

Sustainability – Where is it headed?

2018 EPB – UNF ENVIRONMENTAL SYMPOSIUM

“INVESTMENT, INNOVATION AND ACTION – LEADING THE WAY TO A SUSTAINABLE FUTURE”

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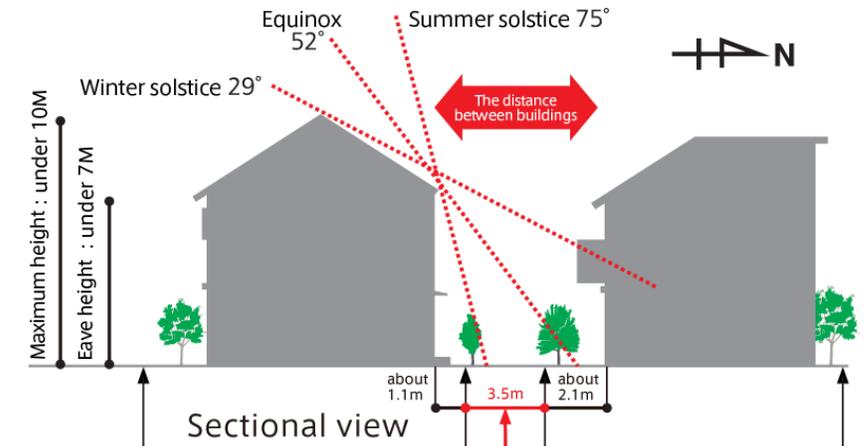
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Resiliency is becoming a bigger factor

Fujisawa Smart Sustainable Town (SST), Japan – Resiliency via technology and good planning

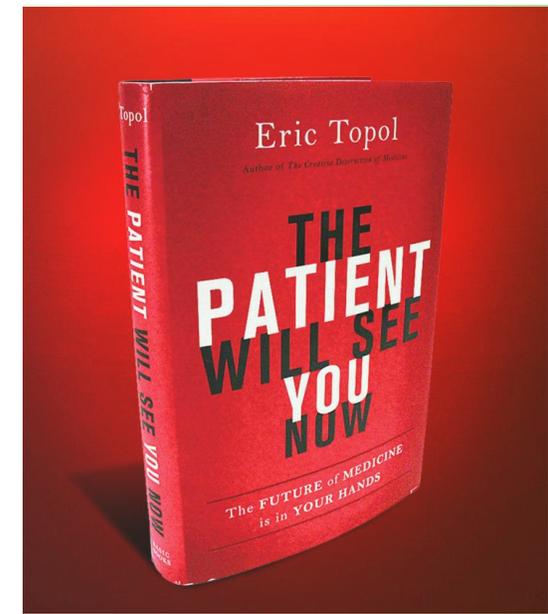
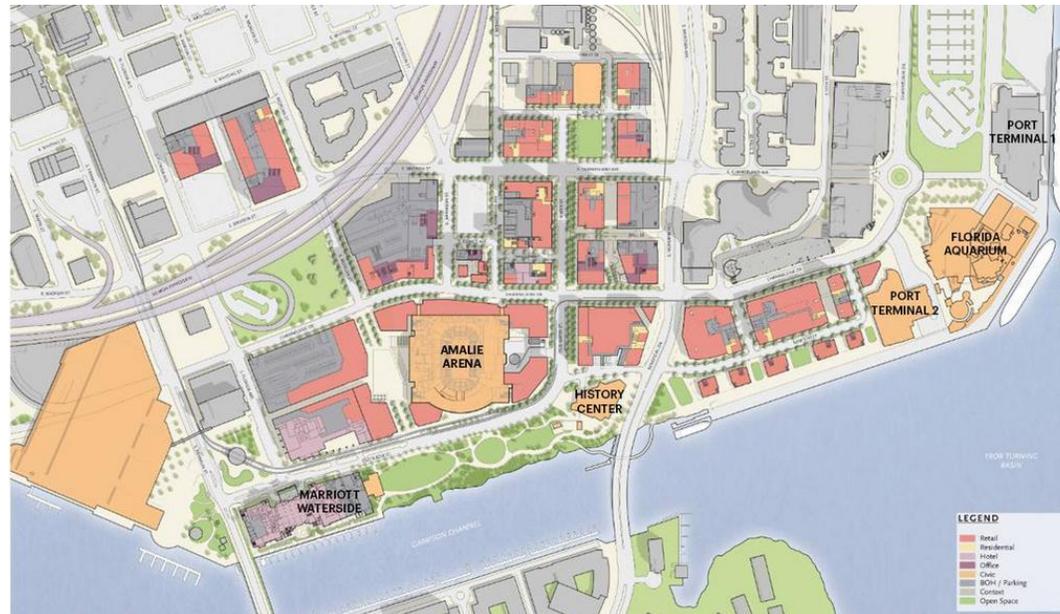


Health is becoming a bigger factor

WELL standards

Environmental sensors (“Fitbit” for cities)

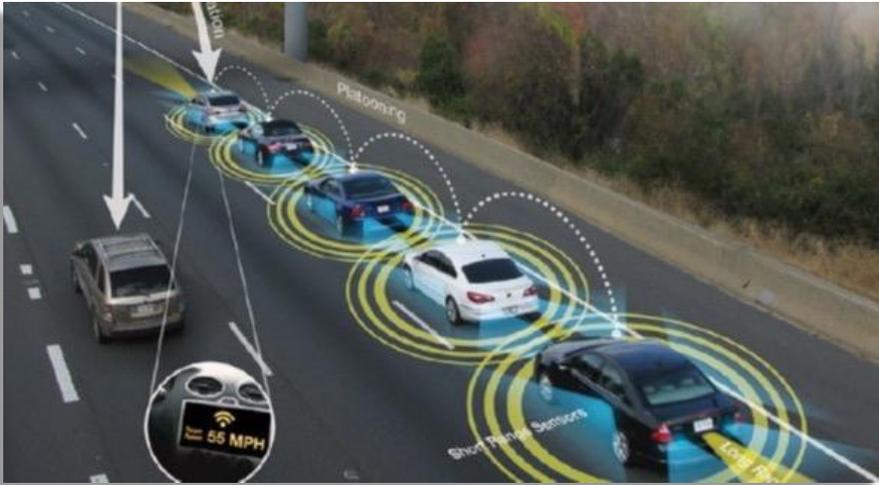
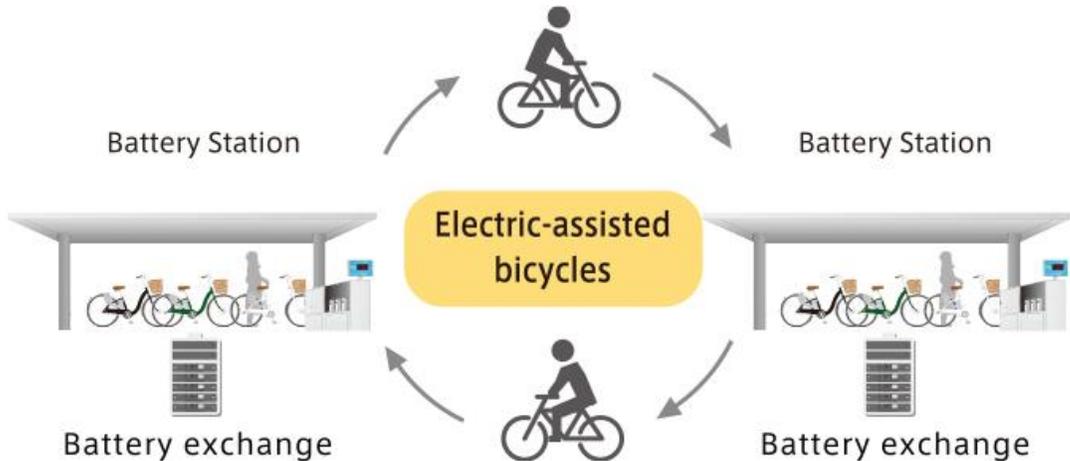
Telehealth



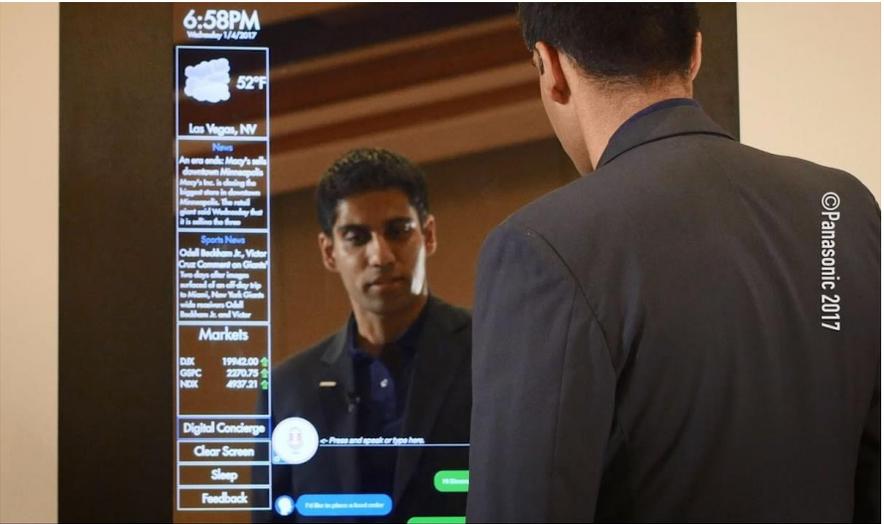
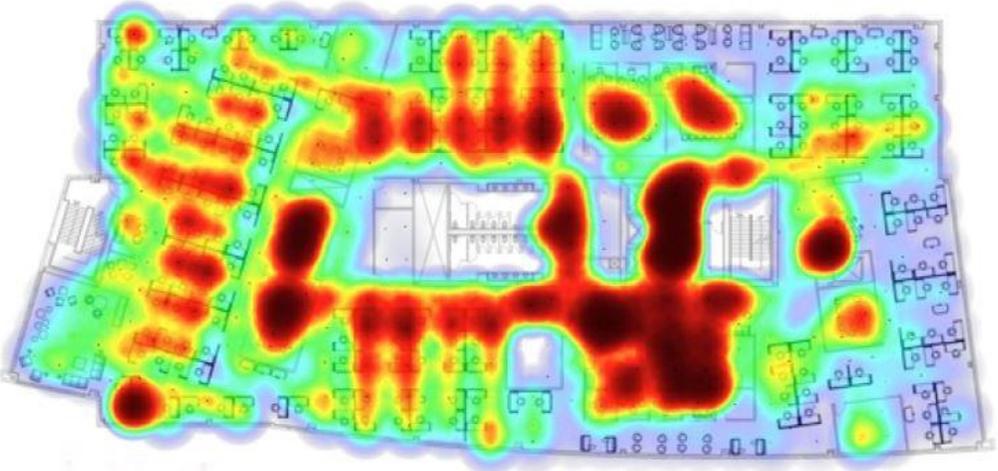
Transportation as a service,
autonomous and electric vehicles,
connected vehicle platforms, and
“frequent flyer” miles will help us
de-carbonize mobility while
saving lives

Fujisawa SST, Japan

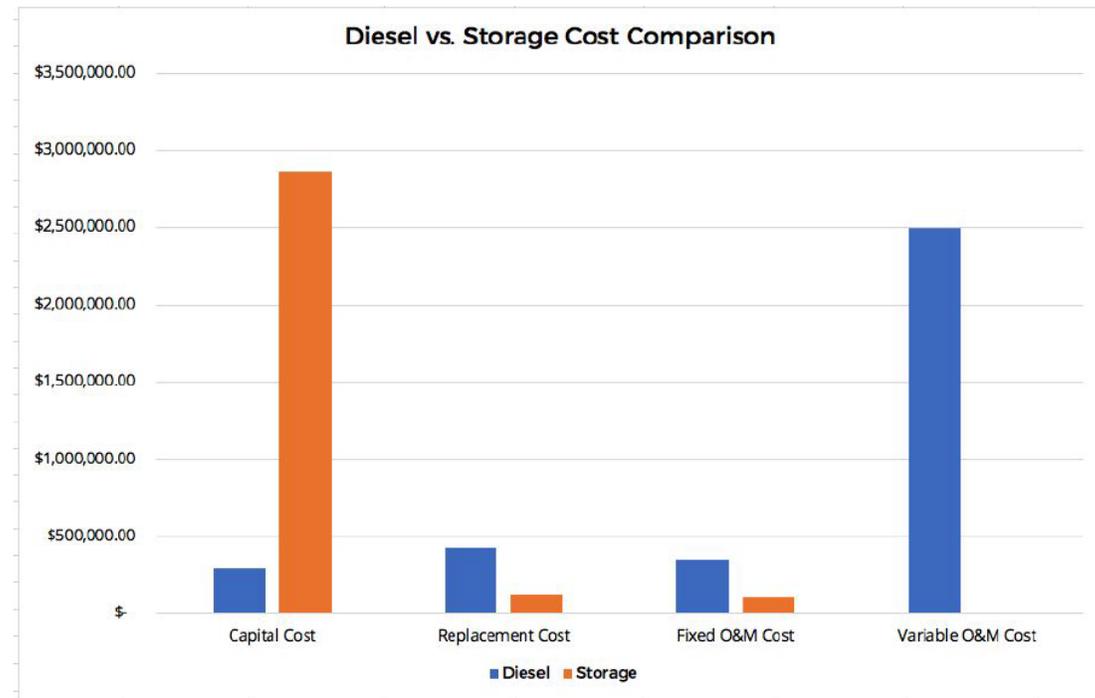
Pena Station NEXT, Denver, CO



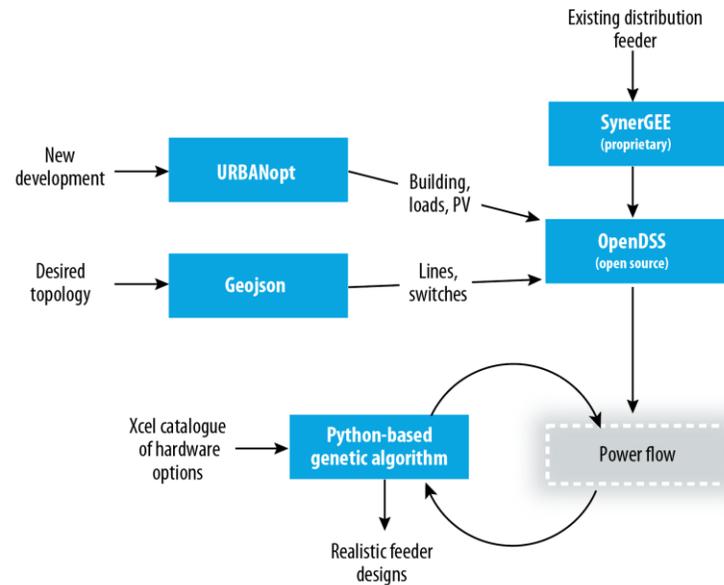
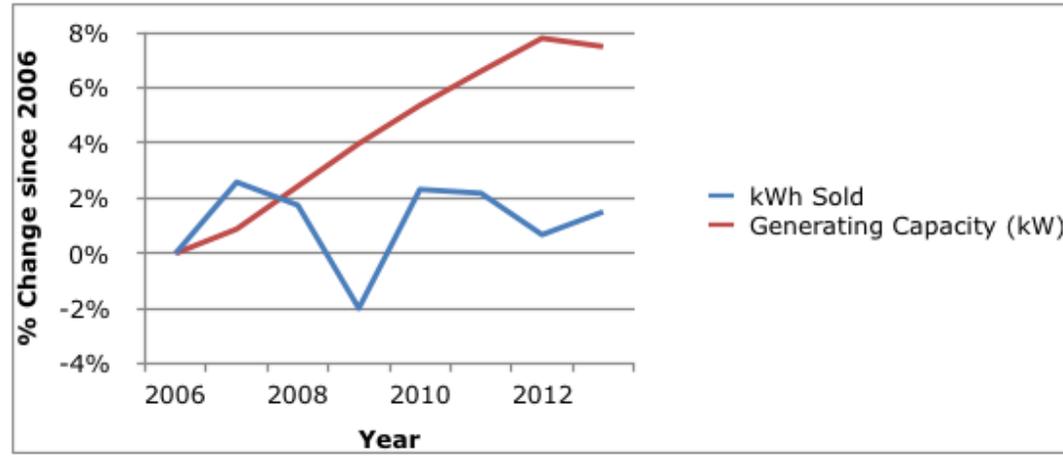
Our buildings will become like smart phones – leveraging Artificial Intelligence and App stores to improve efficiency



The fossil fuel
back-up generator
industry will get
disrupted



We will de-carbonize faster via deeper business partnerships between utilities, developers, cities, transit agencies, etc.



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Smart Streetlights

With energy-efficient LEDs and features such as dynamic dimming and sensors, smart streetlights enhance public safety by brightening when illumination is needed and save energy by dimming when it's not. When equipped with sensors, they're also critical for monitoring and improving pollution and for smarter mobility options, from pedestrian and bicyclist detection to traffic signal timing to parking and traffic management. The result: safer streets, less congestion, smoother commutes.

Solar PV

Rooftop, carport, and other distributed on-site solar generates clean, cost-effective local renewable energy that supports the city's ambitious climate targets and which is in high demand from today's most progressive companies, homebuyers, and renters. The result: gain a competitive "green real estate" advantage and help the city take an important step toward meeting its renewable energy goals.

Autonomous Electric Shuttles

The future of driving is here, and it doesn't involve a driver at all. Self-driving (or autonomous) electric shuttles help solve the last-mile mobility challenge and make crucial connections to transit hubs such as Union Station and within the Broadway Corridor development. The result: meeting a critical need for the elderly, disabled, citizens that prefer a no-car lifestyle, and other circumstances when walking, biking, or driving just don't make sense.

Electric Vehicles and EV Charging Stations

Whether you charge overnight, during work, while dining out or shopping, or just as you pass through, a network of publicly available charging stations—powered largely by renewable energy—make driving an electric vehicle a breeze for residents, commuters, visitors, and mass transit vehicles alike. The result: low-carbon mobility, no tailpipe emissions, and improved urban air quality.

IoT Shared Data

A smart grid, smart meters on customers' homes and businesses, and a world of connected devices put tons of data at one's proverbial fingertips. From leveraging that data to provide better and more-efficient city services to helping customers conserve energy, the possibilities are nearly endless. The result: a smarter, more-efficient development built upon actionable insights.

Demand Response

Smart thermostats and other devices give customers more control over their comfort and energy use than ever before, while also unlocking opportunities to save energy, save money, and help support a more-reliable grid through participation in load reduction programs and other initiatives. The result: customer empowerment and utility-customer partnerships that build a more resilient grid for all.

Battery Energy Storage and Microgrids

Both customer-sited and shared community batteries help to balance the electricity grid, effectively integrate more renewable energy onto the grid, and provide critical backup power during emergencies if the broader grid experiences a disruption. The result: resilient, local power systems that enhance public safety and provide important hubs for the community.

Community Resiliency Center

A state-of-the-art network operations center (NOC) serves as the "brains" for the smart, sustainable district—coordinating energy resources, transportation and mobility planning, public safety monitoring, and serving as a crucial community hub in the event of an emergency.

Broadway Corridor

By the Numbers

- 2.5 GWh Estimated on-site solar PV annual energy generation
- 3.8 million Total estimated square feet to be built
- 85% Goal for pedestrian, bicycle, and mass-transit use
- 4,000 Number of new jobs expected
- 3,100 Number of new residents expected
- 25% Affordable housing as a portion of new residential construction
- 85% Target for landfill waste diversion

Thank you!

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