1) Charter Book

Condon, 23-25. *Climate Change*

- Global warming was not once mentioned in the original charter, however, given the looming threat that it now poses to various regions we must begin to think about efficiency differently (beyond the land use transit connection)
- Rebuild, reduce, reassemble, and reconsider
    - The fundamental regional principals that we now need to incorporate into our various regional designs
- Condon is in agreement with Calthorpe (a world where we live and work in closer proximity, where energy is precious, and efficiency is the hallmark of urban design) he is simply taking a blunter stance
- "We need to be in tune with a future that is deeply efficient. There are no resources for anything else"(Condon 25).

Low, 175-177. *Light Imprint*

- Management of stormwater runoff
- The two most common practices for the management of stormwater runoff are LID (Low Impact Development) and BMP (Best Management Practices)
    - These practices promote sprawl
        - LID- auto-centric development and is applied without specific variation to suburban and commercial districts (not adaptable)
            - Lot based rather than block or neighborhood based solutions which in turn can prevent sustainable development through increasing the need for large residential lots and disconnected commercial development
            - Innovative materials
            - Water collection systems
            - Modifications to infrastructure
            - Low-tech vegetated areas
        - BMP- actions that can improve/prevent the pollution of stormwater (*Best Management Practices*, n.d.)
            - Using fertilizers wisely
            - Landscaping practices that prevent erosion
            - Safe disposal of household chemicals
- Light Imprint as an alternative to LID and BMPs
    - Uses many of the same tools as LID but is an adaptable system that is "context sensitive" (176)
    - Works by approaching each site as its own entity with differing needs
    - Transect-based stormwater management
        - "Uses natural drainage; traditional engineering infrastructure; and infiltration practices collectively at the sector, neighborhood, and block scale" (177)
        - The tools for specific sites are chosen based on soil, hydrology, slope condition, climate, urban-to-rural transect zones, initial costs, and long term maintenance factors
    - Case studies are showing Light Imprint to be more economical than alternative frameworks

Mouzon, 244-245. *The Original Green*

- The Original Green is a term used to describe the ways of living before the Thermostat age (spans the 19th and 20th centuries) (*Https://Originalgreen.Org/about-Us.Html#:~:text=Steve%20Mouzon%20coined%20the%20phrase,Steve%20Mouzon%20and%20Wanda%20Mouzon.*, n.d.)
- The meaning(s) of sustainable according to Mouzon
    - Nourishable
    - Accessible

    - Serviceable
    - Securable
    - Lovable
- "Sustainable buildings should first be lovable because if they cannot be loved, they will not last" (244)
    - Sustainable buildings should be durable enough to carry their lovability further into the future, additionally, they should be flexible enough to serve multiple purposes throughout its lifetime.
- The original green as a *living tradition*
    - A system of aggregating, curating, and distributing the wisdom of sustainability broadly (245)
    - In order to practice "true sustainability" we must turn to the original green (the ways of living that kept humans alive for almost all of our history)
        - Important to note that efficiency is only *one* part of the living tradition of the original green and that in order for the impacts of efficiency to be felt we must first start with behavioral changes on a grand public scale
- Sustainability and longevity (of spaces + values) go hand in hand

Krier, 259-262. *Completing the CNU Charter*

- All forms of human civilization put stress on the natural environment our job is to find ways to adapt human civilization to minimize the stress caused
    - The only relatively sustainable model capable of minimizing our impact is the traditional city model
- We know very little about the long-term carrying capacity of our regions and the planet as a whole
- "The love affair with sky-scraping and land-scraping gigantism must be disabused now as stale infatuations of a bygone pre-ecological era" (260)
- Krier argues that a return to the traditional city will not occur democratically but rather out of necessity in response to a geographic, climate, and ecological outcry.
    - A time will come when geography, climate, and ecology will (again) define their forms and all we can do is be wise enough to respond
- Core value of the New Urbanist movement lies in its broad environmental vision and ambition
- Ends with a call to split the organization of CNU over disagreement over the limitation of floor numbers/urban densities and the issue of style/materials

2) Calthorpe 2011 pp. 106-117 (Perusall)

- Smart land use policies, range of new technologies, intelligent pricing, major public investments, and aggressive building standards are all needed to achieve the goal of a max 2 degree Celsius rise for this century. - pg 106
- Just using smart new technology does not lead us to the most cost effective, socially rewarding, or environmentally robust solution - pg. 106
- "Building alternate energy sources while allowing demand to increase exponentially is absurd" - pg 106
- 2 principles outcomes of green technologies
    - Reduce carbon emissions
    - Reduce reliance on foreign oil
- Patterns of development combined with range of green technologies and conservation policies
- 3 prime drivers of the policy alternatives
    - Auto technology
    - Building efficiency
    - Utility portfolio
- Trend alternative
    - Extension of past policies and technologies
- Aggressive alternative
- Green sprawl → Elon Musk (problems)

- Green Urbanism
    - Reduction of physical footprint
- Urbanism: there are more benefits other than carbon neutrality, save money, plus more
- Green technology: new jobs, new businesses, etc.
- Classmate comments on Perusall reading that maybe we could investigate/address:
    - I would be curious to see the numbers on the costs and benefits of retrofitting existing urban spaces in a shift toward "green urbanism" compared to making an impact by mitigating environmental harm associated with new growth. - Maya

3) Farr, D. (2007). *Sustainable Urbanism: Urban Design with Nature*. Wiley.

- "The lifestyle choices we've made…have inexorably altered our built environment. We are paying a terribly high price in individual health, a general sense of well-being and happiness. We have alienated ourselves from nature, which we need to sustain us. Perhaps worst of all, we are jeopardizing our global climate and are confused as to the causes… To rectify these wrongs we need to take a cold, hard look at some of our most cherished assumptions and pet comforts. We need the courage to challenge the course we have chosen" (pp. 25-26).

Pioneering Reforms: Setting the Stage for Sustainable Urbanism

- sustainable urbanism= urbanism + environmentalism
    - goal = bridge the divide between nature-focused environmentalists + human-focused urbanists (i.e. Ian Mcharg's "anti-social environmentalism") by integrating natural + human systems
    - emerged out of 3 late-20th c. reform movements: smart growth, new urbanism, green building
- smart growth:
    - context:
        - 1970s environmental movement spearheaded by Nixon's legislative agenda (Clean Water Act, Endangered Species Act, NEPA, Environment Protection Agency, etc.)
        - National Land Use Policy Act failed in the House, but inspired state land use plans
            - ex. Oregon: Urban Growth Boundaries (UGB) —> smart sprawl (controlled the scope, but not the quality of land development)
    - promotes urban redevelopment/sound land conservation policies (not completely anti-growth, as is the case w/ many environmentalists)
    - succeeded in uniting grassroots movements + municipal leaders
- new urbanism (CNU)
    - promotes traditional town planning as an alternative to sprawl (which largely grew out of CIAM's "tower in the park" pattern of development)
    - urban-rural transect: spectrum of place types from wilderness to dense urban centers
    - Smart Code: transect-based, form-based codes to replace existing zoning codes
    - effective on a case-by-case basis, but the "foundation of hostile single-issue standards and a built environment that remains dominated by sprawl" (35) has remained intact
- green building (USGBC)
    - seeks to accelerate the adoption of green building practices + mobilize the private sector
    - LEED standard:
        - (+) refocusing of the building industry towards more sustainable practices
        - (–) low levels of LEED certification; building-centric focus w/o regard for context
    - integrated design: optimization of overall building performance w/o adding construction cost by stressing systems over components

Sustainable Urbanism: The Grand Unification

- sustainable urbanism: walkable + transit-served urbanism integrated w/ high-performance buildings and infrastructure

- 5 desirable attributes of a neighborhood: definition, compactness, completeness, connectedness, biophilia
- defined center and edge (bounded neighborhoods)
    - close quarters encourage sociability amongst residents→ inc. well-being + social capital
    - expands the role of the neighborhood to address its proportionate share of society's social/environmental needs— David Brower: "Think globally, act locally."
- compactness: density
    - low densities can't efficiently support transit + aren't walkable
    - sustainable urbanism requires a minimum density of 7-8 dwellings/acre, which is 4x the U.S. national average
    - density should be concentrated in the neighborhood centers/around transit stops/adjacent to transit corridors to promote walking/public transit over car trips
    - protects undeveloped/sensitive lands
- completeness: a variety of land uses, building types and dwelling types
    - allows ppl to meet their day to day needs on foot w/o having to own a car or drive→ universal independence
    - diversity of dwellings accommodates the needs of ppl at diff stages in their lives→ aging in place
- connectedness
    - internal connectedness: wide sidewalks, short distances between intersections, low-speed streets
    - connected to adjacent neighborhoods/regional destinations via public transit services
    - must be located in existing/proposed transit corridors
- biophilia: human access to nature
    - suppression of nature in conventional urbanism + suburbs = harmful; sustainable urbanism aims to reconnect people to natural systems
    - resource flows must be visible + experiential— "the ability to see + experience where resources are produced and where they go after they are used promotes a human lifestyle better integrated with natural systems" (49)
    - respect for the livelihood of nonhuman species ("critter crossings," protection of natural ecosystems)
- high-performance infrastructure: society will inevitably move to require HPB (per-capita-based mandatory performance standards)
- integrated design of human and natural systems: magnifies benefits at little or no cost
    - locations w/ the greatest potential for integration = dense, mixed-use and served by transit
    - by contrast: lack of integration (ex. developments near transit stations are required to have off-street parking at the same ratio as if the transit service wasn't there)→ reduced development density/affordability, reduced walking/transit ridership, increased driving/air pollution

Three Steps of Sustainable Urbanism

- making a market for sustainable urbanism: the need for the entire development industry to agree on one standard of excellence (bridge the divide between urbanists/environmentalists) + work towards the same goals through the coordinated efforts of large groups of people
    - LEED for Neighborhood Development:
        - voluntary leadership standard to define smart, sustainable land development
        - a 3-way partnership: CNU, the Smart Growth movement, and the US Green Building Council
        - considers: 1) where it is 2) what goes on there 3) how it is built/managed
        - prerequisites:
            - located on infill/redevelopment sites or adjacent to existing developed areas
            - meets minimum residential/commercial density
- dismantling petroleum-era barriers to sustainable urbanism
- a national campaign to implement sustainable urbanism

4) Kelbaugh, D. (2015). The Environmental Paradox of the City, Landscape Urbanism, and New Urbanism. *Consilience* 13, https://doi.org/10.7916/consilience.v0i13.3946.

- The Environmental Paradox of Urbanism
    - “cities are surprisingly greener than their more verdant suburbs”
    - “The average urbanite’s carbon and other eco-footprints are smaller than the average suburbanite’s. Leafy suburbs may look greener, but on a per capita basis they produce more pollution and waste than cities, and consume more energy, water and natural resources.”
- 3 Relevant Benefits of Urbanization
    - The environmental paradox is central to this comparative study, as well as a very relevant benefit to a rapidly urbanizing planet.
    - Cities are on average more productive and creative per capita than suburban and rural communities.
    - Cities sponsor a positive social paradox: they can maintain socio-cultural diversity within a large population while simultaneously providing a sense of identity for neighborhoods, social groups and individuals.
- Similarities and Differences of Landscape Urbanism and New Urbanism
    - Landscape Urbanism (LU) and New Urbanism (NU) share common values and aspirations as reactions to Modernism's impacts.
    - Both claim to be evidence-based and outcome-based, emphasizing environmental sustainability and resilience as crucial design issues.
    - Both reject Post-Structuralism in favor of more proactive theory and performative practice.
    - LU raises the ecological bar, focusing on urban infrastructure, while NU emphasizes suburban retrofit and Transit-Oriented Development (TOD).
    - Both reject rational reductionism and emphasize that cities are as "natural" as beehives or coral reefs.
    - LU focuses more on public space and infrastructure, while NU embraces a connected grid/network.
    - Despite differences, both movements prefer a regional approach to urban planning and are putatively regionalist in design.
    - LU tends to embrace landscape design first, while NU prioritizes urban design.
    - NU concentrates on balancing nature with human priorities within the city, while LU prioritizes open space and parkland.
    - NU has shifted focus from large greenfield projects to smaller, greener urban infill since the Great Recession.
    - NU sees streets as the most important public infrastructure, while LU tends to favor open green spaces.
    - LU is more enthralled with continuous horizontal forms and abstracted ground planes inspired by fractals, while NU focuses more on formalistic master plans and enclosed outdoor spaces with tree canopies.
    - Questions arise about LU's ability to produce urban effects traditionally achieved through buildings and whether vast open green spaces will attract pedestrians or become empty "border vacuums."
    - **There’s not enough urbanism in LU, and not enough ecology in NU**
- Learning from and moving beyond difference
    - Biophilic design is essential for both Landscape Urbanism (LU) and New Urbanism (NU) to achieve lasting cultural relevance, focusing on designs that resonate with humans.
    - LU has focused more on water in the city, while NU has paid more attention to energy conservation, particularly regarding fire.

    - Both movements have areas where they can learn from each other: NU can benefit from LU's knowledge of hydrology and ecological infrastructure, while LU can learn from NU's expertise in street networks, Transit-Oriented Development (TOD), and urban space declension.
    - NU principles are based on millennia of city design, updated and refined over 25 years through conferences, writings, debates, and built projects, inspired by enduring precedents like Nolli's Rome.
    - The Transect, basic to NU, encompasses a gradient of density, use, and height from wilderness to urban zones, promoting social diversity and habitat for plant and animal species.
    - A sustainable urbanism would maintain high levels of both sociocultural and natural/ecological diversity in all zones of the Transect.
    - LU lacks sufficient human habitat, socio-economic diversity, and street life in urban areas, while NU lacks natural diversity and hydrology.
    - Both movements should minimize suburban sprawl and aggressively retrofit it with urban interventions, recognizing that they are transitional steps toward a more sustainable future.
    - LU and NU are not transformative enough to mitigate and adapt to the ongoing impacts of climate change, resource depletion, and socio-political stresses without deeper and more immediate action.
- The Global Challenge
    - The world can no longer afford endless novelty and needless change.
    - Designers can help show the way toward a more holistic urbanism.
    - Market economies and electoral politics have trouble rallying to long-term problems.
    - Urban Heat Island (UHI) can help motivate behavior change in dealing with climate change.
    - The built environment is the largest single contributor to both local and global climate change.
    - New green technologies and scientific breakthroughs are expected to emerge.
    - Collaboration between movements like LU and NU is crucial for addressing global challenges.

5) Mehaffy, M. W., & Haas, T. (2020). New Urbanism in the New Urban Agenda: Threads of an unfinished reformation. *Urban Planning*, 5(4), 441-452. (OPTIONAL)

***New Urban Agenda -** A landmark document adopted by acclamation by all 193 member states of the United Nations in 2016. It is a de facto charter of a global movement to address the challenges and opportunities of urbanism in the present day and future. The text emerged from a number of conferences, regional and thematic meetings, policy papers and issue papers, and preparatory committee meetings, beginning in 2013.

***1996 Charter of the New Urbanism -** In the context of this article, it is important to note that the Charter of New Urbanism's influence can be seen in the New Urban Agenda. This demonstrates the increasingly mainstream status of New Urbanism in addressing the challenges of contemporary urban development.

- **Le Corbusier's ideas within the Athens Charter**
    - Highly mechanized, rational, and scientific. Human interactions and relationships that formed within spaces are overlooked.
    - "Functionalism" - design approach that emphasizes the efficient organization of urban space based on the functions or activities that take place within it
    - Easily implementable because it was at the time of industrialization which had similar foundation
    - Segregation of uses - automobiles vs people, commercial vs residential etc - codes
- **Similarities between the New Urbanist Agenda and the 1996 Charter of the New Urbanism**
    - Both contrast starkly with Athens Charter (1933) - Both express an urgency in the unacceptable rigidity, technocratic and generic modernist model created by the Athens Charter. They both propose an aggressive reform agenda to counter it.
    - Similar influences
        - Structuralism (setting for human life and culture) and participation movement (people as active creators of urban space.

        - Believe that cities, by their structures and their processes, generate the capacity for creative interaction and human (including economic) development - Jane Jacobs
        - 'Semi-lattices,' web-network relationships that could not be neatly sorted into hierarchical schemes. Not seen as a form of disorder, but a deeper form of order - Christopher Alexander
    - Similar Commitments
        - Promote: density, mix of uses, walkable multimodal streets, buildings defining public space, mix of building ages and heritage patterns, well-connected, co-production of the city by the citizens, equity, and understanding of the city as an evolutionary self-organizing structure
        - "Address the way we plan, finance, develop, govern and manage cities and human settlements, recognizing sustainable urban and territorial development as essential to the achievement of sustainable development and prosperity for all"- Quote from New Urbanist Agenda - similar to New Urbanism
- **Barriers to implementation**
    - "there are two opposing realities: the scale of the projects to be undertaken urgently for the reorganization of the cities, and the infinitely fragmented state of land ownership"- Le Corbusier
    - Designers and planners must become active participants in directing technical and economic forces to deliver the results they seek.
    - Need ways to create urban equity and environmental justice within a complex economic system not currently facilitating these goals.

6) Frank, L. D., Sallis, J. F., Conway, T. L., Chapman, J. E., Saelens, B. E., & Bachman, W. (2006). Many pathways from land use to health: associations between neighborhood walkability and active transportation, body mass index, and air quality. *Journal of the American planning Association*, *72*(1), 75-87. (OPTIONAL)

- Background information and why planning impacts physical health
    - Land use patterns affect travel behavior by altering each mode's relative costs and convenience levels
        - People who live in neighborhoods with **"traditional" or "walkable" designs report about 30 minutes more walking for transportation each week and more total physical activity**
    - Obesity and inactivity are both widespread, and increase the risk of several common chronic diseases (Andersen, ; U. S. Department of Health and Human Services).
    - Increased numbers of vehicle trips + vehicle miles of travel are associated with higher levels of several air pollutants resulting from vehicle emissions that have adverse respiratory health impacts. (shortness of breath and asthma are common)
- This study evaluates the association between a single index of walkability (land use mix, street connectivity, net residential density, and retail floor area ratios) with health-related outcomes in **King County, Washington**.
- The study found a **5% increase in walkability** to be associated with a per capita 32.1% increase in time spent in physically active travel, a **.23-point reduction in body mass index, 6.5% fewer vehicle miles traveled, 6.5% fewer grams of oxides of nitrogen (NOx) emitted, and 5.5% fewer grams of volatile organic compounds (VOC) emitted.**
    - We found the walkability index to be significantly related to both active transportation and BMI among adults, after accounting for sociodemographic variables.
    - Data from the Neighborhood Quality of Life Study (NQLS), funded by the National Institutes for Health
    - **"Our findings are consistent with literature suggesting current laws and regulations are producing negative health outcomes and support assessing the health impacts of actions that shape the built environment"**
- Examining any single outcome may underestimate the overall consequences for health, or miss important tradeoffs associated with changes in walkability.

8) Aurbach. Dense and Beautiful Stormwater Management.

Issue of impervious Surfaces

- Causes runoff instead of water being soaked up by soil and vegetation
- Historically, dense cities caused issues of: Erosion, landslides, septic tank failures, and pollution to nearby lakes and rivers. However we now have strategies to combat these issues.

How to Manage Stormwater in Compact cities?

- Recognize Density as Best management practice
    - Green Cities vs Compact cities - we need both but as of now we mostly push for green cities and not compact ones because of fear of historical issues despite having tools now to combat it.
    - Compact cities allow more water-shed area, and less impervious surfaces per capita. Sprawl allows more permeability on a small scale but at a ***regional level, sprawl uses more asphalt (given roads and infrastructure).***
    - Preservation and maintenance is necessary
- Allow off-site mitigation, preferable in the neighborhood
    - Large neighborhood scale projects have more options for BMP (Best Management Practices). In larger project with Transect planning can think of health of larger Watershed not just block etc
    - Working with individual lots leaves only expensive and less effective options for stormwater management.
    - Close proximity between the runoff site and the drainage site is a best practice.
    - High Point Development in Seattle Washington - extremely successful system to manage stormwater **based on scale.**
        - Lot level BMP's include: pervious pavements, furrows, dispersion trenches, rain gardens
        - Block level BMP's include: berms and swales
        - Community level BMP's include: stormwater ponds and parks
- Plan and Design according to the Transect (Neighborhood context)
    - **Can calculate where there is less than or more than "natural land" amount of drainage capability**
    - **Lower intensity zones can retain extra rainwater - balancing runoff from higher intensity zones**
    - **Then use *Light Imprint Toolbox Matrix* to decide which practices are appropriate based on Transect Zone**
        - Utilize more natural, more durable, and less costly solutions, reduce intrusive options
        - Use New Technology but in ways that keep history and sense of place intact
        - Keep in mind the pedestrian experience, walking on paths etc. Note that water management can be aesthetically pleasing not just a green chore
    - Water Quality Scorecard by the EPA evaluates water management policy

9) PLACE Initiative website: Urbanism and Climate Change

- "Urbanism is a force multiplier for efforts to reduce GHG emissions and adapt our communities to strengthen their resiliency against the worst impacts of climate change, such as the risks of wildfire and storm surge combined with sea level rise."
- "**Regulatory and tax decisions** have far-reaching implications, as they shape torrents of capital via these vast industries."

Sources

Aurbach, L. (2010, May 14). *Dense and Beautiful Stormwater Management | Ped Shed*. https://pedshed.net/?p=270

Frank, L. D., Sallis, J. F., Conway, T. L., Chapman, J. E., Saelens, B. E., & Bachman, W. (2006). Many Pathways from Land Use to Health: Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality. *Journal of the American Planning Association*, *72*(1), 75–87. https://doi.org/10.1080/01944360608976725

Mehaffy, M. W., & Haas, T. (2020). New Urbanism in the New Urban Agenda: Threads of an Unfinished Reformation. *Urban Planning*, *5*(4), 441–452. https://doi.org/10.17645/up.v5i4.3371

Kelbaugh, D. (2015). The Environmental Paradox of the City, Landscape, Urbanism, and New Urbanism. *Consilience*, (13). https://doi.org/10.7916/consilience.v0i13.3946

Farr, D. (2007). Sustainable Urbanism: Urban Design with Nature. Wiley.