

# Shale Public Finance

*Revenues, costs, and net fiscal impacts for local governments associated with oil and gas development*

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Shale Public Finance Workshop  
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*Note: the findings presented below are preliminary, and may change upon further revision*

# Shale Public Finance project

- Funded by:
  - The Alfred P. Sloan Foundation
  - The Duke University Energy Initiative
- Carried out by the Duke University Energy Initiative
  - Richard Newell, director and principal investigator
  - Daniel Raimi, key researcher and analyst

# Key questions

- What are the fiscal impacts to local governments from new or increased oil and gas development, and how have these impacts varied from region to region?
- Have varying state and local policies provided sufficient funding to manage these impacts?
- What lessons can be learned?

# Presentation agenda

- Overview of project
- Key oil- and gas-related revenues and costs for local governments
- Findings from eight states
- Analysis and discussion questions

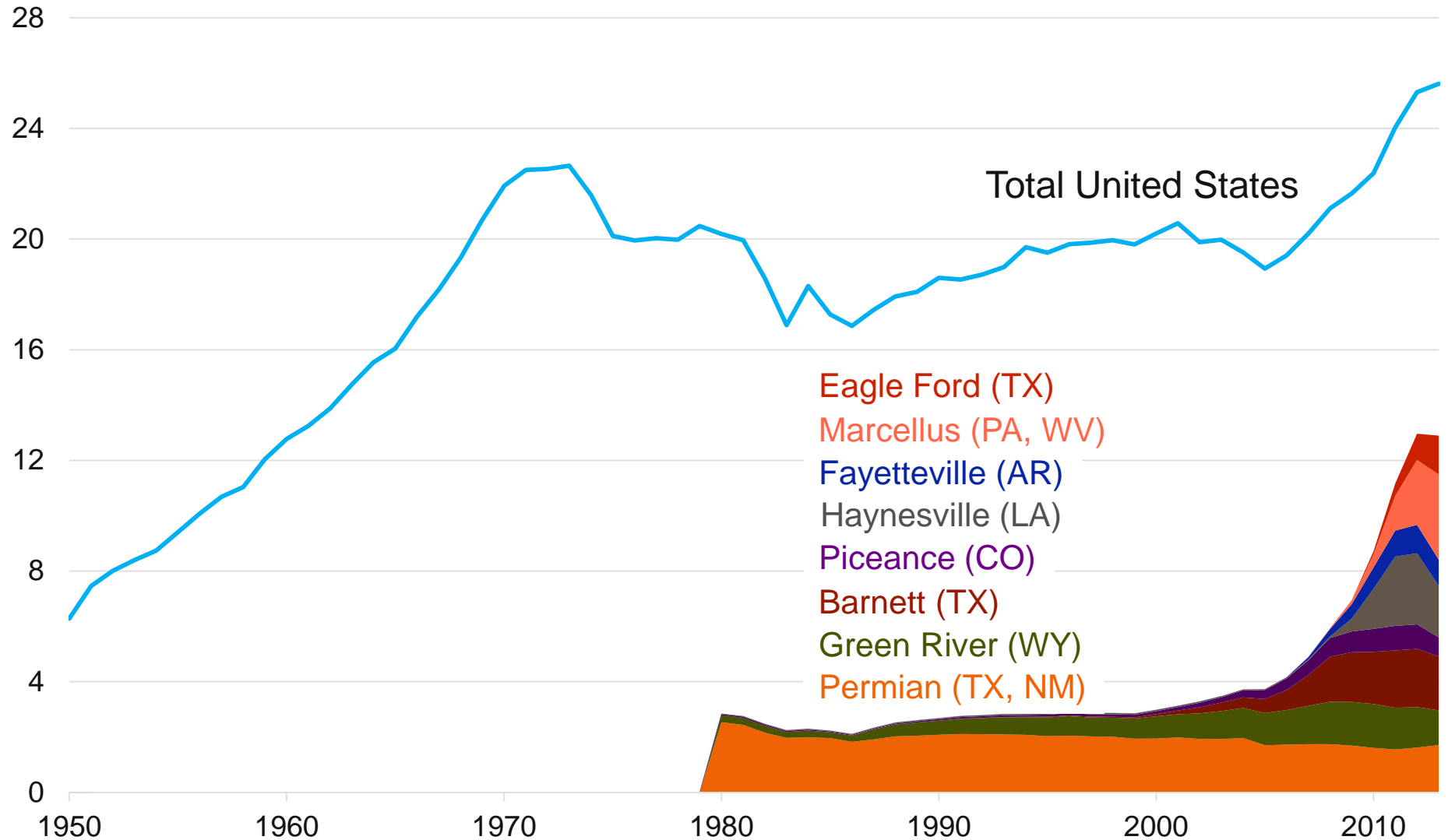
# Research methods

- Structured interviews with local public officials in eight states
- Interviews with experts from state government, industry, independent researchers
- Analysis of state and local financial documents
- Analysis of state oil- and gas-related tax policies
- Regions were selected based on several factors
  - Recent growth in production
  - Variety of policies, governance structures, and demographics
  - Different phases of development

# The shale gas and oil boom

# U.S. natural gas production has surged

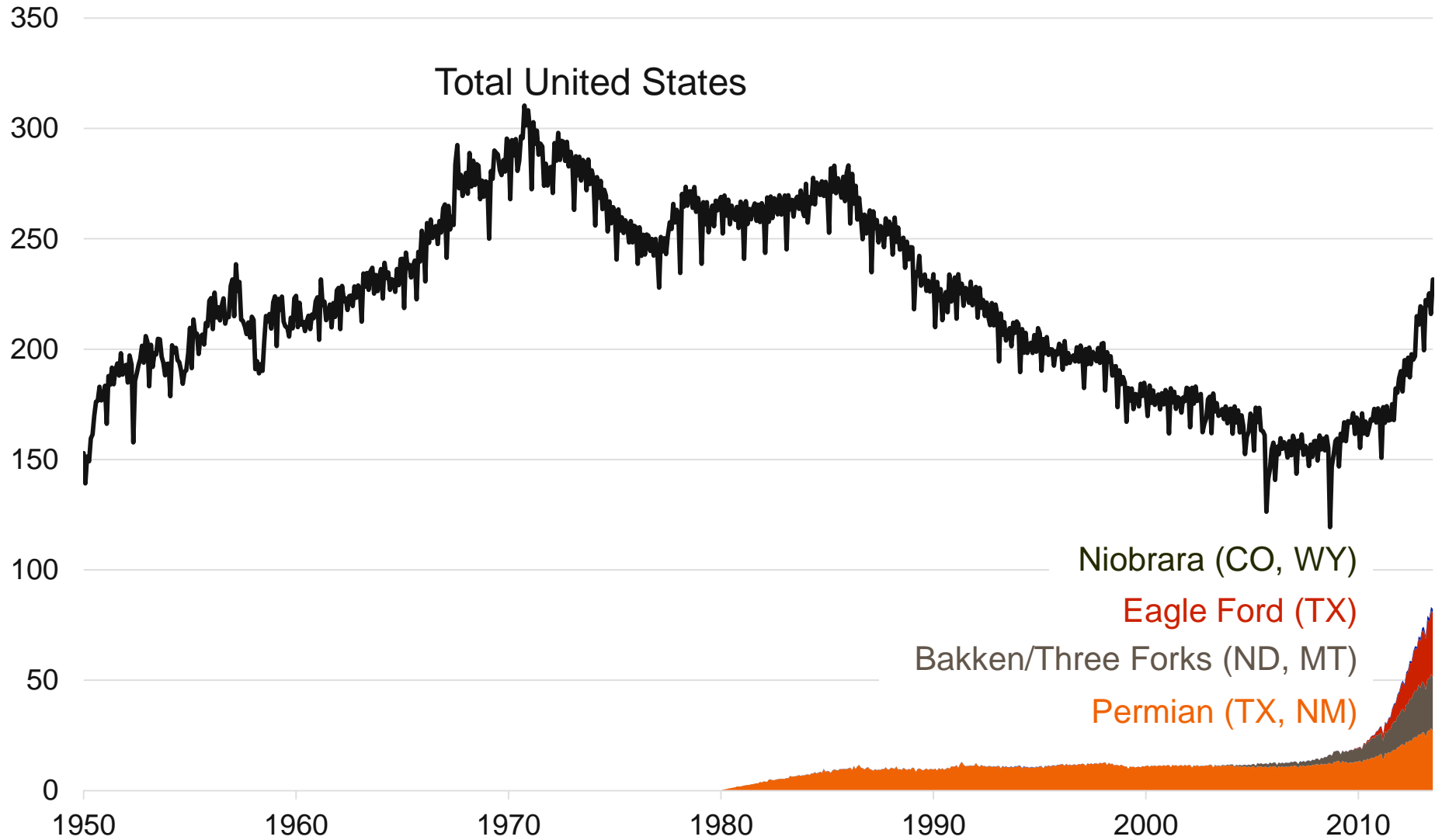
trillion cubic feet (tcf) of marketed production per year



Data source: DI Desktop and the U.S. Energy Information Administration

# U.S. oil production has surged

millions of barrels per month



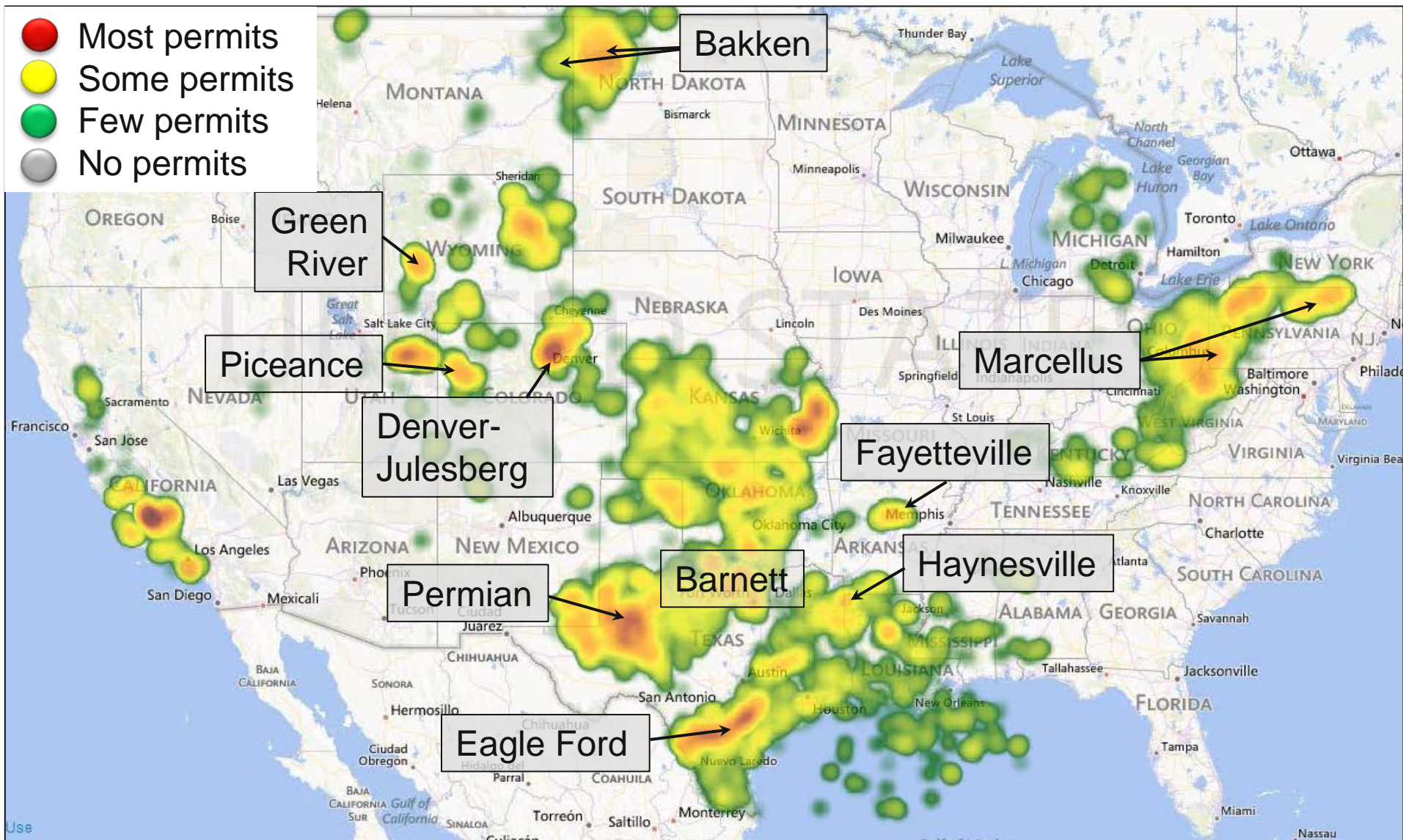
Data source: *DI Desktop* and the U.S. Energy Information Administration



# Travel and interviews

# Our travels: heat map of recent drilling permits

- Most permits
- Some permits
- Few permits
- No permits



Map source: HPDI/Drilling Info 2.0. Heat map data represents drilling permits issued in the 90 days leading up to Jan. 14, 2014.

# Key revenue sources and key costs for local governments related to oil and gas development

# Key revenue sources for local governments

- State severance taxes (or impact fee)
  - Collected by state governments, may or may not be allocated to local governments
- Local ad-valorem property taxes
  - Collected by local governments, oil and gas may or may not be exempt
- Sales and use taxes
  - Collected by municipal governments in most states, counties in some states
- Direct payments
  - Leasing/royalty revenues for production on local government land
  - Fee-for-service activities
- In-kind contributions
  - Road repairs by oil and gas companies

# Key costs (i.e., service demands) for local governments

- Roads and bridges
  - May be impacted by heavy truck traffic
- Sewer and water infrastructure
  - May require upgrades if municipalities experience population growth
- Staff costs
  - Additional staff and equipment may be needed in various departments
  - Workforce retention is often a challenge for local governments
  - This may lead local governments to raise wages or other compensation
  - Staff time and resources devoted to oil and gas issues can be substantial

# State-by-state findings

Texas

Louisiana

North Dakota

Montana

Colorado

Wyoming

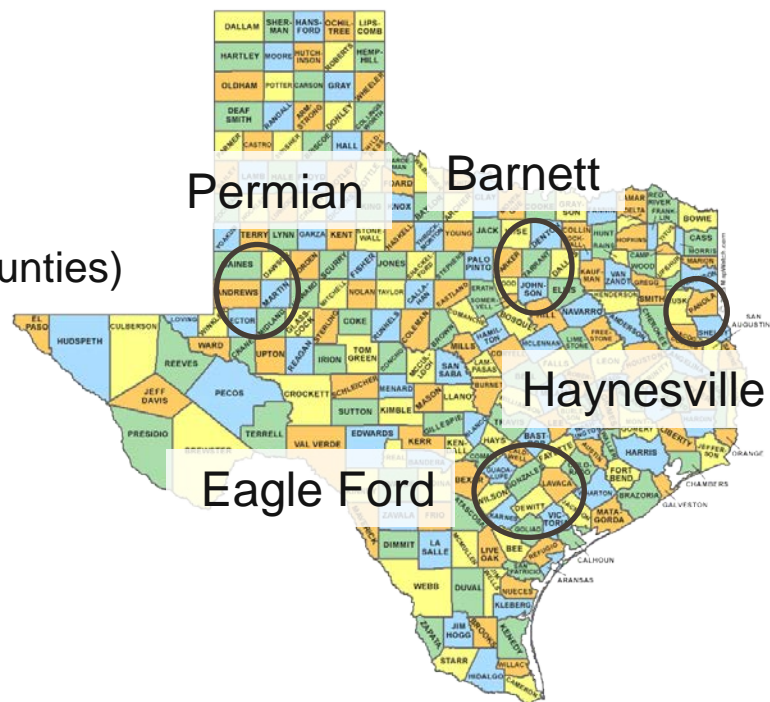
Pennsylvania

Arkansas



# Texas

- Key revenues
  - Property taxes (counties, some munis)
  - Sales taxes (munis)
  - In-kind agreements with operators (some counties)
- Key costs
  - Roads (counties, some munis)
  - Staff (counties and munis)
- Net financial impact
  - Counties: Roughly neutral to large net positive due to property tax revenues
  - Municipalities: Roughly neutral to large net positive due to sales tax revenues



# Louisiana

- Parishes only
- Key revenues
  - Direct payments (leasing and royalties)
  - Sales taxes
  - Property taxes
- Key costs
  - Roads
  - Staff (salary increases, workforce retention)
- Net financial impact
  - Large net positive due to leasing/royalty, sales tax and property tax revenues

## Haynesville





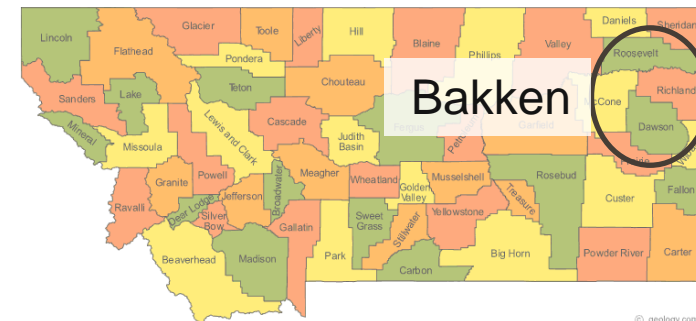
# North Dakota

- Key revenues
  - Severance taxes collected by state, distributed by formula (counties and munis)
  - Sales taxes (counties and munis)
- Key costs
  - Roads (counties and munis)
  - Sewer and water from population growth (munis)
  - Staff (counties and munis)
- Net financial impact
  - Counties: Net negative—unable to keep up with road costs
  - Municipalities: Net negative—unable to keep up with service demands



# Montana

- Municipalities only
- Key revenues
  - None for municipalities
- Key costs
  - Sewer and water from population growth
- Net financial impact
  - Net negative due to population growth, no severance tax revenue, no sales tax revenue



# Colorado

- Key revenues

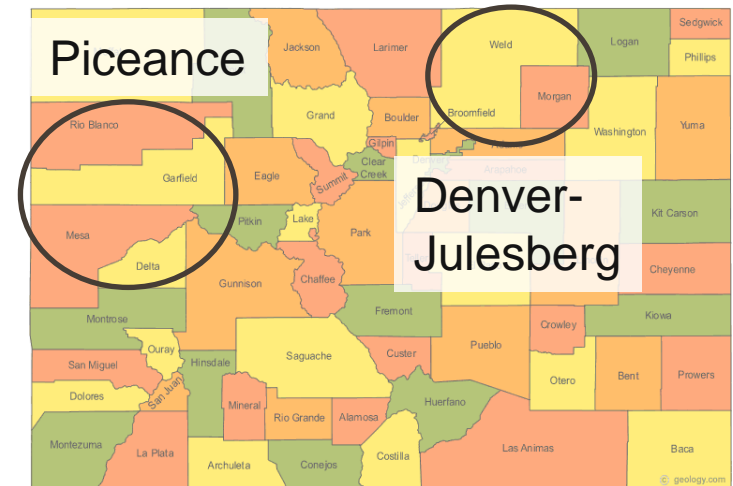
- Severance tax, distributed by formula and through grants (counties and munis)
- Property taxes (counties)
- Sales taxes (some munis and counties)
- In-kind agreements (some counties)

- Key costs

- Roads (counties)
- Sewer and water from population growth (some munis)

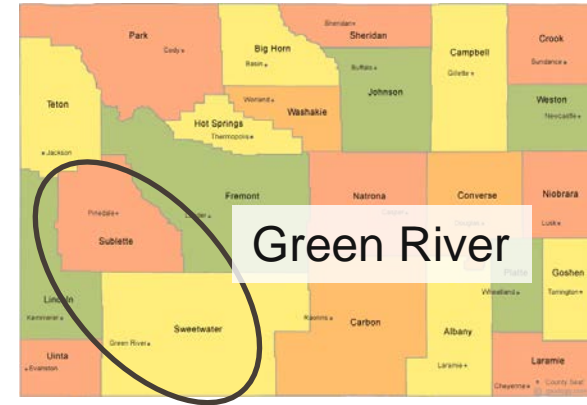
- Net financial impact

- Counties: Large net positive due to property taxes
- Municipalities: Small net positive due to severance tax revenue
- Possible exception: County with substantial production on federal lands



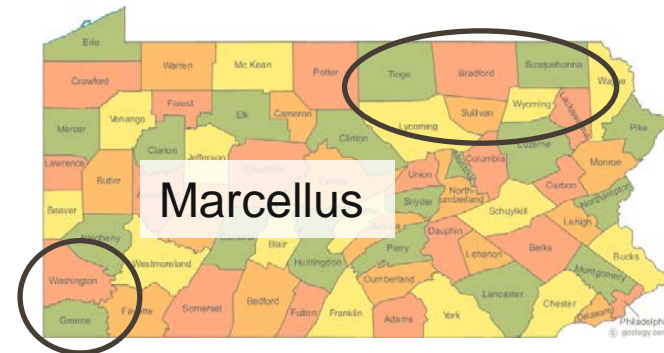
# Wyoming

- Key revenues
  - Property taxes (counties)
  - Sales taxes (munis)
- Key costs
  - Roads (counties)
  - Sewer and water from population growth (munis)
  - Staff (counties and munis)
- Net financial impact
  - Counties: Large net positive due to property tax revenues
  - Municipalities: Roughly neutral or small net positive due to sales tax revenues



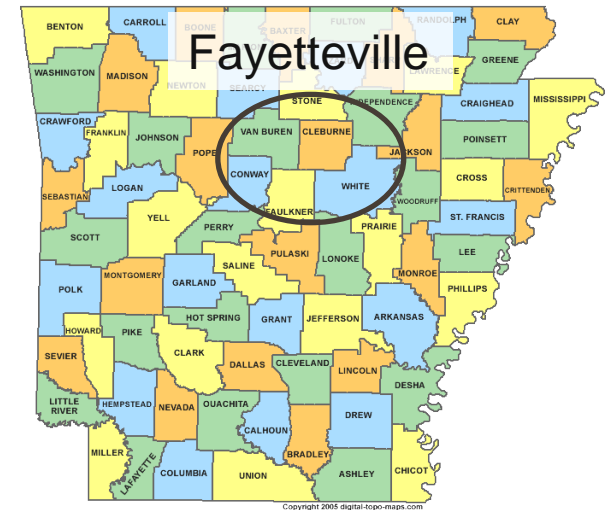
# Pennsylvania

- Key revenues
  - “Impact fee” based on number of new wells (counties and townships)
  - In-kind agreements with operators (townships)
- Key costs
  - Staff (counties and townships)
- Net financial impact
  - Townships: small to large net benefit
  - Counties: medium to large net benefit



# Arkansas

- Key revenues
  - Property taxes (counties)
  - Sales taxes (munis)
  - In-kind agreements with operators (counties)
- Key costs
  - Roads (counties)
- Net financial impact
  - Counties: Medium to large net positive due to property tax revenues
  - Municipalities: Small to medium net positive due to sales tax revenues



# Analysis

- Most local governments reported net positive fiscal impacts, even after the peak of the boom
- Most local governments in the Bakken region has to date experienced net negative fiscal impacts
  - May be due in part to the rural nature of the region and the scale of the boom
- Collaboration with industry can help reduce costs
  - Especially for road maintenance/repair, as seen in AR and PA
- Counties that collect property taxes on oil and gas property generally report positive net impacts
- Municipalities tend to experience smaller net fiscal benefits
  - Sales tax revenues are the major revenue source for most municipalities

# Discussion questions

- Are we accurately describing the experience to date in your region of expertise?
- Do you agree with the finding that the Bakken region appears to be an exception?
- Have we left out any important revenues, costs, or service demands for local governments?
- Are there key findings or lessons that you have gained from your experience that we have not discussed?



# For more information

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