Review Article

Review of Literature on Contemporary Planning and Geography Concepts: Unique or Repackaged

Abstract

A fundamental goal of spatial planning is to plan for and create places for people to live work and play in. Creating functional and aesthetic places for a diverse public is central to most built environment professionals. While planning principles have evolved over time to address the changing needs of our society, they are not necessarily new. Yet the planning profession finds the need to continuously brand and rebrand the concept of planning. This paper looks at contemporary concepts to explore whether they are unique or a repackaging of fundamentally basic, principles of creating safe, comfortable and attractive places.

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1. Introduction

The planning profession in the US dates back to the end of the 19th century. As Krueckeberg (1985) highlights, the special knowledge and training for city planning might be dated as early as 1893 with the opening of the World's Columbian Exposition in Chicago. The first university course in city planning was offered in 1909 at Harvard University and the first National Conference on City Planning was held the same year. Finally, founding of the American City Planning institute in 1917 marks the formation of the professional society in United States (Krueckeberg, 1985). Since then, the planning profession has evolved in different phases and each era has particular and defined characteristics.

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During the first decades, planning was focused on physical elements and land use aspects – infrastructure, roads, designating of physical space for different uses, etc. Garden City movement, City Beautiful movement and Plan of Chicago are the major achievements of that period, as well as the rise of zoning and comprehensive planning. Utilitarian and practical planning dominated the postwar era, especially important were the efforts in Urban Renewal and highway building movements (according to the Federal-Aid Highway Act of 1956) and the increase in public housing and home mortgage insurance programs (Krueckeberg, 1985). This era (1960-70s) was very traumatic for many urban areas that saw functioning neighborhoods torn down to make way for new buildings and infrastructure. This gave rise to advocacy planning and the rise of social and cultural planning movements. Jane Jacobs's "The Death and Life of Great American Cities" (1961), Martin Anderson's "The Federal Bulldozer" (1967), Herbert Gans's "Urban Villagers" (1962) and "The Levittowners" (1967) and Paul Davidoff's "Advocacy and Pluralism in Planning" (1965), amongst others, were instrumental in making planners aware of the plight of under-represented groups in society. The 1970-80s can be characterized by yet another major shift in planning ideology with the rise of the environmental movement. Rachel Carson's book "Silent Spring" (1962) and Ian McHarg's "Design with Nature" (1969) are probably the most influential discussions from that time. It can be argued that since 1990s, planning has not seen major new movements. As Birch (2009) points out, the period from 1990s to 2009, or even to present times, can be described as *Planning revisits its roots*, when planning theorists began to rethink their approaches in the context of planning history. This period has been looking at the evolution of planning profession by learning from and thus improving it. As Birch (2009, p. 107) argues, "Issues of space and place reentered all types of planning theory discussions". This shows the importance and rediscovery of the topic of place and people. It is the era when planning theorists began to explore more democratic means such as collaborative and communicative

planning. The era also gave rise to increased citizen participation and bottom-up planning approaches.

Since the 1990s, planning theory has focused on the planning process and the involvement of constituents. This may be, in part, due to the changing nature of political philosophies and the rise of neoliberal tendencies advocating for efficiencies over equity and the minimal role of governments and public expenditures (Vojnovic, 2007). As the profession matures and copes with increasing technology, political change, limited government and general attitudinal changes, new concepts and themes seem to emerge at increasing frequencies. Some of these themes seem to last longer than others. Most seem to evolve over a set of good planning principles that have withstood the test of time. The critical question is why have we seen this proliferation of new concepts or labels over the last 25 years – do they promote new ideologies and significant movements or are they a branding tool to sell the planning profession to the public?

The multiplicity and broad, or even diffused use of different definitions of creating places among professionals and among wider audiences, has led to several questions that the current research intends to address:

1. How has professional language related to creating places for people evolved over time (since 1990)?
2. To what extent do emerging concepts in Urban Planning differ from one another?
3. What planning principles are targeted through contemporary planning concepts?

Methods

In order to address these questions, research methods are divided into four steps.

- Step 1. Identification of Contemporary Concepts/Labels
- Step 2. Literature Scan
- Step 3. Content Analysis
- Step 4. Evaluation of Contemporary Concepts with a Focus on Planning Principles

Step 1: Contemporary planning concepts in scholarly literature

Contemporary concepts or labels were identified based on readings, discussions with academics and colleagues and attendance at planning conferences. Selected concepts or labels addressed more than one planning aspect. The ten contemporary concepts most common in planning literature (professional terminology) are as follows:

1. Creative Cities
2. Healthy Cities
3. Livable Cities (Livability)
4. New Urbanism
5. Placemaking
6. Resilient Cities
7. Safe/Secure Cities
8. Smart Cities
9. Smart Growth
10. Sustainable Cities

Step 2: Literature Scan

a) Each concept/label was run through the ProQuest and/or Scopus search engine in order to identify when that concept gained popularity and when scholarly literature related to the concept peaked. Initially, the ProQuest database was used to identify articles. This

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database however, did not seem to provide a sufficient set of appropriate articles. Therefore, the Scopus database was used as an alternative source in parallel with ProQuest. As Scopus provided better results for retrieving articles (better coverage, significant journals), the use of ProQuest was dropped after the fifth concept and the search was continued only with the Scopus database. This emerging search method resulted in identifying over 4,000 articles.

b) The search was limited to full text, peer reviewed, scholarly journals and the search of key term was conducted within "Article title, Abstract, Keywords"; the searchable document type was limited to articles; the publication date was limited to 1990-2017; and the language was limited to English.
c) The search was conducted with the quotation marks as this provides the exact match of the searchable word or expression, not any single separate words. This search resulted in over 600 articles.
d) Peak years were identified for each concept and then used for further exploration.
e) Ten articles from peak time periods were identified based on the frequency in which the concept or related words or terms occurred in the full text. Key words from metadata, in journal headings or references were not counted. The search resulted in 100 articles for detailed content analysis.

The literature scan resulted in:

a) Display of concepts' occurrence in scholarly literature and popularity, and
b) Creation of an article bank of top ten articles focusing on each concept.

Step 3: Content Analysis

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As urban planning is an interdisciplinary field, the 10 contemporary planning concepts assessed in this study have different origins and areas of focus. New Urbanism for example originates within architecture and focuses primarily on urban design and the built environment. Safe Cities, on the other hand, stem more from traffic engineering and the psychology of place and are more focused on processes and education.

Ten pertinent articles for each concept were identified employing two search engines, Scopus and/or ProQuest. Insert Figure 1~~Figure 1~~ is a good indication of when these concepts started to appear in planning literature and when their peak activity was recorded through search engines of science databases. As can be noted, the concepts are not mutually exclusive and co-exist in time.

Insert Figure 1. Display of time periods for each concept when articles occurred in search results, both databases and all search terms combined (e.g., "intelligent cities" and "tech cities"). Search criteria was set for 1990-2017.

Part One of content analysis involved emergent coding of thematic areas in each article (100 articles). The selected articles were initially explored with the intention to highlight the characteristic keywords, labels and themes of each concept. A total of 32 codes emerged. Part Two involved detailed assessment of the group of ten articles for each concept. The following section discusses emerging themes within each concept.

2. Content Analysis

2.1. Creative Cities

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The most prevalent findings are related to economic aspects, as all articles in this pool addressed these issues. Secondly, social dimensions, including arts and culture, social interaction and milieu related issues, as well as affordability and equity were widely addressed. Thirdly, branding and marketing related issues were discussed in 9/10 of articles.

Finally, the built environment and physical space were discussed in the majority of selected articles. In addition, majority of articles provided some explanation of the meaning of the concept. The occurrence of pertinent themes can be seen in Table 1.

Insert Table 1. The occurrence of pertinent themes in data collections for Creative Cities

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Content analysis showed that all selected articles addressed economic aspects. Creative cities are strongly seen as drivers for economic success and competitiveness and heavily relies on the work of Richard Florida (Borén & Young, 2013b; Darchen, 2013; Grodach, 2013). The concept of creative cities is closely related to concepts of creative economy or creative industry. As most articles demonstrate, creative cities with its talented people – creative capital, is the key factor of economic growth and success, or economic competitiveness.

Economic development of a place can be driven by place marketing strategies in order to be globally or regionally competitive. Consequently, the creative cities concept has the strongest influence in terms of city branding (Grodach, 2013, p. 1754). Place branding is also used to inspire certain type of creative talents to cities, but there's a significant difference between big cities and small cities. The creative cities concept is not universal and it is usually associated with big cities (Borén & Young, 2013b; Ratiu, 2013).

Content analysis also showed the significance of issues related to social aspects, such as culture, human scale, social interaction and affordability. As the concept of creative cities is about promoting cultural diversity and cultural development *per se* and is framed by the creative economy, it is an expected outcome to see so much emphasis on arts and culture. Key characteristics of creative cities are social cohesion, human scale and creative milieu (place identity).

The importance of place and its characteristics are mostly in relation to attracting creative talent (Grodach, 2013). Creative hubs and districts, or cultural clusters were mentioned as places where creative activity usually takes place (Grodach, 2013; Pratt & Hutton, 2013; Vivant, 2013). Mixed use neighborhoods, vibrant art scenes, outdoor activities, cultural diversity, improved streetscapes and density are some characteristics of these places. Consequently, it can be said that the quality of place matters for creative cities. Parallel to promoting culture and a creative city agenda, creative city strategies encourages gentrification in central city areas which may threaten the city's creative capital (Darchen, 2013; Grodach, 2013; Ratiu, 2013).

The concept of creative cities, based on the content analysis, is still relatively vague. There is much discussion and often disagreement, amongst scholars as to the definition or articulation of what a creative city really means, what they can achieve or who they benefit. Most agree that it is a branding strategy to promote arts and culture to a population that enjoys and can afford these trendy amenities.

2.2. Healthy Cities

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The most prevalent findings are related to seven topics: 1) public participation and collaboration, 2) governance, 3) health, 4) equity and equality, 5) safety and security, 6) education and awareness and 7) built environment, including urban design, walkability and transportation. Majority of articles addressed all these issues. The occurrence of pertinent themes can be seen in Insert Table 2~~Table 2~~.

Insert Table 2. The occurrence of pertinent themes in data collections for Healthy Cities

Content analysis showed that issues related to health were addressed in the majority of selected articles. Patrick, Dooris and Poland (2016) point out that the concept of healthy cities has been addressing health promotion since the late 1980s initiated by the World Health Organization (WHO) and has become a major global movement for public health. As Hu and Kuo (2016, p. 9) point out, "Healthy City projects have six common characteristics: commitment to health, political decision-making, intersectoral action, community participation, innovation and healthy public policy" (as cited in WHO EURO 1997, 2015). However, despite having an urban focus, the approach has been adopted more generally for promoting health and can be applied to any community or municipality (Patrick et al., 2016). Importance of public policy that promotes health, commitment of local government, public participation and collaboration were also pointed out as key characteristics of healthy cities (Macfarlane et al., 2015). Additionally, content analysis showed that food access is another topic that emerged from the literature related to concept of healthy cities. Several researchers (Miller & Tolle, 2016; Schwab et al., 2015; Twiss et al., 2003; Westphal & Franceschini, 2016) point out the importance of the access to healthy food in the context of healthy cities.

Content analysis showed that social aspects such as equity, safety and education and awareness were also important characteristics for the concept of healthy cities. However, it should be noted that these themes are not exclusive from the theme of health and are often mutually related. Several scholars (Awofeso, 2003; de Blasio et al., 2012; Macfarlane et al., 2015; Westphal & Franceschini, 2016) pointed out the importance of equity related to the concept of healthy cities. For instance, Awofeso (2003) discusses the notion of equity and points out that low income households are often disadvantaged while living and working in a very bad or even life-threatening conditions.

The themes of governance, collaboration and public participation occurred in almost all of the analyzed articles. Content analysis demonstrated the importance of public participation and collaboration with other sectors are essential characteristics of healthy cities. Thus, good leadership is also important for the management of collaborative projects and facilitating community engagement (Kang, 2016). Emphasizing the importance of the topic of governance and participation in the context of healthy cities, is well summed up by Schwab et al.(2015, p. 23) who state that "Obstacles to target goals are often not technical or even financial, but are more closely related to governance and public participation".

Content analyses demonstrated that issues of physical space such as walkability, transportation and urban design are important characteristics of the concept of Healthy Cities as the majority of selected articles addressed these issues. It was evident that the quality of built environments have an impacts on public health and health risk factors (Macfarlane et al., 2015). Thus, planning, designing and building play an important role for achieving the goals of healthy cities.

Content analysis indicated that the concept of healthy cities is focused on improving and promoting public health through good governance and policies, public participation and intersectoral collaboration in order to create safe built environments that support physical activities and active modes of transportation. The importance of equity and equality and education and awareness also emerged as key characteristics. Most themes were mutually connected, which shows the complex nature of the concept.

2.3. Livable Cities

The most prevalent findings are related to eight topics: 1) general aspects of physical space/built environment, 2) walkability and accessibility, 3) transportation and mobility, 4) urban design, 5) economic aspects, 6) collaboration and public participation, 7) social aspects such as safety and health and 8) environmental aspects, including environmental sustainability. In addition, majority of articles (7/10) provided various explanation of the meaning of the concept. The occurrence of pertinent themes can be seen on Insert Table 3~~Table 3~~.

Insert Table 3. The occurrence of pertinent themes in data collections for Livable Cities

Content analyses demonstrated that issues of physical space and built environment are important components of the concept of livable cities as this theme occurred in the majority of selected articles. The components of physical space appear in the model of assessing livability in European cities, developed by Zanella et al. (2015). They propose 24 livability indicators that fall under eight dimensions: housing quality; accessibility and transportation; human health; economic development; education, culture and leisure; and solid waste and air pollutants. As Zanella et al. (2015) argue, these dimensions represent the main aspects of livability.

Content analyses demonstrated that economic aspects are important to the concept of livable cities. Zanella et al. (2015), Safavi et al. (2014), Maghsoodi Tilaki et al. (2014), Saitluanga (2014) denote the importance of economic aspects, mostly along with social and environmental aspects. Zanella et al. (2015, p. 698) argue that livability depends on the degree to which a place supports quality of life, health and wellbeing and a "liveable city should be healthy, safe, harmonious, attractive and affordable".

Collaboration and public participation are key characteristic of the concept of livable cities. Majority of articles addressed the importance of engagement of local communities and benefits of collaboration (Harris, Roche, Estlund, Mense, & Baker, 2014; Maghsoodi Tilaki et al., 2014; Rosales, 2007; Ruth & Franklin, 2014; Saitluanga, 2014). According to Safavi et al. (2014), three main elements of livability elements include resilience, authenticity and inclusiveness.

Content analysis showed that environmental sustainability and environmental quality are fundamental characteristics of the concept of livable cities (Maghsoodi Tilaki et al., 2014; Ruth & Franklin, 2014; Safavi et al., 2014; Saitluanga, 2014; Svara et al., 2015; Zanella et al., 2015). Also, Zanella et al. (2015) highlight that in addition to being economically and socially successful, livable places need to have low environmental impacts. Ruth and Franklin (2014) and Svara et al. (2015) highlight environmental sustainability and viability as the fundamental aspect of livability in the long term. Protecting natural habitats, increasing green spaces and reducing environmental pollutants are efforts to achieve clean and sustainable environment.

As content analysis demonstrated, the concept of livable cities focused on multiple themes simultaneously. The most relevant themes are physical space/built environment issues such as walkability, transportation and urban design; economic aspects as well as public participation and collaboration. The concept of livable cities and livability is a broad umbrella concept that does not have a single established definition.

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2.4. *New Urbanism*

The most prevalent findings are related to physical space: 1) walkability and accessibility, 2) mixed use, 3) urban design, 4) density, 5) open space and 6) transportation. Secondly, human scale and sense of community and thirdly, environmental sustainability issues emerged. The occurrence of pertinent themes can be seen in Insert Table 4~~Table 4~~.

Insert Table 4. The occurrence of pertinent themes in data collections for New Urbanism

Content analyses demonstrated that issues of physical space and built environment occurred in the majority of selected articles. "The principles of new urbanism include high density, mixed use neighborhoods; convenient public transit, bicycles paths and pedestrian-friendly street networks; strategically placed open spaces; and architecture designed to foster social interaction" (as cited in New Urbanism (NU), 2002; Song & Knaap, 2003, p. 219). However, as most articles demonstrated, new urbanism is primarily about urban design and architecture.

Content analysis showed that mixed use, density and open space were also key characteristics within the concept of new urbanism. Berke et al. (2003) discussed that New urban developments also aim to increase the quantity of open space without reducing the number of dwelling units, which can be achieved by permitting high density and mixed used (including reduced parking needs). New urbanist principles also promote creating a central public space to each community that serves as the main meeting place for people (Day, 2003). Consequently, open space has a key role in the concept of new urbanism.

One fundamental characteristic for new urbanism is walkability and non-motorized transportation. A major goal of new urbanism is to reduce driving distances (and street lengths) between locations and eventually the reliance on the automobile (Berke et al., 2003; Lee & Ahn, 2003). Song and Knaap (2003, p. 223) discuss how higher density and better connectivity "leads to more walking and biking, fewer vehicle miles traveled, higher air quality, and greater sense of community among residents" (as cited in Benfield et al., 1999). In addition, higher density, walkability and mixed use contribute to reducing the need for parking areas and leave more room for open spaces (Berke et al., 2003). However, Berke et al. (2003, p. 398) suggest that "New urban developments have generally not achieved the desired levels of non-motorized modes of travel that were originally publicized by new urbanists" (as cited in Crane, 1996). As Greenwald argues, "New Urbanist design standards make walking more convenient, but still do proportionally more to facilitate automobile use compared to other forms of travel, New Urbanism might in fact lead to increased vehicle use" (2003, p. 42). Therefore, well defined transit system becomes a central idea in order to increase walking over driving (Greenwald, 2003).

As data showed, the concept of new urbanism is focused mainly on physical aspects of built environment. It was evident from the literature that urban design, walkability, mixed use, density, open space, transit orientation, sense of community and environment were the key characteristics of the concept of new urbanism.

2.5. *Placemaking*

The most prevalent findings are related to characteristics of human scale, social cohesion and place attachment, as almost all articles in this pool addressed these issues. Additionally, built environment and physical space related characteristics and process related themes including public participation, community engagement and collaboration were addressed in majority of selected articles. The occurrence of pertinent themes can be seen on Insert Table 5~~Table 5~~.

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Insert Table 5. The occurrence of pertinent themes in data collections for Placemaking

Content analysis showed that human scale, social cohesion and place attachment or place identity occurred in the majority of selected articles. Placemaking is seen as the process for giving meaning and significance to a place, which is related to person's place attachment and place identity (Severcan, 2015). In other words, placemaking is a process when people create emotional and personal attachment to the place, which also involves social and cultural networks and captures people's relationship to space. Social interaction requires physical space, which in turn requires designing and planning of that place. Thus, placemaking was also widely discussed as a physical planning and design related approach. Placemaking can be seen as an 'active word' for referring to creating, (re)developing and designing places.

Process related characteristics were mostly linked to issues of public participation, community engagement and collaboration with stakeholders. Architects, planners and designers were mentioned as professionals who intentionally facilitate placemaking by providing changes to the built environment (Balassiano & Maldonado, 2015). Thus, placemaking is part of the processes, which incorporates various elements of design and community engagement.

Placemaking is seen as the process for giving meaning and significance to a place, which is related to person's place attachment and place identity (Severcan, 2015). In other words, placemaking is a process when people create emotional and personal attachment to the place, which also involves social and cultural networks and captures people's relationship to space. Social interaction requires physical space, which in turn requires designing and planning of that place. Thus, placemaking was also widely discussed as a physical planning and design related approach. Placemaking can be seen as an 'active word' for referring to creating, (re)developing and designing places.

2.6. Resilient Cities

The most prevalent findings are related to six topics: 1) process related issues such as collaboration and public participation and 2) governance; 3) environmental aspects, including environmental sustainability; 4) economic aspects; 5) social issues such as education and awareness; and 6) physical space/built environment and infrastructure issues. Most articles (9/10) provided various explanation of the meaning of the concept. The occurrence of pertinent themes can be seen on Insert Table 6~~Table 6~~.

Insert Table 6. The occurrence of pertinent themes in data collections for Resilient Cities

Content analyses demonstrated that process-related issues are significant components of the concept of resilient cities. More specifically, governance, participatory and collaborative processes emerged from the majority of selected articles. Jabareen (2013, p. 223) points out that "resilient city planning framework includes urban governance, uncertainty oriented planning, vulnerability analysis matrix, and prevention". Also, Desouza and Flanery (2013) highlight that city's intelligent planning efforts should be focused on resilience and Lu and Stead (2013) point out the importance of the concepts of knowledge-based planning. In addition to collaboration among professionals and across departments and organizations with wide range of actors, engaging citizens in the planning for resilience is emphasized.

Economic and environmental sustainability were key characteristics of the concept of resilient cities. Meerow and Stults (2016, p. 5) support this finding by stating that the majority of urban resilience definitions are more closely aligned with ecological resilience (as cited in Meerow et al., 2016). Content analysis showed that most articles addressed economic aspects

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related to the concept of resilient cities. For instance, Jabareen (2013) identified the relation between economic condition and resiliency.

Content analysis demonstrated that social aspects, particularly education and awareness are characteristic to the concept of resilient cities. The theme of increasing knowledge and awareness occurred in 9 out of 10 articles. Desouza and Flanery (2013) point out the importance of social dimension for the concept of resilient cities. They state that "people play the most critical role as they determine the creation, governance and maintenance of all other components. … Minimizing impacts to people and enabling people to bounce back from shocks is a critical criteria evaluated when measuring the resiliency of a city" (Desouza & Flanery, 2013, p. 92).

Most articles highlighted the importance of education, knowledge and awareness. Lu and Stead (2013) discuss that two characteristics of resilience are ability to learn from previous experience and ability to involve public. Knowledge exchange and sharing mutual experiences by global partnerships and networks is considered equally important in order to increase preparedness (Lu & Stead, 2013; Mehmood, 2016). In addition, Tabibian and Movahed (2016) point out the need for basic and applied research program in order to strengthen understanding, education and training in designing and managing resilient urban systems. Moreover, professional collaboration would increase knowledge and awareness about resilient city planning and design as well.

Content analyses demonstrated that issues of physical space/built environment and urban design are important components of resilient cities. Jabareen (2013) points out that spatial planning and sustainable urban form, which deals with urban design and qualities of urban form (i.e., compactness, sustainable transport, density, mixed land use, diversity, passive solar design, greening and renewal and utilization) are characteristics that support the promotion of a resilient city. Also, Lu and Stead (2013) point out that spatial planning can play an important role in promoting urban resilience through the spatial configuration of cities based on number of recent studies (as cited in Davoudi, 2009; Fleischhauer, 2008; Gleeson, 2008; IPCC, 2007). Dieleman (2013) also supports that resilience depends on city's physical form and infrastructure.

As content analysis demonstrated, the concept of resilient cities is broad and multidisciplinary. It is an umbrella concept that does not have an agreed and established universal definition. Additionally, the concept of resilient cities is connected to another broad concept such as sustainability. The most prevalent themes were process-related issues such as collaboration and participation and governance; and environmental aspects. Social aspects, particularly education and awareness and physical space and infrastructure, emerged from the selected articles as well. Several themes are interconnected, which demonstrates the complex nature of the concept.

2.7. Safe Cities

The most prevalent findings were related to safety and security, the built environment, and equity and health related issues. The occurrence of pertinent focus areas can be seen in Insert Table 7~~Table 7~~.

Insert Table 7. The occurrence of pertinent themes in data collections for Safe Cities

Content analysis showed that built environment related issues are important characteristics for the concept of safe cities. The theme addressed issues of good design, importance of

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infrastructure and amenities and walkability. However, physical design is not sufficient, people should be motivated to observe and report suspicious activity. As Chiodi (2016, p. 141) argued, "People must actually care to signal or to react to something dangerous happening, and that happens only when people are involved in the neighbourhood". Thus, place identity and place attachment are important characteristics while creating safer cities and physical planning and design can contribute to creating such places by fostering social cohesion.

Content analysis showed that equity is one of the key characteristics for the concept of safe cities. Mostly, three subtopics emerged from the content analysis – general equity concerns, gender equality and equity for low-income groups. In order to address safety Chiodi (2016) points out the importance of addressing the needs of the most vulnerable populations. It should start with a planning process that avoids social exclusion and residential enclosures and avoid physical barriers and gentrification. More precisely, gender related equity issues were addressed by Sandberg and Rönnblom (2016) and Yon and Nadimpalli (2017). Sandberg and Rönnblom highlight, that gender equality is a sign of a safe city. Equity issues also occurred within the context of the Safe Routes to School Program, by indicating that low income families could directly benefit from SRTS programs. McDonald and Aalborg (2009, p. 340) say that it is known that minority and low-income youth walk to school at rates two to three times those of white students (as cited in McDonald, 2008b). It happens mostly because they have no other options.

As data showed, the concept of safe cities focused mainly on social aspects and physical space/built environment issues. No established definitions for the concept of safe cities was documented. The major concerns were traffic safety and crime prevention. The importance of physical space and design and equity and equality issues also emerged.

2.8. Smart Cities

Based on the analysis of selected articles the prominent themes identified related to the creation of and support for a digital economy and the creation and deployment of intelligent information and communications technologies (ICT) for governance. The occurrence of pertinent themes can be seen on Insert Table 8~~Table 8~~.

Insert Table 8. The occurrence of pertinent themes in data collections for Smart Cities

The concept of smart cities is closely aligned to concepts of digital economy, digital ecosystem, or digital industry and is seen as a driver for economic success and competitiveness (Anthopoulos, 2017; Batty et al., 2012; Nathan, 2011). Anthopoulos (2017, p. 146) states, "smart city enhances local economic capacity regardless the city size". Research by de Jong et al. (2015) also illustrate that one of the characteristics of smart city is that it improves administrative and economic efficiency (as cited in Caragliu et al., 2011) and one of the six ingredients of smart city is smart economy (as cited in Giffinger and Gudrun, 2010; Lee et al., 2013). Vicini et al. (2012) also highlight the nature of a smart city as a business-oriented city, which produce socio-economic value (as cited in Schaffers et al., 2011). Important economic aspects are also evident in the research of Echeverri-Carroll and Ayala (2009, p. 623) who argue that "workers in high-tech cities earn on average 17% more than those in low-tech cities […]" and "high-tech cities actually make workers more productive".

All selected articles identified and discussed the notion of modern technology and innovation and the presence of tech-savvy workers. High-tech industries are characterized by innovative

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firms employing technology-oriented workers with at least a college degree (Echeverri-Carroll & Ayala, 2009). This supports the importance of scientific and technical knowledge and higher concentration of high skilled and educated people in smart cities.

The built environment and social networks are also important in supporting this digital economy. High tech firms have tendency to locate in clusters (Nathan & Vandore, 2014). Echeverri-Carroll and Ayala (2009) point out that the importance of 'buzz' plays important role, which is the result of the co-location of economic activities. Also, it is believed that people in a buzz environment interact and cooperate with other like-minded people (Echeverri-Carroll & Ayala, 2009).

Content analysis showed that majority of selected articles highlighted the importance of smart government (or e-government) and mobile/online services as key characteristics for smart cities. Providing online services and products are necessary in making cities smart or smarter (Batty et al., 2012; Vicini et al., 2012), for instance healthcare, mobility, wayfinding and transportation planning (incl. traffic flows, congestions), communication and information, energy controlling, safety and security etc. Contemporary digital applications serve and facilitate city planning and governance by providing "new intelligence functions that utilize much wider participation in decision-making as well as real time construction and use of a variety of simulations and optimizations relevant to decision support" (Batty et al., 2012, p. 507). Therefore, concept of smart city provides an opportunity for citizens to be more engaged and influence the governance of their cities.

The concept of smart cities is still relatively vague. There is much discussion of multiple perspectives of the concept and concept-related framework amongst scholars. However, the most prevalent theme related to smart cities is the presence of digital technologies (ICT) that aims to provide better services to citizens and facilitate local governments in city planning and management. From the perspective of digital workers, socio-cultural aspects such as face-to-face communication and the location of workspace are key characteristics.

2.9. Smart Growth

Based on the analysis of selected ten articles, five major focus areas related to "smart growth" emerged - physical space & built environment, social aspects, process related issues, economic and environmental sustainability aspects. In addition, all articles provided some explanation of the meaning of the concept. The occurrence of pertinent themes can be seen on Insert Table 9~~Table 9~~.

Insert Table 9. The occurrence of pertinent themes in data collections for Smart Growth

Content analyses demonstrated that issues of physical space and built environment occurred in the majority of selected articles. Most articles discussed or mentioned densification, compact, mixed use development with a range of housing choices and public spaces, pedestrian friendly environments that provides choices of transportation modes and good access to (basic) services and employment, as characters of smart growth. Clustered, infill and brownfield development in urban cores are also associated with smart growth. Conserving and protecting rural land and open space are also aims of the smart growth agenda.

Smart growth investments are often related to transportation oriented large infrastructure projects (Dierwechter 2013b). Filion (2003) argues, that is difficult to fight against the values, attitudes and preferences of majority of North Americans who willingly live in environments that they are most familiar with. In order to increase walking levels and provide

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and promote public transit (i.e., reduce car dependence), appropriate density should be arranged. According to Filion (2003), this would create alternatives to car dependent suburbs providing walkable environments with high densities, public spaces and services.

Similar to economic efficiency, environmental sustainability and environmental protection are overall goals for smart growth. According to Pavlot and Gorman (2013, p. 167), "Smart growth lies at the juncture of environmental policy and regional planning, with the end goal being development that is environmentally and socioeconomically sustainable and just". Also, Dierwechter (2013b, p. 2277) highlights that "smart growth involves a comprehensive strategy of regional sustainability that suggests economic efficiency, environmental protection, a high quality of life and social equity can be achieved through concerted and negotiated land use polices" (as cited in Scott, 2008, p. 17). Saving land, protecting open space, densifying urban cores with compact and mixed-use environments, reducing car dependence by providing public transport/transit modes and promoting walking and biking, encouraging energy efficiency, are all smart growth's efforts to achieve more environmentally sustainable outcomes.

Several articles illustrated the importance and effective collaboration between stakeholders, partnerships, alliances, coalitions, networks and other forms of cooperation (Tomalty & Curran, 2003). The engagement on stakeholders and different types of collaboration play key role in the concept of smart growth. "Negotiated coordination and collaboration is central to the concept of 'smartness'" in the concept of smart growth (Herrschel, 2013, p. 2333).

As content analysis demonstrated, the concept of smart growth focused mainly on the built environment, such as transportation, density, mixed use, walkability and open space. Transportation and mobility related issues were the central focus of the data. The importance of affordability, equity and collaboration and participation also emerged as well as economic and environmental sustainability aspects were addressed as key characteristics for the concept of smart growth. It can be said that compared to New Urbanism, Smart Growth is more regional and large-scale oriented and is clearly a transportation focused approach, whereas new urbanism is a more urban design focused approach.

2.10. Sustainable Cities

For the concept of Sustainable Cities three major focus areas emerged: process related issues, environmental aspects and physical space and mobility. In addition, most articles (8/10) provided various explanation of the meaning of the concept. The occurrence of pertinent themes can be seen in Table 10.

Insert Table 10. The occurrence of pertinent themes in data collections for Sustainable Cities

Content analyses demonstrated that process-related issues are important components of the concept of sustainable cities. More specifically, governance, participatory and collaborative processes and the importance of modern technology and innovation emerged. The sustainable cities concept can be considered as an umbrella for the smart city concept, particularly the themes of using modern technologies (e.g., information and communication technologies), or smart and participatory governance. In several cases, the concept of sustainable city was synonymous with eco-cities, low-carbon cities, or smart cities. Environmental sustainability is a key characteristic of sustainable cities. Improving environmental quality, environmental protection, climate change and energy efficiency are tenants of environmental sustainability within sustainable cities.

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Content analyses demonstrated that issues related to the built environment, particularly transportation and mobility are important in sustainable cities. The research of Fu and Zhang (2017b) on bibliometric studies found that in terms of physical space issues, the clustering analysis revealed high frequency keywords in 6 clusters for sustainable city such as public transport, urban form, architecture, city logistics, mobility, sustainable transport, urban park, urban planning and urban design.

As content analysis demonstrated, the concept of sustainable cities is a broad and multidisciplinary concept. The ambiguity and all-encompassing nature of sustainable cities illustrates the complexity of the concept, which seems to create confusion and provides unlimited ways of interpretations by scholars. The most prevalent themes of sustainable cities were process-related issues such as collaboration and participation and governance; environmental aspects; and mobility.

3. Discussion on Embedded Principles

The detailed analysis of each contemporary concept yielded 20 planning principle in four major categories (Table 11):

A. Built Environment
   1. Planning demonstrates clear principles of accessibility including motorized and non-motorized, pedestrian friendly amenities.
   2. Planning incorporates a mix of land uses and diversity of functions.
   3. Planning exhibits appropriate densities and promotes compact development.
   4. Planning is well designed both in terms of architecture and urban space.
   5. Planning addresses green infrastructure such as parks, public spaces and landscaped areas.

B. Natural Environment
   6. Planning values natural environments, habitats and resources.
   7. Planning addresses environmental sustainability including mitigation and minimizing of negative impacts on natural resources and reducing the carbon footprint.

C. Socio-Economic Environment
   8. Planning promotes economic growth and competitiveness.
   9. Planning addresses equity through social, economic and ethnic diversity.
   10. Planning incorporates arts, culture and heritage.
   11. Planning facilitates a sense of community cohesion and place attachment.
   12. Planning addresses the need for safe environments.
   13. Planning promotes healthy lifestyles.

D. Process and Communication
   14. Planning facilitates public education and awareness.
   15. Planning values and implements citizen participation through community engagement and collaboration.
   16. Planning promotes interdisciplinary collaboration and public-private partnerships.
   17. Planning facilitates better public policy and decision making.
   18. Planning uses innovative technology to communicate with stakeholders and residents.
   19. Planning is data driven.
   20. Planning is visionary and future oriented.

Insert Table 11. The focus on the planning dimensions across contemporary planning concepts. Color highlighting refers to clear focus on particular dimension

3.1. Built Environment

A majority of the concepts addressed at least one planning principle within the built environment dimension. New Urbanism addressed all elements and Smart Growth discussed most of the principles (4/5) in the built environment category. Smart Cities did not address or focus on any of the built environment principles. However, Creative Cities and Resilient Cities, while not directly addressing any specific principle, mentioned the importance of physical space and its qualities in a general manner. The principles most often addressed (across the concepts) were accessibility and mobility, green infrastructure and urban design and architecture.

3.2. Natural Environment

Less than half, four planning concepts addressed both principles of the natural environment category. New Urbanism, Smart Growth, Resilient Cities and Sustainable Cities have a clear focus on valuing natural environments and resources and addressing environmental sustainability. In addition, Livable Cities emphasized the importance of environmental sustainability as a fundamental characteristic of a city.

3.3. Socio-Economic Environment

All concepts addressed at least one planning principle with a socio-economic dimension. Livable Cities and Creative Cities addressed more than half of the principles with different focus. At the same time, concepts of New Urbanism, Placemaking, Sustainable Cities, Smart Growth, Healthy Cities and Resilient Cities only concentrate on one or two principles in this category. The most addressed principles (across the concepts) appeared to be equity, community cohesion and place attachment, followed by the principle of safe environments and economic growth and competitiveness.

3.4. Process and Communication

Healthy Cities, Resilient Cities, Smart Cities and Sustainable Cities addressed most of the principles in this category. Livable Cities, Placemaking, Safe Cities and Smart Growth focused only on one or two principles while concepts of Creative Cities and New Urbanism did not address any of the principles. The most common principles (across the concepts) appeared to be citizen participation and collaboration and facilitating better public policy and decision making.

It is evident that New Urbanism and Smart Growth have considerable emphasis on the Built Environment. Healthy Cities and Placemaking also deal with the built environment in a tangential manner. Natural Environment category is well addressed by New Urbanism, Resilient Cities, Smart Growth and Sustainable Cities. Livable cities and Creative Cities have significant spotlight on the Socio-Economic Environment. In terms of Process and Communication, the concepts of Healthy Cities, Resilient Cities, Smart Cities and Sustainable Cities demonstrate a strong emphasis on related planning principles. Interestingly, the concept of Safe Cities does not demonstrate a clear focus on any particular dimension. Insert Table 11~~Table 11~~ sums up the overall results of these findings demonstrating the distinctive focal points in the contemporary planning concepts as addressed in scholarly literature.

4. Conclusions

The following summarizes the major findings for each research question.

How has professional language related to creating places for people evolved over time?

Urban Planning in the US dates back to the end of the 19th century. Early movements in planning revolved around the physical infrastructure in cities and was spurred by crisis in

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sanitation and hygiene in urban settlements. For the first half of the 20th century, planning was dominated by physical or built environment movements such as the City Beautiful, the Garden City, Urban Renewal and large-scale engineering and infrastructure development. The second half of the 20th century saw the rise of the environmental and social movements in planning. As the field matured, planning became more process oriented and focus shifted to from *what* to plan to *how* to plan. Theorists discussed advocacy and equity in planning and how best to involve citizens in communicative action. Instead of big visions and movements, the planning profession focused on guiding principles for good planning practice. In recent times, however, there has been a multitude of new contemporary planning concepts that have emerged in literature and practice. In the last 25 years, ten new, significant, contemporary planning concepts have been identified: Creative Cities, Healthy Cities, Livable Cities, New Urbanism, Placemaking, Resilient Cities, Safe Cities, Smart Cities, Smart Growth and Sustainable Cities. These contemporary concepts were further explored within this study.

Professional language and/or terminology has evolved over time from big, impactful movements in the physical realm to environmental and social movements to process related theories and most recently to a multitude of contemporary, trendy urban concepts that revolve around a set of planning principles discussed earlier.

To what extent do emerging concepts in urban planning differ from one another?
This question is best answered through the lens of planning principles embedded in each of the ten contemporary concepts. In general, however, one can note that most of the concepts are similar in their scope. The difference is largely on their primary focus area. For example, New Urbanism focuses on the built environment and urban design while creative cities may focus on arts and culture as a means to attract a creative economic class. Some concepts are rather focused on a singular element such as health, safety or deployment of technology. However, even these focused concepts embody more than one planning principle. In essence, the concepts are similar in the big picture, the difference is nuanced and perhaps based on the primary focus.

What planning principles are targeted through contemporary planning concepts?
The 10 contemporary planning concepts all address multiple guiding principles in planning. A list of 20 principles were noted from the content analysis of the contemporary planning concepts.

Each concept has different focus areas and nuances in addressing the defined planning principles, but there are considerable similarities between concepts. Consequently, the most pertinent planning principles across all (10) concepts are: accessibility, transportation and mobility (represented in 7 concepts), citizen participation and collaboration (represented in 7 concepts) and green infrastructure (represented in 6 concepts). In addition, five concepts had a clear focus on the following planning principles: well-designed architecture and urban space; environmental sustainability; equity; sense of community cohesion and place attachment; and better public policy and decision making. Thus, eight out of 20 principles have major overlap across the concepts. The rest of the principles have minor overlaps across concepts based on the focus of the concept. The following Insert Table 12~~Table 12~~ summarizes these findings.
Insert Table 12. Matrix of the occurrence of planning principles across contemporary planning concepts

The urban planning profession has certainly evolved over time and the professional language around planning has changed over the years. However, planning is based on guiding principles that have withstood the test of time.

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FIGURES & TABLES

Figure 1. Display of time periods for each concept when articles occurred in search results, both databases and all search terms combined (e.g., "intelligent cities" and "tech cities"). Search criteria was set for 1990-2017.

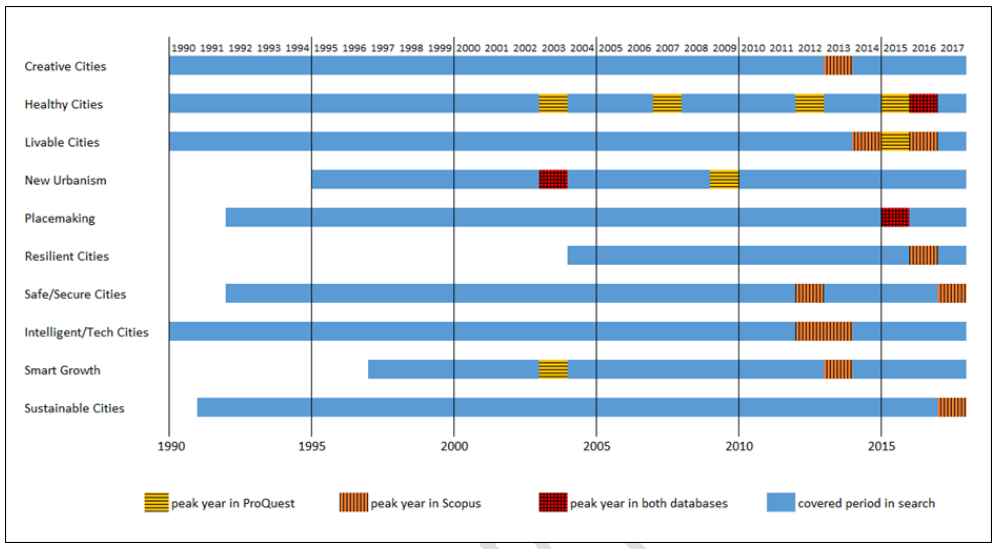

Table 1. The occurrence of pertinent themes in data collections for Creative Cities

Data Collection	Themes/Concepts	**Built/Physical environment**	Urban design	**Social aspects**	Culture, Cultural Heritage, and Arts	Human scale	Equity	Affordability	Public participation	Governance	**Economic aspects**	Branding and marketing	Fuzziness of concepts and terminology	Terms and definitions
1	(Grodach, 2013)	x	x	x	x	x	x-	x-	x	x	x	x	x	x
2	(Pratt & Hutton, 2013)	x		x	x	x	x-	x			x	x	x	x
3	(Ratiu, 2013)	x	x	x	x	x	x-	x-	x		x	x		x
4	(Darchen, 2013)		x	x-	x-	x-		x-	x	x	x	x	x	x
5	(Borén & Young, 2013b)			x	x	x-		x-		x	x	x-	x	
6	(Alamoudy, 2013)	x	x	x	x				x	x	x	x	x	x
7	(Darchen & Tremblay, 2013)	x-	x	x	x	x	x	x-	x	x	x	x		x
8	(Sasajima, 2013)	x		x	x	x	x	x-		x	x	x		x
9	(Vivant, 2013)	x		x		x	x-	x-			x-	x		
10	(Borén & Young, 2013a)				x						x		x	x
	Total:	**8**	5	**9**	**9**	**8**	**6**	**8**	5	**6**	**10**	**9**	**6**	**8**

- Negative attributes identified

Table 2. The occurrence of pertinent themes in data collections for Healthy Cities

Data Collection	Tag/Code	**Built/Physical environment**	Walkability and accessibility	Urban design	Transportation and mobility	**Social aspects**	Equity and equality	Security and safety	Health	Education and awareness	**Processes**	Public participation	Governance
1	(Kang, 2016)	x	x	x	x	x		x	x	x	x	x	x
2	(Patrick, Dooris, & Poland, 2016)					x	x		x			x	x
3	(Schwab et al., 2015)	x	x	x	x	x		x	x	x		x	x
4	(Awofeso, 2003)	x			x	x	x	x		x	x	x	x
5	(Macfarlane, Wood, & Campbell, 2015)	x	x	x	x	x	x	x	x	x	x	x	x
6	(de Blasio, Girán, & Nagy, 2012)	x				x	x		x		x	x	x
7	(Westphal & Franceschini, 2016)						x	x		x			
8	(Hu & Kuo, 2016)	x	x	x	x	x	x	x	x	x	x	x	x
9	(Miller & Tolle, 2016)	x	x	x	x	x	x	x	x		x	x	
10	(Twiss et al., 2003)	x		x		x			x	x	x	x	x
	Total:	**8**	**5**	**6**	**6**	**9**	**7**	**7**	**8**	**7**	**7**	**9**	**8**

Table 3. The occurrence of pertinent themes in data collections for Livable Cities

Data Collection	Tag/Code	**Built/Physical environment**	Walkability and accessibility	Urban design	Transportation and mobility	**Social aspects**	Security and safety	Health	Education and awareness	Public participation	**Environmental aspects**	Environmental Sustainability	**Economic aspects**	Terms and definitions
1	(Zanella, Camanho, & Dias, 2015)	x	x		x		x	x	x		x	x	x	x
2	(Ruth & Franklin, 2014)	x				x				x	x	x		x
3	(Safavi, Taghi, & Kohestani, 2014)	x	x	x	x	x	x	x	x	x	x	x	x	x
4	(Teo, 2014)	x	x	x		x				x-			x	x
5	(Maghsoodi Tilaki, Abdullah, Bahauddin, & Marzbali, 2014)	x	x	x	x	x	x	x		x	x		x	x
6	(Saitluanga, 2014)	x	x			x	x	x	x	x	x	x	x	x
7	(Harris, Roche, Estlund, Mense, & Baker, 2014)	x	x	x	x			x		x				
8	(Rosales, 2007)		x	x	x	x	x		x	x			x	
9*	(Svara, Watt, & Takai, 2015)	x			x		x	x	x	x	x	x	x	x
10*	(Porio, 2015)		x	x			x	x	x		x	x	x	
	Total:	**8**	**8**	**6**	**6**	**6**	**7**	**7**	**6**	**8**	**7**	**6**	**8**	**7**

* Article addresses multiple concepts
- Negative attributes identified

Table 4. The occurrence of pertinent themes in data collections for New Urbanism

Data Collection \ Tag/Code		**Built/Physical environment**	Walkability and accessibility	Mixed use	Density	Open space	Urban design	Transportation and mobility	Human scale	Environmental sustainability
1	(Berke et al., 2003)	x	x	x	x	x	x		x	x
2	(Southworth, 2003)	x	x	x	x	x	x	x	x	x
3	(Day, 2003)	x	x	x	x	x	x	x	x	x
4	(Thompson-Fawcett, 2003)	x					x			
5	(Grant, 2003)	x	x	x	x	x	x	x	x	x
6	(Greenwald, 2003)	x	x	x	x	x	x	x	x	x
7	(Lee & Ahn, 2003)	x	x	x	x	x	x	x	x	
8	(Song & Knaap, 2003)	x	x	x	x	x	x	x	x	x
9	(Wang, 2009)		x	x					x	
10	(Sands, 2009)	x	x	x	x	x	x	x	x	
	Total:	**9**	**9**	**9**	**8**	**8**	**9**	**7**	**9**	**6**

Table 5. The occurrence of pertinent themes in data collections for Placemaking

Data Collection	Themes/Concepts	**Built/Physical environment**	Urban design	Human scale	**Processes**	Public participation	Terms and definitions
1	(Balassiano & Maldonado, 2015)			x	x	x-	x
2	(Denov & Akesson, 2013)	x		x			x
3	(Rios & Watkins, 2015)	x	x	x	x		x
4	(Gleye, 2015)	x	x				
5	(Fields, Wagner, & Frisch, 2015)	x	x	x	x	x-	x
6#	(Marsden, 2013)						
7	(Cheshmehzangi, 2015)			x			
8	(Cilliers, Timmermans, Van den Goorbergh, & Slijkhuis, 2015)	x	x	x	x	x	x
9#	(Marsden & Farioli, 2015)						
10	(Severcan, 2015)			x	x	x	x
	Total:	**5**	**4**	**7**	**5**	**4**	**6**

Not relevant
- negative attributes identified

Table 6. The occurrence of pertinent themes in data collections for Resilient Cities

Data Collection \ Tag/Code		**Built/physical environment**	Urban design	**Social aspects**	Education and awareness	**Processes**	Public participation	Governance	**Environmental aspects**	Environmental sustainability	**Economic aspects**	Fuzziness of concepts and terminology	Terms and definitions
1	(Jabareen, 2013)	x	x	x	x	x	x	x	x	x	x	x	x
2*	(Tabibian & Movahed, 2016)	x	x	x	x	x	x	x	x	x	x		x
3	(Meerow & Stults, 2016)	x			x	x	x	x	x	x	x	x	x
4	(Beatley & Newman, 2013)	x	x	x	x	x	x		x	x	x		x
5	(Yanez & Kernaghan, 2014)	x			x	x	x	x	x	x			
6	(Desouza & Flanery, 2013)	x	x	x	x	x	x	x	x		x	x	x
7	(Lu & Stead, 2013)	x		x	x	x	x	x	x	x	x	x	x
8	(Dieleman, 2013)	x	x	x	x	x	x	x	x	x	x	x	x
9	(Mehmood, 2016)			x	x	x	x		x	x			x
10*	(de Jong, Joss, Schraven, Zhan, & Weijnen, 2015)		x			x		x	x	x	x	x	x
	Total:	**8**	**6**	**7**	**9**	**10**	**9**	**8**	**10**	**9**	**8**	**6**	**9**

* Article addresses multiple concepts

Table 7. The occurrence of pertinent themes in data collections for Safe Cities

Data Collection	Tag/Code	Built/Physical environment	Equity and equality	Security and safety	Health
1	(Chiodi, 2016)	x	x	x	
2	(Gribanova & Vulfovich, 2017)	x	x	x	x
3#	(George & Mawby, 2015)				
4	(Sandberg & Rönnblom, 2016)		x	x	
5#	(Keramitsoglou et al., 2017)				
6	(Yon & Nadimpalli, 2017)		x-		
7	(Frayne & McCordic, 2015)	x			x
8	(Cradock, Fields, Barrett, & Melly, 2012)	x		x	x
9	(Stewart, Vernez Moudon, & Claybrooke, 2012)	x		x	x
10	(McDonald & Aalborg, 2009)	x	x	x	x
	Total:	**6**	**5**	**6**	**5**

Not relevant
- Negative attributes identified

Table 8. The occurrence of pertinent themes in data collections for Smart Cities

Data Collection	Tag/Code	**Built/Physical environment**	Services	Education and awareness	Governance	Modern technology and innovation	**Economic aspects**	Fuzziness of concepts and terminology	Terms and definitions
1	(Echeverri-Carroll & Ayala, 2009)	x	x	x		x	x	x	x
2	(Batty et al., 2012)	x	x	x	x	x	x	x	x
3	(Nathan & Vandore, 2014)	x	x		x	x	x		
4*	(de Jong, Joss, Schraven, Zhan, & Weijnen, 2015)	x	x	x	x	x	x	x	x
5	(Schuurman, Baccarne, & De Marez, 2012)			x	x	x	x	x	x
6	(Malek, Razak, & Nor, 2012)		x			x			x
7#	(Bunnell, 2015)								
8	(Vicini, Bellini, & Sanna, 2012)		x	x		x	x	x	x
9	(Foord, 2013)	x		x	x	x			x
10	(Nathan, 2011)	x		x	x	x	x		
11*	(Anthopoulos, 2017)	x	x		x	x	x	x	x
	Total:	**7**	**7**	**7**	**7**	**10**	**8**	**6**	**8**

* Article addresses multiple concepts
\# Not relevant

Table 9. The occurrence of pertinent themes in data collections for Smart Growth

Data Collection \ Tag/Code		**Built/Physical environment**	Walkability and accessibility	Mixed use	Density	Open space	Transportation and mobility	Equity	Affordability	Public participation	Environmental Sustainability	**Economic aspects**	Terms and definitions
1	(Yang & Stockard, 2013)	x	x-	x-	x-	x	x-	x-	x-				x
2	(MacLeod, 2013)		x	x	x	x	x-	x-	x	x-	x		x
3	(Dierwechter, 2013b)			x	x	x	x	x			x		x
4	(Goetz, 2013)	x	x	x	x		x			x		x	x
5	(Pavlot & Gorman, 2013)	x	x	x	x-	x-	x-	x	x-	x-	x	x-	x
6	(Dierwechter, 2013a)			x	x	x	x-	x-	x-	x		x	x
7	(McCauley & Murphy, 2013)	x	x	x	x	x	x		x	x		x	x
8	(Filion, 2003)	x	x	x	x	x	x				x	x	x
9	(Tomalty & Curran, 2003)	x	x	x	x		x	x	x	x	x	x	x
10	(Herrschel, 2013)	x				x	x		x-	x	x	x	x
	Total:	**7**	**7**	**9**	**9**	**8**	**10**	**6**	**7**	**7**	**6**	**7**	**10**

- Negative attributes identified

Table 10. The occurrence of pertinent themes in data collections for Sustainable Cities

Data Collection	Tag/Code	**Built/physical environment**	Walkability and accessibility	Urban Design	Transportation and mobility	**Social aspects**	Services	Equity	Public participation	Governance	Modern technology and innovation	**Environmental aspects**	Environmental sustainability	**Economic aspects**	Fuzziness of concepts and terminology	Terms and definitions
1	(Fu & Zhang, 2017b)	x		x	x	x	x	x	x	x	x	x	x	x	x	x
2	(Ahvenniemi, Huovila, Pinto-Seppä, & Airaksinen, 2017)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
3	(Bibri & Krogstie, 2017)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4*	(Anthopoulos, 2017)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	(Haarstad, 2017)				x	x	x		x	x	x	x	x	x	x	x
6	(Griggs, Hall, Howarth, & Seigneuret, 2017)				x	x		x	x	x	x	x	x	x	x	
7	(Mosannenzadeh et al., 2017)				x	x	x		x	x	x	x	x	x	x	x
8	(Fu & Zhang, 2017a)	x	x	x	x	x	x			x	x	x	x	x		x
9	(Hamman, Anquetin, & Monicolle, 2017)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	(Roggema, 2017)		x	x	x	x		x	x	x	x	x	x	x		x
	Total:	**6**	**6**	**7**	**10**	**10**	**8**	**7**	**9**	**10**	**10**	**10**	**10**	**10**	**8**	**8**

* Article addresses multiple concepts

Table 11. The focus on the planning dimensions across contemporary planning concepts. Color highlighting refers to clear focus on particular dimension

Category/Dimension of Planning principles:	Planning Concept	Creative Cities	Healthy Cities	Livable Cities	New Urbanism	Placemaking	Resilient Cities	Safe/Secure Cities	Smart Cities	Smart Growth	Sustainable Cities
1	Built Environment [with 5 principles]		**3**	2	**5**	**3**	1	2		**4**	2
2	Natural Environment [with 2 principles]			1	**2**		**2**			**2**	**2**
3	Socio-Economic Environment [with 6 principles]	**4**	2	**5**	1	1	2	3	3	2	1
4	Process and Communication [with 7 principles]		**6**	1		1	**6**	2	**4**	2	**4**

Table 12. Matrix of the occurrence of planning principles across contemporary planning concepts

Planning principles: Planning… / Planning Concept		Creative Cities	Healthy Cities	Livable Cities	New Urbanism	Placemaking	Resilient Cities	Safe/Secure Cities	Smart Cities	Smart Growth	Sustainable Cities
1	…demonstrates clear principles of accessibility including motorized and non-motorized, pedestrian friendly amenities.		x	x	x	x		x		x	x
2	…incorporates a mix of land uses and diversity of functions.				x					x	
3	…exhibits appropriate densities and promotes compact development.				x					x	
4	…is well designed both in terms of architecture and urban space.		x	x	x	x		x			
5	…addresses green infrastructure such as parks, public spaces and landscaped areas.		x		x	x	x			x	x
6	…values natural environments, habitats and resources.				x		x			x	x
7	…addresses environmental sustainability including mitigation and minimizing of negative impacts on natural resources and reducing the carbon footprint.			x	x		x			x	x
8	…promotes economic growth and competitiveness.	x		x					x	x	
9	…addresses equity through social, economic and ethnic diversity.	x					x	x		x	x
10	…incorporates arts, culture and heritage.	x		x					x		
11	…facilitates a sense of community cohesion and place attachment.	x		x	x	x			x		
12	…addresses the need for safe environments.		x	x			x	x			
13	…promotes healthy lifestyles.		x	x				x			
14	…facilitates public education and awareness.		x				x	x			
15	…values and implements citizen participation through community engagement and collaboration.		x	x		x	x		x	x	x
16	…promotes interdisciplinary collaboration and public-private partnerships.		x				x			x	x

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17	…facilitates better public policy and decision making.		x				x	x	x		X
18	…uses innovative technology to communicate with stakeholders and residents.		x						x		X
19	…is data driven.		x				x		x		
20	…is visionary and future oriented.						x				