

HUNT THE GOOD STUFF:

Anticipating Disruptions in
Long-range Transportation
Planning and Modeling

REMI User's Conference
October 17, 2019

At A Glance

- The Atlanta Regional Commission
- 1947 (Metropolitan Planning Commission)
- Intergovernmental Coordination Agency
- “Conduit for innovation to support the growth and development of our local communities”



ARC Organization

39 ⇔ 10 Chairmen,
12 Mayors, 1 Councilmember,
15 Citizens, 1 DCA

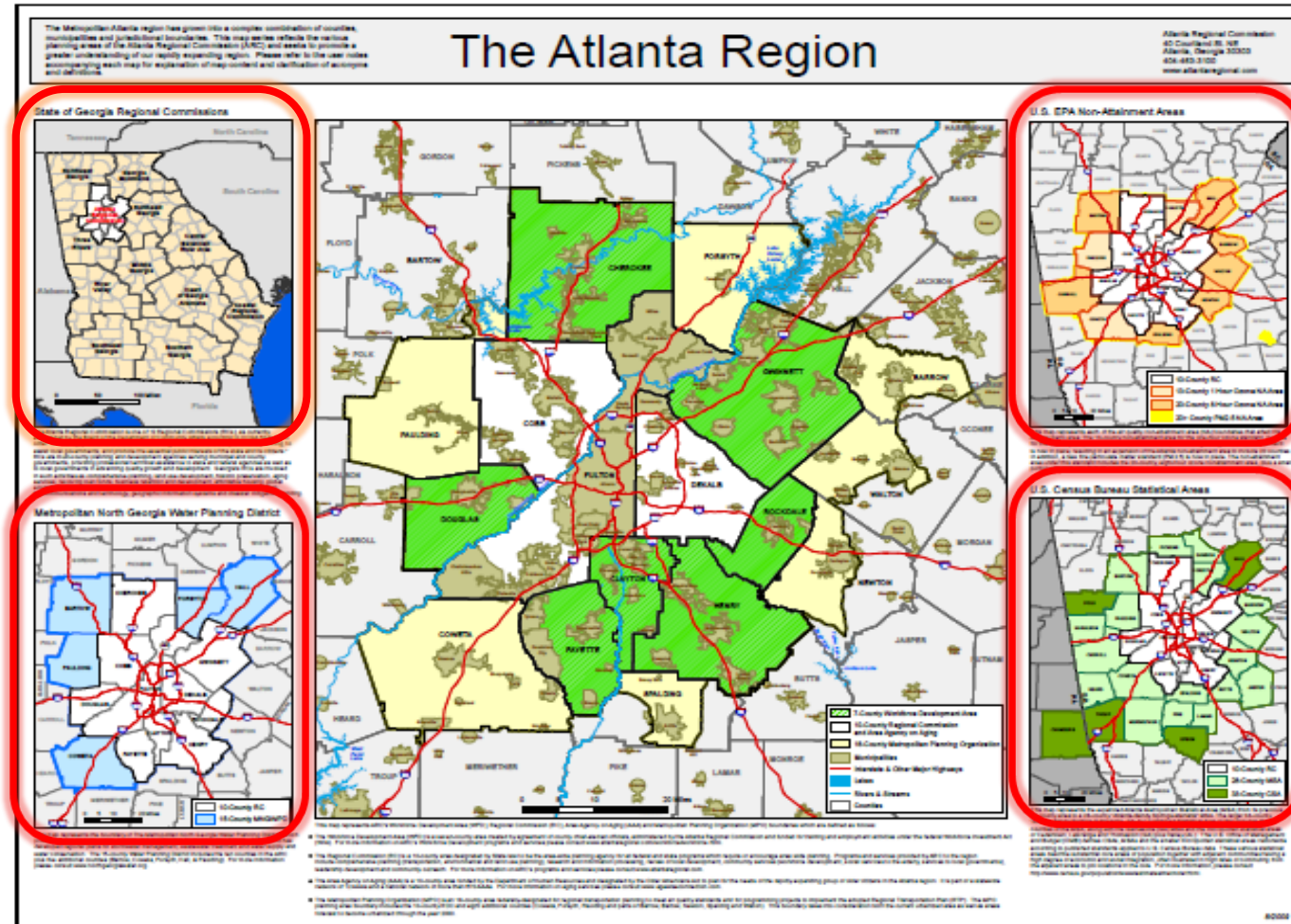
~200 staff



The Atlanta “Region”

10-County RDC

21-County MPO



15-County MNGWPD

33-County CMSA

ARC Objectives

➤ Purpose

- Produce long-range demographic, employment and economic forecasts for the 21-county ARC region

➤ Intent

- Informing public and private policy decisions
- Orient stakeholders and decision makers on socio-economic and transportation impacts to our Region

➤ Goal

- Continue to lead in regional forecasting and policy analysis
- Provide economic and transportation impact plans and assess travel demand changes in the region

Research Team Objectives

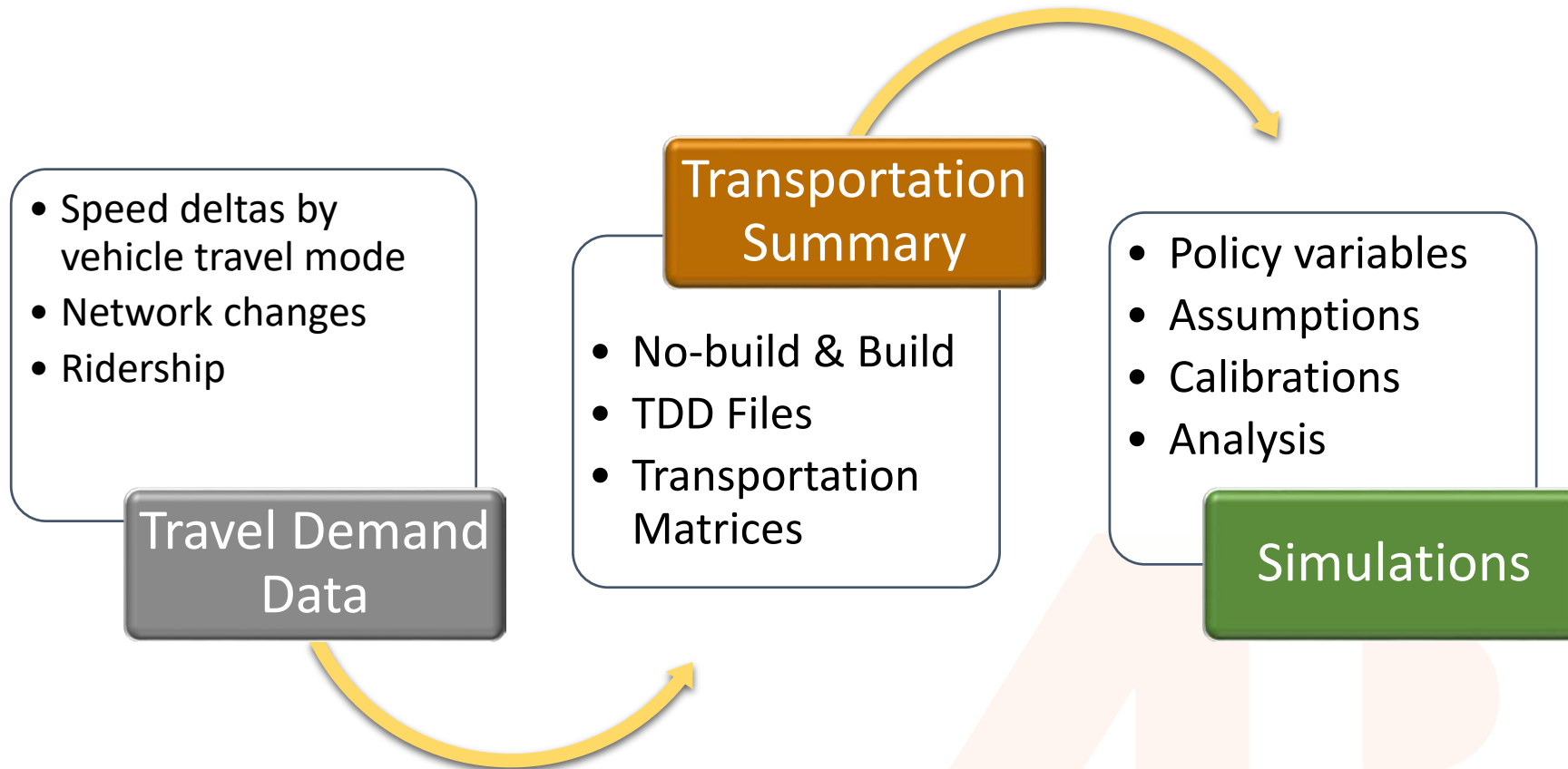
- Conduct project prioritization plans
- Perform sensitivity tests of projects
- Assess the potential economic impact on county-level RTP projects
- Develop control totals for regional planning and transportation modeling
- Produce data for inter-departmental work programs and external ARC counterparts

Why REMI?

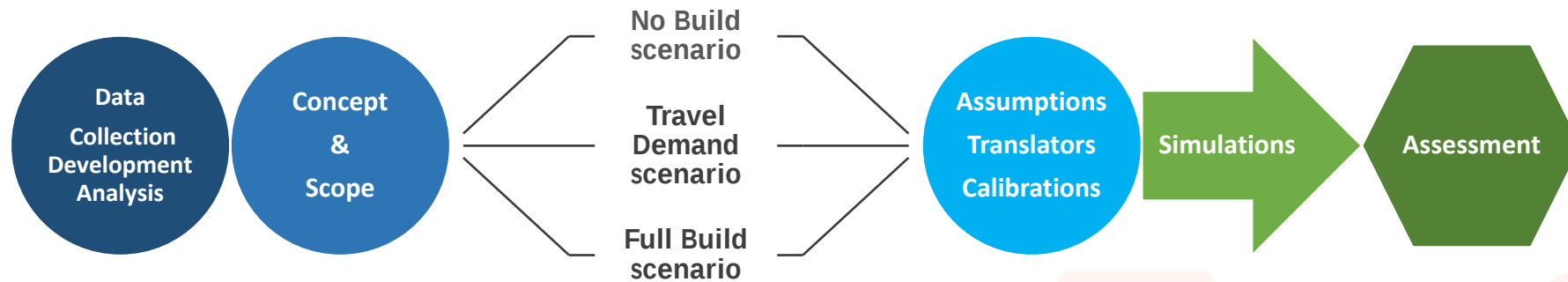
- Requirement for dynamic economic analysis
- Economics and demographics of a region are changing over time
- Scoring projects based on travel demand and economics as a complete system
- Every region's travel network and economy is different



ARC Model Linkages



Concept



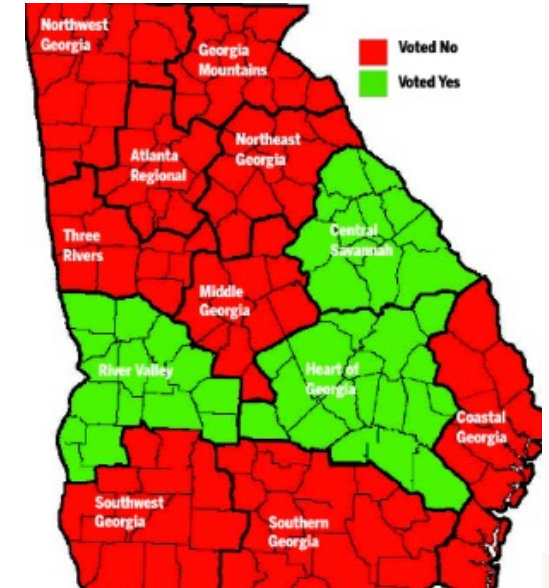
Pave the Way

- Resiliency as a planning factor
 - Not as a reaction, but an immersion from a Regional perspective
- Identify and assess varying disruptors
- Build Resilience Competency
 - Self-awareness
 - Self-regulation
 - Planning agility
 - Optimism
 - Connection
- Enhance public engagement



County Based T-SPLOSTs (HB 170/HB 106)

- Allows individual counties to propose an additional one cent sales tax for transportation purposes
- Not available to counties already collecting tax under the 2012 TIA referendum
- Tax collection horizon set at five years



County Based T-SPLOSTs (cont'd)

- County initiates process, although if 90% or more of population is municipalized, a city can initiate process
- Tax rate can be increments of 0.05 cents up to a full penny
- Capped at 0.75 cents if county and all cities cannot reach an intergovernmental agreement
- Minimum of 30% of revenue must be used on projects in the Statewide Strategic Transportation Plan

County Based T-SPLOSTs (cont'd)

- Officials must meet at least once to discuss projects a minimum of 30 days prior to calling for a referendum
- Referendum conducted at next scheduled election
- Exempt from congressional balancing requirements
- Must be spent within district where collected



Other Provisions - HB 170/HB 106

- GDOT required to submit 10-year strategic plan to House and Senate Transportation Committees for annual budget consideration
- Includes target funding levels and fund sources for:
 - Construction of new highway projects
 - Maintenance of existing infrastructure
 - Bridge repairs and replacements
 - Safety enhancements
 - Administrative expenses



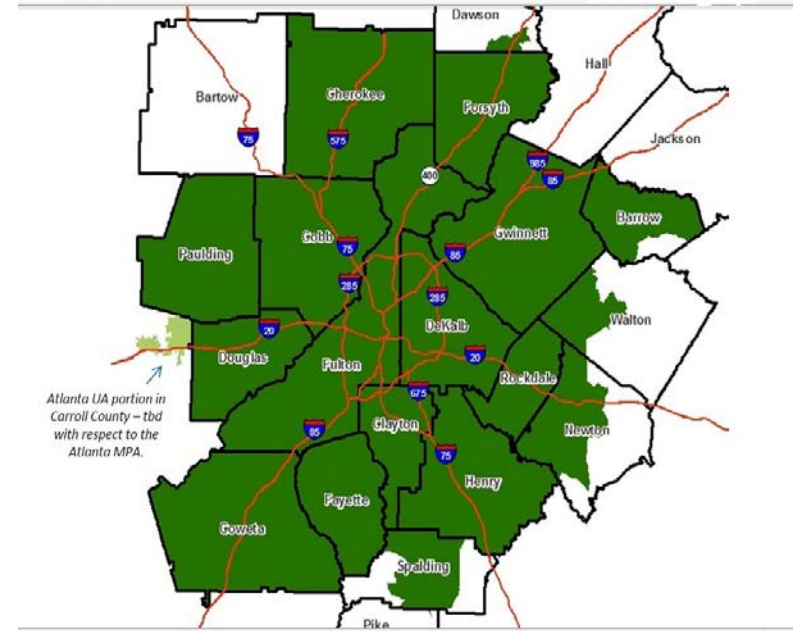
FY 2016 Budget for Transportation

- For first time ever, state budget includes funds for transit
- Funds administered by SRTA
- Must be capital expenditures
- Regional projects may be eligible
- Budget also includes additional \$100 million for bridges statewide



MPO Formation/BeltLine - SB 4

- Legislation originally introduced on behalf of BeltLine to allow for more streamlined public/private partnership process
- Amended late by Carroll County legislators to allow for MPO planning work to be performed by Regional Commissions
- Unclear effect on federal transportation funding for the affected area, which to date has not been made part of Atlanta MPO boundary



Scope of Project Tested

- Over the next year or two, funding options will be on a referendum and available for vote at the local government levels
- Purpose
 - Explore county-level local preferred roadway project results against a no-build region travel scenario
 - Intend to show transportation investment influences at a sub-regional level
 - Estimate project plan implications on affected region and quantify inter-regional impacts
- Nearly 400 projects are used for this analysis according to the project's local plan, objective and impact on area

Testing Objectives

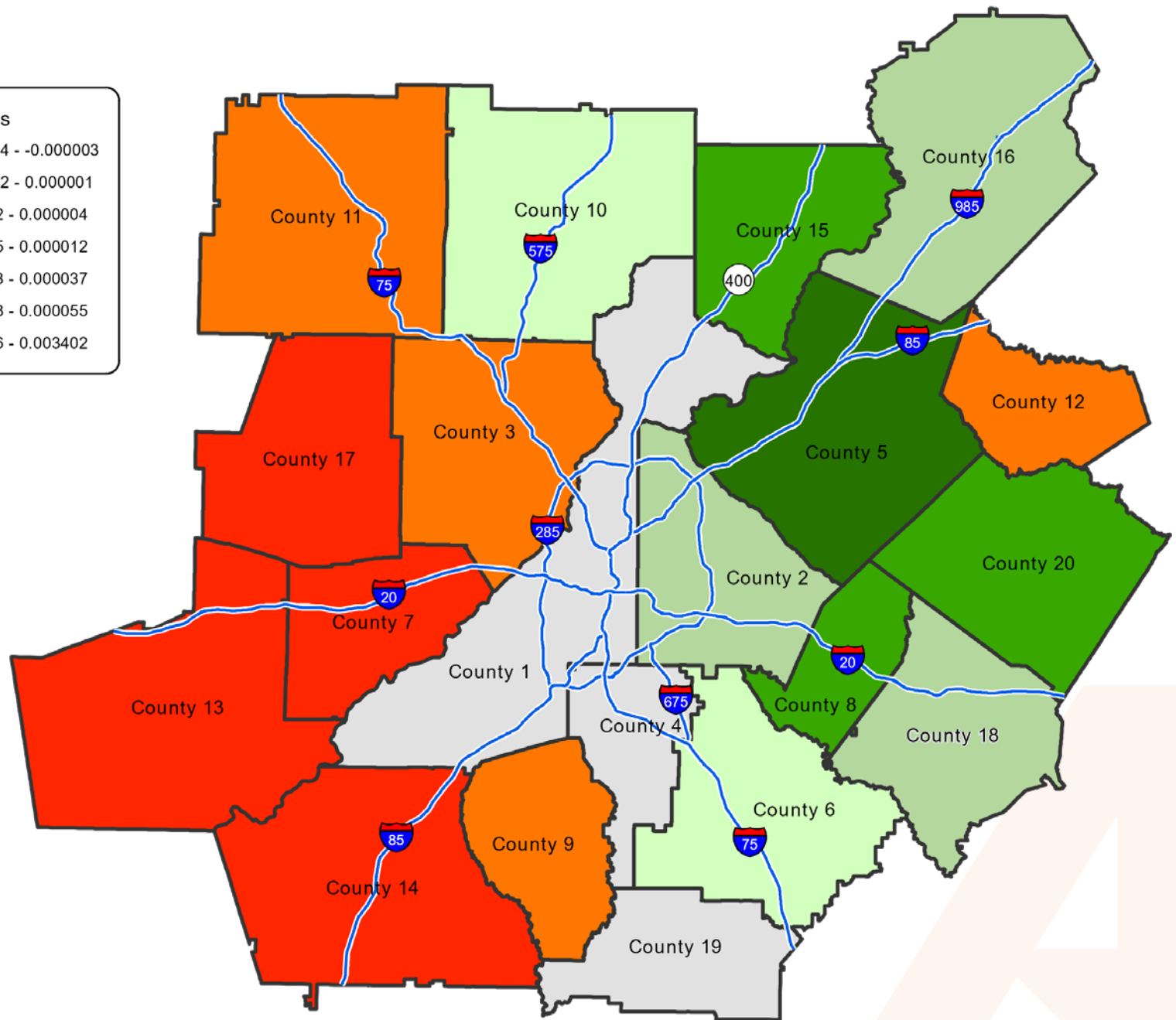
- Measure economic activity and transportation inefficiency of select projects
- Estimate project's impact and value to the area
- Perform qualitative analysis on area's disrupted indicators: attractiveness, competitiveness and opportunities
- Standardize policy variables used for evaluating constructability analysis and transportation projects' investment prioritization
- Contrast local government plan implementation with and without regional transportation coordination

Project Framework

- Project required a model run using 2015 SE data
- Base will be the latest 2016 network
- Two travel demand model runs with a TranSight model run interpolated between both 2030 and 2040 SE networks
- Opening year was assumed at 2031
- Assumed network conditions were same for project until 2030
- Results explained in differences by 2040

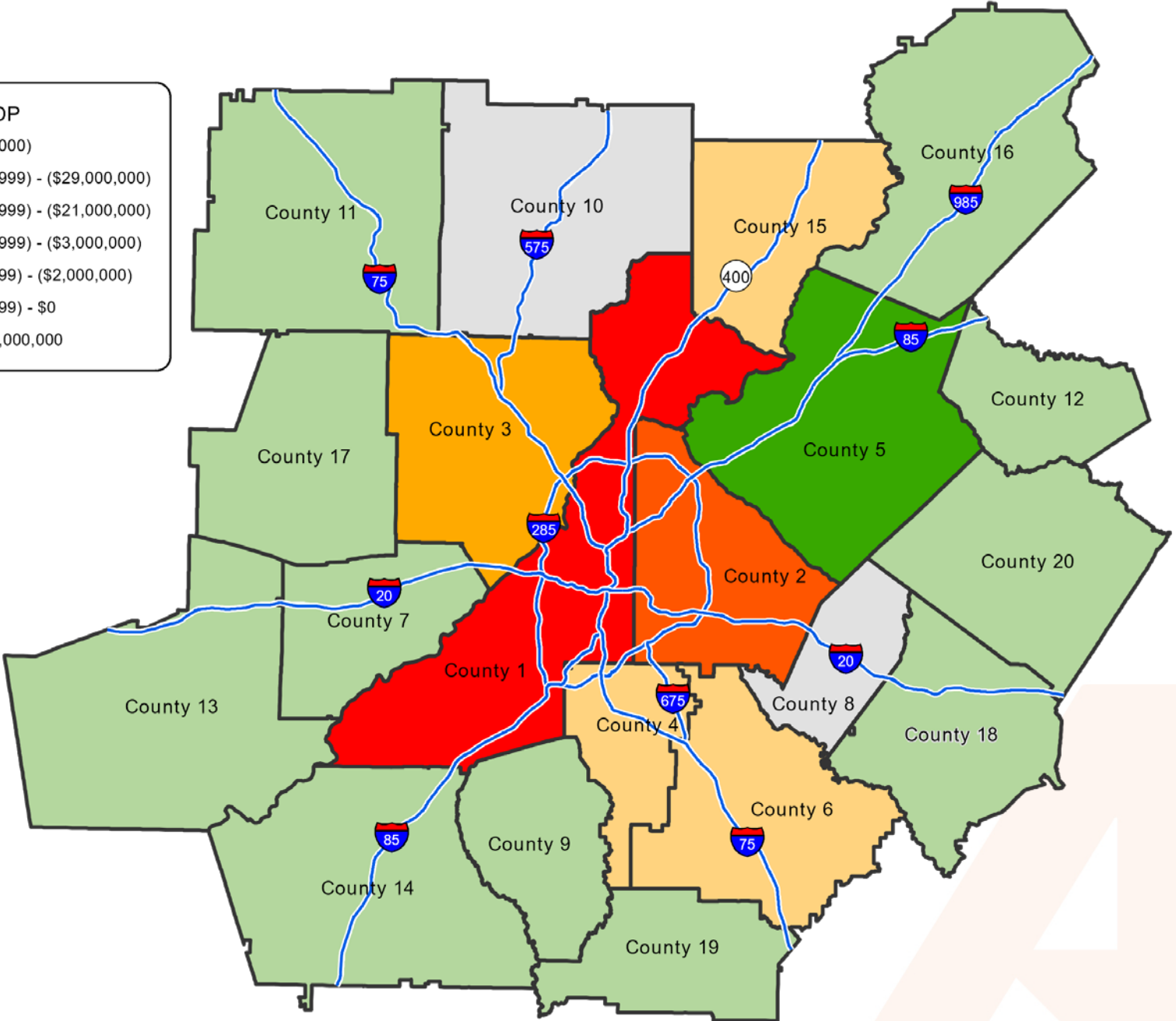
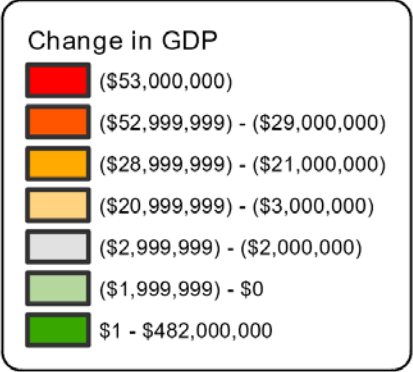
Methodology

- Construct a county-level TDD file using TBM tool
 - Model roadway capacity and new connectors, maintenance and operational improvement, and safety enhancement
 - Develop post-processing script
 - Combining performance measures of defined O-D zones
- Import transportation network changes into the REMI model
- Assign policy variable(s) to revenue and investment streams
- Simulate the county's transportation plan's network changes
- Measure the reasonableness of economic activity and transportation inefficiencies of qualified projects

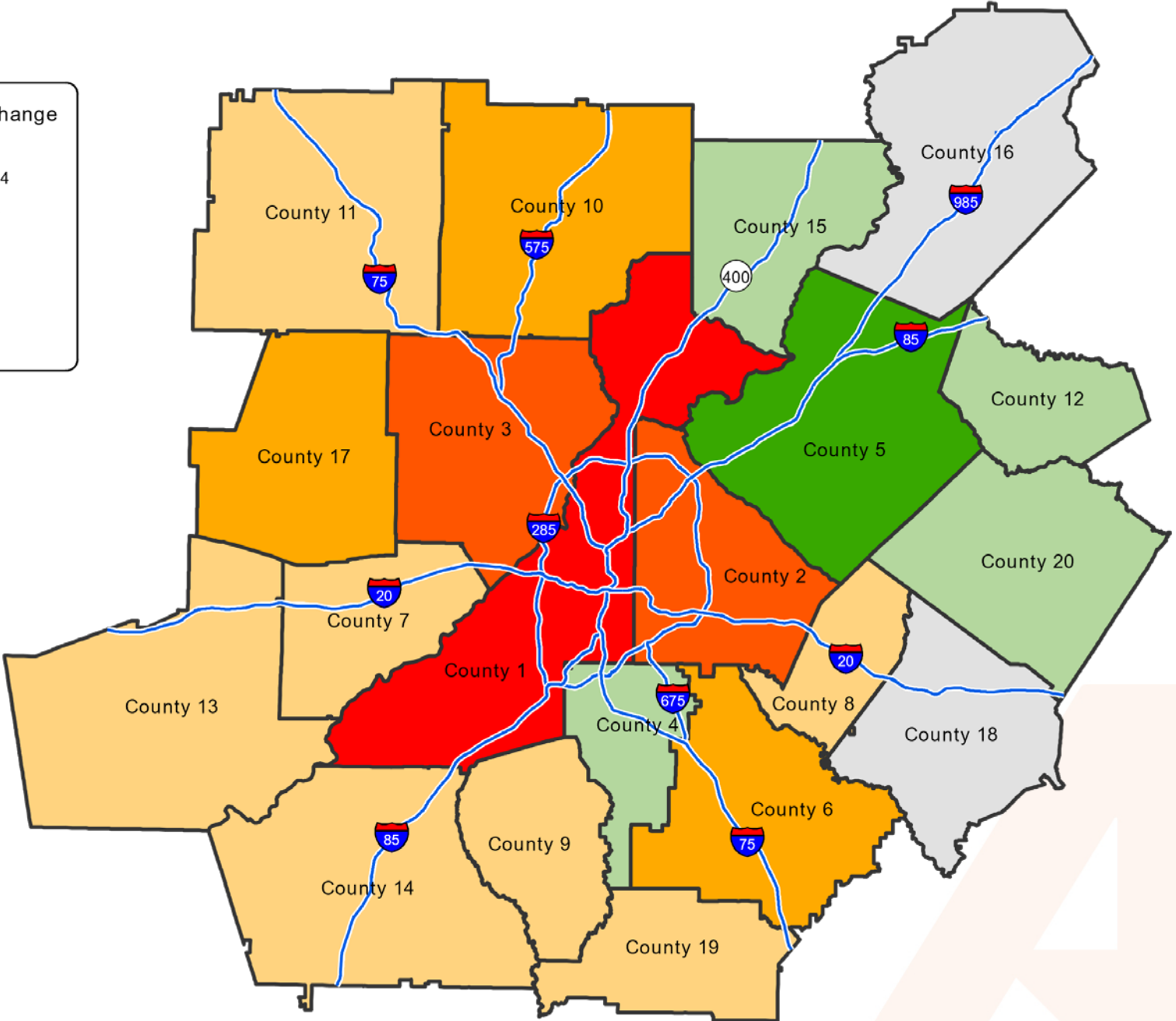
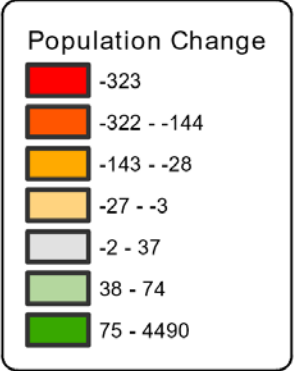


Regional Labor Access

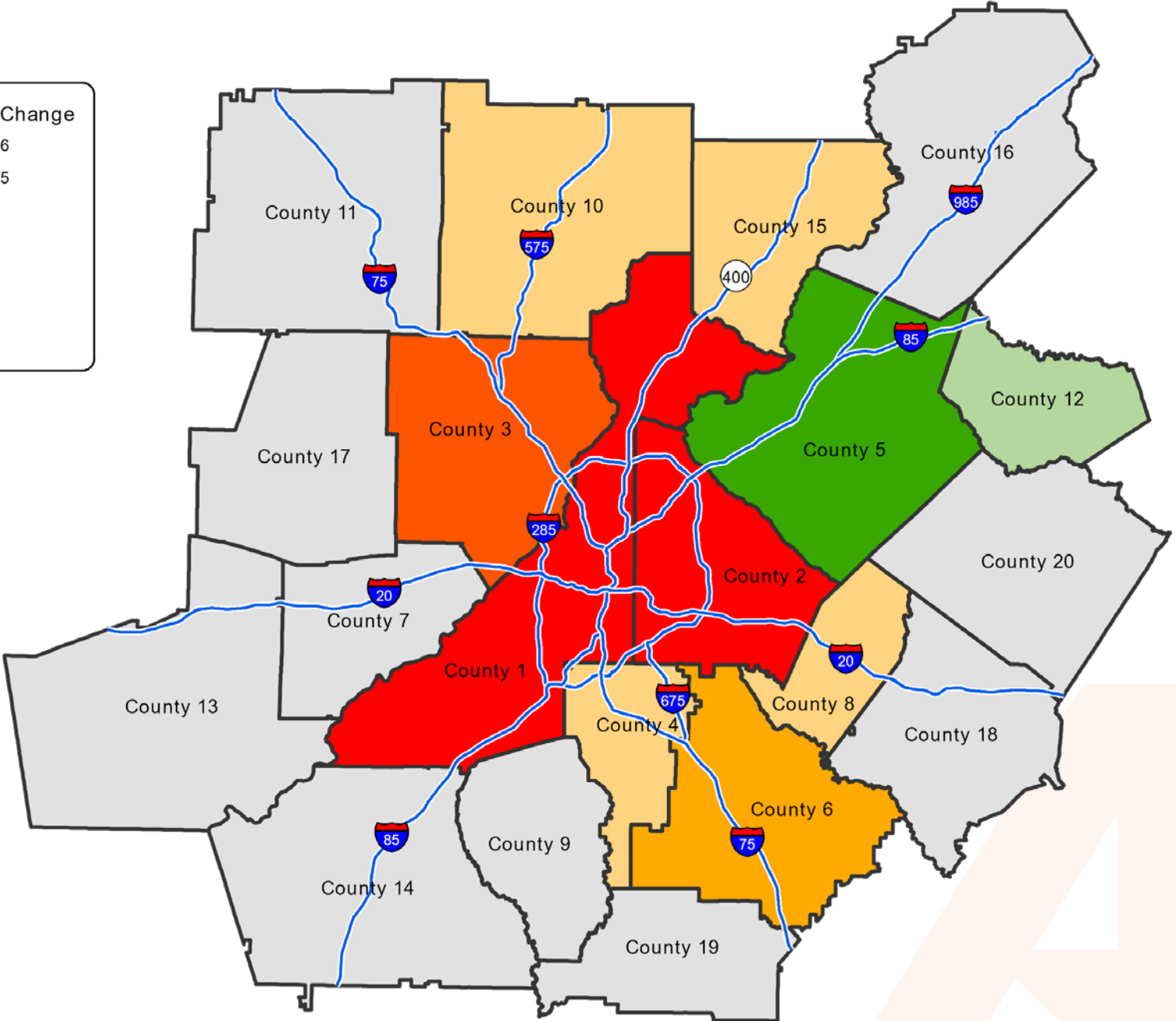
Regional GDP Impacts



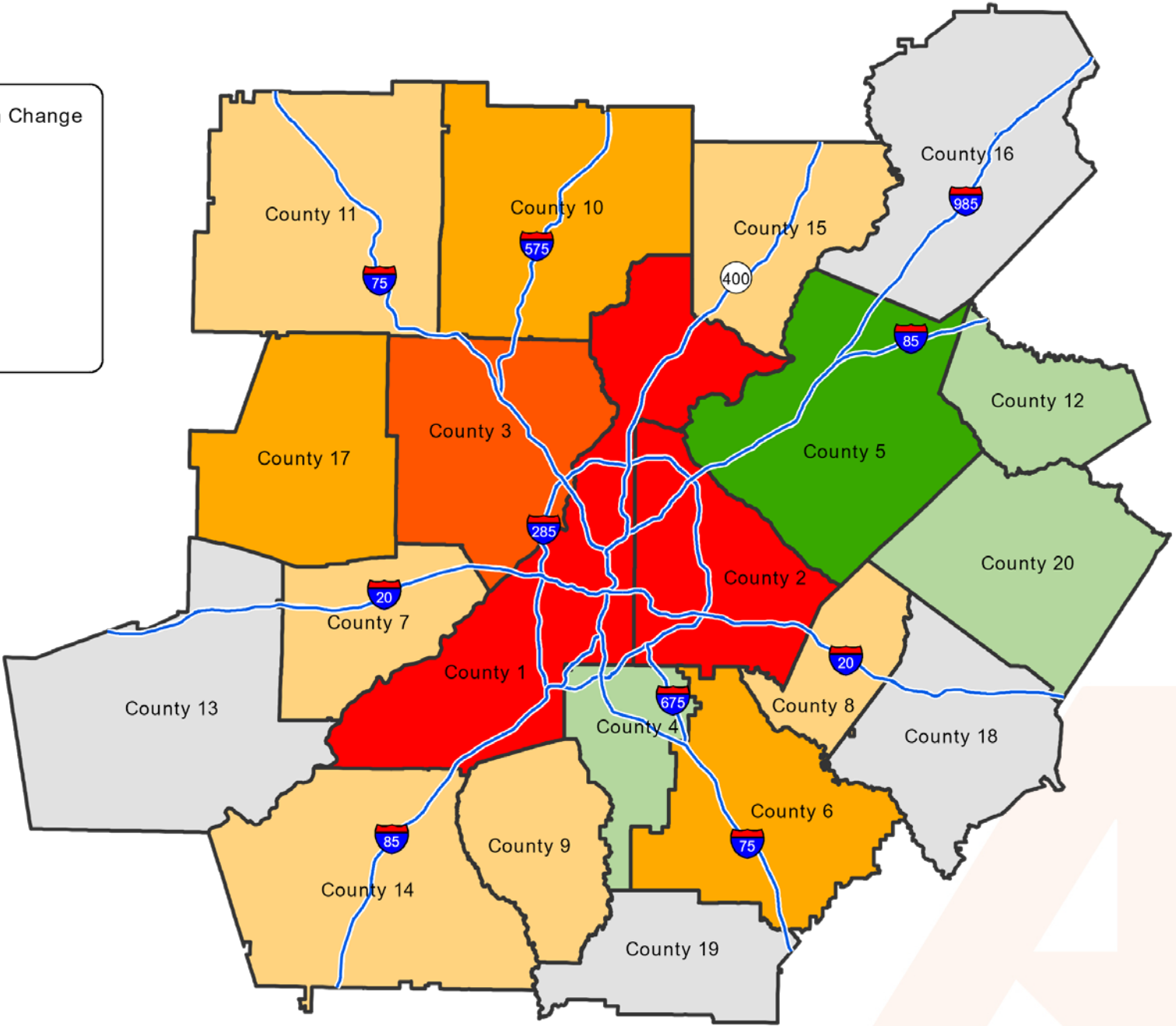
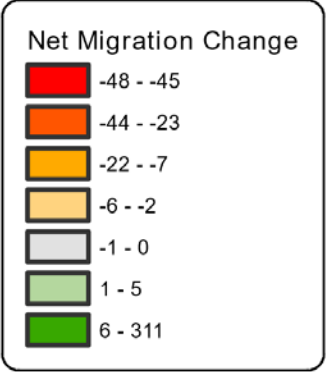
Regional Population Impacts



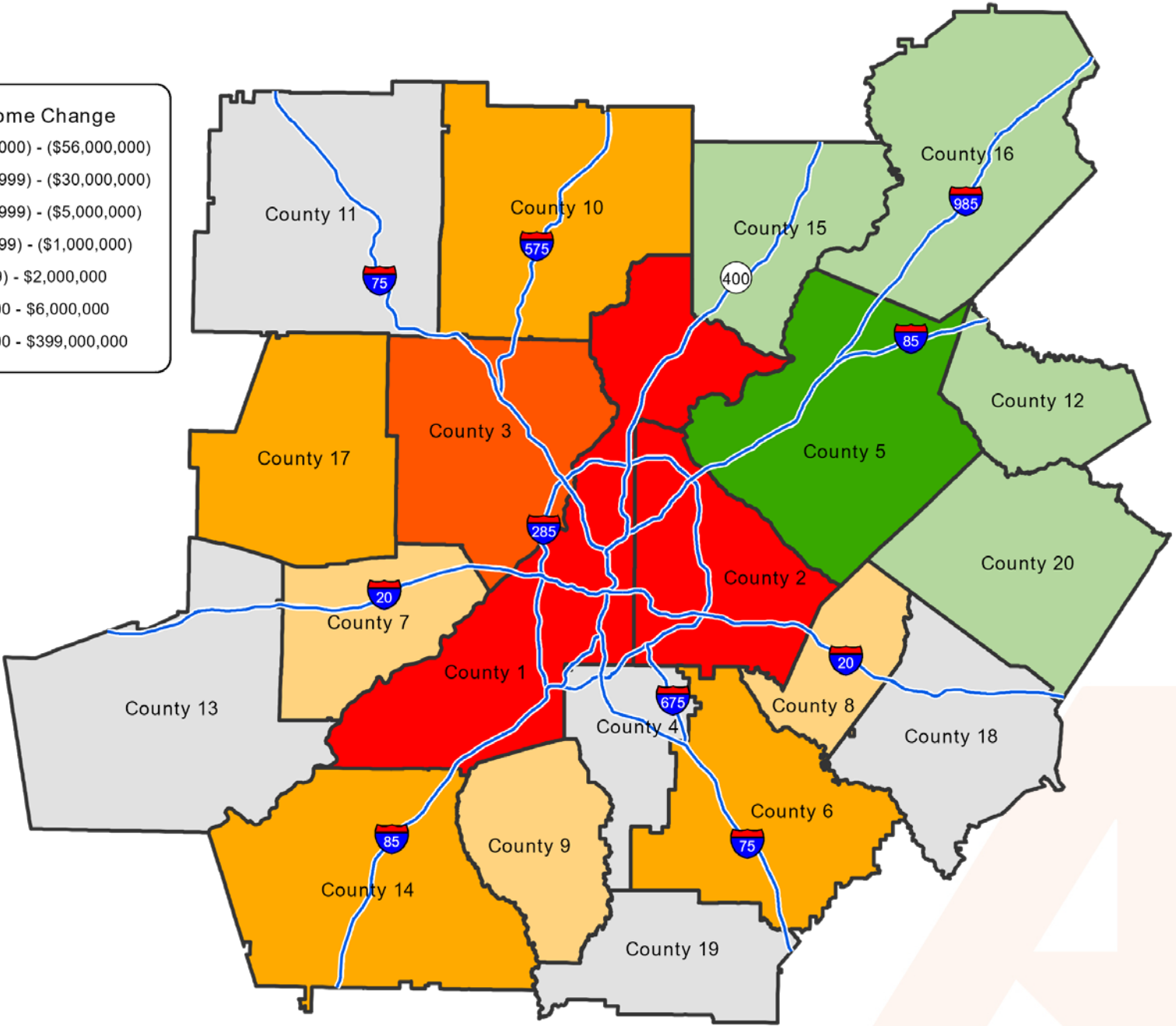
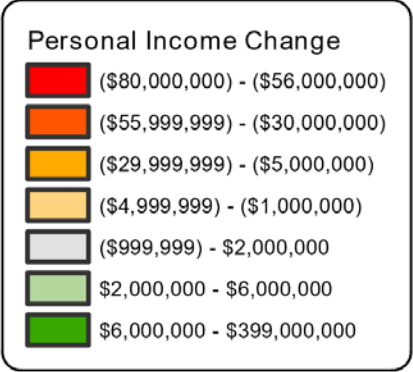
Regional Employment Impacts



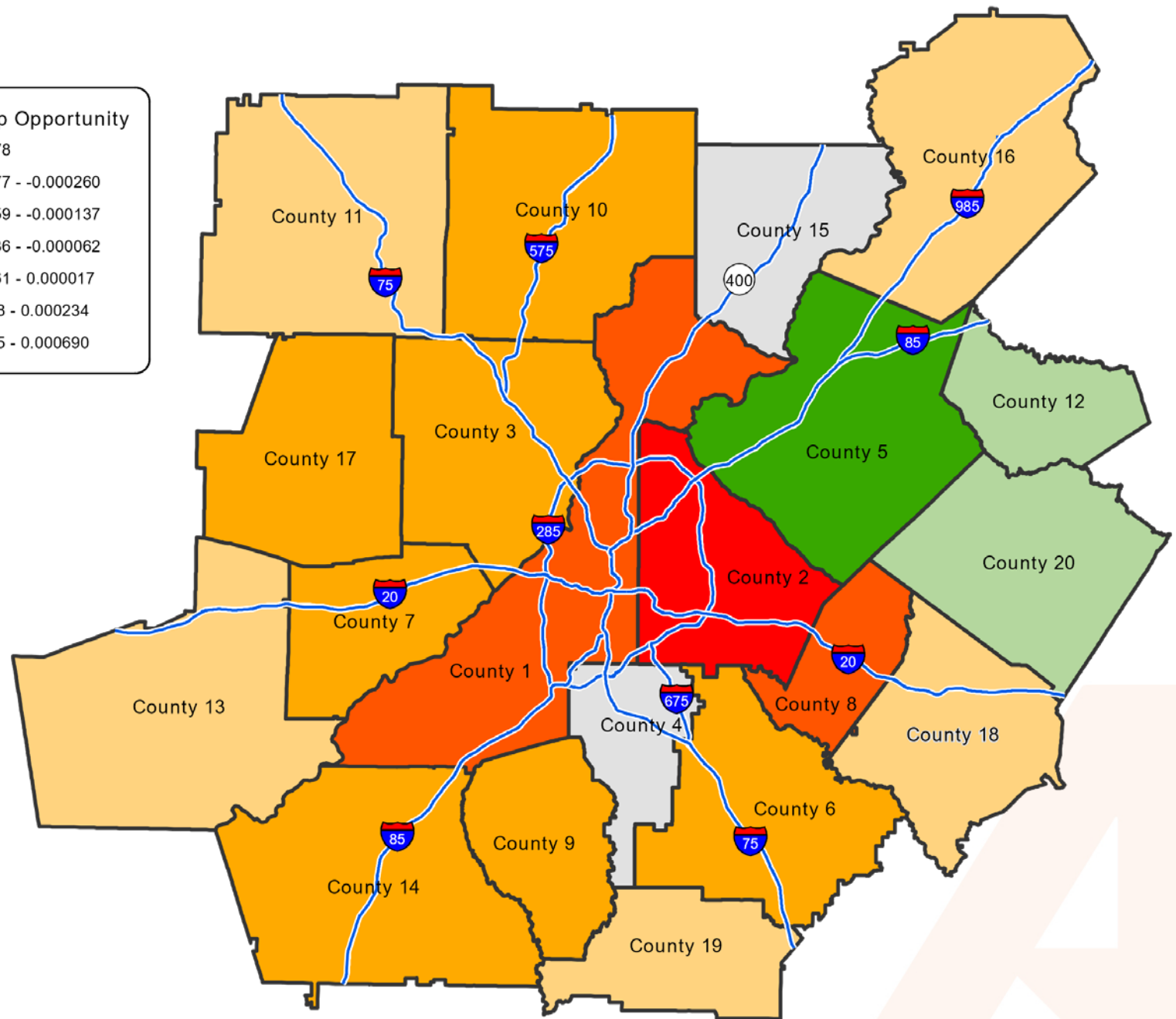
Regional Migration Impacts



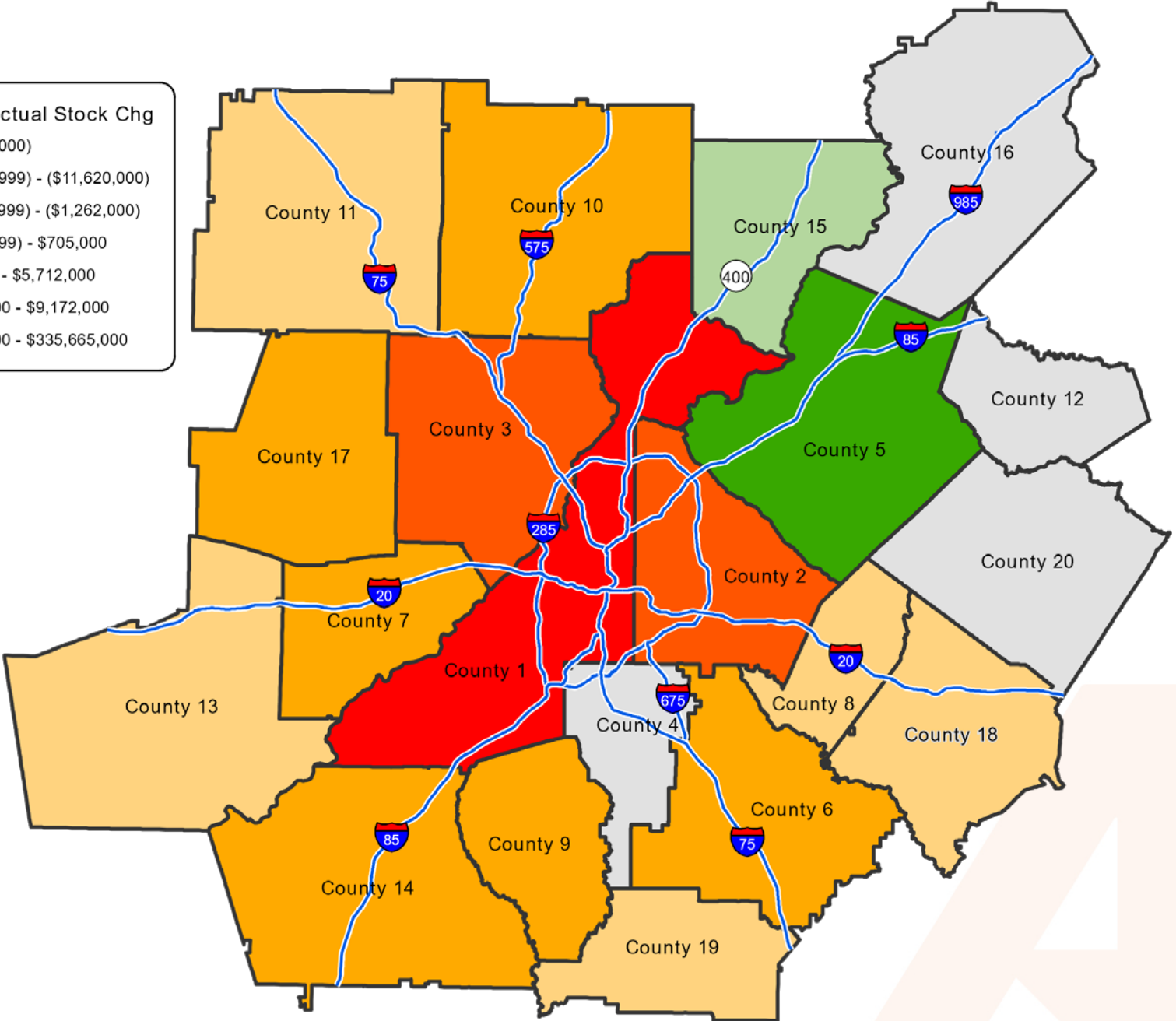
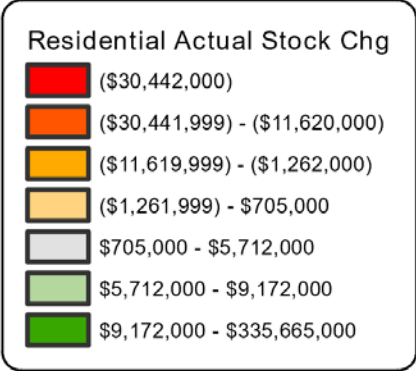
Regional Personal Income Impacts



Regional Relative Employment Opportunity Impacts

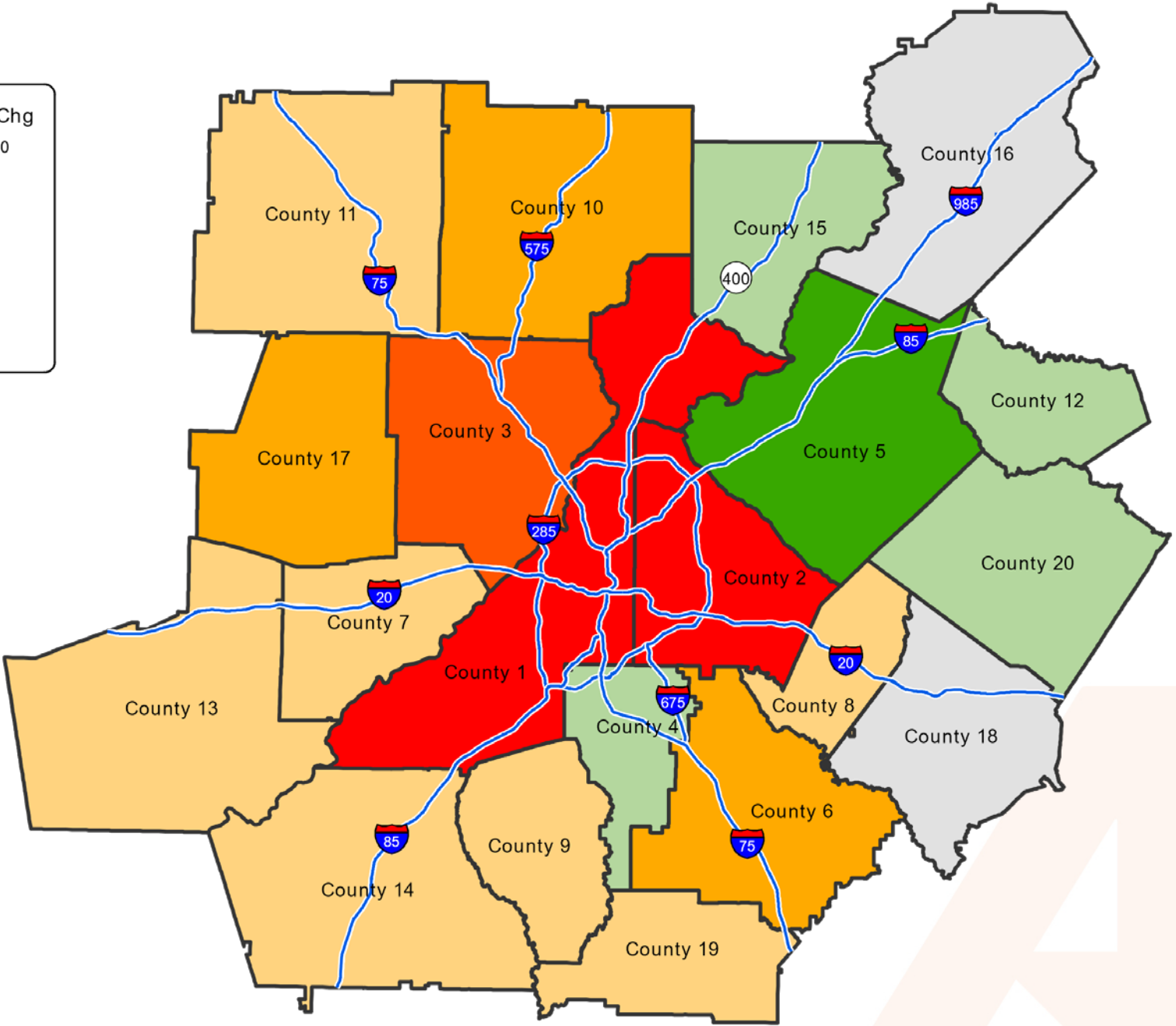
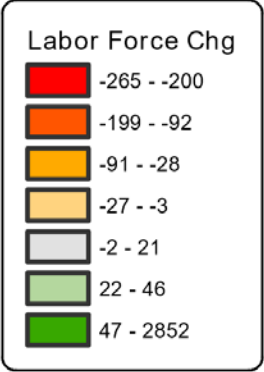


Regional Residential Capital Stock Impacts

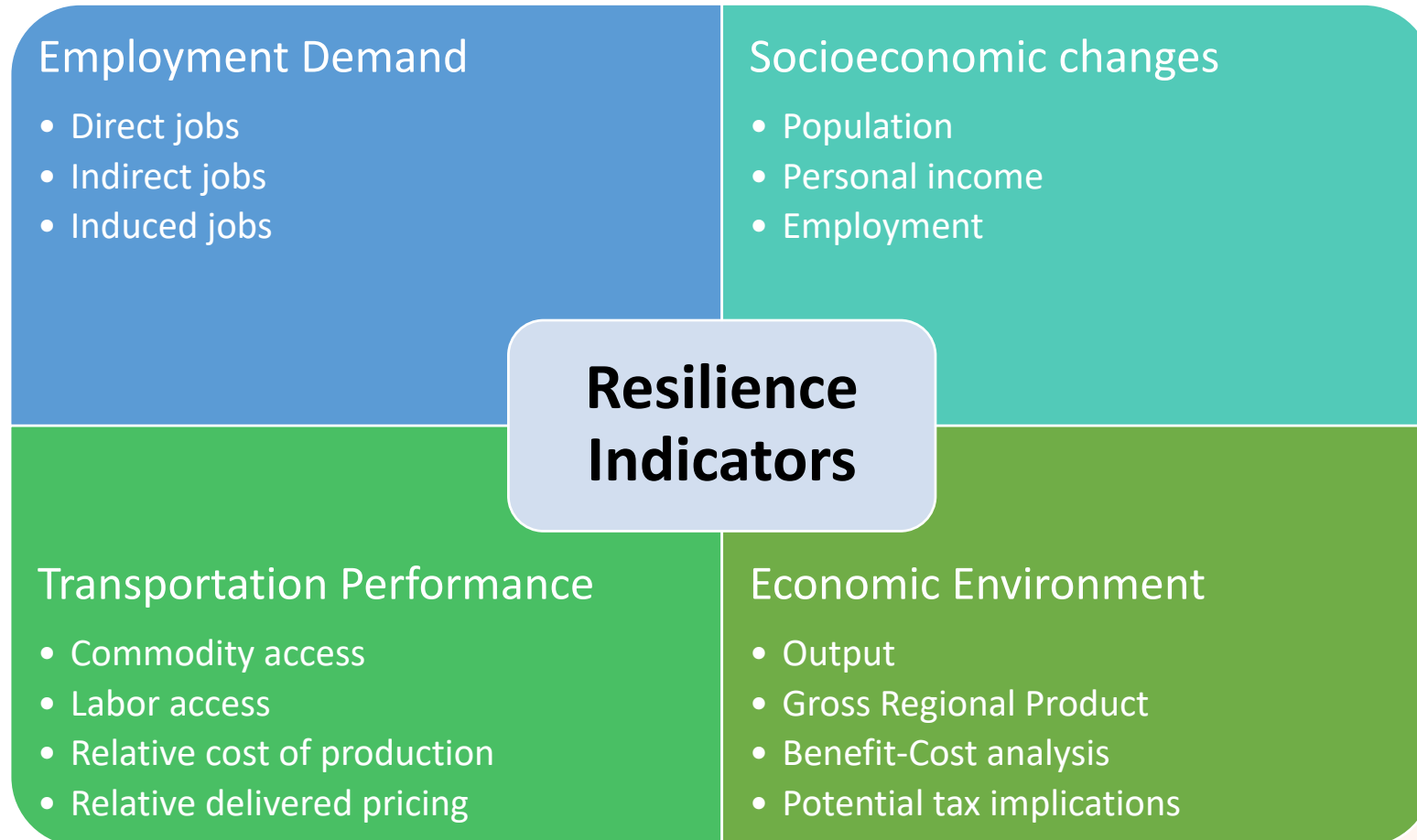




Regional Labor Force Impacts



Project Conclusions



Resilience Competency

- Enhances attentiveness in public engagement [Self-awareness]
- Reconciles skills to optimize performance [Self-regulation]
- Integrates necessary risks or generates new strategies [Planning agility]
- Capitalizes on opportunities and grow facing challenges [Optimism]
- Craft a qualitative script or profile [Connection]

Recap

