Statewide
Energy
Efficiency
Collaborative

**SEEC Virtual Forum: Webinar 14**
October 7, 2020 | 11:00 AM – 12:15 PM PST

**Strategic Planning for a Clean Energy Future: How to Phase, Scale & Finance Smart Cities Solutions**

WILLDAN

City of West Hollywood
California 1984

californiaSEEC.org

# Thank you to…

PG&E — Pacific Gas and Electric Company®

SOUTHERN CALIFORNIA EDISON® — Energy for What's Ahead℠

SDG&E

Southern California Gas Company

BAYREN

Southern California REGIONAL ENERGY NETWORK

CENTRAL COAST CLIMATE COLLABORATIVE

Clean Coalition

EMPOWER INNOVATION

LARC

SAN DIEGO GREEN BUILDING COUNCIL

SJVCEO — Clean Energy Organization

SGVCOG

TRC

USGBC CENTRAL CALIFORNIA

# *Upcoming Events*

Learn more and register at:
californiaseec.org/2020-forum/

**10/15 - Webinar 15:** Keeping the Focus Local: A Conversation with SoCalREN Regional Partnerships

**10/21 – BPC Spotlight Event:** How Disadvantaged Communities Can Take Advantage of Dedicated Energy and Climate Opportunities

**10/27 - Webinar 16:** 2020 Virtual Beacon Award Ceremony

**11/4 - Webinar 17:** Mapping Energy Efficiency, Climate Planning, and Regional Partnerships

**11/12 - Webinar 18:** One Vision, Many Policy Paths to Local Decarbonization

Statewide Energy Efficiency Collaborative

californiaSEEC.org

# Join the SEEC Peer-to-Peer Network on LinkedIn!



*Use this group to connect with other professionals, whether it be for project support or professional development reasons!*
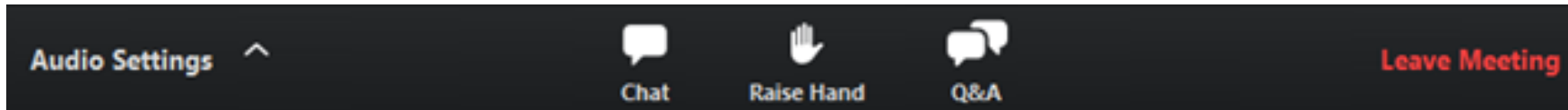
**Find us at https://www.linkedin.com/groups/8956010/**

californiaSEEC.org

## Q&A

- Submit questions for panelists through the Q&A module at any point during the webinar.
- Upvote questions that you are interested in hearing responses to.

Audio Settings ^

Chat    Raise Hand    Q&A    **Leave Meeting**

## Chat

- Engage in a dialogue with your peers – share resources, case studies, and best practices
- Reach out to LGC staff if you encounter technical issues or have questions about the SEEC Forum.

californiaSEEC.org/2020-forum

# Strategic Planning for a Clean Energy Future

## How to Phase, Scale & Finance Smart Cities Solutions

October 7, 2020

Statewide Energy Efficiency Collaborative

WILLDAN

# Panel Agenda

| | |
|---|---|
| 11:001-11:05 | CA SEEC Introductions |
| 11:05-11:10 | Willdan Smart Cities Case Studies – Molly McKay |
| 11:10-11:25 | West Hollywood Smart Cities Strategic Plan – Kate Kigondo |
| 11:25-11:35 | El Cajon, Mobile Battery Pilot Project – Steven Clarke |
| 11:35-11:45 | Smart Cities Strategic Planning Lessons Learned – Andrea Marr |
| 11:45-12:10 | Q&A |

# Smart Cities Panelists

## Panel Moderator:

- **Molly McKay, CEcD**| Principal, Willdan
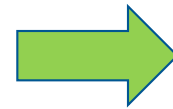
## Panel Speakers:

- **Kate Kigongo, MURP** | Innovation Analyst, City of West Hollywood

- **Steven Clarke, P.E.** | Senior Director, Willdan

- **Andrea Marr, P.E.** | Senior Director, Willdan

# Willdan Smart Cities Working Group Case Studies

## Case Study Cities:

- City of Chula Vista, CA
- City of El Cajon, CA
- City of Sacramento, CA
- City of San Jose, CA
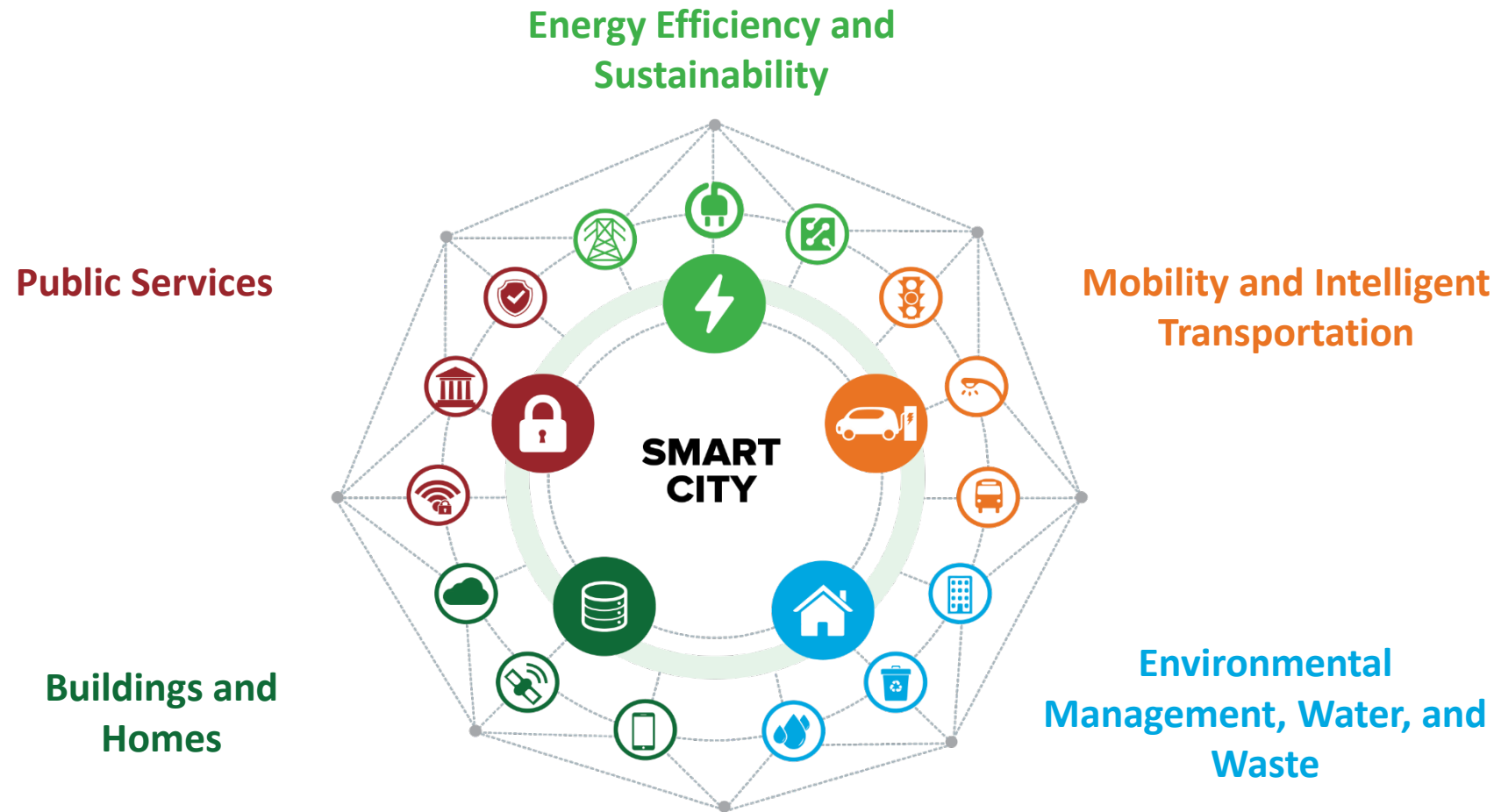- City of Santa Monica, CA
- City of West Hollywood, CA

## Case Study Metrics:

- Program Vision/Mission Statement
- City Department Lead
- Organizational/Institutional Structure
- Strategic Plan Link
- Smart City Infrastructure/Technology Improvements
- Obstacles/Barriers to Implementation
- Funding Sources

➡️ Key Lessons Learned

# What is a Smart City?

**Energy Efficiency and Sustainability**

**Mobility and Intelligent Transportation**

**Public Services**

SMART CITY

**Environmental Management, Water, and Waste**

**Buildings and Homes**

# What is a Smart City? Everything and Nothing!

## Willdan Definition:

- A **smart city** uses automated data collection and communication technologies to manage assets and resources efficiently, support economic growth, and improve quality of life.

- Three characteristics of a Smart City:
  1. Smart systems (Data)
  2. Connectivity (Infrastructure)
  3. Community Engagement (Citizens)

## West Hollywood Smart City Strategies:

- Create a culture of data for a smart City Hall that's ready for the future

- Collaborate & experiment across departments to do more with less

- Automate processes for an exceptional customer experience

# WEHO SMART CITY

KATE KIGONGO

INNOVATION ANALYST

WHY A SMART CITY STRATEGIC PLAN?

REQUEST FOR PROPOSALS

# SMART CITY STRATEGIC PLAN

## CITY OF WEST HOLLYWOOD

Date Issued: January 31, 2017
Proposal Due: February 28, 2017

- CONNECTED PROJECTS ACROSS DEPARTMENTS

- NO OTHER BLUEPRINTS AT THE TIME

- CUTTING EDGE MINDSET

- PLANS HOLD US ACCOUNTABLE TO PRIORITIES

OUTREACH PLAN:
NOT JUST
BUSINESS
AS USUAL

- HOW DO WE TALK TO OUR COMMUNITY ABOUT TECHNOLOGY AND INFRASTRUCTURE?

- HOW DO WE BUILD SUPPORT INTERNALLY?

- SMALL GROUP AND 1-ON-1 INTERVIEWS WITH STAFF AND COMMUNITY MEMBERS

# MESSAGING
# VOICE

Our Voice and Tone Guidelines articulate how to write or speak about WeHo Smart City.

The guidelines are organized by our three brand values:

**Dynamic**
**Conscious**
**Rebellious**

DYNAMIC
VOICE

Be optimistic.
Exaggerate, just a little bit.
Tease the reader playfully.

# WE'RE
# DYNAMIC

**Smart Bus Stops**
Now connected with real time updates, just like you.

**Free Wifi**
Smart Bus Stops are more than a place to check-in. With up to the minute bus arrivals, now they're connected, just like you.

s / Resources

Today's Experience

Step One

Step Two

JOURNEY MAP

# New Business Owner

General In...

1. Imagine the...
2. Define five...
3. Discuss and...
4. Identify any...

2

3

New Business Owner
Facilitator: Gunner
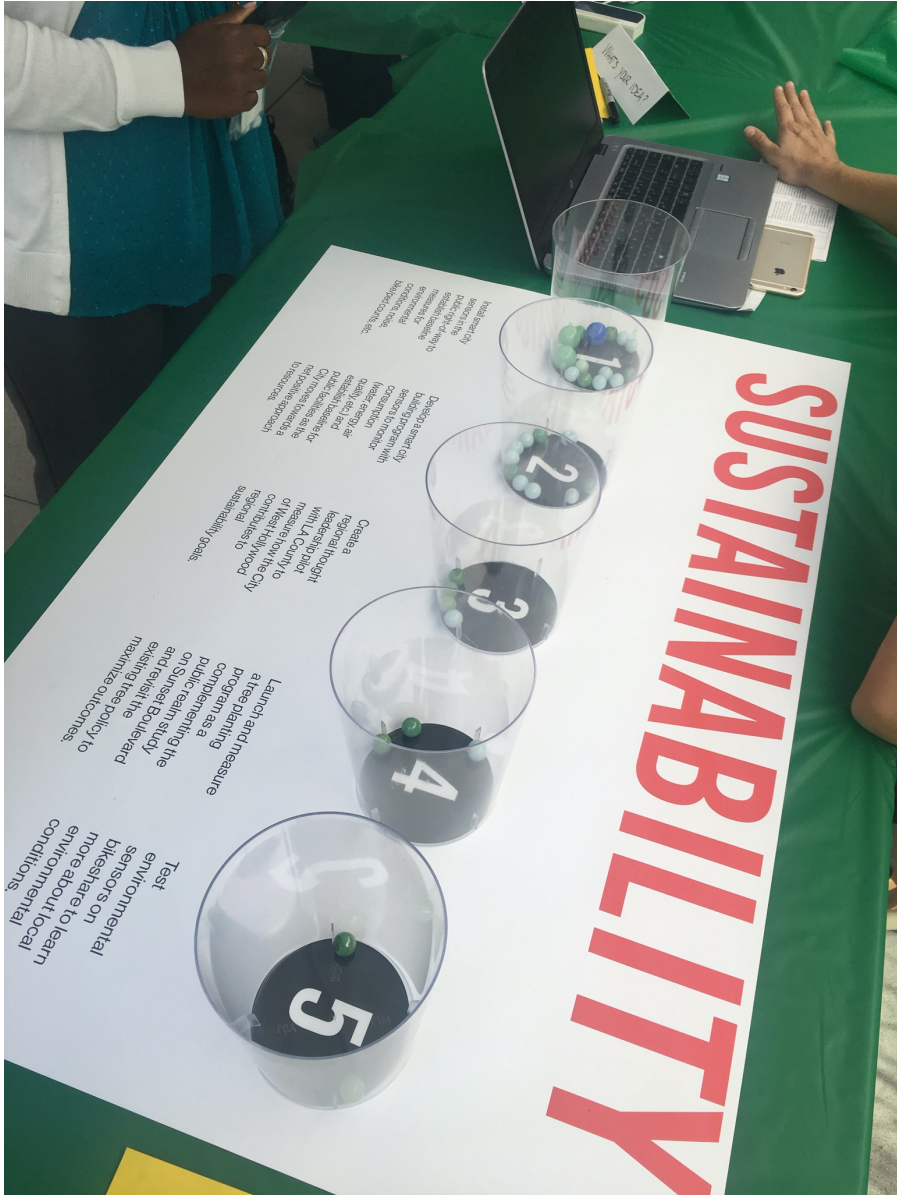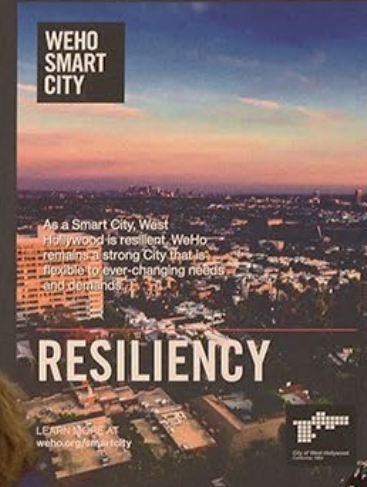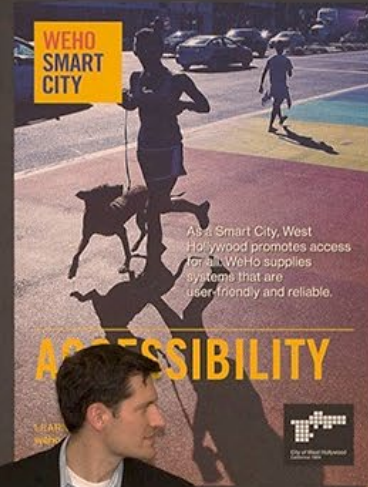
THE WEHO
SMART
CITY
STRATEGIC
PLAN

# STRATEGIES AT-A-GLANCE

| **STRATEGY ONE:** Create a culture of data for a smart city hall that's ready for the future. ||
|---|---|
| 1.1 | Build capacity for data analytics. |
| 1.2 | Develop dashboards to track progress on key city priorities. |
| 1.3 | Establish a mobility data management program for WeHo. |
| 1.4 | Expand the curbside management pilot. |
| 1.5 | Adopt a Smart City privacy policy. |
| **STRATEGY TWO:** Collaborate and experiment across departments to do more with less. ||
| 2.1 | Create a "pizza tracker" tool for managing workflows for internal processes. |
| 2.2 | Develop a testing strategy for new digital engagement and feedback tools. |
| 2.3 | Adopt a data sharing policy and tools to make it easier for travelers to access mobility data. |
| 2.4 | Explore an on-demand transit pilot. |
| **STRATEGY THREE:** Automate processes for an exceptional customer experience. ||
| 3.1 | Launch a public safety pilot. |
| 3.2 | Implement critical connected infrastructure back-ups. |
| 3.3 | Develop a smart city sensor (and building) program. |
| 3.4 | Upgrade street light infrastructure. |
| 3.5 | Adopt an IoT approval process. |

WEHO
SMART
CITY

City of West Hollywood
California 1984

FINANCE
AND
IMPLEMENT
THE PLAN

CITY OF WEST HOLLYWOOD
Operating Budget & Capital Work Plan
Fiscal Year 2020-21

WEST HOLLYWOOD, CALIFORNIA

- OPERATING BUDGET

- PILOT PROJECT HONORARIUMS

- CAPITAL IMPROVEMENT PROGRAM

- PUBLIC PRIVATE PARTNERSHIPS

SMART
STREET
LIGHT POLE
PILOT
PROJECT

WEHO SMART CITY

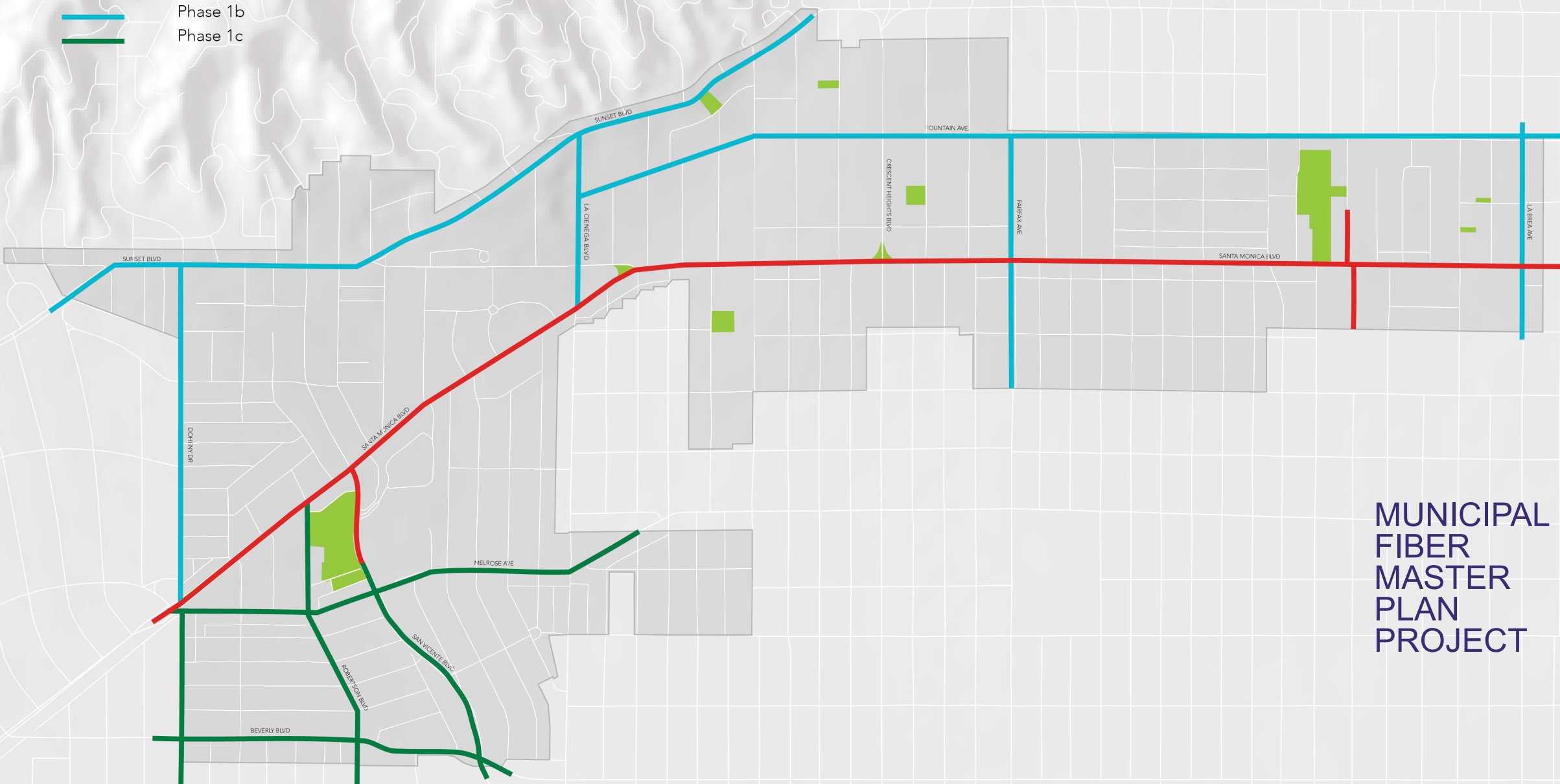City of West Hollywood
California 1984
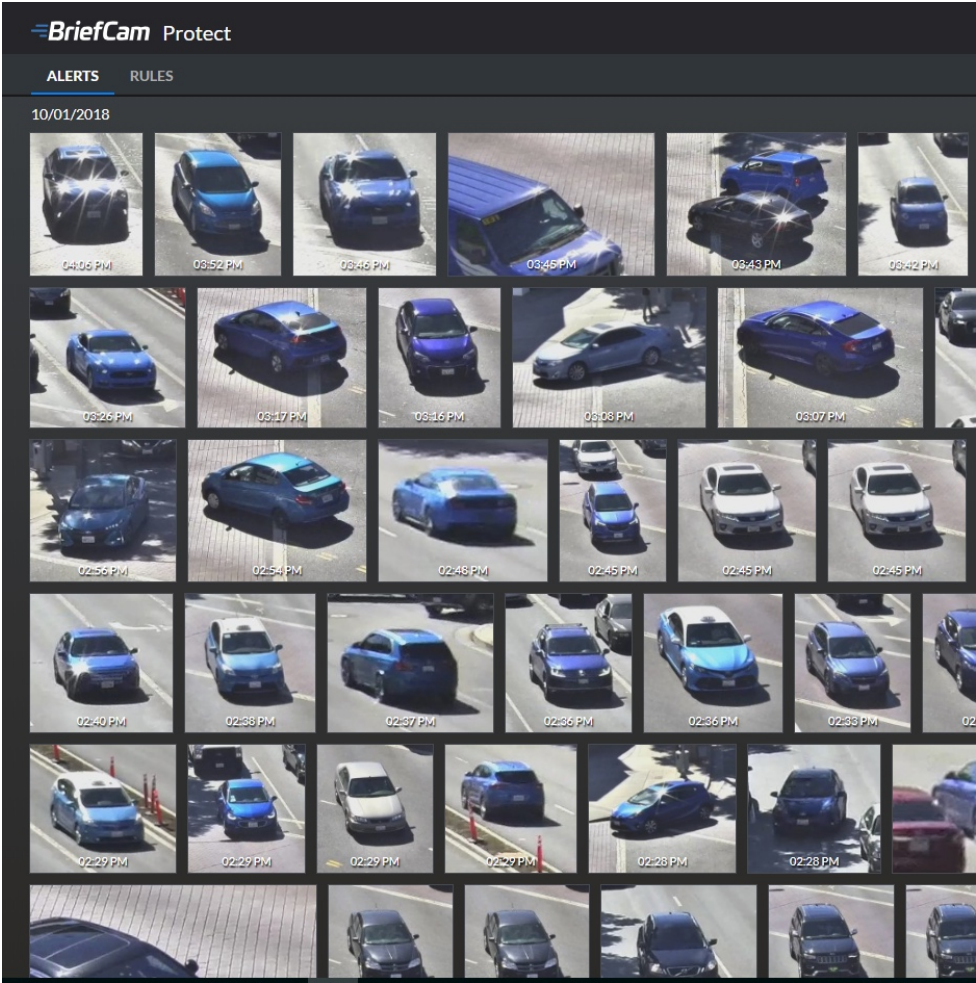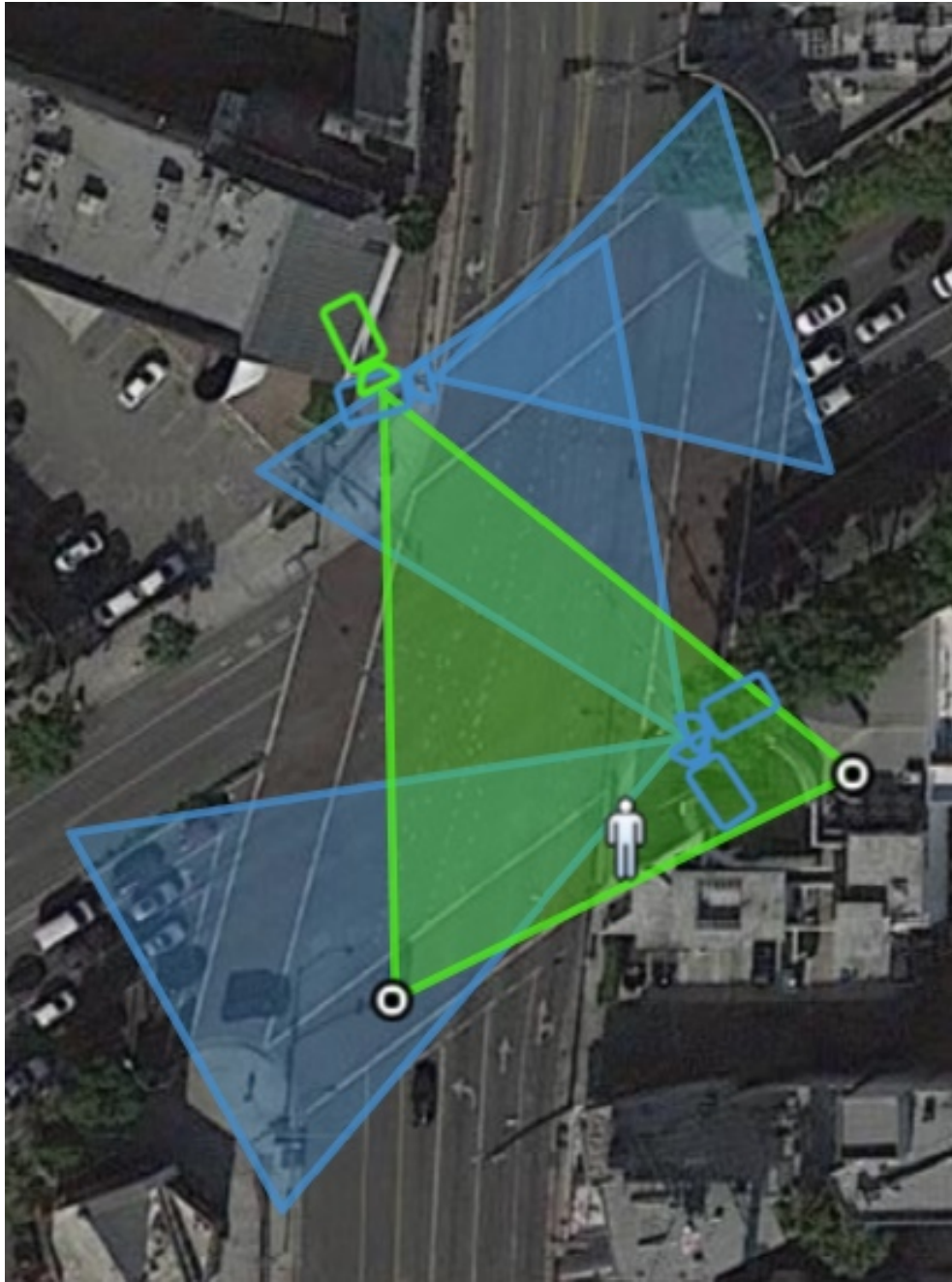
PUBLIC
SAFETY
CAMERA &
SENSORS
PILOT
PROJECT

LEGEND

—— Phase 1a
—— Phase 1b
—— Phase 1c

MUNICIPAL
FIBER
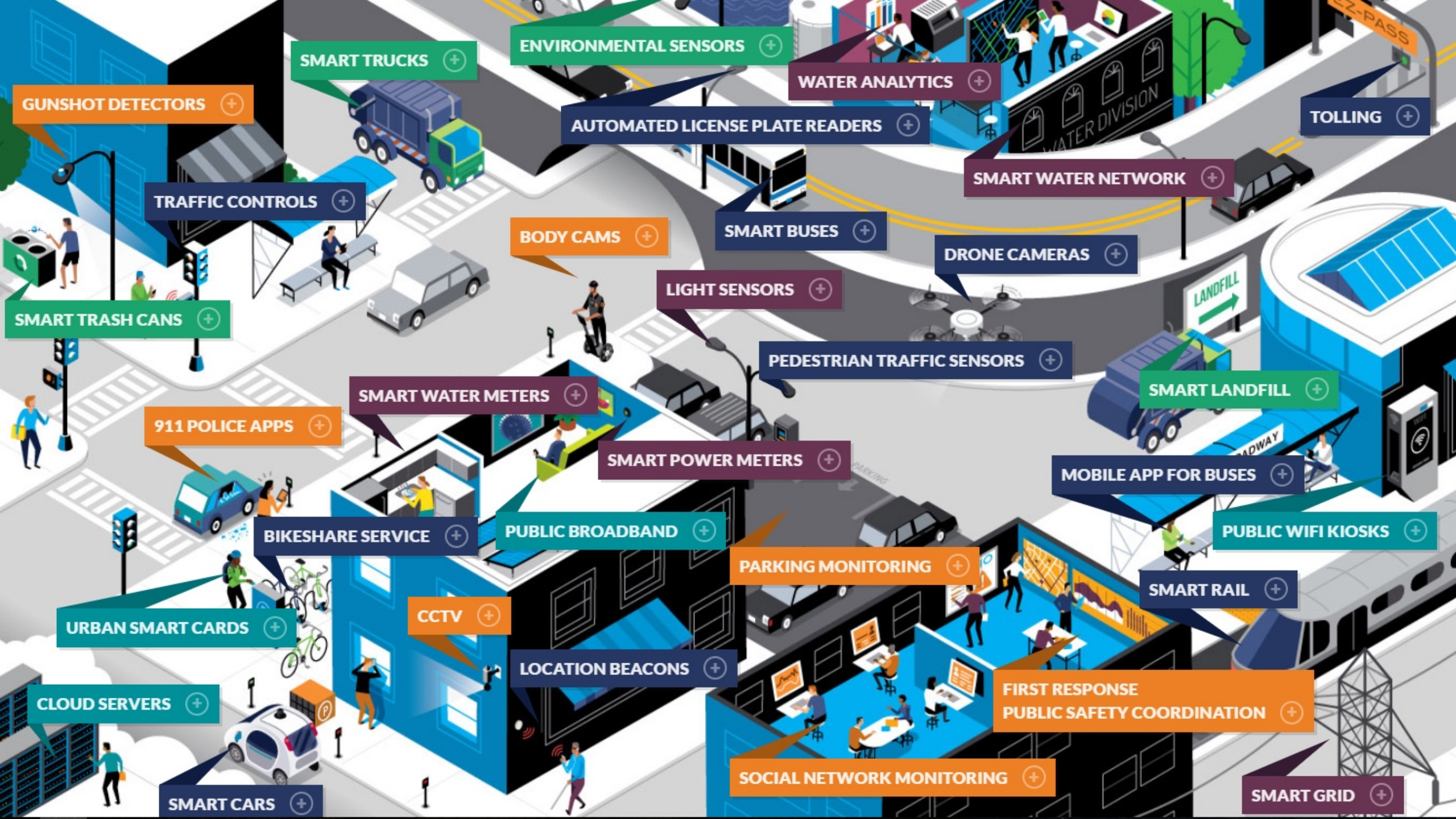MASTER
PLAN
PROJECT

SMART BUS
SHELTERS
AND STOPS
PROGRAM

LESSONS
LEARNED
(SO FAR)

WEHO SMART CITY

City of West Hollywood
California 1984

# EVALUATION AND SELECTION

## Evaluation Criteria

| CRITERIA | MAX SCORE |
|---|---|
| Project Approach and Understanding | 30 |
| Firm's/Team's Capabilities | 30 |
| Project Team | 15 |
| Smart City Project Privacy Statement | 15 |
| Cyber Security Measures and Protection | 10 |
| **TOTAL** | **100** |

C. Smart City Project Privacy Statement (Template)

1. Product name:

2. How the product works:

3. What activity is measured:

4. How is the data collected classified:
   a. Public
   b. Private
   c. Confidential

5. If personally identifiable information is collected, how is it anonymized:

6. What environmental indicators are measured, if any:

7. Who gets to see the data:

8. How is data stored, and for how long:

9. How, and how often, will data be shared with the city:

10. What measures are in place to mitigate security breaches?

WEHO SMART CITY

City of West Hollywood
California 1984

WEHO
SMART
CITY

An initiative of the City of West Hollywood

STRATEGIC
PLAN

2018

City of West Hollywood
California 1984

JULY 2020

WeHo Smart City
Strategic Plan
Progress Update

CITY OF WEST HOLLYWOOD
INNOVATION DIVISION

WEHO
SMART
CITY

WEHO
SMART CITY

City of West Hollywood
California 1984

# UPDATED PLAN WORKFLOW

2018     2019     2020     2021     2022

## WEHO SMART CITY HALL

Build capacity for data analytics.

Establish a data analytics bench.

Launch a data training program for city staff.

Hire a citywide data analytics lead.

Adopt an IoT approval process.

1.1 — 1.2 — 2.2 — 2.1 — 3.5

Create a "pizza tracker" tool for managing internal processes.

Expand to all city services and processes.

Develop a testing strategy for digital engagement and feedback tools.

Pilot new tools and document learnings.

Develop dashboards to track progress on key city priorities.

Launch public-facing dashboards for all city priorities.

Adopt and share performance management.

### Legend
- X.X — Policy Recommendation
- X.X — Pilot or Program Recommendation

## WEHO SMART STREETSCAPE

Adopt a smart city privacy policy.

Designate privacy stewards.

Routine review and update of policy.

Upgrade street light infrastructure.

Inventory and designate "future uses" for poles.

Implement critical connected infrastructure back-ups.

Inventory, prioritize and initiate updates.

Establish procurement policies.

3.1 — 1.5 — 3.4 — 3.3 — 3.2

Launch a public safety pilot.

Engage in conversations about privacy and safety.

Develop a smart city sensor program.

Identify partners and consider creating a design competition.

Launch an RFP to begin procurement.

Create a portal for smart city data.

## WEHO SMART MOBILITY

Launch a data working group.

Expand the curbside management pilot.

Launch a loading zone availability pilot.

Adopt tools to make it easier for travelers to access mobility data.

Automate sharing wherever possible.

1.4 — 1.3 — 2.4 — 2.3

Assess rider satisfaction with CityLine.

Explore an on-demand microtransit pilot.

Establish a mobility data management program for WeHo.

Inventory city mobility data.

Structure a federated database for mobility data.

# El Cajon Mobile Power Station Pilot Project

**The Problem:**

- How can El Cajon provide power for its citizens in an economic and sustainable way?
  - During an emergency?
  - During a utility outage?
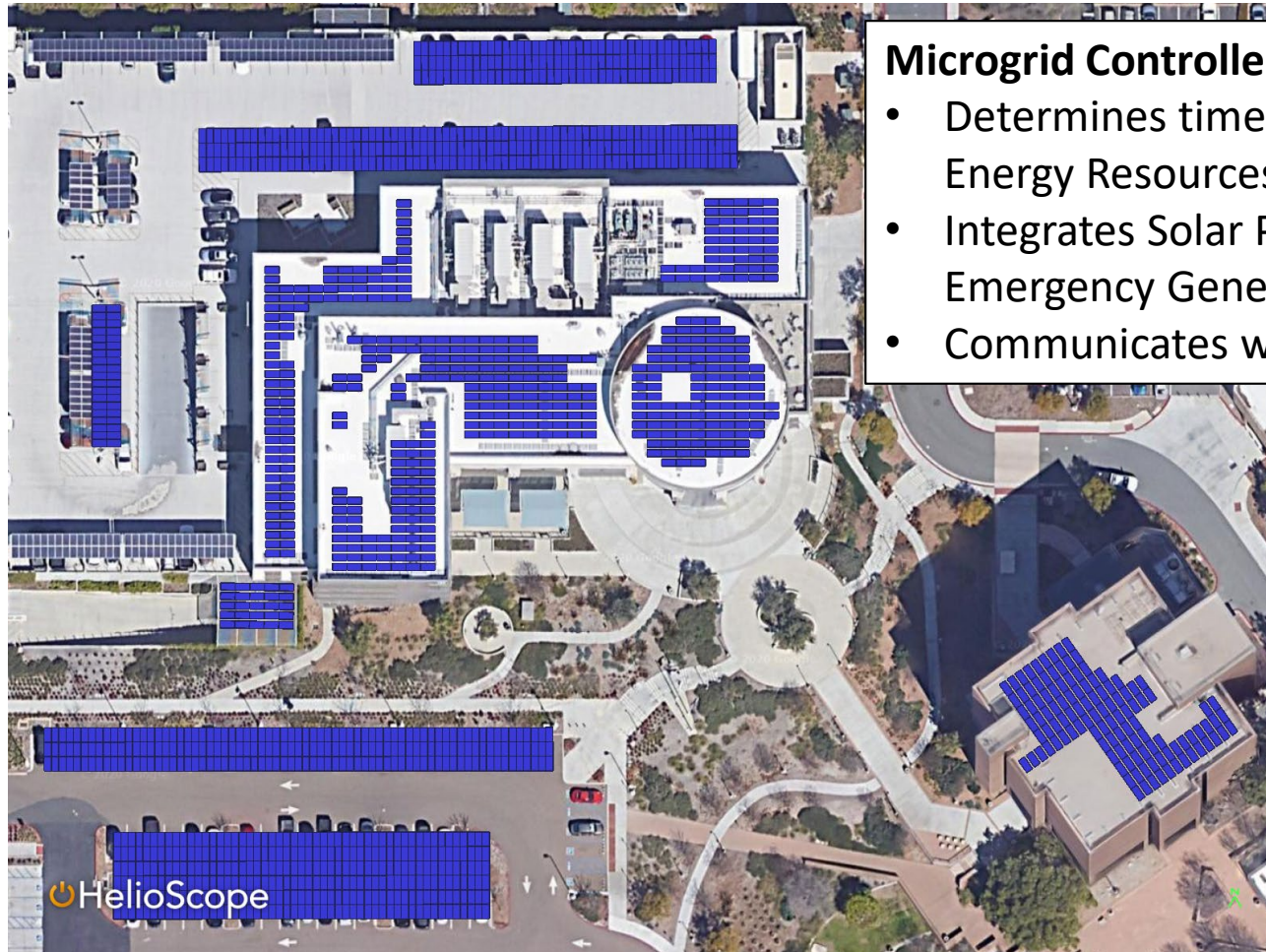  - For Community events?

**The Solution:**

- Dannar Mobile Power Stations
  - Interconnected to the Public Safety Center (24/7 Operation)
  - Charged by solar PV
  - Generate revenue by peak shaving
  - Eligible for significant CORE (off-road) incentives
  - Dispatchable power to the community, same as a mobile generator

# El Cajon Mobile Power Station Pilot Project

**Microgrid Controller** 🧠
- Determines timely dispatch of Distributed Energy Resources (DERs)
- Integrates Solar PV, Dannar Batteries and Emergency Generator
- Communicates with utility grid

**Solar PV – 587kW**
- Rooftop and Carport System
- Generates electricity when the sun is shining
- Offsets building load and charges Dannar units

**Dannar MPS – 2x 500kWh of Mobile Battery Storage**
- Connected to building to store excess solar energy
- Deployed to save $ through "rate arbitrage"
- Dispatchable to community if needed

# El Cajon Mobile Power Station Pilot Project
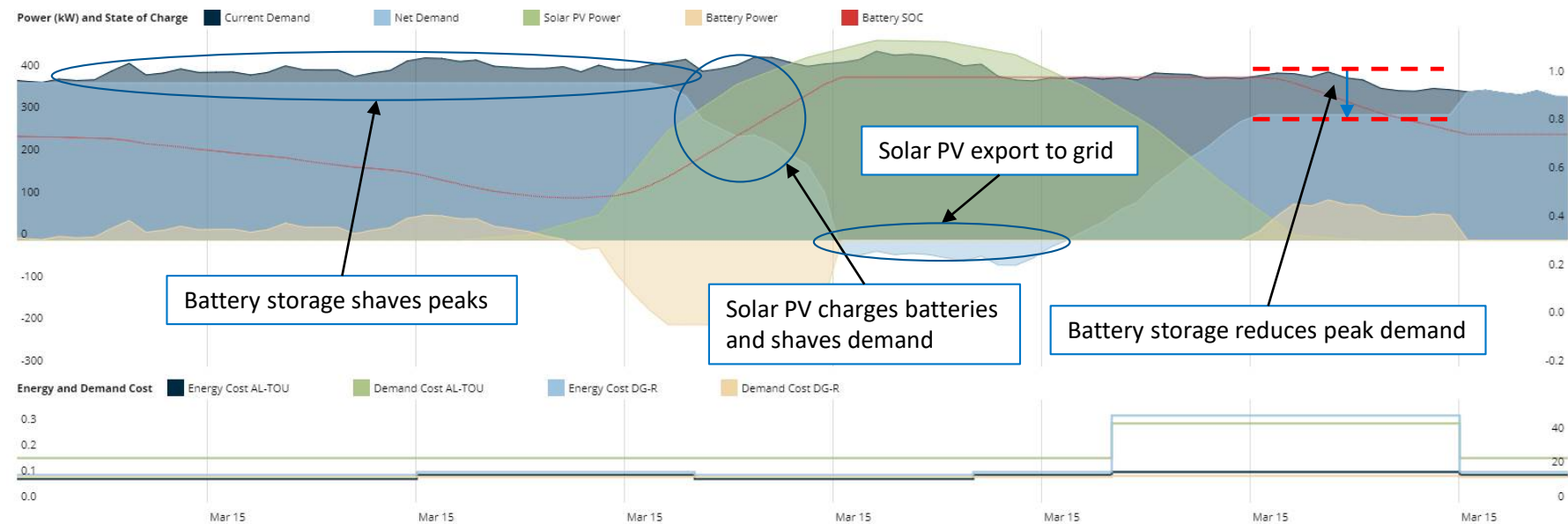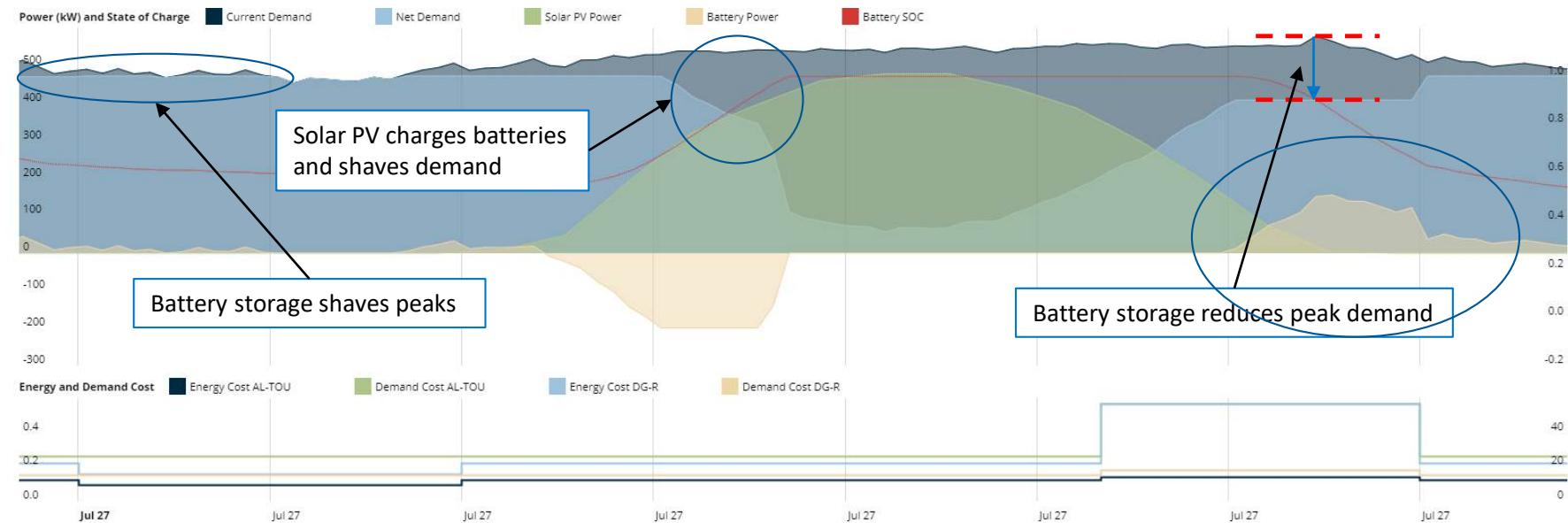
- **Sustainability:** El Cajon can add >500kW of additional solar PV

- **Financial:** Additional financial revenue for a DER project
  - Additional incentives ($400k+)and yearly "peak shaving" from batteries savings drive down project payback from 21 yrs to 15 yrs
  - Bundling with EE opportunities drives payback down to 12 years

- **Infrastructure:** Chance to update existing solar PV with latest technology
  - 10 yr old solar PV refreshed for increased economic benefit
  - Inverters updated to be bi-directional smart inverters

- **Dispatchable Storage:** 1 MWh (2x500kWh) for community use
  - Dannar units act like mobile generators and can be rapidly deployed
  - On-board transformers output 3-phase 480V power for direct building interconnection

- **Technology Development:** Product and Standards Development
  - El Cajon's unique use of Dannar MPS is driving product development
  - SDG&E key partner in system interconnection – focus on how to scale

# El Cajon Mobile Power Station Pilot Project

- **Engage Stakeholders:** Identify internal and external stakeholders early.  Collect lists of needs and present rough project concepts for feedback.  Buy-in at all levels is crucial.
    - Backup Power
    - Financial Return
    - Community Power
    - Emergency Dispatch

- **Start Early & Iterate Often:**  What you're doing may not yet be widely replicated yet.  Expect "no" often.
    - Interconnection?
    - Procurement Strategies?

- **Look at Projects Differently:** If something doesn't initially pencil, try a different approach. Define benefits as broadly as possible.
    - Standard Solar PV + Stationary Storage -> Upgraded Solar PV + Mobile Storage

- **Think about Scale:** How will this concept scale across different facilities?
    - Replicability across other emergency facilities: fire, police, public works?

# Lessons Learned Wrap-Up

- City/County Smart Cities Strategic Plans require leadership from the Top
- Institutional Alignment (Office of CM/Economic Development/Public Works) Requires Consensus Building ("Inreach")
- Broad ICT Deployment Opportunities
  - Energy Efficiency
  - Fiber Connectivity
  - Public Safety
  - Public Works
  - Transportation
- Pilot Projects provide optimal scale
- Funding sources may rely on traditional CIP sources & Strategic Partnerships



Case Study Research Available Here:
www.Willdan.com/SmartCities

# Questions

**Steven Clarke**
Willdan
(415) 699-9310
sclarke@willdan.com

**Andrea Marr**
Willdan
(443) 254-8258
amarr@willdan.com

**Molly McKay**
Willdan
(202) 510-0511
mmckay@willdan.com

**Kate Kigongo**
City of West Hollywood
(323) 848-6464
KKigongo@weho.org

# 1

## Appendix: Speaker Bios

# Molly McKay
## *Principal, Willdan*

Molly McKay, CEcD, is a Principal of Willdan Financial and Economic Consulting Services, a publicly-traded company providing professional technical engineering and municipal consulting services. Molly's Washington, DC-based real estate and economic development consulting practice provides transformative market and financial feasibility analysis, energy efficiency financing, economic development and smart cities strategic planning, and other related services for cities, counties, real estate investors and developers, and planning/design/engineering firms.

As the financial and economic lead for Willdan's Smart Cities working group, Molly provides research and development support to inform Smart City and Smart Campus Strategic Planning efforts throughout the United States and abroad.

Molly holds a Master's degree in Economics from the University of Exeter, UK (Fulbright Scholar), and conducted post-graduate studies in Real Estate Finance & Development at the Johns Hopkins Cary Business School. Ms. McKay is an active member of the American Planning Association, Congress for New Urbanism, International Economic Development Council, and ULI-the Urban Land Institute. Ms. McKay, a certified Economic Developer, is also a graduate of the Urban Land Institute's Washington Regional Land Use Leadership Institute and serves as the Vice Chair of ULI's national Redevelopment and Reuse Council.

# Kate Kigongo, MURP
## *Innovation Analyst – City of West HollyWood*

Kate Kigongo is the City of West Hollywood's Innovation Analyst. Kate uses innovation and strategic thinking to find creative solutions to real-world problems. With thirteen years of experience in community-oriented design, she works with teams to realize organizational transformation by designing programs and projects to develop, grow and implement strategic visions for the future. She plans for and implements smart city technologies into urban infrastructure and develops programs to give staff the tools they need to be innovative thinkers and service providers. As an urban leader, Kate translates the needs of communities to designers, engineers, and architects, and translates complex technical concepts to constituents and city staff. Through the use of technology, pilot projects, and creative problem solving, Kate advances West Hollywood as a leading smart city.

Prior to working for the City of West Hollywood, Kate was a Program Manager at Los Angeles Neighborhood Initiative (LANI), managing urban greening and community revitalization projects, including managing the development of conceptual plans for two of LA Mayor Garcetti's first fifteen Great Streets.

Kate is a graduate of UCLA and holds a Master's in Urban and Regional Planning with a concentration in Design and Development. Before receiving her Master's from UCLA, Kate worked as a Program Officer at Low Income Investment Fund (LIIF) where she ran the California Preschool Energy Efficiency Program, a $6 million program that provided free energy efficiency assessments, energy data analysis, and retrofits to child care and recreation centers statewide.

# Steven Clarke, P.E.
## *Senior Director - Willdan*

Steve Clarke leads Willdan's Los Angeles-based Performance Engineering arm, responsible for managing the firm's transportation electrification work assisting clients with planning, feasibility, procurement and engineering associated with their conversion to zero emissions transportation.

Steve has been an active member of the automotive and energy communities for over 15 years with direct experience at major automotive OEMs as well as energy consulting on a national scale. Leveraging his background in energy efficiency and distributed energy resources, Steve is also an integral part of Willdan's broader Smart Cities team, working with clients to integrate past, present and future efforts into a comprehensive Smart Cities plan to meet their various energy, transportation, resilience, and public health and safety goals. Steve is committed to helping California achieve its ambitious greenhouse gas emission reduction targets amidst ever-present challenges of wildfires, utility PSPS and rapidly disappearing funding.

Steve holds a B.S. in Mechanical Engineering from Lehigh University, in Bethlehem, PA and is a Registered Mechanical Engineer in the State of California.

# Andrea Marr, P.E.
## *Senior Director - Willdan*

Andrea Marr leads project management efforts for comprehensive engineering and construction projects supporting energy efficiency and GHG reduction. She manages engineering, project management, and procurement efforts to complete field investigations, cost estimates, design documents, implementation plans, construction, commissioning, performance verification plans, and operation and maintenance programs for utility and private energy efficiency programs, many of which implement emerging technologies.

Andrea is an expert in conducting comprehensive ASHRAE energy audits – data collection, calculations, analysis, reporting and compiling, with experience in building commissioning, re-commissioning and benchmarking.

Andrea leads Smart City and Smart Campus Strategic Planning efforts to implement successful infrastructure and technology upgrades. She has experience identifying multiple sources of project funding, including capital, energy and O&M savings, and utility rebates.

Andrea holds an BS in Aerospace Engineering, United States Naval Academy, Annapolis, MD and an MS in Engineering Management, Old Dominion University, Norfolk, VA. Andrea is a Navy veteran, and a 2013 recipient of the White House Champion of Change award for her work in energy as a veteran.

# 2

## Appendix: Case Studies

# West Hollywood, CA Smart City Strategic Plan

| West Hollywood, CA | Key Elements |
|---|---|
| **Program Name** | Smart City Strategic Plan |
| **Program Vision/Mission Statement** | Implementable Initiatives to be executed in near-term, as opposed to long term strategy. For community members who want to enhance their quality of life, WeHo Smart City is an initiative that holistically weaves technology into the fabric of the city. WeHo Smart City turns bold, progressive ideas into lasting innovations. WeHo Smart City will create a human-centered smart city that is connected, welcoming, and innovative. |
| **City Department Lead** | Innovation Analyst in City Manager's office |
| **Organizational/Institutional Structure** | City Manager's office: city manager and council wanted umbrella Smart City plan to encompass several structural projects |
| **Smart City Infrastructure/Technology Improvements:** | |
| ▪ Fiber Loop | Improve fiber backbone of city (first the core, second to businesses, third to residents) Cost is $8 M - $50 M |
| ▪ Traffic management (i.e., 5G; security; pedestrian activated; # light poles; scaling / time) | Smart Public Safety Pilot Cameras through strategic partnership with Verizon. |
| ▪ Smart Bus Stop | Public private partnership with Outfront Media |
| ▪ EV Charging (i.e., City sponsored; open to public vs city fleet; vendors; partnership; roles across vendors, city, utility; contract details/deal structure?) | City currently exploring options |
| **Obstacles/Barriers to Implementation** (i.e., Legal; regulatory; labor to manage; internal/external consensus building) | Implementation requires manpower; challenge to quantify value of Smart City |
| **Funding Sources** (i.e., pilot projects; grants; General Fund/CIP; data sharing agreement revenues) | Pilot projects through city budgets; honorariums to private sector partners to test their technology in the city (ie. $10k); streetlights funded with CIP (10-15 years of savings will repay program); Fiber project funded through CIP |
| **Key Lessons Learned** | In-reach within City staff and government is key – create a culture of and build desire to use data within City Hall; great to find contractors to help versus hiring staff; pilot projects are a great way to begin with small budgets and prove concepts. |

# Sacramento, CA Smart City Initiative

| Sacramento, CA | Key Elements |
|---|---|
| **Program Name** | Smart City Initiative |
| **Program Vision/Mission Statement** | Deliver a safer, more mobile and more sustainable city providing private-sector small cell infrastructure investment, technology and implementation expertise as well as streamlined permitting processes to install this technology efficiently. This development is part of a much broader push by the City to develop policy and streamlined processes to leverage emerging technologies to help provide services more efficiently, meet diverse community needs, and reduce resource consumption |
| **City Department Lead** | Director of Public Works/Transportation and City of Sacramento Crime Center |
| **Organizational Structure** | Partnership between City and Verizon to undertake side-by-side comparison of current technology against Verizon's fiber |
| **Strategic Plan Link** | Sacramento & Verizon Public Private Partnership P3 Agreement |
| **Smart City Infrastructure/Technology Improvements:** | |
| ▪ Fiber Loop | Objective: to save lives / 5G in partnership with Amazon Web Services to push the 5G network. <br> Solid investment, future proof and less retrofitting (copper 100+ shelf life, light signals carry bandwidth); Monetize the fiber w/ primary termination point, spin off for other uses <br> Digital Inclusion/Social Equity: subsidize buildout, access to low income/rural communities (Smart Communities Design ) <br> Contract: Verizon is underwriting 100% of the cost – two year lease vs 10 year ; City will achieve deployment goals |
| ▪ Traffic management (i.e., 5G; security; ped. activated) | **Objective:** to commercialize the solutions, traffic and transportation solutions, lighting and solutions, etc. <br> Phase 1: 10 intersections (currently securing permits); Police Dept. already installed some cameras (videos may not integrate) |
| ▪ EV Charging (i.e., City sponsored; public vs city fleet; goals) | 1994, first EV parking program (discounted parking in city garages). <br> **2018 First Citywide Two-year EV strategy:** overarching zero-emission transportation goals, key performance targets, and an implementation plan with actions to be initiated by 2020 and fully implemented by 2025 |
| ▪ Other | Use cases: autonomous and connected vehicles, drone footage for public safety, vision zero to reduce collisions, natural disaster early warnings (earthquake, floods, fires) but not all 5G is the same |
| **Obstacles/Barriers to Implementation** (i.e., Legal; regulatory; management; consensus) | Verizon adopted the City's data policy/privacy statement, data retention requirement, adopt the city standards for talking points, anonymize that data, set up in 3rd party cache, and data is not monetized. <br> Requires infrastructure <br> Storage is key factor today b/c utilization of video technology <br> Exposure, liability |
| **Funding Sources** (i.e., pilot projects; grants; General Fund/CIP; data sharing agreement revenues) | **Connectivity:** E-Rate FCC Funding: modernize connectivity to libraries/schools (i.e. designate a library, Verizon/Spectrum bid, fiber must be pulled to building, buildout is expensive ($500K to $3-$4Million) but recoup with fees, public sector participation <br> **EV Funding:** $198,000 of competitive grant funds to develop"EV Blueprint" to further implement the City's EV Strategy and conduct outreach. $14 M of CALeVIP charger incentives launched by the CA Energy Commission and SMUD in 2019 to fund at least 400 L2 chargers and 70 DCFC units in Sacramento County |
| **Key Lessons Learned** | LA County Sheriffs, 3I Consortium, MIT MBA Program and IOT are good groups to continue the dialogue <br> Relevant partnership decisions with the collaborative network <br> Hold law enforcement accountable for five years of data storage – determine how to pull into a Digital Evidence Management System <br> Determine how will you continue to operationalize the tech investment (i.e. when technicians leave/retire) <br> Make the investments, when relevant. History repeats itself, similar process with 5G, ten years ago |

# Chula Vista, CA

| City of Chula Vista, CA | Key Elements |
|---|---|
| **Program Name** | Smart Cities HQ and Smart Cities Strategic Action Plan (with current Roadmap) |
| **Program Vision/Mission Statement** | Achieve in the following four major areas with approx. 30 initiatives: **connected** (via fiber loop; digital equity and inclusion); **responsive** (regional approaches to Interco operation SANDAG, Airport Authority; **transparent** (Open Data Government; Adopted open data policy; innovation); **innovative** (drones prior to first responders) |
| **City Department Lead** | Chief Sustainability Officer (created 4 years ago in Econ. Dev. Dept, reports to Assistant City Mgr) |
| **Organizational/Institutional Structure** | Driven by City Manager, Plan is a priority for the City. Created a Smart City Working Group to implement Action Plan – Global Enterprise CM, Police, Fire, Department Heads |
| **Smart City Infrastructure/Technology Improvements:** | |
| ▪ Fiber Loop | City Digital Inclusion Plan 2020. Smart Bayfront: local agencies to develop the fiber-optic backhaul necessary to support the network |
| ▪ Traffic management (i.e., 5G; security; pedestrian activated; # light poles; scaling / time) | Smart Traffic Signals Communications Master Plan – 10 Year Projection ($16 M); controls react to real-time traffic conditions; underground fiber-optic cables enable connected vehicle technology<br>Within this, updated legacy telecommunications systems |
| ▪ Smart Water | 3 Smart Irrigation sites (weather based irrigation sensors) |
| ▪ EV Charging | San Diego County Digital Inclusion Plan – Priority – automating, digital services |
| ▪ Public Safety | Drones as first responders; real time tracking for patrol vehicles, |
| ▪ Other | **Smart Bayfront:** 535 acres of vacant, former industrial land. The city is working with the Port of San Diego and private developers to transform the site into a recreational/commercial destination that will also serve as a demonstration of state-of-the-art energy and communications infrastructure (energy: building 15% under state requirements, whole site 50% under, water: Smart Water Assessment, all part of Action Plan). City is in the process of developing Fund Development.<br>autonomous vehicle and drone test sites |
| **Funding Sources** | City Manager's budget (General Fund): $50 M; Measure P sales tax (house and sales tax): $1.4 M to fund traffic signal (10 yr); expand fiber rollout; infrastructure |
| **Key Lessons Learned** | Verizon is a leader in technology – building the backbone through their 5G Plan.<br>Besides making city operations more efficient, use improvements to bring/grow existing businesses (helps with Covid impacts) |

# Santa Monica, CA Smart City Initiatives

| Santa Monica, CA | Key Elements |
|---|---|
| **Program Name(s)** | Multiple Program Names: Sustainable City Plan, Digital Inclusion Project, City of SM Technology Strategic Plan, Electric Vehicle Action Plan, Climate Adaptation Action Plan |
| **Program Vision(s)/Mission** | **Digital Inclusion Pilot/Expansion:** fiber expansion for digital inclusion and economic development / mobility<br>**Technology Strategic Plan:** *Vision* - Leverage technology in support of responsive City services and an exceptional digital experience for the people of Santa Monica. *Mission* - Through technology we empower people, connect community, and craft solutions to support a digitally literate city that works for everyone.<br>**EV Action Plan:** Decarbonized transportation system that is financially sustainable, provide equitable access, and synergize with modern technology.<br>**CAAP:** Eight objectives in three sectors: Zero Net Carbon Buildings, Zero Waste, Sustainable Mobility |
| **Organizational Structure** | **EV Action Plan:** Public Works > Office of Sustainability & Environment in<br>**Climate Adaptation Action Plan (CAAP):** Public Works > Office of Sustainability & Environment |
| **Description: Smart City Infrastructure/Technology Improvements** | |
| ▪ Fiber Loop | 2015 Digital Inclusion Pilot: connecting CityNet (city's fiber optic) to affordable housing (many with community rooms and afterschool programs). 15 GB / second.<br>39 buildings total and 900 low income families have access in bldg community rooms (option to unit for $48 / month) |
| ▪ Smart Water | Water Neutrality goal by 2023; Many initiatives  – Urban Runoff; Stormwater Collection; Watershed Mgmt; Rebates for drip irrigation, grass alternatives, and rain harvesting; Water Neutrality Ordinance (adopted May 2017) |
| ▪ EV Charging | Electric Vehicle Action Plan: Goal: 300 Smart Stations by 2020 (website documents 117 public). Cost is $2.4 M. Rebate programs to small business and developers to place them |
| ▪ Other | Strategic Technology Plan: outcomes such as Design for Digitial, Foster Data Culture and theses such as: Digital by Default and Data Driven Governance |
| **Summary Funding Sources** | **2015 Digital Inclusion Pilot Project:** First received seed funding of $175,000 as a part of City Council's Strategic Initiatives re: digital divide (this $ funded first 10 bldgs)<br>**Digital Inclusion Ongoing:** $1.75 million U.S. HUD CDBG funds to continue efforts (29 additional buildings)<br>**Electric Vehicle:** Majority from City's General Fund (existing budgets and CIP). Grant from the Air Quality Management District (procurement and installation, 2017).  Existing utility budgets pay for electricity consumption and facilities maintenance budgets support repair/upkeep of the equipment. New sources of revenue and financing will be required to expand infrastructure and develop new program. |
| **Additional Notes** | Top 25 Programs in American Government, by Harvard University's Ash Center for Democratic Governance and Innovation at John F. Kennedy School of Government |

# San Jose, CA  Smart City Vision

| San Jose, CA | Key Elements |
|---|---|
| **Program Name** | Smart City Vision (Umbrella Plan) |
| **Program Vision/Mission** | **Smart City Vision:**  digitize city services and encourage private companies to launch "demonstrations" for technologies, become America's most innovative city by 2020 |
| **Organizational Structure** | City Manager Office > Civic Innovation and Digital Strategy (created upon adoption of the Smart City Vision to implement the projects<br>Office of Strategic Partnerships: in Mayor's office to promote single point-of-contact for philanthropic and private sector organizations, to improve our ability to secure external expertise and resources to drive results |
| **Description: Smart City Infrastructure/Technology Improvements** | |
| **Digital Inclusion** | **Broadband:** Assessds the City's digital infrastructure (assets that can provide internet service and promote availability of **affordable** broadband internet access). This assessment identifies where current market forces and technologies meet the expectations of access, affordability, adoption, and service quality and where there are gaps and opportunities for strategic interventions to close these gaps. Implementation of this strategy drives improvements in broadband speeds, pricing, coverage, and quality and builds the digital infrastructure to increase digital inclusion, safety, user-friendliness<br>**Digital Inclusion:** Approximately 100,000 residents are not connected to the internet at home. This project answers the question "What is the best use of existing and new city and non-city resources to increase digital inclusion for underserved San Jose community segments?" Implementation of this strategy promotes equity and improves educational outcomes, promotes job acquisition and advancement, improves mental and physical health options, and allows businesses to be more efficient and effective.<br>**Eastside Union High School District (ESUHSD) Wi-Fi Community Pilot** (wifi in public spaces for students and families)<br>**Small cell** Mid 2017, city approved a series of new broadband deals with Verizon, AT&T and Sprint vendor Mobilitie to install a so-called "small cell" network (expected $500 million in investment from the companies). |
| Smart Light Poles | Since 2012, 32,000 lights converted to LED. Contracted with PG&E to convert approximately 27,000 streetlights by (inventory analysis August 2020, installation Q1 2021, completion Q4 2021.<br>**Smart Poles:** Council approved a demonstration partnership pilot with Philips under which the company installed 50 SmartPoles in San Jose and, in exchange, the company converted 750 streetlights to LED lights with smart controller units (a ratio of 15 streetlights converted for each SmartPole installed). The company bore the risk for installation costs and investment of capital, not the City. (details in link below) |
| Municipal Finance Software systems | The City is implementing a new Business Tax Billing System to replace the City's current end-of-life Oracle Forms System. The new system manages the annual billing for approximately 85,000 Business Tax accounts and consolidates the management of the City's tax operations. Additionally, a new web-based process replaces the current paper based process for completing Business Tax applications and making payments. Expected Impact The new process and system (1) improve billing, payment processing, collections, and accounting; (2) allow more advanced reporting and querying capabilities; and (3) provide long-term flexibility administering business taxes. |
| Other (Smart City Vision) | Creating an increasingly comprehensive approach to digital privacy policy w/ working groups, task forces, etc.<br>Additional Strategies, Demonstrations, Pilots in Smart City Vision: Business Automation (paper to electronic workflow), Vehicle Fleet Telematics, Silver Spring Networks Internet of Things (IoT), Safe City Strategy (tech and data to Fire, Police, OEM), Citywide Data Communities Architecture and Open Data, Transportation, Innovation Zone and Autonomous Vehicles Strategy, Civic Innovation Bootcamp (training government in human-centered, data-driven, Innovation, data informed decision making) |
| **Summary Funding Sources** | **Street Light Conversion:** Majority of the initial conversions with grant funds and through demonstration partnerships, ESCO partnerships, or other mechanisms that required minimal capital outlay on the City's part. City anticipates remaining 40,000 conversions will cost $32 mil.  Issued RFP calling creative ideas for companies to do at no charge or payment (i.e. sponsorship for city to do) – confirm funding with call, not clear based on online resources<br><br>Office of Technology secured $24 million for the initial digital inclusion fund (TBD if part of Sprint partnership)<br><br>Launching **Innovation Zones**<br><br>Private Sector Partnerships by Smart City objectives (i.e. Sprint for 4,600 students across three metro school districts free mobile hotspots and wireless internet to help close the city's "homework gap." Verizon for city's Fleet telematics) |

# *Upcoming Events*

Learn more and register at:
[californiaseec.org/2020-forum/](californiaseec.org/2020-forum/)

**10/15 - Webinar 15:** Keeping the Focus Local: A Conversation with SoCalREN Regional Partnerships

**10/21 – BPC Spotlight Event:** How Disadvantaged Communities Can Take Advantage of Dedicated Energy and Climate Opportunities

**10/27 - Webinar 16:** 2020 Virtual Beacon Award Ceremony

**11/4 - Webinar 17:** Mapping Energy Efficiency, Climate Planning, and Regional Partnerships

**11/12 - Webinar 18:** One Vision, Many Policy Paths to Local Decarbonization

# Thank you to...