



Routing/Permitting Study Committee Update April 2011

Doug Campbell - PNM

Routing/Permitting Study Committee Results

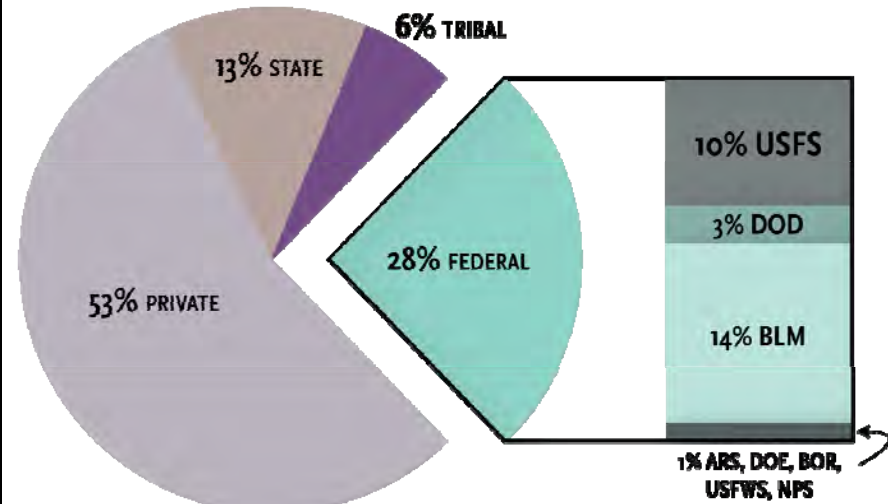


- **Opportunities and Constraints Report**, detailing routing opportunities and sensitive resources within the study area
- **Permitting Plan**, detailing likely permitting requirements for the Initiative

HPX Initiative Study Area



State	Counties in the HPX Study Area
Wyoming	Natrona, Converse, Carbon, Albany, Platte, Goshen, Laramie
Colorado	Larimer, Weld, Logan, Phillips, Morgan, Adams, Arapahoe, Washington, Yuma, Elbert, El Paso, Lincoln, Kit Carson, Cheyenne, Pueblo, Crowley, Kiowa, Huerfano, Otero, Bent, Prowers, Las Animas, Baca
New Mexico	Colfax, Union, Mora, Harding, San Miguel, Torrance, Guadalupe, Quay, Catron, Socorro, Lincoln, DeBaca, Curry, Roosevelt, Chaves, Grant, Sierra, Otero, Eddy, Lea, Hidalgo, Luna, Dona Ana
Arizona	Navajo and Apache counties south of Interstate 40, Maricopa, Gila, Pinal, Graham, Greenlee, Pima, Cochise
Summary	62 Counties in 4 States 123 Million Acres

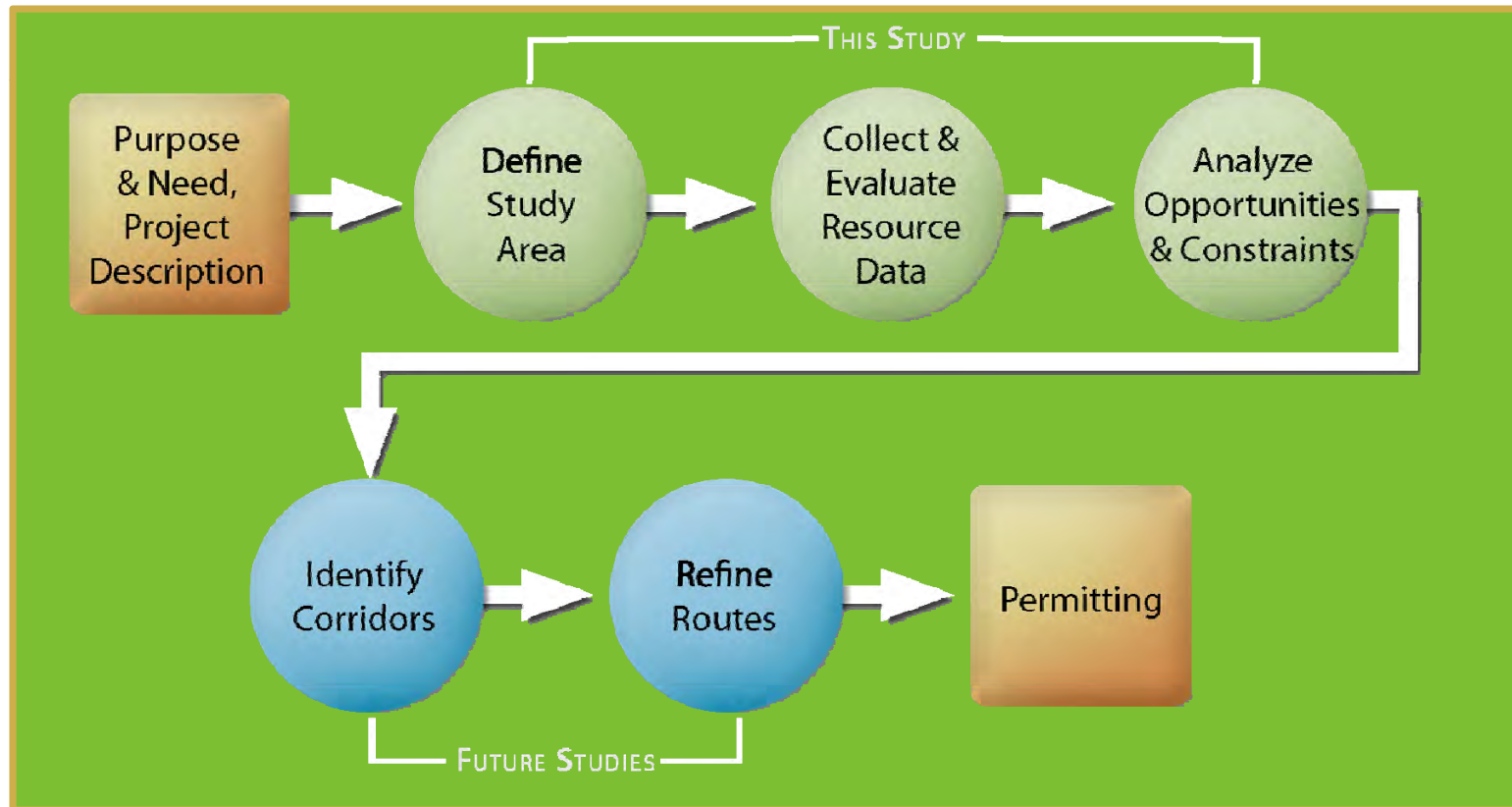


Largest Federal Landowners

- BLM (18.7 million acres)
- USFS (14.1 million acres)
- DOD (3.9 million acres)
- USFWS (0.9 million acres)
- NPS (0.8 million acres)

Opportunities and Constraints Report

Purpose: To identify areas of opportunity and constraint for extra-high voltage transmission line facilities within the study area



Opportunities and Constraints



Methodology

1. Data Collection and Mapping
2. Identify Opportunities and Constraints
3. Review Stakeholder Issues
4. Future Conditions



1. *Data Collection & Mapping*

- Land Use
- Transportation
- Land cover
- Utilities
- Water Resources
- Cultural and Historic Resources
- Biological Resources
- Geology and Soils



2. Identify Opportunities and Constraints

Opportunity Areas:

Areas considered favorable for transmission line routing, which tend to contain existing development or linear features.

Sensitivity Areas:

Areas where environmental effects are likely to occur or be negatively perceived. Mitigation of effects is possible using routing adjustments, careful placement of structures and access roads, and similar measures.

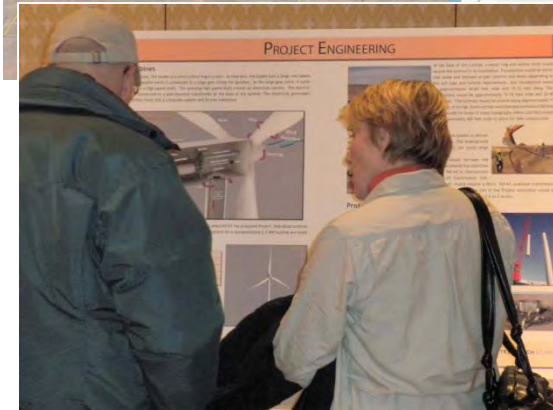
Exclusion Areas:

Areas of greatest potential environmental, social, or economic effects. These areas are excluded from routing, often as a matter of law or regulation.



3. Review Stakeholder Issues

- Reviewed documentation from other regional projects to validate and identify important stakeholder issues
 - San Luis Valley-Calumet-Comanche Transmission Project
 - Eastern Plains Transmission Project
 - Hughes Transmission Project
 - Gateway West Transmission Line Project
 - Comanche-Daniels Park 345-kV Transmission Project
 - Western Renewable Energy Zones Documentation
 - SunZia Southwest Transmission Project
 - Colorado-New Mexico 230-kV Interconnection Project
 - Abel-Moody 230-kV Transmission Project
 - Arizona Interconnection Project
 - El Paso Electric 345-kV Springerville to Deming Transmission Line Project
 - Other wind, solar, transmission, and policy reports



Opportunity Areas *(in green on map)*



- High-voltage transmission corridors
- Pipeline corridors
- Railroad corridors
- Major roadways such as Interstates, U.S. highways, and state highways
- Land uses that are typically compatible with transmission line construction/operation, such as grasslands, cultivated areas, and rangeland
- WREZ Wind Energy Zones rated 5 and above in WY, and 4 and above in CO, NM, AZ
- WREZ Solar Energy Zones rated 7 and above in all states
- Section 368 West-Wide Energy Corridors



Sensitivity Areas

(in orange & yellow on map)

- May be appropriate for transmission construction/operation under certain circumstances
- Mitigation measures may be applied to reduce or avoid potential impacts
- Opportunities may cross sensitivity areas, such as where major roadways or transmission lines cross sensitive wildlife habitats
- Overlapping sensitivities shown in orange



Major Sensitivity Areas	Acreage
BLM Areas of Critical Environmental Concern	0.4 million
National Wildlife Refuges	0.5 million
Native American Reservation Land	7.4 million
The Nature Conservancy, owned land and conservation easements	1.4 million
Critical Habitat for Threatened/Endangered Species	3.9 million
Department of Defense	3.9 million

Documented Sensitivities

Land Use

- Jornada Experimental Range (US Department of Agriculture)
- BLM Areas of Critical Environmental Concern (ACECs)
- National Wildlife Refuges
- Certain DOD Special Use Airspace, Slow Speed Low Altitude Military Training Routes
- Military Bases
- Native American Reservation Lands
- State and Federal recreation areas
- State Wildlife Areas
- State Trust Lands
- Active Surface Mines
- The Nature Conservancy – easements and owned lands
- Within 10-17 miles of Expanded Very Large Array (EVLA) facility



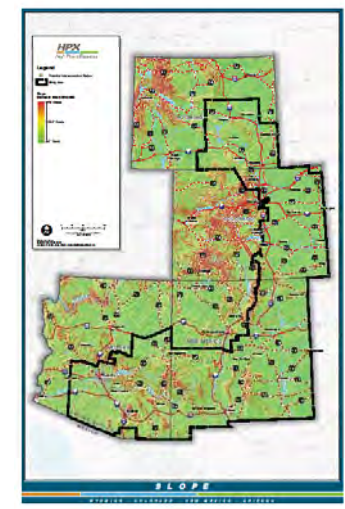
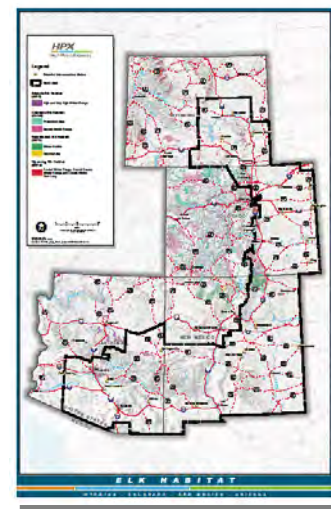
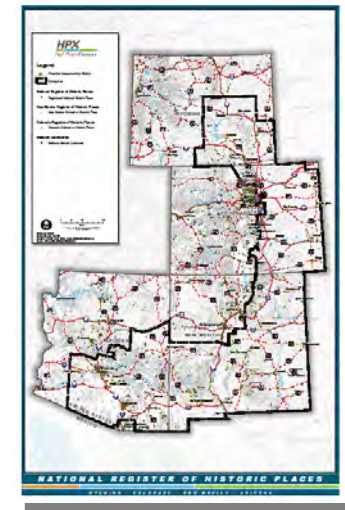
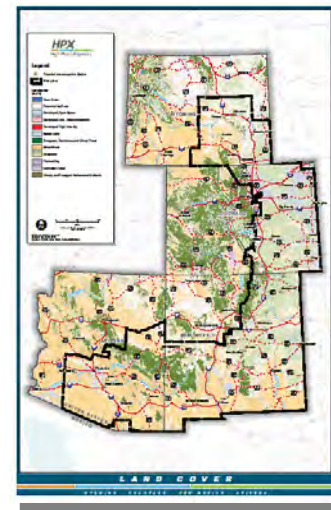
Transportation

- Buffers around airports
- Scenic Byways

Documented Sensitivities

(continued)

- Land Cover
 - Types appropriate for high-voltage transmission lines with mitigation measures (such as forests and wetlands)
- Water Resources
 - Buffer around Wild and Scenic Rivers
- Cultural and Historic Resources
 - NRHP and National Historic or Natural Landmarks
 - National Historic Trails, National Scenic Trails, State Historic Trails
- Biological Resources
 - Big game habitat for elk, big horn sheep, mule deer, pronghorn, and moose
 - Critical Habitat for Threatened or Endangered species
- Geology and Soils
 - Steep slopes
 - Highly erodible soils
 - Areas at high risk for landslides



Exclusion Areas (in red on map)

- Large tracts of land shown as exclusion areas are unavailable for transmission line routing.
 - Federal Wilderness Areas
 - BLM Wilderness Study Areas, U.S. Forest Service Roadless Areas, National Parks National Monuments, National Conservation Areas, and other similarly protected lands
 - Within 200 Feet of Wild and Scenic Rivers
 - New Mexico and Colorado State Register of Cultural Properties
 - 10 mile buffer around the EVLA research facility



PHOTO: NPS, WHITE SANDS NATIONAL MONUMENT

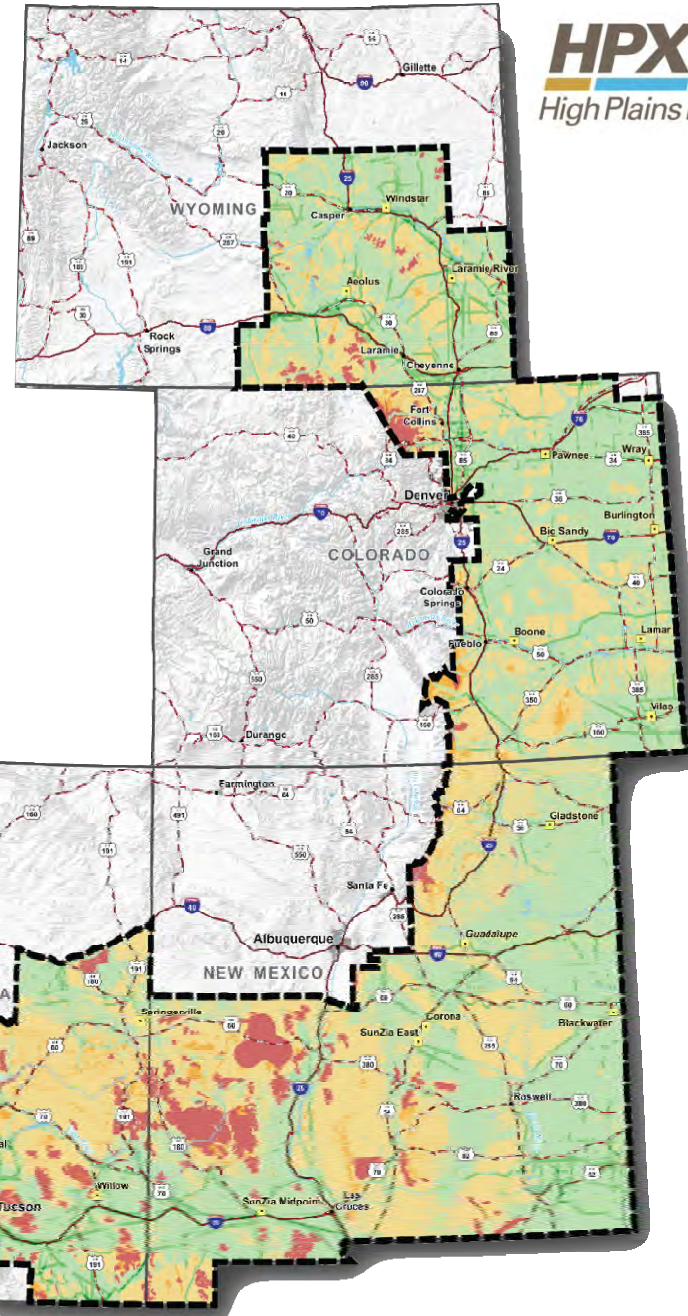


PHOTO: WIKIPEDIA.COM

Composite Map



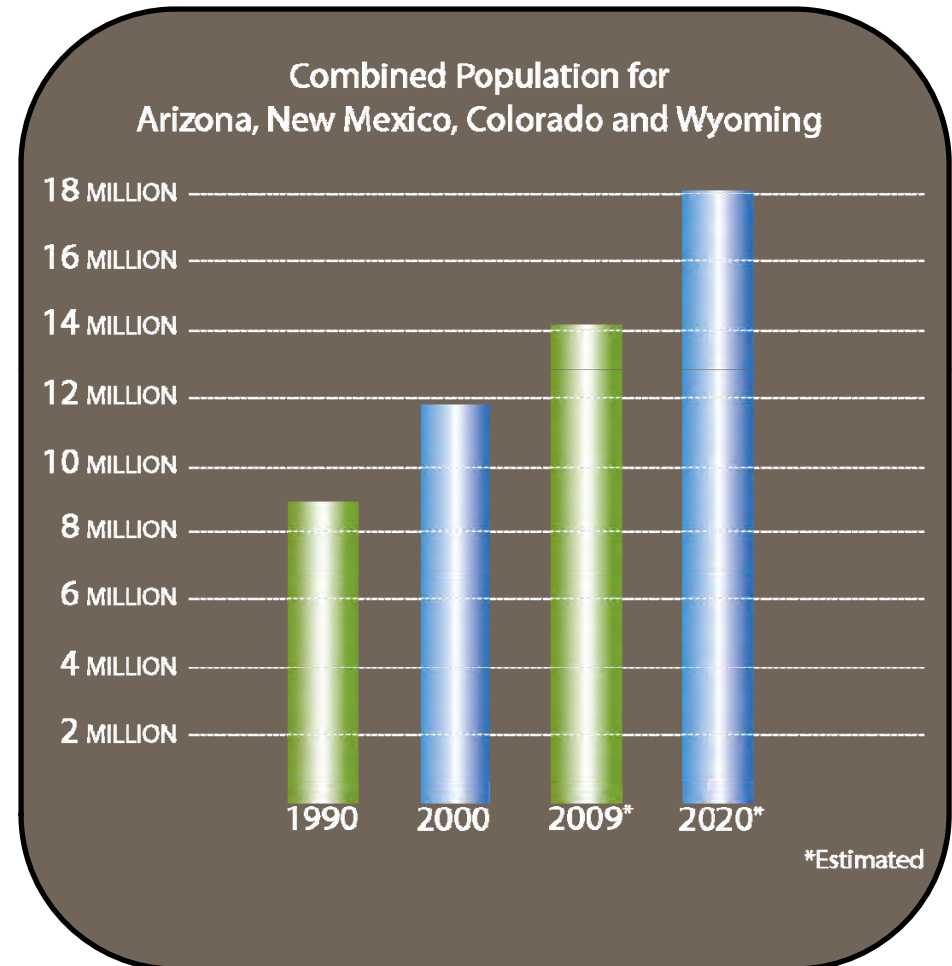
Category	WY (acres)	CO (acres)	NM (acres)	AZ (acres)
Opportunity Areas	11.7 million	17.9 million	24.5 million	13.3 million
Sensitivity Areas	4.3 million	8.0 million	23.5 million	12.6 million
Exclusion Areas	0.4 million	0.4 million	3.5 million	3.0 million



4. Future Conditions

■ Factors influencing opportunities/constraints

- Population growth and urbanization
- Designation of new national monuments, wilderness areas, or other conservation areas
- Western Governors' Wildlife Council key wildlife corridor and crucial habitat research
- Threatened & Endangered Species – new listings or new critical habitat
- Designation of new Cultural/Historic Resources and cultural landscapes



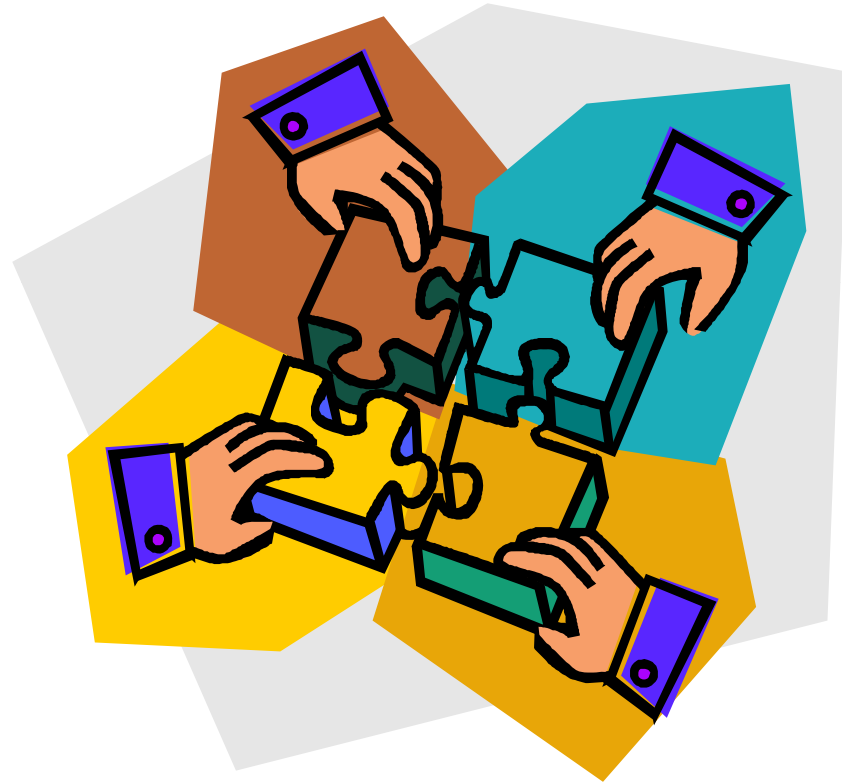
Future Outlook – Energy Factors

- Renewable generation facilities require large tracts of land, adding new constraints
- New lower voltage transmission line construction may preclude HPX in corridors attractive to the Initiative
- State-level energy corridor identification
 - CO Senate Bill 100
 - NM RETA resource studies
 - WY initiating studies



Permitting Plan

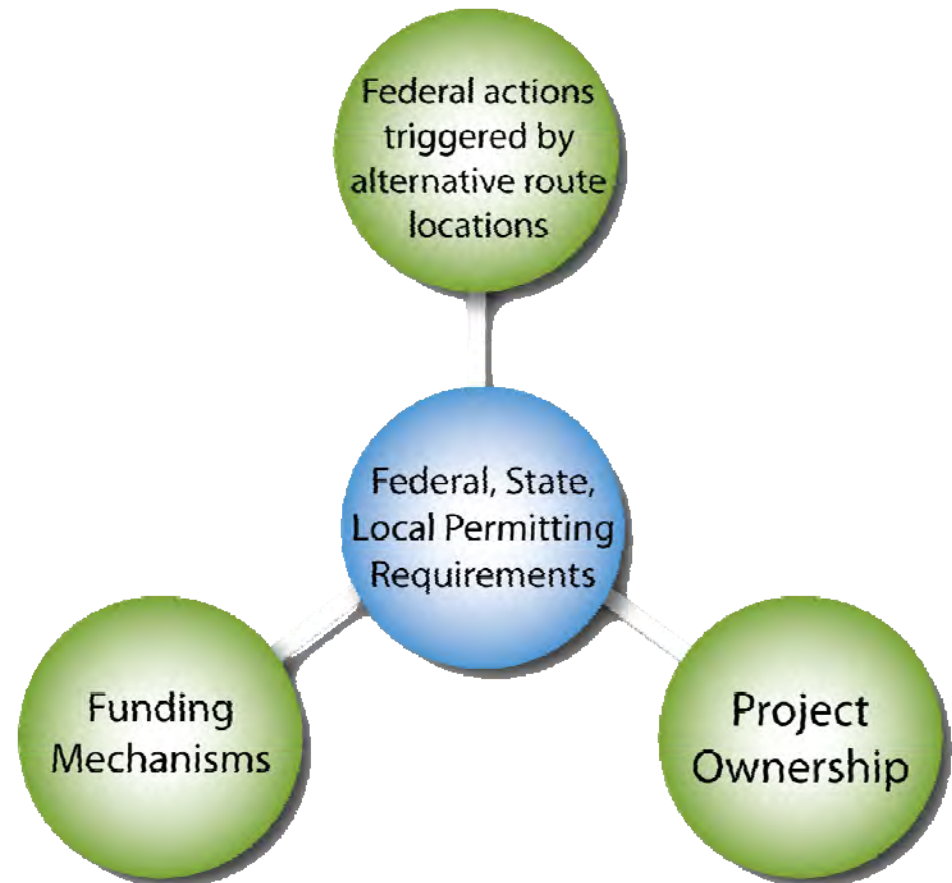
- Identifies permitting requirements for the Initiative
- Defines plausible permitting scenarios
- Identifies applicable requirements of agencies.
- Identifies a tentative permitting schedule
- Identifies and discusses critical issues that may affect compliance requirements, costs, and schedules



Permitting Plan

- Defines plausible permitting scenarios based on key factors:
 - Federal actions triggered by alternative route locations
 - Funding Mechanisms
 - Project Ownership

- Scenarios, and route locations will determine state and local permitting requirements

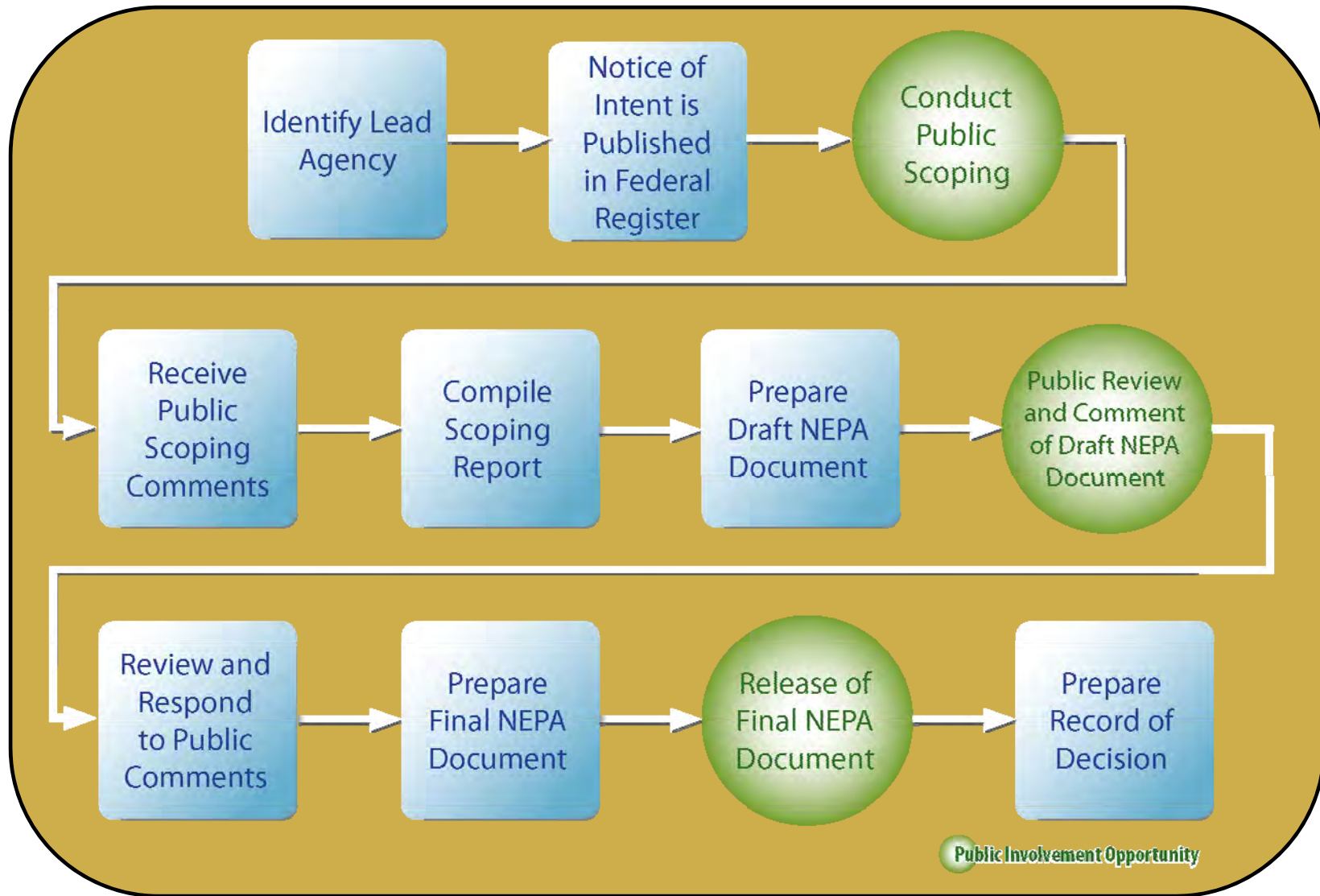


Potential Federal ROW Authorizations/Permits



Department	Agency	Managed Lands/Resources	Approval Required
U.S. Department of Agriculture	Agricultural Research Service	Jornada Experimental Range (near Las Cruces, NM)	SF 299
	Forest Service	National Forest Lands	SF 299
	NRCS, Farm Service Agency	Important farmland defined by the Farmland Protection Policy Act	Farmland Conversion Impact Rating (Form AD-1006)
Department of Defense	Air Force, Army	Military bases and ranges, Special Use Airspace, and Military Training Routes	Approval from the Secretary of the Military Department owning the land, consultation for airspace conflicts
	U.S. Army Corps of Engineers	Some reservoirs, Wetlands	Clean Water Act Section 404 Wetlands Permit
Department of Energy	–	Waste Isolation Pilot Plant (near Carlsbad, NM)	DOE approval
	FERC/NERC	Interconnections to WECC	Project Review Process
Department of the Interior	Bureau of Indian Affairs	Tribal Lands	SF 299, Tribal Consultation
	Bureau of Land Management	All BLM lands	SF 299
	Bureau of Reclamation	All BOR lands	SF 299
	U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act	Incidental Take Permit, Habitat Conservation Plan
	USFWS	Bald and Golden Eagle Protection Act	Federal Permit for Non-Purposeful Eagle Take, Nest Removal
	USFWS	Migratory Bird Treaty Act	Compliance with MBTA
	USFWS	National Wildlife Refuges	SF 299
U.S. Department of Transportation	National Park Service	National Park Service lands	SF 299
	FAA	Objects Obstructing Navigable Airspace	Notice required, Form 7460-1
U.S. Department of Transportation	FHWA	Federal-Aid Highways	Compliance with FHWA Utility Accommodation Policy
	U.S. Environmental Protection Agency	Construction Sites, Industrial Facilities	Compliance with the National Pollution Discharge Elimination System

Federal Permitting: NEPA Process

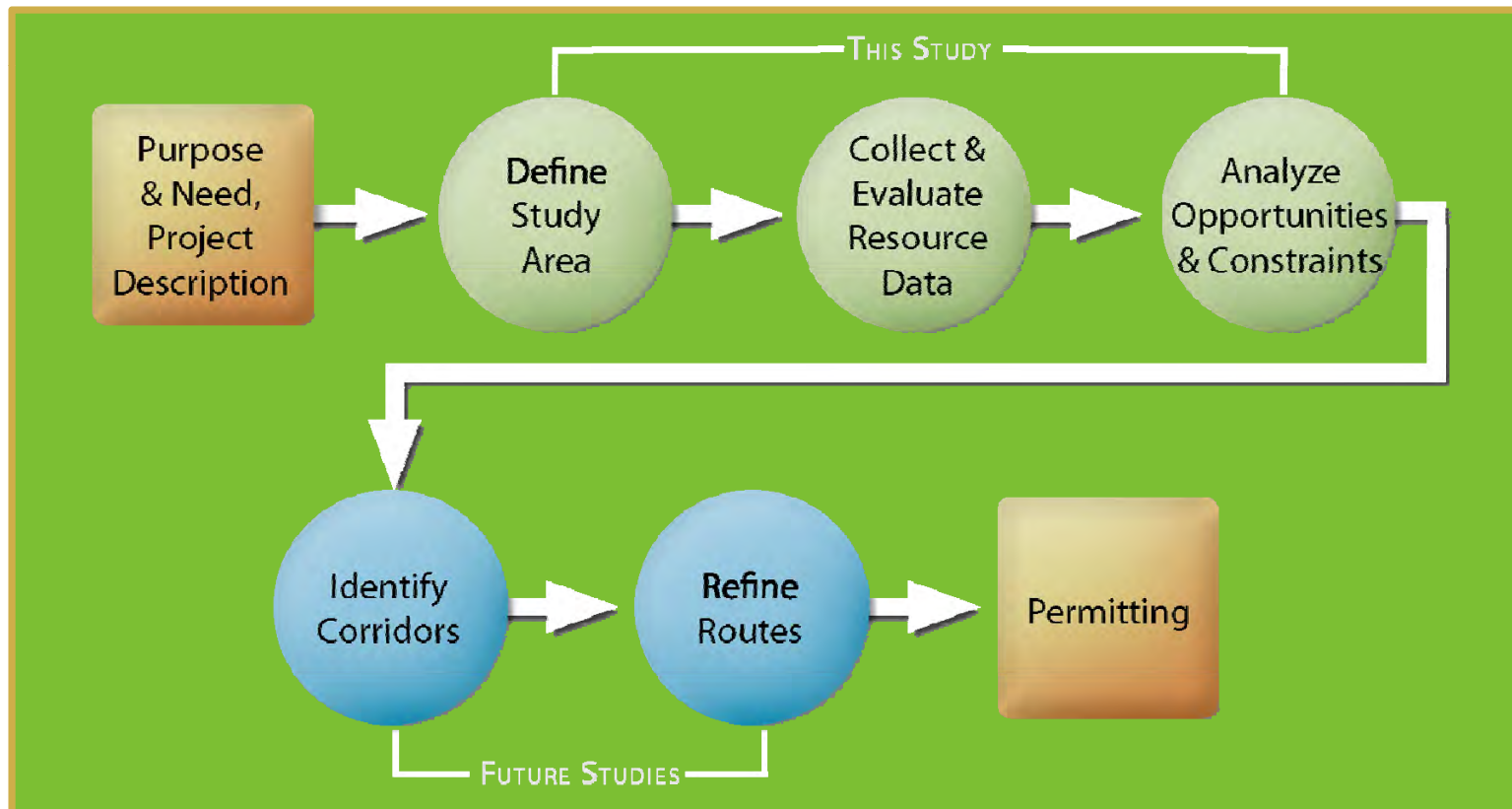


The Path Forward

- Firmly establish need for the Initiative
- Begin stakeholder involvement
 - Public
 - Landowners
 - Permitting Agencies
- Routing Process
 - Identify corridors and alternative routes - with your help
 - Comparative analysis of alternative routes
 - Selection of preferred route and alternatives
- Permitting Phase/NEPA Compliance

Conclusions:

- Stage 2 Routing/Permitting work has produced great knowledge and a plan for future efforts.
- Early contact and coordination will be critical...
 - Between agencies
 - With the public and key stakeholders
- Much effort remains before construction could begin.



Questions

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