connectivity and tools for online work.

Distance Learning Needs Exploded
With students having to shelter in place education moved online “overnight”. Immediately we saw huge issues with no connectivity or limited bandwidth that caused issues. School can provide devices but connectivity is challenging.

Connectivity
Fast and unlimited data connectivity is a basic digital prerequisite. Even in Silicon Valley, a large population of citizens don’t have adequate online access. Public Internet access is increasingly being seen as a “utility”.

People and Mobility Patterns
Limited awareness of how people move in areas creates challenges when providing services and solving connectivity problems. We don’t sit at home in front of PC’s anymore. We are mobile and our devices travel with us.
What have we done?

- Received $6.3M in CARES Act funding
  - Partnered with local school districts, property owners, consultants, libraries, and cities to map out the Public Internet needs of San Mateo County
  - Subsidized 650 hot spots and Comcast Internet Essentials Programs to provide Internet access to students in need for the school year.
  - Building out almost 70 access point urban wireless network at the Woodland Park Communities apartment complexes, providing free last mile internet connections to over 4,500 residents, including 223 K-12 students with reported connectivity issues.
  - Purchased 4 RDU”s for SMC’s “Park and Connect” program, allowing the public to access SMC Public WiFi at select parking lots across the county.

Heat Map of the Digital Divide and SMC Wi-Fi
Where do we go from here?

- Continue to search for ongoing support and funding in 2021 ongoing to provide continued expansion and support of the SMC Public WiFi network.

- Create a partnership of the County, Schools, Libraries, Cities, and Public to support the ongoing operation of the Public WiFi network.
SMC Smart Region Guiding Principles

1. Multi-Connectivity
2. Engage Use Case Beneficiaries
3. Start Small and Learn
4. Focus on problems and outcomes, not technology
5. Small Investments spread around
6. Establish True Partnerships
7. Balance strategy with tactical
8. Don’t reinvent the wheel
SMC Smart Region is built on an ecosystem framework

Outcomes
- Quality of Life
- Government Efficiency
- Health and Wellness
- Economic Development
- Sustainability
- Public Safety
- Mobility
- Resilience

Strategy of Things Smart City Framework
Source: www.strategyofthings.io/smart-city-ecosystem
SMC Labs provides the mechanism for solving problems

PROBLEMS
- County: traffic, air quality, flooding, connectivity
- City: public safety, parking, housing, jobs

INNOVATIONS
Experienced

COMMON INNOVATION INFRASTRUCTURE

IDEATE ➔ BUILD ➔ TEST

SOLUTIONS
Deployed
- County
  - Smarter Parking
  - Affordable Housing
  - Air Quality
  - Drone Detection
- City

SMC Labs

Smart Solution Vendors
Subject Matter Experts
Service Providers
Scaling and operationalizing model – post SMC Labs

Innovation (SMC Labs)
- Identify Problems
- Ideate Solutions
- Design Pilot
- Build & Test
- Validate Results

Operationalize (Department)
- Procure & Contract
- Deploy
- Operate & Maintain
- Optimize Outcomes

<table>
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<tr>
<th>Project Management</th>
<th>SMC Labs led, Departments assist</th>
<th>Department Led</th>
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<tr>
<td>Funding</td>
<td>SMC Labs innovation budget</td>
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<td>Setup, Operate, Maintain</td>
<td>SMC Labs resources and innovation zones</td>
<td>Department resources and vendors, SMC Labs support as needed</td>
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<td>Technology Infrastructure</td>
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Thank You

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Activating Ecosystems & Developing A Connected Network of Smart Regions

October 2020
SMART CITY 3.0
SMART REGION 1.0
SMART STATE 0.5

Dominic Papa
VP Smart State Initiatives
Arizona Commerce Authority
CHALLENGE 1: CROSS-JURISDICTIONAL MOBILIZATION

Greater Phoenix Communities
- Maricopa County
- Apache Junction
- Avondale
- Buckeye
- Casa Grande
- Chandler
- El Mirage
- Fountain Hills
- Gilbert
- Glendale
- Goodyear
- Maricopa
- Mesa
- Peoria
- Phoenix
- Queen Creek
- Scottsdale
- Surprise
- Tempe
- Tolleson
- Wickenburg
- Youngtown

CHALLENGE 2: UNIVERSITY (RESEARCH) MOBILIZATION

ASU Arizona State University

ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves.

CHALLENGE 3: CORPORATE (INDUSTRY) MOBILIZATION

Partnerships
- Sprint Business
- Cox Business
- Dell Technologies
- SAP
- Snowflake
- Maricopa Community Colleges

Key Drivers
- DELIVERY OF BETTER SERVICES
- ECONOMIC DEVELOPMENT
- COST SAVINGS/ EXTRA CAPACITY

THE SOLUTION: A PERMANENT & SUSTAINABLE STRUCTURE TO DRIVE CONTINUOUS ECOSYSTEM MOBILIZATION

THE CONNECTIVE

- DATA TO ADVANCE RESEARCH
- SOURCE CHALLENGES
- COMMUNITY IMPACT
- GRANT COMPETITIVENESS

STRATEGIC RESULTS

The Connective | Regional KPIs & Metrics Framework
SMART CITIES 4.0: BUILDING THE SMART STATE

- A unified, policy-driven approach to digital transformation.
- Vertical and horizontal alignment across all levels of government.
- Leverage regional platforms to advance sector-specific focus and accelerate the commercialization of technologies and solutions.
Why a Smart State

- Technology disruption is a global force we must confront and harness together to our advantage.

- Developments in digital technology present opportunities for Arizona to enhance our strengths, overcome our economic challenges and physical limits, and build new sources of comparative advantage.

How do we become a Smart State

- In a Smart State, we will see transformation in key domains – health, mobility, urban solutions, finance, and education (still to be determined).

- This means every industry, business and government (at all levels) stepping up to collaborate and accelerate our digitalization efforts, to drive a state-wide movement.

- A unified approach built on a strong systems foundation with clear, connected, and aligned investment channels.
A Connected Network of Smart Regions.
A Governance Model to Enable Digital Disruption at Scale
WHETHER YOU THINK YOU CAN, OR THINK YOU CAN’T... YOU’RE RIGHT!
Thank You

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Danielle Hughes
Capital Program Manager

West Coast at the NIST
Smart Regions
Innovation, Recovery,
and Resilience Workshop

October 29, 2020

One Tahoe – A Smart Region
Tahoe Trips
Demand Has Led to Challenges

- Recreation congestion impedes emergency vehicle access and traffic flow
- Lack of ITS and communications
- Rural mountain infrastructure
- Visitor and resident frustration
- Environmental degradation
Is Tahoe Paradise?

California Races To Predict Which Town Could Be Next To Burn

Wednesday, April 10, 2019
By Associated Press

Kings Beach: Tourists seek fun, bring fire danger
Population (2010)—3,798 * In Very High Fire Hazard Severity Zone — 3,798

Situated on the pristine north shore of Lake Tahoe, Kings Beach is one of the most heavily visited vacation spots in Northern California.

That's a big part of the problem.

Because so much of the population comes and goes, it becomes harder to get people to treat wildfire risk with the respect it deserves, said Erin Holland, a spokeswoman for the North Tahoe Fire Protection District. One of the district's six stations is in Kings Beach.

"It is definitely a challenge because we have so many homes that are vacation homes," she said. "It's really a challenge to educate those visitors. They want to have a camp fire."

Tahoe's vulnerability to major fires was brought home dramatically in recent years. The Angora Fire in 2007, while it was confined to the south shore area, left physical and emotional scars on the entire basin after burning through 3,100 acres.

Gondola fire burning out of control near South Lake Tahoe

News | July 3, 2002

Tahoe Daily Tribune

One day before its biggest holiday of the year, a major wildfire is burning out of control east of South Lake Tahoe near the Heavenly Ski resort.
One Tahoe Investment Strategy

- Transit, trails, and parking management
- Congestion/Corden pricing
- Coordination of transportation, recreation, and emergency management
- Review of linear projects for dig once approach
- Facilitate coordinated communication network
- Help fund, operate, and maintain the vision
One Tahoe Investment Strategy

- Adaptive projects are more comprehensive and competitive for grant funding and bid construction
- Builds off pilot projects and lessons learned with shared data
- Reduced project costs through cost sharing
- Brings innovation, new view points, and new construction techniques

Continued commitments to upgrade infrastructure, adaptively manage issues, find solutions for community economic development, safety, the environment, recreation access to meet today’s transportation needs and support emergency response.
One Tahoe Benefits

- More data driven planning and decision making
- Flatten the peak demand and distribute use
- Optimization of infrastructure, recreation, and business access
- Increase carpooling rate and reduce VMT from source
- Improve emergency response and evacuation
- Increase broadband and communications
- Affordable, accessible, and good visitor experience
- Decreased vehicle hours travelled due to reduced traffic congestion
- Increased vehicle fuel efficiencies due to better management of system
- Decreased accidents due to reduced traffic congestion and fewer secondary incidents
- Decreased need for roadway capital improvements due to more efficient traffic management
“Chaos vs. Management. The only option here is to manage the SR 28 Corridor for safe driving and access to the lake. It’s what Tahoe visitors and residents deserve.”

-Randy Jackson, Sergeant
Nevada Highway Patrol,
Incline Village/Lake Tahoe

Thank You!

Danielle Hughes
Capital Program Manager
October 29, 2020
Building a Smart Community
- One Project at a Time
Vision: Los Angeles - A Platform for its Citizen-Customers

- An Engaged Community
- A Livable and Sustainable City
- A Well Run City Efficient and Innovative
- A Safe City With a Focus on Public Safety And Emergency Services
- A Prosperous City Good Jobs for All Angelenos

- 4,000,000 residents
- 1,400,000 housing units
- 469 square miles
- 48M tourists
- 500,000 businesses
- 87M air passengers
- 6,000 miles of sewer
- 40,000 loop detectors
- 3rd most active world air freight center
- 3rd largest metro economy in the world
- 22,000 miles of paved streets
- 50,000 City connected street lights
- 4,500 connected intersections
- 7,000 body cams
- 10670 City Vehicles
- 155 Parking Lots
- 181 public Buildings
- 148 Safety Buildings
- 210,172 City Blocks
- #1 solar city
- 2,000,000 Google/Waze connected sensors
- 25,000 connected parking meters
- 6,000 miles of sewer
- #1 digital city
Los Angeles Basin

- Los Angeles County includes 10M people spread over 88 cities.
- Each city represents a federation of IT operational centers.
- Cities need to make more effective use of departmental data.
- Cities need to be able to reuse/integrate data from private contributors.
- Cities need to have the ability to share data
  - In order to better address regional issues
  - In order to coordinate during times of crisis
- Cities need to be able to link with regional authorities
  - County Services
  - State Services
  - Regional Support Service Groups (e.g. LA 2028)
Los Angeles Find-me-a-Spot

Find-me-a-Spot POC shows parking availability on a block by block basis
- Integrates Parking data from public and multiple independent private parking lots
- Accepts data collected by different technologies
- Capable of integrating data across geopolitical sectors (LAWA, Long Beach, City,..) to create a regional view
- Can be integrated into way-finding applications
A Federated IT Organization with a Common Data Infrastructure

- Government Partners IT Processing/Staff
  - Application
  - Database

- Departmental IT Processing/Staff
  - Application
  - Database

- Departmental IT Processing/Staff
  - Application
  - Database

- Business Partners Departmental IT Processing/Staff
  - Application
  - Database

Partnered Gov Data Assets

City Data Assets

City Data Assets

City Data Assets

City Data Assets

Partnered Private Data Assets

Central IT Staff
A Layered Collaboration Model

Collaborations produce better results than isolated projects but these projects need to be managed.

Great collaborations exist in a layered environment and are driven by data.

That means the data itself has to be actively managed in layers that respect the organization environment in which it exists.
Managing Data in a Complex Organization

Multiple Cloud based applications and databases that plug into a common data infrastructure. Plug in new cloud services, new applications, and new databases over time.

Central Tool for Departmental Flow Control
Light weight data flow manager that provides consolidated logging, access, etc in multi-partner environment

Managed Centrally by ITA. Many technologies, many suppliers

Managed by Department or PPP Initiatives Many device types, many suppliers
Flexible interconnections between organizations

Need to support many kinds of intelligent interconnections including open data portals, direct database interconnections, and even access to raw IOT data streams.

Interconnection strategy depends on need and level of trust.

Break the silo structure so devices are managed independent of cloud, application. Data is a utility that should be fully utilized.
Thank You

ITA

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I3 Systems

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Session Wrap-Up

The following are the points of contact for those interested in participating in any of the GCTC clusters that presented during today’s session.

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<thead>
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* For an electronic copy of these slides, send an email request to jerry.power@i3-iot.com