

## Important People and Books

<p><b>Natural Resources and Environmental Quality</b></p> <ol style="list-style-type: none"> <li>1. 1864 George Perkins Marsh: "Man and Nature" inspired conservationist movement</li> <li>2. 1878 John Wesley Powell: "Report on the Lands of the Arid Region of the U.S." proposed regional plan for western settlement and conserve scarce water resources</li> <li>3. 1905 Gifford Pinchot: First professionally trained forester in U.S., First director of U.S. Forest Service – leader of conservation movement, preservation and scientific management of natural resources</li> <li>4. 1907 Teddy Roosevelt: Inland Waterway Commission for multipurpose planning in waterway development – navigation, power, irrigation, flood control, water supply.</li> <li>5. 1917 Thomas Adams: "Rural Planning and Development": concept of Land Capacity</li> <li>6. 1944 Graham: "Natural Principles of Land Use" – ecologically based rural land classifications, relationship between environmentalism and land use planning</li> <li>7. 1959 William Whyte: "The Last Landscape", coined term Greenway, study on conservation easements</li> <li>8. 1962 Rachel Carson: "Silent Spring", harmful effects of pesticides on animal, plant, and human life.</li> <li>9. 1969 Ian McHarg: "Design with Nature", concept of Land Suitability Analysis, foreshadows modern environmental policy</li> </ol>
<p><b>Land Use/Zoning</b></p> <ol style="list-style-type: none"> <li>1. 1925 Alfred Bettman: developed comprehensive plan for Cincinnati and successfully defended zoning in Village of Euclid v. Ambler. First president of the American Society of Planning Officials (1934 – 1948).</li> <li>2. 1925 Ernest Burgess: Concentric Ring Theory, urban areas grow outward</li> <li>3. 1939 Homer Hoyt: Sector Theory, urban areas developed by sectors formed along communication and transportation routes</li> <li>4. 1945 Chauncey Harris and Edward Ullman: Multiple Nuclei Theory, urban areas grow by progressive integration of a number of separate specialized and differentiated nuclei.</li> <li>5. 1960 William Alonso: Bid Rent Theory, As distance from CBD increases, cost of land, intensity of development, concentration of population, and employment places decreases</li> <li>6. 1987 John Logan and Harvey Molotch: Urban development directed by elite members of the community who control resources, business and political interests</li> <li>7. 1994 Randall Arendt: "Rural by Design" – argues for inclusion of open space in developments, reclaim commercial strips, land conservation trusts, eliminate cul-de-sacs, use of small turnarounds, non-circular turning loops, hammerheads instead.</li> </ol>
<p><b>Urban Design</b></p> <ol style="list-style-type: none"> <li>1. 1909 Daniel Burnham: Wrote Chicago Plan with Edward Bennett</li> <li>2. 1920s LeCorbusier: Radiant City, as promoted by "Congres Internationaux d'Architecture Moderne", featured skyscrapers, very high-density living and working environment, surrounded by commonly owned park space. Urban Design system based on large-scale grid of arterial streets, superblocks, and individual zones for factory, commercial, and government uses.</li> <li>3. 1930s Frank Lloyd Wright, wrote "Disappearing City" in 1932, advocated for sprawling, decongested, car-oriented development. Utopian vision of "Broadacre City" where each home was on at least an acre of land, each household owned a car.</li> <li>4. 1930s Louis Wirth: "Urbanism as a Way of Life" in 1938, urbanism is the prevailing way of life in contemporary society → density of cities influence behavior of people and their relationships</li> <li>5. 1950s and 60s James Rouse: Indoor shopping mall of the 1950s and model of a colonial village to plan Columbia, Maryland. Rejuvenated dying downtowns through festival marketplaces (Faneuil Hall, Inner Harbor, South Street Seaport)</li> <li>6. 1960 Kevin Lynch: "Image of the City", paths, edges, districts, nodes, landmarks → "imageable city"</li> <li>7. 1961 Jane Jacobs: "Death and Life of Great American Cities", importance of design in terms of user orientation, mix of uses, safety, public sidewalk life → mixed use, short blocks, pedestrian-scale</li> </ol>

development for eyes on the street, vibrancy

8. 1960s Paulo Soleri: Megastructure cities containing transportation terminals, retail businesses, housing, employment centers, serving 100,000+ population; 1970 Arcosanti in Arizona → architecture should be coherent with natural environment, maximizing human interaction and interaction with natural environment.
9. 1980 William Whyte: "Social Life of Small Urban Spaces": Systematic study of factors that contribute to success of urban spaces such as abundance of public spaces, active street life, and ability to purchase food and drink. Land use and density controls; Building bulk, setback, height, and shape controls; Architectural performance; Site plan and modeling reviews → importance of environmental psychology and sociology in urban design.
10. 1980s Andres Duany: New Urbanism or Neotraditional Design, 1982 Seaside Florida; Residential block widths of 1,200' – 2000'; mixed-use development; grid street patterns; moderate to high densities; rear parking for commercial structures; minimal side and front setbacks.
11. 1985 Allan Jacobs: "Making City Planning Work"- describes what it takes to change American cities and "Great Streets" (1995)- analyzed the qualities and quantities of features that characterize great streets around the world, including relative height of buildings, facades, trees, window orientation, intersections, places to stop and rest, space for leisure walking.
12. 1991 Joel Garreau: "Edge Cities", a distinct place that has at least 5 million sf of leasable office space, 600,000 sf of retail, more jobs than bedrooms
13. 2002 Robert Lang: "Edgeless Cities", large, isolated suburban office complexes that are inaccessible by pedestrians or transit.

#### Housing

1. 1889 Jane Adams: Founded Hull House in Chicago, a settlement house to attract educated middle-class to live in poor urban neighborhoods and provide social/educational services
2. 1849-1914 Jacob Riis: Photojournalist, "How the Other Half Lives" and "Children of the Poor"
3. 1872–1959 Lawrence Veiller: Helped draft 1901 Tenement House Law, reformer in NYC who wrote "Housing Reform"
4. 1867–1951 Mary Simkhovitch: Social worker and housing reformer, active in NYC settlement movement, founded Greenwich House in 1902
5. 1934 Catherine Bauer Wurster: Public housing advocate, wrote "Modern Housing"
6. 1965 Robert Weaver: First secretary of HUD and first African-American cabinet member.

#### Parks and Recreation

1. 1851 Frederick Law Olmsted Sr. and Calvert Vaux: Central Park NYC
2. 1872 Yellowstone National Park: First national park
3. 1906 Charles Mulford Robinson and George Kessler; Denver's Parks and Parkways Systems
4. 1920s Robert Moses --> State Parks and Parkways system in New York and Long Island, drafted "A State Park Plan for New York" in 1923 and lobbied state government to establish the State Council of Parks (1923).
5. New Orleans: Audubon Park, City Park
6. Hartford: Bushnell Park
7. New York: Central Park, Prospect Park
8. Philadelphia: Fairmount Park
9. Portland: Forest Park
10. St. Louis: Forest Park
11. San Francisco: Golden Gate Park
12. Chicago: Grant Park, Millennium Park
13. Boston: Public Gardens

#### Community Development

1. 1898 Ebenezer Howard: Promoted garden cities to overcome social and economic

inequalities/inefficiencies in urban areas.

2. 1872 – 1944 Clarence Perry: Neighborhood Unit, published in *The Regional Survey of New York and its Environs* (1929)
3. 1969 – 1979 Norman Krumholz: Cleveland Planning director → equity planning, help those with few choices (i.e. poor and minority)

#### Plan Making

1. 1945-1972 Saul Alinsky: Advocacy planning centered around "organizations" that develop where people feel powerless and hire planners to identify problems, make aware the problem, and generate action.
2. 1969 Sherry Arnstein: "Ladder of Participation" → divides public participation into 3 major levels, depending on the power of the general public: (1) Non-participation where general public is manipulated; (2) Tokenism (general public is informed, consulted, placated); (3) Citizen Power (general public becomes a partner with actual control over policy)
3. 1960s Paul Davidoff: Early champion of advocacy planning, argue that planners serve multiple interests so have no choice but to become non-objective advocates for a specific group or interest.

## Definitions

### Natural Resources and Environmental Quality

1. Ambient Standards: standards for air and water quality related to quality of receiving environment
2. Ambient conditions: Existing conditions.
3. Effluent Standards: Relating to discharges into environment from specific municipal, industrial, and other sources of pollution.
4. Effluent: Treated wastewater discharged by sewage treatment plant.
5. PSD standards: Stricter effluent controls on new polluters in high quality air regions
6. EIS: Environmental Impact Statement – for major actions having significant impact on the environment -- satisfying requirements of NEPA or related state laws.
7. Environmental Assessment: Less extensive environmental review used by various agencies to determine whether EIS is required or not.
8. NPDES: National Pollutant Discharge Elimination System – Major water polluters apply for permission to discharge their waste into a body of water. Must show (1) Discharged substance; (2) rates of discharge; (3) how polluter meets effluent standards.
9. National Ambient Air Quality Standards (NAAQS): Air quality standards for: carbon monoxide, lead, nitrogen oxide, sulfur dioxide, particulate, and ozone → provide ample margin of safety to human health.
10. Hazardous Air Pollutant (HAP): Air pollutants that can pose health risk and not included in NAAQS
11. Point and NonPoint Pollutants: (1) Point – coming out of a pipe into a body of water; (2) NonPoint – Urban and Agricultural runoff that enters waterbodies at multiple, natural drainage points.
12. Best Management Practices: management + cultural + structural practices to reduce pollution from agricultural, residential, and urban development
13. Land Capability Analysis: Land analyzed in terms of development costs, incorporate geologic, hydrologic, soil data to estimate effects
14. Biochemical Oxygen Demand (BOD): how much dissolved oxygen is being consumed as microbes break down organic matter, high BOD = decreased levels of dissolved oxygen → decrease in water body's biodiversity
15. Hydrostatic Pressure: pressure causing water in an aquifer to rise to unconfined potentiometric surface, or level of water table
16. Hydric Soil: type of soil associated with wetlands
17. Tidal Range: vertical difference between water at high and low tide
18. Drumlin: Glacial landform, long axis indicates the direction of glacier flow
19. Esker: Long narrow hill of sand and gravel in an area once covered by ice
20. Moraine: Glacial deposit of rock and soil
21. Wrack: algae, plant, and animal materials that accumulate on beaches at higher water mark
22. Limnology: Study of lakes and ponds: hydrological, chemical, and biological aspects
23. Lacustrine: Lake or lake-type environment, like wetlands.
24. Palustrine: Swamp or marsh type of non-tidal wetland with cattails
25. Oligotrophic: Deep lake with few nutrients and little organic material
26. Littoral: Inter-tidal shallow water zone with rooted aquatic plants
27. 100<sup>th</sup> Meridian: Runs through North Dakota, South Dakota, and Oklahoma panhandle. Described as a water isohyets because it marks the east, which receives 20" more rain per year than the west.
28. Maximum Contaminant Level (MCL): Highest Level of a contaminant that is allowed in drinking water (i.e. 10ppm for nitrates, 4ppm for fluoride)
29. Total Maximum Daily Load (TMDL): Maximum amount of a pollutant that a body of water can receive and still meet water quality standards.
30. Nitrogen: Necessary nutrient, but too much in surface and ground water can be hazardous. Commonly derived from fertilizers, wastewater, and domestic animals. (< 10 ppm of nitrogen is okay)
31. Phosphorus: Too much can contribute to algae bloom. Derived from point sources like municipal wastewater treatment, industrial operations, and nonpoint sources such as stormwater runoff.
32. Eutrophication: Accumulation of nitrates and phosphates in water, can lead to algae growth, and when they die, reduce the supply of oxygen dissolved in the body of water, which leaves an environment that can't support aquatic life.

33. Methane Gas: Explosive greenhouse gas resulting from decomposition in landfills, septic systems, wetlands, oil exploration
34. Polychlorinated Biphenyl (PCB): Used in electric transformers between 1926 and 1976, banned in 1979. Is a group of manufactured chemicals including 200 compounds made up of carbon, hydrogen, and chlorine. Pose a serious health hazard, long lasting effect in the environment.
35. Prevention of Significant Deterioration (PSD): Required under Clean Air Act, referring to application and review process for construction and operation of new and modified stationary sources of pollution and areas that comply with MAAQS.
36. Sole Source Aquifer: Aquifers that supply bulk of drinking water for an area, EPA has identified 73.
37. Tributary: Above or underground stream, usually smaller stream feeding into larger one.
38. Vernal pool: Seasonal wetlands that hold water for 2 months in spring for amphibian breeding ground.
39. Council of Environmental Quality (CEQ): A part of NEPA , established by Congress in executive branch to coordinate federal environmental efforts.
40. Potentially Responsible Party (PRP): Individuals or companies being tracked by Superfund Enforcement Tracking System as potentially responsible for cleanup costs at Superfund sites.
41. Earthquake: Mitigation includes good building construction to minimize opportunities for collapse, falling objects, and debris
42. Erosion: Process which sediment is moved by water, wind, ice, or human activity, often associated with agriculture, river and coastal environments. U.S. farmlands lose 4 to 5 tons per acre of soil per year. "T-Value" is the tolerable soil loss that if exceeded would adversely affect productivity of the soil. → Mitigation includes preserving vegetation, replanting, mulching, swales, artificial dunes or seawalls for shorelines.
43. Floods: Floodplain (FEMA) has at least a 1% chance of flooding in any given year
44. Hurricanes and Coastal Storms: Mitigation includes evacuation (because it's predictable); hurricane-resistant building code; setbacks well away from coast and surge area; add vegetation in storm surge area on land.
45. Landslides: Ordinances may require a geologic review to evaluate hillside stability before approving building permits; require developers to obtain grading permits; allow clustered development on safer parcels; reduce development intensity with maximum density, lot coverage and minimum parcel size and setbacks.
46. Sinkholes and Subsidence: Surface depression caused by soil moving through fractures in bedrock. Require minimum setback and avoid developing where sinkhole or subsidence is likely.
47. Wildfires: Structural modifications such as using fire-resistant materials, remove vegetation near structures to create buffer, plant fire-resistant plants.

#### Land Use/Zoning

1. Rezoning: Change from one zoning classification to another
2. Upzoning: Rezone for higher density development
3. Downzoning: Can mean two different things: (1) Rezoning that decreases the intensity of development, like raising minimum lot size to reduce allowable density; (2) Moving down the zoning hierarchy, like moving from single-family to multi-family, which actually increases intensity.
4. Conditional use (exception or special use): Land uses not permitted as of right, but permitted because of unusual issues of scale, setback requirements or potential safety concern. Subject to review and often require a public hearing before approval. → allows governmental authority some flexibility for issuing permits for special conditions. Conditional Use Permit is issued as long as use complies with specific conditions or standards.
5. Variance: Used to permit uses not allowed by zoning ordinance in cases of hardship associated with the parcel. Area or bulk variances deal with yard/height requirements of a zoning ordinance.
6. Extraterritorial Jurisdiction (ETJ): Authority granted to municipalities by states to impose zoning and subdivision regulations beyond its boundaries, to ensure that development beyond the boundaries is compatible with those permitted within the municipality.
7. Exactions: Subdividers usually provide certain public improvements at their own expense in form of (1) dedication of land; (2) construction or installation of infrastructural improvements; (3) fees to finance improvements

8. Improvements and Dedications of Land: Requirement that developer provides certain infrastructural improvements to serve the land being developed, which may be on lands that the developer doesn't own or control. If improvement is for public use, municipality usually (1) requires the dedication/donation of that land to the municipality; (2) will accept the dedication only have improvements have been completed and inspected. Form of fee simple title, easement, or other property interest. If improvement serves more than the land being developed, municipality should partially reimburse the developer for "oversized" improvements.
9. Fees in lieu of Dedication: Payment made in lieu of improvement or dedication, made prior to and as a condition of final plat approval. Fees are placed in accounts earmarked both by purpose (park, school, etc) and geographic area in which they were collected.
10. Impact Fee: Systematic method of funding the capital needed for new developments. Collected when building permits are issued, not prior to final plat approval. (1) Estimate of public improvements needed over a specific planning period, usually 20-25 years to determine how much should be funded by impact fees; (2) Appropriate distribution of these costs by development sector (residential, commercial, industrial); (3) Once collected, impact fees are placed in an account earmarked by purpose (park, school, etc) and geographic area. When account reaches appropriate levels, involved public improvement is constructed.
11. Performance Guarantees or Bonds: When municipality allows developer to construct required improvements after final plat approval if developer posts a financial guarantee or bond in the form of: (1) Surety company; (2) irrevocable letter of credit from a lender; (3) Cash in escrow account held in trust by the municipality; (4) Developer escrows own personal property; (5) Three-party subdivision improvement agreement with developer, developer's lender, and municipality.
12. Easements: Secure a portion of rights associated with a parcel. A conservation easement may mean private owner no longer has the right to develop the parcel.
13. Right of Way: Right granted by a property owner to another person/agency to build, maintain, and use a road, pathway, or utility line across owner's property.
14. Planning Commission: advisory to the governing body on zoning matters, often has direct or final authority in adoption of master plans and review of subdivisions
15. Board of Adjustment or Appeals: appointed by elected officials to consider requests for variances or exceptions
16. Planning Staff: supports the governing body, planning commission, and zoning board by performing project reviews and providing info to planning group as well as public
17. Cadestral Map: Map that graphically outlines subdivisions or parcels of land and ownership of land, i.e. tax map.

#### Urban Design

1. Vernacular architecture: Uses locally available materials
2. Context sensitive design: Roadway design that is flexible and sensitive to community values, balances economic, social, and environmental goals
3. Activity Node: Place with increased pedestrian trips, close public spaces, transit accessible, mixed-use, pedestrian-friendly, street-oriented buildings
4. Gridiron: Streets in rectangular system, i.e. Early North American cities used gridiron, dividing land a simple task
5. Cul-de-Sac: Popular suburban street design in mid-to-late 1900s, widely used in 1929 Radburn plan
6. Boulevards: Wide thoroughfares, usually with a landscaped median
7. Gateways: Designated entrance corridors that signal a new destination or neighborhood , i.e. Chinatown
8. View Corridors: Sight lines or routes that direct attention to an object of significance such as rivers, mountains, or historic monuments.
9. Street Connectivity: Links between different streets, density of connections along path or road network. Greater connectivity → travel distance and time decrease and route options increase
10. Public Realm: Publicly-owned streets, sidewalks, rights-of-way, parks, greenways, open spaces, and public and civic buildings and facilities

11. Public Spaces: Plazas, Squares, Greens

Housing

1. Housing affordability: No more than 30% of income should go toward monthly housing cost. Affordability Index = financial ability to buy a house, with 100 means a family earning the national median income with just enough money to qualify for a mortgage on a median-priced home.
2. Inclusionary Zoning: Used to provide affordable housing opportunities to low and moderate income residents. May require inclusion of a variety of housing types. Mount Laurel required "fair share of affordable housing"
3. Fee-in-Leiu: Instead of providing affordable housing as part of their development project, developers can make payments to the local housing authority or local affordable housing trust fund. Usually need to show why they can't build affordable units on the development site.
4. Impact fee to fund affordable housing: Housing impact fee or linkage fee assessed on new commercial or industrial development. The fee on new commercial/industrial development (which will also produce jobs) will help produce affordable housing units.
5. Group homes: Semi-permanent or permanent home of between 2 – 20 people living together for a special purpose.
6. Halfway House: Temporary housing for social/physical readjustment
7. Continuum of care: Have a number of different governmental and nonprofit agencies work together to house people and provide services to help them to continue to be housed. Refers also to cycle of aging.
8. Accessory dwelling units: Housing attached or adjacent to single-family house, like in-law units.
9. Adaptive Reuse: Creative reuse, rather than demolition, of an existing building. May require zoning change.

Parks and Recreation

1. Large Metropolitan Parks: Include a variety of vistas, opportunities for recreation activities, and educational activities
2. Community Parks: Accessible to pedestrians, bicyclists; may include: pool, fields, courts, trails, areas of natural value, picnic tables
3. Neighborhood Park: Play equipment, paved areas, picnic, walkways, landscaping
4. Pocket Parks: Green space that serves very local population
5. Greenways: Paths for walking, biking, horseback riding as well as undisturbed, inaccessible habitat corridors.
6. Other types of parks: state, regional, and federally managed wildlife management areas that provide for hunting, fishing, boating, bird-watching, etc.

Economic Development

1. Business Cluster: Geographically close businesses that have some relationship to each other (i.e. supplier/consumer of high tech goods or manufacture and assembly of car parts and automobiles)
2. Agglomeration economics: Businesses locate close to one another to benefit economically from proximity → Includes reduced transportation/communication costs, and rapid spread of innovation.
3. Civic entrepreneurialism: Local government and community organizations - along with the private sector - plays a central role in stimulating economic activity.
4. Structural unemployment: Mismatch between supply and demand for labor due to changing technological requirements.
5. Community Shopping Center: 100,000sf-450,000sf, average about 150,000sf. Mid-sized department store or discount store as major tenant.
6. Neighborhood Shopping Center: 30,000 – 100,000sf. Daily needs of residents in the immediate neighborhood.
7. Regional Shopping Center: 300,000sf – 1 million sf. Provides a variety of general merchandise, apparel, furniture, home furnishings.

8. Location Quotient: Measures the concentration of industry in a geographic area relative to a larger area (compare local share of an economic activity to a larger—regional/national – region. Most common indirect method of defining base sector of a study area.
  - a.  $LQ > 1$ : Employment in the local industry is greater than in the region, so product is exported.
  - b.  $LQ = 1$ : local industry meets local demand
  - c.  $LQ < 1$ : Local industry doesn't meet local demand, product is imported.
9. Jobs/Housing Ratio: Ratio between expected creation of jobs in a community and the need for housing.  $Jobs > Housing$  = more jobs generated in the area than housing, so need to create more housing in other communities. → Linkages is a program that balances jobs and homes (such as no more homes until jobs are provided)
10. Economic Base Multiplier: Measure local economic growth, based on employment, output, or income.  $EBM = Total\ Economic\ Activity / Basic\ Sector\ Activity$ . i.e.  $EBM = 3$  → For every basic job, 3 non-basic jobs are needed/created in the economy.
11. Multiplier Effect: Full impact of spending a dollar and how it is recirculated and extended in the local economy. Your spending \$50 may result in \$100 being spent in the community.
12. Empirical Approach: Assigns industries into basic and non-basic sectors through assumptions on each industry as well as good knowledge of the economy. (i.e. agriculture/manufacturing jobs are basic because produced goods are sent away)
13. Minimum Requirements Approach: Uses outside study area for reference and calibration → assume that regional economy will completely meet its own local demand before making exports.

#### Rural and Small Town Planning

1. Village: Mix of uses with sidewalks, trees, on-street parking, medium density, shallow front yards, zero front setback in commercial areas → use signage requirements to maintain character of village.

#### Infrastructure

1. Water Demand: Residents may demand between 50 to 180 gallons per day per capita depending on various factors, including weather.
2. Wellhead: Water drawn primarily from groundwater, so distance from potential sources of pollution is an important protection
3. Assimilative Capacity: Degree to which the ground causes contaminants to become less concentrated (attenuate) before reaching wellhead.

#### Transportation

1. Travel Demand Model: key tool to forecast transportation needs. Four step process: trip generation, trip distribution, modal split and trip assignment
2. Trip Generation: estimation of number of trips generated by current and future land uses in an area, using current and future land use maps
3. Trip Distribution: estimation of destinations of trips generated in trip generation process – usually uses gravity models
4. Modal Split: Mode that each of the above trips will use to get from origin to destination – (probit or logit models)
5. Traffic Assignment: assign actual route to each trip to determine path taken by each trip
6. Supply Analysis: alternative means of reaching region's future travel demands – as estimated above – evaluated by costs and benefits analysis that each alternative will bring to various groups
7. TAZ (Traffic Analysis Zones): unit of analysis in traditional travel demand model, geographic unit created by dividing a planning region into similar areas of land use. Usually the size of a census tract.
8. TOD: high density development around transit to encourage transit ridership
9. Alternative Transportation Choices: choice of mode, choice of route and choice of time of travel or system designed for people who are unable to use conventional public transit system e.g.: seniors or disabled
10. Paratransit:



<ul style="list-style-type: none"> <li>11. Mass Transit:</li> <li>12. Level of Service: rating designed to measure how well a transportation facility serves users in terms of travel time, safety, comfort, etc. Expressed as a letter grade assigned according to the numerical ratio of volume over capacity. LOS "A" = best facility performance, free flow</li> <li>13. VMT, Vehicle Miles Travelled</li> <li>14. Emissions forecasting tool: to assess air quality impacts of existing and proposed transportation systems</li> <li>15. Evaluation of transportation systems: to assess performance, impacts and implementation of transportation systems and review institutional arrangements and financing of transportation projects</li> </ul>
<p>Plan Making</p> <ul style="list-style-type: none"> <li>1. Comprehensive Plan</li> <li>2. System Plans: Detailed engineering plan for a subsystem of a community-wide facility</li> <li>3. Capital Facilities Plan</li> <li>4. Capital Improvement Program</li> <li>5. Transportation Plan</li> <li>6. Site Plan: plan for a site or specific component of a community-wide plan (i.e. sewage treatment plant, library)</li> <li>7. Other Plans</li> <li>8. Planning Commission</li> <li>9. Zoning Board of Appeals</li> <li>10. Stakeholders: Individuals/organizations involved in or affected by planning process. → Residents, business owners in the community, and residents/business owners in nearby communities who may be affected by the decisions.</li> </ul>
<p>Data Analysis</p> <ul style="list-style-type: none"> <li>1. Population</li> <li>2. Sample</li> <li>3. Sample size</li> <li>4. Subjects</li> <li>5. Random sampling</li> <li>6. Convenience sampling</li> <li>7. Volunteer sampling</li> <li>8. Snowball sampling</li> <li>9. Variable</li> <li>10. Nominal or categorical variables</li> <li>11. Ordinal or ranking variables</li> <li>12. Interval Variables</li> <li>13. Ratio Variables</li> <li>14. Dependent Variable: the y-value, the one researcher wants to influence or explain</li> <li>15. Independent variable: the x-value</li> <li>16. Treatment variable: the x-value that is being manipulated</li> <li>17. Control variable:</li> <li>18. Confounding variable: provides rival explanation to the impact of the independent treatment variable for the behavior of the dependent variable.</li> <li>19. Discrete variable: variable with finite number of values, i.e. stores in a building</li> <li>20. Continuous variable:</li> <li>21. Dichotomous or Binary variable: only two possible values, i.e. male/female or pass/fail or zero/one</li> </ul>
<p>Census and Other Data</p> <ul style="list-style-type: none"> <li>1. Census Tract: Small, relatively permanent statistical subdivision of a county for the purpose of presenting data. Boundaries follow visible features, but may also follow governmental unit</li> </ul>

- boundaries or nonphysical ones. Designed to be relatively homogenous with respect to population characteristics, economic status, and living conditions – averages 4,000 people.
2. Census Block: Subdivision of a census tract, smallest geographic unit for which the Census gets 100% data, first established in 1990. More than 8 million blocks in 2000 Census. Many blocks correspond to individual city blocks bounded by streets, but in rural areas may include many square miles and may have boundaries that are not streets.
  3. Census Block Group: Subset of the blocks in census tracts. Smallest geographic unit that the Census tabulates sample data for.
  4. Census Designated Place (CDP): Densely settled concentration of a population that's not within an incorporated place and has no size limits, but is locally identified by a name. Delineated by state + local officials + Census Bureau for each census, starting with 2000.
  5. Place: A concentration of population either legally bound as an incorporated place, or identified as a CDP.
  6. Incorporated Place: Having legally prescribed geographic limits and incorporated under state law, such as a city, town, borough, or village.
  7. Tribal Designated Statistical Area: A census unit drawn by tribes that don't have a recognized land area.
  8. Urban Area: Two types, urban clusters and urbanized areas as of Census 2000.
  9. Urban Clusters: Densely settled, between 2500 and 50,000 people, began in Census 2000.
  10. Urbanized Areas: Area with at least one central place and next to territory with a general population density of at least 1,000 people per square mile of land area and a minimum residential population of at least 50,000 people.
  11. Metropolitan Statistical Area (MSA): Core area with a large population nucleus and integrated with high degree of economic and social integration. Either a city with 50,000+ population or an Urbanized Area with a total population of at least 100,000 (75,000 in New England – defined by minor civil divisions, dependent on commuting patterns/population density). May include part or all of 1+ counties.
  12. Primary Metropolitan Statistical Area (PMSA): May include 1+ counties that have substantial commuting interchange. Maybe more than 1 PMSA within an MSA that has a population of 1 million+. When two or more PMSAs are recognized, they consolidate into a larger area → Consolidated Metropolitan Statistical Area (CMSA)
  13. Short Form: Used to collect information on only 7 subjects: name, age, gender, race and ethnicities of households, relationships between household members, and whether home was rented or owned.
  14. Long Form: Contains all the questions on the short form as well as additional detailed questions relating to social, economic, and housing characteristics of each individual and household. Long form data = sample data → Analyzed using inferential statistical methods and used for geographic entities as small as the block group level.
  15. Economic Census: Conducted by the Census Bureau in years ending in 2 and 7 → census of construction, manufactures, minerals, minority and women owned businesses, retail trade, service industries, transportation, and wholesale trade.
  16. North American Industry Classification System (NAICS): Classifies industries using 2, 3, 4, 5, and 6 digit levels of detail. 2-digit code = sector, the broadest classification. 6-digit code = individual industries in the U.S. Developed/implemented by U.S. + Canada + Mexico in 2002 and replaced the Standard Industrial Classification (SIC) system in the U.S.
  17. TIGER Database (Topologically Integrated Geographic Encoding and Referencing System): Starting in 1990, provided a geographic structure for tabulation and dissemination of statistical data, assigning residential and employer addresses to the correct geographic location → basis for a municipal GIS.
  18. Zoning Improvement Plan (ZIP) Code: Assigned by the U.S. Postal Service to a section of a street, a collection of streets, an establishment, structure, or group of post office boxes for the delivery of mail.
  19. ZIP Code Tabulation Area (ZCTA): Developed in 2000 by Census Bureau for tabulating summary statistics from Census 2000, it's an area that approximates but doesn't necessarily coincide with the delivery area for a 5-digit ZIP code.

## Key Facts and Concepts

<p><b>Natural Resources and Environmental Quality</b></p> <ol style="list-style-type: none"><li>1. Agricultural Land: 900 million acres in U.S., mostly private owned by farmers and ranchers. Lose about 2.2 million acres of agriculture/year to development. Takes about 25 acres of land per year to provide food for one person. Worldwide average is 7 acres. Our current land use patterns threaten our capacity to obtain fresh locally produced food.</li><li>2. Global Warming: Increased carbon dioxide and methane (greenhouse) gases → surface temperature have increased 1 degree, precipitation has increased about 1%, and sea levels having risen 6"-8" in past 100 years.</li><li>3. Coastal Conditions: Wave height, slope, and shoreline erosion make coastal areas vulnerable.</li><li>4. Federal Government Land: Federal government holds about 56.2 million acres of reservation land in trust with Secretary of the Interior as trustee. 40 million acres are in Alaska. Navajo is the single largest (16 million acres in AZ, UT, NM). 191 million acres of national forest.</li><li>5. Water Supply: Rural residents obtain most drinking water from groundwater. Urban residents obtain most drinking water from surface water. High Plains Aquifer is below 20% of irrigated land in U.S. Overall water consumption in the U.S. averages 120 – 180 gallons per person per day. Sunbelt is gaining population with limited water supply. Nonpoint sources of water pollution are main threat to water supply.</li><li>6. Environmental Quality: 40% of U.S. waterways do not meet drinkable or swimmable standards of Clean Water Act → "impaired waterways." 6 key pollutants regulated by Clean Air Act: (1) Nitrogen oxide; (2) Carbon monoxide; (3) Lead; (4) Sulfur dioxide; (5) Ozone; (6) Particulates. Air quality depends on temperature and wind speed. i.e. Hot and humid =&gt; smog. Maximum noise standard is 65 decibels.</li></ol>
<p><b>Land Use/Zoning</b></p> <ol style="list-style-type: none"><li>1. Zoning Ordinance: (1) Divides a municipality into zoning districts; (2) Imposes different land use controls on each district. May also delegate certain roles to municipality's governing body, planning commission, zoning hearing board, zoning enforcement officer, and staff.</li><li>2. Euclidean Zoning: Does not allow for a mix of uses, specifies exactly what uses will be allowed in each district and at what intensity. Not cumulative, so residences are not allowed in commercial district. Blamed for sprawling patterns for development.</li><li>3. Cumulative Zoning: Older approach to land use, hierarchical approach where less intensive use is allowed in areas of more intensive use, like residential allowed in commercial.</li><li>4. Noncumulative Zoning: Allows only the stated use.</li><li>5. Inclusionary Zoning: requires residential developers to include affordable housing</li><li>6. Spot Zoning: one small "spot" of one zoning district within a second, larger zoning district. Many have been struck down to be inconsistent with the larger neighborhood's character.</li><li>7. Form-based Zoning: Supports mixed-use neighborhoods with a range of housing types, regulates the size, form, appearance, and placement of buildings and parking rather than the use of the land and the density.</li><li>8. Transect Zoning: Continuum of six zones from rural to urban districts. Identifies three-dimensional development standards for the hierarchy of uses.</li><li>9. Performance Zoning: Focus on intensity of development and impact on the environment, not the use but rather than impact.</li><li>10. Subdivision Regulations: An exercise of police power, it divides land into 2+ parcels and regulate the location and design of supporting infrastructure, like design and layout of lots, streets, utilities, roads.</li><li>11. Subdivision Administration: (1) Preapplication between developer and staff to clarify proposal; (2) Preliminary plat review where departments and agencies receive plats, make recommendations, present comments at technical review committees; (3) Final plat approval, allows review of record plat, improvements built to date, and restrictive covenants and maintenance agreements. Final plats include certificates of approval from governing body, accuracy of mapping by surveyor, ownership and dedication, registration by recorder of deeds (must be registered within a month or two)</li><li>12. Unitary Land Use Ordinance (Unified Land Development Code): consolidates the authority,</li></ol>

standards, procedures of both zoning and subdivision regulations into one ordinance (Min. lot size, access, dedication and public improvements, landscaping, environmental measures, recordable plat)

13. Takings: 5<sup>th</sup> Amendment that prohibits government from taking private property for public use without just compensation. 14<sup>th</sup> Amendment prohibits taking private property without due process of the law.
14. Eminent Domain: The right of the government to acquire private property from an unwilling seller for public use, but must compensate fairly according to the 5<sup>th</sup> Amendment. Sometimes involve the condemnation of a deteriorated property. Court decides if the use is a public use and on the fair compensation.
15. Ripeness Doctrine: Claim is brought to court only after the property owner has already sought all possible relief through variance or condemnation procedures. Based on 1985 Williamson County Regional Planning Commission v. Hamilton Bank decision.

**Urban Design**

1. 1925 Burgess: Concentric Theory – as city grows, each ring invades and overtakes the next ring out through “Invasion/Succession”
2. 1939 Hoyt: Sector Theory – High-density residential, commercial, and industrial uses radiate out from CBD in “sectors” that follow major transportation routes
3. 1945 Harris and Ullman: Multiple Nuclei Zone Theory: Certain land uses group together to take advantage of unique facilities (i.e. Universities), specializations, codependencies, or externalities. Applies to cities with more than one CBD.

**Housing**

1. Federal Home Loan Bank system: provides credit to and regulates federal savings and loan association, which is principle source of mortgage credit.
2. Federal quasi-public agencies (i.e. Government National Mortgage Association and Federal National Mortgage Association) constitute major secondary market for mortgages in U.S. Bought from original lenders and sold as “pass-through securities.”
3. Farmers Home Administration: Major source of loans for rural housing and community development
4. Tax deductions: Most important role by federal government → deductions allowed for mortgage interest and property taxes > government expenditure for low and moderate income housing.
5. State government role: (1) Almost all states have housing finance agencies; (2) Many have consumer protection and anti-discrimination laws; (3) Many have building codes; (4) Most regulate/license congregate housing and group homes.
6. Local government role: Since Housing Act of 1937, Local governments and housing authorities have born major responsibility of actually providing housing. Regulate through zoning, subdivision, consumer protection, anti-discrimination, building, and housing ordinances. Local governments provide most of the infrastructure and services needed and some finance their own housing subsidies through federal assistance, bonds, or appropriations.

**Parks and Recreation**

1. Community Revitalization, Community Engagement: Provide a place for neighborhood to organize events, work and play together, leading to increased pride and improvement in facades.
2. Economic Development: Parks provide a neighborhood amenity, increase property value, commercial activity. Have a very positive local impact on property value --> increase tax base for local government
3. Neighborhood Safety: Utilized park --> more eyes on the street --> more safety. But dark parks that provide places to "hide" --> can contribute to crime in their vicinity.
4. Green Infrastructure: Provide buffers for surface water features, protect from flood hazards, improve air and water quality, biological diversity, stormwater retention.

<b>Economic Development</b>
<ol style="list-style-type: none"> <li>1. Economic Base Theory: The economy consists of two classes of industries: Base activities that produce and distribute goods/services for consumers outside the local economic area; and Non-Basic activities whose goods and services are consumed by firms and individuals within the local economic area. Basic brings dollars into area, non-basic circulates dollars within the area.</li> <li>2. Theory of Supply and Demand: As per unit price increases, supply increases but demand decreases → find equilibrium at intersection.</li> </ol>
<b>Rural and Small Town Planning</b>
<ol style="list-style-type: none"> <li>1. Septic Systems: Used with development density is low and no public sewer system available. Percolation (perc) test required to test soil permeability and ability of the soil to filter and absorb septic effluent.</li> <li>2. Private Sewage Treatment Facilities (PSTFs): Small, privately owned sewage treatment facilities may be used by a small number (~12) housing units, handles 3,000 – 10,000 gallons per day → not permitted in floodplains, near public water supplies, or endangered species habitat. Prohibited in many states because not reliable.</li> </ol>
<b>Infrastructure</b>
<ol style="list-style-type: none"> <li>1. Secondary Treatment: second step in treatment process where bacteria consumes the organic parts of the waste.</li> <li>2. Secondary Containment: Used for storing waste oils and potentially harmful liquids to provide extra storage capacity for materials that might leak due to failure, overfilling, or improper draining of the primary storage container.</li> </ol>
<b>Transportation</b>
<ol style="list-style-type: none"> <li>1. Functional Classification of Roads <ol style="list-style-type: none"> <li>a. Principal Arterial : serve longer trips, highest traffic volume, highest level of mobility and service, interstate</li> <li>b. Minor Arterial : interconnect principal arterial, less mobility</li> <li>c. Collector: collect and distribute traffic from arterials, two lane typically</li> <li>d. Local Streets: basic access between residential and commercial land uses, represent largest percentage of American public road system</li> </ol> </li> <li>2. Conflict Point: opportunity for vehicle – vehicle or vehicle – pedestrian conflict at intersections</li> <li>3. Cartway: street ROW that is travelled, not including curb</li> <li>4. Traffic Calming: Concerned with volume, speed, safety of traffic. Can be achieved through: <ol style="list-style-type: none"> <li>a. Vertical deflection: speed bumps</li> <li>b. Horizontal shift: chicane, S-shaped roadway, traffic circles</li> <li>c. Roadway narrowing: central traffic island (but results in more bike/auto accidents!)</li> <li>d. Roadway closure: with barriers, pedestrian-only signage</li> </ol> </li> </ol>
<b>Plan Making</b>
<ol style="list-style-type: none"> <li>1. Rational Planning</li> <li>2. Incremental Planning</li> <li>3. Advocacy Planning</li> <li>4. Transactive Planning: Planning as decentralized function based on face-to-face contacts, interpersonal dialogues, and mutual learning. Behavioralist-style.</li> <li>5. Radical Planning: Hates hierarchical bureaucracies, centralized planning, and domineering professional planners → planning is most effective when performed by non-professional neighborhood planning committees to empower citizens to solve their own problems. Marxist interpretations.</li> </ol>

6. Utopianism: Sweeping changes to capture public imagination, i.e. Burnham's Plan of Chicago, Wright's Broadacre City, Le Corbusier's La Ville Contemporaine.
7. Methodism: When you know the techniques that need to be used, but not the ends that will be achieved. Views planning techniques as ends into themselves.

#### Data Analysis

1. Quantitative Data
2. Qualitative Data
3. Internal Validity: Degree that the research included all potentially relevant variables to explain the effect or the program or the analysis
4. External validity: Degree which the research findings can be applied to other situations or make generalized
5. Reliability: Degree which the measurement tool was consistent throughout process and was accurate for what it was trying to measure.

#### Census and Other Data

1. Proper name is "2000 Decennial Censuses of Population and Housing"
2. Census 2000 and test census 1998 was first to allow respondents to choose one or more races to describe themselves
3. Census 2000 didn't consider legal status as part of defining "housing unit"
4. Census 2000 was the first to not use a post-Census review to estimate the undercount.
5. In 2000, 83% of households got the short form and 17% got the long form.
6. Census 2000 was first to use Optical Mark and Intelligent Character Recognition technology.
7. Estimated that the 1990 Census missed 1.6% of the total U.S. population, 4.4% African-American, and 5% Hispanic-American. Hispanic male renters was the most often missed.

#### Program Implementation and Evaluation, Management

10. Pragmatic: constituent-based and short-term → seeks immediate solution to problems by assuaging constituency without much consideration for long-term outcome. Usually done by elected officials.
11. Adaptive: Make incremental changes in a flawed policy to progress towards long-term goal. Oftentimes not defined or clearly recognized.
12. Cognitive: Define problem at hand, then define long-term goals, resulting in a well-patterned path for overcoming problems, but slow in implementing and adapting to change.

## Key Events

<b>Natural Resources and Environmental Quality</b>
<ol style="list-style-type: none"><li>1. 1879 USGS : Survey and classify all public domain land</li><li>2. 1916 National Park Service: Conserving and preserving natural resources, parks, historic sites</li><li>3. 1927 Metropolitan Water District of Southern California (Colorado River)</li><li>4. 1933 Civilian Conservation Corps: conserve nation's natural resources</li><li>5. 1933 TVA: river-basin planning</li><li>6. 1934 Taylor Grazing Act: Western range for conservation purposes</li><li>7. 1939 Natural Resources Planning Board: Comprehensive plans for public works</li><li>8. 1941 Grand Coulee Dam: Largest concrete structure in US in central Washington State, irrigation/electric power generation/flood control in Pacific Northwest</li><li>9. 1970 First Earth Day</li><li>10. 1972 Earth Resources Technology Satellite (Landsat): high-res images of earth's surface to identify, evaluate, develop, and conserve natural resources</li></ol>
<b>Land Use/Zoning</b>
<ol style="list-style-type: none"><li>1. 1867 City of San Francisco: Ordinance that addressed location of obnoxious uses</li><li>2. 1909 Los Angeles: first municipality to apply zoning to undeveloped land</li><li>3. 1916 First zoning ordinance New York City: controlled land use, building height, setbacks (post-Hadacheck v. Sebastian)</li><li>4. 1928 "Regional Survey of New York and Its Environs", viewed land use as a function of accessibility</li><li>5. 1958 First Urban Growth Boundary, Lexington and Fayette County Kentucky</li><li>6. 1961 Jane Jacobs "Death and Life..." Initiated movement towards mixed-use zoning districts</li><li>7. 1973 Oregon Land use Act: statewide planning system, identification of urban growth boundaries separating urban from rural areas</li></ol>
<b>Urban Design</b>
<ol style="list-style-type: none"><li>1. Late 1600s Philadelphia: William Penn, rectangular grid</li><li>2. 1695 Annapolis, Maryland: Designed by Maryland governor Francis Nicholson, featured radial street and compact urban design</li><li>3. 1710 Washington, DC: Design by Pierre L'Enfant, featuring radial streets over a gridiron pattern, applying principles of monumental design</li><li>4. 1733 Savannah, Georgia: James Oglethrope, featured a central public square</li><li>5. 1807 Detroit: Judge Woodward, developed as interlocking hexagons, never fully realized.</li><li>6. 1868 Riverside, Illinois: First planned garden suburban community stressing rural as opposed to urban, by Frederick Law Olmsted, Sr. and Calvert Vaux</li><li>7. 1857 Elisha Otis: first safety elevator in New York City → high-rise buildings feasible</li><li>8. 1885 Chicago First Skyscraper: Availability of steel</li><li>9. 1893 World's Columbian Exposition, Chicago: Daniel Burnham based on "City Beautiful" movement → "White City"</li><li>10. 1903 Letchworth, England: First English Garden City → stimulus to New Town Movement in U.S. Green belt towns</li><li>11. 1911 Forest Hill, New York: Frederick Law Olmsted, Jr., influenced by Clarence Perry's neighborhood unit concept</li><li>12. 1923-26 Mariemont, Ohio: Short blocks and mix of rental and owner-occupied housing in suburban Cincinnati, Mary Emery was founder, John Nolen was planner. (foreshadow New Urbanism)</li><li>13. 1925-28 Sunnyside Gardens, Queens, NY: Planned neighborhood designed by Clarence Stein and Henry Wright, built by City Housing Corporation in Queens.</li><li>14. 1928 Radburn, New Jersey: planned community inspired by Ebenezer Howard's Garden City, designed by Stein and Wright, forerunner to New Deal's Greenbelt Towns. Features alleys behind houses, cul-de-sacs, communal gardens, separation of vehicular and pedestrian access.</li><li>15. 1929 "Regional Plan for New York City and Its Environs": included Clarence Perry's Neighborhood</li></ol>

<p>Unit Concept that neighborhoods should be walkable (5 minutes, 160 acres)</p> <ol style="list-style-type: none"> <li>16. 1930s Greenbelt Towns: Government sponsored towns based on Garden Cities → Greenhills, OH; Greendale, WI; Greenbelt, MD</li> <li>17. 1939 New York World's Fair: included modernist expo that touted cars and solving problems through science</li> <li>18. 1947 Levittown, New York: Alfred and William Levitt used production building/assembly-line style of house building</li> <li>19. 1947-49 Park Forest, IL: First privately financed, completely planned post-WWII planned suburb with range of housing types</li> <li>20. After WWII New Towns: Reston, VI (1962-Virginia's first residential planned community zone); Columbia, MD (1963-Class integration and neighborhood unit principle)</li> <li>21. 1982 Seaside, Florida: New Urbanist planned community by Andres Duany featuring compactness, walkability, and mixed-use development</li> </ol>
<p><b>Housing</b></p> <ol style="list-style-type: none"> <li>1. 1879 New York City Tenement House Law (Old Law): Required only narrow airshaft between adjacent structures and 2 toilets on each floor → Dumbbell tenements</li> <li>2. 1901 Tenement House Law (New Law): Improved lighting and ventilation, toilets and running water in each unit, allowed only 70% lot coverage</li> <li>3. 1909 First National Conference on City Planning</li> <li>4. 1934 Ginnie Mae: Quasi-governmental organization, not publicly traded, does not buy/sell loans but guarantees investors timely payment of principal and interest on loans</li> <li>5. 1938 Fannie Mae: Purchase Federal Housing Administration (FHA) loans. Today they purchase conventional mortgages as well as FHA loans. Publicly traded.</li> <li>6. 1970 Freddie Mac: Keeps money flowing to mortgage lenders in support of homeownership and rental housing. Publicly traded.</li> <li>7. 1976 Gautreaux, Chicago: Allowed public housing residents and those on wait lists to use Section 8 vouchers to rent in the suburbs, not just central cities. → Residents in suburbs increased educational and economic opportunities for Gautreaux participants.</li> </ol>
<p><b>Community Development</b></p> <ol style="list-style-type: none"> <li>1. 1868 Zion's Cooperative Mercantile Institution (ZCMI): First department store, Salt Lake City, UT → founded by Brigham Young as a way to decrease dependence on outside goods.</li> <li>2. 1880 – 1884 Pullman Industrial Town: Outskirts of Chicago, built by industrialist George Pullman</li> <li>3. 1917 Experimental coop agricultural colony: Durham, CA, established under California State land Settlement Act</li> <li>4. 1933 Norris, Tennessee: New town for Norris Dam workers, a project of the TVA</li> </ol>
<p><b>Historic Preservation</b></p> <ol style="list-style-type: none"> <li>1. 1921 Vieux Carre or French Quarter of New Orleans: First historic preservation commission to preserve commercial (tourism) value. → Became historic district in 1937.</li> <li>2. 1931 Charleston, SC: First Historic Preservation Ordinance.</li> </ol>
<p><b>Transportation</b></p> <ol style="list-style-type: none"> <li>1. 1793 Lancaster Pike: First "turnpike" in US</li> <li>2. 1897 First Subway: Boston, Built to eliminate trolley congestion on downtown streets</li> <li>3. 1903 - 1913: Grand Central Station, New York City</li> <li>4. 1913 Lincoln Highway: First national coast to coast highway. Part of larger system of "named" highways, which formed the basis for numbered route systems. Present day US – 30</li> <li>5. 1923 First off-street parking requirements: Columbus Ohio</li> </ol>



6. 1926 First Limited Access Highway: Bronx River Parkway in Westchester County, New York , Robert Moses
7. 1940 First limited-access turnpike: Pennsylvania Turnpike high speed roadway was
8. 1940 Los Angeles County Plan of Highways
9. 1943 Los Angeles County Freeway Plan
10. 1955 Chicago Area Transportation Study (CATS): First study to use four-step travel demand model of trip generation, trip distribution, modal-split, and trip assignment. Divided the city into rectangular traffic analysis zones to model travel behavior.

#### Plan Making

1. 1909 First National Conference on City Planning: In Washington DC, brought together leading housing reforms + city planners
2. 1909 Plan of Chicago: Written by Daniel Burnham + Edward Bennett, considered first comprehensive planning document
3. 1915 New York City Zoning Code: Written by Edward Bassett, cumulative approach to zoning
4. 1916 First full-time planner employed by an American city: Harland Bartholomew for St. Louis, developed many early comprehensive plans and conventional prescriptions for comprehensive planning.
5. 1917 First President of the American City Planning Institute: Frederick Law Olmsted Jr, prepared plans for Detroit, Utica, Boulder, New Haven, Pittsburgh, Rochester, and Newport.
6. 1922 Los Angeles First Regional Plan
7. 1925 Cincinnati Plan: Broader than previous planning documents with info about financing, housing, schools, garbage, recreation. First comprehensive plan to be officially adopted by a US mayor.
8. 1933 Tennessee Valley Authority: First multifunctional regional authority, include flood control, recreation, power generation. Senator George Norris of Nebraska and David Lilienthal were key people.
9. 1949 Atlanta First Regional Planning Agency: Atlanta Regional Commission
10. 1957 Urban Land Use Planning published: First textbook on planning, written by F. Stuart Chapin.
11. 1964 The Urban General Plan: Textbook on history, purpose, scope, clients, and use of the general or comprehensive plan, written by TJ Kent Jr.
12. 1969 Design with Nature published: Written by Ian McHarg

## Federal Government Programs

### Natural Resources and Environmental Quality

1. 1902 U.S. Reclamation Act (Newlands Act): Using \$ from sale of public land in western states to construct water storage and irrigation works to supply water there.
2. 1905 U.S. Forest Service: Encouraged wise use of forest resources, first directed by Gifford Pinchot
3. 1935 Soil Conservation Act: Administered by USDA, created soil conservation service (now Natural Resources Conservation Service) → made prevention of soil erosion a national responsibility, conduct soil erosion surveys and implement erosion measures.
4. 1964 Wilderness Act: Under Johnson Administration, prohibited development, settlement, road building, all forms of mechanized transport within wilderness areas --> established National Wilderness Preservation System of federally owned land
5. 1968 National Flood Insurance Act: Flood is the most costly natural disaster in the U.S. --> put into law to create flood insurance rate maps, showing both 500-yr and 100-yr floodplains.
6. 1969 National Environmental Policy Act (NEPA): A broad national framework for environmental protection. Required EIS for every federal or federally-funded state or local action that has potential to harm the environment. Acknowledge importance of open and public decision-making in environmental decisions. "Environmental analysis" often refers to the NEPA process. If no significant impact, no further analysis. If might have impact, then an EA must be prepared. If assessed to have significant impact, then EIS must be prepared.
7. 1970 Clean Air Act: Limit air pollution emissions and exposure to ambient air pollutants --> Regulates air emissions from stationary and mobile sources. Created National Ambient Air Quality Standards (NAAQS) and required areas that don't meet standards (non-attainment areas) to have strategy for achieving compliance. Under Clean Air Act, primacy = states have primary responsibility to enforce compliance with emissions.
8. 1970 EPA established: To enforce environmental laws like Clean Air Act and Clean Water Act.
9. 1972 Coastal Zone Management Act: Administered by National Oceanic and Atmospheric Administration (NOAA), applies to any state that borders Atlantic, Pacific, Arctic Oceans, Gulf of Mexico, Long Island Sound, and Great Lakes. -> created voluntary National Coastal Management Program to meet minimum fed standards and participating states mapped their waterfront areas and devised ways to control land uses and protect coastal environment.
10. 1972 Clean Water Act: Originally named Federal Water Pollution Control Act, renamed in 1977. Regulated water quality of lakes/streams by using a permit process (NPDES) to control source point pollution. Set wastewater standards for industry and water quality standards for surface water contaminants. Section 404 protects wetlands and requires permits for depositing fill in wetlands.
11. 1972 National Pollution Discharge Elimination System (NPDES): Control water pollution by regulating point sources that discharge into U.S. water bodies. Industrial and municipal polluters need a NPDES discharge permit and meet federal and state water quality standards. Authorized by Clean Water Act.
12. 1973 Endangered Species Act: Established a federal list of endangered/threatened species --> authorized federal assistance to state/local jurisdictions to establish conservation programs for endangered plant and animal species. Require public and private projects in endangered species areas to consult with Fish & Wildlife Service to determine if it'll harm the species.
13. 1974 Safe Drinking Water Act (SDWA): Set drinking water standards for all water that's actually or potentially used for drinking, above or below ground sources. All owners/operators of public water systems are required to comply with SDWA standards.
14. 1975 Energy Policy Conservation Act: Established Corporate Average Fuel Economy (CAFE) standards for light trucks and passenger cars. Manufacturers can earn credits for exceeding CAFE standards, then used to offset fuel economy shortfalls in +/- 3 years. Response to 1973-74 Arab oil embargo.
15. 1976 Resource Conservation and Recovery Act (RCRA): Gave EPA authority to control generation, treatment, storage, transport, and disposal of hazardous waste. Cradle-to-grave legislation for hazardous waste material, household hazardous wastes are exempt.
16. 1976 Toxic Substances Control Act: EPA authority to track industrial chemicals produced/imported into the U.S. and can ban the manufacture and import of chemicals that pose high health risks. →

Required reporting/testing of industrial chemicals that posed a potential environmental/human health hazard.

17. 1980 CERCLA/Superfund Act: Liability for persons discharging hazardous waste into the environment and EPA has power to seek out those people responsible and assure their cooperation in the cleanup. Cleanup requirements for closed/abandoned hazardous waste sites and can be applied retroactively. Tax polluting industries to establish a trust fund for cleanup of the site when individual responsibility can't be determined. Tax has now expired.
18. 1982 Coastal Barrier Resources Act: Designated various undeveloped coastal barrier islands to be included in the Coastal Barrier Resources System, but these areas are not eligible for direct/indirect federal assistance that might support development, including flood insurance, except in emergency situations.
19. 1986 Superfund Amendments and Reauthorization Act (SARA): Reauthorized CERCLA, increased state involvement in all Superfund program phases, increase public participation in the decision-making process of hazardous waste site cleanup. Stressed importance of permanent remedies and new cleanup technology.
20. 1986 Community Right-to-Know Act: Required certain industries to report annual amount and type of toxic substances and hazardous waste generated. Provide surrounding citizens with info on the industrial pollutants and toxic substances in their community.
21. 1990 Clean Air Act Amendments: Cap and trade system for reducing sulfur dioxide emissions, EPA can withhold federal highway funds from metro areas that fail federal air quality standards. Set limits on quantity of a pollutant that can be in the air. States need to create and implement a State Implementation Program (SIP) for metropolitan areas that don't meet federal NAAQS.
22. 1991 Intermodal Surface Transportation Efficiency Act (ISTEA): Required coordination between states and metro areas for air quality standards.
23. 1996 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA): Federal control of pesticide distribution, sale, and use by requiring users to register with the EPA when purchasing pesticides. Amendments required all users to pass a certification exam in order to apply pesticides.
24. 1996 Wetlands Reserve Program: USDA Natural Resources Conservation Service → Voluntary program that provides assistance to eligible private landowners to address wetlands, wildlife habitat, soil, water, and other natural resource concerns. Landowners receive financial incentives to restore, protect, and enhance wetlands.
25. 2002 Bioterrorism Act: National preparedness plan for bioterrorism, public health emergencies, controls on toxins and biological agents, protected safety of food, drugs, and drinking water supply.

#### Land Use/Zoning

1. 1785 Land Ordinance: Rectangular land survey of the Northwest Territory, subdivided into townships of 6 square miles each, first standard for subdivision of land in U.S.
2. 1916 New York City Zoning Ordinance:
3. 1924, 1926 Standard State Zoning Enabling Act (SSZEA): Confirmed state authority to delegate policy power to municipalities to enact local zoning ordinances, Herbert Hoover → fails to fully define the relationship between planning and zoning and many municipalities adopted zoning ordinances before having a comprehensive plan.
4. 1928 Standard City Planning Enabling Act (SCPEA): outlined power of municipal planning commissions and required adoption of master plan by local governing bodies → regional planning commissions and plans → BAD: sanctioned piecemeal adoption of a comprehensive plans' components.
5. 1934 Indian Reorganization Act (Wheeler-Howard Act): Granted home rule rights, conserve and develop Indian lands and resources
6. 1949 Housing Act: basis for urban renewal
7. 1954 Housing Act: Section 701 planning grants to local government
8. 1966 Demonstration Cities and Metropolitan Development Act: Johnson's Great Society program, addressed urban blight and poverty by focusing on community participation revitalization efforts; social and economic rebuilding rather than physical redevelopment
9. 1988 Stafford Disaster Relief and Emergency Assistance Act: 25% state and local match for federal

funds for disaster relief

10. 1994 Empowerment Zones/Enterprise Zones: Federal funds for urban areas to be more competitive with surrounding areas, including property tax reductions, sales tax reductions, wage tax credits, low-interest financing
11. 2000 Religious Land use and Institutionalized Persons Act (RLUIPA): don't impose or implement a land use regulation that imposes substantial burden on the religious exercise of a person
12. 2000 Disaster Mitigation Act: State and local governments must prepare plans to identify potential natural hazards, analyze likely consequences and assess the risk, including human-induced risks → Hazard Mitigation Plan reviewed and approved by FEMA to be eligible for certain grant funds.

## Housing

1. 1932 Federal Home Loan Bank: Home Owners Loan Corporation (HOLC) to refinance mortgages for economically distressed homeowners, assisted struggling home finance institutions → established 12 regional banks
2. 1934 National Housing Act: Federal Savings Loan Insurance Corporation (FDIC) to insure savings deposits, created by Fed Housing Administration (FHA) to insure private mortgages and encourage banks and building and loan associations to make loans for homes and small businesses. → Required separating land use and creating subdivision codes favoring detached over attached housing and low-density over high.
3. 1937 Wagner-Steagall Housing Act: U.S. Housing Authority (USHA) became Public Housing Administration (PHA) in 1947. Empowered and funded Local Housing Authorities (LHA) to determine local housing needs, construct/operate public housing projects, engage in slum clearance. Slum Clearance ↔ Public Housing Projects.
4. 1947 Housing and Home Finance Agency: Predecessor to HUD, federal housing programs
5. 1949 Housing Act (Wagner-Ellender-Taft bill): First comprehensive housing bill, constructed 800,000 new units with focus on slum clearance, urban renewal, and new housing construction
6. 1949-1973 Urban Renewal: Under 1949 Housing Act, physical redevelopment of existing communities, largest federal urban program. Eliminate substandard housing, revitalize urban communities, high quality and low-cost housing, reduce segregation. Used eminent domain to assemble, clear, and rebuild, then sold or leased to private developers at below market rate. Often displaced low-income residents without compensation or housing replacement.
7. 1954 Housing Act: Consolidated piecemeal housing studies, Section 701 included funding for comprehensive planning for communities < 25,000. Contributed to planning departments getting established.
8. 1959 Housing Act: Made federal funds available for metro, regional, and state level comprehensive planning
9. 1964 Housing Act: Section 213 included fed funding for home rehab loans and assistance for moderate-income households
10. 1965 Housing and Urban Development Act: Created HUD as a cabinet level agency, establish rent subsidy program for people living below poverty line, granted home loans at 3% and provided subsidies for public housing projects.
11. 1966 Demonstration Cities and Metropolitan Development Act: Law created the Model Cities Program, where residents of "Model City Districts" – quasi-political organizations – decided on their own problems, priorities, and solutions. Federal government funded the solutions.
12. 1968 Civil Rights Act (Fair Housing Act): Federal law prohibiting housing discrimination, and victims of discrimination could file civil suit. (race, national origin, religion, sex, family status) But chronically underfunded and rarely pursued.
13. 1968 Housing and Urban Development Act: → New Communities Act, provide funding for private development of new towns and construction of 6 million subsidized housing units. Local governments using federal funds must develop housing plans and coordinate affirmative action housing programs.
14. 1968 Intergovernmental Cooperation Act: OMB issued Circular A-95 requiring areawide regional planning agency review of all proposals for local participation in federal development programs → Establish a base for regional planning efforts in U.S.
15. 1970 HUD Act: Created CDC's to emphasize economic and community development in central cities

- and poor areas. Provide funding for housing/rent for moderate-income households too.
16. 1974 Section 8 Housing: Nixon administration, help low-income renters secure housing, where federal government pays 70%, renter pays 30%.
  17. 1974 Housing and Community Development Act: Instituted the Community Development Block Grant (CDBG) program, replacing categorical grant with flexible block grant. Consolidated the Urban Renewal, Model Cities, and Public Facilities programs under HUD. Used for neighborhood physical improvements, social services, economic and community development projects.
  18. 1974 National Manufactured Housing Construction and Safety Act: Defined HUD Code manufactured housing units. Units cannot be excluded from a community, though municipality can regulate location, size, and appearance. More than half of new manufactured homes are on private sites, not “trailer courts.”
  19. 1975 Emergency Housing Act: Emergency federal relief for underemployed and unemployed homeowners. HUD could provide short-term assistance to help defray mortgage payments for temporarily un or underemployed due to economic conditions.
  20. 1986 Low Income Housing Tax Credit (LIHTC): Created by Tax Reform Act of 1986 as alternate method of funding housing for low and moderate income households. Nonprofit housing organizations can raise housing construction funds by selling tax credits to investors/corporations. One of the strongest programs for funding low-income housing construction and redevelopment. Tax credits determined by development cost, used by the owner. 20% or more of units are rent restricted and occupied by people whose income is 50% or less than area median gross income. OR 40% whose income is 60% or less of area median gross income.
  21. 1987 Stewart B. McKinney Act: Broad definition of homelessness → provide assistance to homeless, esp. elderly, disabled, and families with children – “Continuum of Care”
  22. 1988 Fair Housing Amendments: Prohibit housing discrimination on basis of age/disability, HUD could file housing complaints instead of sending to Dept of Justice.
  23. 1990 Cranston-Gonzalez National Affordable Housing Act (NAHA): Established Home Ownership Made Easy (HOME) → matching federal funds for local government expenditures for low-income housing needs. Required jurisdictions to provide a plan, the Comprehensive Housing Affordability Strategy (CHAS).
  24. 1990 National Affordable Housing Act: initiated HOME program for housing rehab.
  25. 1992 Office of Federal Housing Enterprise Oversight: HUD oversight for Fannie Mae and Freddie Mac
  26. 1992 HOPE VI Program: Public housing vouchers to some public housing residents to rent in the private market → goal to decrease concentration of very low-income families, de-facto segregation.
  27. 1992 Housing and Community Development Act: Section 202, established a program to expand supply of affordable housing with supportive services for the elderly.
  28. 1994 HUD Multifamily Disposition Rule: Disposed apartment buildings that were in government possession due to foreclosure.
  29. 1996 Housing Opportunity Extension Act: Evict drug/alcohol/criminal record residents from public housing. Designated certain units for elderly/disabled individuals. Funding for Habitat for Humanity and other national/regional nonprofit developers.
  30. 2000 Manufactured Housing Improvement Act: Clinton administration, standards for installation and building of manufactured homes. States needed to have a dispute resolution program to resolve between manufacturers, installers, retailers → who takes responsibility for defects.

**Parks and Recreation**

1. 1978 Urban Park and Recreation Recovery Act: \$725 million for matching grants to renovate and improve parks and rec facilities for low-income communities.

**Community Development**

1. 1935 U.S. Resettlement Act: New Deal Program by Rexford Tugwell → land reform and population resettlement.
2. 1991 Americans with Disabilities Act (ADA): Required businesses/government to provide equal

access to jobs, transportation, and public facilities.

#### Economic Development

1. 1933 Public Works Administration: Used public works construction projects to provide employment, stabilize purchasing power, improve public welfare. Over 34,000 projects (airports, dams, hospitals, schools, including first public housing project), Abolished in 1941 during WWII.
2. 1935 Works Progress Administration (WPA): New Deal Program under Roosevelt, created link between urban planning and economic development → Use Fed \$ to stimulate local economy, by offering work to the unemployed (highway and building construction, slum clearance, rural rehab)
3. 1965 Economic Development Administration (EDA): Successor to Area Redevelopment Administration created by Congress in 1961 → Used regional poverty/unemployment stats to determine eligible counties, then provided fed support for local econ development (industrial parks, business incubators) through disbursement of grants for site acquisition, grading, and utilities → ready sites were sold or leased at below cost to firms.
4. 1977 Urban Development Action Grant (UDAG): Support local econ dev efforts through site acquisition and clearance → stressed intergovernmental coordination and public-private partnerships. Eligible communities could apply for it, but there was no entitlements as with CDBG funds.
5. 1977 Community Reinvestment Act (CRA): Anti-discrimination law requiring bank regulators to make sure mortgage loans are provided in economically depressed areas and meeting local credit needs. Community orgs and advocacy groups could intervene in regulatory hearings concerning bank acquisition, expansion, and lending practices. Requires proof that bank is offering money or reinvesting in poorer areas, especially if taking deposits from those areas. → Stop Redlining!
6. 1994 Empowerment Zones or Enterprise Zones: Under Clinton administration, fed funds for limited distressed urban areas so they would be competitive with their suburban counterparts → incentives included: property tax reductions, sales tax reductions, wage tax credits, low-interest financing.
7. 1996 Telecommunications Act: First major overhaul of telecommunications law in 62 years → Outlawed artificial barriers to maximize entry and competition in local exchange markets. (MCI, AT&T, etc)

#### Rural and Small Town Planning

1. 1862 Homestead Act: Permit settlers to claim 160-acre parcels of public land in the west on the condition that they live on the land for 5 consecutive years → too bad much of the settled land didn't get enough rain to support agriculture → government had to take a major role in water development in the West.
2. 1981 Farmland Protection Policy Act: Department of Agriculture to minimize fed programs that unnecessarily convert agriculture to non-ag uses. → Standards for identifying effects of fed programs on converting farm to nonfarm uses.
3. 1981 Land Evaluation and Site Assessment (LESA): Rating system by Natural Resources Conservation Services (CRCS) + USDA → for local government to assess one or more parcels of farmland for suitability to continue as agriculture land. Soil suitability analysis + agricultural productivity + neighboring land uses + economic + social + geographic features.
4. 1990 Federal Forest Legacy Program: Provided federal grants to states to preserve forestland
5. 1996 Federal Farm and Ranchland Protection Program: Fed grants to state/local/land trusts for preserving farm + ranchland.

#### Historic Preservation

1. 1906 Antiquities Act: First law to provide fed protection for archaeological and historic sites → designate those areas as National Monuments
2. 1935 Historic Sites, Buildings, and Antiquities Act: Secretary of Interior identifies, acquires, and restores qualifying historic sites.
3. 1949 National Trust for Historic Preservation: Private, nonprofit membership organization dedicated to saving historic places and revitalizing communities

4. 1966 National Historic Preservation Act: Established National Register of Historic Places, Section 106 → “potential eligible for designation as historic landmark” = “designated” in the legal realm. → Created National Advisory Council on Historic Preservation, which appoints State Historic Preservation Officer (SHPO)

#### Infrastructure

1. 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): required secondary containment for hazardous substances
2. 1984 Resource Conservation and Recovery Act (RCRA): EPA needs to develop a comprehensive regulatory program for storage of hazardous substances. Owners of tanks need to prevent, detect, and clean up any releases.
3. 1996 Telecommunications Act: First major overall in over 60 years, to increase competition in the communications business and streamline installation of cell phone towers. Gave telecom companies pre-emption power over local regulation and eminent domain power on private property.

#### Transportation

1. 1811 - 1831 National Road: Federal project to open the Appalachian Frontier – present day US-40
2. 1916, 1921 Federal – Aid Highway Act and Federal – Aid Highway Act: provided basis for federal highway program. 1916 law required each state to create a DOT. Gave states initiative to construct roads, but federal government to “review and approve” when federal funds were involved.
3. 1934 Federal – Aid Highway Act: **Allowed** states to use 1.5% of a highway project’s federal construction funds for planning
4. 1956 Federal – Aid Highway Act: launched Interstate System of Defense Highways – established federal Highway Trust Fund to pay for system’s construction – extended nation’s planned road system to 41,000 miles
5. 1962 Federal – Aid Highway Act: **Required** states to use 1.5% of a highway project’s federal construction fund for planning in urbanized areas of over 50,000 people – fostered Regional Planning requiring use of “3Cs”; i.e. Comprehensive, Coordinated and Continuing transportation Planning Process.
6. 1973 Federal – Aid Highway Act: new concern for environmental and social issues in transportation planning were addressed – following items created; MPO, TIP and TSM
7. MPO, Metropolitan Planning Organization: Reviews programs affecting the region, certifies consistency among programs and coordinates transportation and land use decisions, but does not regulate land uses. Required to acquire federal funding in metros with population >50,000
8. TIP, Transportation Improvement Program:
  - a. Establish priorities among local projects using federal funding
  - b. Identify for funding sources for each project – financially constrained – meant to squelch questionable highway spending
  - c. listing of improvements by transportation modes as well as transportation emission reduction measures for which federal funds have been earmarked; usually in effect for 3 – 5 years
9. TSM, Transportation System Management: attempts to match an area’s travel demands to its transportation infrastructure extracting more efficiency and effectiveness from existing highway and transit systems
10. 1956 National Interstate and Defense Act
  - a. Enacted under the Eisenhower administration
  - b. Established uniform standards for federal highways
  - c. Provided extensive funding for highway construction through the creation of Highway Trust Fund
  - d. Largest public works project in history
  - e. Affected land use patterns and city design; promoted auto-oriented, less dense, sprawling development patterns
11. 1964 Urban Mass Transportation Act
  - a. Required federal government to grant money to local government for public transit systems

- b. Money available for both capital investments and operating costs
- c. Fed government pays up to 80% of capital costs and up to 50 % of operating costs
- 12. 1975 Energy Policy Conservation Act: established CAFÉ, Corporate Average Fuel Economy standards – average miles/gallon requirements for cars = 27.5 mi/gal and for trucks = 27 mi/gal
- 13. 1990 ADA (American Disabilities Act):
  - a. Required mass transit to be accessible to disabled
  - b. Paratransit services to be provided for those who cannot drive or take transit
- 14. 1991 ISTEA (Intermodal Surface Transportation Efficiency Act of 1991)
  - a. Greater coordination between land use and transit
  - b. Required participation of stakeholders, such as elected officials and public transit providers – not traditionally involved
  - c. Required more public input than previous programs
  - d. Required state DOTs to share responsibility for transportation funding decisions with MPOs – to address spending on public transit and other alternative transportation projects
  - e. Required coordination between state DOTs and MPOs for air quality standards
  - f. Required DOTs and MPOs to create 20 year long range planning
  - g. Created transportation enhancement programs to deal with community-wide impacts of transportation, and earmarked funds for scenic byways and historic preservation, bike and pedestrian paths and enhancements
- 15. 1998 TEA – 21 (Transportation Equity Act for Twenty First Century)
  - a. Successor to ISTEA which expired in 1997, largely continuation of policies established in ISTEA
  - b. TIPs to be regional, based on current demographic data, coordinated with local and regional planning for growth, environmentally conscious and based on public involvement
  - c. Reduced number of mandatory planning factors to be considered for TIPs
  - d. Streamlined major investment study and environmental documentation program
  - e. Established “Transportation and Community System Preservation Pilot Program” (TCSP) to fund projects that linked transportation infrastructure to land use
  - f. Emphasized transit as an alternative to highway construction and expansion – established “Access to Jobs Program” to increase transit service to suburbs and to transport former welfare recipients. Important “Social Goal”
  - g. Stated cuts in transportation funding could no longer be used for other federal program
  - h. Represented 54 % decrease in funding for new highway construction
- 16. 2005 SAFETEA – LU (Safe, Accountable , Flexible, Efficient Transportation Equity Act: A Legacy for Users)
  - a. Largest surface transportation allocation in US history
  - b. Created Highway Safety Improvement Program designed to keep up with repair and reconstruction of aging infrastructure
  - c. Balanced allocation of transportation monies across states
  - d. Encouraged public – private partnerships in transportation, even entirely private ownership of transportation facilities
  - e. Opened up federally funded highways to “road pricing” to combat congestion

Program Implementation and Evaluation, Management



## Legal Landmarks

Natural Resources and Environmental Quality
<ol style="list-style-type: none"><li>1. 1971 Citizens to Preserve Overton Park v. Volpe: “hard look” doctrine for environmental impact review.</li><li>2. 1971 Calvert Cliffs v. U.S. Atomic Energy Commission: Environmental considerations must be made to the fullest extent possible</li><li>3. 1972 Just v. Marinette County: Environmental protection regulations are a reasonable exercise of police power of the state != taking of private property without just compensation – natural state of shoreland is a public interest.</li><li>4. 1978 TVA v. Hill: Secretary of the Interior decides if a federal activity threatens or endangers a listed species → enforcement of Endangered Species Act</li><li>5. 1989 Monsanto v. U.S.: Absentee landowner is liable for partial removal of hazardous waste stored on his site by lease</li><li>6. 1990 GE v. Litton Industrial Automation Systems: Enforced CERCLA – must clean up hazardous waste site unless in cases of war, acts of God, or unusual third party acts.</li><li>7. 1996 Babbit v. Sweet Home Chapter of Communities for a Great Oregon: Harm of endangered species habitat = significant habitat modification or degradation that kills or injures wildlife → not a taking</li></ol>
Land Use/Zoning
<ol style="list-style-type: none"><li>1. 1915 Hadacheck v. Sebastian: LA Brickyard prohibited → nuisance land use is a legitimate exercise of police power</li><li>2. 1922 Penn Coal v. Mahon: Principle of regulatory taking (that a regulation of land use might be a taking) “if regulation goes too far, it will be recognized as a taking”</li><li>3. 1926 Village of Euclid v. Ambler Realty Co: Zoning is a legitimate exercise of police power, need to separate land uses in order to protect public health, safety, and general welfare</li><li>4. 1954 Berman v. Parker: Aesthetics and redevelopment is a valid public purpose for exercising the power of eminent domain</li><li>5. 1963 People v. Stover: Unsightly clothesline → aesthetics alone is a viable exercise of police power</li><li>6. 1968 Cheney v. Village 2 at New Hope: the PUD process is legitimate, does not extend legislative authority to the planning commission</li><li>7. 1971 Construction Industry Association of Sonoma County v. City of Petaluma: Upheld Petaluma’s plan to limit building permits in order to promote growth at an “orderly rate”</li><li>8. 1972 Spur Industries v. Del Webb Development: Pre-existing cattle feedlot became nuisance for more recent residential area → Large cattle operations should move to accommodate urban development, but developers (Webb) had to pay damages and expenses to the cattle owners (Spur)</li><li>9. 1972 Golden v. Planning Board of the Town of Ramapo: Ramapo adopted a zoning ordinance where developers could not obtain building permits until certain facilities and services were in place based on required timed/sequence growth. → Local governments could control growth on the basis that adequate public services and facilities are necessary, should precede subdivision development. Supported the local governments to manage/control subdivision land in order to control municipal growth.</li><li>10. 1973 Fasano v. Board of County Commissioners of Washington County: Rezoning for mobile home park → The burden of justifying a change in zoning falls on the party that is seeking the change, and they also have to prove consistency with comprehensive plan.</li><li>11. 1976 Associated Home Builders of the Greater East Bay v. City of Livermore: Allowed city that prohibited further development until school, sewer, and water facilities reached par.</li><li>12. 1976 Young v. American Mini Theaters: “adult zoning” maintains neighborhood character and is not violating speech or First Amendment.</li><li>13. 1981 Metromedia v. City of San Diego: billboard ordinance struck down → communities can regulate signage by regulating size, location, and lighting through permits.</li><li>14. 1982 Loretto v. Teleprompter Manhattan: cable tv ordinance → constitutes a taking because it’s a permanent physical invasion of private property</li></ol>

15. 1987 Nollan v. California Coastal Commission: Easement to serve public's ability to view the ocean → constitutes a takings violation because no nexus between the condition or exaction and the development.
16. 1987 First English Evangelical Lutheran v. County of LA: Flood and subsequent no-build flood ordinance in church campground → takings did not occur because flood ordinance (1) substantially advanced a legitimate government interest in public safety; (2) Did not deny church of all economical viability; (3) Interim ordinance imposed a reasonable moratorium for a reasonable period of time while church conducted a safety survey
17. 1992 Lucas v. South Carolina Coastal Council: Landowner was denied permission to build a house on a developed shorefront → regulation denies all economic use of property so it constitutes a taking, unless state property and nuisance law prohibits such a use. (No longer used two-prong test, because didn't factor "whether regulation advanced a legitimate state interest)
18. 1994 Dolan v. City of Tigard: Storeowner wanted to expand business, but permit required her to dedicate a portion of her land for public greenway → Permit conditions requiring deeding portions of the property to the government is justifiable if the required dedication is "roughly proportional" to the nature and extent of the impact on the proposed development. → No reasonable relationship between granting the permit and having to have a public land dedication.
19. 1994 City of Ladue v. Gilleo: can't ban someone from posting a noncommercial window sign in their place of residence
20. 1997 Suitum v. Tahoe Regional Planning Agency: Does property owner have to try to sell developmental rights before being able to claim regulatory taking? → Lower courts thought case was not ripe for adjudication because Suitum hadn't tried to sell his development rights, but Supreme Court disagreed and said the case was "ripe".
21. 1999 Del Monte Dunes v. City of Monterey: Right to a jury trial for regulatory takings case.
22. 2002 Tahoe Sierra Preservation Council v. Tahoe Regional Planning Agency: A moratorium is not necessarily a taking of property requiring just compensation.
23. 2005 Kelo v. City of New London: Is economic development a public use that allows eminent domain? → Yes, when part of an integrated development plan. Supreme Court did not expand or restrict the power of eminent domain. The public purpose can benefit/depend on individual private enterprise.
24. 2005 Lingle v. Chevron USA: Removed the "substantially advances" test to identify regulatory takings, because the planning process already works to define the public interest through community participation. Takings occurs when regulation destroys all economic value of property.
25. 2005 City of Rancho Palos Verdes v. Abrams: Property owners can ask the court to issue a permit and remedy the violation when local governments violate the Telecommunications Act of 1996, but they can't get money for damages and attorney fees.
26. 2005 San Remo Hotel v. City and County of SF: State courts are fully competent to adjudicate constitutional challenges to local land use decisions.

#### Housing

1. 1974 Village of Belle Terre v. Borass: Discourage student housing off-campus → Original supreme court upheld ruling to prohibit two or more unrelated individuals from living together to preserve quiet single-family neighborhood. Other jurisdictions have subsequently prohibited limiting by size or definition of family.
2. 1975 Southern Burlington NAACP v. Township of Mount Laurel: An exclusionary zoning ordinance prevented construction of affordable housing in Mount Laurel → court ordered jurisdictions to rewrite zoning laws to accommodate for providing fair share of affordable housing.
3. 1977 Moore v. City of East Cleveland: Struck down ordinance that prohibited closely related individuals from sharing occupancy (i.e. grandmother and her grandchildren). → Cities can't define family to exclude closely related people from living together.
4. 1977 Arlington Heights v. Metropolitan Housing Development Corp: Village refused to grant a rezoning application to allow construction of low-income housing → Zoning regulations didn't violate the 14<sup>th</sup> Amendment (equal protection) because no evidence of intentional racial discrimination.
5. 1983 Southern Burlington NAACP v. Mount Laurel (II): New Jersey Supreme Court established

criteria for determining fair share requirements in growth areas → “affirmative measures”: remove restrictive barriers, density bonuses, mandatory set asides, and mobile home zoning.

6. 1985 City of Cleburne v. Cleburne Living Center: Supreme Court ruled that City of Cleburne, Texas didn't have right to prohibit group home for mentally retarded → no rational basis for the prohibition.

#### Rural and Small Town Planning

1. Coming to the nuisance: The property owner who was first to arrive has the right to continue the activity (i.e. if new neighbor perceives nearby farming activity as a nuisance)
2. Right to Farm laws: Protect farmers and ranchers from nuisance lawsuits; Prevent local governments from imposing unreasonable restrictions on agricultural practices.

#### Historic Preservation

1. 1896 U.S. v. Gettysburg Electric Railway Co: Acquisition of Gettysburg (national battlefield) served a valid public purpose
2. 1978 Penn Central v. City of New York: Found historic preservation to be a valid public purpose → denied Penn Central's request to develop air rights over Grand Central, but instead could transfer development rights to another property

## Tools and Techniques

<p><b>Natural Resources and Environmental Quality</b></p> <ol style="list-style-type: none"> <li>1. Environmental Analysis: examination of more than the natural environment and evaluates social, cultural, educational, or economic environment. Anywhere that a planning action has potential consequences. Often refers to implementation of the NEPA process.</li> <li>2. NEPA Process: Public and decision makers must be informed of potential environmental impacts before proceeding with the project or action. If no potential for significant environmental impact --&gt; no further analysis. If might have potential for significant environmental impact --&gt; Environmental Assessment (EA) is prepared.</li> <li>3. Environmental Assessment: Doesn't require extensive research, describes a proposed action and the need it will address, alternatives that were considered, and likely environmental impacts of the proposed action and alternatives.</li> <li>4. Environmental Impact Statement (EIS): Used if a proposed action will have a significant environmental impact --&gt; Lengthy document that documents all environmental impacts, requires a great deal of effort and provides details about a proposed action's impacts and alternatives' impacts.</li> <li>5. Large lot zoning: One method used in areas without public water and sewage systems to preserve farmland, forestland, and natural areas. The term "large" is undefined, can mean preserving open space or promote sprawl.</li> <li>6. Conservation easements: Separates ownership of land from the rights to develop the land and is a method used to preserve farmland, forestland, and natural areas. Easement may be held by a governmental agency or a nonprofit land trust organization.</li> <li>7. Purchase of Development Rights (PDR): Separates ownership of land from the rights to develop the land, where the right to develop is purchased, often by a governmental agency or a nonprofit land trust.</li> <li>8. Transfer of Development Rights (TDR): Separates ownership of the land from the right to develop the land, where the right to develop in another area may be purchased and used to develop land in a receiving area more intensely.</li> <li>9. Development of Regional Impact (DRI): Large-scale developments likely to have regional effects beyond local jurisdiction. Environmental review of a DRI is required by some states (Florida, Georgia).</li> </ol>
<p><b>Land Use/Zoning</b></p> <ol style="list-style-type: none"> <li>1. Land Use Map: Current land use map of existing conditions and future land use map showing desired changes.</li> <li>2. Land Classification Map: Divides a planning jurisdiction into different classes of land, usually more general than the land use plan. Classes = residential, commercial, industrial, agricultural, forested, water, and wetlands.</li> <li>3. Orthophoto: Aerial photo that has been rectified, uniform scale images, used to measure distances</li> <li>4. Topographic Maps: Use contour lines to portray shape</li> <li>5. Soils Maps: Natural Resources Conservation Service (NRCS) Soils Map showing different soil types: sandy, loam, clay → useful for locating high quality farmland and properly functioning septic systems</li> <li>6. Density: dwelling units per unit of area</li> <li>7. Procedural Due Process: individuals whose rights are being affected by government action should be notified and have opportunity to fair hearing</li> <li>8. Substantive Due Process: Regulations must be rationally related to promoting general welfare</li> <li>9. Growth Management: Analysis of transportation and land use because closely linked. Location decisions involve tradeoffs in amenities, site costs, transportation costs.</li> <li>10. Urban Growth Boundary: Line dividing land that may be developed and land to remain agricultural → protect agricultural/forested land from development, use existing infrastructure instead of extending it</li> <li>11. Adequate Public Facilities Ordinance or Concurrency Regulations: Sync development with available public facilities, establishes standards for roads, transit, pedestrian and bike facilities, schools, water, sewage systems, fire and police protection.</li> <li>12. Transfer of Development Rights: Developer in urban receiving area purchase rights to develop land in</li> </ol>

rural area (sending area), and use those rights to increase the density of development in the urban area. Permitted by a municipality's zoning ordinance and takes into account economic factors to ensure adequate demand for more intense development.

13. Purchase of Development Rights: Agency buys a private landowner's right to develop property → allows certain natural features to be preserved, while landowner can still use it for farming or other open space purposes.
14. Floating Zone: A use that the community intends to encourage but doesn't assign to a particular parcel. Development governed by the use, dimensions, and other provisions of the floating zone.
15. Overlay Zoning: Special zone on top of an existing zoning to apply additional requirements to that area. Can protect structures in historic districts or protect environmentally sensitive areas.
16. Cluster Zoning: Allow buildings to be concentrated in specific areas of sites so remaining portion can be used for recreation, forestry, agriculture
17. Planned Unit Development: large-scale, mixed-use developments or high density resi. Allow for flexible siting of buildings and development standards, used for improving site design, providing amenities by allowing for cluster zoning, and sometimes allow increase density.
18. Quota Systems: Slow growth, allow time to prepare for impacts of new growth
19. Moratorium: Temporary halt or severe restriction on development activities
20. Annexation: Unincorporated county land is incorporated into an existing district/municipality
21. Development Review:
22. Permit
23. Subdivision Review: Review of preliminary plat (site features, proposed road and lot layout, type and dimensions of streets, size/location of utilities) and final plat (precise drawing with lot boundaries and surveyor-drawn streets, with mapped features).
24. Homogenous Neighborhood: Area zoned for single use and single type of building
25. Mixed-Use Neighborhood: Can be several uses in one building or different single-uses adjacent to one another.
26. Leapfrog Development: Type of sprawl where the new development is not contiguous with other sprawl, leaping over undeveloped land.
27. Brownfield Development
28. Greenfield Development
29. Grayfield Development
30. Infill Development: Develop parcels of land in otherwise built areas → infrastructure already in place, but capacity may need to be updated.
31. Locally Undesirable Land Use (LULU):

#### Urban Design

1. Design Guidelines: standards of design adopted by city, community, district and used to evaluate proposals for new development
2. Site Plan Review Package: maps, showing location/orientation of buildings in the project, elevations showing what development will look like. Esp. for infill, local features should be observed to understand how they have evolved over time so new development is compatible with existing.
3. Design Review: A documented, comprehensive, and systematic examination of a development proposal or site plan package → evaluate for compliance with regulations and guidelines, safety and appearance. Propose solutions for deficiencies.
4. Qualitative urban design features: (1) Compatibility of land uses; (2) Availability of public spaces for people to rest, dine, socialize; (3) Integration of built environment with natural environment; (4) Aesthetic and functional relationship of adjacent buildings to surrounding
5. Visual Preference Survey: Researchers ask participants to view and evaluate a variety of streetscapes, site designs, building facades → score indicates approval of design type appropriate to community participants
6. Mapping approach: Figure-ground map show scale/location of built to open space; better understand relationships such as connectivity

<p><b>Housing</b></p> <ol style="list-style-type: none"> <li>1. Housing Dynamics: (1) Supply – majority of housing built by private sector is owner-occupied. But relatively small portion of housing stock is new. (2) Demand – submarkets include: owner-occupied units, rentals, cooperatives, condos, locations, cost ranges, multifamily units, single family units. Measured by Vacancy Rate, 4-5% considered healthy. 17% US population moves every year, 60% stay in same county, 80% stay in same state. New Housing trickles down to lower income families over time. (3) Finance – Housing is a highly leveraged commodity, loan-to-value ratio is high, about 80%-90%. Includes: short-term loans for construction; Long-term mortgages; Mortgage insurance; Secondary mortgage markets. Housing starts are counter –cyclical because capital is less available in a booming economy.</li> <li>2. Standards of Housing Adequacy: (1) Cost should be less than 30% of total income; (2) Condition; (3) Crowding; (4) Design; (5) Choice: Vacancy rates to measure range of choices available; (6) Community Facilities; (7) Environmental factors: air, water, ground condition; (8) Control: degree of independence, dignity, and freedom provided by design of housing units.</li> <li>3. Housing Plan Elements: (1) Housing market analysis; (2) Identify relevant issues; (3) Gathering and analyzing data; (4) Program objectives; (5) Implementation</li> </ol>
<p><b>Parks and Recreation</b></p> <ol style="list-style-type: none"> <li>1. Estimating amount of park space: Establish standards based on existing conditions in the community or recommendations of a national organization. Use suggestions from National Recreation and Parks Association. Examples: <ol style="list-style-type: none"> <li>a. Regional Park: 5 acres for every 1000 people served.</li> <li>b. Community Park: 3 acres for every 1000 people</li> <li>c. Neighborhood Park: 5 acres for every 1000 people</li> </ol> </li> <li>2. Prevention of Significant Deterioration (PDS): Check for air quality: check the air for sulfur dioxide, nitrogen dioxide, carbon monoxide, and particulate matter.</li> <li>3. Reusing abandoned railroad corridors as trail or linear park, like the "Rails to Trails" program.</li> </ol>
<p><b>Community Development</b></p> <ol style="list-style-type: none"> <li>1. Goals of Community Development: Facilitate local economic growth, improve physical design of community (related to 19<sup>th</sup> Century idea that physical design can improve social/economic ills) → provide variety of services tailored to local needs</li> <li>2. Planning Process for Community Development: Active citizen participation, Local residents are leading the organizing effort along with local officials, technical experts, and other professionals. Collaboration of citizen groups with political leaders to address issues/problems.</li> <li>3. Social Goals of Community Development: Mix of incomes, more access to jobs, alternative modes of transportation, more affordable housing, improved safety through environmental design.</li> <li>4. Neighborhood Planning: Occurs in only well-defined neighborhoods, often prepared in response to a specific problem. Requires a holistic approach. Physical/economic improvements.</li> </ol>
<p><b>Economic Development</b></p> <ol style="list-style-type: none"> <li>1. Cost-Benefit Analysis: Considers the future benefits and costs of alternatives, discounts to present values.</li> <li>2. Fiscal impact Analysis, or cost revenue analysis: Used to determine if a project will generate adequate revenue through taxes to pay for the additional public services required</li> <li>3. Input-Output Analysis: Measures relationships among industries in a region and if it's used locally and/or exported. Similar to Economic Base Analysis because: (1) it studies an economy's structure and projects the structure's future; (2) Divides the economy's activity into groups, but instead of basic and non-basic groups, Input-Output classifies into (a) primary suppliers (usually households who's output is labor and only purchase final goods); (b) Intermediate Suppliers (sell their output to intermediate or final purchasers); (c) Intermediate Purchasers (buy outputs from others and use them as inputs for other outputs); (d) Final Purchasers (use inputs as final goods, consume them).</li> </ol>

- a. Assumes that: economies of scale doesn't exist, available technology and the quality of labor don't change, inputs of each industry's production can't be substituted, each industry only produces one bundle of goods (one output), each industry's consumption of inputs stays constant, there are no national imports or exports, an economy's total output = its total product + intermediate sales.
  - b. Transactions Table:
  - c. Direct Requirements Table:
  - d. Total Requirements Table:
4. Market-share analysis: Tracks the local area's share of a larger regional market for certain goods and services over time → determine whether local share is growing, declining, or stable.
  5. Retail Market Analysis: How much retail activity (and what type is most/least in demand) will be required by a community in the future → provide adequate building space and land zoned for retail.
  6. Shift-share Analysis: Used to compare/contrast growth rates among industrial sectors and distinguish between local and national economic trends. Looks at national share, industry mix, and regional shift.
    - a. National Share: Estimates the total employment in a given industry in the region if the industry grows at the same rate as it does nationally. Shows extent to which national economy grows or declines.
    - b. Industry Mix: Estimates relative change in employment in a given industry based on the difference in national growth rates of that industry and the entire national economy. → Is a particular industry growing as fast as the entire nationwide economy?
    - c. Regional Shift: Is a given industry in your region stronger or lagging relative to the rest of the nation?

#### Spatial Areas of Practice

1. National Level: Regulations that affect entire country (i.e. NEPA regulation) or actions of federal agencies (i.e. location of levees by US Army Corp of Engineers) or affects nutrition, conservation, and rural development programs of urban and rural communities (i.e. Farm Bill)
2. Multi-State or Bistate Regions: May be defined by watershed (Chesapeake Bay), history/culture (New England), involve protection of water resources or air quality or linkage of transportation systems. Census is studying cross-state commuting where people work in one state and live in another, which also has implications for transportation planning.
3. State: Encouraging local communities to adopt building codes, develop and adopt hazard mitigation plans by providing training and technical assistance, food issues (strengthen local and regional food systems), extend protection of air quality, wetlands, dunes/beaches, erosion/sedimentation, underground storage tanks, wireless facilities, and manufactured housing.
  - a. 2005 Supreme Court decided that state/local governments need to establish the framework and guidelines for fair planning and decision-making process → preserve rights of citizens, increases choices, promotes vitality of communities.
  - b. 1886 by Judge Dillon - Dillon's Rule: Local jurisdictions have no powers other than those assigned to them by state governments. This was in response to the political "machines" and corruption of local governments at the time.
  - c. Home Rule: State transfers power to local government to adopt regulations
4. Sub-state Regions: May be defined by geography (Adirondack Mountains, New York, Front Range, CO, Outer Banks, NC), economic connections (Silicon Valley), common banking institutions, shared television stations/newspapers, economic factors. Usually the larger the region, the more complex the planning because more political jurisdictions involved and they each have to recognize their interdependence on each other. Regional planning is a more comprehensive/integrated way to manage environment and new development.
5. County Level: Generally defined by political boundaries and can address challenges facing local agriculture, sprawl, support sustainable water supplies, enhance agricultural viability. FEMA helps guide jurisdictions to work together to develop a multi-jurisdictional natural hazard mitigation plan.
6. Urban Areas: Can be defined by population (Metropolitan Statistical Area) or by political boundaries. May address low-income areas and their access to community amenities, food, urban agriculture. May address vacant lots in distressed neighborhoods, opportunities for new residential and economic

development projects, managing heat islands, hot-spot areas → places to provide trees, permeable paving, etc.

7. Suburban Areas: Defined by style of land use (sprawl) or history of community patterns (northern suburbs of Wash DC). May address how farmland is rapidly reducing. Current problems in older suburban areas were once concerns for mainly urban areas, such as aging infrastructure and infill development.
8. Small Towns: May be defined by political boundaries. Considerations include ordinances to regulate light/noise pollution, protect character of the town, establish soil/water conservation districts, and land conservation measures.
9. Corridor Planning: Typically an area of land along a linear route, scale may vary. (i.e. commercial street in an urbanized area or a large area such as along the interstate connecting Boston and DC). Components include: businesses, civic uses, open space, street, sidewalks, parking, connections to adjacent residential areas and surrounding community. Considerations include: façade requirements, setback regulations, location of traffic signals, supply of parking spaces.
10. Neighborhood Planning: No universal way to define a neighborhood, but may be by history, geography, street boundaries, administrative boundaries, socioeconomic factors, or cultural traditions. Attributes include: established organizations, schools, commercial activities, and rec facilities → opportunity for formal and informal networks. Considerations include: façade requirements for infill development, compatibility with existing character, access to supermarkets/local convenience stores.
11. Waterfront Planning: May be defined by economic activities as well as location. (Baltimore Inner Harbor, Pike Place Market) Features a variety of land uses: industrial, commercial and retail development, hotels and restaurants, transportation nodes, recreational uses, public infrastructure, institutional and educational structures, residential areas. Considerations include pollution mitigation, stormwater management, wetland restoration → use tax incentives to attract desired commercial enterprises.
12. Historic Planning District: Defined by architectural and cultural traditions. Considerations include specific architectural requirements to ensure renovations will blend with historic character of district → measures include slower traffic speeds, prohibit heavy buses/trucks to reduce vibrations.
13. Downtown Planning: Defined by economic activity (CBD) and include network of streets, specialty shops, public spaces, sidewalks + street trees, commercial and retail buildings, dwelling units, civic structures, façades, landmarks, art → identify a BID, assess special tax to support activities to enhance BID, such as sidewalk repairs, snow removal, additional trash pickup, security patrol, landscaping, festivals.

#### Rural and Small Town Planning

1. Agricultural Zoning: Limit non-farm uses, no high-density development, restrict subdivision of land into smaller parcels that are useless for farming activity
2. Greenway: Preserve open space, reduce land fragmentation to provide wildlife corridors
3. Conservation Easement: Voluntary legal limitation on development → protect natural, scenic, forested, or open space development
4. Land Trust: Nonprofit whose mission is to protect land from development → land acquisition through fee simple purchase, acquire land development rights by purchase of conservation easement, donation of conservation easement from property owner.
5. Water Quality Buffer: Strip of undisturbed native vegetation along stream, river, pond, lake, wetland.
6. Wildlife Corridors: Core areas must be connected for long-term health of wildlife population.
7. Small Town Planning considerations: Given small size of planning department... → Administratively feasible, Financial feasible (slow increase in tax base), Work with regional or state organizations to obtain more data, Need sufficient farms to support local businesses.

#### Historic Preservation

1. Review standards: Review of changes to a designated historic building, using standards by Secretary of Interior
2. Historic Districts: Areas that contain a concentration of older properties linked by architectural style,



historical development, or past event.

3. Landmark Preservation: Involves preserving a single structure or group of structures rather than a whole area, designated by Historic District Commissions.
4. Historic District Commission, or Design Review Board: Administers community's historic preservation ordinance. → composed of local citizens with expertise in certain disciplines (arch history, arch, law, real estate) and can recommend or have final word with other governmental bodies, such as planning board or city council.
5. State Statutes: Regulate historic preservation using police power
6. Historic Preservation Tax Credit: Tax credit allowed to be used to rehab an older historically significant property
7. Preservation Easements: Used by private property owners to protect their historic properties, conveyed by preservation organization or government entity. → Donation of easement is voluntary but binds current and future owners.
8. Façade Easements: Protects only the exterior or face of a historic structure, used in urban environments
9. Transfer of Development Rights: Allow more intense development than zoning allows elsewhere in exchange for not demolishing a historic structure. Separation of the right to alter property from property rights.
10. Fee Simple acquisition of a historic landmark: Purchase landmark and voluntarily preserve it
11. Adaptive Reuse: Recycle old buildings for uses other than what they were designed for

#### Infrastructure

1. Projected Demand: Demand for new development may be estimated using per capita multiplier method, multiplying current per capita usage with expected # of new users.
2. Gravity feed systems: Use force of gravity to move water--> water storage tanks should be located at least 70' above the distribution area.
3. Movement of Water:
  - a. Darcy's Law: Flow through porous media, like sand or gravel. Velocity is proportional to slope or the hydraulic gradient.
  - b. Hydraulic Gradient: Direction of groundwater flow due to change in water table depth
  - c. Drainage: Depends on type of soil, topo, and type of vegetation
  - d. Zone of Influence: Portion of the watershed most likely to contribute sediment to the stream channel.
4. Contaminant Transport Model: Check ground water flow (rate/direction), initial concentration of contamination, geochemical data to see how contaminant will behave in certain soils.
5. Nitrogen Loading Analysis: Key variable for amount of nitrogen in water supply is land use.
6. Drainage Ordinance: Establishes rules and regulations on stormwater drainage and management, applying user fees for residential and commercial stormwater drainage.
7. Storm Hydrograph: Graph showing discharge of a stream basin after a storm, i.e. a "flashy" response.

#### Transportation

1. TDM, Travel Demand Management : goal to reduce congestion
  - a. Decrease dependence on automobile and increase reliability on mass transit and alternative forms of transport
  - b. Seeks to reduce amount of travel in peak times
  - c. Strategies include increasing use of flex time or car pools and increasing cost of parking
2. Intelligent Transportation System
  - a. System that uses computer based information and sensing technologies to improve traffic coordination and system capacity as well as safety and efficiency
  - b. Examples: changeable freeway message signs, coordinated signal systems and automated toll collection
3. Travel Forecasting
4. Daily trips by household type : estimate of the number of trips per day by household type – useful in

- predicting the number of trips and vehicle on the road that will result from added new housing units
5. Parking Ratio
    - a. Number of parking spaces provided per unit of land use, if parking serves only that land use
    - b. Recommended ratios ,traditionally based on expected accumulation of vehicles at peak hour
    - c. Traditionally calculated using measures such as GLA – gross leasable area of retail, number of employees, number of hotel beds, etc
    - d. Number of parking spaces may affect number of private vehicles in use and that limit parking availability may ultimately reduce number of vehicles on the road (Shoup, 2005)
  6. Volume to Capacity Ratio
    - a. Measure of the number of vehicles passing through a point divided by the number of vehicles the point was designed to carry
    - b. Also known as ratio of demand flow rate to capacity for a given traffic facility
  7. Access Control : involve spacing of access points, specifying access widths, introducing non-traversable medians, requiring setbacks and frontage roads and no left turns.
    - a. Functions: Maintain the arterial design and function; Improve safety by reducing vehicle conflicts; Reduce travel time loss; Avoid problems from collectors on to primary arterials
    - b. Should be considered in following circumstances: Sight distance is insufficient for safety; Traffic stacking is obstructed; Signals don't protect ingress and egress; Arterial function needs protection; Intersection impedes ingress and egress
  8. Quick response to Urban Travel Estimation Techniques and Transferable Parameters, 1987

## Plan Making

1. Plan Making Process:
  - a. Gather Factual Information: land use, demographics, infrastructure capacity
  - b. Use participatory processes: public education, developing consensus and building community support, gathering an increased number of perspectives on an issue, goals, alternatives, workable implementation strategies.
  - c. Analyze information: quantitative/qualitative techniques
  - d. Report information: tables, graphs, charts, maps
  - e. Present Plan for Review: Statutory requirements regarding posting notices about public events, requisite number of public hearings, posting draft plan on website.
  - f. Revise plan accordingly: Based on recommendations after review process
  - g. Submit plan for adoption: Usually by legislative body of elected officials, final plan must be held in specific location per ordinance.
2. Public Involvement:
  - a. Benefits: Greater acceptance of resulting plan, more interest, represents all residents' perspectives, ensure intergovernmental participation and coordination.
  - b. Negatives: Inefficient because information must be repeated at each event for new people. Costs incurred in arranging space for various participatory processes.
  - c. Negotiation: Consensus building → creation of an agreement among different groups or stakeholders. Meet individually or collectively with neighborhood groups, special interest groups, citizen committees. Provide child care, lunch, translators, accessible entrances. Help those who lack formal organization or influence. No exact point which public participation is most beneficial, but should first take place relatively early and continue throughout the process. No one approach fits all events. Consider alternative approaches.
  - d. Obstacles: Actual/perceived imbalances in power → Provide timely, adequate, clear, accurate information on planning issues to all affected. Be fair.
  - e. Least effective: Holding very large public meetings, providing public notice about meetings in obscure places, holding meetings/workshops at inconvenient times or were there's no parking.
3. Public Hearings: Older approach to public participation and often required by law. Regulations may specify exact contents, type of description, where/how often/when this must be published, and procedures to ensure equal opportunity for people to speak at hearings. → Televisive public hearings, broadcast through the internet using slides + audio, receive input from viewers through email.

4. Public Meetings: So people have opportunities to voice their ideas about a problem/plan, usually with an agenda and description of the meeting. Is well-publicized. → Open house with posters, available literature, and able to discuss a pending planning decision with the public in an informal, one-on-one manner.
5. Visioning: Usually at the start of a planning process for community to define goals, objectives, and policies. Citizens and impartial professional facilitators should be included in the process.
6. Focus Group: A discussion among a group of representative participants led by a facilitator to clarify problems, identify alternative approaches, or suggest various implementation strategies. Facilitator needs to: Ensure all participants have opportunity to speak, discussion is not dominated by particular interest group, help focus the topics/questions that need to be addressed.
7. Citizen Advisory Committee: Help create the content of the plan and also advise the planning commission and governing body in the decision-making process. Provide perspectives and advice on services provided by a jurisdiction. Usually open to the public.
8. Charrette: Team works closely with stakeholders on an intensive collaborative process involving professional facilitators, planners, designers, citizens. Generally over a 1-3 day period to address a specific situation.
9. Delphi technique/survey: Used to clarify an issue or develop consensus → relies on input from individuals with different expertise/knowledge and each view is presented and considered in successive rounds of questions, with each round working towards greater clarity. Different questionnaires may be employed in each round, and each participant reads what others contribute to the discussion.
10. Surveys: Consider possibility of response bias, make sure each question is phrased clearly → Are the questions targeted to a certain demographic? Are the questions encouraging one response over another? Is there a recent event that might affect responses in an unusual way?
  - a. Email/web-based Survey: PRO: easy and cheap to administer, no interviewer training needed, allows respondents to answer at their own convenience; CON: People who don't have access to internet or the survey gets spam-blocked.
  - b. Mail Survey: PRO: no interviewer training needed, respondents answer at own convenience; CON: Response rate is usually low → can't be confident about the survey results.
  - c. Telephone Survey: PRO: inexpensive, allows for rapid data collection; CON: requires trained interviewers, may exclude populations who are not listed in the phone directory or block unlisted numbers, don't have access to a phone.
  - d. In-Person interview survey: PRO: gathering qualitative data such as opinions and perspectives, CON: Requires a lot of time → expensive, careful training of interviewers to avoid bias.

#### Data Analysis

1. Descriptive Statistical Methods: Used to describe data that has been collected (i.e. mean, median, mode)
2. Inferential Statistical Methods: Used to draw conclusions about a population based on sample data → state conclusion using a confidence interval – a range of values around a sample statistic. Population parameter is expected to be within that interval.
3. Measures of Central Tendency:
  - a. Mean
  - b. Median
  - c. Mode
  - d. Range
  - e. Variance: How spread out a distribution is
  - f. Standard Deviation: Square root of the variance → describe the degree to which distribution is spread out.
4. Distribution: Set of measurements on a particular variable for all subjects in a sample. i.e. the exam scores of 9 people who took an exam.
5. Outlier: Variable within a distribution where the measurement is quite different from the rest in the distribution.

6. Frequency Distribution: i.e. shows how the frequency of how many people got a 32 on the AICP exam, a 56, a 80, so forth.
7. Graphical Displays of Sample Data:
  - a. Normal Distribution: Symmetrical around the mean (bell curve), with 68% within 1 standard dev and 95% within 2 standard dev, and 99% within 3 standard dev.
  - b. U-shaped distribution: Polarization of observed values
  - c. J-shaped distribution: Most observations pile up at one end
  - d. Bimodal Distribution: where there's two maximum peaks
  - e. Skewed Distribution: Values are not equally distributed about the mean
8. Population Pyramid: Back-to-back bar graph showing number of male/female in different age groups. Used to be a triangle, but now more are living longer.
9. Chi square: Statistic to suggest if there's a relationship between two nominal or categorical variables.
10. Linear Regression: Influence of one or more independent variables on a dependent variable
11. Coefficient of correlation: Degree to which variables are related, if perfectly related, then correlation equals 1.
12. Coefficient of variation: Standard deviation of a distribution divided by its mean
13. GINI Coefficient: Measure of dispersion, used to describe income inequality. If everyone in a population has the same income, the GINI coefficient = 0.
14. Estimation Methods:
  - a. Migration
  - b. Ratio or Step-down Method
  - c. Symptomatic Method
15. Population Projection
16. Problem Definition: 7 steps to specify problem: (1) Define problem; (2) Specify boundaries of problem; (3) Develop fact base; (4) List goals and objectives; (5) Identify range of solutions/alternatives; (6) Define potential cost and benefit; (7) Review problem statement and refine as appropriate.
17. SWOT Analysis: Consider internal/external factors and various agency/firm resources
18. Policy Analysis

#### Census and Other Data

1. Census 2000 was performed as follows:
  - a. A 2000 Census Master Address File was created from the 1990 file + U.S. Postal Service's Directory Sequence File + the Local Update of Census Addresses (for MSA's).
  - b. Each address on this file was related to its Census units and political jurisdictions → each address was mailed a questionnaire
  - c. Enumerators were sent to those households that did not mail back their questionnaires. (in 1990, only 65% of households mailed back)
  - d. Information from questionnaires + enumerators entered into digital database → tabulated → mapped
  - e. Results of the Census are due on the President's desk by December 31, 2000.
2. Housing Unit Method: Housing data from last Census is used as a base, then adjusted using subsequently issued building, demolition, and conversion permits for housing.
3. Ratio Correlation Method: Multiple correlation/regression is used to relate population changes to 4 independent variables, usually auto registration, housing units, 2-year average resident births, and jobs covered by unemployment insurance.
4. Component Method II: Simplification of the Cohort-Component projection technique → estimates migration rates from elementary school enrollments for those under 65.
5. Administrative Records Method: Simplification of the cohort-component technique, estimates migration rates from the number of tax returns filed.
6. Comparative Method: Estimates an area's population based on historical characteristics and trends of another, similar area.
7. Ratio or Step-Down Method: Derive an area's population based on projects of a larger area to which

it belongs.

#### Program Implementation and Evaluation, Management

1. Pre-Program Evaluation: Evaluate alternatives before putting into a plan. May be evaluated using feasibility analysis, consider various criteria and determine to what degree each alternative is effective/beneficial. Ask questions like Who are the responsible parties? What activities or tasks will each party carry out? When will the different activities occur? How will each activity be financed?
  - a. Social
  - b. Technical
  - c. Administrative
  - d. Political
  - e. Legal
  - f. Economic or Financial
  - g. Environmental
2. Plan an Evaluation Strategy
3. Evaluate Potential Impacts
4. Program Implementation Guidelines:
  - a. Maintain a Calm, professional demeanor with members of the public and elected officials
  - b. Maintain implementation schedule and adhere to deadlines
  - c. Create and adhere to a reasonable budget
  - d. Acknowledge resource constraints by: Time, Money/Budget, Staff availability and capability, Space and equipment availability and effectiveness.
5. Partnerships: PRO: Having a shared mission/goal, having committed executive directors, having each organization respect each other, communicating honestly, being flexible. CON: Different work cultures between agencies and departments → scheduling problems, hard to obtain approvals.
  - a. Public-Private
  - b. Public-Nonprofit
  - c. Public-Public
6. Program Management: Communicate with team and stakeholders appropriately, organize information both on actions/components and expenditures of the program. Focus the team on delivery of a product and enable each member of the team to do their job.
  - a. Plan how it'll be completed with the time/budget
  - b. Selecting a project team and explain responsibilities and expectations
  - c. Execute/implement the project
  - d. Control the project, learn what works and doesn't work → revise as needed
  - e. Close the project with programmatic and budgetary reports.
7. Effective Communication: Include basics like: (1) Clear message; (2) Know your audience; (3) Explain why it's important and what is happening; (4) Choose the appropriate media for communication, such as formal written report, brochures, flyers, press releases, memoranda.
8. Post-program evaluation: Estimate how well you achieved the desired impact → evaluation allows an ongoing program so you can modify as needed to create effectiveness. Share lessons learned with other practitioners and funding sources so avoid mistakes and mimic successful strategies.

## Issues, Trends, Challenges

<p><b>Natural Resources and Environmental Quality</b></p> <ol style="list-style-type: none"><li>1. Preservation v. Conservation: Preservation of the wildness advocated by John Muir vs. Conservation (or wise use of natural resources) advocated by Pinchot</li><li>2. Polluter Pays Principle: Company that causes pollution should pay to remove it or compensate those affected by the pollution. First discussed at the UN Conference on Environment and Development, Rio de Janeiro, Brazil, June 1992.</li><li>3. Environmental Justice: Acknowledges that race (mostly) and class are powerful determinants in the location of hazardous waste facilities. Improve the environmental and economic conditions for the poor and least political voice. Combines environmental awareness with racial/ethnic awareness.</li><li>4. Endangered Species: More than 1,200, 36% fish, 35% amphibians, 17% mammals, 11% birds. Hawaii has largest number, with more than 100 listed as endangered.</li><li>5. Carrying Capacity: Largest number of any given species that a habitat can support indefinitely.</li><li>6. Fragmentation: When open spaces are disconnected from one another so animals can't safely use their habitat. Also can refer to difficulty in regional planning because many different governments in an area.</li><li>7. Biodiversity: Diversity of plant and animal species and genetic diversity, challenged by fragmented ecosystems and invasive or non-native species. Should conduct a wildlife inventory and map habitats and species to evaluate this problem</li><li>8. Energy: Average size of a single-family detached home has increased from 1100sf to 2,340sf in the past 50 years. → More materials, more impermeable surface, more stormwater runoff, and more heating/cooling. 1990 – 2000, avg per capital annual consumption of gas went from 405 to 430 gallons. Cars are main source of air pollution.</li><li>9. R-Factor: Ability for insulation in ceilings/walls to keep in/out heat. Higher then R-factor, the better the insulation. Single pane R-factor = 1. Fiberglass insulation R-factor = 30.</li></ol>
<p><b>Land Use/Zoning</b></p> <ol style="list-style-type: none"><li>1. Smart Growth: Address the low-density development problem</li><li>2. Reuse of existing buildings: Use existing buildings for “adaptive reuse”</li><li>3. Discretionary Approvals: Governmental agency can decide how to carry out or approve a project.</li><li>4. Changing demographics: Population Ranking: (1) New York – 8,200,000; (2) Los Angeles – 3,800,000; (3) Chicago – 2,800,000; (4) Houston – 2,100,000; (5) Phoenix – 1,500,000. 44% minorities, 50.81% women in the workforce. Fastest growing state in 1990s was Nevada (66% increase), second to Arizona (40%). Between 2005-2006, Texas grew the most by 580,000 due to Hurricane Katrina displacement.</li><li>5. Social and Health Service Planning: Estimating need for libraries, schools, medical facilities, grocery stores, playgrounds, senior living facilities, etc. Health Cities movement rooted in goal of improving residents' health and quality of life.</li><li>6. Hazard Mitigation Planning: Address natural or human-induced hazards (dam failure, tech failure, explosion, chemical/biological/radiological hazard. Steps: (1) Identify hazardous locations i.e. using FEMA maps; (2) Which populations most exposed; (3) Mitigation strategies (guidelines that prohibit building in certain areas, or structures that withstand certain velocities.<ol style="list-style-type: none"><li>a. Mitigation planning: knowing what a community will do to minimize damage in event of a hazard</li><li>b. Preparation planning: Prepare for imminent hazard</li><li>c. Response planning: how community will respond immediately after event</li><li>d. Recovery: known how community will respond weeks and months after event</li></ol></li></ol>
<p><b>Urban Design</b></p> <ol style="list-style-type: none"><li>1. Monumental Design: From ancient Roman architecture, principle of axis with similar architecture on either side of a centerline, tree-lined boulevards, buildings around a public square. i.e. L'Enfant, Burnham. Heavily influenced by (1) Paris under Baron Haussmann during Napoleon III in 1850s and</li></ol>

- 1860; (2) Axial perspectives of Versailles; (3) Christopher Wren's London after 1666; (4) "Ring Streets" of Vienna
2. 1857 Garden Suburb: Based on: (1) 1857 Alexander Jackson Davis's Llewellyn Park (West Orange, NJ) and (2) Olmsted, Sr.'s 1869 Riverside, Illinois model; curving streets, well-landscaped green space within residential community. Influenced by the path system of English and Chinese gardens.
  3. 1893 City Beautiful Movement: Started in 1893 Chicago Columbian Exposition, stressed order, balance, dignity, harmony, neo-classical architecture. Incorporated civic improvement, parks, tree-lined boulevards, public art.
  4. 1902 Garden City: Alternative to industrialized cities in early 20<sup>th</sup> century, these were self-sufficient, high-density communities surrounded by greenbelt of agricultural land and open space. Ebenezer Howard. Raymond Unwin and Barry Parker designed Letchworth and Hampstead Garden Suburb (invented Cul-de-Sac, used to separate automobile and pedestrian traffic). → influenced Clarence Perry's "Neighborhood Unit" concept.
  5. 1922 Modernism: Le Corbusier in proposal for La Ville Contemporaine, a city of 3 million people. Tall buildings, automobile, and limited-access highway. Housing and office towers were grouped in abstract formal relationships to maximize sun exposure. Each group of buildings is isolated from others in a park-like setting.
  6. 1960s Megastructure: Downtown buildings connected by pedestrian bridges and covered shopping malls – popularized by Archigram 4. i.e. Moshe Safdie's Habitat for Montreal's Expo '67, using factory-constructed apartment modules.
  7. Sustainable Design: Using renewable resources, designing for current generation with future generations in mind.
  8. Neo-traditionalism or New Urbanism: Mixed Use; Grid; Avoid wide curving residential streets; Higher densities; Front porches; Parking in rear alleys; Favor public transit; Stores on ground floor with apartment above; minimal side and front setback; Town squares or public gathering spaces
  9. Smart Growth: Place growth where it makes sense from economic, social, and environmental standpoint. Balance desires and concerns of multiple competing interests.

#### Housing

1. Fannie Mae and Freddie Mac together hold 80-90% of mortgages in the U.S.
2. Currently, 31% of households are in central cities, 31% in suburbs, and 38% in rural areas. (1/3rds, mostly)
3. 66% of households are homeowners, 34% renters
4. Since 1970, average new home has increased by 50%, while average household size has shrunk by one person.
5. About 33% new single-family housing units manufactured annually. 1/3<sup>rd</sup> are developed in distinct communities.
6. Homelessness: Poverty + Lack of Physical and Mental Health Care + Lack of affordable housing + Substance Abuse
  - a. About 600,000 homeless in the U.S
  - b. 51% single men, 17% single women, 39% families with children
  - c. 1% of single adult homeless population has persistent mental illness
  - d. 13-25% of urban homeless are employed
7. Poverty:
  - a. 1996 – 20% urban families in poverty, 10% of suburban, 15.9% of rural
  - b. 1975-1985: Federal government subsidized 2 million units of low-income housing
  - c. More than 25% of renters are below poverty level, some pay 50-70% of income towards housing.

#### Parks and Recreation

1. Costs of Park Space: Require maintenance, policing, and capital expenditure to create ball fields, trails, and equipment. Also, may become nuisance if creates a lot of noise, traffic, or opportunities for crime.

2. Connectivity: Green space may allow greater variety of uses when it's connected than when it's in discrete locations.

#### Community Development

1. Community Development Corporations (CDC): Nonprofit with a board consisting of local residents and leaders → produce housing, provide social services, conduct programs for local needs, often linked to faith-based organizations and receive support/funding from national organizations.
2. Food Systems Planning: Planners – who used to think that food systems was a private sector concern – are now focusing on it because: (1) Food systems use a significant amount of land; (2) An important part of community/regional economics; (3) Alleviating problem of hunger and obesity; (4) Production, transportation, and disposal of food products use a lot of fuel.
3. Institutional Planning: Planning for educational, institutional, or military facilities → important to forecast population (growing? stable?) because reduction/expansion of such facilities affects surrounding communities and impacts nearby schools, roads, businesses, and housing supply. (i.e. military base closure process includes public involvement). Some facilities have been transformed from one use to another to enhance region, reduce negative impacts of a closure, while upgrading infrastructure, environmental remediation, historic preservation.
4. Livable Communities: Residents needs are provided within walking distance of home → encourage TOD, variety of housing types, open space. Similar to 1920 Clarence Perry's Neighborhood Unit.
5. Crime Prevention Through Environmental Design (CPTED): Property design can reduce crime and increase business activity → consider impact of trees, shrubs, fences, alleyways, streetlights, bus shelters in design of neighborhoods, schools, downtowns, parks.
6. Safe Routes to School: So children can bike/walk to school instead of bus/car → increase physical activity, decrease traffic → have safe sidewalks, bike paths, crossing signals.

#### Economic Development

1. BID: Special assessment district where property owners pay an additional tax in order to fund activities that benefit their district. Money can be spent on extra garbage collection, increased security, urban design improvements.
2. Business Incubators or Business assistance centers: Facilities for start-up businesses by providing support systems, professional advice, promotion (advertising), some admin staff, and access to business machines.
3. TIF: Local government to finance certain types of redevelopment projects, usually in blighted areas → Capture additional property taxes received from higher assessment on improved properties within the redevelopment district to finance the public improvements that made the redevelopment possible.
4. Special Districts: Special-purpose governments that serve a single purpose and geographically defined, can levy taxes and issue debt, and employ user charges. (i.e. water and sewer districts, airport districts)
5. Economic Development Strategies: Development of base industries, assess local assets and knowledge resources.
6. Local economic development: Can be fostered through sales, marketing, public relations, subsidies such as tax abatement, revolving loan funds, making building and sites available, and providing adequate infrastructure.

#### Rural and Small Town Planning

1. Declining farm population: Only 6.3% of rural Americans live on farms
2. Metro-farms: 1/3 or 640,000 of farms in U.S. are in urban areas and produce 66% of country's fruit/vegetables, 75% nursery/greenhouse crop sales, and 40% of dairy products. More intensively cultivated than rural farms, produce higher cash-value crops.
3. Aging Population: Rural America is proportionately older than urban America. 18% of rural population is 65+, compared to 15% in urban.
4. Decline in rural manufacturing: Shift to service-oriented jobs, less than 25% in rural is manufacturing.



<ol style="list-style-type: none"> <li>5. Feedlot Issues: Sanitation is a growing problem as development occurs closer to feedlots → problems such as dust, odor, noise, insects, stormwater runoff.</li> <li>6. Increased Commuting Distances: Rural towns that are within commuting distance of metro areas are used by people seeking lower housing costs, relief from congestion, lower tax rates.</li> </ol>
<b>Infrastructure</b>
<ol style="list-style-type: none"> <li>1. States may adopt more stringent regulations than federal legislation requires.</li> <li>2. States can establish trust funds to allow owners of tanks containing hazardous materials to pay for clean up releases.</li> <li>3. Upstream and Downstream responsibility: Future development of a land near water is a concern for both up and downstream neighbors. i.e. Damming, water diversion, and pollution-generating activities are a particular concern to those who will receive less or lower quality water downstream and flooding risk upstream.</li> <li>4. Residents of an urbanized area typically create 150 gallons of waste water per capita per day for a public sewage system.</li> </ol>
<b>Transportation</b>
<ol style="list-style-type: none"> <li>1. Concurrency : transportation planning to be linked with planning for other things like growth, water supply, education, etc</li> <li>2. Financial Constraints: by available funds</li> <li>3. Conformity : to federal air quality standards</li> <li>4. Traffic calming: slowing traffic and/or channeling traffic away from impacted neighborhoods. Achieved through - raised intersections, speed bumps; horizontal shift such as chicane, S-shaped roadway or traffic circles; narrowing such as central traffic island; roadway closure with barriers – pedestrian only designations</li> <li>5. Adequacy of Information: Depends on many sources, such as population, employment, traveler behavior, emissions, energy, and agreement among stakeholders on adequacy, sensitivity and usefulness.</li> <li>6. Movement of Goods: Hasn't been considered as much as the movement of people--&gt; major weakness in local, regional, and state transportation planning.</li> <li>7. Operations and Management: more productivity possible by treating transportation system as an asset</li> <li>8. Environmental Justice: need to assure that transportation alternatives consider impacts on all social groups and that no one group is negatively impacted</li> <li>9. Spatial mismatch hypothesis: mismatch between where people live and where available jobs are located.</li> <li>10. Complete Streets: streets designed to accommodate vehicles, transit and alternative transport modes like walking and biking. Relatively new concept.</li> </ol>
<b>Data Analysis</b>
<ol style="list-style-type: none"> <li>1. GIS</li> <li>2. Community Indicators</li> </ol>
<b>Census and Other Data</b>
<ol style="list-style-type: none"> <li>1. Average Household Size is Decreasing → 2.59</li> <li>2. Percent living in urbanized areas is increasing → 79%</li> <li>3. Percent living in rural areas is decreasing → 20%</li> <li>4. Population Density (ppl/sq. mile) is increasing → 79.6</li> <li>5. Housing Density (housing units per square mile) is increasing → 32.8</li> <li>6. % Owner-occupied units is slightly increasing → 66.2% (avg. size = 2.69)</li> </ol>

7. % Renter occupied housing is slightly decreasing → 33.8% (avg. size = 2.40)
8. Population in U.S. in 2000 = 281,421,906
9. In 2008, population estimated to increase at 1 person every 12 seconds, accounting for birth, death, and immigration.
10. April 2008 U.S. population = almost 304 million
11. Median Age in 2000 = 35.3
12. 9% of 115,904,641 total housing units in 2000 were vacant
13. California has most people, Wyoming has least
14. 1920 Census was first to show more people living in urban places than rural → Congress refused to approve that Census for that reason.
15. 1940 Census was first to reveal a pattern of cities losing population to their suburbs.