

# Commercial Green Development within Urban Environments: Theory & Evidence

Evan Perry

Research in Economics: Fellows Program



August 31, 2021

# Why Green Buildings? Why Spatially?



Scope

# Why Green Buildings? Why Spatially?

Scope

Timing

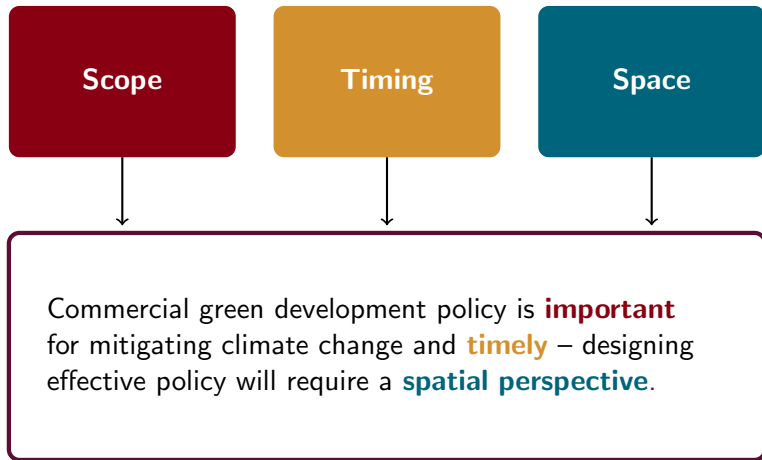
# Why Green Buildings? Why Spatially?

Scope

Timing

Space

# Why Green Buildings? Why Spatially?



# What Do We Do?

1. **Theory:** *Create an economic model to describe commercial green development within a city*
  - ▶ Firms: Chooses a neighborhood, adopt green, and inputs
  - ▶ Developer: Builds green/non-green commercial real estate

# What Do We Do?

1. **Theory:** *Create an economic model to describe commercial green development within a city*
  - ▶ Firms: Chooses a neighborhood, adopt green, and inputs
  - ▶ Developer: Builds green/non-green commercial real estate
2. **Evidence:** *Use data to test the model's predictions*
  - ▶ Energy Star Program & Leadership in Energy and Environmental Design (LEED)
  - ▶ SafeGraph Cellphone Data
  - ▶ 33,332 Census tracts (neighborhoods) across 226 Urbanized Areas

# What Do We Find?

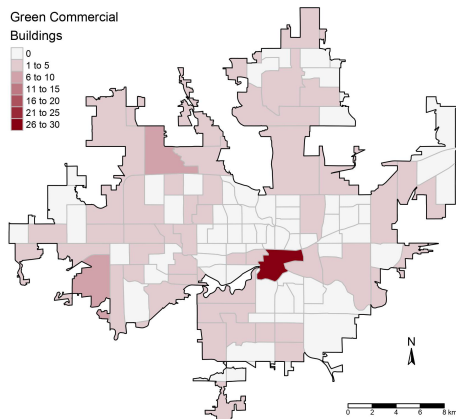
1. **Theory:** *Forces that drive firms to locate in worker-dense neighborhoods also drive firms to prefer green real estate*
2. **Evidence:** *Worker-dense neighborhoods have more green real estate, even when controlling for the total number of workers*



# What Do We Find?

1. **Theory:** *Forces that drive firms to locate in worker-dense neighborhoods also drive firms to prefer green real estate*
2. **Evidence:** *Worker-dense neighborhoods have more green real estate, even when controlling for the total number of workers*

Figure 1: Green Commercial Buildings, Des Moines



**Thank You**