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TEP

# Tucson Electric Power Modernizes its Land Rights Management with Pandell GIS Mapping Services

Client Success Story

## Background

For nearly a decade, Pandell has created user-friendly, digital maps of thousands of land agreements for electric utility Tucson Electric Power (TEP). The maps play a crucial role in informing effective decision-making in TEP's infrastructure and environmental planning. In most instances, this has reduced the time it takes to research and analyze land rights from months to just hours. TEP has expressed a high level of satisfaction in Pandell's ability to consistently translate complex utility land records into polished final maps.

## A Long-Time Partnership to Visualize Land Rights

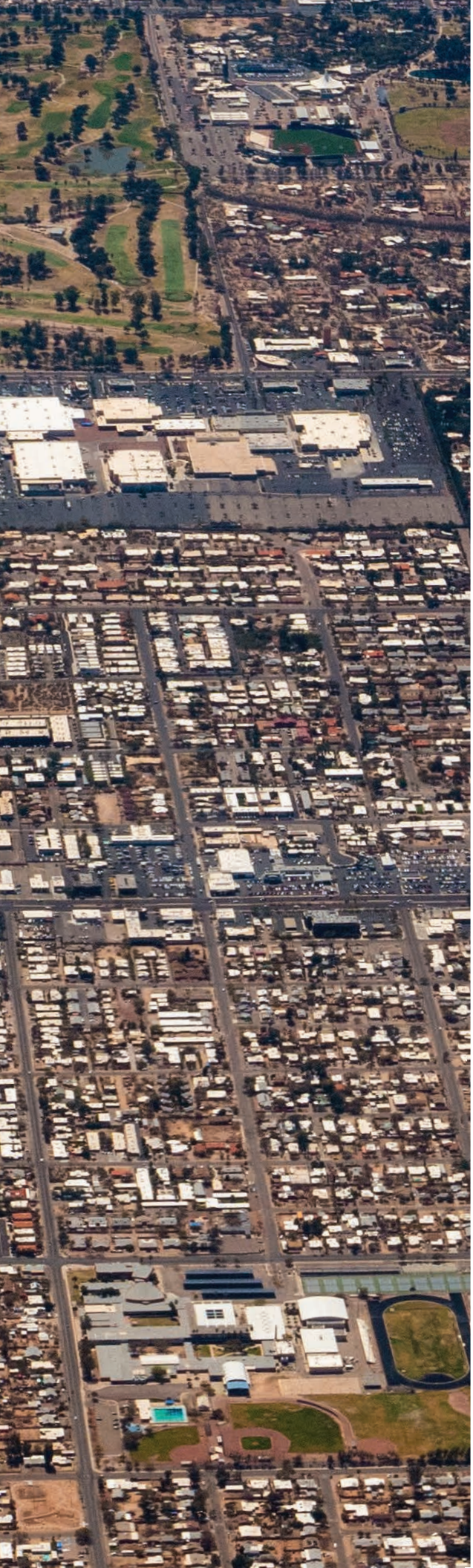
In 2016, Tucson Electric Power (TEP) hired Pandell to map its vast network of land rights across its electric grid, which serves over 450,000 customers in the Tucson metropolitan area. Through analysis of land agreements (also known as land rights), Pandell's GIS Mapping team creates digital polygons that represent the boundaries of agreements on interactive maps. The polygons are linked to the agreements' associated records, enabling users to seamlessly access information on ownership, obligations, and restrictions.

TEP's land rights include easements, leases, and other legal agreements that define TEP's rights to access its power lines, generation facilities, and other grid assets. Landowners range from individuals and companies to local, state, and federal agencies. TEP staff use land rights data daily for critical functions such as grid and environmental planning.

Before partnering with Pandell, TEP manually managed its land agreements and related documents in a large database, which was very time consuming. "We wanted Pandell to help modernize and enhance the productivity and effectiveness of our land record management activities," said Patrick Dubberly, Environmental and Land Use Planner at TEP.

## Highly-detailed, Complicated Mapping

Utility land agreements present significant challenges in GIS mapping due to their complex, industry-specific nuances. A single power line may involve numerous agreements across multiple jurisdictions. Ensuring that the boundary lines of these agreements are contiguous with adjacent properties requires meticulous



precision, critical thinking, and careful judgement to accurately reflect the original intent of the land rights. Mapping TEP's land records involves intricate and complex tasks. As a company with a long history, TEP has land rights spanning over a century, with some documents being extensive and frequently amended.

## Supporting TEP's Mission and Renewable Energy Goals

As a first step in the work, Pandell integrated TEP's data with LandWorks—Pandell's industry-leading, cloud-based land asset management software.

Since 2016, Pandell has mapped over 26,000 land records for TEP. The Pandell team also maps new land agreements and meets tight deadlines on large, unexpected influxes of agreements. TEP worked with Pandell to link maps from LandWorks to TEP's web application that layers land rights data with grid infrastructure, tax parcels, and critical habitats. TEP staff can easily view and zoom into specific locations, accessing all related land rights information with a click, supporting effective decision-making.

The maps are crucial for TEP in planning projects that range from building new facilities to siting utility-scale solar power plants to planning new transmission line projects. TEP's land agents start by assessing existing adjacent infrastructure and associated land rights. For example, to build a power line to serve a new customer, an agent can use maps to view nearby power lines, evaluate easements and determine the shortest, legally permissible route. "Starting these projects with a high-quality digital map not only helps improve efficiencies, but creates a collaborative environment," said Dubberly.

The maps have significant cost implications for TEP. Utilizing existing rights-of-way for a new transmission line or solar plants can save significant dollars, which directly supports TEP's mission to provide safe, reliable, affordable power, as well as its goals to expand its renewable energy portfolio.

TEP's environmental land use planners also rely on the mapped land rights for acquiring land use permits and authorizations. For example, in plant conservation efforts along rights-of-way, a planner may evaluate a state park map and provide it to a consultant to survey the area for an endangered plant species.

## Meeting TEP's High Standards

TEP has been extremely satisfied with the high quality of the final product. Dubberly appreciates how the Pandell team is solution-oriented rather than problem-oriented.

"When they run into a challenge with mapping a certain land right, they clearly explain the challenge and recommend creative options for solutions," said Dubberly. "To implement a solution, they may ask us for additional information. I'm always impressed by the collaboration, and importantly, how polished the final maps look."

## Customer Quote

> *"Before, mapping land rights was a time-intensive and manual effort. Since TEP started working with Pandell's GIS Mapping Services in 2016, our right-of-way agents are more equipped to respond quickly and plan more effectively.*
>
> *We're making smarter, safer decisions across our grid as we scale up to meet growing customer demand."*
>
> — Patrick Dubberly, Environmental & Land Use Planner III (GIS), Tucson Electric Power

For more information and to request a demo, visit

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