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Meeting everyday energy needs in the heart of Tucson for a lifetime





SHORTER, LESS FREQUENT OUTAGES

- 36,936 households
- 62 neighborhoods
- 6,834 businesses

All will benefit from a new 138-kilovolt (kV) "loop" around central Tucson supplying energy from more than one direction.

ENERGY FOR A GENERATION OF TUCSONANS

COST SAVINGS, GREATER EFFICIENCY

The project would provide over 3x the capacity of the current systems



212% increase In Tucson's peak energy demand since 1975

STRONG, HEALTHY COMMUNITY Supports growing economy, population



Improves reliability in extreme weather

Provides midtown residents with same reliability benefits enjoyed in other areas



19 miles 46-kV lines removed

8 46-kV substations retired

\$52 million

saved over 15 years by avoiding replacement of older equipment



268 miles **4-kV distribution circuits** upgraded to 14-kV with new poles, wires, switchgear and more

\$52 million investment in our local energy grid



Sent to midtown homes, businesses and others about the project

- 7-8 miles of new 138-kV lines
- A new 138-kV substation



Learn more at tep.com/midtown-reliability-project

Our Energy Grid How we deliver electric service to you



• **Tucson Electric Power**

Transmission Line Characteristics

- Single-circuit 138-kV transmission line
- Tubular, weathering steel monopoles
- Typical structure heights of around 75 feet
- Around 600-foot span between poles



• Non-specular, aluminum conductor wire



A typical weathering steel monopole supporting a 138 kilovolt transmission line

Midtown Reliability Project Fewer Power Lines, Better Service



Aging Assets in Project Study Area





On average, major 46-kV substation equipment is **47 years old**.

Some equipment is in 'poor' or 'very poor' condition.

It would cost \$41 million to replace this equipment over the next 5 years.

On average, 46-kV power poles in the study area are 61 years old.

Some equipment is in 'poor' or 'very poor' condition.

More than 430 poles need to be replaced within 15 years at a cost of \$11 million.

Options

	Maintain existing 46-kV System	Upgrade to new 138-kV System
Built for:	Late 20th Century	21st Century
Substations:	 8 46-kV substations Cost: \$41 million Additional substations may be required 	 1 138-kV substation added 8 46 kV substations removed Cost: \$34 million
Power lines:	 19 miles of 46-kV lines Poles in poor condition replaced with larger metal poles (similar to 138-kV poles) Cost: \$11 million 	 7-8 miles 138-kV lines added 19 miles 46-kV power lines removed Cost: \$18 million
		7\/

3X

Total:\$52 million investment in 46 kV system

\$52 million investment in new 138-kV facilities



Midtown Reliability Project Benefits



Fewer, shorter power outages





Greater capacity for growing energy needs



More customer-owned solar, storage and EVs





Removal of aging substations, power lines



Improved service citywide



Support for economic growth and a healthy community





Learn more about these benefits at: tep.com/midtown-reliability-project











SELUP Process & Project Timeline



Pre-Application Meeting (City of Tucson & TEP)

TEP is seeking a SELUP from the City of Tucson to allow for the MRP 138kV transmission line to be built overhead on portions of the route where the transmission line perpendicularly crosses a Gateway Corridor Zone.

Special Exception Land Use Permit (SELUP) Process

Special exception land uses are permitted within a zone if all use-specific standards can be met and if approved through an established review procedure.

Special Exception Procedure: UDC Section 3.4.3



Special Exception Land Use Permit (SELUP) Process



Distribution System Upgrades & 46kV Retirement

Visualization of New 138kV Line Crossing Broadway Blvd. at Euclid Ave. with SELUP Approval







Current Condition – Observation Point 4



POLE FINISHES





Weathering Steel

Simulated Condition – Observation Point 4

See all observation points for this project during the open house and online.





Crossing Gateway Corridor Zones Without a SELUP Will Require Risers on Each Side of the Corridor



Special exceptions to relieve the requirement to underground transmission lines may be granted if applicants meet the findings established by UDC section 3.4.5, and one of criteria a, d, or f when no other criteria apply to the project.

Criterion d. "The proposed overhead transmission lines are located on non-Gateway or non-Scenic corridor routes, and the relief is requested for a segment that perpendicularly crosses a Gateway Corridor Zone or Scenic Corridor Zone, and the placement of poles is set back at least 150 feet from the curbline of the designated Gateway Corridor."



Why won't TEP install this transmission line underground?

COST

S

- Underground transmission lines cost significantly more to build and maintain.
 - > The difference escalates with voltage. Higher voltages
 - = higher underground costs.
 - > 5-10x more expensive or more. Costs vary for each project.
- Higher costs lead to higher electric rates.
- In October 2023, the Arizona Corporation Commission approved a policy statement instructing regulated utilities like TEP to avoid underground installation. A portion of the statement says: "As a general matter, utilities under the Commissions jurisdiction should avoid incurring these higher costs unless underground installation of a transmission line is necessary for reliability or safety purposes or to satisfy other prudent operational needs."
- Voters rejected proposal to pay for underground construction in a new franchise agreement.
- Stakeholders can create improvement district to fund undergrounding in their area.

EFFICIENCY, CONSISTENCY

- No engineering or safety justification.
- Every other TEP transmission line is installed overhead.
- Majority of transmission lines in the United States are installed overhead.
- Underground construction disturbs more land, existing facilities and archaeological resources.



RELIABILITY

- Comparable to overhead construction, with higher maintenance costs.
- Fewer outages but longer repair times.
- Life expectancy of underground equipment is lower.
- 138-kV transmission poles withstand extreme weather, traffic impacts.