2009 Environmental Scan: Issues and Trends Affecting Architects, Architectural Firms and the AIA

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Overview

➔ Gain insights into key trends facing the architectural industry
  – For internal strategic planning purposes
  – For educating AIA members and the industry

➔ Create a single resource collecting secondary research on design & construction industry

➔ Obtain a comprehensive collection of resources
Areas of Investigation

- Political
- Economic
- Social / Cultural
- Environmental
- Technological
- Design & Construction Industry
- Architecture Profession
POLITICAL TRENDS
Political Trends

Issue I. Economic Policies at the Forefront

➔ New White House economic team: Spearheaded by new Treasury Secretary Timothy Geithner believes in an aggressive approach in stimulus policies

➔ Regulation of banking industry: High priority for federal government

➔ Housing stabilization: Key to creating a healthier economy
Political Trends

Issue II. Stimulus Package Demonstrates Spending Priorities

- American Recovery and Reinvestment Act (ARRA): $787 billion, signed February 19, 2009
- Infrastructure the engine for economic growth: $130 billion allocation
- Transportation legislation critical to success: SAFETEA-LU (highways) and FAA authorization (airports) may lead to more open use of innovative project financing
- Boost to energy efficiency: $$ to buildings focused on retrofits, especially green ones
Political Trends

Issue III. Climate Change Moves to the Forefront

➡️ **Key Goal for Administration:**
- Commitments to renewable energy: Doubling generation capacity annually
- U.S. to take more visible role at UN Climate Change Conference in December
- Smart-Grid: Important ‘pet policy’ of Obama

➡️ **Cap-and-Trade:** The preferred policy mechanism for legislators in managing CO2 emissions

➡️ **Local & state policies:** Moving toward mandates and energy performance reporting

➡️ **Green jobs:** A major part of this Administration’s economic recovery plans
Political Trends

Issue IV. Obama Administration Ushers in a New Way of Doing Business

- **Policy Czars**: Creating overarching leadership (that reports directly to the president) that oversee cross-cutting issues

- **Transparency**: A key part of the new government operations model: Administration Developing an Open Government Mandate
Political Trends

Issue V. Policy Trends: Administration and 111th Congress

- **Dedication to Science**: Energy Secretary Steven Chu
- **Expanded interest in Urban Policy with establishing key new positions**, such as the **Director of Urban Policy** to work with EPA, HUD, Commerce and Transportation
- **Healthcare reform still a priority**: Health Secretary Kathleen Sebelius
- **Worker protection and union support** seem likely focus for feds: Labor Secretary Hilda Solis
- **Immigration reform still taking shape**: Homeland Security Secretary Janet Napolitano
- **National security shifts to Afghanistan**: Defense Secretary Robert Gates stays in post
- **Financial relationship with China** will continue to evolve
ECONOMIC TRENDS
Economic Trends

Issue I. Credit Crisis Continues to Loom

- Crisis came to a head in 2008: Lack of confidence in critical portfolio assets and panic effectively shut down the financial system

- Global credit markets remain vulnerable due to changes in lending approach

- Small businesses struggle to find credit

- Investment markets expected to continue to downturn; recovery, sluggish

- People expected to reduce debt: Good in long-term, Difficult in short-term with retraction of spending
Economic Trends

Issue II. Economic Outlook Gloomy

- Unemployment rate is highest since early 1980s: First time unemployment claims highest peak in 26 years

- Housing market essential for economic recovery: Not expected to start to turn upward until 2010

- Government intervention creating the market for mortgages in current grim environment
Economic Trends

Issue III. Possible Silver Linings

- Government bond market could strengthen
- Energy and green building expected to fair better than average: More appealing to financing institutions
Economic Trends

Issue IV. Government Responses

» Emergency Economic Stabilization Act of 2008 established the Troubled Asset Relief Program (TARP), but results yet to be determined
  - Allotted $700 billion to stabilize market
  - $250 billion made available to banks as equity
  - $350 billion in 2009 put into Obama Administration’s new Financial Stability Plan

» Auto bailout began with $15 billion in emergency loans from TARP, but more support likely to be needed for firms to survive

» The Federal Reserve will use federal funds rate and other tools to help economic stabilization
Economic Trends

Issue V. Recession is Global

➤ Asia
  - China: Economic slowdown; $586 stimulus for infrastructure
  - Japan: Taxpayer cash rebates and expanding credit while looking at cost-cutting

➤ Europe
  - England: $52 billion bailout of major banks; interest rate cuts; $3.3 billion package to boost auto industry
  - Germany: $67 billion stimulus for infrastructure, healthcare

➤ South America
  - Chile: $4 billion stimulus to create 100,000 jobs
  - Brazil: $166 billion for businesses without international credit
SOCIAL / CULTURAL TRENDS
Social/Cultural Trends

Issue I. Population Shifts

➔ U.S. population continues to expand: 82% from immigration
  – Population to 438 million by 2050 (currently 303 million)
  – Immigration numbers hard to predict, policies will have impact

➔ Due to financial crisis, some immigrants are returning home, particularly illegal immigrants working in professions—like construction—that were hit hard by the recession

➔ Cities are getting bigger: Urban issues will move to the forefront in future years
Social/Cultural Trends

Issue II. Design Trends in Response to Shifting Populations

➡ Transit-oriented design will increase

➡ Revitalization of industrial properties and urban waterfront occurring across U.S.: Creating new communities

➡ Coastal expansion: Energy and environmental implications could be severe

➡ Mega-region growth will create public health and infrastructure challenges
Social/Cultural Trends

Issue III. Generational

› Aging population creates new trends:
  – Flexible housing arrangements emerging, including more focus on accessory dwelling units
  – Age-in-place design
  – New transportation vehicles to adapt to slower responses

› Generation X taking over the boardroom

› Millennial generation defined by reliance on technology and in favor of flexible work environments
Social/Cultural Trends

Issue IV. Design Trends in Response to Shifting Generational Demographics

- Greater push by Generation Y for livable communities
- Shift to the four-day work week
- Obesity, diabetes and osteoporosis will impact workforce and healthcare costs and influence future design
- Mood-sensitive architecture and noise pollution reduction measures will become more important to address mental and developmental health
ENVIRONMENTAL TRENDS
Environmental Trends

Issue I. Green Building and the Economy

- Obama administration putting emphasis green economy, with push for green jobs
- Financial benefits becoming clearer with an increasing number of studies
Environmental Trends

Issue II. Market Opportunity for Green Building

→ Despite downturn, green building activity expected to increase becoming a much more significant share of construction

→ Green building expected to comprise up to 25% of new commercial and institutional construction and up to 20% of new residential construction (by value)

→ Education and healthcare greatest opportunity for green building

→ Green retrofits gaining traction to become the more influenced area for green building in the future
Environmental Trends

Issue III. Residential Green Building

- Green homes seen as an advantage in the current down market
- Green home remodeling and retrofit more appealing in today’s economy
- Quality = green according to home builders
- Homeowners driven to buy green homes by savings and health
- Energy performance helping drive sales, but not premiums
Environmental Trends

Issue IV. Green Building Performance

- Sustainability challenges and targets, like AIA’s 2030 commitment, are taking over the industry and spurring activity toward actionable results

- Climate change will become a major benchmark for green buildings of the future

- Studies to date show green buildings not providing the expected paybacks: Expected to result in more stringent attention to performance versus certification

- Monitoring of buildings—commercial and residential—will increase
Environmental Trends

Issue V. Green Certifications & Assessment Tools

➡ Carbon calculators to become a mainstay for green building projects

➡ Lifecycle assessment tools will gain popularity and lead to increasing debate and possible conflict about how to apply an LCA for comparative purposes

➡ Proliferation of green product verification and standards to increase: Confusion in the market will persist in short-term

➡ Government could intercede: Early indication of interest
Environmental Trends

Issue V. Corporate Sustainability Commitments

- Corporate commitments to sustainability are increasing rapidly: Environmental/sustainability annual reports becoming standard practice

- Corporations expecting increasing involvement by government, looking for early adopter advantage

- Firms moving to identify as a ‘sustainability thought leader’ versus just using green in PR and marketing

- Generation Y preferences indicate a growing socially conscious consumer
Environmental Trends

Issue VI. Government Policies

- **Federal government extends tax incentives for green buildings and energy efficiency**: through TARP, Energy Independence & Security Act and ARRA

- **State government support for green building in 31 states, tripling between 2005 and 2008**
  - Policies shifting to focus on reporting building energy performance
  - Expansion of policies governing government-owned buildings to also apply to commercial—and even in some cases residential—buildings

- **Local government efforts increasing as rapidly**
Environmental Trends

Issue VII. Renewable Energy in Buildings

- Global green building practitioners increasing use of renewable energy technologies in building design and construction: Largest growth in solar and wind

- U.S. market seeing similar increases across commercial and residential
Environmental Trends

Issue VIII. Innovative Materials

- Nanotechnology: Making materials stronger
- Biomimicry: Building with nature to create new products and design aesthetics
- Innovative solar energy systems: Addressing storage and power output though new product R&D
- Lead-free Steel: Shift to remove heavy metals from building materials
Environmental Trends

Issue IX. Education & Profession

LEED Accredited Professional program changing to designate practitioners working on green building projects

Continuing LEED AP credits will create an ongoing learning process around green building

College commitments to sustainability increasing rapidly
Technology Trends

Issue I. Tools and Return on Investment

➔ BIM will continue to transform the construction industry
  – Contractors’ increasing adoption of BIM will generate ROI
  – Owner demand will increase
  – Government will eventually require BIM on all projects

➔ Software vendors for BIM will need to make packages interoperable

➔ Legal issues will remain a challenge to adoption of BIM for some users
Technology Trends

Issue II. Faster, Cheaper, Better

- Increase in model-driven pre-fabrication
- Artificial intelligence and robotics will have an increased role in the workplace and the design process
- New technologies focus on efficiency: Chilled-beam technology, software analyzing energy benefits
- New materials will expand design options
Technology Trends

Issue III. Influence of Computer Technology

- Internet evolution will lead to semantic web which is ‘intelligent’ data that can do collaborative filtering

- Increases in virtual reality and gaming by Generation Y will be applied to the workplace and educational process

- Computer power will continue to increase making further transformation & innovation possible
DESIGN & CONSTRUCTION
INDUSTRY TRENDS
Design & Construction Industry Trends

Issue I. Construction Market Activity Forecast

- Construction industry will not see a recovery until 2010

- All sectors seeing declines this year, though long-term forecasts for healthcare and education seem strong

- All major markets are seeing a downturn, though interestingly, some large projects in Las Vegas are still seeking permits
Design & Construction Industry Trends

Issue II. Housing Market

➔ New policies may help stimulate the housing market

➔ Consumers shifting to smaller homes, expected to continue until economy in full recovery

➔ Home remodeling story is down, but homeowners are looking at improving existing homes versus buying

➔ Hurricanes and natural disasters have changed housing design and construction
Design & Construction Industry Trends

Issue III. Materials & Labor Costs

- Union contracts suggest construction labor costs will increase in 2009

- After brief spike, construction material prices fall in most markets and are expected to remain low in 2009
Design & Construction Industry Trends

Issue IV. Infrastructure & Urban Development

- Re-urbanization, density and transit-oriented design expected to increase: Driven by environmental concerns, demographic shifts of populations to urban areas

- Infrastructure demand will create need for creative financing, including public-private partnerships
ARCHITECTURE PROFESSION TRENDS
Architecture Profession Trends

Issue I. Surviving the Economic Crisis

- Firms will focus on strategies to survive economic times versus expansion

- Firms finding success in international markets, particularly South America and the Middle East where architects report has activity occurring

- For firms hiring, they are most often looking for senior-level ‘catch-all’ employees who have multiple strengths
Architecture Profession Trends

Issue II. Workforce Shortages

➤ Shortages across the industry will continue to be a crisis, particularly when the economy improves

➤ Unique recruitment and education necessary to attract a younger, brighter worker

➤ Engineering pipeline drying up with enrollments down

➤ Skilled trades seeing dramatic decreases, as the negative reputation remains a hurdle to overcome

➤ Immigration policies that promote a foreign worker will be necessary to meet future needs
Architecture Profession Trends

Issue III. Integrated Project Delivery & Learning

» Integrated project delivery is growing: Need to make process more efficient propelling growth

» Sustainability is moving into the classroom and within the firm as owners demand credentials for projects

» Interdisciplinary programs that teach both engineering and architecture will grow

» The Green Consultant is emerging as a niche profession
Architecture Profession Trends

Issue IV. Diversity and Shifting Professional Needs

- Women, minorities and immigrants creating a new workplace demographic

- Part-time, post-retirement professionals expected to increase and may lead to a different type of professional licensure

- Enhanced specialization may emerge, and require lifelong learning to adapt to specializations as they come and go

- Pro-bono and public interest work will increase, particularly as Generation Y enters the workforce
Architecture Profession Trends

Issue V. Talent Retention

- Nurturing young staff likely to pay off in the long run with competition fierce for architects with mid-level experience

- Money remains the most effective way to retain talent, particularly among top performers
OVERARCHING TRENDS & IMPLICATIONS
Overarching Trends & Implications

The economic crisis overshadows all other trends. Several impacts from it will affect the industry for years to come.

- The industry will become more global, for business opportunity, future workforce and for funding.
- Firms will be strategic about how they allocate resources.
- Financing will continue to be challenging as banks become overly cautious about investments.
- Government influence and role will remain for years to come.
Overarching Trends & Implications

→ Sustainability and green design & construction are here to stay.

– Government policies developed today will last for decades.

– Education and training at top design and architectural schools are incorporating sustainability into their curricula.

– Energy efficiency will outlast the economic downturn and remain a fixture in design in the future.

– Measurable performance is what owners are looking for.
Overarching Trends & Implications

Changing demographics will fundamentally affect buildings.

- Aging populations have special and diverse needs.
- Generational interests of the Millennials will need to be addressed as they become the largest, and eventually most influential generation as were the baby boomers before them.
- Explosion of mental health, disease and obesity will change design, just as the Americans with Disabilities Act did in the 1980s.
Overarching Trends & Implications

- **Opportunity for innovation is now. Application of technology will continue at ever-increasing rates.**
  - Contrary to popular thinking, much of construction innovation adoption occurs during economic shocks.
  - Use of BIM and other electronic tools will rapidly increase as computing becomes more powerful, mobility becomes expanded and data becomes more ‘intelligent.’
  - Global design and construction will also emerge long-term as a result of these expanded technological capabilities.