



The Fort Benning Regional Growth Management Plan is funded by a grant from the Department of Defense, Office of Economic Adjustment; an agency charged with helping BRAC-affected communities adjust to the impacts of mission changes at military installations

Fort Benning

REGIONAL GROWTH MANAGEMENT PLAN

Infrastructure Task Force Meeting

January 23, 2009



In association with:



Regionalism is the Key

"Coordination and Synchronization Continue To Be Our Greatest Strengths"
Major General Walter Wojdakowski
Commanding General, Fort Benning, Alabama and Georgia



Project Purpose

RGMP Study Area:
(10 Counties – 35 Mile Radius)

Ten County Study Area:

Georgia

- Columbus - Muscogee
- Cusseta - Chattahoochee
- Harris
- Marion
- Talbot
- Taylor
- Stewart

Alabama

- Barbour
- Lee
- Russell



Identify:

- What growth will occur?
- Where will it occur?
- Impacts to local communities
- Action plans to prepare

Task Review Summary

TASK	Phase 1		Phase 2		Region		REMARKS
	Status	Due	Status	Due	Status	Due	
1: ID Existing Conditions & Issues	C	12/31/08	C	3/31/09	C	3/31/09	
2: Growth Forecast & Modeling	C	12/31/08	G	3/31/09	G	3/31/09	No issues
3: Economic Impact Analysis	C	12/31/08	G	3/31/09	G	3/31/09	No issues
4: Transportation	C	12/31/08	G	3/31/09	G	3/31/09	No issues
5: Utilities & Infrastructure	C	12/31/08	G	3/31/09	G	3/31/09	No issues
6: Housing Market Analysis	C	12/31/08	G	3/31/09	G	3/31/09	No issues
7: Education	C	12/31/08	G	3/31/09	G	3/31/09	No issues
8: Land Use Planning	C	12/31/08	G	3/31/09	G	3/31/09	No issues
9: Regional Mapping	C	12/31/08	G	3/31/09	G	3/31/09	Some counties no GIS
10: Public Engagement & Comm.	G	12/31/08	G	3/31/09	G	3/31/09	Website maintenance
11: Environmental Impacts	C	12/31/08	G	3/31/09	G	3/31/09	No issues
12A: Health Care	G	12/31/08	G	3/31/09	G	3/31/09	Regional focus
12B: Social Services	C	12/31/08	G	3/31/09	G	3/31/09	No issues
13: Public Safety & Emergency Services	C	12/31/08	G	3/31/09	G	3/31/09	No issues
14: Quality of Life	C	12/31/08	G	3/31/09	G	3/31/09	No issues
15: Fiscal Analysis & Sustainability	G	12/31/08	G	3/31/09	G	3/31/09	Pending other impacts
16: Implementation	G	12/31/08	G	3/31/09	G	3/31/09	Coord. w/RDC&COG

C Complete
G On Track
A Issues
R At Risk

Project Process

Phase 2 Counties

Phase 1 Counties

1 Existing Conditions Evaluation

- Identification and Assessment of Existing Conditions and Issues

2 Future Conditions Evaluation

- Growth Forecasting
- Economic Impact
- Transportation
- **Public & Private Utilities**
- Housing Market
- Education
- Environmental Impacts
- Health & Social Services
- Public Safety & Emergency Services
- Quality of Life

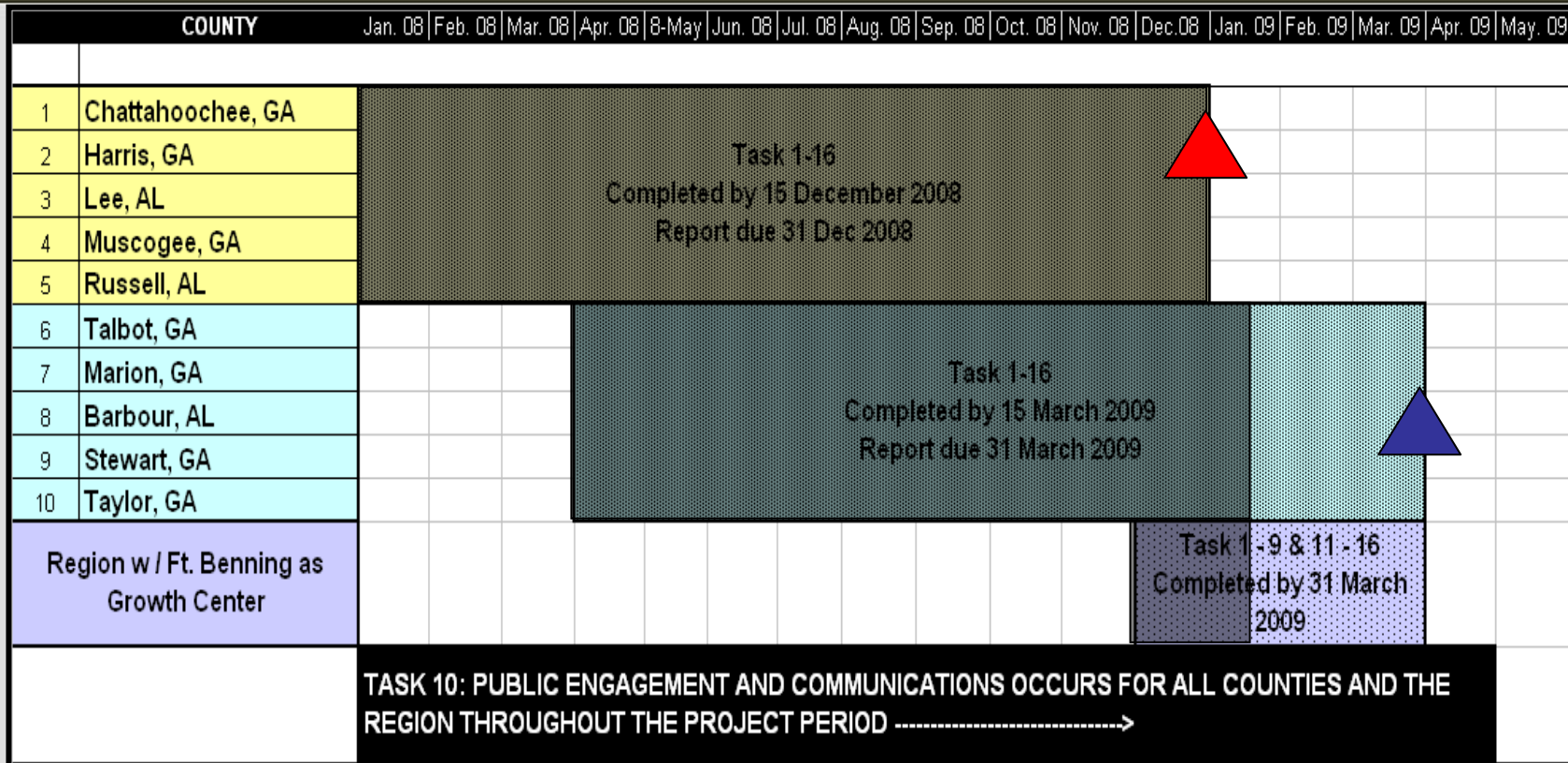
3 Improvement Alternatives Evaluation

4 Plans & Recommendations

- Region
- Each County

- Sustainable Land Use Planning
- Regional Growth Plan Mapping
- Fiscal Analysis and Sustainability Plan
- Implementation and Follow-Up

Schedule (County View)



- First five county plans (**Phase 1**) completed Dec 2008
- Remaining counties (**Phase 2**) and regional plan completed 31 Mar 2009

Stakeholder Task Forces

TASK FORCES

1. Economic Impact
2. Education
3. Funding for Region
4. Health Care & Social Services
5. Housing
6. Utilities & Infrastructure
7. Land Use
8. Public Services
9. Quality of Life
10. Strategic Communications
11. Transportation
12. Workforce

Task Force Meeting # 1

- Presentation of initial findings
- Discussion

Task Force Meeting # 2

- Presentation and discussion of strategies/recommendations
- Implementation strategies

Task Force Responsibilities

- 1) Review task, scope and methodology
- 2) Confirm existing conditions and known issues
- 3) Establish points of contact for data collection
- 4) Review findings and recommendations
- 5) Communicate with community regarding actions and status of Plan
- 6) Provide guidance in Plan implementation

Task Force Meeting Objectives

- Review Task Methodology
- Review Existing Conditions & Issues
- Review Growth Projections
- Present Findings & Recommendations
- Discuss and Confirm Way Ahead

Task 5 – Utilities & Infrastructure

TASK METHODOLOGY OVERVIEW:

- Inventory of existing utilities and infrastructure for each county.
- Growth model (REMI) population impacts by county and Land Use Planning model (CommunityViz) affinity factors in each of the counties are evaluated to help identify estimates for population-based drivers on utility demand.
- Future utility demand is calculated with usage factors (where available) and estimated population increases in each county for years 2008-2028 in five year increments.
- Changes in calculated utility demand are compared to current and planned supplies (where available) to determine any shortfalls and opportunities for new infrastructure investments.
- Findings and recommendations determined for each utility resource at the county level, looking for opportunities for regional investment.
- Initial 20 year implementation plan presented with public and private roles and rough order magnitude public funding requirements...

REMI Modeled Impacts 2008-2028

Baseline Plus Impacts from Fort Benning, Kia, and Aflac

Year	Barbour	Chattahoochee	Harris	Lee	Marion	Muscogee	Russell	Stewart	Talbot	Taylor	Study Area
2008	27,623	13,991	29,870	130,528	7,531	189,726	51,154	4,418	6,846	8,444	470,131
2013	26,913	14,071	33,952	142,571	7,813	205,628	56,763	4,444	7,103	8,760	508,017
2018	26,374	14,048	37,901	151,099	7,925	209,144	58,544	4,436	7,205	8,886	525,562
2023	26,265	13,981	41,498	158,126	8,010	211,462	59,729	4,415	7,281	8,980	539,748
2028	26,598	14,155	44,654	164,171	8,075	214,276	60,807	4,470	7,341	9,054	553,601
2030	26,793	14,337	45,819	166,441	8,104	215,632	61,215	4,528	7,367	9,086	559,323

Source: September 3, 2008 REMI Model Output from RKG

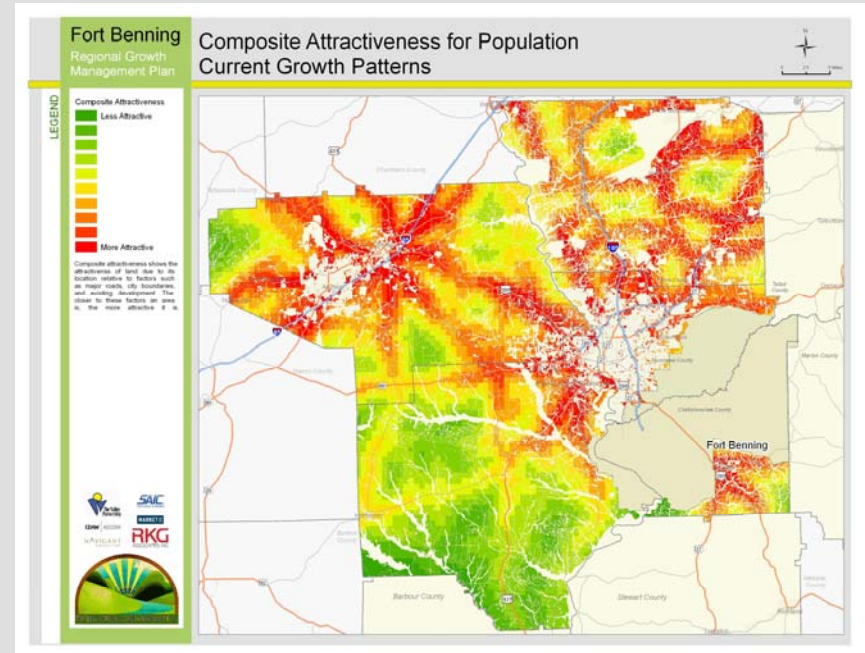
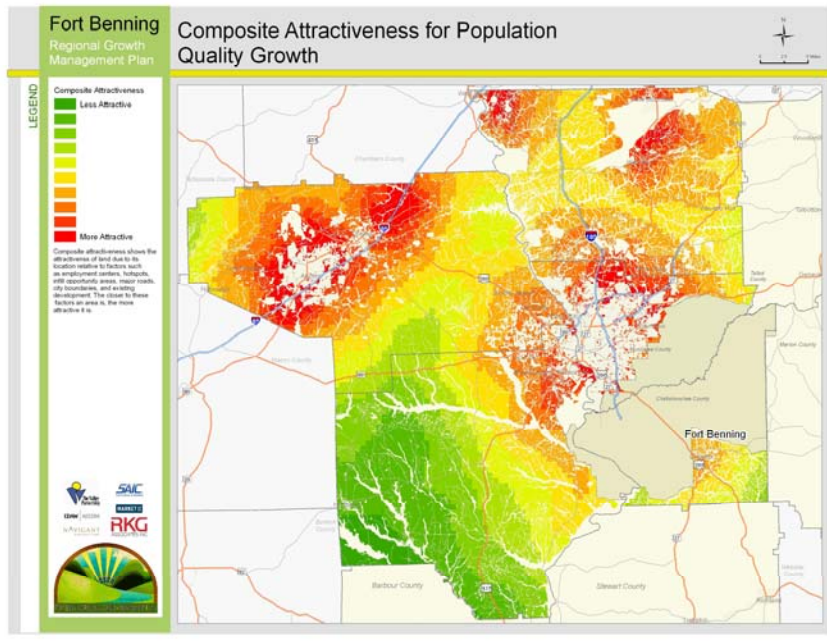
REMI Modeled Impacts vs. U.S. Census Projection '06

Percent Increase (Decrease) of REMI Projection over Estimated 2006 Population from U.S. Census 2000

Year	Barbour	Chattahoochee	Harris	Lee	Marion	Muscogee	Russell	Stewart	Talbot	Taylor	Study Area
2006	28,171	14,041	28,785	125,781	7,276	188,660	50,085	4,754	6,605	8,792	462,950
2008	-1.9%	-0.4%	3.8%	3.8%	3.5%	0.6%	2.1%	-7.1%	3.7%	-4.0%	1.6%
2013	-4.5%	0.2%	17.9%	13.3%	7.4%	9.0%	13.3%	-6.5%	7.5%	-0.4%	9.7%
2018	-6.4%	0.0%	31.7%	20.1%	8.9%	10.9%	16.9%	-6.7%	9.1%	1.1%	13.5%
2023	-6.8%	-0.4%	44.2%	25.7%	10.1%	12.1%	19.3%	-7.1%	10.2%	2.1%	16.6%
2028	-5.6%	0.8%	55.1%	30.5%	11.0%	13.6%	21.4%	-6.0%	11.1%	3.0%	19.6%
2030	-4.9%	2.1%	59.2%	32.3%	11.4%	14.3%	22.2%	-4.8%	11.5%	3.3%	20.8%

Source: September 3, 2008 REMI Model Output from RKG and US Census 2000 Projected Year 2006 Data

Population Affinity Maps for Two Growth Scenarios



Task 5 – Utilities & Infrastructure

EMERGING RESULTS: 2008-2013

Color Key

	No current issue
	Longer term issue
	Short term issue
TBD	Not addressed yet
120,000	Estimated from primary data
14,151,780	Estimated from factors and population

Summary of Utility Supply-Demand Congruence for 2013 Demand Based on CY2008 Supply Capacity and REMI.

	Potable Water (% Capacity Consumed)	Wastewater (% Capacity Consumed)	Municipal Solid Waste (Years Remaining)	Electrical Energy (% Local Plant Capacity)	Natural Gas	Propa ne	Telecom municati ons
Columbus-Muscogee	33%	27%	14	42%	<1%	NA	NA
Russell	19%	55%	57		86%	NA	NA
Lee	59%	80%			23%	NA	NA
Harris	79%	No regional WWTF	1			NA	NA
Cusseta-Chattahoochee	38%	No regional WWTF	5		<1%	NA	NA
Talbot	69%	No regional WWTF			TBD	NA	NA
Taylor	44%	35%	12		TBD	NA	NA
Stewart	68%	28%			TBD	NA	NA
Marion	88%	92%			Not Avail	NA	NA
Barbour	TBD	TBD	57		TBD	NA	NA

Task 5 – Utilities & Infrastructure

EMERGING RESULTS: 2013-2018

Color Key

	No current issue
	Longer term issue
	Short term issue
TBD	Not addressed yet
120,000	Estimated from primary data
14,151,780	Estimated from factors and population

Summary of Utility Supply-Demand Congruence for 2018 Demand Based on CY2008 Supply Capacity and REMI.

	Potable Water (% Capacity Consumed)	Wastewater (% Capacity Consumed)	Municipal Solid Waste (Years Remaining)	Electrical Energy (% Local Plant Capacity)	Natural Gas	Propane	Telecommunications
Columbus-Muscogee	34%	27%	9	43%	<1%	NA	NA
Russell	21%	57%	49		89%	NA	NA
Lee	72%	98%			25%	NA	NA
Harris	96%	No regional WWTF	-4		<1%	NA	NA
Cusseta-Chattahoochee	38%	No regional WWTF	0			NA	NA
Talbot	71%	No regional WWTF			TBD	NA	NA
Taylor	45%	36%	8		TBD	NA	NA
Stewart	67%	27%			TBD	NA	NA
Marion	90%	97%			Not Avail	NA	NA
Barbour	TBD	TBD	49		TBD	NA	NA

Task 5 – Utilities & Infrastructure

EMERGING RESULTS: 2018-2023

Color Key

	No current issue
	Longer term issue
	Short term issue
TBD	Not addressed yet
120,000	Estimated from primary data
14,151,780	Estimated from factors and population

Summary of Utility Supply-Demand Congruence for 2023 Demand Based on CY2008 Supply Capacity and REMI.

	Potable Water (% Capacity Consumed)	Wastewater (% Capacity Consumed)	Municipal Solid Waste (Years Remaining)	Electrical Energy (% Local Plant Capacity)	Natural Gas	Propa ne	Telecom municati ons
Columbus-Muscogee	34%	28%	3	45%	<1%	NA	NA
Russell	22%	59%	42		90%	NA	NA
Lee	82%	112%			26%	NA	NA
Harris	112%	No regional WWTF	-10			NA	NA
Cusseta-Chattahoochee	36%	No regional WWTF	-4		<1%	NA	NA
Talbot	73%	No regional WWTF			TBD	NA	NA
Taylor	46%	37%	3		TBD	NA	NA
Stewart	66%	26%			TBD	NA	NA
Marion	91%	101%			Not Avail	NA	NA
Barbour	TBD	TBD	42		TBD	NA	NA

Task 5 – Utilities & Infrastructure

EMERGING RESULTS: 2023-2028

Color Key

	No current issue
	Longer term issue
	Short term issue
TBD	Not addressed yet
120,000	Estimated from primary data
14,151,780	Estimated from factors and population

Summary of Utility Supply-Demand Congruence for 2028 Demand Based on CY2008 Supply Capacity and REMI.

	Potable Water (% Capacity Consumed)	"Wastewater (% Capacity Consumed)"	Municipal Solid Waste (Years Remaining)	Electrical Energy (% Local Plant Capacity)	Natural Gas	Propa ne	Telecom municati ons
Columbus-Muscogee	35%	28%	-2	45%	<1%	NA	NA
Russell	23%	61%	35		92%	NA	NA
Lee	91%	124%			27%	NA	NA
Harris	146%	No regional WWTF	-15		<1%	NA	NA
Cusseta-Chattahoochee	40%	No regional WWTF	-10			NA	NA
Talbot	74%	No regional WWTF	-2		TBD	NA	NA
Taylor	47%	38%			TBD	NA	NA
Stewart	69%	29%			TBD	NA	NA
Marion	92%	104%			Not Avail	NA	NA
Barbour	TBD	TBD			35	TBD	NA

Task 5 – Utilities & Infrastructure

EMERGING RESULTS: *Baseline Capacity Data (2006-2007)*

	Potable Water Supply (MGD)	Wastewater Capacity (MGD)	Municipal Solid Waste (TPY)	Electrical Energy from Local Plants (MW-hrs/YR)	Natural Gas (DTH)	Propane	Telecommunications
Columbus-Muscogee	90.0	84.0	120,000	14,151,780	4500	NA	NA
Russell	13.0	7.75	133,333		2270	NA	NA
Lee	10.0	5.5			22195	NA	NA
Harris	3.0	No regional WTF	22,000		4500	NA	NA
Cusseta-Chattahoochee	0.8	No regional WTF	13,500			NA	NA
Talbot	0.69	0.1	1,460,000		TBD	NA	NA
Taylor	1.4	1.3	1,460,000		TBD	NA	NA
Stewart	0.3	0.2	1,460,000		TBD	NA	NA
Marion	1	0.25	1,460,000		NA	NA	NA
Barbour	TBD	No regional WTF	133,333		TBD	NA	NA

Note: Water resources capacity is presented as million gallons per day supplied (treated) based on physical infrastructure or permit regulated limitations. Solid waste capacity is estimated in tons per year delivered to the facility based on a combination of guarantee letters and reported landfill volume, mass loading, and/or years remaining characteristics with EPA waste density factors for municipal solid waste. Electrical supplies are estimated based on power ratings for local plants as presented by the Energy Information Administration for 2006 and assuming 75 percent production and delivery system efficiency operating 365 days per year. Local electricity plants are defined as those which fall into the boundaries of the 10-county study area. Natural gas supply capacity information is provided by Algasco (Drew, 2008) for Lee-Russell County areas. Aggregated natural gas supply demand information is provided by Atmos (Ames, 2008) for Columbus-Muscogee County, Harris County, and portions of Cusseta-Chattahoochee County. Additional information on these estimates presented in appendices to RGMP report.

UNITS: MGD - million gallons per day TPY - tons per year MW-hrs/YR - megawatt hours per year DTH – 1,000,000 btu/hr, or 1 MMBtu/hr

Task 5 – Utilities & Infrastructure

ISSUES:

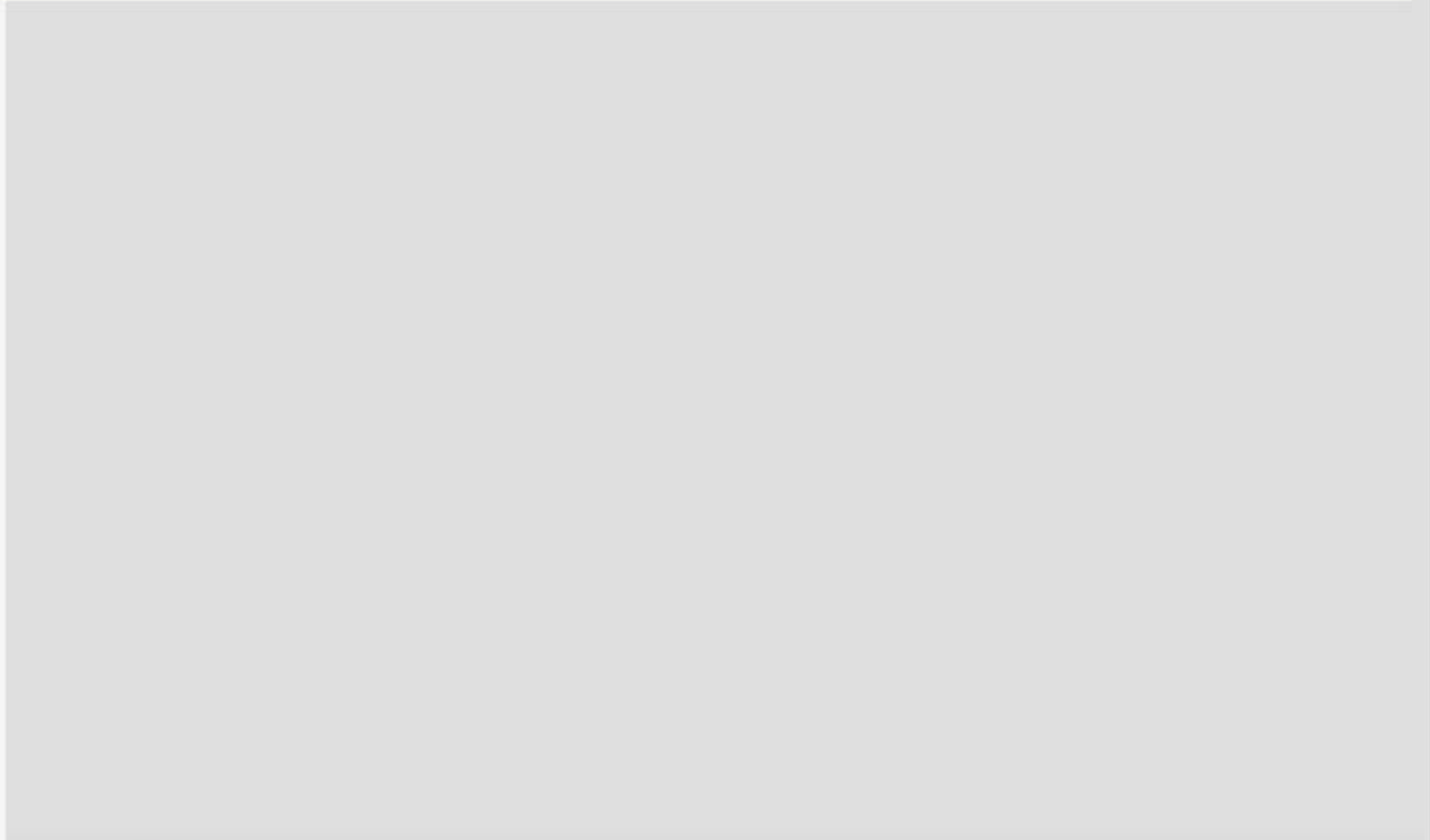
- Assessment of capacity versus demand is performed at the county level based on county population growth estimates reported from the REMI model prepared by RKG*.
- Specific geographical requirements and localized costs are reconciled with Land Use Model (CommunityViz) and affinity factors prepared by EDAW (Quality Growth Scenario). Factors applied at the TAZ level where TAZ information is available.
- Recommendations for infrastructure needs provided at the county level due to uncertainties in implementation priorities and in competing factors affecting determination of more specific locations.
- Varying levels of detail reported (or not reported) from the entities involved led to decision to post jurisdictional maps at the county level, making allowances for differences between incorporated vs. non-incorporated areas.

Task 5 – Utilities & Infrastructure

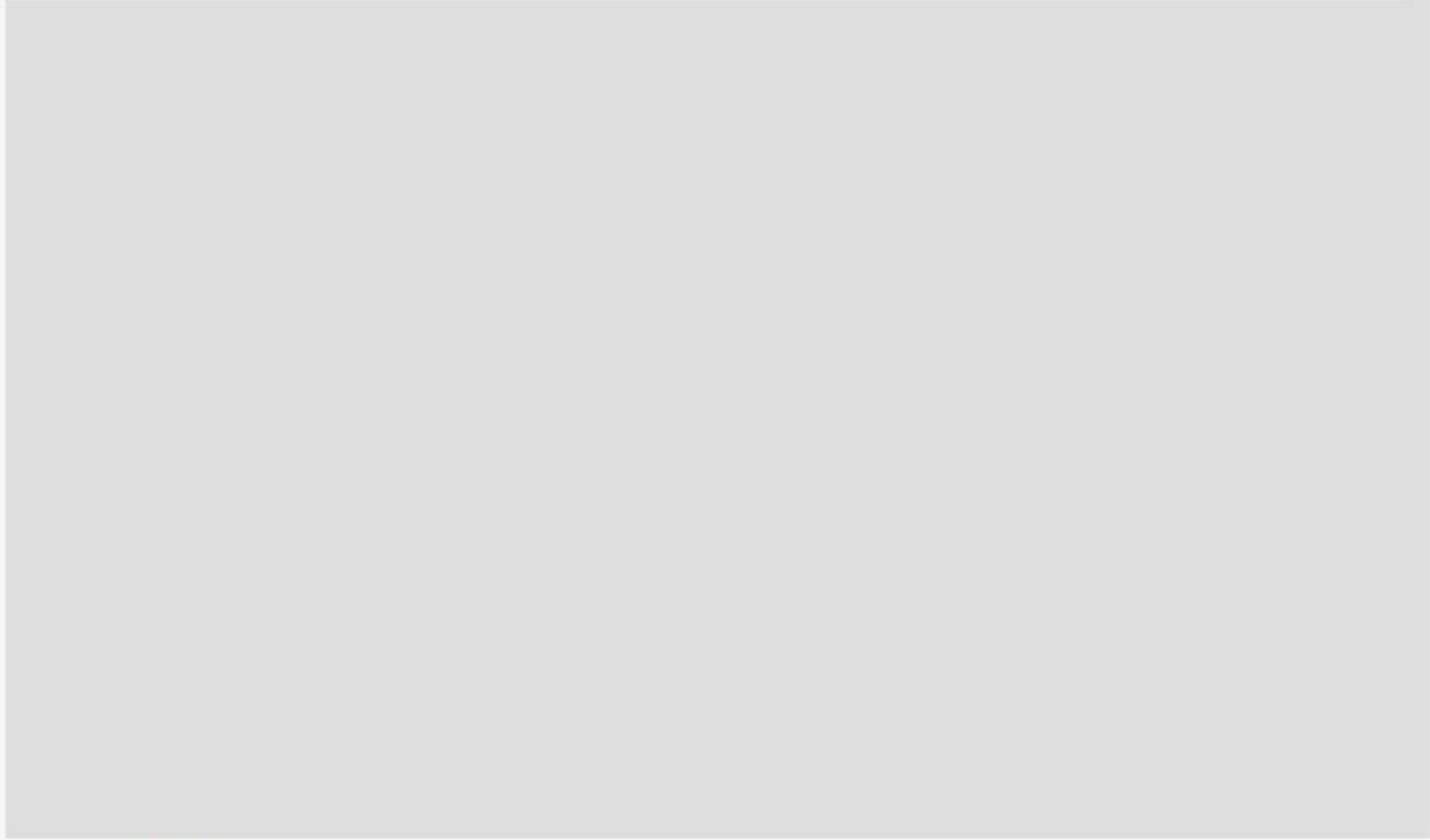
WAY AHEAD:

- Review and finalize issues and recommendations as presented in implementation indices in Phase 1 County reports (Lee, Russell, Harris, Columbus-Muscogee, Cusseta-Chattahoochee) and in Phase 2 County drafts (Marion).
- Finalize approach to Phase 2 draft reports (Barbour, Talbot, Taylor, Stewart) including issues with how to interpret flat to negative projected growth.
- Make use of Infrastructure Task Force work session and contacts to continue collection of missing information (as needed).
- Following slides to facilitate identifying or addressing overlooked or critical issues in each utility resource area...

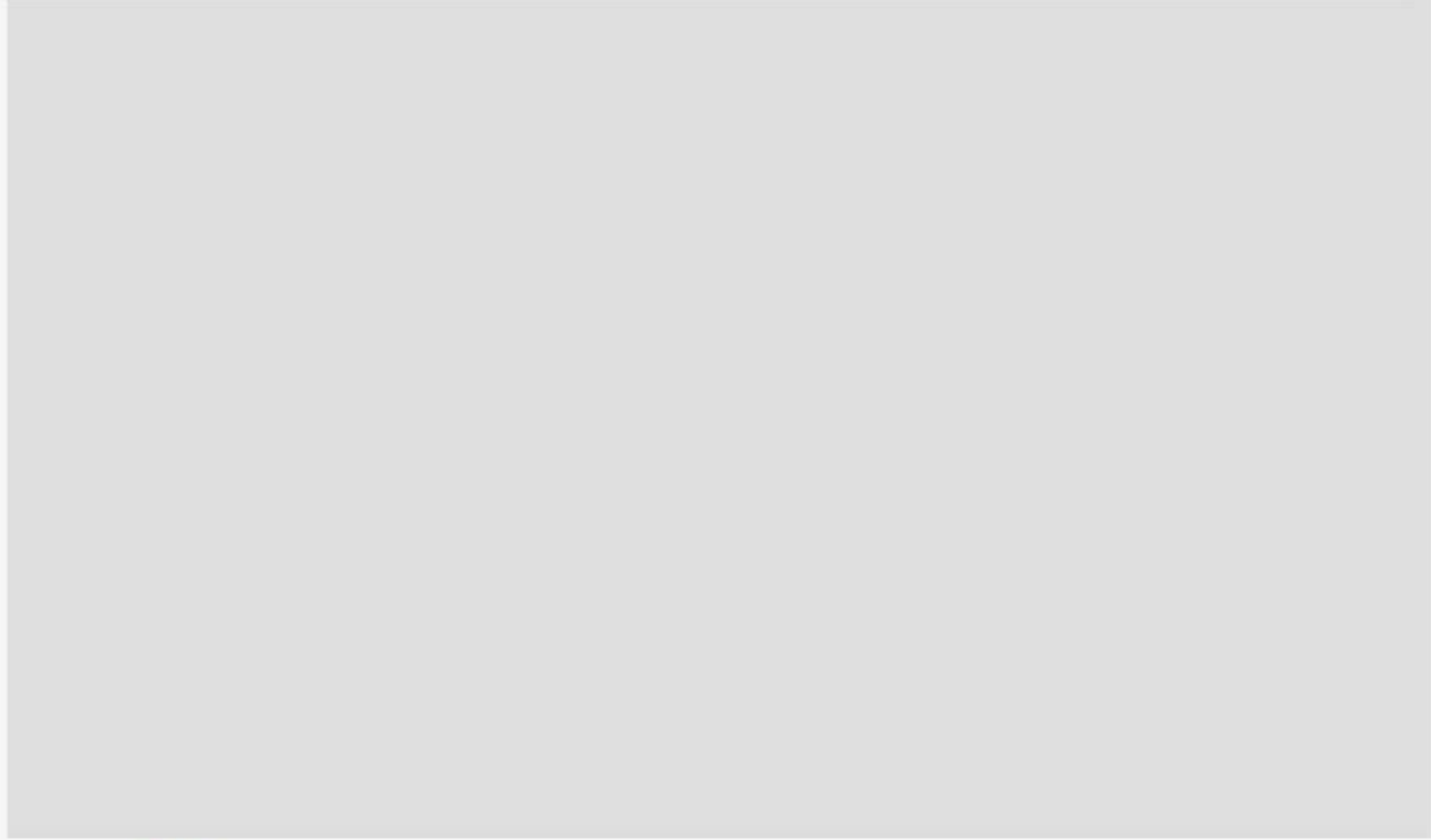
Water Supply & Quality



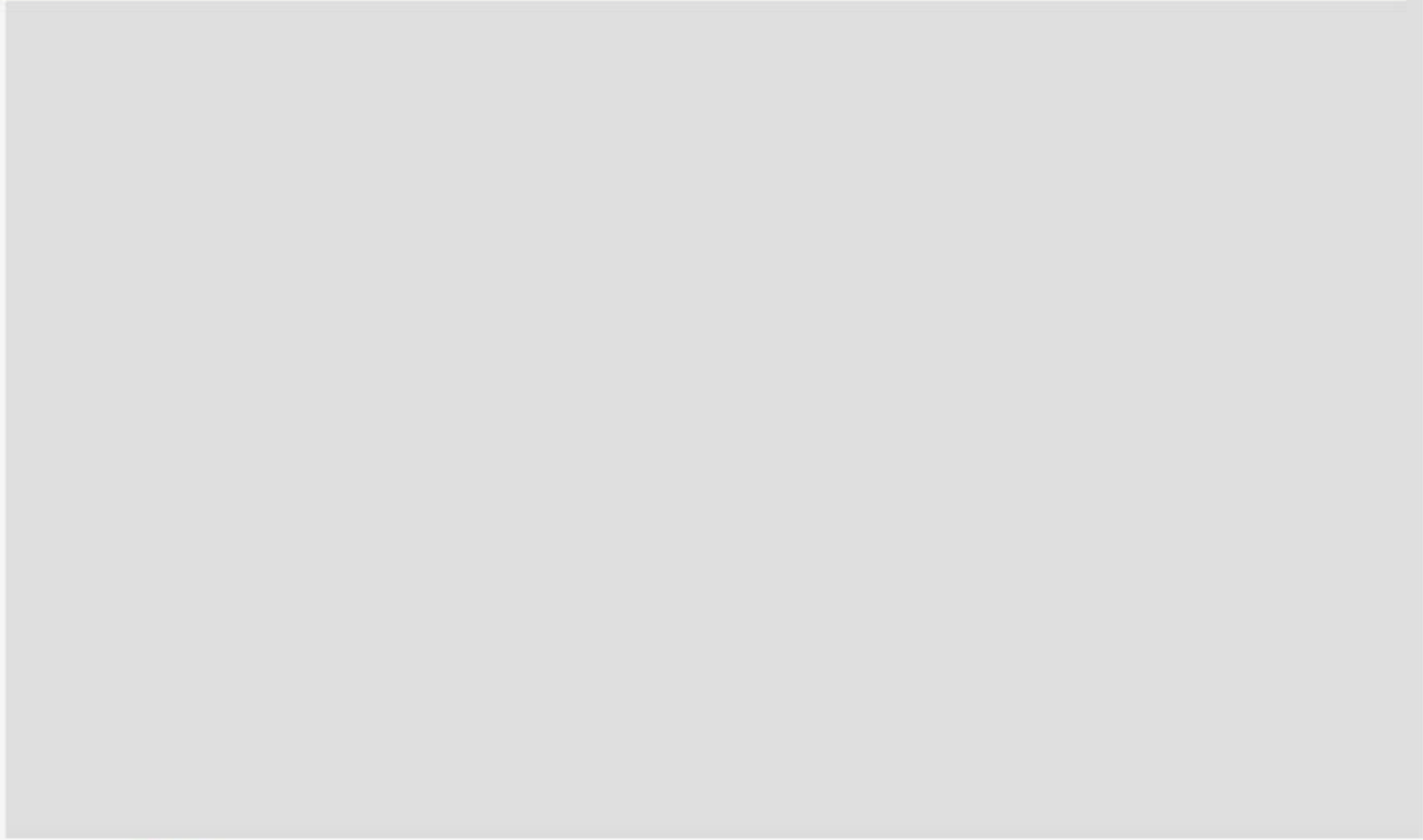
Wastewater & Storm Water



Solid Waste Management



Electrical Energy



Petroleum Energy

- Natural gas supplies to Phase 2 counties...
- Issue with multiple overlapping propane distributors in rural areas (non-standardized tanks)

Telecommunications

- Is there a 911 or E911 access issue remaining in any of the 10 counties?
- High speed internet access in rural areas. Both Alabama and Georgia offer grant programs. How are the 10 counties dealing with internet access?

Wrap up discussions & Q/A

- Wrap up discussions & Q/A

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