Workshop Agenda

• Introductions
• Project Overview
• Stakeholder Role
• GIS Spatial Analysis Overview
• GIS Spatial Analysis Results
  – Review of data
  – Results of micro analysis
  – Group discussion of links
• Next Steps
Introductions
Project Background

• Annual load studies.
  – Project (substation and line) need first identified in 2007.
  – Included in TEP’s 10-year plan since 2007.
  – Now identify need for infrastructure to be in place by 2021.
• Substation site selection study started in 2016.
• Bridges DRC meeting held July 26, 2017.
• Public meeting held August 2017.
• COT minor PAD amendment for substation site received September 2017.
• Transmission line siting study started September 2017 with collection of data and internal spatial analysis.
  – Stakeholder Meeting #1 held October 2017
Project Purpose and Need

• Growing demand for power in the Kino Substation Study Area requires new substation.
• New 138-kV transmission line from nearest generation source (Irvington) to serve substation.
• Maintain reliable electric service.
• Meet future capacity requirements.
Additional Project Benefits

- Funding support for the Pima County Natural Open Space Park
- Ability to retire at least two lower-capacity substation in the future
• Approx. 4 mile long 138-kV transmission line between the new Irvington 138-kV Substation and the new Kino 138-kV Substation.

• New Kino Substation located at the southeast corner of Kino Boulevard and 36th Street.
• Review information provided.
• Provide data if requested.
• Attend stakeholder meetings.
• Consult and collaborate, as needed.
• Discuss Link preferences.
• Identify and explain preferred alternative.
GIS Spatial Analysis Overview

“The process of examining the locations, attributes, and relationships of features in spatial data through overlay and other analytical techniques in order to address a question or gain useful knowledge”

- Incorporates multiple weighted perspectives of influence.
- Least biased method.
- Inputs data based on the perspectives of society, the environment, and construction feasibility.
- Ultimately generates optimal route corridors graphically.
- Macro-level and micro-level analysis conducted.
GIS Spatial Analysis Overview

- Collected baseline data for macro analysis including zoning, sensitive receptors, building density, information from initial public/stakeholder outreach (such as exclusion areas).

- Conducted Preliminary engineering/constructability analysis of existing utility and transportation corridors in and near the preliminary study area and ranked the segments “1” to “4”, where “1” is worst and “4” is best. Based on:
  - Degree of difficulty
  - System constraints
  - Cost
  - Relocation/reconstruction of existing facilities
  - Construction timeframe

- Grouped sensitive receptors (schools, hospitals, churches, day care facilities, etc.) together and ranked as “2”.

- Grouped like zoning together and ranked:
  - Residential “1”
  - Multi Use & Planned Area Developments “2”
  - Commercial “3”
  - Industrial “4”
GIS Spatial Analysis Overview

- Macro-level data converted to GIS raster (surface) files to 10 x 10 meter squares (pixel size).
- Macro-level data processed to produce 3 models:
  - Utility-Road Scenario
  - Built Environment Scenario
  - Combined Scenario
Micro Spatial Analysis

- Scenarios presented at Stakeholder Meeting #1.
  - Input received
  - Data collected
- Micro-level data: cultural resources, drainage features, locations of other utilities, utility & road standards, stakeholder preferences.
- Micro analysis ranks segments in the utility-road scenario.
- Design engineer reviewed analysis and identified Links that are constructible and ranked from engineering perspective.
- Some segments are removed.
Discussion of Links

• Focus on opportunities.
• Review Links.
• Document stakeholder input & Link preferences.
Additional Discussion

- Unidentified opportunities or constraints?
- Likes/dislikes?
What’s Next?

• Incorporate stakeholder comments.
• Obtain additional data from stakeholders, if needed.
• Identify alternative routes.
• Public Meeting #2 – January 24, 2018.
• File ACC CEC Application Spring 2018.