Planning Education and Digital Evolution: Experience at Columbia University

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M.S. Urban Planning

• PAB accredited, 2-year program with 60 points

• Core requirements: 27 (courses, studio, thesis/capstone)

• Electives: 33 points
  • At least 12 points in a concentration
  • Electives may be taken across GSAPP and Columbia

• 4 Concentrations
  • Built environment
  • Community and economic development
  • International planning and development
  • Urban analytics

• Part-time option
  • 2 year FT or 4 year PT experience prior to application
  • Up to 8 consecutive semesters (or 4 years) to complete
Urban analytics: rationales

- Central role of planning in discourse and practice around urban technology and data analytics
  - Inclusion (access)
  - Engagement (process)
  - Social justice (outcome)

- Preparation for emerging roles of planner
  - Expanding capabilities in planning profession
  - Engagement with neighboring and/or other professions
Urban analytics: learning outcomes

- **Knowledge**
  - Knowledge of planning and policy approaches to digital infrastructures
  - Knowledge of data management practices

- **Skill**
  - Ability to articulate contextual aspects of data production and limitations of use
  - Ability to develop and evaluate digital infrastructures for urban development

- **Value**
  - Understanding of equity and ethics in data practices
  - Understanding of governance and participation in information and communication technology
Urban analytics: curriculum offerings

• Spatial and data analytical methods
  • Advanced Spatial Analysis (in addition to required GIS course)
  • Quantitative Methods
  • Data Science Methods for Urban Systems

• Data management, machine learning, and algorithms
  • Introduction to Urban Data and Informatics
  • Urban Informatics II: Sensing People in Place
  • Urban Datascapes
  • Exploring Urban Data with Machine Learning

• Applications in planning and policy
  • Digital Restructuring of Urban Space
  • Environmental Data Analysis in Context of Climate Change
  • Mobility Workshop
  • Prototyping for Urban Policy & Decision Making
Measuring Distance From Oil Well to Residential Building Footprints in Burbank, CA

Nearest Building = 400 Feet

Sources:
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), 2019
Measuring & Mapping Social Vulnerability in Flooding Events

This project aims to better define and evaluate social vulnerability during flooding events through the development and comparison of three methodologies. The first methodology, Hazus Lite, was developed to assess the social vulnerability aspects of the Hazus model aligned with the Federal Emergency Management Association (FEMA) through a weighted overlay analysis at the census tract level. In order to increase the granularity and specificity of the model, a second method, the FVI + Accessibility Index (FVI), built using fine-tuned data through the incorporation of additional social and environmental vulnerability metrics through a weighted overlay analysis at the block level. The last method, FVI + Accessibility, built directly on the FVI by adding measures of accessibility through both a service area analysis and a census tract network analysis before completing the final weighted overlay analysis at the block level. The results of these methods were then compared to the inundation area of 2012’s Superstorm Sandy event.

**Methods & Results**

**1. Hazus Lite**
- **Hazard:** Flood
- **Variables:**
  - Income
  - Ethnicity
  - Education
  - Age
  - Group Quarters

**2. Flooding Vulnerability Index (FVI)**
- **Variables:**
  - Income
  - Ethnicity
  - Education
  - Age
  - Group Quarters
- **Factors:**
  - Flooding Hazard
  - Flooding Risk
- **Demographic Factors:**
  - Single-Family Households
  - Two or more households
  - Spanish English: "Less than very well"
  - Financial Status:
    - Flood Risk & Elevation

**3. FVI + Accessibility**
- **Variables:**
  - Flooding Hazard
  - Schools & Community Centers

**Zooming in**

The most impacted neighborhoods within Superstorm Sandy

**Roads**
- This map displays the area vulnerable to foot traffic based on the maximum foot traffic capacity. The map is based on the maximum foot traffic capacity and includes information on foot traffic capacity in different areas. The map also includes information on foot traffic capacity and the maximum foot traffic capacity in different areas.

**Steeped Elevation**
- This map displays the area vulnerable to high density foot traffic based on the maximum foot traffic capacity. The map is based on the maximum foot traffic capacity and includes information on foot traffic capacity in different areas. The map also includes information on foot traffic capacity and the maximum foot traffic capacity in different areas.

**Superscript Note:**
- We can see that the Sandy inundation only affected the foot traffic capacity in areas where the foot traffic capacity was high.

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Advanced Spatial Analysis, Spring 2018
Sean Nelsen, Anna Stokes, Pauline Claramunt
Koreatown: A Multifaceted Cultural Enclave

“Koreatown is a bit of a misnomer. In truth, if we're sticking to ethnic assignations, the neighborhood should be called Korea-Mexico-town™” —Roy Choi, Chef

K-Town has the highest density of Homelessness in the City of Los Angeles. The passage of the Hart-Celler Act of 1965 resulted in a demographic shift across the country, encouraging an influx of immigrants that changed the cultural landscape of Los Angeles and catalyzed the growth of “The best Koreatown outside of Korea” (Curbed LA, 2019). Encompassing approximately 3 square miles just west of Downtown LA and south of Hollywood, the area was once the epicenter of Golden Age Hollywood, home to the Ambassador Hotel, the Cocoanut Grove and the Brown Derby. Today, Korean and Latinx populations contribute to Koreatown’s rich cultural diversity (Discover LA, 2019).

Rental types

A transient traveler has many considerations for selecting a rental: the amenities offered, the general aesthetic of the living environment, and space needed. This affects the choice among the four rental type options. For those without any other choice in the City of Los Angeles, more affordable options like tents, vehicles, and shelters housed 36,165 people in 2019 (LAHSA).
Whether you have composted before or is a novice to composting, we are transforming the landscape to make it easier and rewarding for you to make a difference. We are the first app to reward users who drop off compost at participating farmers’ markets. Our app aims to connect and empower climate conscious individuals and increase composting activity in NYC through a composting reward system and a social network.
Users can log into the Verde B31 app using their social media to utilize and connect with members of their existing social network, or connect as an independent user. All attributes are included in the app. Users can hear what is happening in their neighborhood, see existing examples of green space, explore potential sites for intervention, interact with others, and vote on which sites they want to develop first.
Thank You!

https://www.arch.columbia.edu/programs/urban-planning