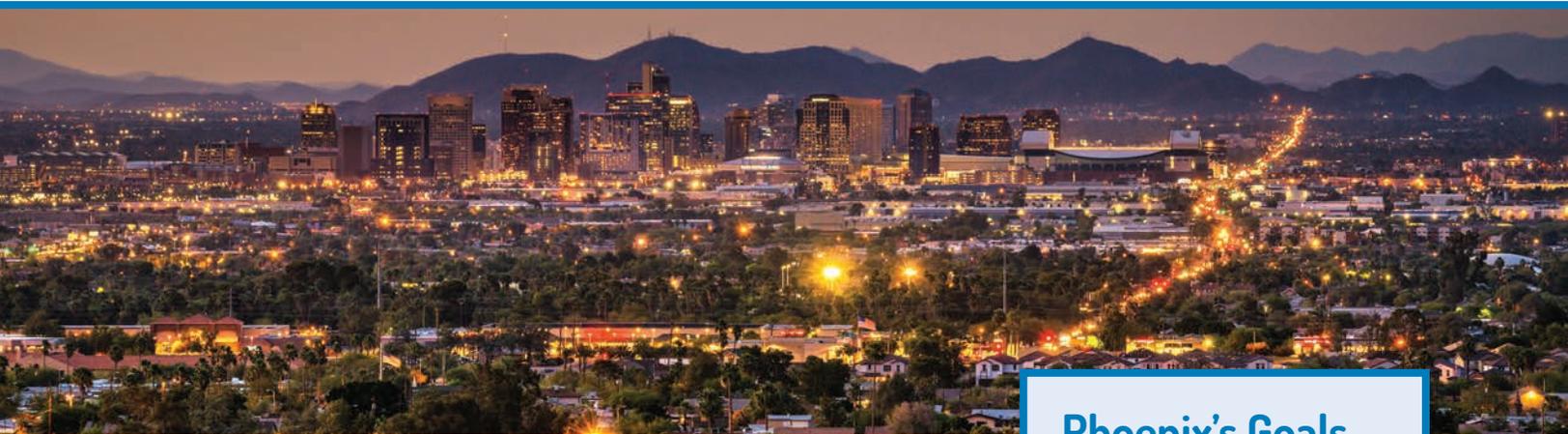


# Smart Communities In Focus

## Spotlight: Phoenix, AZ



Phoenix's smart community effort is aided through its partnerships with Arizona Public Service Company (APS), Traffic Research & Analysis Inc. (TRA), and Valley Metro.

### Phoenix's Goals

- Improve city efficiencies
- Research and deploy battery storage
- Enhance integration of renewable energy
- Promote adoption of electric vehicles

Smart communities are built on smarter energy infrastructure and leverage the power of data and technology to improve sustainability, spur economic development, help drive efficiencies, and enhance the overall quality of life for their citizens. This summary focuses on specific opportunities where communities and electric companies can collaborate to make communities smarter, including projects that advance: Smart Street Lighting, Smart Transportation, Smart Buildings, Distributed Energy Resources, and Data Analytics and Intelligent Services.

## What Makes Phoenix Smart?



**Smart Transportation**—Improves safety and mobility, reduces carbon footprint, and provides greater access to services.

- APS plans to partner with schools in Phoenix to pilot all-electric buses and charging infrastructure and test how these buses can be used to absorb influxes of solar energy during the day and manage the schools' demand during peak hours.
- APS recently proposed to build, own, and operate an electric vehicle (EV) charging network for commercial fleets, workplace charging, and multi-family sites in Phoenix. The pilot program will focus on managed charging in alignment with advanced rates and system benefits.
- APS's Time of Use (TOU) rate structures encourage customers with EVs in Phoenix to save on electricity by charging their cars during off-peak hours. Residential TOU rates allow customers to charge at a gasoline equivalent of 30–90 cents per gallon during off-peak periods.



**Smart Buildings**—*Save energy and improve sustainability.*

- New homes constructed in APS's service territory are eligible for an incentive to pre-wire the home for owners to install fast EV chargers.



**Distributed Energy Resources**—*Improve sustainability, efficiency, and reliability.*

- APS owns and operates a 12-megawatt (MW) microgrid to serve customers and local resiliency needs in the Phoenix Valley. The microgrid serves as a peaking, voltage management, and frequency-response resource, as well as backup generation for a mission critical customer.
- APS owns and operates more than 280 residential rooftop solar systems and more than 1.1 MW of solar at Phoenix schools. APS will be developing \$30–45 million of additional customer sited solar resources targeted at serving limited income populations from 2018 through 2020.
- APS is performing industry-leading research with Phoenix residents using a variety of distributed energy resources to intelligently manage energy usage on advanced rates through APS's Solar Innovation Studies. The program compares different technology types and advances interoperability of technology for customer value.



**Data Analytics and Intelligent Services**—*Increase efficiency, improve city services, and enhance quality of life.*

- Phoenix has a 20-year partnership with TRA to provide traffic data collection services to the city.
- APS has fully implemented smart meters with wireless capabilities in Phoenix.

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