Visioning In Urban Planning- A Critical Review and Synthesis

by

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ABSTRACT

Planners are often involved in the development of 'visions' for specific projects or larger plans. These visions often serve as guideposts for more specific plans or projects and the visioning process is important for involving community members into the planning process. This paper provides a review of the recent literature published about visioning and is intended to provide guidance for visioning activities in planning projects. I use the general term "vision" in reference to a desirable state in the future. The body of academic literature on visioning in planning has been growing over the last decade. However, the planning literature on visioning is diverse and dispersed, posing various challenges to researchers and planners seeking guidance for their own planning (research) activities. For one, relevant articles on visioning are scattered over different strands of literature ranging from traditional planning literature (*Journal of the American Planning Association, Planning Practice and Research*, etc.) to less traditional and intuitive sources (*Futures, Journal of Cross-Cultural Psychology*). Further, some of them not easily identifiable and may not be openly accessible via the Internet. Thus, our review intends to help collect and synthesize this literature and begin to provide guidance for the future of visioning in the field of planning. I do this by compiling visioning literature from different strands of the planning literature, synthesizing key insights into visioning in (urban) planning, undertaking exemplary appraisals of visioning approaches in planning against quality criteria, and deriving conclusions for visioning research and practice. From this review, I highlight areas of opportunity and ways forward in order to make visioning more effective and more influential for the future of communities throughout the world.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. Introduction

Planners are often involved in the development of 'visions' for specific projects or larger plans. These visions often serve as board guideposts for more specific plans or projects, and are important processes for involving community members into the planning process. This paper provides a review of the recent literature published about visioning and is intended to provide guidance for visioning activities in planning projects. I use the general term "vision" in reference to a desirable state in the future (Shipley & Newkirk, 1999). Visions can be operationalized in specific (qualitative and quantitative) goals and targets. As such, visions are a subgroup of scenarios (possible future states) and demarcated from predictions (likely future states). In a strict sense, a vision is also different from the pathway that leads up to the vision. Visioning is the process of creating a vision in a more or less structured and reproducible way, as opposed to scenario building (possible future states), forecasting (likely future states), and backcasting (pathways to desirable future states).

The body of academic literature on visioning in planning has been growing over the last decade. However, the planning literature on visioning is diverse and dispersed, posing various challenges to researchers and planners seeking guidance for their own planning (research) activities. For one, relevant articles on visioning are scattered over different strands of literature ranging from traditional planning literature (*Journal of the American Planning Association*, *Planning Practice and Research*, etc.) to less traditional and intuitive sources (*Futures*, *Journal of Cross-Cultural Psychology*). Further, some of them not easily identifiable and may not be openly accessible via the Internet. Thus, our

review intends to help collect and synthesize this literature and begin to provide guidance

for the future of visioning in the field of planning. I do this by pursuing four objectives:

1. To compile visioning literature from different strands of the planning literature

2. To synthesize key insights into visioning in (urban) planning

3. To undertake exemplary appraisals of visioning approaches in planning against quality criteria and design guidelines

4. To derive conclusions for visioning research and practice

Wiek & Iwaniec (in press) have addressed objectives #1 and #4 in a broad review of visioning literature with a particular focus on sustainability research and practice. I focus this review on academic planning literature, with special emphasis on urban planning. I only include literature published in peer-reviewed journals in order to reflect the primary academic discourse. Articles were selected from the major planning journals including the *Journal of the American Planning Association, Journal of Planning Literature, Journal of Planning Education and Research, Planning Practice and Research, Environment and Planning A* and *B, International Planning Studies*. However, I also found contributions from publications outside of the traditional planning literature in journals such as the *Journal of Urban Technology* and *Local Economy.*

The articles for this review were complied through a Google Scholar search that was performed between May and August 2012. The key search terms included "visioning in (urban) planning", "community visioning", "community visioning studies", "visual preference survey", "public participation in visioning and planning", and "visioning in transportation planning". I did not systematically browse these journals, since I was

interested in what would be most publically available to practitioners who may be looking for information on visioning. Further, I did not include any books, handbooks, or articles that were not found in peer-reviewed journals. I did not discriminate the journals that were included and thus have articles from many different fields of study including some that are not directly related to planning. From the available articles, I only included articles that explicitly described or evaluated a visioning study or a method used in a visioning methodology (i.e. methods for preference elicitation, visualization techniques, consensus building). I excluded articles that only tangentially mentioned visioning or those that did not use visioning for a planning purpose. I also did not include studies that focused solely on scenarios or scenario planning, since the creation of visions is a more specific activity than general scenario planning. Using this search method, I complied a list of 37 articles that can be found in table 1.

The paper is structured as follows: I first provide an initial overview of the pertinent literature on visioning in planning (Section 2). In Section 3, I synthesize this literature by organizing the identified visioning methods into functional clusters. In Section 4, I apply design guidelines for visioning and indicate where the visioning literature shows gaps and needs extensions. I then give an example of how to appraise selected visioning approaches against the presented design guidelines in order to provide a mechanism for uncovering deeper insights into the state of the art in visioning in planning. I discuss the insights from the review in Section 5, and draw conclusions in Section 6.

2. The Spectrum of Literature on Visioning in Planning- An Initial Overview

I provide an initial overview of pertinent literature on visioning in planning. Table 1 compiles the key features of 37 studies and indicates the variance across the relevant literature with respect to: 1) the journals publishing articles on visioning in planning; 2) the publishing dates; 3) the main topics; 4) the locations where visioning studies take place; and 5) the specific contributions to visioning in planning. This initial overview provides the base on which I will explore specific methodological issues in the next sections.

Table 1. Overview of relevant literature on visioning in planning (ordered by ascending year)

Title	*Reference*	*Journal*	*Year*	*Topic*	*Location*	*Contribution*
Scenarios and priorities in transport planning: Application to the Sudan	Saaty, T.	Transportation Research	1977	Models & scenarios in planning; Preference elicitation	Sudan, Africa	Presents a project that used scenario planning as a way to evaluate alternative plans and elicit priorities and preferences. Method of prioritization is based on an "importance scale" and a hierarchical structure was used to rate alternative options, and included consideration of future impact, feasibility and desirability
Urban planning: Using a Delphi as a decision-making aid	Morgan et al.	Public Administration Review	1979	Consensus building	Norman, OK, USA	Provides instructions on undertaking Delphi surveys as a consensus-building tool and provides and example case study of its use.
Visual preference in enclosed urban spaces: An exploration of a scientific approach to environmental design	Im, S.	Environment and Behavior	1984	Visual Preference Survey	Virginia Institute of Technology, Virginia, USA	Presents a study that involved VPS for enclosed, urban spaces. Empirically justified the reliability and validity of the technique to reveal preference for characteristics of visual quality of urban spaces.
Visual preferences in urban street scenes: A cross-cultural comparison between Japan and the United States	Nasar, J.	Journal of Cross-Cultural Psychology	1984	Visual Preference Survey	Japan and the USA	Describes the use of VPS to conduct a cross-cultural comparison of environmental preferences (such as preference for organization in the landscape) based visual aspects of the human-made environment (i.e. preference for scenes without traffic).

Title	Reference	Journal	Year	Topic	Location	Contribution
Imagining land use futures: Applying the California urban future model	Landis, J.	Journal of the American Planning Association	1995	Models & scenarios in planning	San Francisco Bay area and Sacramento, CA, USA	Discusses a technique to generate realistic alternatives for regional and subregional planning and policy. Offers insights to visualization of different futures and may have utility in both critical analysis of a vision as well as eliciting preferences/ priorities for a vision.
A stated choice model of sequential mode and destination choice behavior for shopping trips	Timmermans, H.	Environment and Planning A	1996	Preference elicitation	Eindhoven, Netherlands	Proposes a method that helps elicit preferences and preferred choices. Finds that it is important to uncover sequential choices (rather than a single choice) when considering preferences within a whole vision. The proposed method is a way to extend current stated preference and choice methods to allow analysis of more system-level decision-making.
Collaborative visioning: Proceed with caution! Results from evaluating Atlanta's Vision 2020 project	Helling, A.	Journal of the American Planning Association	1998	Evaluation of Visioning	Atlanta, GA, USA	Provides evaluation of a large-scale visioning process. Uncovered flaws that created barriers to success: Setting process rather than outcome objectives; requiring consensus without having space to compromise; de-emphasizing the importance of planning expertise and information. Offers several fundamental questions that should be considered before commitment resources to a visioning project: What are the purposes and goals? What is the timetable? How will results be measured? Will the process be representative? What is the opportunity cost? What will the project add to planning?
Organic planning: A new approach to public participation in local governance	Plein, Green & Williams	The Social Science Journal	1998	Community visioning	USA and Canada	Describes a community visioning process that was citizen-led and part of a larger public planning effort. Highlights the advantage of publicly led processes, which include increased inclusion and diversity, as well as an increase in the tangibility of the vision.

Title	Reference	Journal	Year	Topic	Location	Contribution
Visioning: Did anybody see where it came from?	Shipley & Newkirk	Journal of Planning Literature	1998	History of visioning		Research helps to understand the origin and evolution of visioning in the field of planning. Uncovers a lack of sound theory and effective evaluation of visioning, and challenges researchers and planners to find an applicable theory that is specific to the discipline and to create methods to monitor the effectiveness of the visions we propose.
Constructing the future in planning: A survey of theories and tools	Myers & Kitsuse	Journal of Planning Education and Research	2000	Visualization in participatory planning; Models & scenarios in planning		Presents a suite of theories and tools that, if used together, provide a toolkit for the construction and visualization of scenarios and visions in planning. With well-grounded (not abstract) visions, planners can then help communities negotiate preferred alternative futures and ensure that they are feasible.
The origin and development of vision and visioning in planning	Shipley, R.	International Planning Studies	2000	History of visioning		Provides history of the terms visions and visioning with intention of providing researchers and practitioners with background that might help them better assess the legitimacy of vision concepts that they may encounter.
Visualization tools and methods for participatory planning and design	Al-kodmany, K.	Journal of Urban Technology	2001	Visualization in participatory planning		Offers insights into visualization methods that can be used for visioning in planning, in particular when conducted with public engagement. Provides a general map and recommendations for planners regarding appropriate applications for both technology-based tools (computers) and traditional tools (pen and paper).
Using a visual preference survey in transit design	Ewing, R.	Public Works Management and Policy	2001	Visual Preference Survey	Sarasota County, FL, USA	Describes an application of VPS and its applications in preference elicitation. It can reveal the most preferred and promising ideas/visions and help planners choose where to devote time and finances. It can help participants visualize the future and can sort out the most important features from the many other, less important features to create a more comprehensive and motivating vision.

Title	Reference	Journal	Year	Topic	Location	Contribution
Shaping a regional vision: The case of Northern Ireland	Mceldowney & Sterrett	Local Economy	2001	Community visioning	Northern Ireland	Evaluation of a public visioning exercise in a politically polarized community. Shows that consensus is not always achievable in a society characterized by unequal power and access to resources. Transparency about the values driving the process and allowing for a participatory democracy is a better way of addressing the hard issues of resource distribution and social injustice than traditional planning practices.
City visioning and the turn to community: The case of Derry/Londonderry	Murtagh, B.	Planning Practice and Research	2001	Community visioning	Derry and Londonderry, Ireland	Describes a visioning process to address social and ethno-religious segregation. Recommends 'listening' strategies to better mobilize community interests around some common issues. It is important to ask people in a simple but structured way about their concerns as it creates a more meaningful discourse about community interests.
Visioning in planning: Is the practice based on sound theory?	Shipley, R.	Environment and Planning A	2002	History of visioning		Intends to help practitioners and researchers better understand the underlying rationale or theory behind visioning by clarifying what visioning claims to be doing and exposing the tension between theory and practice. Planners should clearly state what they actually mean by the term vision/visioning, and should critically evaluate the effectiveness of projects based on the intended meaning.
Scenario visualization for participatory landscape planning- A study from Denmark	Tress & Tress	Landscape and Urban Planning	2003	Models & scenarios in planning; Visualization in participatory planning	Kravlund, Denmark	Presents a technique for scenario visualization by photorealistic design. Technique proved to be a helpful tool for researchers in communicating proposed changes in landscape to the public and to representatives from administration.

Title	Reference	Journal	Year	Topic	Location	Contribution
Community visioning: Facilitating informed citizen participation in Local Area Planning on the Gold Coast	Cuthill, M.	Urban Policy and Research	2004	Community visioning	Mermaid Beach, Gold Coast, AUS	Describes a specific community visioning process and discusses successes and constraints. Success factors: Use of valid and reliable information, use of a multi-disciplinary project team, extensive communication. Constraints: limited time and capacity of community members to participate, due to employment or socio-demographic barriers, or lack of citizen trust in governments.
Sustainable future urban mobility: Using 'area development negotiations' for scenario assessment and participatory strategic planning	Loukopoulous & Scholz	Environment and Planning A	2004	Preference elicitation	Gothenburg, Sweden	Proposes a technique for revealing preferences and creating consensus around future urban scenarios. The technique is thought to enrich planning decisions by projecting potential and expected futures more effectively and allowing understanding of why certain future urban scenarios are preferred to others. It will also help in enhancing public involvement in planning.
Evaluating municipal visioning	Shipley et al.	Planning Practice and Research	2004	Evaluation of visioning	Region of Waterloo, CAN	List of general recommendations to refine the practice of visioning based on evaluation of city visions. Evaluations showed that there often exists a difference in expectations between staff and citizens undertaking visioning and that participant satisfaction with visioning processes often varied.
'Where has the future gone?' Rethinking the role of integrated land-use models in spatial planning	Couclelis, H.	Environment and Planning A	2005	Models & scenarios in planning		Discusses the role of land-use models in future-oriented planning and how they can support visualization of visions and scenarios. They can also support in the elicitation of preferences, since they can be built to back-cast from desirable futures and make visions more plausible and tangible.

Title	Reference	Journal	Year	Topic	Location	Contribution
Visioning diversity: Planning Vancouver's multicultural communities	Uyesugi & Shipley	International Planning Studies	2005	Community visioning	Vancouver, CAN	Example of community visioning that is highly tailored to the locality and is one of the first explicitly multicultural processes for community planning.
New visions for old cities: The role of visioning in planning	Gaffikin & Sterrett	Planning Theory and Practice	2006	Evaluation of visioning	US and UK; Derry, Londonderry and Belfast (Ireland)	Evaluates a visioning process in Northern Ireland and identifies key levers for success based on this case study: Process needs legitimacy derived from authority of key stakeholders, including marginalized groups; process needs to incorporate an incentive framework that bind partners into a process; process needs strong leadership that spans across boundaries and institutions
Can vision motivate planning action?	Shipley & Michela	Planning Practice and Research	2006	Evaluation of visioning		Conducts a controlled experiment aimed at understanding whether and how visions have their intended effects in future planning with a focus on how they are communicated and acted upon. Finds there must be a strong connection between the goals in the vision and the values held by community members. The more effective visionary presentations and processes are those that engage both the hearts and minds of community members.
Transportation and land-use preferences and residents' neighborhood choices: The sufficiency of compact development in the Atlanta region	Levine & Frank	Transportation	2007	Visual Preference Survey	Atlanta, GA, USA	Discusses the application of a VPS to elicit and understand the preferences of residents for different land use and transportation characteristics in a neighborhood.

Title	Reference	Journal	Year	Topic	Location	Contribution
Neighborhood planning as collaborative democratic design	Sirianni, C.	Journal of the American Planning Association	2007	Community visioning	Seattle, WA, USA	Presents an example of a community visioning process that was developed and run by neighborhoods. The city gave them resources and support to undertake visioning and deliberative planning, and the process resulted in neighborhood commitment and accountability in future planning. Concludes that inclusive visioning is one of the five keys to successful collaborative neighborhood planning.
Preferences of suburban residents in Thunder Bay, Ontario towards neighborhood intensification and rediversification	Randall, T.	Canadian Journal of Urban Research	2008	Visual Preference Survey	Thunder Bay, Ontario, CAN	Presents an application of VPS to uncover perceptions and preferences for dwelling types, intensity of land use, and multi-used developments.
Developing ordinary cities: City visioning processes in Durban and Johannesburg	Robinson, J.	Environment and Planning A	2008	Community visioning	Durban and Johannesburg, South Africa	Presents a city visioning process that highlights visioning within a divided and diverse locality. Visioning offers opportunities to frame development priorities in an inclusive and balanced fashion. Recommends visioning processes be tailored to embrace the uniqueness of each city, and recommends that practitioners look beyond urban theory to find the best visions and strategies.
Community visioning process: A tool for successful planning	Elkins et al.	Journal of Higher Education Outreach and Engagement	2009	Community visioning	Barnesville, GA, USA	Describes a community visioning process and discusses lessons learned: Community needs assistance in initial steps of implementation; city should commit a staff member to act as coordinator for implementation; it is critical to set dates for all meetings before the process begins; need to customize the process for the community; complete community buy-in is necessary for success.

Title	Reference	Journal	Year	Topic	Location	Contribution
Multilevel spatial visions and territorial cohesion: Italian regional planning between the TEN-T corridors, ESDP polycentrism and governmental 'strategic platforms'	Fabbro & Mesolella	Planning Practice and Research	2010	Multi-level visions	8 regions in Italy	Discusses a study that evaluated visions at multiple levels of governance (regional, national, and international) to reveal the importance of coordination between visions within a region. Emphasizes the importance of having a common structure and common terminology in order to have successful and consistent regional visions.
Forest story cards: A visual survey tool	Smith, S.	Journal of Extension	2010	Visual Preference Survey	Pennsylvania, USA	Application of VPS as a way to help individuals communicate and make associations about their life experiences, concerns, and hopes for their communities. It was found that they are useful when addressing issues and topics about which participants lack shared background or experience.
Planning, technology, and legitimacy: Structured public involvement in integrated transportation and land-use planning in the United States	Bailey et al.	Environment and Planning B	2011	Visualization in participatory planning	Jeffersonville, IN, USA	Provides an example of a technique (geovisualization) for visualization of different future scenarios to enhance public participation in planning.

Title	Reference	Journal	Year	Topic	Location	Contribution
Public engagement for informing science and technology policy: What do we know, what do we need to know, and how will be get there?	Pytlikzillig & Tomkins	Review of Policy Research	2011	Public engagement in participatory planning	US & the UK	Provides guidance for determining what kinds of engagement techniques are optimal for specific purposes. Proposes a variety of methods and participatory settings for different visioning activities, such as vision element elicitation and discussion, elicitation of preferences, and group deliberation settings.
Future visioning of local climate change: A framework for community engagement and planning with scenarios and visualization	Sheppard et al.	Futures	2011	Visualization in participatory planning; Modeling & scenarios in planning	Delta, BC, CAN	Proposes a framework that includes scenario planning, visualization, and visioning in order to better engage the public with climate change adaptation planning. Visioning processes that discuss issues such as climate change at the community-scale can build awareness, capacity, and agency among community members. Ensuring a link to visualization fosters broader communication of the scenarios and vision.
Multiple-case study of landscape visualizations as a tool in transdisciplinary planning workshops	Schroth et al.	Landscape Journal	2011	Visualization in participatory planning	Entlebuch, Switzerland	Presents three case studies that employed 3-D visualization to discuss different elements of a future landscape. Found that visualization significantly improved the participatory planning process of workshops as compared to static computer images, as it contributed to a better-informed dialogue and a more consensus-oriented process for participants. It also promoted more mutual understanding and learning between the researchers and the participants.
State preference methods: An introduction	Kroes & Sheldon	Journal of Transport Economics & policy	2012	Preference elicitation	Britain and Manchester, UK	Discusses a technique to elicit preferences and its usefulness in future-oriented planning, since the preferences revealed are related to what is desirable to participants in future visions.

This initial overview yields a number of insights into the current state of the discourse on visioning in planning. First, researchers and practitioners in many different fields develop, test, and refine approaches and practices for visioning in planning, as indicated by the variety of journals that have published on visioning. While there are many contributions from traditional planning fields, such as transportation or land use planning, there are also influences from fields like psychology, policy management, and future studies. This opens up opportunities for joint and crosscutting explorations and tests of visioning techniques and procedures. However, without collaboration across different fields, further development and innovation may be left unrealized and underutilized.

Second, researchers have been publishing work related to visioning since 1977 (Saaty, 1977) with a study about eliciting preferences for alternative future scenarios, and work on visioning continues to be published through the present time. This time range shows that the topic and practice of visioning has continued to be important for the field of planning for more than three decades. Each subsequent study thus has a larger, more comprehensive body of research to build from, and with the proper collaboration and synthesis (as recommended in this paper), each visioning study should get progressively more advanced and allow for the creation of processes that have more refined methods and techniques and produce more robust visions.

Third, considering the topics of each study, I find that there is a lack of rigorous visioning evaluation amongst the sample of literature (only 4 out of 37 articles were explicitly evaluative). There are a handful studies that do attempt to evaluate their own

14

visioning processes (Robinson, 2008; Uyesugi & Shipley, 2005; Cuthill, 2004; Murtagh, 2001) but they mostly report on participants' perceptions about their involvement. There are only a small number of studies, such as Helling (1998) and Gaffikin & Sterrett (2006) that examine any tangible results from the visioning process (visions, plans, programs, policies, etc.). Going forward it will be important to have more comprehensive, objective evaluations of visioning content, methods and processes in order to allow continual refinement of the process and the creation of more influential visions. Further, there has been substantial research and writing about visualization techniques and their advantages and disadvantages. With the many frequent technological advances in the age of digital communication such as the rise of smart phones, there is a subsequent shift towards digital and online tools used for visioning. By linking these digital tools with the mass communication devices that currently exist, many more people can be included into visioning processes.

This leads us to the fourth key finding: that visioning is being undertaken throughout the world and in both developed (US, Canada, the UK) and less developed countries (Africa). This shows that the benefits of visioning can be realized in all types of communities. It also forces us to consider how visioning can be adapted to meet the different needs of each of these areas. The availability of certain technologies or levels of capacity will likely vary greatly between visioning studies, thus there must be a full suite of tools, techniques and methods available so that practitioners can still undergo robust visioning in any situation.

The fifth point to be made from this table of literature is that, although there were only ten general topics that were covered by the 37 articles, there were 37 distinct contributions to the topic of visioning in planning. Table 1 shows the frequency of each topic within the body of literature that was presented. There were eight articles written about a community visioning study, and each study provided different lessons learned, discussed different successes and barriers, and provided insights into visioning in different contexts (multi-cultural visioning, politically polarized visioning, community-led visioning, ect). From this finding, it is possible to conceive that, if considered together, all of these insights and findings can lead the sophisticated and robust visioning processes that I call for in this review. Yet, it is apparent that the field and study of visioning would benefit immensely from collaboration and synthesis, so that practitioners and researchers who wish to undertake visioning can avoid reinventing the wheel and instead work and create the most cutting-edge visioning processes that are possible. In Sections 3 and 4 below, I attempt to provide this type of synthesis of the literature on visioning. Section 3 describes the different tools and methods that have been used within these visioning studies and to show where within the visioning process they are applicable. Section 4 provides an analysis of some of these methods in the form of an evaluation against quality criteria for visions. This evaluation uncovers the opportunities and limitations of some of the methods in Section 3, and the two sections together begin to provide a road map to help practitioners assemble an appropriate suite of methods in order to undertake a more comprehensive and high-quality visioning process.

Table 2: Frequency of topics discussed within the body of literature reviewed

Topic	Number of articles addressing the topic (some articles may address multiple topics)
Community visioning	8
Models & scenarios in planning	6
Visualization in participatory planning	6
Visual Preference Survey	6
Evaluation of visioning	4
Preference elicitation	4
History of visioning	3
Public engagement in participatory planning	2
Consensus building	1
Multi-level visions	1

3. Functional Clusters of Visioning Methods

In order to get a deeper insight into the current state of visioning in planning, I present the following clusters of visioning *methods* (approaches, tools, techniques, etc.). The methods here are *functionally* clustered with respect to their intended use within the visioning process. In most of the literature, this process is structured into two stages: *Eliciting* vision elements (gathering the ingredients); and *Creating* the vision (combining the ingredients). Some visioning processes are more refined and include steps such as analyzing, revising, and finalizing vision drafts to ensure the resulting vision is consistent, plausible, and systemic (Iwaniec and Wiek, under review). However, I only distinguish between the phases of eliciting and creating, as they consistently appear in all

visioning studies. Figure 1 positions each method or technique within these two phases of the visioning process.

Eliciting vision elements, visions, or values	Creating the vision

'Tabula rasa' approach
➤ *Eliciting individual vision elements*
• Photo diary
• Public opinion survey
• Vision festival
➤ *Eliciting individual elements or whole visions*
• Focus group
• Community group meeting/'kitchen-table talk"
• Community roundtable
• City-perspectives panel
• Expert interview
• Field trips to other cities

Responsive approach
➤ *Eliciting preferences or priorities*
• Exploration parcour
• Multiattribute analysis
• Focus group
• Alternatives fair
• Visual Preference Survey (VPS)

Vision drafting
• Community visioning workshop

Generating opinions or agreement on a vision draft
• Delphi survey
• Consensus building
• Collaboration meeting
• Validation mailer and meeting
• Consensus conference

Visualization techniques
➤ *Spatial visualization/mapping*
• Activity location method
• Public participation GIS/ web-based GIS
• Digital map
➤ *Photo-)realistic visualization*
• Knowledge of Emerging Environmental Preservation Strategies (KEEPS)
• Photorealistic visualization
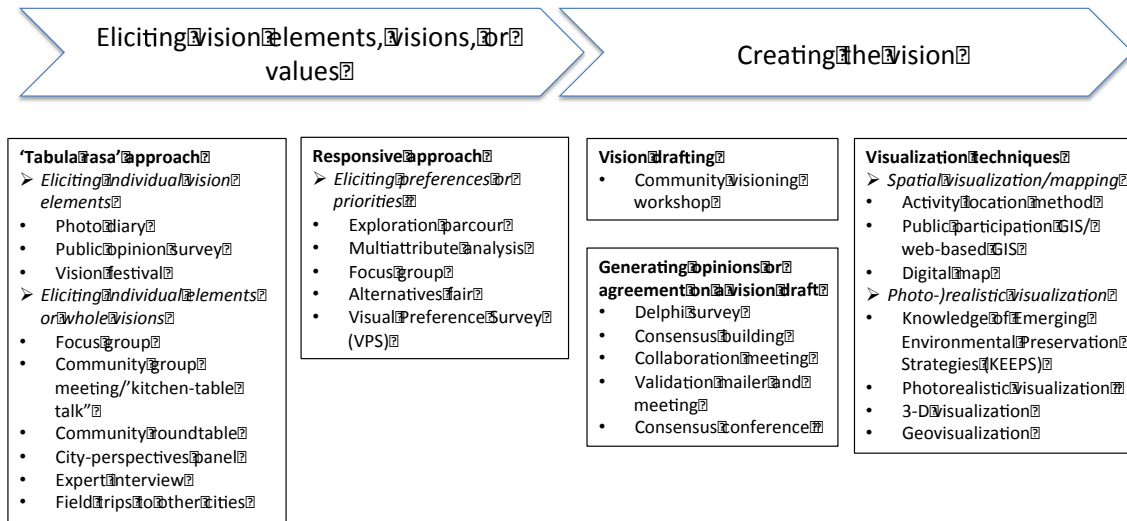• 3-D visualization
• Geovisualization

Figure 1. Location of functional clusters of visioning methods with respect to phases of the visioning process (references to specific examples from the literature follow)

In Sections 3.1 and 3.2 below, I present each of the methods from this figure in the form of a method profile, which gives a description of the method as it is found in the literature, the expected outcome of the method, the participatory setting in which the method takes place (workshop, survey, focus group, etc.), any specific requirements or expertise needed to use the method, and the literature source(s) where the method was presented. These profiles are meant to allow comparison of different methods that are used for similar purposes in visioning. While it does not currently provide guidance to practitioners for selecting methods, going forward these profiles can be expanded to include strengths and weaknesses based on method appraisals that are proposed in Section 4. In this form, these method profiles can help practitioners choose the method that is most appropriate for their context, resource-level, and skill capacity.

18

3.1 Eliciting vision elements, visions, or values

The elicitation of visions or vision elements can be done in two ways. The first is what I will call the 'tabula-rasa' approach, where participants are invited to provide a vision or vision elements without any predefined guidelines or boundaries. The second way, where participants are invited to comment on predefined vision elements in various ways, is what I will call the responsive approach.

3.1.1. 'Tabula rasa' approach – Methods for eliciting visions, vision elements, or values

There can be two different goals for eliciting vision elements, and each will employ different methods or techniques. You may want to elicit individual vision elements that would eventually be included in a complete vision. On the other hand, you may ask participants to think about an entire vision, which would involve discussing the individual elements as they exist in a complete system. For example, practitioners may elicit vision elements that have to do with a participant's future mobility; this would result in statements like "I would be able to ride my bike to work each day" or "I would be able to walk to the grocery store to get my groceries". Later, these vision elements would be linked up with visions for other aspects of life (housing, employment, etc.). When eliciting complete visions, participants are asked to think about all facets of their life (housing, mobility, employment, recreation, family, etc) and come up with a complete story about their ideal future. Methods to accomplish both goals are described below.

The compiled methods include *direct* elicitation methods such as kitchen-table talks or interviews, and *indirect* methods such as public opinion surveys or photo diaries (without direct interaction between elicitor and participants). The methods employ different mediums of elicitation (text, photos, dialogue). Depending on the specific design, methods can be used for both vision element/value elicitation as well as preference elicitation.

The methods listed in Table 3 are being used to elicit individual vision elements, rather than complete visions.

Table 3. Profiles of methods to elicit individual vision elements

	Photo diary	*Public opinion survey*	*Vision festival*
Description	Participants individually take photos that capture community features they like and others they don't like. The photos are subsequently categorized, mapped, and grouped by themes.	Participants in a survey are asked about desirable future features of a community, which are then translated into concrete goals and targets	An informal community event setting with games, entertainment, music, refreshments, and food, where participants, usually with their families, are invited to provide and discuss vision statements
Expected outcomes	Photos depicting vision elements or values	Vision elements, goals, targets	Vision statements/elements
Participatory setting	Individual activity	Survey	Workshop
Requirements/ expertise	Cameras	Survey design and analysis	Facilitation
Source	Elkins, 2009	Shipley, 2004	Uyesugi & Shipley, 2005

The main difference between these methods is the setting or format of them. A *photo diary* is an activity that is undertaken by individuals and is done more remotely (not in the presence of a visioning practitioner). The *public opinion survey* is more structured and direct for eliciting specific vision elements, but it is still an indirect and remote activity. The *vision festival*, on the other hand, is a very direct and interactive activity to elicit vision elements. Participants and practitioners are at a single location, and there is potential for more in depth and meaningful conversations, since elicitation is happening face-to-face. Below, the methods used to elicit both individual vision elements and complete visions are described in Table 3a and 3b:

Table 4a. Profiles of methods to elicit individual vision elements or complete visions

	Focus Group	*Community group meetings/ 'kitchen-table talks'*	*Community roundtable*
Description	Participants are invited to discuss one or more visions in a group setting (can also be used in consensus building/ prioritization- see below)	Someone opens his/her home up to community members to have an intimate discussion on one or more visions	A large number of community members (>100) are brought together to discuss one or more visions (in addition to a steering committee)
Expected outcomes	Vision statements or vision elements	Vision statements, complete vision	Vision statements, complete vision
Participatory setting	Focus group	Community meeting	Community meeting
Requirements/ expertise	Facilitation	Community volunteers to host	Community participation
Source	Cuthill, 2004; Shipley, 2012	Shipley, 2004	Shipley, 2004

Table 4b. Profiles of methods to elicit individual vision elements or complete visions (continued)

	City perspective panel	*Expert interview*	*Field trips to other cities*
Description	A selected group of people across the city is brought together to discuss one or more visions from a broad, city-wide, and regional perspective	Selected experts are asked to provide specific feedback on one or more visions (or contribute vision elements)	Allows participants to see real life examples of innovative developments or best practices that may be desirable elements for their vision
Expected outcomes	City/regional/political vision	Vision elements, justifications for vision	Participants have increase awareness of potential visions elements and how they exist in the real world
Participatory setting	Expert interview	Expert interview	Walking audit/field trip
Requirements/ expertise	Interviewing training/facilitation, government support	Interview training	Transportation, knowledge of best practice examples
Source	Uyesugi & Shipley, 2005	Cuthill, 2004; Elkins, 2009	Gaffikin, 2006

Within this group of methods, there is a trend of having more direct, face-to-face elicitation by the means of focus groups, community meetings, or interviews. However, there seem to be two types of settings for this direct elicitation. The top three methods/settings involve intra-participant discussions, where community members discuss and collaborate to come up with visions and vision elements. The *city perspective panel* and the *expert interview*, on the other hand, are expert-based elicitation activities where community members are not involved and people with a specific expertise or status are asked to give more pointed and detailed feedback on the vision or parts of the vision. Finally, the *field trip* is a method that is supposed to help create inspiration for a

vision or vision elements. Combined with a focus group or community meeting, this method can help in the elicitation of visions based on real experiences.

In conjunction with vision elements, visions are composed of *values* or *preferences.* Values represent deep-seated, fundamental, or structural normative elements, which are considered relatively stable over time and different contexts. Alternatively, preferences represent normative elements that specify values and are less stable. The same value can be specified and pursued through different preferences; for instance, the value of "feeling safe" can have very different preference specifications depending on historical period, socio-economic background, socio-cultural context, individual experience, physical condition, and other factors.

3.1.2. Responsive approach – Methods for eliciting comments on visions or vision elements

These methods seek to elicit preferences of vision elements and visions, and some go as far as to prioritize elements. Preferences can be elicited directly (*VPS, multiattribute analysis*) while some are a more indirect (*alternatives fair*). Some methods involve criteria in order to explicitly rank elements. Others use more interpretive means to understand what people value or prefer the most.

Table 5a. Profiles of methods to elicit preferences or priorities

	Exploration parcour	*Mulitattribute utility analysis*
Description	Participants encounter a sequence of different visions (scenarios) with the use of visual and/or audio aids, are asked to report on the good and bad aspects of each, and are asked to rate the overall attractiveness of each on a scale of 1-100. They are also asked to rate each individual scenario	Procedure for measuring participants' interests and evaluations of various scenarios. Involves identifying relevant criteria on which the visions are evaluated, assessing of relevant importance of criteria and rating the

	against evaluation criteria to uncover respective importance weights.	performance of scenarios with respect to criteria.
Expected outcomes	Attractiveness score and comments that reveal interests and evaluations of stakeholders towards vision options and respective importance of criteria	Utility score based on participant evaluations and importance weights given to different scenarios
Participatory setting	Interview, workshop	Survey, focus group, workshop
Requirements/ expertise	Graphic design/computer animation/physical modeling, facilitation, statistical competence	Statistical competence
Source	Loukopoulos, 2004	Loukopoulos, 2004

Table 5b. Profiles of methods to elicit preferences or priorities (continued)

	Focus Group	*Alternatives Fair*	*Visual Preference Survey (VPS)*
Description	Planned discussions among a small number of stakeholders, facilitated by a moderator, and designed to obtain information concerning preferences and opinions.	Presentation of different sets of vision options that could be included in the vision draft. Participants were invited to review the ideas, modify them, and add new ideas	See Section 4 for detailed description
Expected outcomes	The aim to not to reach consensus or make decisions, but instead is to obtain an idea of the range of responses that exist	Community evaluation and preferences of visions or vision elements	
Participatory setting	Focus group	Workshop	
Requirements/ expertise	Facilitation	Facilitation	
Source	Loukopoulos, 2004	Sirianni, 2007	

Within this batch of methods for preference and priority elicitation there are two main types of methods, those that produce quantitative data (ranking, rating, scoring) that describe preferences (*exploration parcour*, *multiattribute analysis*). These methods involve the use of criteria and can produce more objective results than the other, more qualitative methods (*focus group, alternatives fair*), which elicit preference through discussions. This qualitative data provides more opportunity to understand justifications for preferences and may lend itself better when working towards consensus.

3.2. Vision Creating

The elicited vision elements need to be compiled and composed into a vision, which I call the vision creation. Visions are usually created collaboratively by a group of stakeholders, for instance, in a workshop setting that involves multiple steps including data presentation, discussion, and synthesis. Elkins (2009) describes "vision planning worksheet" as a method for strategy building (steps/actions to reach the vision) that can be applied *after* the creation of a vision. As this paper focuses on *visioning*, such methods are not included in the following reviews.

Below, I describe three steps that are important for vision creation. The first method described involves the actual drafting of the complete vision from individual vision elements and priorities. The second group of methods is used to elicit opinions or seek agreement from participants on the vision draft, in order to ensure that the vision correctly reflects the community's ideas and values. The third suite of methods includes tools and techniques for visualizing a vision, which includes both spatial representation (mapping), as well as photo/graphic representation. The ability to visually represent a

vision is important for presenting and explaining the vision and helps give it tangibility and feasibility.

3.2.1. Method(s) for drafting a vision

Table 6. Profiles of methods for drafting a vision

	Community visioning workshop
Description	Five-hour workshop with participants to draft a vision from previously collected vision statements, values, and secondary data. Includes discussion of shared values, review of example visions from other cities, and drafting of the final vision
Expected outcomes	Draft of community vision
Participatory setting	Workshop
Requirements/ expertise	Facilitation, previous data collection (socio-demographic data, as well as values and vision statements)
Source	Cuthill, 2004

There was only one method that had the goal of producing a vision draft. Cuthill (2004) describes a workshop method where participants spend 5 hours reviewing previously collected data and synthesizing it to draft a vision. This is clearly an interactive and collaborative process, and it is an important method to highlight, since it acknowledges the drafting step of visioning. Many studies fail to describe this process, and go straight from eliciting vision statements to having participants comment on the vision. This lack of empirical studies may reveal the lack of a systematic procedure for vision drafting.

3.2.2. Methods for building agreement on visions

In most vision creation processes, there is a step to build agreement on a shared vision and determine which elements best represent the vision. This can be done indirectly (no face-to-face contact or discussions) through methods like Delphi surveys or online surveys, or directly through consensus conferences or collaborations.

Table 7a. Profiles of methods to generate opinions or agreement on a vision draft

	Delphi Survey	*Consensus building*	*Collaboration meetings*
Description	A series of anonymous questionnaires that seek consensus through several iterations of data presentation and surveys	Group deliberation that brings people of different stakeholder groups together for interactive discussion, and is the most direct means of understanding the cause and effect relationships from the decision	Meetings where parties with different views can constructively explore their differences, search for solutions, and resolve multiparty conflicts
Expected outcomes	Consensus among a group of experts	Group understanding of vision	Consensus/solutions on contested topics regarding the vision or underlying values
Participatory setting	Survey, (expert) focus group	Workshop, focus group	Workshop, focus group
Requirements/ expertise	Survey writing	Facilitation	Facilitation
Source	Morgan, 2012	Shipley, 2012	Shipley, 2012

Table 7b. Profiles of methods to generate opinions or agreement on a vision draft
(continued)

	Validation mailer and meeting	*Consensus conference*
Description	Sending out the draft vision to all people (residents, businesses, property owners) in the community. People either vote for or against the plan on an enclosed ballot or at a validation meeting	Discussion of issues by non-experts who ask questions of an expert panel in order to have certain issues clarified. Upon completion, a structured formal debate, open to the public, is organized with the aim of producing a consensus statement expressing expectations, concerns, and recommendations
Expected outcomes	Public opinion on vision draft	Public consensus on vision and its future direction
Participatory setting	Survey, focus group, community meeting	Workshop, expert panel
Requirements/ expertise	Facilitation (for meetings), funds for outgoing and return mail	Facilitation, expert participation
Source	Sirianni, 2007	Loukopoulos, 2004; Pytlikzillig, 2011

As before, the major difference between some of these methods is the method of elicitation: whether it is direct (through meetings, discussions, or other face-to-face situations) or indirectly through surveys or mailers. If agreement or consensus on a vision is the goal, then face-to-face interactions are recommended so that participants may discuss and collaborate to come up with collective ideas or agreement. This method creates legitimacy amongst the participants and can facilitate implementation efforts. If the desired result is a list of opinions from participants, than the methods that involve indirect elicitation (*Delphi survey, validation mailer*) may be sufficient and can also be less time consuming and less costly.

This suite of methods is used to visually represent vision elements or the vision. Some use maps (GIS, photorealistic visualization, activity location method) and work to create spatially explicit visions that show how the vision will lay out on a map. Other techniques use images (computer-based renderings or photographs) to give a picture of what a vision element or a vision landscape would look like. Some of the methods have further goals beyond just providing visual representation; for example, the activity location method also works to pair vision elements and activities with existing structures in an area. Thus, it provides a dual function of visualizing elements of the vision (as they are associated with the buildings) and it helps think about how and where the vision would be implemented.

Methods for making visions spatially explicit (mapping)

Table 8. Profiles of methods and tools for visualization of visions or vision elements though mapping

	Activity location method	*Public participation /web-based GIS*	*Digital map*
Description	Teams are given a paper map, a set of activity charts that define potential public and private uses for vacant buildings, and building survey sheets that describe the dimensions of the buildings and surrounding spaces. The teams use this information to create a set of potential future activities for the area and then discuss so the team arrives at an	Software used to create maps and undertake spatial analysis for scenario visualization; Participants can create and evaluate data to help shape their future vision	Multi-layer map that helps participants visualize characteristic landscape features and assumptions of a particular vision. It can help visualize a type of land-use vision by adding specific landscape element (ex: trees, streams, etc)

	acceptable plan		
Expected outcomes	Spatially-explicit vision elements	Visualization that can portray the extent of change that should be realized with the vision and can be manipulated by citizens	Multi-layered map that depicts different topographical and landscape features of the vision landscape
Participatory setting	Focus group, workshop	Individual activity (computer)	Focus group, workshop
Requirements/ expertise	Map making, knowledge of buildings and function	Familiarity with GIS and spatial analysis	Digital cartographical skills, topographical information
Source	Al-kodmany, 2001	Al-kodmany, 2001; Tress, 2003	Tress & Tress, 2003

Each of these methods employ a different mapping technique that involves varying levels of technology and varying levels of interactivity. The *activity location method* uses more traditional tools (paper maps and pens) for spatial representation, which can be advantageous since it requires fewer resources (computers, internet, etc.) and technical expertise. The *GIS (geographical information system)-based* tools provide a higher level of interactivity with participants so that they may alter parameters and create different variations of the vision. It can provide more robust and quantitative spatial analysis related to a vision, yet it requires participations to have access to the program and to have some familiarity with geographical and spatial analysis, which is far from being common knowledge. The *digital map* can be useful since can also show different variations of the vision, however, it is less interactive and accessible to participants than the other methods.

Methods for creating (photo-)realistic visuals for a vision

Table 9a. Profiles of methods and tools for visualization of visions or vision elements

	Photorealistic visualization	*Knowledge of Emerging Environmental Preservation Strategies (KEEPS)*
Description	Visualizations based on aerial and land photos since smaller scale visuals allows them to be more realistic and detailed; used for scenario visualization	Consists of three drawings (past, present, future); Teams first note qualities that were lost and those that should be retained. They then work to establish guidelines for preserving desired characteristics of the area, as well as goal statements describing what would promote the desired qualities
Expected outcomes	Realistic visualizations of landscapes and features of the vision	Establish guidelines for preserving desired characteristics of an area
Participatory setting	Workshop, focus group	Focus group, workshop
Requirements/ expertise	Computer graphics, photography	Realistic drawing or computer visualization
Source	Tress & Tress, 2003	Al-kodmany, 2001

Table 9b. Profiles of methods and tools for visualization of visions or vision elements (continued)

	Geovisualization	*3-D visualization*
Description	A way of communicating different visions to the public that include 3-D and virtual reality visualizations, computer assisted design renderings, and other electronic 2D-visualization media, with the internet as a common medium for accessing them	Visualize the relationship of building elements to the street, community, and open spaces. Consists of multiple layers that can portray things such as map of landscape topography overlaid by 2-D aerial imagery, among other things. If used concurrently with VPS, it can help draw out a common vision of a community's desires and then create that vision in the 3-D form
Expected outcomes	Visualizations (photos, renderings) of visions accessible via the internet	Realistic 3-D virtual model of a future vision, with different layers corresponding to different features of the vision (topography, photos,

		vegetation, ect)
Participatory setting	Digital information	Workshop, focus group, interview
Requirements/ expertise	Participant internet access, computer expertise (graphics, virtual reality)	Computer modeling and graphics
Source	Bailey, 2011	Schroth, 2011; Al-kodmany, 2001

Similarly to the mapping tools, the major difference between the photo-realistic visualization methods is the medium of transmission of the visual (computer versus paper) and the level of interactivity of the method. For example, the *KEEPS* method provides drawings (instead of photographs), while most of the other methods involve digital photos or renderings. There is also a difference between the levels of complexity that is portrayed in each method. For example, the *3-D visualization methods* can be created to closely represent reality by including many digital layers (topography, vegetation, built environment, photographs, ect) and can help participants interact with the whole vision system. The *photorealistic visualization* method, on the other hand, bases visualizations off of photographs and are not as dynamic in terms of the number of layers in the visualization. However, based on the setting and the desired outcome, this method may provide a sufficient type of photo reality and require less expertise than 3-D visualization.

4. Exemplary Appraisals of Selected Visioning Methods Against Design Guidelines

As shown in Section 3, there are a variety of methods available for use in different steps throughout the visioning process. It would be helpful to know the strengths and weaknesses of the compiled methods in the respective cluster in order to provide

guidance to planners and researchers on how to select appropriate methods. In this

section, I introduce a set of design guidelines proposed by Wiek & Iwaniec (2012) that

can help provide such guidance,. Using the design guidelines, I appraise two prominent

visioning methods community visioning workshop (Cuthill, 2004) and Visual Preference

Survey (Ewing, 2001) to show how such appraisals can be undertaken for any visioning

method.

4.1. Design guidelines for visioning in planning

Design guidelines have been proposed for visioning methodologies including the

methods, tools, and procedures to be employed, individually or in combination with

others, to produce high-quality visions (Wiek & Iwaniec, 2012). For example, a visioning

methodology should "meaningfully combine and iteratively apply" techniques for future

thinking and visualization and in order to create visions that are functional and complete

(Wiek & Iwaniec, 2012). Also important in this proposal are methods for vision review,

sustainability assessment (as far as the vision should to be informed by the concept of

sustainability, as suggested in Wiek & Iwaniec, 2012; Rockstrom et al., 2009; Kates et

al., 2001), system analysis, consistency analysis, plausibility appraisal, target

specification, actor-oriented analysis, and priorities analysis.

The design guidelines presented below are adopted from Wiek & Iwaniec (2012),

which proposed quality criteria for visions that can inform the evaluation and design of

visioning studies and methodologies. I chose to use these design guidelines in order to

evaluate the quality of visioning methods because they are the only set of comprehensive

design guidelines that exist for visioning. To develop these guidelines, Wiek and Iwaniec

(2012) reviewed literature on visioning approaches and found that each strand of literature proposed quality criteria that could inform the evaluation and design of visioning studies and methodologies. They complied and synthesized these criteria and propose ten design guidelines that are meant to reflect the most cutting-edge and current insights, lessons learned, and best practices for visioning. By using them to evaluate visioning methods, we can reveal how sophisticated these methods are and how likely they are to achieve their desired outcomes during a visioning process.

The ten design guidelines put forth by Wiek and Iwaniec (2012) are:

1. Vision Review. Each vision element needs to comply with the formal definition of a vision as a desirable state in the future. The vision review also needs to check if elements of (aspirational) surprise, utopian thought, far-sightedness, and holistic perspective are inherent in the vision. In addition, compliance with further specifications as determined in the visioning process (e.g., specific temporal and spatial scope) need to be ensured.

2. Sustainability Assessment. The application of sustainability assessment methods ensures that the vision is constructed as a *sustainability* vision. Several sustainability assessment methods have been developed, including multi-criteria assessment methodology, and most of them are applicable in participatory settings. Sustainability criteria have been specified and operationalized for application in sustainability assessment methods.

3. System Analysis. Applying system analysis methods allows exploring the systemic features of visions, including drivers, feedback loops, etc. Modeling approaches,

including system dynamics, are most suitable for this type of analysis and have also been developed for participatory visioning settings.

4. Consistency Analysis. Methods for consistency analysis allow for exploring and resolving potential conflicts and trade-offs within visions. Trade-off analysis is a standard approach for interactive nonlinear multi-objective optimization, which can be considered a technical visioning methodology. Based on consistency analysis, approaches have developed that integrate consistency analysis into sustainability visioning.

5. Plausibility Appraisal. Similar to sustainability assessment, plausibility appraisal can be used for both evaluation and design of visions. Plausibility deals with how realistic the vision or an element of the vision may be. Several plausibility concepts and criteria have been proposed, but the methodology of plausibility appraisal is still at a nascent state. Yet, plausibility appraisal is critical from the very beginning of a visioning process as it is a key criterion for the initial compilation of vision material in vision pools.

6. Target Specification. The field of target specification has been contested in academia because of its explicit normative character. Yet, it is a critical for visioning, which is recognized an explicitly normative research effort, as it makes visions tangible and implementable. There are few attempts to develop methods for target specification in visioning, specifically focusing on the key question "what is a sustainable level of indicator X".

7. Actor-oriented Analysis. Applying methods for actor-oriented analysis in visioning processes enhances the relevance of visions for stakeholder groups critical in the phase of implementation. Actor-oriented analysis has widely been developed in institutional

theory. Yet, the approaches remain largely confined to the current state and have only recently been further developed for the *construction* of governance arrangements, and thus, made usable in visioning processes.

8. Priorities Assessment. Methods for eliciting, analyzing, and representing priorities are used to capture the nuanced desirability structure of the vision. Eliciting priorities often adopts participatory settings and can be structured as consensus-oriented, diversity-oriented, or both (i.e. mapping diversity first, then building consensus). Eliciting priorities can be conducted iteratively as well as through direct ("stated preferences") or indirect ("revealed preferences") procedures. Priorities inform consistency analyses by providing indications for trade-off making. Priorities also fulfill a function in participatory settings, as high priority goals are potentially important nodes to initiate consensus building and vision implementation.

9. Motivational Settings. In order to create a motivational vision, creativity and visualization techniques ought to be used (see descriptions above). Yet, to create motivation for change might require more than that, and are recommended to including initial experiences and "testing" of vision elements. A new type of methodology, i.e., *experiential* visioning, is needed that would spark not only inspiring images and stories but would affect visioning participants on deeper levels of engagement and commitment. Some of the participatory settings, e.g., walking audit, might be conducive to this type of visioning.

10. Participatory Settings. In order to create a *shared* vision, participatory settings are indispensible for visioning processes. The selection and recruitment of stakeholders for

participatory settings ought to account for all legitimate stakes, accounting for direct and indirect effects, responsibilities, representation, etc. in urban settings. Stakeholders ought to participate in creating and crafting of all relevant features of the vision, and therefore participation needs to happen in all critical stages of the visioning process. Yet, because of limited capacity, time, and other resources in most visioning processes, participation ought to be considered a dynamic process with different stages of higher and lower involvement of different stakeholder groups. For ambitious tasks, such as visioning, participatory settings need to move beyond consultative forms and employ approaches that creatively engage participants, build capacity, and create robust results that are likely to become implemented. This involves engaging surprise, disagreement, confusion, objections and other interactive processes during the engagement activities. The mode of participation in visioning ought to integrate diversity- and consensus-oriented approaches and include opportunities for *negotiating* different, or even conflicting perspectives and values.

4.2. Appraisals of visioning methods

I operationalized the design guidelines to undertake exemplary appraisals of two prominent visioning methods. These appraisals are meant to highlight what quality criteria the method, as it is presented, is capable of addressing. It also helps consider how each appraised method could be used in combination with other methods to address the features that are lacking.

Community Visioning Workshop and Visual Preference Survey (VPS) are methods that will likely be included in a visioning process. From my literature review, I

found that the Community Visioning Workshop method was only approach that resulted in a complete vision (visioning drafting). Thus, I investigate in how far this method achieves that purpose and whether or not it produces visions that can be implemented to produce change. The second method, VPS, has become fairly standardized as visioning method since its development by Anton Nelessen in the 1970's, and has emerged as a major tool to facilitate public participation in designing alternative futures at public meetings and workshops (Nelessen, 1994). The following appraisals are meant to examine the claims underpinning both of these methods and either justify their comprehensiveness or uncover any shortcomings that may be present.

4.2.1. Appraisal of Community Visioning Workshop

For this review, I use here the Community Visioning Workshop as was presented in Cuthill (2004) and undertaken by the Gold Coast City Council in Mermaid Beach, Gold Coast, Australia. I chose this particular example of Community Visioning Workshop because it was the only study within the reviewed literature that explicitly reported on the process of vision drafting. While other studies implied that vision statements were synthesized and drafted into a vision, Cuthill (2004) laid out a systematic procedure by which to undertake drafting.

Description: As part of the process to develop a Local Area Plan (LAP), the City Council organized a five-hour visioning workshop that involved 18 participants who volunteered from previous focus groups.

Expected outcome: A draft of the Mermaid Beach Community Vision

38

Key Steps:

1. Two-hour group development session where participants shared their experiences and values in order to develop group empathy and to understand the diversity of perspectives that existed in the group

2. Two-hour discussion and review of data that was collected from previous workshops ('area of interest workshops'), a community satisfaction survey, and existing secondary data (social, economic, and demographic reports). Visions developed by other communities were presented and discussed.

3. One-hour session dedicated to articulating the community vision. 40 minutes to discuss and summarize available data into rough vision statements. 20 minutes to draft and agree upon a community vision based on these statements.

Setting: Collaborative workshop

Requirements/expertise: Previous data collection, facilitation training

Appraisal of Community Visioning Workshop against the Design Guidelines

1. Vision Review- The visioning sessions used data from previous elicitation activities (surveys, focus groups, public meetings) that revealed concerns and areas of interest of community members, which mainly deals with current state conditions. The one question that did speak about the future was the question "where do we want to go?", which does elicit ideas about desirable, future states. Even so, this basic question did not provide an outlet for creative or utopian thinking, where participants would have been encouraged to think about a future that is aspirational and not constrained by present day circumstances. Instead, the resulting vision statement was to "maintain and improve the way of life in the

community," which is neither visionary (using imagination or idealism (American Heritage Dictionary, 2000)). Thus, it is apparent that this method did not address this design guideline.

2. Sustainability Assessment- In this visioning workshop there was not a discussion of sustainability principles and instead the data set was organized around perceived issues, areas of concern, problems or needs. The authors claimed that, by "integrat[ing] social, environmental and economic considerations into planning processes" they are working to achieve sustainable local community outcomes (Cuthill, 2004, p.439). However, simply considering different aspects of society that might have to do with sustainability without explicitly evaluating them does not constitute a sustainability assessment.

3. Systems Analysis- The level of current state data that was collected prior to the visioning workshop could have lent itself to a discussion about drivers and feedback loops (of the current state); however, this systems analysis was not performed for either the current state or the resulting future vision. The authors claimed that they sought to achieve an 'integrated' approach by focusing on the 'common good' of the community, but there was no description of a system analysis performed or a particular method or discussion of systems thinking.

4. *Consistency Analysis-* Similarly to systems thinking, there was no method employed for thinking about the consistency of the vision. The vision was constructed by converting vision elements and data into vision statements and then drafting a vision from the statements, without consistency appraisal or evaluation of coherence.

5. *Plausibility Appraisal-* There was no method for appraising the plausibility of the resulting vision during the visioning process. One thing that may have lent itself to plausibility was the fact that all of the vision elements and statements were elicited based on people's experiences, which constrained the visioning process to only thinking about elements that exist in the current state. It is likely that many of the 'vision' statements were plausible, since they were extrapolations of the current state, however there was no formal or informal appraisal of plausibility.

6. Target Specification- There was no discussion of targets and none appeared in the final vision. The vision statements, which were actually strategies to achieve the vision of "maintaining and improving the way of life in the community", ended up as broad, overarching statements about the community, rather than specific and tangible goals.

7. *Actor-oriented Analysis-* This method was strong with respect to being actor oriented as the process was based off of residential perceptions of their life in the community and the values that the community holds. There was an emphasis on the community environment and values that people would like to maintain and little emphasis on tangible, physical structures or design elements.

8. *Priorities Assessment-* In the vision draft, the first strategy identified to achieve the vision stated that the beach was the number one asset of the community. Beyond this statement of priority, there did not seem to be an explicit method for prioritization. An informal prioritization occurred during the process of synthesizing the vision statements into the vision draft, since the vision elements and themes that received the most attention

or had the most input were the ones that were included in the final vision. However, explicit prioritization of vision elements before vision drafting was not undertaken.

9. *Motivational settings/Creative techniques*- There was no motivational (inspires and motivates towards the envisioned change (Wiek & Iwaniec, 2012)) or creative/non-traditional techniques (such as storytelling or games) used in the workshop. No visualization of the vision or vision elements was undertaken, and the vision was not presented in a way that was motivational or engaging.

10. Participatory Settings- The setting of the visioning workshop was, as it is titled, a workshop where there was collaboration between participants and with the practitioners. Since the participants were asked to review and synthesize all of the previously collected vision data, the visioning process was fairly iterative, and the vision draft was vetted and created by the participants.

Table 10: Summary of appraisal of Community Visioning Workshop (Cuthill, 2004)

Vision Quality Criteria	Visioning Methodology Design Guidelines	Appraisal (Did this method address the criteria?)
Visionary	Vision review	No
Sustainable	Sustainability assessment	No
Systemic	System analysis; Visualization techniques	No
Coherent	Consistency analysis; Priority assessment	No
Plausible	Plausibility appraisal	Indirectly
Tangible	Targets/thresholds; Visualization techniques	No
Relevant	Actor-oriented analysis and construction	Yes

Nuanced	Priority assessment	Indirectly
Motivational	Creative techniques (story telling, games)	No
Shared	Participatory settings (mapping diversity, negotiation, building agreement)	Yes

4.2.2 Appraisal of Visual Preference Survey (VPS)

This example of a VPS was presented in Ewing (2001) and was undertaken by the Sarasota Country Transportation Authority in Sarasota County, Florida in order to elicit preferences for features of transit-oriented design for bus stops. I chose to appraise this study because it was one of the pioneering studies of using VPS in transit planning, and it explicitly reported on the procedures used to undertake the activity.

Description: VPS helps participants in visioning activities to envision design alternatives via photographs or computer generated graphics. Participants are asked to give preferences via ranking or choice between paired comparisons. The preferences for different vision elements or design features are calculated by averaging the ratings given by viewers to the different vision images.

Expected outcomes: Revealed (quantitative) preferences/priorities for vision elements and design features for a future vision.

Key Steps

1. There should be 50-100 participants taking the survey. For either method, the participant will be shown a series of photographs that depict different potential elements of a future vision.

2. Participants are asked to rate a single photo on a Likert scale (1= least preferred, 5=most preferred); they may also be asked to rank a set of photos (paired comparison) based on their preferences.

3. Preferences are calculated by averaging the ratings given by viewers to the different images. For more sophisticated analysis, analyses of variance or multiple-regression analyses are undertaken in order to explain differences in the content of the slides and reveals more about the characteristics that are actually preferred.

Settings: The medium for VPS may be interactive (workshop, focus group, interview) or indirect (mail-in survey, online survey).

Requirements/expertise: Photography expertise, graphic design expertise, statistical expertise

Appraisal of Visual Preference Survey against Design Guidelines

1. Vision Review – VPS does construct one or more desirable future states by eliciting preferences for different elements of the vision. VPS is employed to ensure that the physical forms of different structures (from the natural and built environment) are acceptable and desirable to the community.

2. Sustainability Assessment – In traditional VPS (and in the Ewing (2001) example), concepts of sustainability are not explicitly discussed. However, if sustainability is taken into consideration when creating the survey and in choosing the elements to be voted on, there is the possibility of integrating sustainability into the method. Similarly, there could be an opportunity to discuss sustainability with the participants after the completion of

the survey in cases where the preferred element may not align with sustainability criteria. However, in its current form, it is not a method that can sufficiently address sustainability assessment.

3. System Analysis – There is little systems analysis with the VPS method. The method is more concentrated on the individual elements of the vision rather than how they interact. There is no discussion about drivers or feedback loops.

4. Consistency Analysis- Similarly to systems analysis, there is not much consideration for the interactions between vision elements in VPS. However, there may be an opportunity to explore consistency of the vision if the VPS is presented as a virtual walking audit or a physical model, which looks at the vision as a whole system. This would allow participants to see how each of their preferred vision elements would exist together and may highlight conflicts between elements or designs.

5. Plausibility Appraisal – VPS can speak to the plausibility of a vision since the images and photographs used to depict different vision elements usually exist. Images are generally taken from within the community, although some images may be from other areas or graphically rendered if a certain element or design principle cannot be found in the survey area. Either way, the images that are presented to participants already exist which make the vision elements plausible.

6. Target Specification –There is no explicit discussion of target specification in VPS methodology. However, it is possible to indirectly elicit information about targets if the content of each image is considered and calculated. For example, if an array of images of trees as a means of shade is shown, it can be arranged that each photo represent a

different percentage of canopy cover for the vision. Whichever image receives the highest rating may indicate a target level of tree cover for the vision. Of course, preference data is not empirically justified, and these targets would have to be substantiated by literature, and thus while there may be an opportunity to elicit values for targets, VPS is not a methods lending itself to target specification

7. Actor-oriented Analysis – VPS is not inherently actor-oriented; it is more concerned with aspects of the surrounding built and natural environment and is tailored toward discussion of design. It may be argued that if the participants, who are the "actors", engage with the question of "how appropriate is this image for my community both now and in the future?" than the method can be actor-oriented, but in its basic form, it does not provide actor-oriented analysis.

8. Priorities Analysis – The objectives and procedures of VPS almost inherently makes it a method for eliciting and analyzing priorities. It is explicitly asking the participants what their preferences are, thus it is a direct elicitation of stated preferences. The method can also be consensus-oriented, as it is common for the results of the survey to be shared with the group and discussed until consensus is reached.

9. Motivational settings/Creative techniques – The visualization techniques employed in VPS make the vision elements more tangible, however, the presentation of the visuals did not employ any motivational or creative techniques that would create excitement for the vision elements (although in future VPSs, this may be possible)

10. Participatory setting – The setting for this method is a survey. It can be in a direct contact setting, where VPS is employed during a forum or workshop and the participant

has contact with the practitioner. It can also be an indirect method if such a survey is sent out via mail or an online survey. Here, there is no contact between the researcher and the participant. In neither case is there much contact between participants. Traditionally, there is no discussion about the rating that participants are giving each image, although there may be an opportunity to discuss that at the conclusion of the survey when the results are calculated and shared. This method would likely be seen as a consultative activity in contrast to a more collaborative activity.

Table 11: Summary of appraisal of Visual Preference Survey (Ewing, 2001)

Vision Quality Criteria	Visioning Methodology Design Guidelines	Appraisal (Did this method address the criteria?)
Visionary	Vision review	Yes
Sustainable	Sustainability assessment; Creative techniques	No (but could)
Systemic	System analysis; Visualization techniques	No
Coherent	Consistency analysis; Priority assessment	No (but could)
Plausible	Plausibility appraisal	Indirectly
Tangible	Targets/thresholds; Visualization techniques	Targets- No Visualization techniques- Yes
Relevant	Actor-oriented analysis and construction	No (indirectly)
Nuanced	Priority assessment	Yes
Motivational	Creative techniques (story telling, games)	No (could be)
Shared	Participatory settings (mapping diversity, negotiation, building agreement)	No (could be)

The above appraisals consider one application of a method (Community Visioning Workshop and VPS) in order to exemplify the information that can be complied from this sort of appraisal. While the results are not making generalizations about the methods themselves, they do give some insights into that particular case study and can be interpreted in two ways. The first interpretation is that, going forward, each of these methods could be redeveloped to better address all of the design guidelines. As seen in the VPS analysis, there are design guidelines that are not addressed using the current technique, however, with the addition of steps or a shift in perspective, the method could address the guideline. For example, if Visual Preference Surveys were developed with consideration of sustainability principles and involved an explicit discussion about these principles during the survey, then it could easily address the 'sustainable' guideline. The second interpretation for this evaluation is that there is no single method that can address all the design guidelines, and thus a suite of methods should be assembled, and throughout the visioning process, all of the design guidelines are addressed to create the vision.

We propose that this method of appraising visioning methods against these design guidelines and quality criteria can help create more comprehensive and actionable visions since these design guidelines consider the most current research in visioning and look to apply it to visioning methodology. However, since this proposed appraisal method has not been undertaken at a large scale, at this point in time there is no empirical evidence that visioning processes that address all of the these criteria will result in better visions. Instead, this research is a call to visioning researchers and practitioners to undertake these

method appraisals and develop a visioning methodology accordingly. With proper recording and evaluation of results, we can see if visions become more actionable and lead to tangible results.

Simultaneously, the design guidelines themselves should be considered with a critical eye, and they should be revised or added to based on the results of the appraisals and of visioning processes that follow them. Thus, we propose this method as a first attempt to consider how well methods are achieving their intended purpose and how they can be improved in order to result in better visions. However, there is much work to be done to test and refine this work, and we may find the co-evolution of the visioning methods and the quality criteria that guide their creation.

5. Discussion

The growing literature on visioning in planning reflects the "more integrated and participative paradigm" of urban planning (Gaffikin, 2006) and shows that most cities are making concerted efforts to create inclusive and highly participatory visioning processes. It is accepted that visioning has an "implicit aim to promote equity and facilitate democracy through the planning process" (Uyesugi & Shipley, 2005, p.306), and the planning process is becoming increasingly more inclusive and collaborative. We are also seeing an emergence of new, innovative technologies, which enhance the participation process and allow a wider range of people to be involved in planning through computer technologies and the Internet. Finally, many planning organizations are using participatory visioning as important inputs into public policy and decisions (Elkins et al, 2009; Gaffikin, 2006; Uyesugi & Shipley, 2005; Cuthill, 2004; Ewing, 2001), so we can

assume that decision makers and planners see an inherent value in having collaborative and comprehensive visions for the future.

There are few things that are not considered within the visioning literature that will be important to consider in future research in the field of visioning in planning. First, while l looked into visioning exercises that were done throughout the world (see Section 2), including developing countries such as the Sudan, it is not clear as to whether visioning exercises are universally culturally viable. For example, if a culture does not consider the future in their thinking processes, than a visioning process would be completely ineffective as the people would not be able to grasp the concepts of visioning and future thinking. Thus, the effectiveness of visioning across cultures should be further explored.

Another important consideration for future research is the ethics of visioning. One ethical consideration is the potential legal implications of visions. Legal ramifications could occur if a vision depicts a future that may be detrimental to the success of a specific entity. This has been encountered in the field of scenario planning, where there were lawsuits filed by coastal cities after climate change scenarios showed that, in the future, the areas would no longer be viable for investment and development. There may be situations where visioning products may produce findings that have ethical issues associated and this will be an important body of research to better understand how visioning might negatively affected communities both now and going forward.

By using Wiek & Iwaniec's (2012, in press) design guidelines for visioning to investigate this body of literature, it is evident that there are many opportunities where we

can advance the visioning process and help cities move toward planning for significant, positive development. First, going forward, it will be important to create standardized terms and definitions within the field of visioning and to create a shared definition of what is considered a vision. Shipley (2000), found that that the term vision has "[found its way] into planning discourse, without the scrutiny or careful defining they probably out to undergo" (p.227). Gaffikin (2006) supplies further evidence for a need for a standard definition, stating that the "promiscuous use of the term vision in planning has tended to devalue its meaning" (p.162). Formally defining what can be considered a vision will bring legitimacy to the process, help enhance communication between researchers and practitioners, and will make it easier to standardize methodology and compare studies. This common terminology may also help to facilitate the evaluation of visioning, since it will be easier to compare studies and there will be firm guidelines by which to evaluate against. Further, these evaluations will be more meaningful and applicable to other researchers and practitioners, since it will provide objective feedback, bring attention to shortcomings, and allow future researchers to learn from the past and make beneficial improvements to practices.

Another opportunity that can arise from this review is a better understanding of the goals and capacities of different visioning methods that were presented in Section 3. Currently, there is no single method that includes all elements of a comprehensive visioning process (and addresses all of the design guidelines). This means that, in order to undertake good visioning, practitioners must assemble a variety of methods and employ them in a meaningful sequence. I presented the method appraisals that in Section 4 as a

tool to help practitioners find the suite of methods that best suites their needs and create visions that are sustainable, robust and can lead to desirable changes in a community.

Of the ten quality criteria and design guidelines, some will be easier to achieve than others. For example, ensuring that a visioning process produces visionary outputs (utopian thinking, ideas that are not constrained by current circumstances) can be achieved by an awareness of this criteria and facilitating the visioning process accordingly. However, other design guidelines such as sustainability appraisal or consistency analysis require greater expertise and resources and time investment. For example, the techniques to undertake sustainability appraisal, consistency analysis, and plausibility appraisal are currently limited and are rarely found in visioning practices. This means that visioning practitioners will have to research and develop these techniques or find methods from other fields. They will also have to learn how to execute them within the visioning process or pay someone to help implement them. Thus, while we the process of addressing the design guidelines is important for the future success of vision, it will require some initial time and monetary investment in order to achieve them.

Finally, our review revealed that the practice and results of visioning are not often acted upon, and this is exemplified in the evaluation articles (Gaffikin 2006; Shipley, 2004; Helling 1998). Their evaluations showed that many of the visions did not produce tangible results (new plans, policies or programs) and many participants felt that their contributions did not influence the process or will not lead to change (Shipley et al., 2004). Further, many of the visions that resulted from the studies reviewed were broad and intangible (i.e. our vision is to 'maintain and improve the way of life' of our

52

community), and this leaves the community with no way forward and no motivation to act in specific ways in order to reach that vision.

While visioning alone cannot be blamed for a lack of action towards the desirable futures, since this shortcoming is more so a flaw in the method of strategy building, we do need to be sure that visions are generated, formulated and presented in ways that spark peoples' interests and make them want to invest time and money into achieving a better, desirable future. One way visions may become more motivational is by ensuring that there are observable events or clear metrics that show progression toward the vision. Further, there should be a "vision achieved" state that can be articulated and realized by both practitioners and participants. A clear, specific goal can bring life and meaning into visions and help foster the long-term support and investment that is needed in order to achieve the vision state.

6. Conclusion

As mentioned, visioning in planning is not a new concept, and the body of available literature, while constantly expanding, dates back a few decades. However, we seem to be at a crossroads where the "traditional" methods may no longer be providing the outcomes that we need as our environment changes and technology and society continue to evolve. Simply asking people what they want and piecing that together into a 'vision' is no longer sufficient in moving a city forward in its development process. There must be a comprehensive framework for creating powerful, exciting visions that motivate citizens and city decision makers to take actions towards achieving that vision.

Given that, the way forward in visioning in planning will be centered around increasing coordination and collaboration between scholars and practitioners to fill in the gaps that I have identified in both visioning methods, processes, and evaluation. The practice and field of visioning may be stuck in a place where it can no longer meet the needs of current society and may not produce results that will lead to significant change to the future of cities and communities. Thus, we need to begin to form networks of researchers and practitioners that work together to update these practices and inject cutting-edge studies and innovations into a seemingly stagnant practice.

This will require a shift in the way that we approach research; instead of always working to create new techniques and methods, we need to begin to focus on refining and strengthening the theory, methods, and practices that already exist. Greater emphasis should be put on methodological rigor, so that methods are tested, evaluated and later refined by the next researcher or practitioner. In order to guide this process, it will be important for funding agencies to support those who strive to undertake this sort of work. I encourage the funding and formation of shared resources, whether it be through an online forum, a collaborative handbook, or another shared method. This will create a resource where municipalities and agencies who are undergoing a visioning process can find the most up-to-date and sophisticated tools, tips, and techniques in order to put together the most comprehensive and successful visioning processes and lead the way for future visioning advances.

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