Early Adoption of Climate Protection Initiatives in Florida Cities

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Institutional Collective Action for Climate Protection

- The high levels of observed city involvement in E/CP initiatives indicate that transaction costs and free-riding have been much less of a barrier to policy adoptions than predicted by theory.

- Why?
  - Local officials are able to overcome collective action problems when the benefits, including political benefits, are sufficient to overcome the barriers to adopting policy initiatives.

Transaction Costs Barriers to E/CP

- ICA Framework suggests the transaction costs of E/CP innovation are reduced by:
  - Interactions within local policy networks
  - Production of localized benefits
  - Complimentary effects for ongoing environmental, development or growth management efforts
  - Generation of selective benefits to elected and appointed local governments officials

Diffusion of Local Policy Innovation

- Lack of attention to local level policy innovation.
- Diffusion versus and innovation
- Insufficient attention to early adoption
- Not applied to common pool resource problem.

Community Demand

- Population
- Education/Preference for Public Goods
- Environmental preferences
- Climate change risk

Localized Policy Benefits

- Energy Conservation
  - cost savings
- Emission reductions
  - pollution reduction and public health benefits
- Economic Development
  - New energy economy
  - Receptiveness to “green economic development”
- Growth Management and Smart Growth
  - traffic congestion, high density urban design.

Institutional Incentives

- Form of government
  - electoral and administrative career incentives to focus on substance and symbols of E/CP
- Council representation
  - district representation increases the costs of collective action

Data

- The dependent variable was with data from USCM and phone calls to each adopting municipality in Florida (n=404).
- Demographic variables are from the Census.
- Policy expenditures were taken from annual financial reports.
- FOG variables are from the League of Cities.
- Environmental tags revenues were collected from the State of Florida Department of Revenue.

Methods

- The dependent variable is a binary indicator for policy adoption over time, therefore a panel logit is used to analyze the data.

- The model employed GEE estimation because we are interested in the population average over all cities.
  - An AR(1) covariance structure was used.

Results

	Estimate	Std Error	Z	Pr > |Z|
Environmental tags	1.4579	0.9335	1.56	0.1184
% White	-0.0123	0.0121	-1.02	0.3078
% College degree	0.0407	0.0155	2.62	0.0087
City Manager	0.0446	0.5607	0.08	0.9367
% District rep	-1.2118	0.5821	-2.08	0.0373
Population (log)	0.9747	0.2156	4.52	<.0001
Per capita expenditures	0	0	1.13	0.26
Utilities (lag)	-0.4222	0.5953	-0.71	0.4781
Planning exp (lag)	0	0.0001	-0.01	0.9939
Econ develop exp (lag)	0.0001	0.0001	1.82	0.0691
Costal mileage	0.0025	0.0031	0.79	0.4296
Air quality	-0.0088	0.0222	-0.4	0.6911

Results Summary

- Larger, higher spending, and well educated cities are more likely to adopt agreements.
- The results were inconclusive regarding air quality and growth management.
- The main policy driving adoption appears to be economic development.
- Some support for institutional influences.
  - Form of government fails to achieve significance.
  - District representation is highly significant and the coefficient is large in magnitude.

Extension: National Survey

- Participation in ARRA Energy Programs
  - DOE: Solar Cities, EECGB, Smart Grid Investments
  - DOT: TIGER Transportation Investments
  - HUD: Investments in Energy Efficient Modernization
- E/CP Innovations
- Links between Energy and Climate Policy and Local Economic Development
- Technology Transfer
- Intergovernmental and Interorganizational Collaborations

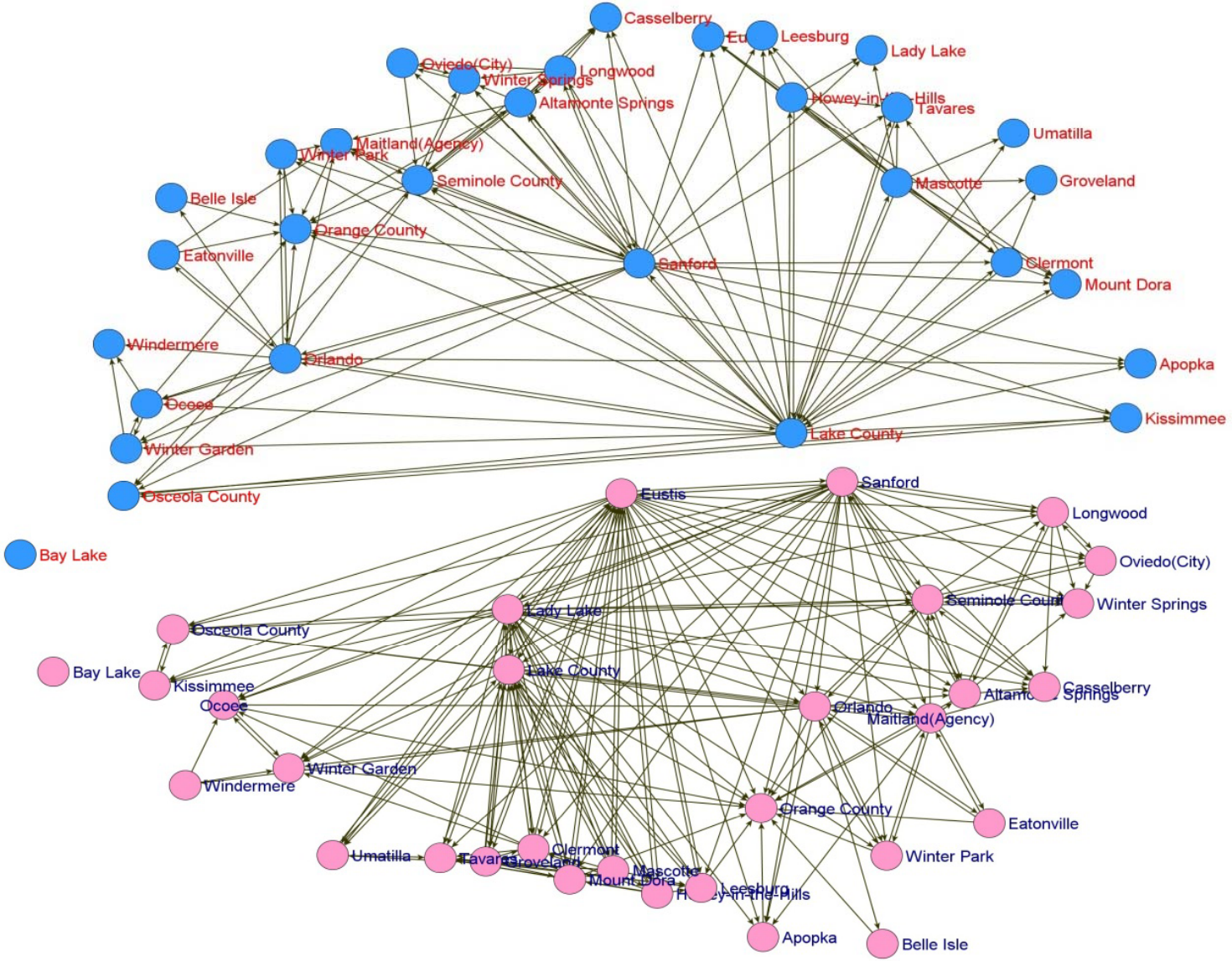
National Survey Design

- 128 Metropolitan Areas w/pop <350,000
- All counties and cities w/pop <25,000 (950)
- Baseline Data
  - Local capacity
  - Degree of inter-organizational information sharing
  - Pre-existing and new partnerships and collaborations
- Adoption of Innovation
  - Bayesian Survival Analysis w/ frailty terms (Tony)

Energy Policy Networks

- Three Metropolitan Areas
  - Atlanta
  - Miami
  - Tampa
- Stage One: Indentify Network Boundaries
  - Media Search
  - Mail/email snowball
- Stage Two: Network Survey

Descriptive Analysis



Estimation of Actor Oriented Model

- Hypotheses for specific network stuctures to address ICA issues and innovation of diffusion will be developed and tested.
- Differences in network structures based on:
    - Actors (elected vs. appointed officials)
    - Policy Instruments (relative risk)
    - Political Institutions
    - Network multiplexity
- Cross-sectional P* Analysis

Conclusion

- Extend ICA and policy diffusion to investigate factors shaping policy collaboration and the role of local governments in formal and informal collaboration and diffusion networks.
- Foundation for future inquiry on the transmission of technical knowledge among local governments and other actors.

Future Work

- Links between Energy Innovation, Networks and Economic Development
  - Influence of climate policy and “green” incentives on growth of clean energy sector at state level.
  - Development & Environmental Tradeoffs w/Tufts.
  - Network Multiplexity in Energy, Land Use and Economic Development.

Thank You

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