DOCKETED

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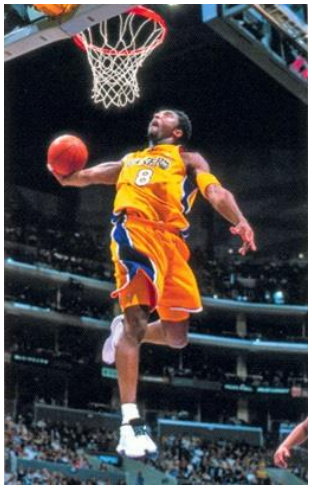
TRANSWEST EXPRESS LLC

TransWest Express Transmission Project:
Status Update and Technical Capabilities

ANSCHUTZ

RETI 2.0-
Transmission Technical
Input Group Workshop
Sacramento, CA
January 22, 2016

The Anschutz Corporation



TWE Project: An Inter-Regional Transmission Solution

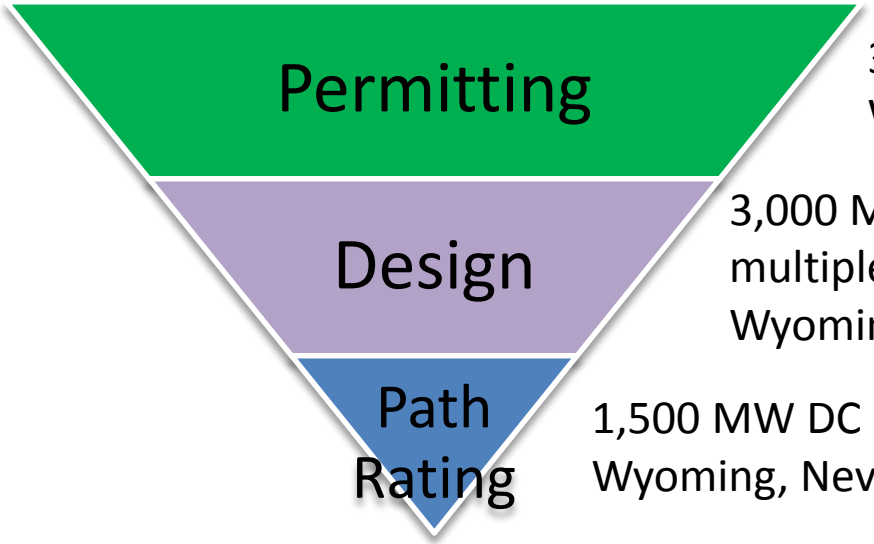
- 1,500 MW initial/3,000 MW final, 600 kV HVDC
  - Wyoming planning areas: NTTG, WestConnect
  - Nevada planning areas: CAISO, WestConnect
  - Potential Utah planning areas: NTTG, WestConnect
- Bi-directional operation
- 730-mile route, 66% on federal land
- Potential use of 500 kV AC included in permitting

Inverted Development Approach Maximizes Design Flexibility

Development Timeframe

Project Scope Narrows Based on Process

Commercial Model Remains Flexible



3,000 MW or 1,500 MW AC
Wyoming, Utah, Nevada terminals

3,000 MW DC, bi-directional
multiple phasing/sizing options
Wyoming, Nevada terminals

1,500 MW DC (north to south)
Wyoming, Nevada terminals

Commercial

100% unallocated capacity offers multiple options:

- Network expansion
- Inter-regional cost allocation
- Shipper model

Western Area Power Administration

Joint development partner since 2011

Proposing to participate as a joint project owner

Rapid Response Team for Transmission

TWE Project selected for special focus under new federal interagency program in 2011

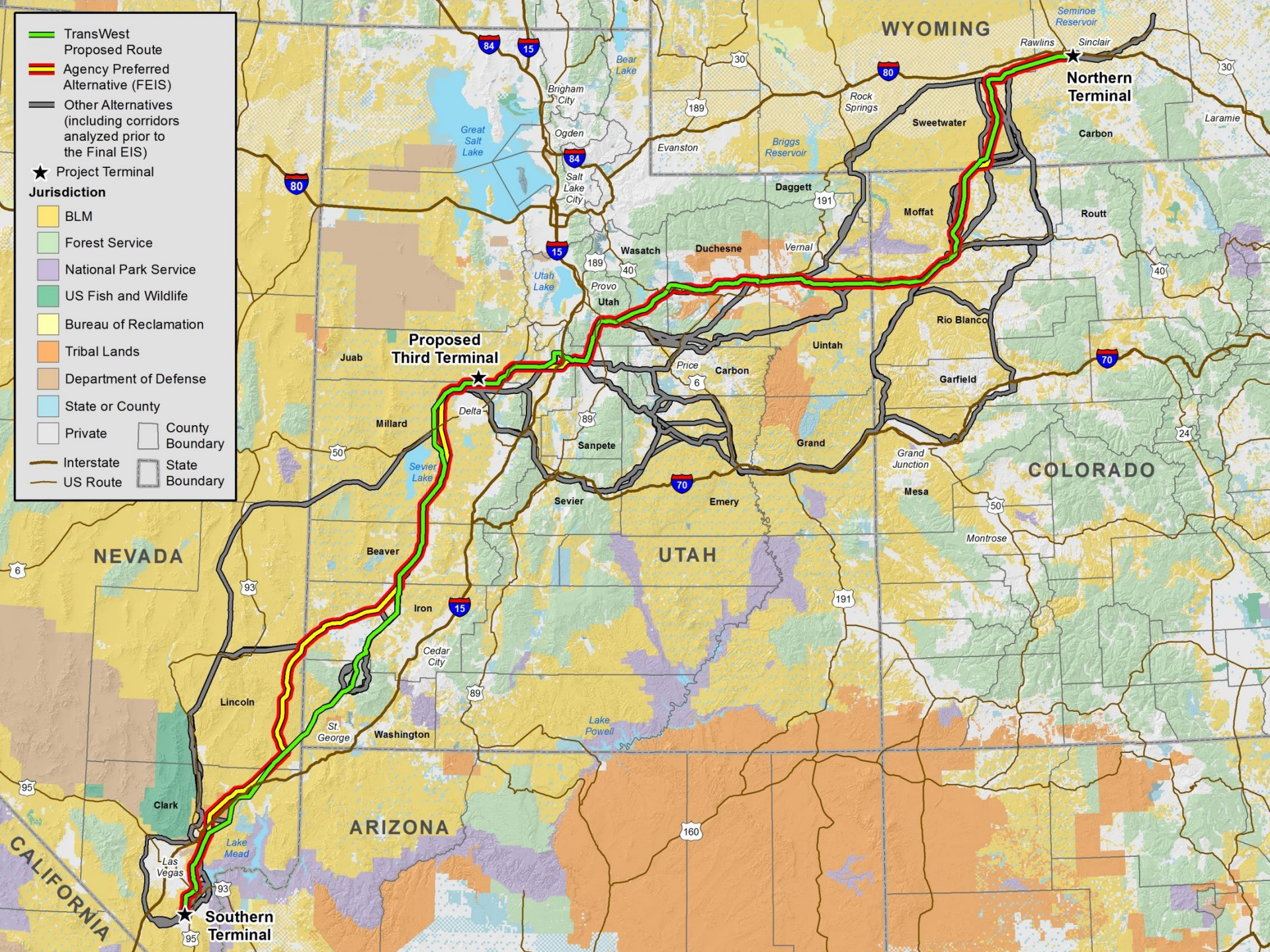
Advanced Permitting Highlights Project Viability

Environmental Impact Statement prepared by BLM and Western as joint lead agencies

- **Nov. 30, 2007:** Original ROW application filed
- **Jan. 4, 2011:** Notice of Intent published
- **July 3, 2013:** Draft EIS published
- **May 1, 2015:** Final EIS published
- **2016:** Records of Decision anticipated

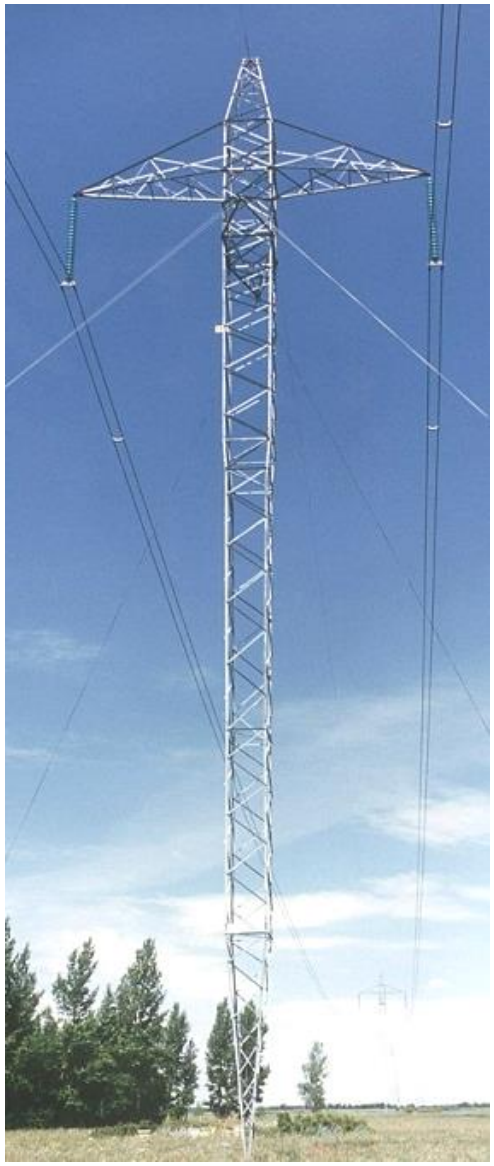
Comprehensive **Plan of Development** includes flexible Design Options

- Build 600 kV DC or 500 kV AC
- Build mid-terminal in Utah


TransWest Proposed Route
Agency Preferred Alternative (FEIS)
Other Alternatives (including corridors analyzed prior to the Final EIS)
Project Terminal
Jurisdiction
BLM
Forest Service
National Park Service
US Fish and Wildlife
Bureau of Reclamation
Tribal Lands
Department of Defense
State or County
Private
County Boundary
Interstate
US Route
State Boundary
WYOMING
Seminoe Reservoir
Rawlins
Sinclair
Northern Terminal
Bear Lake
Brigham City
Ogden
Great Salt Lake
Salt Lake City
Rock Springs
Sweetwater
Carbon
Laramie
Evanston
Briggs Reservoir
Daggett
Moffat
Routt
Wasatch
Duchesne
Vernal
Utah Lake
Provo
Utah
Rio Blanco
Uintah
Proposed Third Terminal
Juab
Price
Carbon
Garfield
Delta
Millard
Sanpete
Grand
Grand Junction
COLORADO
Sevier Lake
Sevier
Emery
Mesa
Montrose
NEVADA
Beaver
UTAH
Iron
Cedar City
Lincoln
St. George
Washington
Lake Powell
Clark
ARIZONA
Lake Mead
Las Vegas
CALIFORNIA
Southern Terminal

TWE Project
Design Development Progress

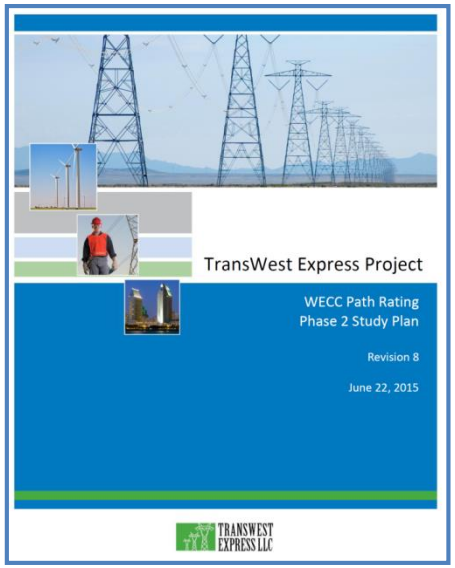
- Design criteria, 3,000 MW bi-directional DC
  - Conductor sizing
  - Structure types
  - Ground electrode
  - Northern terminal system strength
  - Terminal and line siting
  - Interconnections
- Multiple phasing approaches
  - Monopole – Bi-pole phasing (1,500/3,000 MW)
  - Bi-pole – Bi-pole phasing (1,500-2,500/3,000 MW)
- Technical specifications
- Operations and maintenance plans



WECC Path Rating and Transmission Interconnection Studies

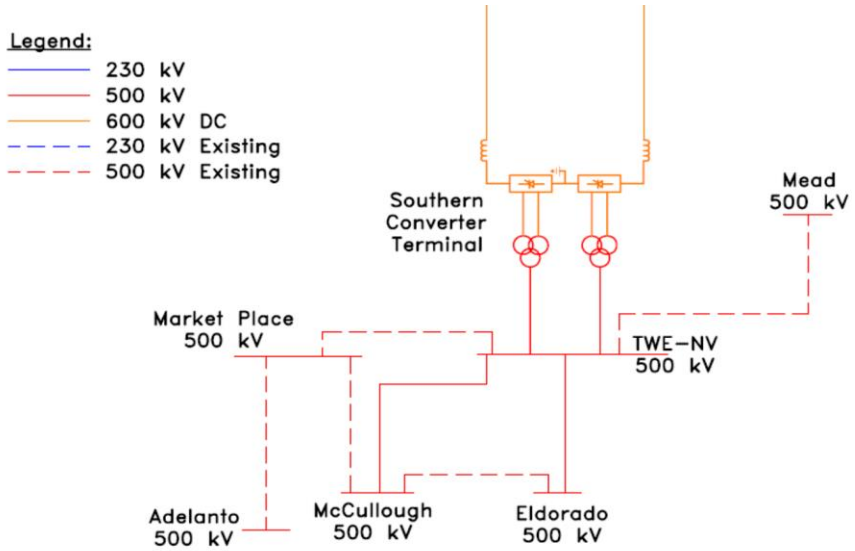
Phase 2 Path Rating Process

- Kick-off in 2010, revised Study Plan in 2015
- Seeking initial 1,500 MW north to south Path Rating



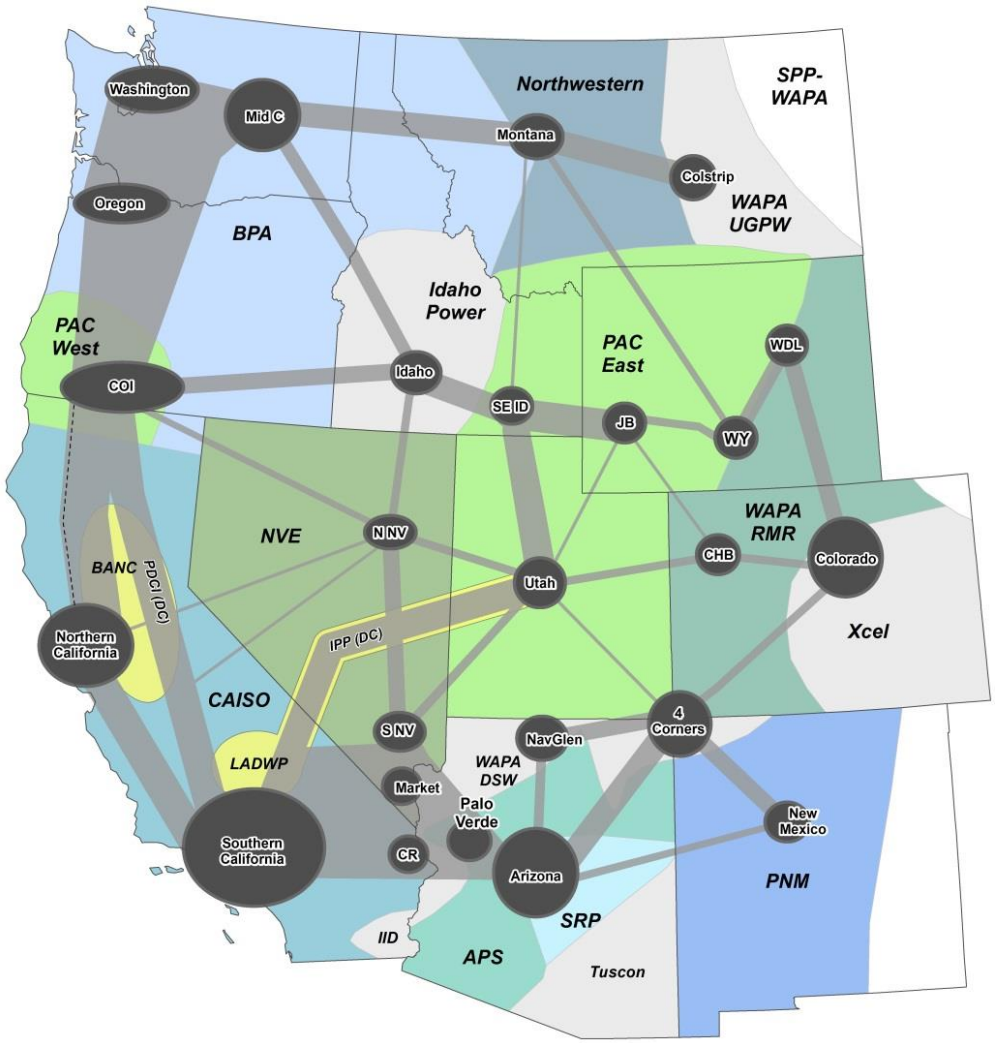
System Impact Studies

- PacifiCorp = for northern interconnection
- TransWest = for southern interconnections



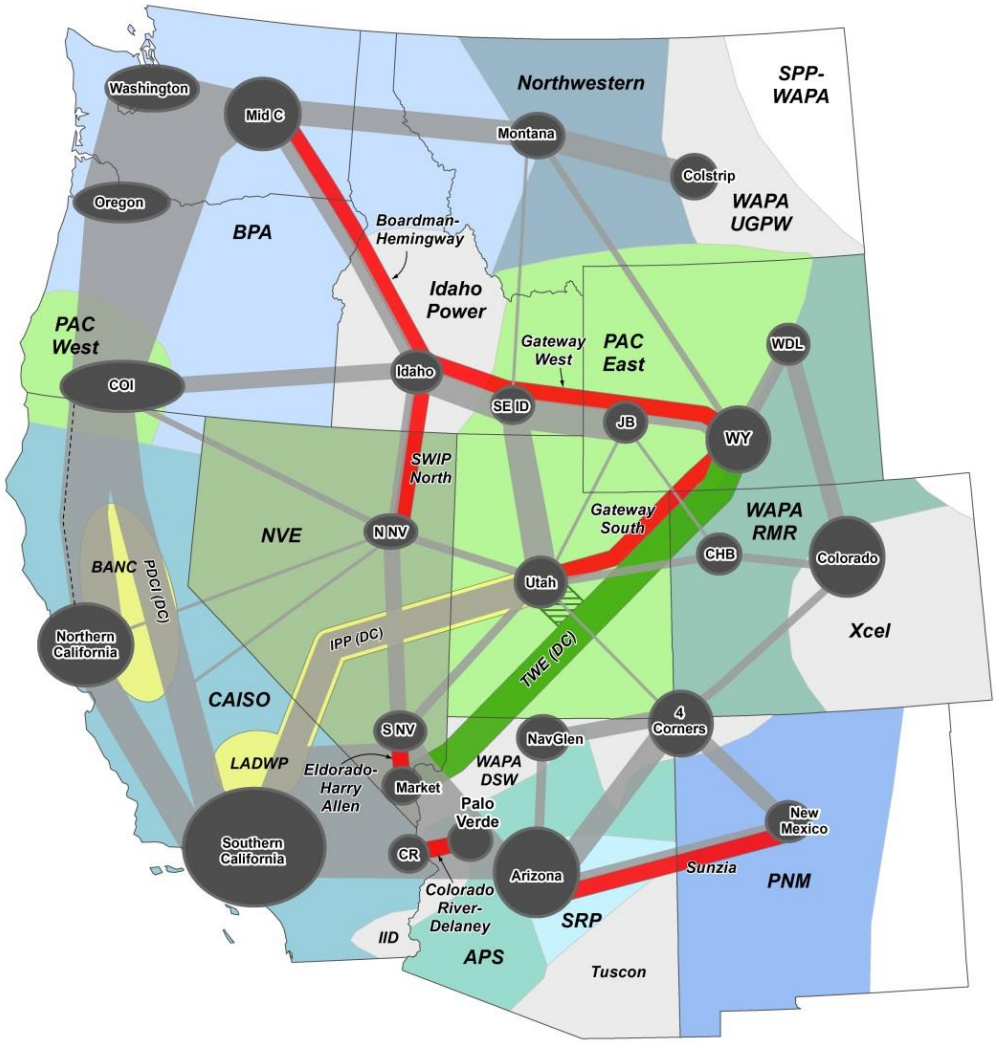
RETI Benefits From Simplified Regional Transmission Capacity Information

- "Pipe diagram" shows bulk of existing transmission capacity built along coast in a "C"
- Limited capacity (<1,000 MW) exists between the California/Desert Southwest and Inter-Mountain regions
- Limited capacity limits regional access to diverse renewable resources and to diverse load areas



TWE Project Provides A Critical Regional Link

- **3,000 MW TWE Project quadruples transmission capacity between California-Rocky Mountains**
- Other 500 kV AC projects complement TWE Project
- Multiple regional expansion alternatives with advanced permitting
- RETI 2.0 may wish to focus on:
  - Maximizing existing regional capacity
  - Maximizing new capacity on permitted ROWs
  - Sequencing expansion between remote resource/load areas and California



TWE Project Offers a Flexible, Viable, Regional Solution

- TWE Project developed as a Inter-Regional Transmission Project to provide critical capacity between California and Rocky Mountain regions
- Anschutz (dba TransWest) and development partner Western Area Power Administration have made significant progress in TWE Project permitting, design and power system analysis
- Inverted Development approach has maximized the design flexibility:
  a 3,000 MW bi-directional DC link between regions, and/or
  a 1,500 MW AC network addition
- RETI 2.0 benefits from simplified transmission capacity information to consider potential regional transmission/resource combinations