2017 Spring AICP Exam Review

PLAN MAKING AND IMPLEMENTATION #1

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Making Great Communities Happen

A bit about me

- PhD in civil engineering from UC Davis, 2nd year at Tech
- Research on transportation equity – fairness and justice
- Quantitative and qualitative research
- Academic and applied relevance

Plan making and implementation #1

- Conducting research and acquiring knowledge (e.g. qualitative and quantitative research, best practices, reporting)
- Spatial analysis (e.g. GIS, mapping, interpretation)
- Formulating plans and policies (e.g. creating and evaluating alternatives, full range of impacts, building constituency)
- Monitoring and assessment (e.g., measures of performance, outcome indicators)

Plan making and implementation #1

- My research critically engages with transportation (and housing) planning
- I’ve spent a lot of time steeped in regional transportation plans (RTPs) and other planning/policy documents produced by metropolitan planning organizations (MPOs) and transit agencies
- Recent published work on what makes a performance assessment “meaningful”

Why plan?

Our basic tool is the "model"

Why model?

1. To simplify
2. To understand current conditions
3. To predict future conditions
4. To make a difference (for better/worse)

"…the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it."

From *On Exactitude in Science* by Jorge Luis Borges

Models (ideally) help us get at our ethical obligations

- Special concern for long-range consequences of present actions
- Pay special attention to the interrelatedness of decisions
- Provide timely, clear, accurate information on planning issues
- Give opportunity for the public to have a meaningful impact on plans
- Seek social justice

From the AICP Code of Ethics

Key points

- Models can be either quantitative or qualitative
- They can help us understand key features of a system
- We can’t rely on them entirely to achieve desired outcomes
  - Performance assessment holds promise, but…
  - Politics often matter as much, if not more than our best models
- Lots of great examples to draw upon; rarely need to reinvent the wheel

Overview

- Two examples from planning practice to demonstrate key points

1. **Clayton County MARTA expansion**
   - Data acquisition (quantitative/qualitative research)

2. ***Plan Bay Area*** (2013 regional transportation plan and sustainable communities strategy)
   - Plan and policy formulation
   - Assessment and performance analysis

Overview

- Two examples from planning practice to demonstrate key points

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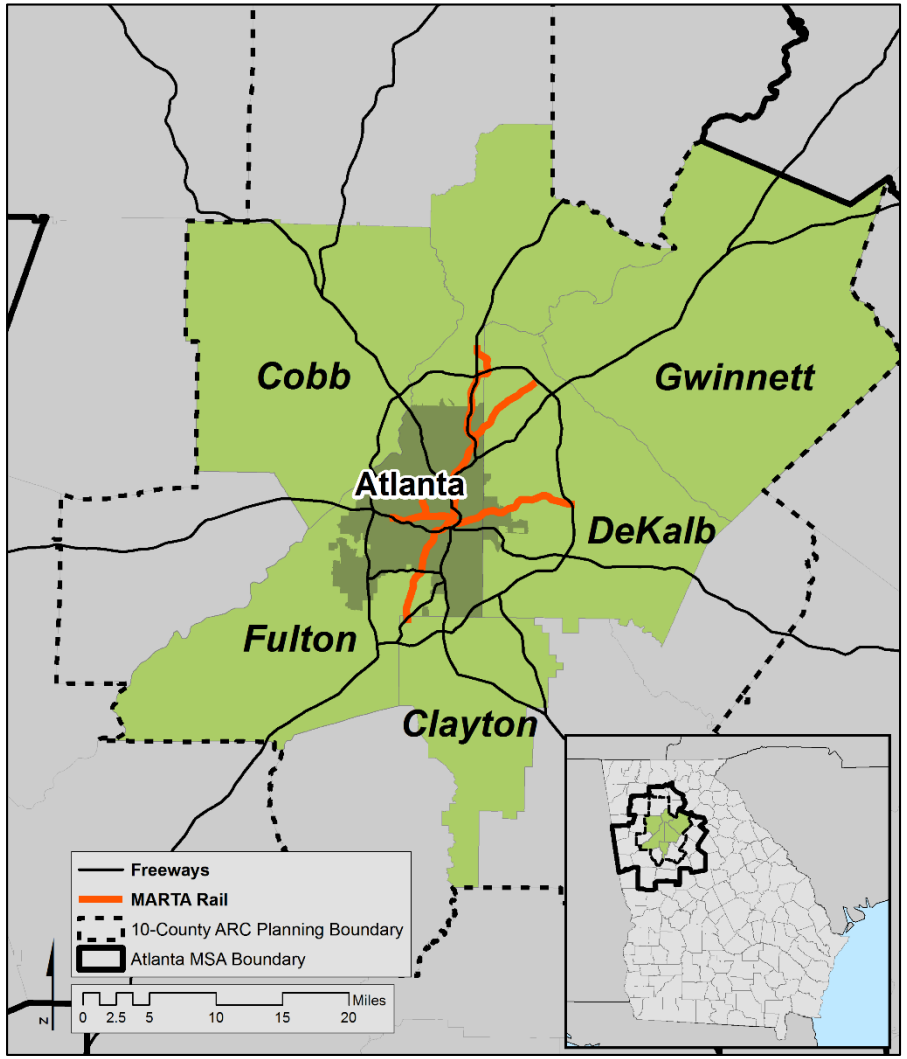
1. Data acquisition and research

Clayton county example

- *Research question*:
  What led Clayton County to join MARTA in 2014? Could it be replicated?

geographic area	population	white (%)	black (%)	people of color (%)	poverty (%)
Atlanta-Sandy Springs-Roswell MSA	5,228,118	50	32	50	16
City of Atlanta	440,641	36	52	63	23
Fulton	967,100	41	44	59	17
Gwinnett	842,091	42	24	58	14
Cobb	708,920	55	25	45	13
DeKalb	707,185	30	53	70	19
Clayton	264,221	14	65	86	24

source: ACS 2010-2014 five-year estimates



Data sources

- We often want to know about the characteristics of people and places
- There is a wealth of publicly available data from the US Census Bureau

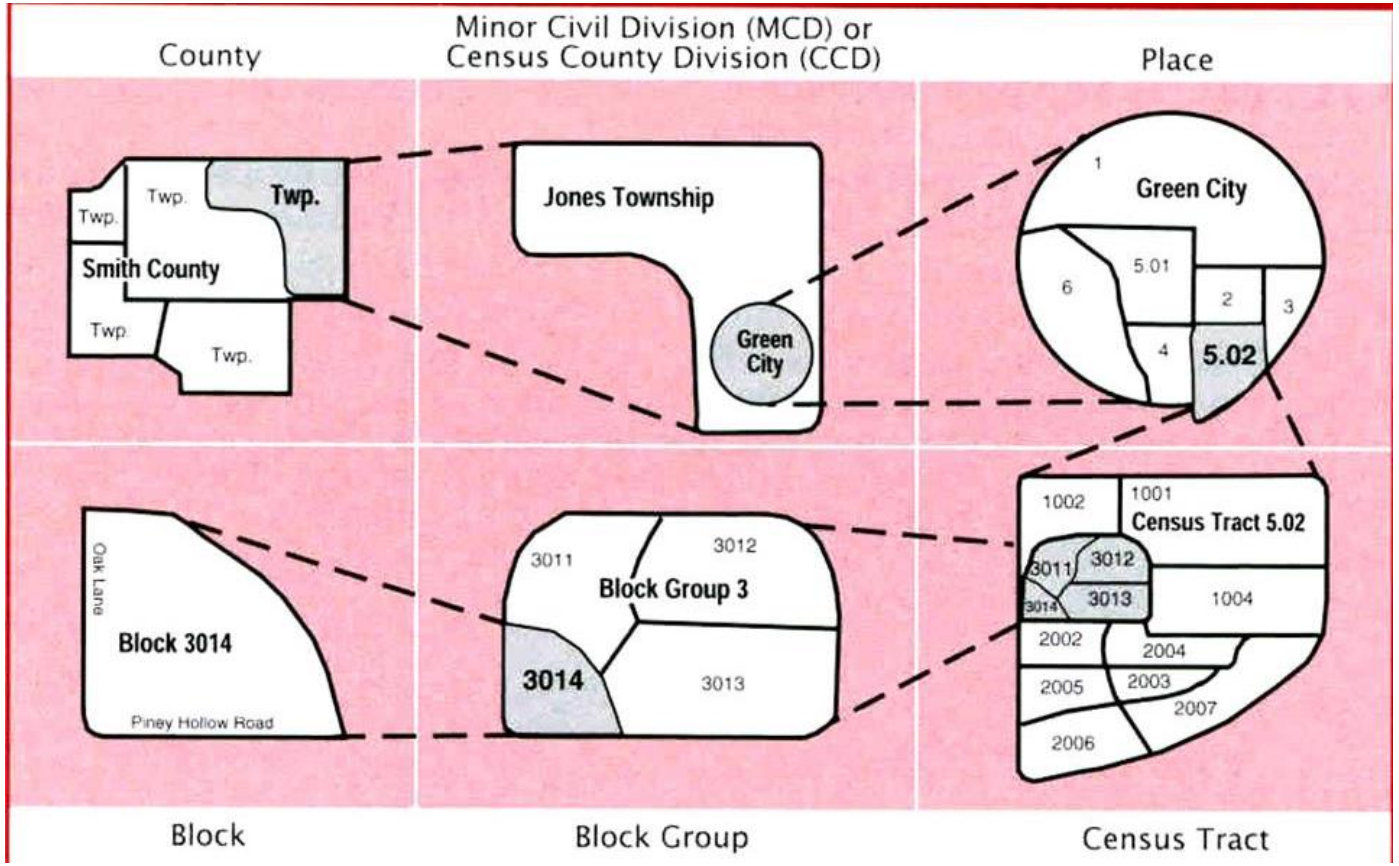
- Pre-2010 decennial census (every 10 years)
  - Summary Files 1-2 (short form)
  - Summary Files 3-4 (long form)
- 2010 and onward decennial census
  - Summary Files 1-2 only
- American Community Survey (rolling, replaces long form)

United States Census Bureau

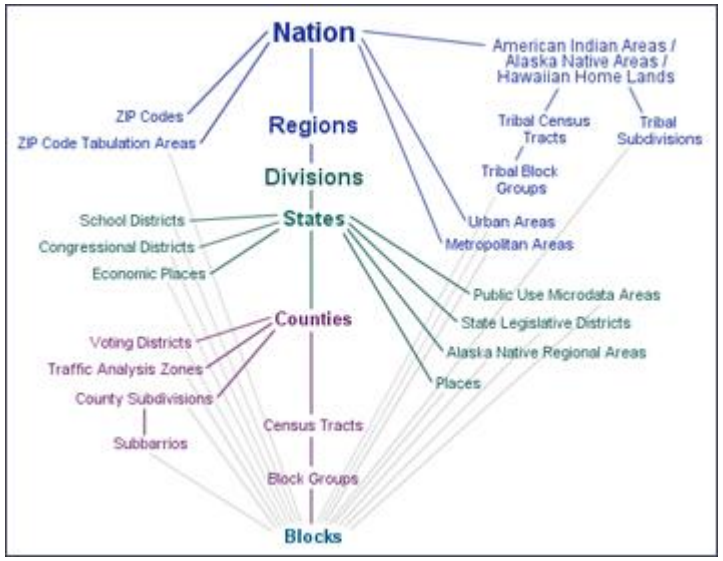
- Other products:
  - Census of Governments
  - Economic Census
  - Census Transportation Planning Package
  - Longitudinal Employer-Household Dynamics (LEHD)
  - …

Census concepts

Geography



Census geography



Summary Level Code	Summary Level Name
020	Region
030	Division
040	State
050	State-County
060	State-County-County Subdivision
067	State-County-County Subdivision-Subminor Civil Division
140	State-County-Census Tract
150	State-County-Census Tract-Block Group
160	State-Place
170	State-Consolidated City
230	State-Alaska Native Regional Corporation
250	American Indian Area/Alaska Native Area/Hawaiian Home Land
251	American Indian Area-Tribal Subdivision/Remainder
252	American Indian Area/Alaska Native Area (Reservation or Statistical Entity Only)
254	American Indian Area (Off-Reservation Trust Land Only)/Hawaiian Home Land
256	American Indian Area-Tribal Census Tract
258	American Indian Area-Tribal Census Tract-Tribal Block Group
310	Metropolitan Statistical Area/Micropolitan Statistical Area
314	Metropolitan Statistical Area-Metropolitan Division
330	Combined Statistical Area
332	Combined Statistical Area-Metropolitan Statistical Area/Micropolitan Statistical Area
335	Combined New England City and Town Area
337	Combined New England City and Town Area-New England City and Town Area
350	New England City and Town Area
352	New England City and Town Area-State-Principal City
355	New England City and Town Area (NECTA)-NECTA Division
361	State-New England City and Town Area-Principal City
500	State-Congressional District (111th)
610	State-State Legislative District (Upper Chamber)
620	State-State Legislative District (Lower Chamber)
700	State-County-Voting District/Remainder
860	5-Digit ZIP code Tabulation Area
950	State-School District (Elementary)/Remainder
960	State-School District (Secondary)/Remainder
970	State-School District (Unified)/Remainder

https://www.census.gov/geo/maps-data/data/summary_level.html

United States Census 2010

IT'S IN **OUR HANDS**

AMERICAN COMMUNITY SURVEY

U.S. CENSUS BUREAU

American Community Survey

- ACS replaces the long form and contains similar questions
- A rolling sample: taken continuously month-to-month and year-to-year
- 1% of the population sampled each year since 2005
- Three versions:
  - 1-year sample
  - 3-year sample (combines 3 one-year samples)
  - 5-year sample (combines 5 one-year samples)

ACS key concept

Sampling error

- The ACS is a survey rather than a census
- It is unlikely that we would obtain the same result if the sample of respondents was drawn differently
- Error was previously present but largely ignored

Statistics	Atlanta city, Georgia		
ACS14_5yr:B03002. Hispanic or Latino Origin By Race			
	Estimate		Std. Error
Total	440,641		81.21
Not Hispanic Or Latino	416,152	94.4%	1,129.70
White Alone	160,424	36.4%	1,460.61
Black Or African American Alone	230,856	52.4%	1,280.61
American Indian and Alaska Native Alone	539	0.1%	107.27
Asian Alone	16,576	3.8%	650.30
Native Hawaiian and Other Pacific Islander Alone	109	0%	38.79
Some Other Race Alone	756	0.2%	150.91
Two Or More Races	6,892	1.6%	512.12
Two Races Including Some Other Race	228	0.1%	71.52
Two Races Excluding Some Other Race, and Three Or More Races	6,664	1.5%	526.67
Hispanic Or Latino	24,489	5.6%	1,118.79
White Alone	14,550	3.3%	1,023.64
Black Or African American Alone	2,286	0.5%	289.70
American Indian and Alaska Native Alone	251	0.1%	99.39
Asian Alone	73	0%	37.58
Native Hawaiian and Other Pacific Islander Alone	0	0%	18.18
Some Other Race Alone	5,597	1.3%	741.21
Two Or More Races	1,732	0.4%	276.97
Two Races Including Some Other Race	847	0.2%	161.82
Two Races Excluding Some Other Race, and Three Or More Races	885	0.2%	193.33

Five-year ACS (2010-2014) data for the City of Atlanta

Clayton county example

- *Research question*:
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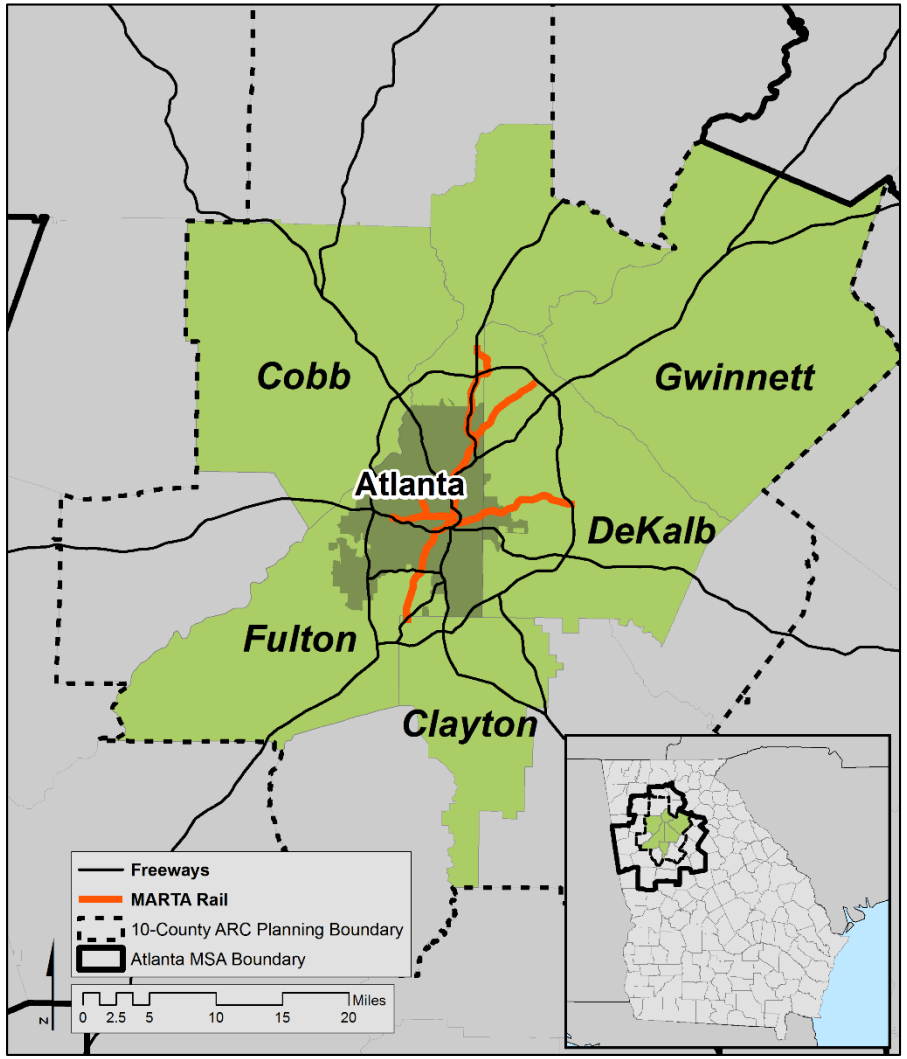
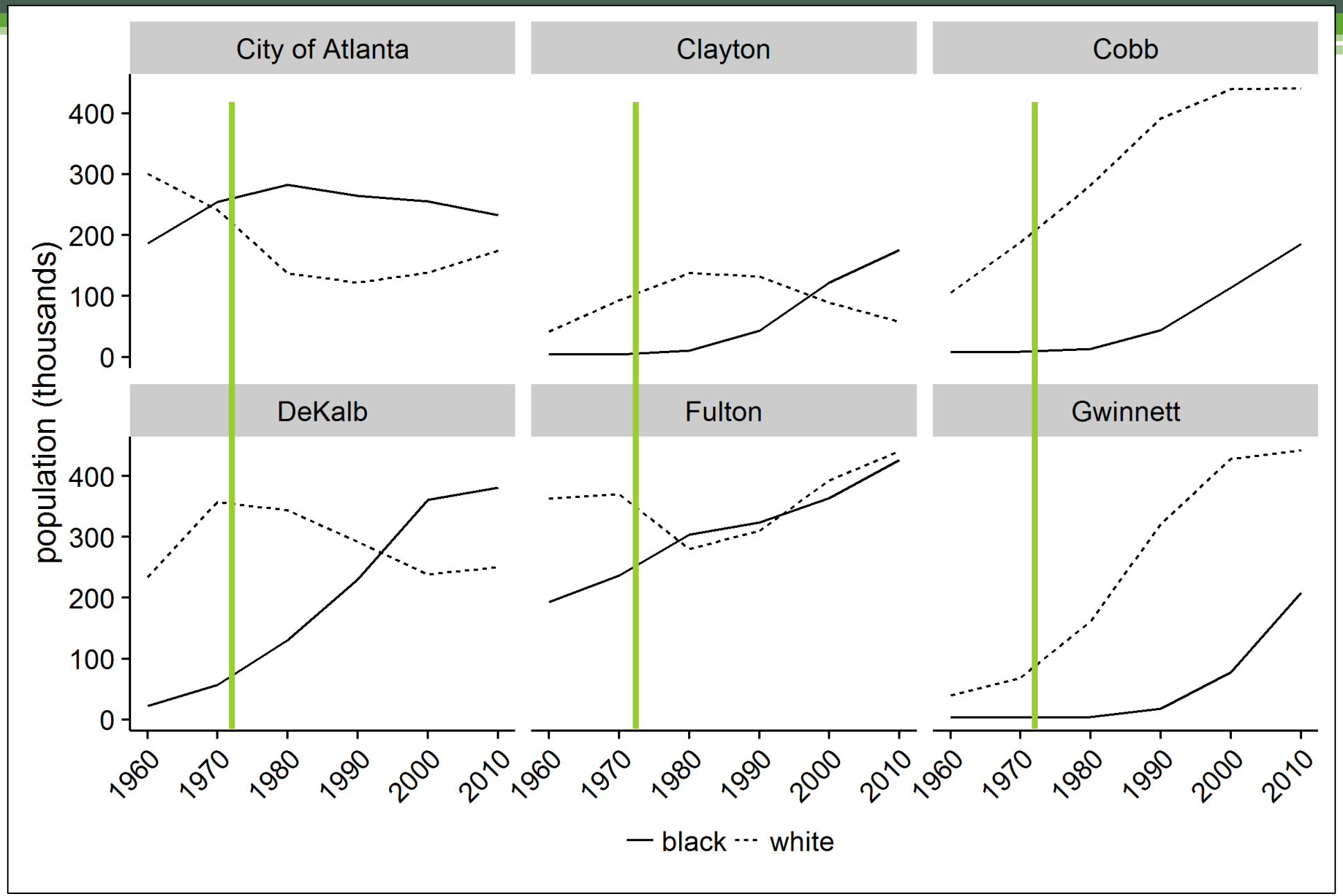




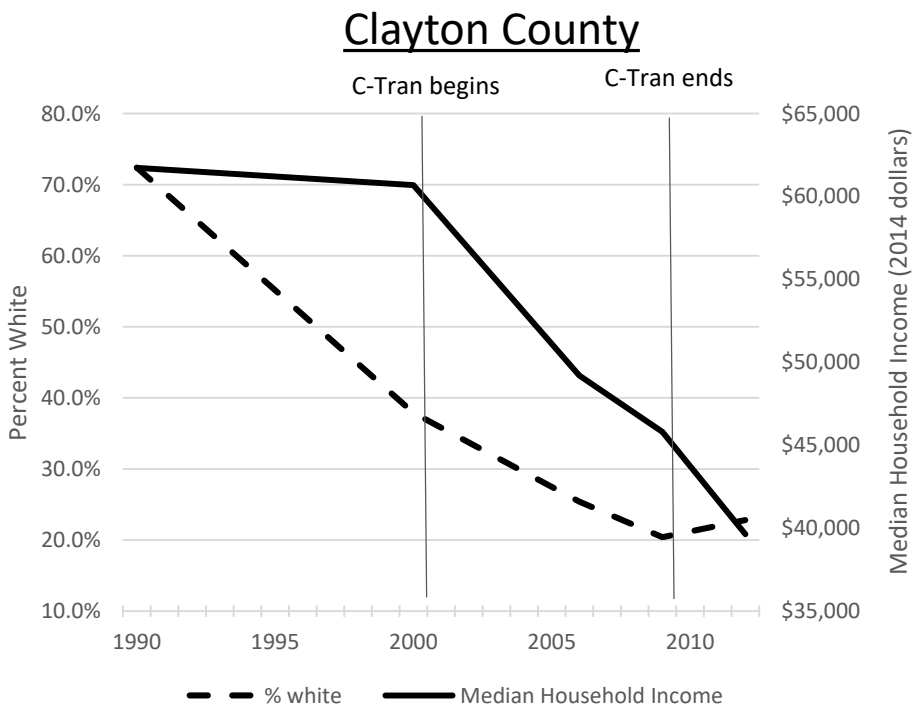
Data from decennial censuses (1960-2010)

Demographics only tell part of the story

- Demographics-only view implies that everywhere that sees a similar shift will suddenly get transit service
- Needed to supplement with qualitative information to fill in the gaps left by the demographic analysis
- Examined newspaper/magazine articles and conducted about a dozen interviews with key participants

Conformity lapse

- Late 90s: region fails to hit air pollution targets, federal funding threatened
- Conformity lapse provided initial funding for “C-Tran”
- Positive initial experience laid foundation for MARTA membership



"C-Tran whetted their appetite. They got to see, free of charge, that they gained much greater mobility, much greater access to jobs in the immediate area around the airport."

Importance of organizing

- Example of the power of advocacy coalitions to make real change
- Importance of the faith community
  - “They hands down made the difference.”
  - Ministers outlined policy and engaged in politics
- Well-resourced organizations essential

We flooded every county commission public comment period. We started with a couple people in 2013 and then it was 10 people and then 20 and then 50—all trying to talk about transit.

Takeaways

- Quantitative data important and necessary to understand conditions on the ground
- Qualitative research can fill in the gaps left by quantitative approaches
- The Clayton case highlighted the urgency of the moment
- Many other applications of quantitative data/research apply to *future* projections and conditions

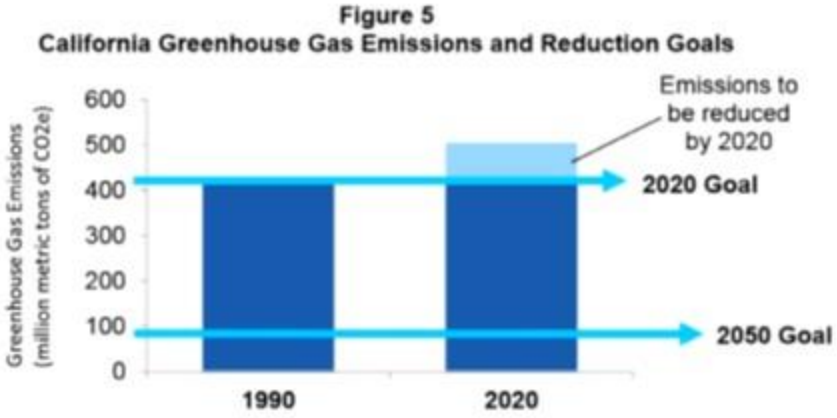
2. Plan and policy formulation
Performance assessment and analysis

California Senate Bill 375

Senate Bill (SB) 375

Background

- AB 32 (2006) and S-3-05 (2008) set ambitious greenhouse gas reduction targets for California



source: http://goo.gl/TB8xGD

Senate Bill (SB) 375

Goals

- Shift regional transportation plan making and implementation to achieve GHG performance goals (first in the nation)

- Various demand-side (non-technology) measures can help
  - land use measures to facilitate compact development near transit
  - investments in transit capacity, carpooling programs, and non-motorized modes
  - pricing techniques that increase the cost of driving alone relative to other modes

SB 375

Requirements

- Sustainable Communities Strategy
  - RTP chapter – lays out a development scenario that, if adopted, would achieve GHG targets according to simulations of future travel

SB 375

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- Sustainable Communities Strategy
  - RTP chapter – lays out a development scenario that, if adopted, would achieve GHG targets according to simulations of future travel
- If SCS doesn't hit the target, an alternative planning scenario (APS) must be prepared
  - Fiscal constraint/reasonable planning assumptions relaxed

Senate Bill (SB) 375

Scale of implementation

- Why regional implementation?
  - The scale makes sense
    - Need to affect how people live, work, and travel to reduce driving
  - Institutions – MPOs – already exist at the interface between federal/state and local governments
  - Land use planned locally, but local governments comprise MPOs

Strategy

- Build on existing practices
  - Travel modeling/air quality conformity analysis
  - “Blueprint” planning
    - Consultation with local government and the public to develop support for a preferred (compact) development strategy
- Outcome-based performance mandate while preserving regional and local autonomy
  - Local plans *do not* have to conform to the SCS
- Major incentive for compliance is streamlining of environmental review
  - Disagreement over whether this goes far enough

Plan Bay Area Advocacy

2013 Regional Transportation Plan

- 2013 Regional Transportation Plan/ Sustainable Communities Strategy
- Must meet greenhouse gas targets
- Integrates transportation, land use, and housing
- $292 billion, 30 year plan

- Shape modeling inputs including policies and investments (inside game)
- Aggressive community organizing (outside game)

Equity, Environment and Jobs

RTP Scenario

- Distribute Housing Growth Equitably:
  Increase quality affordable housing options in both urban areas and suburban job centers

- Protect Against Displacement:
  Ensure that lower-income communities are not displaced by TOD through regional grant incentives (One Bay Area Grant Program)

- Improve Local Transit Service:
  Fund more of the local transit service on which low-income riders of color depend

TABLE 3.1-8: BAY AREA TRAVEL BEHAVIOR, 2010-2040

	2010	2040 Plan	2040 No Project (Alt 1)	% Difference from Proposed Plan	2040 Transit Priority Focus (Alt 3)	% Difference from Proposed Plan	2040 Enhanced Network of Communities (Alt 4)	% Difference from Proposed Plan	2040 Environment, Equity, and Jobs (Alt 5)	% Difference from Proposed Plan
Daily[1] Transit Boardings	1,581,000	3,054,000	2,426,000	-21%	3,055,000	0%	2,972,000	-3%	3,219,000	+5%
Daily Vehicle Miles of Travel (VMT)[2]	149,046,000	179,408,000	180,060,000	0%	178,264,000	-1%	185,839,000	+4%	175,948,000	-2%
Daily[2] Vehicle Miles of Travel[2] per Capita[3]	20.8	19.6	20.7	+6%	20.0	+2%	19.6	0%	19.7	+1%
Intraregional Daily Vehicle Trips[2]	14,830,000	17,858,000	17,598,000	-1%	17,713,000	-1%	18,843,000	+6%	17,538,000	-2%
Interregional Daily Vehicle Trips	631,000	854,000	854,000	0%	854,000	0%	814,000	-5%	854,000	0%
Airport Daily Vehicle Trips	102,000	169,000	169,000	0%	169,000	0%	169,000	0%	169,000	0%
Commercial Daily Vehicle Trips	1,349,000	1,796,000	1,772,000	-1%	1,785,000	-1%	1,822,000	+1%	1,779,000	-1%
Total Daily Vehicle Trips	**16,912,000**	**20,677,000**	**20,393,000**	**-1%**	**20,521,000**	**-1%**	**21,648,000**	**+5%**	**20,340,000**	**-2%**

source: Plan Bay Area Draft Environmental Impact Assessment, Table 3.1-8.

EEJ: The "Environmentally Superior Alternative"

- 3.5 million fewer miles of car travel per day
- 165,000 more people using transit per day
- 1,900 fewer tons of CO_2 emissions per day
- Energy savings amounting to 600,000 gallons of gasoline per day
- Aggregate savings in rent for low-income households of $79M per year

Outcomes improved through advocacy, not modeling

- Achieved several important outcomes related to affordable TOD housing and increased transit operating funds:
  - Anti-displacement protections within an infrastructure grant program
  - Commitment to study the best use of cap and trade revenue to benefit disadvantaged communities

Takeaways

- Creating alternative planning scenarios is helpful for understanding tradeoffs between different approaches
- The policy (SB 375) was vitally important for putting GHG emissions on the radar, but…
- Performance assessment is not enough to lead to the adoption of the “best” plan
- Advocates can be important partners for achieving desired goals

Contact

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