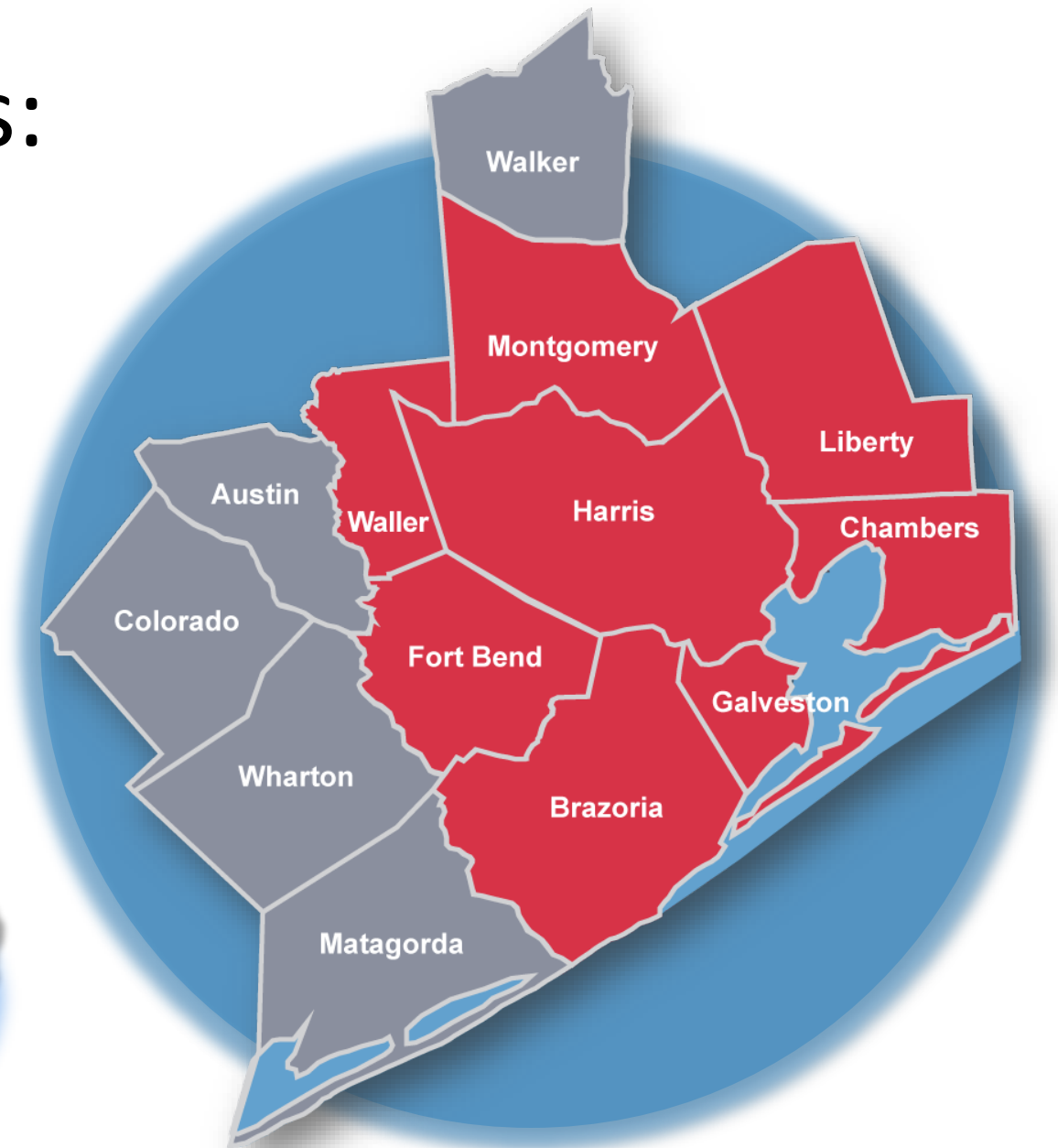
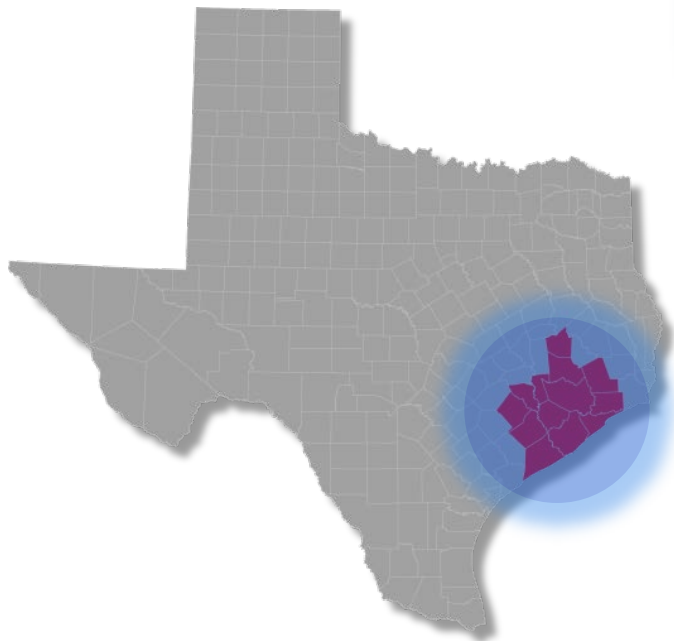


# Houston Galveston Area Council's Regional Growth Forecast

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2017 Applied Demography Conference

# H-GAC serves:

- 13 counties
- 105 cities
- MPO for **8-county metro area**



# Two Distinct Questions

1. How many people and jobs will be in our region 25 years from now?
  - Demographic and Employment Forecast
2. Where within the region will the people live and work?
  - Land Use Forecast

# Demographic Micro Simulation

- Beyond Cohort-Component
- Computer micro simulation:
  - Biological events: aging, births, deaths
  - Migration events: moving in, moving out
  - Family events: marriage, divorce, child moving out of parents house
- Advantages
  - Household composition
  - Link to housing

# Population and Employment

- Population → Labor Force
  - Labor Force = Employed + Unemployed
- Labor Force Participation Rates
- Unemployment Rate
  - system-wide
  - demographically-specific

# What is “Regional Growth”?

- More people, more jobs
- More buildings
- Geography of population and employment = Geography of buildings
- “Land Use” (small area)
  - Structure: Buildings and Parcels
  - Activity: People and Jobs
  - 2040 Land Use = 2010 Buildings + *Planned/Announced* + Model Predictions

# Generating Development Proposals

Pick a parcel (if (re)development allowed)

Determine what can be developed on it (all possible options)

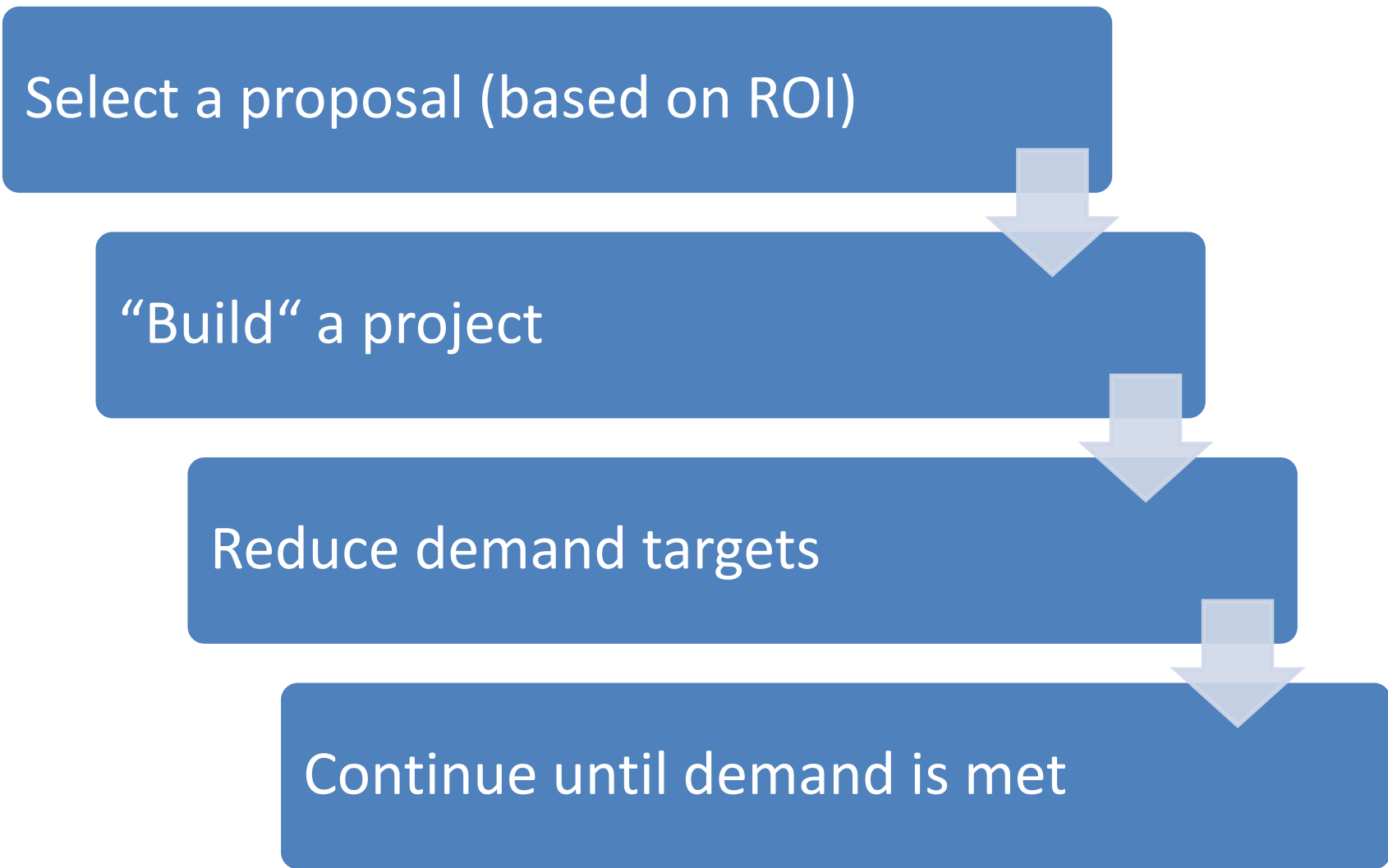
Estimate Total Cost (Land + Construction)

Estimate Expected Sale Price and ROI

Continue until no parcels left

# Proposal Selection

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# Forecast Methodology Overview

Generate annual (2015-2040) population, households, and jobs (regional totals)

Translate into annual demand for housing and non-residential space (regional totals)

Generate annual supply of new residential and non-residential buildings (parcel-specific)

Assign people and jobs to buildings

Sum up to get area-wide counts for any geography (e.g., county, census tract, zip code)

# Forecast Website

- [WWW.H-GAC.COM/FORECAST](http://WWW.H-GAC.COM/FORECAST)
- Access to maps, tables, charts
- Regional Land Use Information System (RLUIS):
  - Interactive Mapping Application for parcel-level land use
  - [WWW.H-GAC.COM/GO/APPS](http://WWW.H-GAC.COM/GO/APPS)
- Submit Feedback

# Land Use – Population Link

- Population and employment are tied to the built environment (parcels and buildings)
- Population and/or employment forecasts cannot be changed without changing the underlying land use
- 2040 Land Use = 2015 Buildings + *Planned/Announced* + Model Predictions

# Expected Sale Price

- What is the market value of a specific project in a specific place?
- Use existing data to test how different factors affect valuations
- Factors
  - Accessibility to jobs and housing
  - Proximity to arterials and highways
  - Recent development activity
  - Building characteristics