Contingency Planning

Identify solutions to close the gap in water supply created by the ruling

- **Governor's Charge: I want the best business minds in Georgia to:**
  - Analyze the situation the way you would a threat to your business
  - Consider the costs and benefits of proposals that can close the water supply gap Judge Magnuson's order would create
  - Prioritize those proposals
  - Make any recommendations, if needed, for statutory change

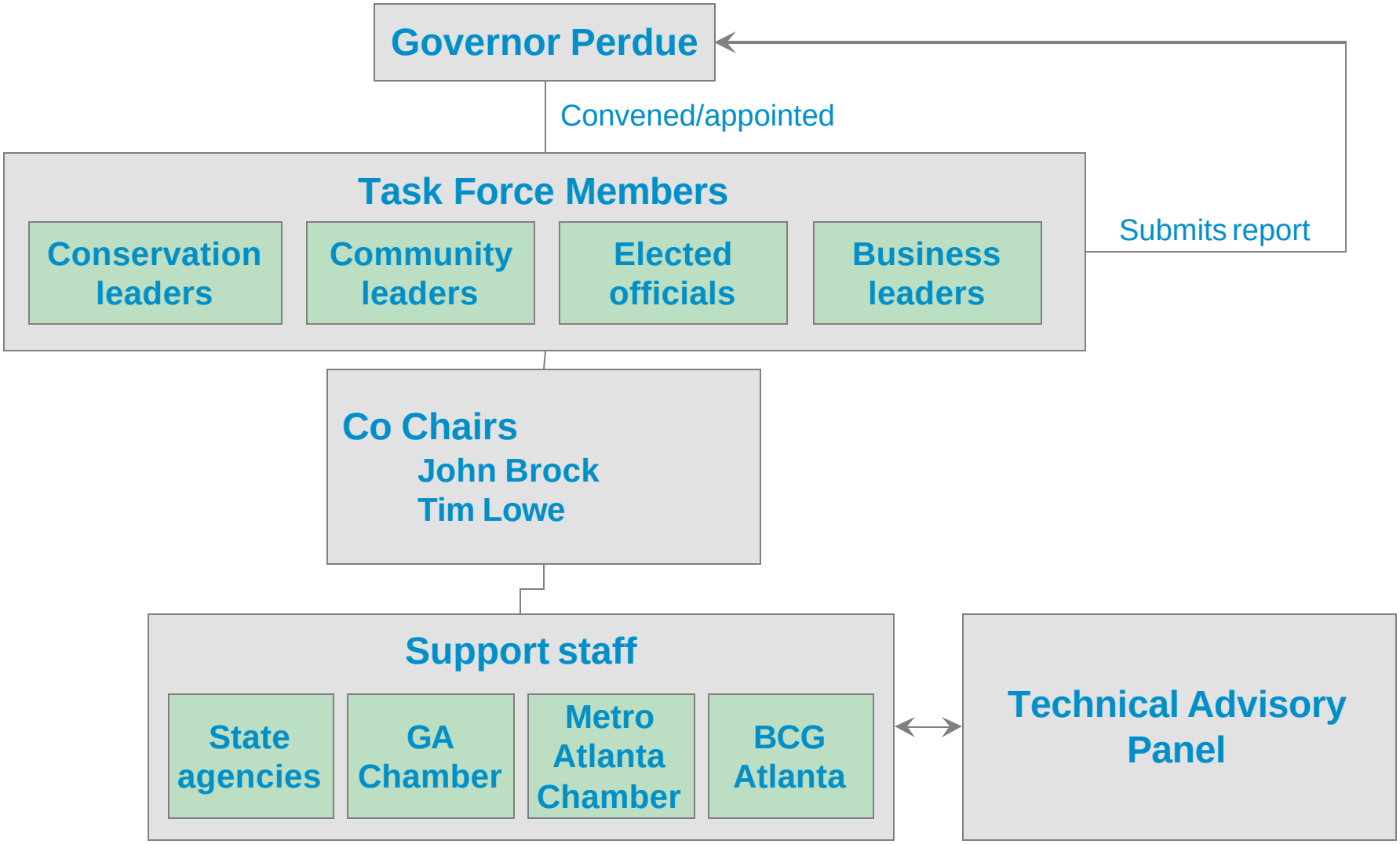
Water Task Force Objectives

Develop a set of facts and a time-driven action plan

1. **Develop a fact-base to educate leaders on Georgia's water situation and the implications of Judge Magnuson's ruling**
   - Water usage and progress to date – forecasts and implications

2. **Define a time-driven action plan prioritizing specific options and recommendations for conservation, supply enhancement, and water policy**
   - Addressing supply gap and economic development concerns
   - For use by Georgia elected officials
   - Supported by business and civic community

Task Force Structure



High-level Approach

Final recommendations due late December 2009

Develop factbase

Research other regions' approaches

Define, evaluate options- create initial prioritization

- *Conservation*
- *Capture (Supply)*
- *Control (Policy)*

Refine action plan

- Costs
- Yield
- Prioritization
- Implementation

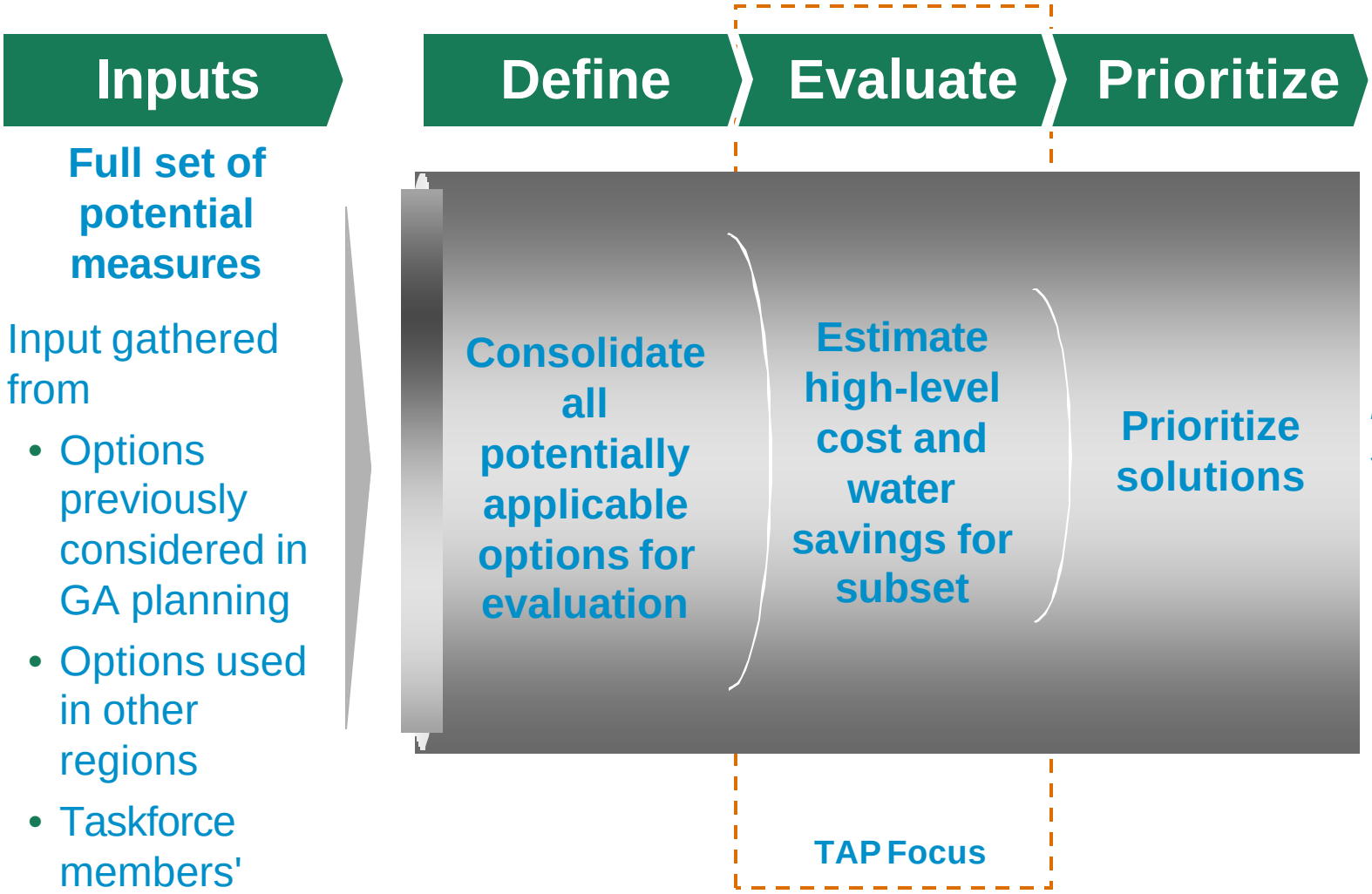
Task force education and network building

Prepare education/ communication plans

ask force neetings

- Oct 7
- Nov 23
- Dec 11

Three-step process to gather input, evaluate potential options and prioritize solutions



Important to understand, re-iterate the Contingency Plan operating assumptions

Assume that re-authorization is not possible

- Hence, solutions involving Lanier storage or Dam operations are not in Task Force scope

All potential solutions are on the table

- Both demand-side (Conserve) and supply-side (Capture and Control) options must be evaluated; we do not have the luxury of restricting analysis to just one lever
- Political considerations should not prevent evaluation of an option

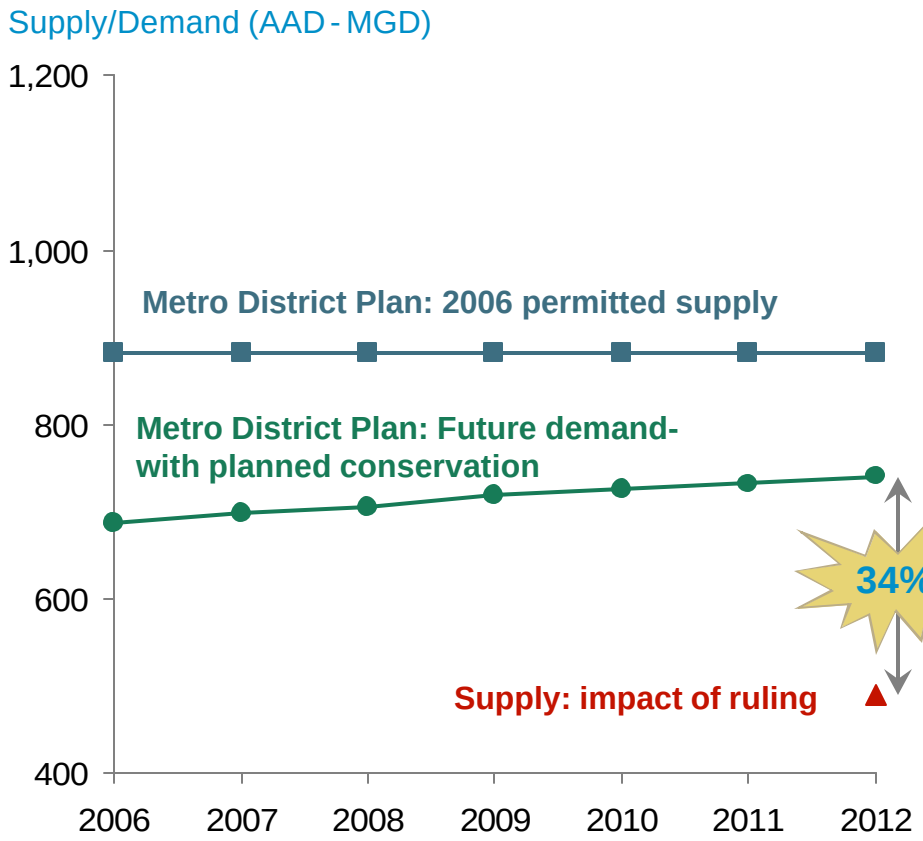
Evaluation approach must stress option *prioritization*

- Not just a "worst case scenario" exercise; prioritization approach should reveal which options would be preferred even in less severe scenarios, as well as which options would be purely "contingency" measures

This does not change fundamental view that Lanier is most environmentally and economically sensible water source

Gap to be addressed by conserve, capture, and control options

Supply gap of 34% between permitted withdrawal and projected demand by 2012



1 Conserve

- Reduce water demand by end users

2 Capture

- Enhance future water supply through new sources or by expanding existing sources

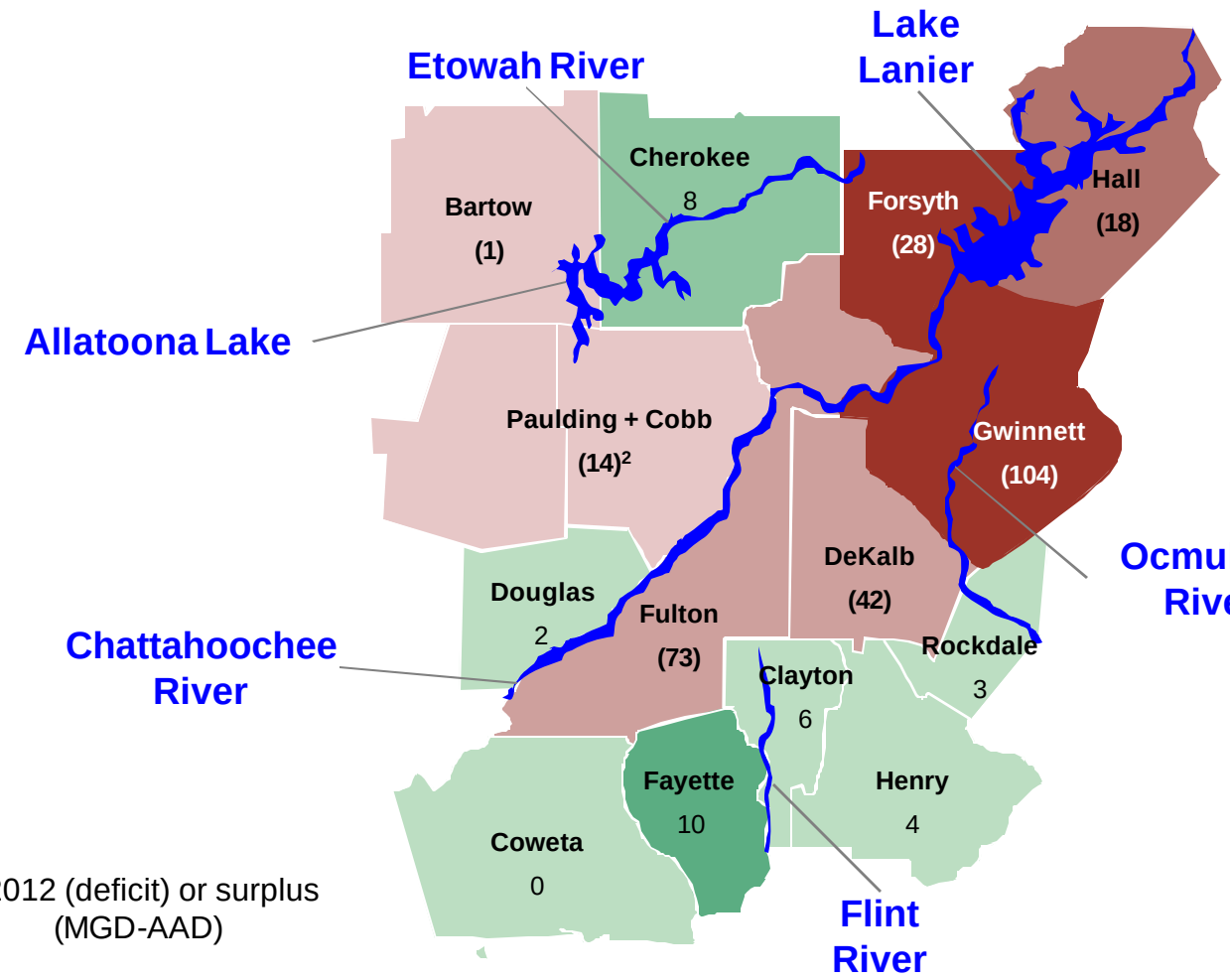
3 Control

- Optimize management of supply thru policy and/or process changes

Source: Metro North GA Water Supply and Water Conservation Management Plan (May 2009); Estimated data; Figures reported in Average Annual Day– Million Gallons per Day (AAD–MGD)

What would the ruling mean? Where is shortfall?

The shortfall is not evenly distributed across the Region.



Total shortfall for deficit counties within15 county Metro Area

~280 MGD (AAD)

Net shortfall for Metro Area[1]

~250 MGD (AAD)

Surplus	Deficit
<20%	<20%
20-50%	20-50%
50+%	50-95%
	95+%

County xxx = 2012 (deficit) or surplus (MGD-AAD)

This is a static analysis only. Exact future impact by county is not known at present.

1. 250 MGD is net figure- this assumes surplus counties could offset deficit counties - which would require possible infrastructure upgrades and water quality verification.
2. Paulding currently buys all water from Cobb; shortfall shown as a result of combined supply / demand for the two counties

Source: Metro North Georgia Water Planning District "Water Supply and Water Conservation Management Plan" (May2009); EPD data

What is cost of inaction? 2012 water shortfall could reduce Metro Region economic output by >10% ($26B+/yr)

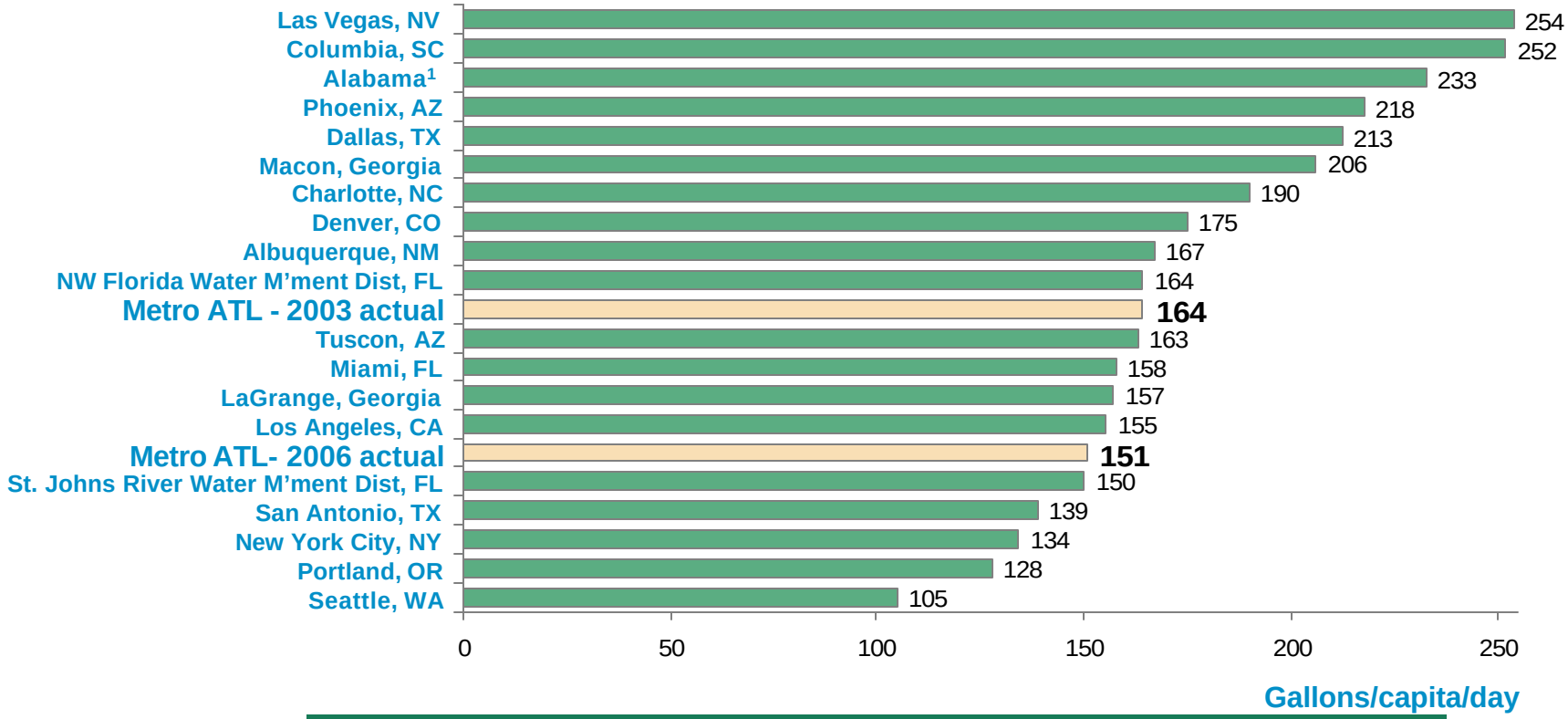
Types of costs	Approach	Result
Lower economic output of existing businesses	• Referred to studies documenting impact of water supply shortfalls[1] on business output • Tailored assumptions to suit local situation- consulted local economists	• Implies a potential 10-15% reduction in output ↓ **Translates into roughly $26-$39B per year**
Reduced investment for future growth	*Costs are significant– but not explicitly quantified by Task Force*	
Reduced quality of life		
Property value decline		

Shortfall costs begin accruing now, as businesses evaluate metro ATL suitability... we need to *ACT!*

1. Measures to Reduce the Economic Impacts of a Drought-Induced Water Shortage in the SF Bay Area, SFPUC (2007) ; Estimating business and residential water supply interruption losses from catastrophic events, Brozovic (2006) ; Economic Loss Estimation of Water Supply Shortage Based on Questionnaire Survey in Industrial Sectors, Jiang (2005)
Note: Assessed impact to Metro Atlanta GDP from potential water shortfall of ~35%, Assumed shortfall borne equally by all sectors (ie, did not re-allocate supply)

Overall District water usage levels projected to be similar to those seen in low-usage metro areas

Per capita public supply use, by metro areas– showing Metro ATL 2003 and 2006 actual usages



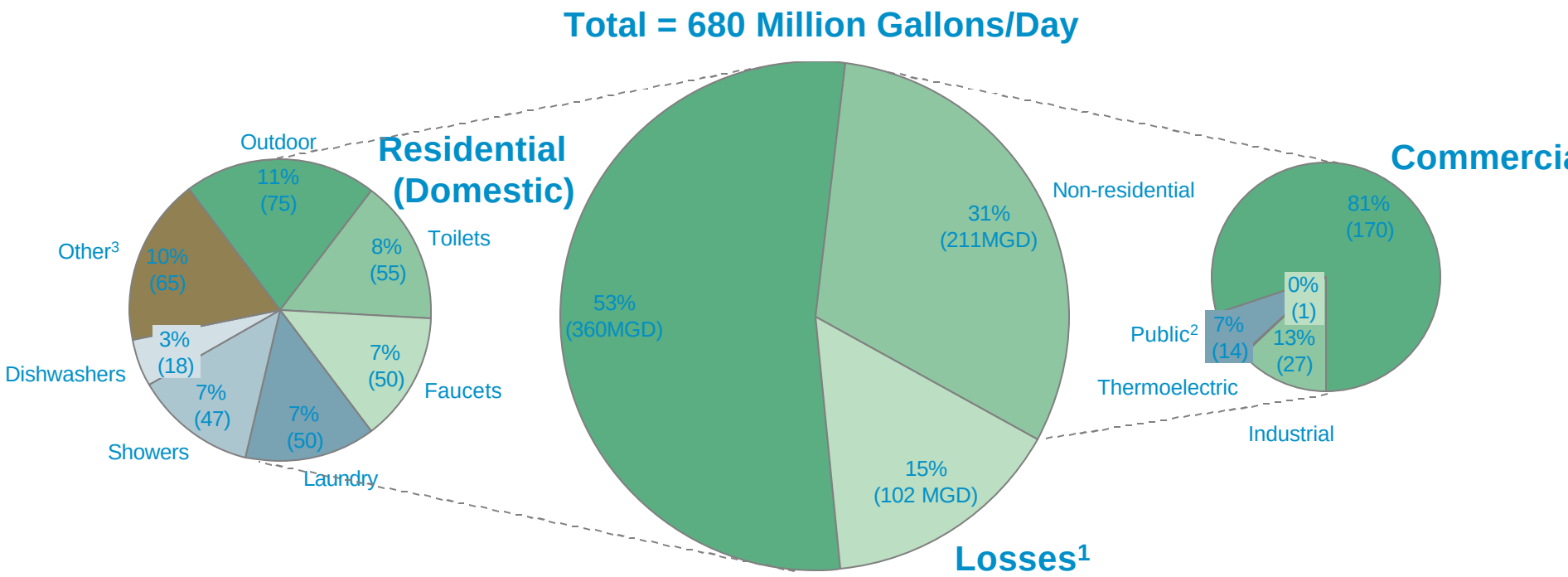
Realization of this requires continuous improvement and ongoing education- fostering a "conserve first" mindset

1. State average; data not available for individual cities in AL

Note: Overall per capita is calculated by dividing total gallons of water produced by water provider by the population served, where total gallons of water produced includes use for residential, commercial, industrial, irrigation, and non-revenue water Source: Georgia EPD analysis with data collected from 2000 - 2008

Roughly 95% of Metro public supply water use occurs in residential/commercial uses, or system losses

Metro North GA public supply usage



1. Includes apparent losses (meter inaccuracies, data errors, etc) and real losses (leakage, breaks, overflows, etc) 2. Includes "unbilled authorized" (eg, fire fighting, hydrant flushing, street cleaning, etc) 3. "Other" category not defined in Metro plan – likely includes drinking, food preparation, leaks, etc.
Source: Metro North GA Water Supply and Water Conservation Management Plan (May 2009)

Caveat: cost, yield figures are *estimates*

Estimates do not reflect full technical design, or consideration of peak yields versus peak gap

Cost and yield figures all contain inherent degree of uncertainty

- Such figures typically developed over several months as part of comprehensive planning
- Consider these figures as ranges- not point estimates

Full technical design and optimization efforts as well as program implementation planning would still be required

- There could be more optimal routing of water transmission, for example
- Key investments and proposals must be assessed in light of state water plan and forthcoming EPD analyses
- Analysis would have to consider peak yields versus peak requirements

Regardless, the estimates generated should enable consistent comparison of options and informed prioritization

- Technical cost assumptions standardized across options (eg, costs of water piping, treatment)
- Costs "levelized" across options- discounted over project lifetimes and annual average unit costs computed- to enable comparisons of options with different cost profiles, capital expense intensities