Midtown Reliability Project

Welcome

Please Sign In

Bienvenidos

(Hablamos Español)

Por Favor Regístrese

Presentation Schedule (Salons E, F, G & H)
7:00 pm

For more information - Para más información:

Midtown Reliability Project

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

TEP
Tucson Electric Power

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

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

100,000+ newsletters

55,000+ emails

Sent to midtown homes, businesses and others about the project

COST SAVINGS, GREATER EFFICIENCY

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

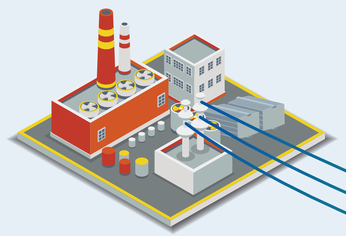
- 7-8 miles of new 138-kV lines
- A new 138-kV substation

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

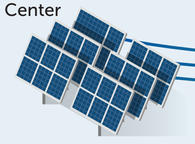
Our Energy Grid
How we deliver electric service to you

Tucson Electric Power

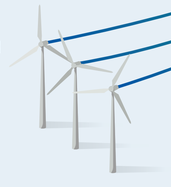
Natural Gas
Sundt Generating Station
in Tucson and others



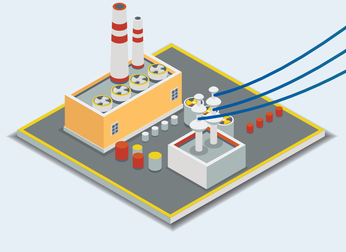
Community Scale Solar
Wilmot Energy Center
and others

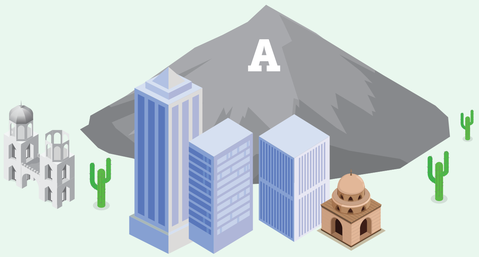


Wind Resources
Oso Grande Wind
and others

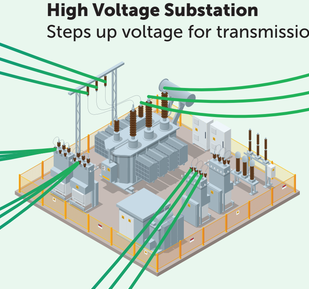


Coal
Springerville Generating Station
and others



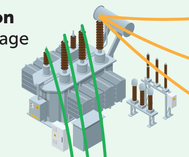


High Voltage Substation
Steps up voltage for transmission

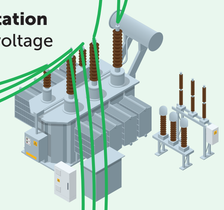


High Voltage Transmission Lines
(500 kV / 345 kV / 230 kV 138 kV)

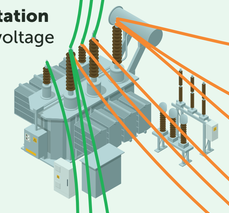
46 kV Substation
Steps down voltage



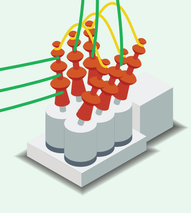
138 kV Substation
Steps down voltage



138 kV Substation
Steps down voltage



Switchyard



Homes

Businesses

Commercial Facilities

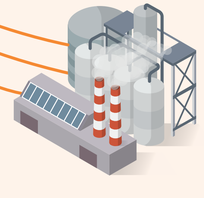
4 kV Distribution Lines

Homes

Businesses

Commercial Facilities

Industrial Facilities



14 kV Distribution Lines

Generation | Transmission and Sub-Transmission | Distribution

Midtown Reliability Project

Vine Substation

- Gas Insulated Substation (GIS)
- Located on a 1.6-acre site
- The substation will contain:
  - Three - 75 MVA transformers
  - Switchgear
  - Static Masts
  - Structural Canopy
- 12-foot decorative masonry block wall
- Perimeter landscaping

EXISTING CONDITION

PHOTO SIMULATION

Transmission line is not depicted because the final route is not known at this time.

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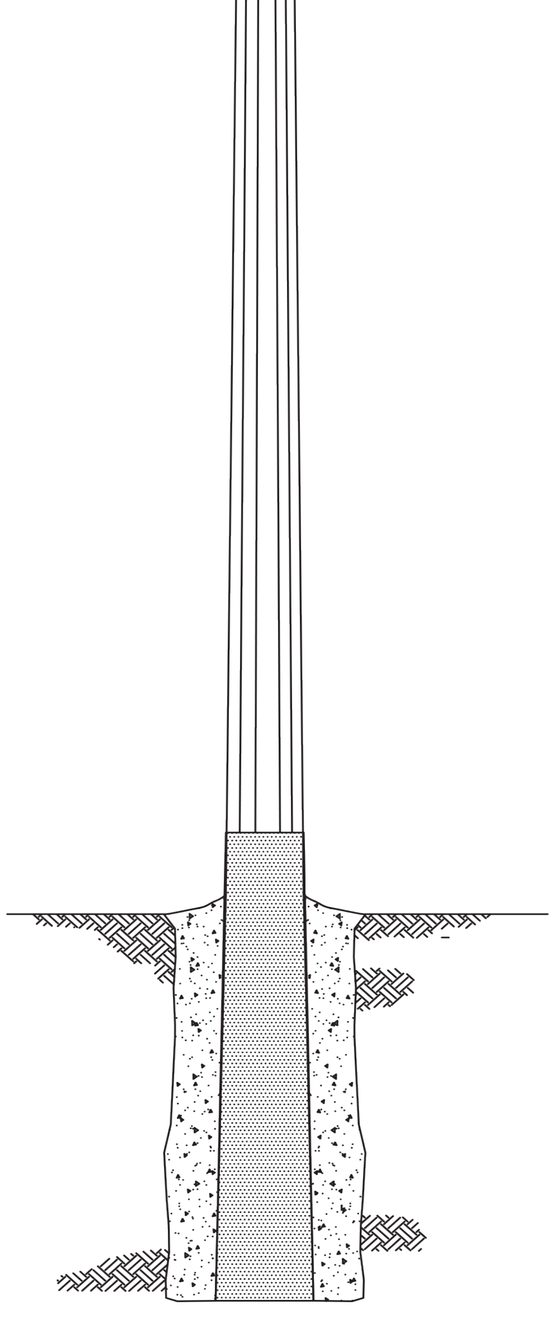
Transmission Line Characteristics

- 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



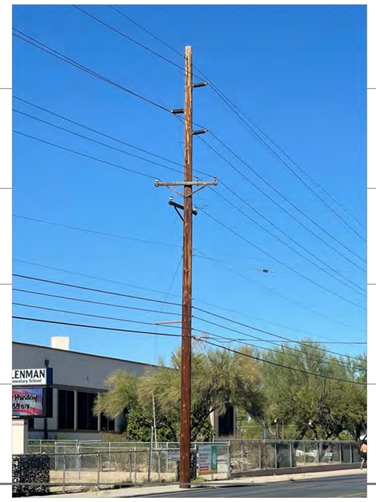
A typical weathering steel monopole supporting a 138 kilovolt transmission line

Midtown Reliability Project

Pole Comparison

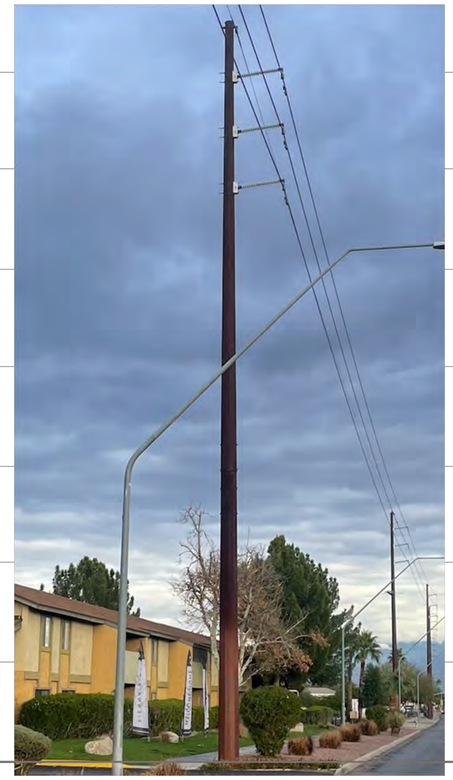
90’
80’
70’
60’
50’
40’
30’
20’
10’
0’

30’ Distribution Pole
(1300 N Camilla Blvd)



43’ 46kV/Distribution Pole
(1604 N Country Club Rd)

75’ 46kV/Distribution Pole
(201 W Grant Rd)



75’ 138kV Transmission Pole
(5353 E 22nd St)

Midtown Reliability Project

UPGRADING THE DISTRIBUTION SYSTEM

Providing additional capacity and improving reliability of service in support of growth, electrical vehicle charging and rooftop solar installations.

SYSTEM UPGRADES INCLUDE:

Convert distribution circuits from 4-kV to 13.8-kV

Replace transformers

Replace conductors (wires), where merited

Replace poles, where needed

Midtown Reliability Project
Fewer Power Lines, Better Service

Tucson Electric Power

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.

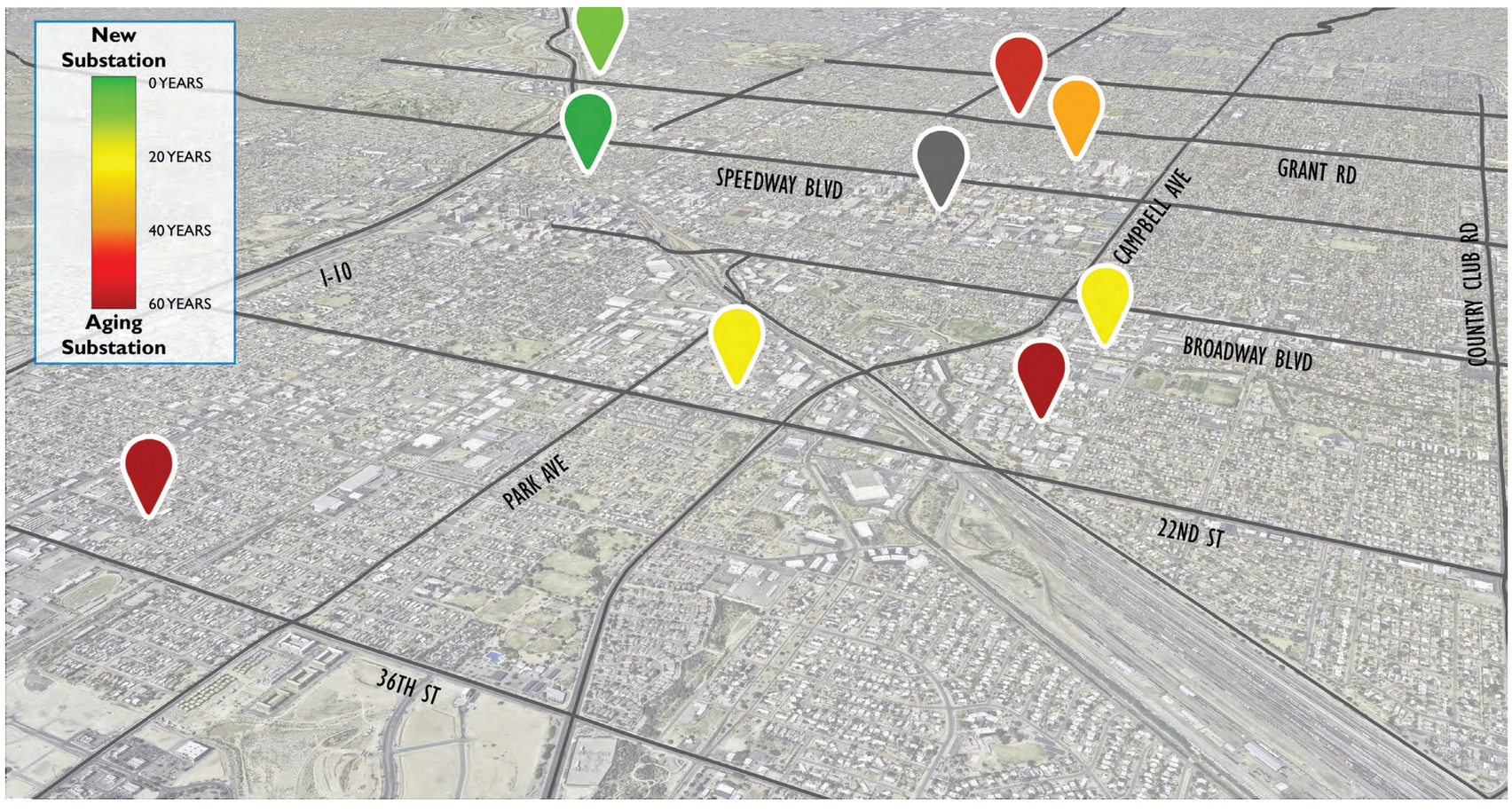
On average, 46-kV power poles in the study area are 61 years old.

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
Added Capacity:	None	3X
Total:	**$52 million** investment in 46 kV system	**$52 million** investment in new 138-kV facilities



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Tucson Electric Power

Why won't TEP install this transmission line underground?

COST

- 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.

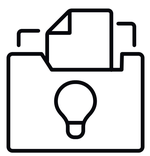
EFFICIENCY, CONSISTENCY

- 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

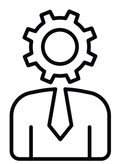
- Comparable to overhead construction, with higher maintenance costs.
- Fewer outages but longer repair times.
- Life expectancy of underground equipment is lower.
- 138-kV transmission poles withstand extreme weather, traffic impacts.

Midtown Reliability Project

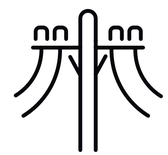


May 2024
CEC Application Submittal

September 2024
ACC Open Meeting



February 2025
Zoning Examiner Public Hearing



2027 - 2037
Distribution System Upgrades & 46kV Retirement

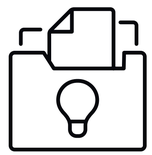
Construction Period

2023 2024 2025 2027 2037

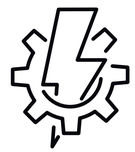
July 2023 - June 2024
Transmission Line Planning and Siting

July 2024
Line Siting Public Hearing

October 2024
Vine Substation SELUP Application Submittal



June 2027
Transmission Line & Vine Substation in Service



Target schedule, subject to change.

Midtown Reliability Project

PLANNING AND SITING PROCESS

JULY - NOVEMBER 2023

Phase 1: Pre-Analysis

- Conduct Field Visits
- Develop Study Area
- Identify Opportunities and Constraints
- Conduct Public and Stakeholder Outreach
- Develop Preliminary Segments

JULY - NOVEMBER 2023

Phase 2: Data Inventory

- Conduct Research and Collect Data

NOVEMBER 2023 - FEBRUARY 2024

Phase 3: Suitability Assessment

- Develop Suitability Models
- Conduct Suitability Assessment
- Field Review
- Refine Segments
- Conduct Public and Stakeholder Outreach

FEBRUARY - MARCH 2024

Phase 4: Compatibility Analysis

- Develop Route Alternatives
- Identify Preferred Route

MARCH - JULY 2024

Phase 5: Concept Evaluation

- Conduct Public and Stakeholder Outreach
- Field Review
- Submit CEC Application

OUTREACH EFFORTS

- Neighborhood Listening Sessions
- Neighborhood Advisory Group
- Public Open House
- Elected Official Briefings
- Agency Briefings

To learn about the process after the CEC Application is submitted, please visit:
www.azcc.gov/arizona-power-plant/line-siting-committee

*Target schedule, subject to change

Midtown Reliability Project

Tucson Electric Power

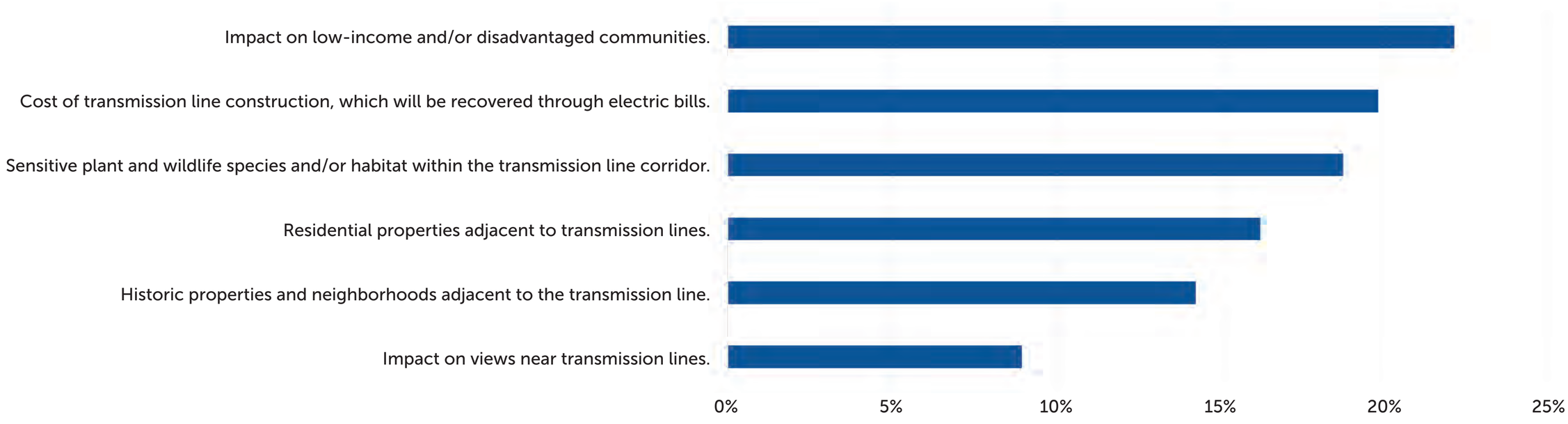
Project Criteria Survey Results

August 31— October 15, 2023

2,792 Participants

In your opinion, which criteria are most important in considering the route of the proposed transmission line for the Midtown Reliability Project? Select up to TWO (2).

Most Important Criteria to Consider

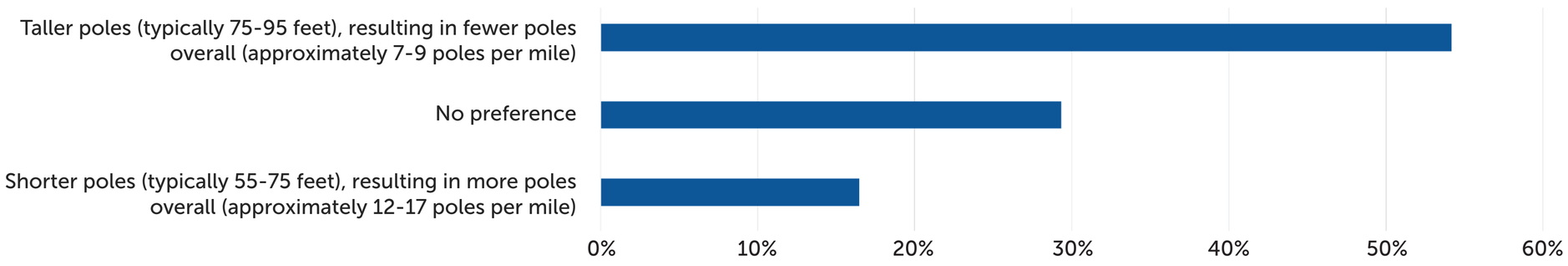


If there are other criteria you would like TEP to consider, please share your suggestion(s) in the box below:

- Health and Safety
- Reliability and Maintenance
- Transit Impacts – Pedestrian, Public Transit, and Traffic
- Use of Existing Utility Corridors
- Avoidance of Gateway Corridors
- Impact on Future Land Uses
- Impact on Native Lands
- Impact on Water
- Length of the Project
- Overall Environmental Impact
- RFI/Communications Interference

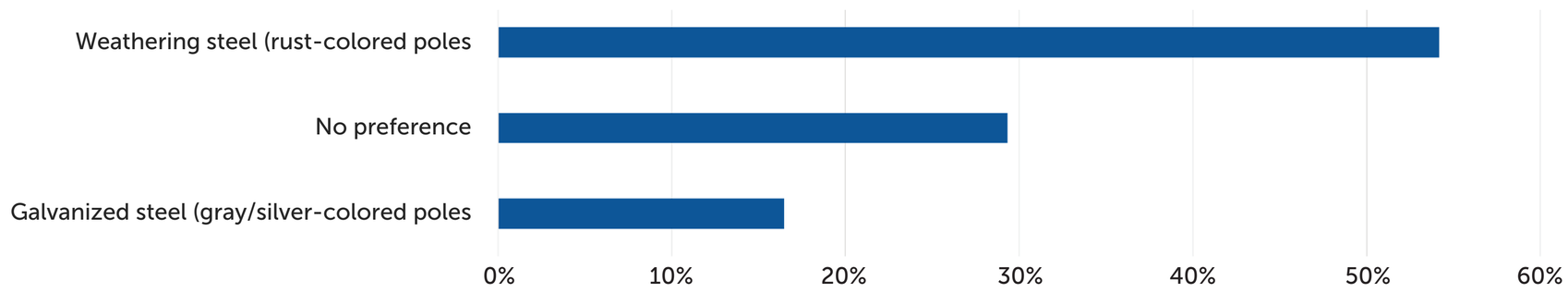
Please indicate your preference for pole height and number of poles per mile:

Preference for Pole Height



Please indicate your preference for the type of steel pole used:

Preference for Type of Steel Pole



Midtown Reliability Project

Tucson Electric Power

Project Evaluation Criteria

- Impact on low-income and/or disadvantaged communities
- Cost of transmission line construction, including relocation/ undergrounding of distribution lines, which will be recovered through electric bills.
- Sensitive plant and wildlife species and/ or habitat within the transmission line corridor.
- Residential properties adjacent to transmission lines.
- Historic properties adjacent to the transmission line.
- Impact on views near transmission lines.
- Impact on the total environment
- Noise emission levels and interference with communication signals
- Existing development plans
- Engineering feasibility and challenges
- Compliance with applicable ordinances, master plans and regulations
- Health and safety impacts
- Transit Impacts (Pedestrian, Public Transit, Traffic)
- Use of existing utility corridors
- Impact on native lands

Midtown Reliability Project

DMP to VINE

ROUTE ALTERNATIVES

DeMoss Petrie

Vine

Grant Rd

Campbell Ave

Speedway Blvd

Proposed Routes

- Route A
- Route B
- Route C
- Route D
- Study Area

- In-Service 138kV Substation
- Proposed 138kV Substation
- Eliminated Segments

Data Sources: TEP; Pima County GIS
Projection: NAD 83 12 N
Base Map: Esri World Topo
This map is for planning purposes only.
TEP makes no warranty of its accuracy.

0 0.25 0.5 Miles

N

Midtown Reliability Project

VINE to KINO

ROUTE ALTERNATIVES

Proposed Routes

- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6
- Study Area

- In-Service 138kV Substation
- Proposed 138kV Substation
- Eliminated Segments

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Projection: NAD 83 12 N
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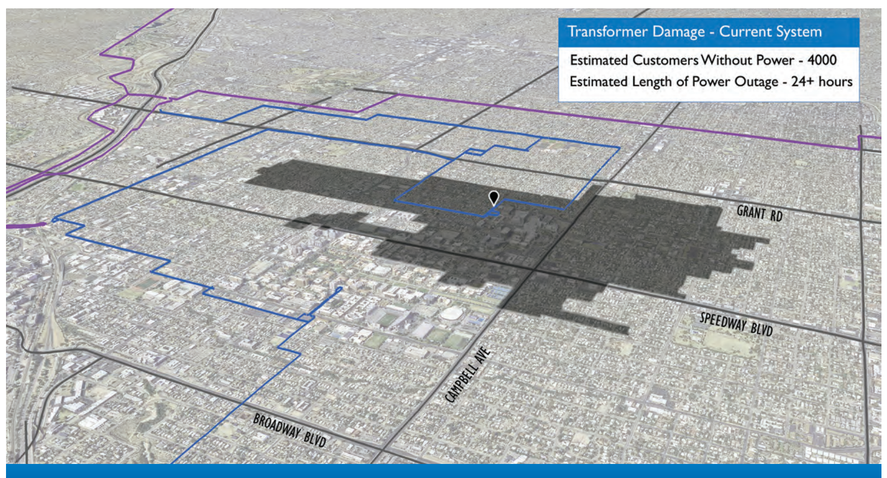
0 0.25 0.5 Miles

N

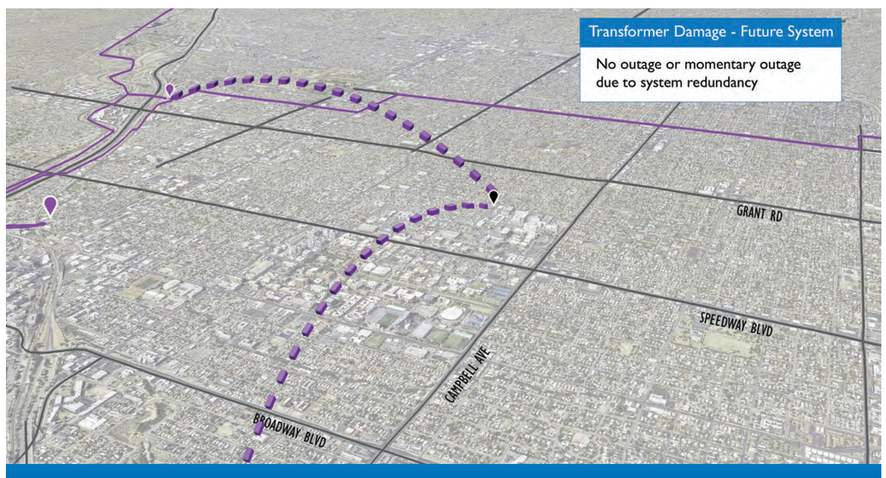
Midtown Reliability Project
Benefits

Tucson Electric Power

Fewer, shorter power outages

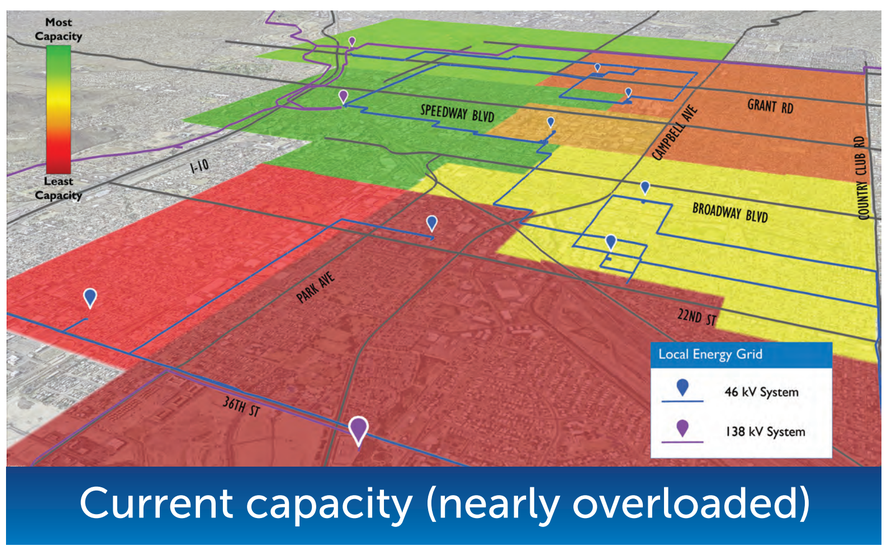


Current outage scenario



Future outage scenario

Greater capacity for growing energy needs



Current capacity (nearly overloaded)

Future capacity

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

Midtown Reliability Project

How the Midtown Reliability Project benefits me?

DeMoss Petrie

Vine

Grant Rd

Campbell Ave

Speedway Blvd

Broadway Blvd

22nd St

36th St

Kino

Kino Pkwy

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area
- Neighborhoods
- 138kV Kino Substation Service Area

Existing 46-kV Substation Capacity % Loaded

- 0 - 50
- 50.1 - 60
- 60.1 - 70
- 70.1 - 80
- 80.1 - 90
- 90.1 - 100
- 100+

Data Sources: TEP; Pima County GIS
Projection: NAD 83 12 N
Base Map: Esri World Topo
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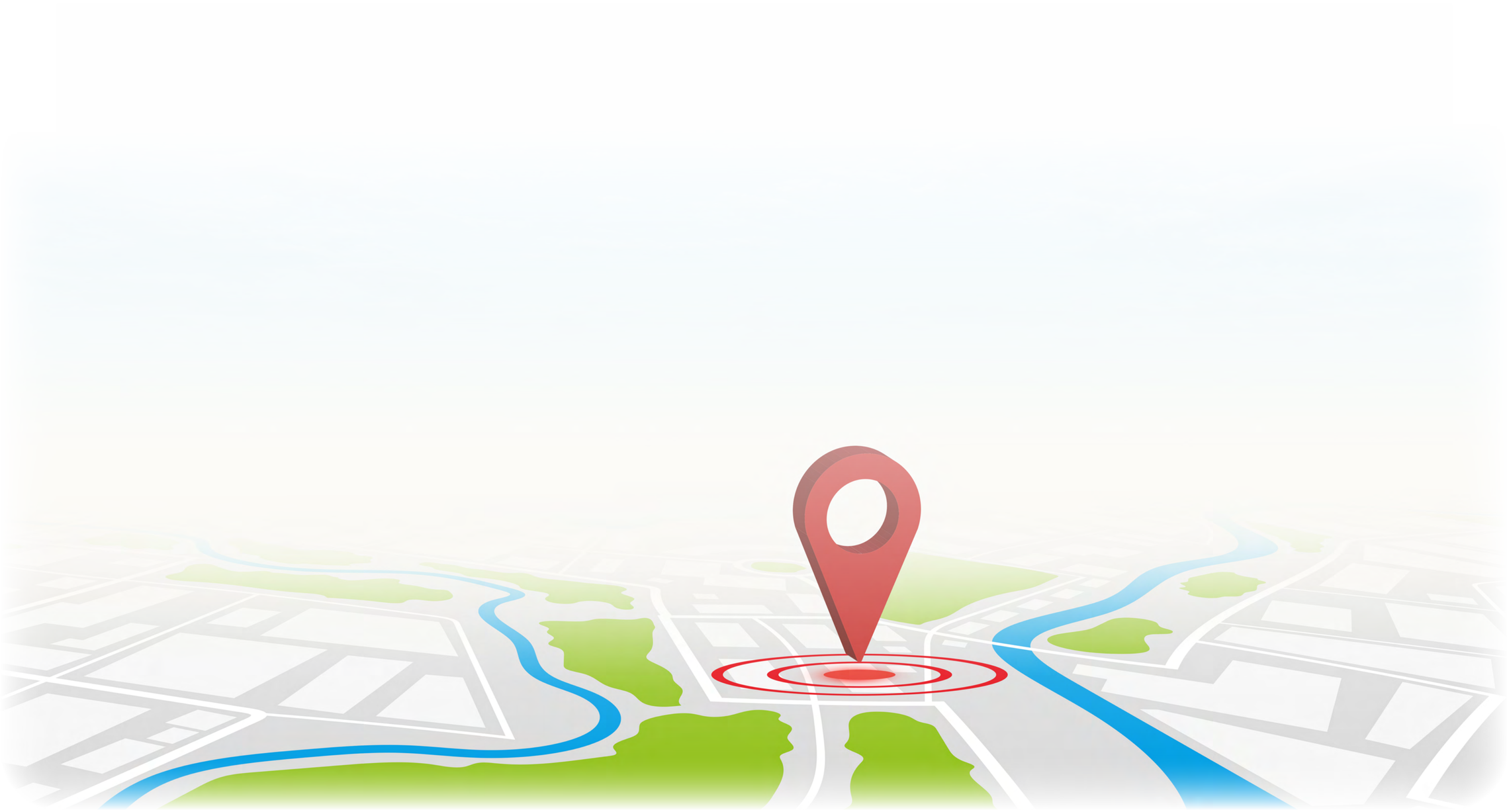
0 0.5 1 Miles

N

Midtown Reliability Project

INTERACTIVE MAP STATION



Provide your Spatial Comments