

# LED lighting Panel

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Moderated by: Adam Quinn (E<sub>3</sub>, LED Solutions)

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- The Dallas Innovation Alliance is a non-profit, public private partnership dedicated to the design and execution of a smart city strategy for Dallas.
- Founded in September 2015 at the White House, the DIA's partners include the City of Dallas, Dallas Regional Chamber, Downtown Dallas Inc., DART, Oncor, Texas Research Alliance, AT&T, Cisco, Ericsson, GE, AECOM, IBM, and others. Currently over two dozen member organizations.
- Project Initiatives focused on Smart Infrastructure, Smart Mobility and Connected Living



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### **Dallas Innovation Alliance Living Lab: Why Now?**

The DIA operates from the definition that a Smart City is one where social and technological solutions facilitate sustainable economic growth, increase resource efficiency, and importantly, improves the quality of life for its citizens.

Silt's not if, but when Multi-phased approach: proof of concept, learnings, then expansion A living lab pilot zone in CBD, in the West End, growing Dallas Innovation District

# Lighting Projects Around the Country....

### San Diego: LED light replacement initiative

- Replacement of approximately 3,000 high pressure sodium fixtures in San Diego's downtown with LED bulbs and new, intelligent fixtures that incorporate wireless lighting controls.
- 250k annual cost savings to city, 60% energy use reduction and CO2 emission reductions.
- With LightGrid software and reporting, additional savings are expected by moving to a metered rate, rather than a flat-rate tariff, with its local utility company for the city's street light usage
- Currently expanding use cases around light poles to include parking optimization and connectivity [additional revenue opportunities for San Diego]



# Lighting Projects Around the Country....

#### Kansas City Streetcar Smart Corridor

- 200 Sensity-brand cobrahead lights for use along the streetcar line
- The lights have sensors built in that allow the city to manage lighting intelligently. Those sensors can detect the time of day and won't kick on until the sun goes down. They also can detect when someone is nearby, enabling light levels to decrease if nobody is in the area.
- 20-30% electrical savings
- 10% reduction in crime simply by improving lighting quality
- The lights also have video camera sensors, which can sense obstructions on the roadway to ensure nothing is blocking the streetcar run, and can also be used to determine parking spot availability.
- Challenge in capturing cost savings currently flat tariff rate, so the savings currently goes directly to the utility, operational and maintenance savings are being captured, and alternative tariff structures are being explored.
- Next steps: looking at full replacement of 95,000 lights in Kansas City, which would equate to \$36 million dollar project. Current projections are that this could save \$1.25m in operating energy costs.

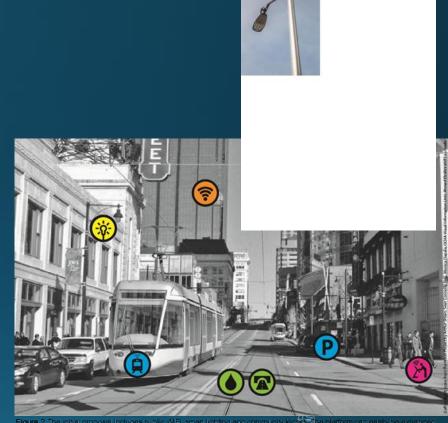
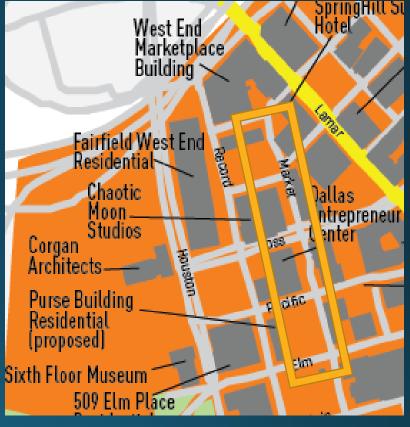


Figure 2 the initial proposal incloses public WH, smarrighting and community was by adding smart transit, water, infrastructure and parking applications.

#### The Living Lab

- Incorporate 5-7 smart city projects into a Living Lab in the West End of Downtown Dallas. These include smart lighting, waste management, digital citizen-centric kiosks, smart irrigation, smart parking and public Wi-Fi/network infrastructure
- **Differentiation:** Create the first fully integrated smart city initiative to fully capture insights across data streams.
- Phase I Living Lab Scope: Four blocks along North Market Street in the West End
- **Testing against KPIs** around economic development, energy and water cost and usage, public safety, transportation and others
- **Outcome**: Provide case study to the City of Dallas detailing results and ROI, as well as present multiple financial models to advise in project scaling and sustainability





### **Use Case: Smart Lighting**

- Intelligent automated LED lighting network for energy efficiency and reduced staff time/truck rolls
- Citizens feel safe and can easily walk and park in the West End
- Environmental sensors for air quality, and crowd and noise sensors for citizen safety
- Parking optimization with video cameras [Phase II]

**Phase I:** Four blocks along North Market Street in the West End [58 acorn lights]

- **Timeline**: Installation and baseline reporting prior to end of 2016
- **Pilot length:** One year, reported out quarterly. Concluded with case study recommending expansion strategy and sustainable financial options to scale.



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