Megaregions

Catherine Ross, Ph.D.
Harry West Professor and Director of the Center for Quality Growth and Regional Development

WTS Annual Conference : May 14, 2008
The World at Night

WHY ARE MEGAREGIONS SO IMPORTANT NOW?

Megaregions are geographic areas that will contain two-thirds of the nation’s population by the middle of the 21st century.

Source: Amekudzi, Thomas-Mobley, Ross (2007); Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Megaregions

Networks of metropolitan centers and their surrounding areas, connected by existing environmental, economic and infrastructure relationships.
Megaregions represent a new and potentially fruitful context for American transportation planning.
Megaregions:
An International Perspective
Megaregions in Europe

Megaregions in Europe

Source: Richard Florida [www.narcissastre.blogspot.com/2008_02_17_archive.html]
Megaregions in Asia

Megaregions in North America

Megaregions in the United States in 2000

Source: Center for Quality Growth and Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Megaregions in the United States in 2050

**MEGAREGION**—an extended network of metro centers & surrounding areas.

8 -10 EMERGING MEGAREGIONS in the U.S.

Source: Center for Quality Growth and Regional Development (CQGRD), Georgia Institute of Technology, 2007.
# Megaregions in the United States

<table>
<thead>
<tr>
<th>Megaregion</th>
<th>Major Metro Areas</th>
<th>Strong Industry Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cascadia</strong></td>
<td>Portland, Seattle</td>
<td>Software and IT, Higher Education and Research, Communication Service, Computer Equipment</td>
</tr>
<tr>
<td><strong>Florida</strong></td>
<td>Jacksonville, Orlando, Tampa, Miami</td>
<td>Hotels and Entertainment, Financial Services, Eat/Drink, Retail, Professional Services, Logistics and Distribution</td>
</tr>
<tr>
<td><strong>Great Lakes</strong></td>
<td>Chicago, Detroit, Cleveland, Pittsburgh</td>
<td>Industrial Machinery and Supplies, Chemicals and Plastics, Wholesale, Transportation Equipment</td>
</tr>
<tr>
<td><strong>Northeast</strong></td>
<td>Boston, New York, Philadelphia, Washington DC</td>
<td>Transportation, Mass Media, Financial Services, Software and IT, Biotechnology</td>
</tr>
<tr>
<td><strong>Northern California</strong></td>
<td>San Francisco, Oakland, San Jose, Sacramento</td>
<td>Software and IT, Communication Equipment and Services, Biotechnology, Electronics, Semiconductors</td>
</tr>
<tr>
<td><strong>Piedmont Atlantic</strong></td>
<td>Raleigh, Charlotte, Atlanta</td>
<td>Communication Services, Software and IT, Utilities, Construction</td>
</tr>
<tr>
<td><strong>Southern California</strong></td>
<td>Los Angeles, San Diego</td>
<td>Aerospace and Defense, Communication Equipment, Electronics, Mass Media</td>
</tr>
<tr>
<td><strong>Texas Triangle</strong></td>
<td>Austin, Dallas, Houston, San Antonio</td>
<td>Energy and Natural Resources, Construction, Semiconductors, Software and IT</td>
</tr>
</tbody>
</table>

Megaregions:
Cities that Anchor Megaregions
Top 100 Metropolitan Regions in the US

Emerging European & North American Megaregions

London, England

New York City, New York

Cities that Anchor Megaregions

Emerging South American Megaregions

Sao Paulo, Brazil

Buenos Aires, Argentina

Emerging Asian Megaregions

Moscow, Russia

Mumbai, India

Cities that Anchor Megaregions

Emerging Asian Megaregions

Cities that Anchor Megaregions

Beijing, China

Shanghai, China

Atlanta, Georgia
The dispute over the Coosa River was considered easier to solve than the Chattahoochee, which involves three states and supplies most of the water for metro Atlanta.

But the renewed fight over the Chattahoochee spilled over. In its most recent proposals, Georgia wanted Alabama to let metro Atlanta take more water out of the Chattahoochee as part of the deal for the Coosa.

Georgia also wanted to be able to send Alabama less water than the guaranteed minimum amount in case of a severe drought.

Last August, Georgia and Alabama—along with Florida—ended another truce when their talks over the Chattahoochee River expired without agreement.

Federal lawsuits were quickly reactivated and remain in progress. Florida is working on a case to take to the Supreme Court.

Negotiators for Georgia and Alabama worked feverishly in recent weeks to avoid the same fate for the Coosa River basin.

Throughout Saturday, they exchanged numerous cellphone calls and e-mails trying to salvage a water-sharing deal they'd worked on for six years.

Why Megaregions?

Needed for:
- Transportation
- The Economy
- Air Quality

For example, Atlanta in 2003:
- 11th most congested area
- Traffic congestion cost of $1.8 billion
- 15 bad air days

The issues are related.

Sources: Texas Transportation Institute, U.S. EPA
Why Megaregions?

- **Commodity Flows:**
The U.S. imported almost $2 trillion in goods and services in 2005.

- **Human Capital Flows:**
More than 20 percent of U.S. science and technology workers are foreign-born.

- **Travel:**
Americans made over 27 million visits outside the U.S. in 2004.

Sources: U.S. Census Bureau, National Academies of Science, U.S. Department of Commerce
Why Megaregions?

Global Precedent

Even national borders are not an obstacle to regionalism

Megaregions were predicted in the 1960s!

Published in the Chicago Tribune on July 23, 1961.

Source: Paleo Future [www.paleofuture.com]
Megaregions were predicted in the 1960s!

“The ‘regional cities’ of tomorrow will be nearly continuous complexes of homes, business centers, factories, shops, and service places.

They will be saved from traffic self-suffocation by high-speed transportation – perhaps monorails that provide luxurious nonstop service between the inner centers of the supercities, as well as links between the super-metropolises themselves.”

Published in the Chicago Tribune on July 23, 1961.

Source: Paleo Future [www.paleofuture.com]
The Emerging Southeast Megaregion

The Shape of Things to Come...
Piedmont-Atlantic Megaregion (PAM)

Piedmont-Atlantic Megaregion (PAM)

The Urban, Suburban, Exurban, and Rural Footprint of the PAM

Piedmont-Atlantic Megaregion (PAM)

Migration Trends 1995 to 2000

1.6 million people moved to PAM from the rest of the country.

1.3 million people migrated to PAM internationally.

Source: U.S. Census Bureau
Piedmont-Atlantic Megaregion (PAM)

Source: U.S. Census Bureau
Piedmont-Atlantic Megaregion (PAM)

Source: U.S. Census Bureau
Piedmont-Atlantic Megaregion (PAM)

Source: U.S. Census Bureau
New Development in PAM

PAM Population
2000 - 46 million
2050 - 82 million

PAM will build 84 billion square feet of new construction between 2000 and 2030.

Issues Facing PAM- INFRASTRUCTURE

- From 1995 to 2004 VMT in PAM increased 34%, compared to 24% in the U.S.

- In the 4 core cities the cost of traffic congestion rose from $716 million in 1993 to over $2.3 billion in 2003.

- That is a 234% increase in congestion cost with only a 28% increase in population.

Sources: US DOT, FHWA; Texas Transportation Institute
### Change in Mode Share by Weight 1993 – 2002

<table>
<thead>
<tr>
<th>Mode</th>
<th>PAM</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>31%</td>
<td>23%</td>
</tr>
<tr>
<td>Rail</td>
<td>-35%</td>
<td>21%</td>
</tr>
<tr>
<td>Air</td>
<td>88%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Change in mode share for truck and air outpacing the United States.

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Trucks dominate ground freight movement in Southeast.

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Issues Facing PAM - FRAGMENTATION

Source: U.S. Census data, 2000
Issues Facing PAM- FRAGMENTATION

Source: U.S. Census data, 2000

534 counties
Issues Facing PAM - FRAGMENTATION

Demanding innovative solutions and collaboration.

Source: U.S. Census data, 2000
Issues Facing PAM- INFRASTRUCTURE

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
<table>
<thead>
<tr>
<th>Megaregions</th>
<th>Key Issues</th>
</tr>
</thead>
</table>

- **Auto dependence and sprawl at the MSA level.**
- **Lack of intra- and inter-regional connectivity.**
- **Growing demand for sewer, water and electricity.**

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Highway delays increase, especially in Atlanta.

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Southeast’s share of the AMTRAK national ridership is 3.46%.

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Megaregions: Megaregions and Transportation
<table>
<thead>
<tr>
<th>Megaregions and Transportation Planning</th>
<th>History of Transportation Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1950s – 1960s</strong></td>
<td>Classical Transportation Planning</td>
</tr>
<tr>
<td><strong>1970s</strong></td>
<td>Neoclassical/Open Transportation Planning</td>
</tr>
<tr>
<td><strong>1975 - 1980</strong></td>
<td>Fragmented Transportation Planning</td>
</tr>
<tr>
<td><strong>Mid 1980s Onward</strong></td>
<td>Consolidated Transportation Planning</td>
</tr>
<tr>
<td><strong>1990s</strong></td>
<td>Integrated Transportation Planning / Context Sensitive Solutions / Environmentally-Conscious Planning</td>
</tr>
<tr>
<td><strong>2000s</strong></td>
<td>Sustainable Transportation Planning; Planning for Megacities and Megaregions</td>
</tr>
</tbody>
</table>

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Megaregions

AASHTO Vision for the 21st Century

AASHTO Vision for the 21st Century

America in 2040 is a thriving country whose transportation system is the envy of the world.

1. **INVEST** in the innovation and the highway, public transportation and rail capacity needed to support a strong economy, maintaining America as the international leader in technology and wealth creation.

2. **CONNECT** all regions of the country, urban and rural, to the global economy, and do so reliably every day.

3. **EXPAND** opportunities for jobs, places to live, time with family, education, health care, and other services.

4. **INTEGRATE** the highway, rail and port freight systems of the North American trade bloc to enable the U.S. to remain an economic superpower.

### AASHTO Vision for the 21st Century

**America in 2040** is a thriving country whose transportation system is the envy of the world.

5. **SYNCHRONIZE** transportation policies with policies for housing, land use, energy, the economy and the environment.

6. **IMPROVE** the quality of life for all citizens through a dramatic increase in safety, reduced congestion, and energy independence.

7. **HARNESS** advanced technologies in every aspect of the system.

8. **PRESERVE** America’s freedom to travel, where we want, when we want, by whatever means we want, from this generation to the next.

“Delivering on our vision will ensure the continuance of what we all know as the American way of life. It is premised upon our ability to go from where we are to where we want to be, at the time we want, on the route we prefer, on that transportation mode that best serves our needs. For that to occur we have to change the course we are on.”

-- Robert Darbelnet, President, AAA

Megaregions: Megaregions and Infrastructure
Understanding Urban Infrastructure

Megaregions

- Emergency Preparedness
- Lifestyle
- Technology
- Adaptability
- Management
- Financing
- Land Preservation
- Development Location / Intensity
- Public Realm
- Modal Preferences
- Diversity

Urban Infrastructure Design

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
The mobility system is not only a system of transport… it’s the whole understanding of a city.

The future of mobility has to be considered in terms of integrated systems, for each piece – bikes, cars, taxis, subways, buses.

The important questions are not about engineering, but about ways to live – health, education, housing, waste, and social needs.

Source: Jaime Lerner on public transport.
Megaregions and Planning Strategies

- **CONNECTING TRANSPORTATION AND DEVELOPMENT:** spatial configurations that connect existing transportation systems and growth plans.

- **DEVELOP MORE SUSTAINABLE MOBILITY:** employ local, regional and community flex trolleys and trams.

- **EXPLORE NEW STRATEGIES:** develop feeder and neighborhood shuttle systems, acquire hybrid vehicles, increase use of agrifuels.

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
<table>
<thead>
<tr>
<th>Megaregions and Transportation Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ <strong>Global</strong> Mobility Needs</td>
</tr>
<tr>
<td>▪ <strong>Megaregion</strong> Mobility Needs</td>
</tr>
<tr>
<td>▪ <strong>Regional</strong> Mobility Needs</td>
</tr>
<tr>
<td>▪ <strong>City and County</strong> Mobility Needs</td>
</tr>
<tr>
<td>▪ <strong>Community and Neighborhood</strong> Mobility Needs</td>
</tr>
<tr>
<td>▪ <strong>Personal</strong> Mobility Needs</td>
</tr>
</tbody>
</table>

Source: Center for Quality Growth & Regional Development (CQGRD), Georgia Institute of Technology, 2007.
Center for Quality Growth and Regional Development
760 Spring Street | Suite 213 | Atlanta, Georgia | 30308

p: 404.385.5133
f: 404.385.5127
e: cqgrd@coa.gatech.edu
w: www.cqgrd.gatech.edu