

Northern Missouri Grid

 **TRANSFORMATION PROGRAM**

WELCOME!

**PHASE 2: DZTM
VIRTUAL OPEN HOUSE
August 2024**

MJMEUC



Goals of Phase 2 Open House



Learn more about the program



See what's happening in your community



Provide feedback and input to the program team

Thank you for your time and feedback as we work to improve energy reliability for your community.

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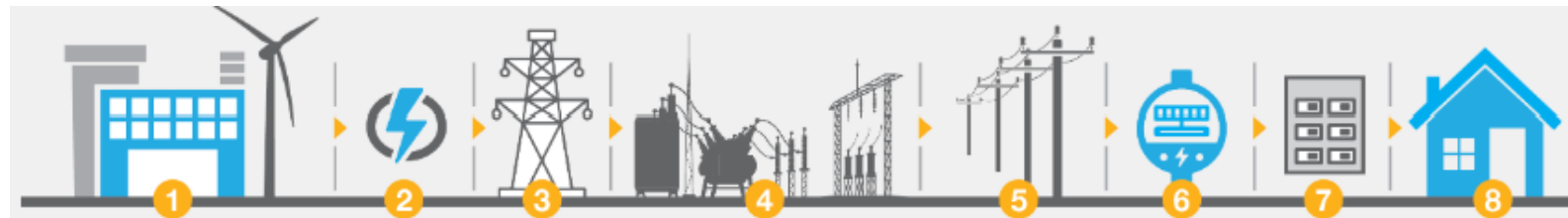
Program Overview

What is Energy Reliability?

Our energy grid is similar to our road system in the way they allow energy from various generation sources to travel short or long distances, as needed, at any given moment. On the road, when your main route is closed for construction, you review your options and find an alternative. In some cases, alternatives just don't exist, or they can't handle the increased traffic and users experience backups.

The energy grid is no different! If a large storm were to take out multiple transmission or distribution lines or "routes" in your area, local homes and businesses would be served by a lower capacity which could lead to reliability issues in the area.

With this program we can add more capacity or "alternate routes" to meet the changing needs in your community!



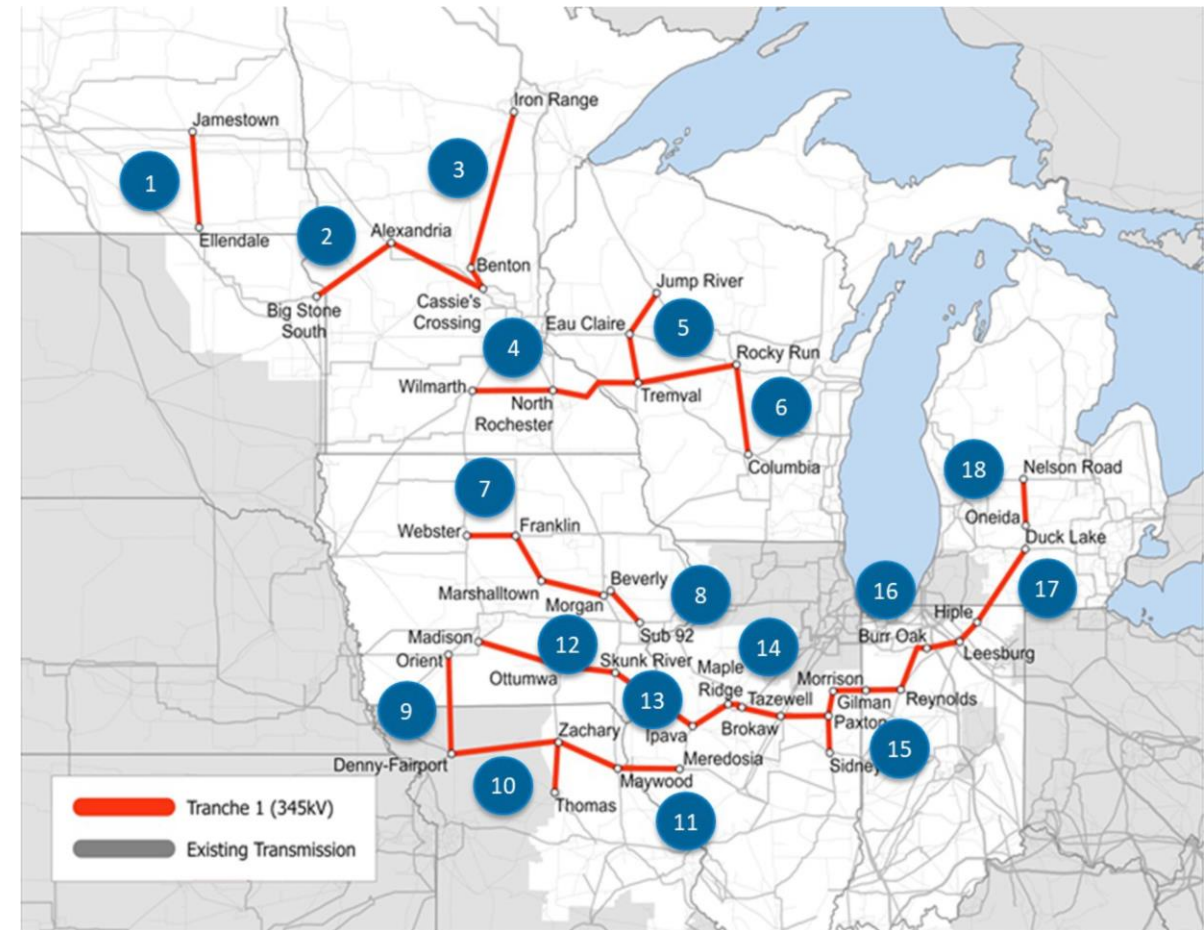
Part of a Regional Plan For Energy Reliability

The Northern Missouri Grid Transformation Program is part of a larger initiative from Midcontinent Independent System Operator (MISO), an independent member organization that works with midwestern states and Manitoba, Canada, to ensure reliable, resilient and affordable energy for the region.

MISO's larger energy initiative is known as Long Range Transmission Planning (L RTP) and is being developed to improve the ability to move energy across the Midwest—reliably and at the lowest possible cost.

L RTP has various stages called Tranches. The Northern Missouri Corridor is part of L RTP Tranche 1.

Visit misoenergy.org to learn more.



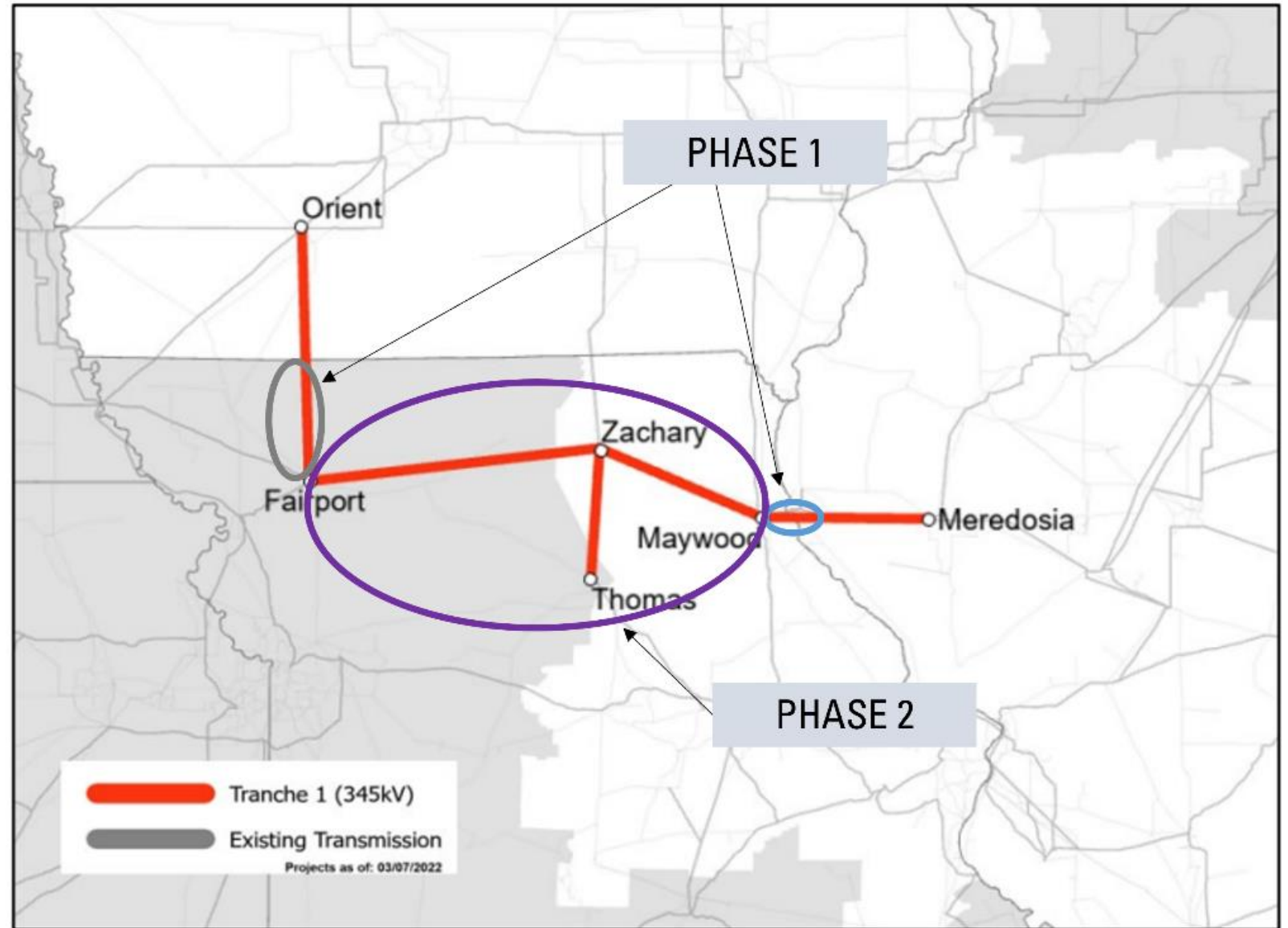
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Program Area

Ameren Transmission Company of Illinois (ATXI) has been selected by MISO to develop three Tranche 1 projects in Missouri. For this open house, we're focusing on Phase 2:

- Phase 1: Fairport-Denny-Iowa/Missouri border (FDIM)
- Phase 1: Maywood-Mississippi River Crossing (MMRX)
- **Phase 2: Denny-Zachary-Thomas Hill-Maywood (DZTM)**

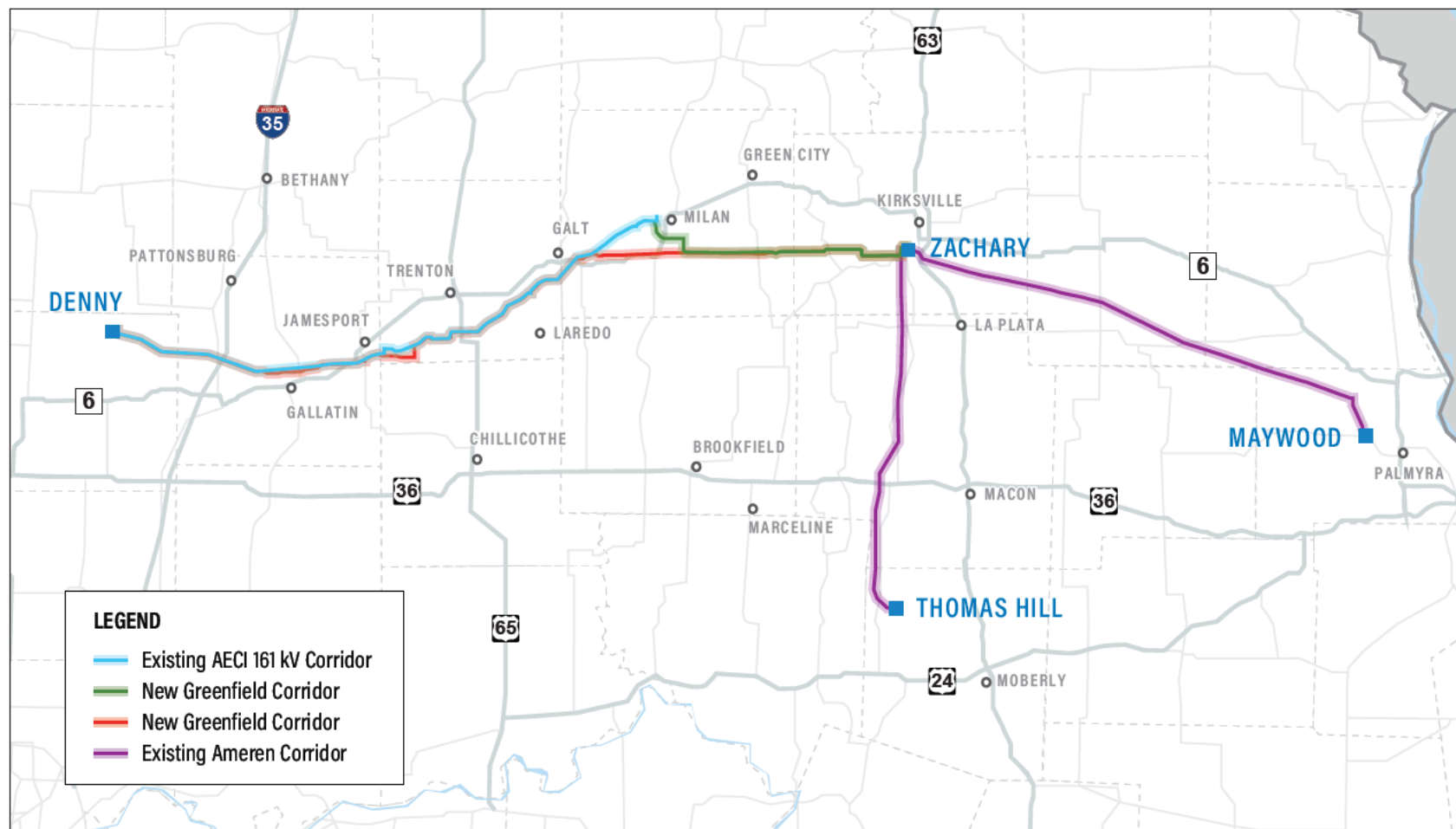


More information on Phase 1 can be found on our program website.

Denny-Zachary-Thomas Hill-Maywood Project






- Over 200 miles of new 345 kV transmission lines in three line segments
- Upgrades to three existing Ameren substations
- Located in ten counties:

DeKalb, Daviess, Grundy, Sullivan, Adair, Knox, Lewis, Marion, Macon & Randolph



Program Benefits

The program will prepare the grid for the future by replacing aging infrastructure, adding transmission capacity to ensure energy **reliability and resiliency**, and promoting more access to energy sources for communities.

-  Increasing transmission capacity to meet changing energy needs.
-  Supporting lower energy supply costs.
-  Improving energy reliability for the surrounding region and local communities.
-  Promoting access to diverse energy sources.
-  Growing economic development opportunities.

DZTM Schedule

File proposed route with Missouri Public Service (Mo PSC); Mo PSC review process

Construction

2024



Mid-2026



2029-2030



2024-2026



Mid-2027-2029



Project planning and routing, stakeholder and public engagement, finalize route(s)

Receive CCN decision from Mo PSC; real estate, agency coordination, permitting and surveys, pre-construction

Program in-service, restoration

Agency Coordination

Our team coordinates with federal, state and local agencies regarding protected or sensitive resources within the program area. Sometimes additional permits or approvals from these agencies are necessary for construction:



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Real Estate & Easements

Ameren's real estate team will have several land agents assisting landowners during the entire real estate process for existing and new corridors. Discussions with landowners will include topics such as:

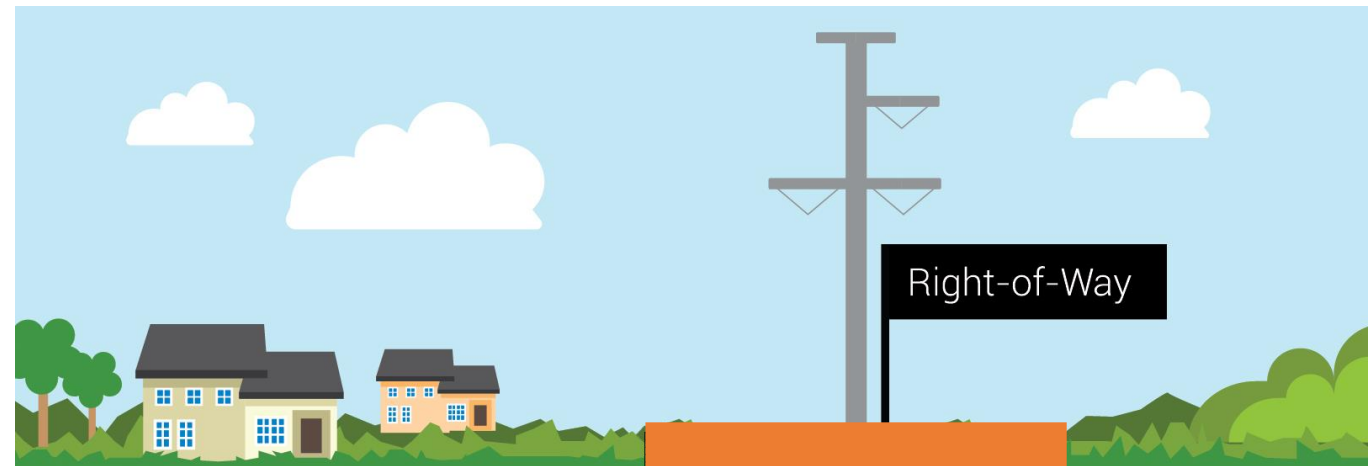
Easement Needs

Easements allow our team access for construction, operation and maintenance of the transmission line. In general, the land can continue to be used as before, provided that the use does not interfere with the transmission line.

- Right-of-way and easements will vary depending upon line segment and location
- Typical right-of-way is **75 ft. from the centerline on both sides**

- ✓ Land surveys & studies
- ✓ Access roads
- ✓ Structure/line design

- ✓ Right-of-way clearing
- ✓ Compensation
- ✓ Property restoration



Vegetation Management

Safety and reliability are the driving factors behind managing trees, and other forms of vegetation, around our transmission lines. Trees and other vegetation can damage the line and hinder our ability to deliver electric services safely and reliably. They can make the job of storm restoration more difficult, extend restoration times and pose additional hazards to line crews.

To protect the public and reduce the risk of extended power outages, Ameren has a vegetation management program designed to ensure proper clearances around the lines as required by federal and state agencies. The program reduces the potential for damage and allows access for crews to maintain and repair transmission equipment.

This vegetation management work may include:

- ✓ **Inspections**
- ✓ **Mowing**
- ✓ **Manual and aerial trimming**



Construction

Construction will begin in 2027.

Transmission line construction is completed in intermittent phases and will not be constant on landowner property. We will provide more information before construction begins on any landowner property.

On most structures, there will be six major stages of construction.



1 Surveys, soil borings, vegetation management and access roads



2 Assemble structure on the ground



3 Dig structure holes



4 Lift structure into hole and backfill with concrete



5 String wires



6 Energize line and restore easement

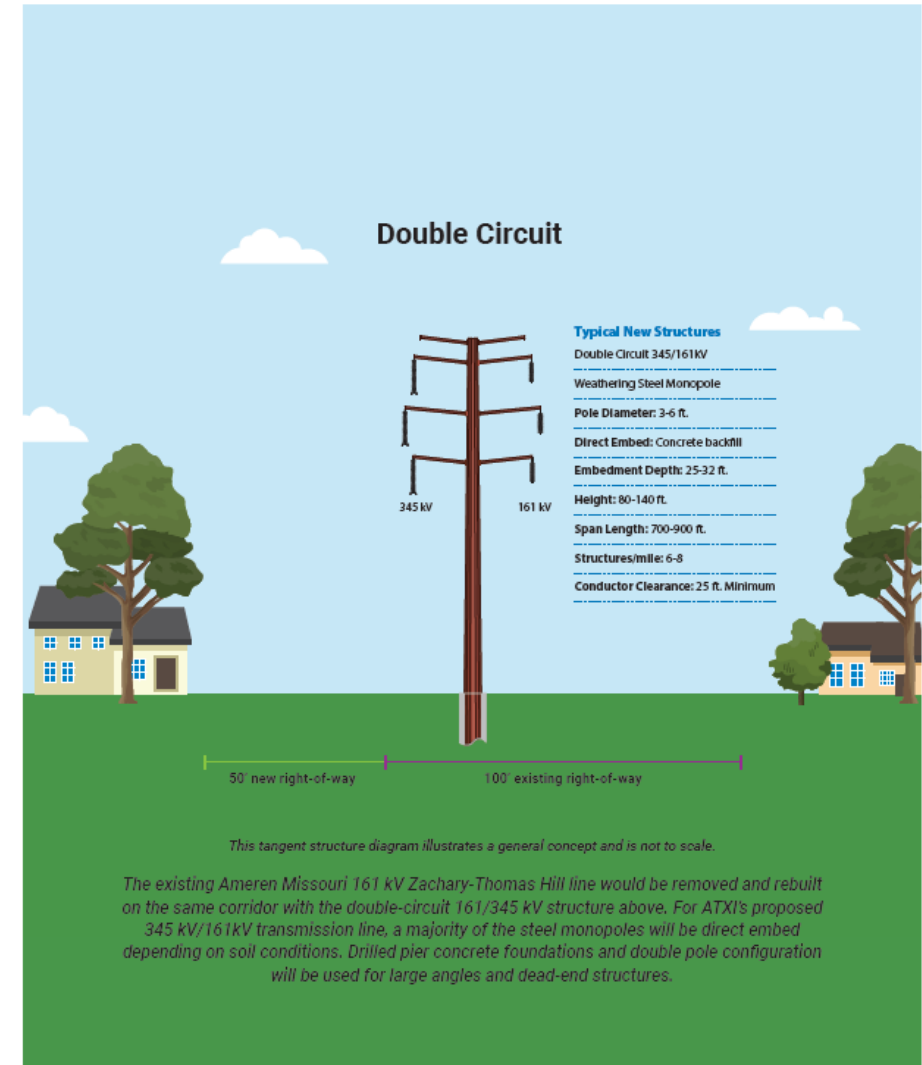
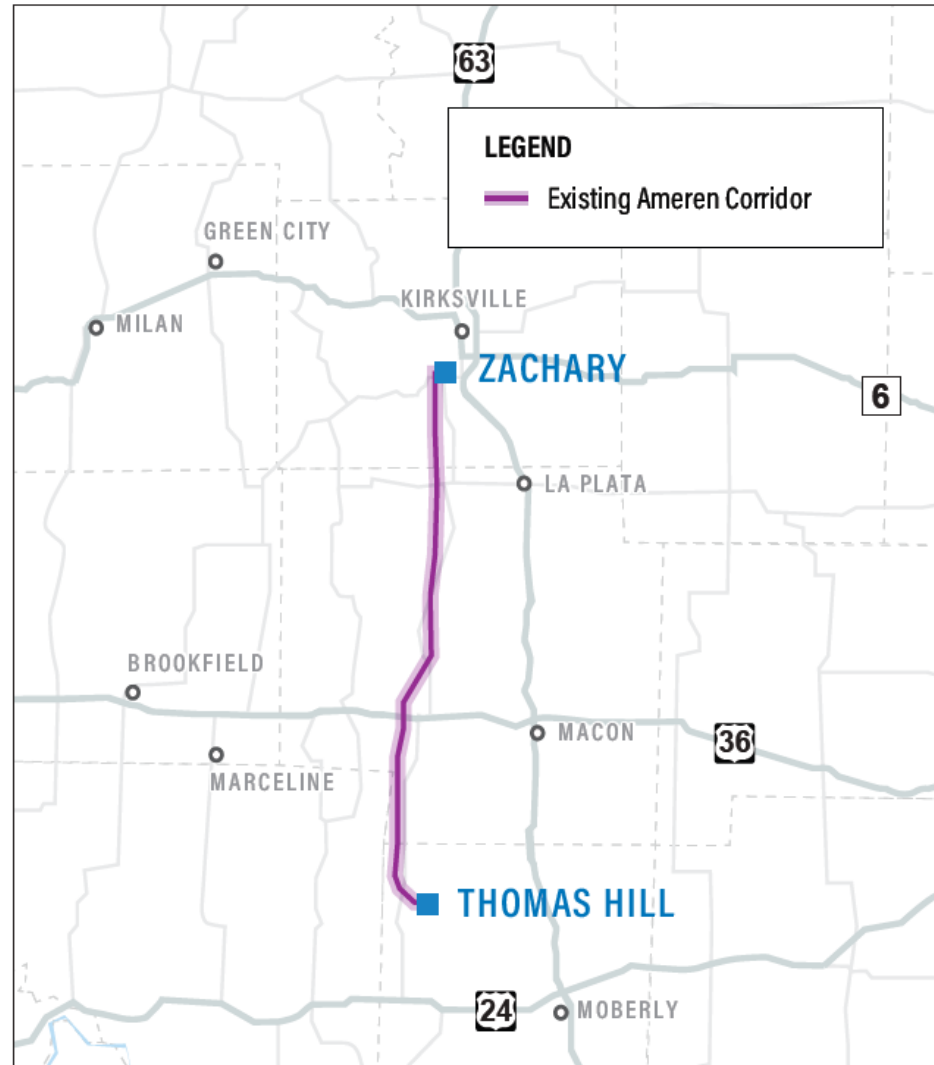
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What's Happening in Your Community

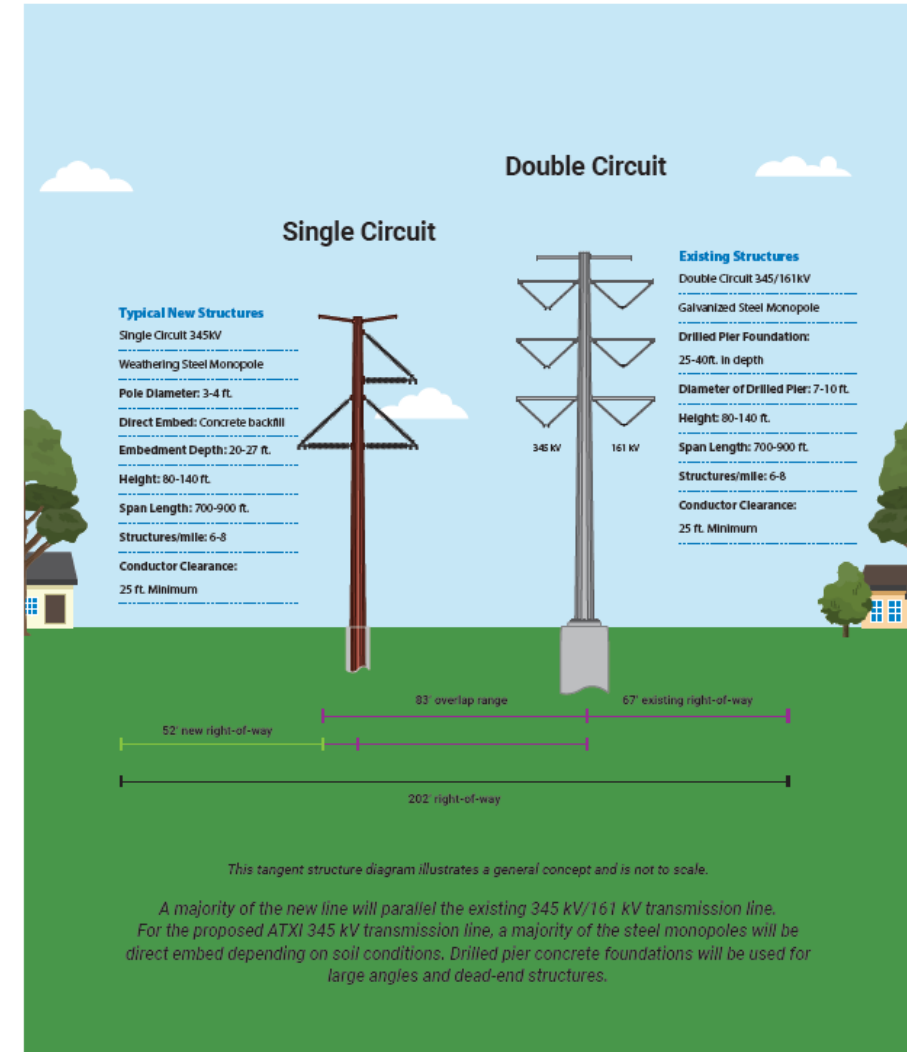
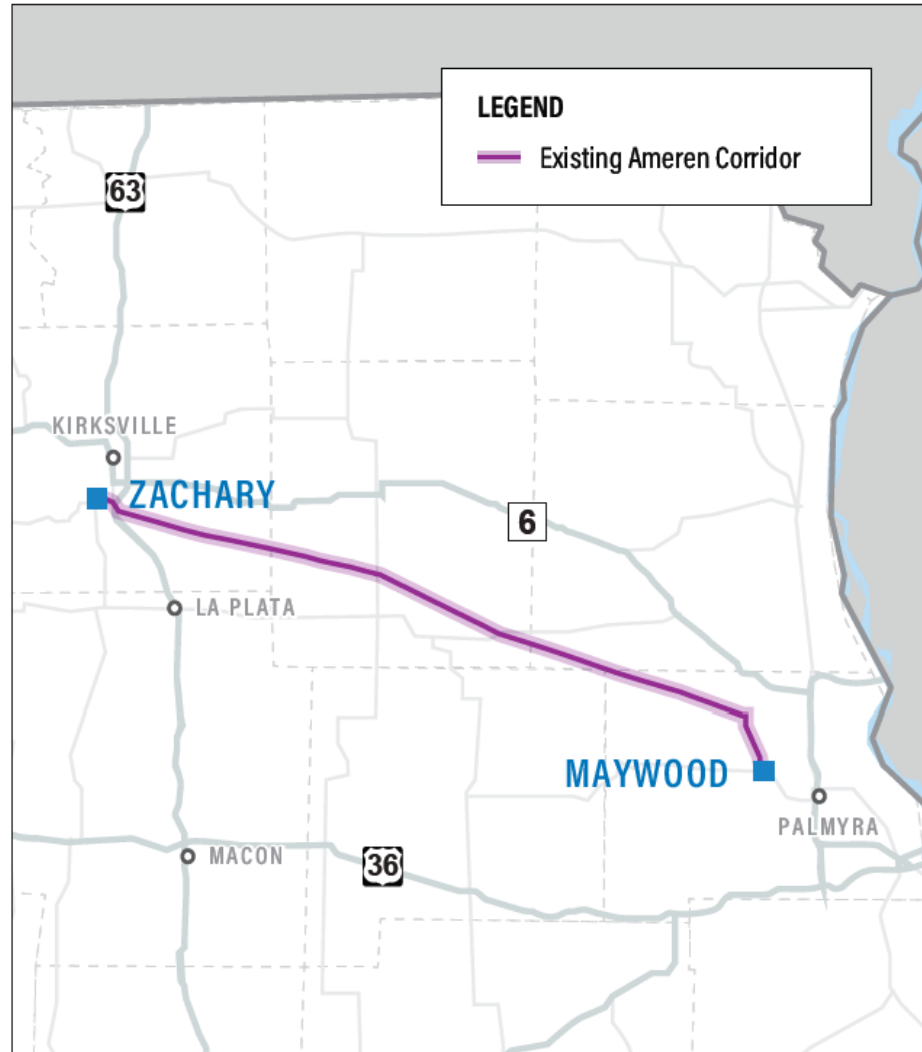
Zachary-Thomas Hill Line Segment

- Approx. 44 miles
- Located in Adair, Macon & Randolph counties
- **Removal of existing H frames**
- **Rebuilt double circuit steel monopole 345/161 kV**



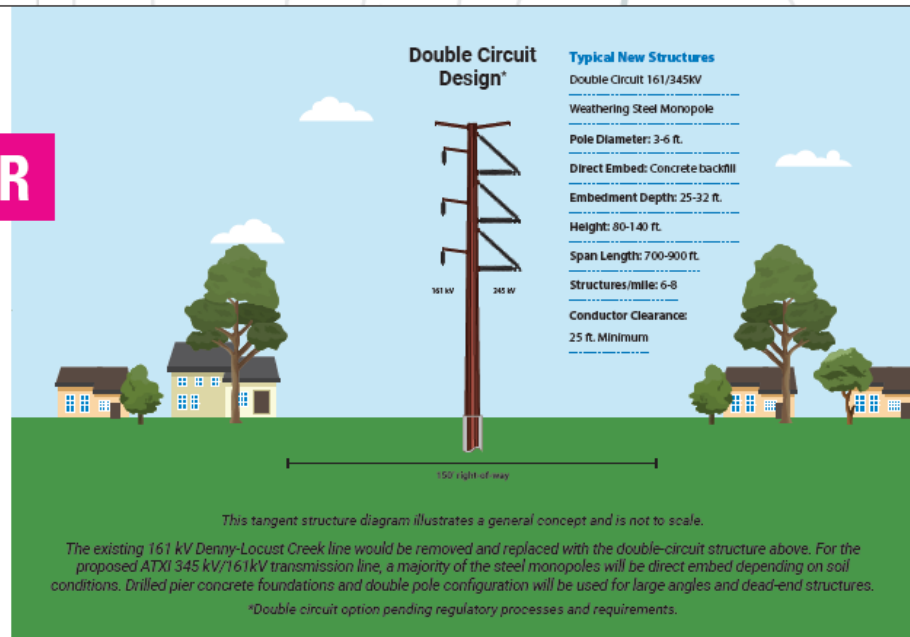
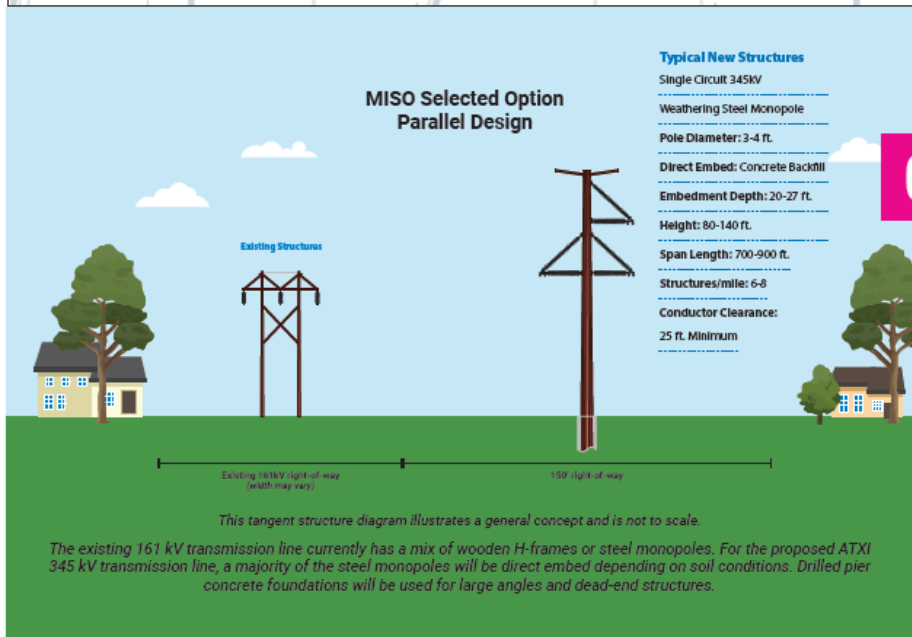
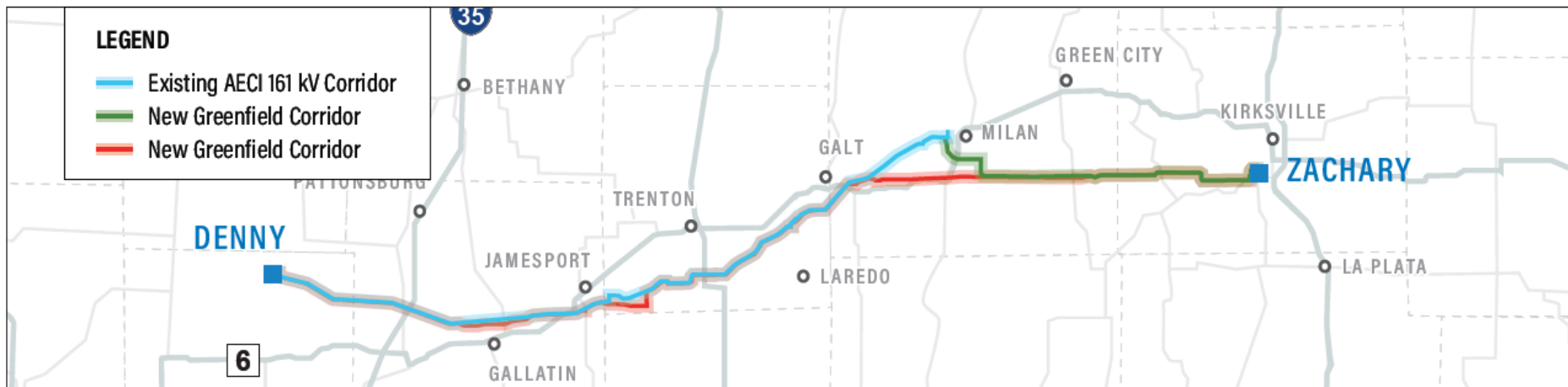
Zachary-Maywood Line Segment

- Approx. 60 miles
- Single 345 kV
- Located in Adair, Knox, Lewis & Marion counties
- **Majority of line segment parallels existing corridor with overlapping easements**



Denny-Zachary Line Segment

- Approx. 102-105 miles
- Located in DeKalb, Daviess, Grundy, Sullivan & Adair counties
- **Single 345 kV paralleling existing/new line (MISO selected)**
- OR
- **Double circuit 345kV/161kV (regulatory req.*)**

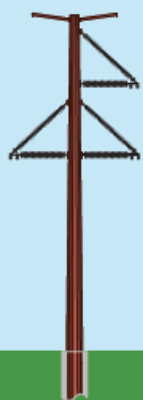
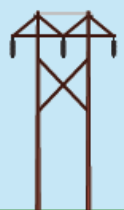


Give us your feedback!- [CLICK HERE](#)

A

MISO Selected Option Parallel Design

Existing Structures



Typical New Structures

Single Circuit 345kV

Weathering Steel Monopole

Pole Diameter: 3-4 ft.

Direct Embed: Concrete Backfill

Embedment Depth: 20-27 ft.

Height: 80-140 ft.

Span Length: 700-900 ft.

Structures/mile: 6-8

Conductor Clearance:

25 ft. Minimum

Existing 161kV right-of-way
(width may vary)

150' right-of-way

This tangent structure diagram illustrates a general concept and is not to scale.

The existing 161 kV transmission line currently has a mix of wooden H-frames or steel monopoles. For the proposed ATXI 345 kV transmission line, a majority of the steel monopoles will be direct embed depending on soil conditions. Drilled pier concrete foundations will be used for large angles and dead-end structures.

OR

B

Double Circuit Design*

Typical New Structures

Double Circuit 161/345kV

Weathering Steel Monopole

Pole Diameter: 3-6 ft.

Direct Embed: Concrete backfill

Embedment Depth: 25-32 ft.

Height: 80-140 ft.

Span Length: 700-900 ft.

Structures/mile: 6-8

Conductor Clearance:

25 ft. Minimum

161 kV 345 kV

150' right-of-way

This tangent structure diagram illustrates a general concept and is not to scale.

The existing 161 kV Denny-Locust Creek line would be removed and replaced with the double-circuit structure above. For the proposed ATXI 345 kV/161kV transmission line, a majority of the steel monopoles will be direct embed depending on soil conditions. Drilled pier concrete foundations and double pole configuration will be used for large angles and dead-end structures.

**Double circuit option pending regulatory processes and requirements.*

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Thank You!

We appreciate your time and feedback provided today!

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