Sustainability Plans in British Columbia: Instruments of Change or Token Gestures?

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Résumé

Plusieurs gouvernements municipaux au Canada essayaient d'intégrer le concept de la durabilité dans leurs activités en créant des «plans de développement durable». Les plans de développement durable ont été crée dès 1992, mais peu est connu à propos de ni leur contenu, ni leur qualité. Afin de combler la lacune dans nos connaissances des plans de développement municipaux durable, nous présentons les résultats d'une évaluation de 20 plans de développement municipaux durable dans la province canadienne de Colombie-Britannique. Nous avons découvert que leurs sont faible en respect des provisions qui ont promu la mise en œuvre et qui encourage la surveillance et l'évaluation des efforts de la mise en œuvre. Nous offrons des recommandations comment les municipalités peuvent créer des plans de développement durable afin de maximiser leur utilité et leur efficacité afin de promouvoir la durabilité locale. Nos recommandations cible l'établissement d'un cadre (législative) afin d'assurer les buts et les actions de développement durable sont approprié a la contexte locale et que les actions implémentés sont fidèles afin d'atteindre les buts.

Mots clés: Plans de développement durable, Colombie-Britannique, mise en œuvre du plan, l'évaluation du plan

Abstract

Some municipal governments in Canada have sought to integrate the concept of sustainability into their activities by developing "sustainability plans." Sustainability plans were developed in Canada at least as early as 1992, though little is known about their content and quality. To help address this gap in our knowledge of municipal sustainability planning, we present results from an evaluation of twenty municipal sustainability plans in the Canadian province of British Columbia. We find that the plans are weak with respect to including provisions that promote implementation and that foster monitoring and evaluation of implementation efforts. We provide recommendations for how municipalities can craft sustainability plans in order to maximize their usefulness and efficacy for promoting local sustainability. Our recommendations focus on establishing a framework for ensuring that sustainability goals and actions are appropriate to the local context and that the actions are faithfully implemented in order to achieve the goals.

Keywords: Sustainability plans, British Columbia, plan implementation, plan evaluation

INTRODUCTION

Since the publication of *Our Common Future* (commonly known as the "Bruntland Report") in 1987, municipal governments in Canada and elsewhere have been working to integrate the concept of sustainability into their local planning activities. Scholars have suggested that sustainability can serve as an overarching vision for planning (Berke 2002), and planning researchers have evaluated the extent to which sustainability principles are present in municipal comprehensive plans (Berke and Manta-Conroy 2000; Manta-Conroy and Berke 2004).

Some municipal governments in Canada have sought to integrate the concept of sustainability into and across all of their activities by developing "sustainability plans". The Federation of Canadian Municipalities (FCM) defines a sustainability plan as "a plan developed through public consultation that identifies a vision and includes environmental, social, and economic goals and targets for the community" (FCM 2012b). The first sustainability plans were developed in Canada at least as early as 1992[1], though little is known about their content and quality. While there are certain mechanisms in place that provide Canadian municipalities with a financial incentive to develop sustainability plans, the incentives are not contingent upon eventual plan implementation. To date, there appear to have been no rigorous evaluations of sustainability plans and whether they are crafted in such a way as to promote their implementation and contribution to sustainability. To help address this gap in our knowledge of municipal sustainability planning efforts, this paper reports the results of an evaluation of twenty municipal sustainability plans in the Canadian province of British Columbia, including whether and to what extent they contain particular provisions that can be expected to promote their successful implementation.

The remainder of this paper is organized as follows. First, we discuss the issue of planning for sustainability. We then discuss plan implementation, and monitoring and evaluation of planning efforts and their impacts. Next, we describe the context for sustainability planning in Canada, and then provide details regarding our methodology for evaluating sustainability plans in British Columbia. We present and discuss our results, and conclude with recommendations for improving municipal sustainability planning.

PLANNING FOR SUSTAINABILITY

Rittel and Webber (1973, 160) argue that the societal problems that planners seek to solve are "inherently wicked", and that they do not lend themselves to societal consensus on problem definition, goal formulation, and how best to balance efficiency and equity concerns. Efforts to promote sustainability represent a clear example of a wicked problem. Campbell (1996) argues that the pursuit of sustainability involves inevitable conflicts among three fundamental aims of society: economic development, environmental protection, and social equity. A variety of obstacles exist to thwart

societal efforts to resolve these conflicts, including obstacles that relate to reaching agreement that a problem exists (and if so, what that problem is), reaching agreement on whether society should pursue sustainability goals (and if so, what those goals should be), and reaching agreement on whether to sacrifice efficiency for the sake of increased equity (and if so, how to make such sacrifices).

Research on early municipal efforts to pursue sustainable practices suggested that municipal activities may have reflected mostly empty rhetoric without much in the way of substantive results. In part because of the inevitable conflicts between economic development, environmental protection, and social equity, Campbell (1996, 296) argued that the concept of sustainability was vulnerable to "the same criticism of vague idealism" that was made against comprehensive planning in the mid-twentieth century. Andrews (1997, 41) contended that environmental policies in the United States had been only marginally effective, and that negative environmental trends "may have only been slowed somewhat rather than redirected into sustainable patterns." Beatley and Manning (1997, 3) expressed concern that sustainability and sustainable development were "just the latest buzzwords to make their way into the planning field—another set of trendy phrases."

Empirical research on the integration of sustainability concepts into planning efforts appears to justify these concerns. Berke and Manta-Conroy (2000) examined the efficacy with which sustainability-focused comprehensive plans were promoting sustainability principles compared to plans without a sustainability focus. They evaluated thirty comprehensive plans from across the United States, in relation to six sustainability principles: (1) harmony with nature, (2) livable built environment, (3) place-based economy, (4) equity, (5) polluter pays, and (6) responsible regionalism. The results of the evaluation showed that the plans failed to incorporate all of the sustainability principles, and that they were particularly weak with respect to the latter four principles.

IMPLEMENTATION, MONITORING, AND EVALUATION

The inclusion of sustainability principles in plans is likely to matter only if those plans are implemented. Scholarship on implementation is generally considered to have started with *Implementation* by Pressman and Wildavsky (1973). This seminal work outlines certain conditions that are necessary for successful policy implementation to take place, including appropriate legislation, committed funds, and agreements between stakeholders. Within the specific context of planning, Baer (1997) identifies nine critical questions to consider for successful plan implementation:

    1. Are implementation provisions appropriate in the plan?
    2. Are there priorities for implementation?
    3. Is the cost of implementation vs. non-implementation considered?
    4. Is there a time span for plan implementation?

5. Is there provision for scheduling and coordinating of implemen-
   tation proposals?
6. Can proposals accomplish their intended purpose if implemented?
7. Is there a program or proposal for impact analysis?
8. Is the agency or person responsible for implementation identified?
9. Can the responsible agency realistically be expected to implement
   the plan?

In addition to ensuring that such questions are adequately addressed, studies have
shown that implementation success is also fostered by a number of contextual factors.
First, implementation success tends to improve when implementation considerations
are included as a focus of the planning process from the outset rather than being
treated as an afterthought (Nutt 2007). Another key factor in implementation success
is the presence of a champion or leader to guide the implementation process (Curley
and Gremillion 1983; Wheeland 2003; Nutt 2007). The presence of a champion is
particularly important when implementation represents a fundamental change from
the norm (Curley and Gremillion 1983).

Wheeland (2003) notes that initiatives that require action from only one organi-
zation are implemented more readily than those that require coordination between
two or more organizations. Implementation is also encouraged when the stakehold-
ers involved in implementation were previously involved in the planning process.
Involving stakeholders in the planning and design of policies and initiatives helps to
increase their familiarity with and support for those policies and initiatives (Conroy
and Berke 2004; Nutt 2007) and fosters shorter implementation times and the adop-
tion of higher quality plans (Nutt 2007). In addition to involving key stakeholders,
involving local community members is also critical to strategic plan implementation
because it helps to "build consensus and secure the resources needed to implement
the plan" (Wheeland 2003, 57). Engaging the public on a regular basis throughout
the implementation process can further community knowledge and also encourage
and support individual community members' actions (Conroy and Berke 2004).

Finally, the availability of funding is necessary (though not sufficient) for effec-
tive implementation (Durlak and DuPre 2008). It is important for decision-makers
to be aware of existing funding opportunities and constraints in order to realistically
prepare for implementation. To promote such awareness, Wheeland (2003) argues
that the new policies and initiatives should be linked to standard budgeting processes
of all partner organizations responsible for implementation.

In order to assess whether and to what extent implementation is taking place and
plan goals are being achieved, it is critical for municipalities to develop systems for
monitoring the implementation of plan actions and evaluating their impacts. Moni-
toring implies a continuous evaluation or assessment of activities in policies, programs,
processes, or plans, including the collection and interpretation of data on a regular
basis (Seasons 2002). The need for constant assessments of trends and performance

stems from the rapid pace and extent of change in local government decision-making environments. Monitoring and evaluation enables decision-makers to make informed decisions about resource allocations and provides insight into whether plan goals have been achieved and whether the plan is having its intended impact (Seasons 2009). Evaluation of planning efforts and plans can occur prior to plan adoption (e.g., during the process of plan creation) or after plan adoption (e.g., when the plan is presumably being implemented) (Lichfield, Kettle, and Whitbread 1975).

SUSTAINABILITY PLANNING IN CANADA

To date, most of the scholarship on evaluating plans has involved evaluating plans after they have been adopted. There have been more than forty published studies on the content and quality of comprehensive and other types of plans (Stevens, Lyles, and Berke, Forthcoming), some of which evaluated features of plans that relate to implementation. However, none of these studies evaluated sustainability plans. Studying sustainability plans offers a unique opportunity to examine municipal efforts to foster sustainability and is potentially useful for at least two reasons. First, relative to comprehensive plans, sustainability plans are a relatively new type of plan with a potentially broader focus, though the actual focus and quality of sustainability plans is currently unknown because they have not yet been studied. While sustainability plans can theoretically be used to encourage broad strategic planning, improve citizen engagement and collaboration, and provide policy guidance on issues relating to sustainability, it is not clear whether they are being crafted in such a way as to promote these desired inputs. A critical review of existing sustainability plans can thus inform efforts to improve the content and quality of existing plans and the creation of future plans. Second, our initial scan of sustainability planning practices in British Columbia revealed that at least some municipalities have placed their sustainability plan at the top of their planning hierarchy, above their official community plan[2] (OCP). For such municipalities, the sustainability plan is thus intended to be the guiding document for all municipal government activities and it might be positioned to have a broader impact on the community than the OCP.

The extent to which sustainability plans have such impact will depend in part upon whether and to what extent they are implemented. Recent studies on plan implementation have focused primarily on the implementation of traditional land-based plans which, though important, ignore the increasing number of strategic plans that seek to influence a broader range of planning issues and do not necessarily include precise guidance for land development (Booth, Poxon, and Stephenson 2001; Beauregard and Colomina 2011). Sustainability plans can overlap to some extent with traditional comprehensive plans, though there are important distinctions between the two. Comprehensive plans are policy-oriented documents that are intended to provide a compelling vision and regulatory framework for fostering sustainability through land use planning (Berke et al. 2006). In contrast, sustainability plans focus on a broader

set of issues that may or may not have direct connections to the use of land.

To date, senior governments in Canada have played a significant leadership role in supporting sustainability planning within Canadian municipalities. In 2001, the federal government in Canada established the $550 million dollar *Green Municipal Fund* (GMF). The GMF is administered by the FCM, and provides funding to Canadian municipalities to assist them in setting and achieving sustainability goals. Among other things, the GMF has funded the creation of municipal plans, including sustainable community plans, neighbourhood plans, greenhouse gas reduction plans, and brownfield action plans. Funding for municipal sustainability plans proved so popular that the FCM stopped accepting new funding applications as of December 2011. Between the 2000/01 and 2009/10 fiscal years the GMF funded a total of 151 sustainable community planning projects (FCM 2012A). In order to qualify for funding under the GMF, municipal councils were required to pass a resolution committing the municipality to establishing a vision and targets for sustainability. However, there were no "strings attached" to the funding with respect to implementation, meaning that municipalities did not have to demonstrate that they were implementing their plans (or that the plans were having the desired impact) in order to acquire or maintain the allocated funding.

In 2005, a gas tax agreement (GTA) was signed between the federal government, provincial government of British Columbia, and Union of British Columbia Municipalities (UBCM) that provides federal funding to municipal governments "to help them build and rehabilitate public infrastructure that achieves positive environmental outcomes" (Infrastructure Canada 2013). Subsequent to the signing of the GTA, the provincial government of British Columbia launched the Integrated Community Sustainability Planning (ICSP) Initiative, which is intended to "encourage the development of healthier, less costly and more sustainable communities" through the funding of planning and projects related to sustainability (Ministry of Community Services 2007, 1). The ICSP is now known as "Smart Planning", which seeks to assist municipal governments in British Columbia in the process of "addressing their long-term sustainability challenges by providing resources and tools for planning socially, culturally, economically and environmentally sustainable communities" (Ministry of Community, Sport & Cultural Development 2013). In order for municipal governments to access GTA funds, they are required to demonstrate that they are engaging in sustainability planning.

PROTOCOL CONSTRUCTION, SAMPLE, AND DATA COLLECTION

As mentioned above, the funding sources that exist to support the creation of municipal sustainability plans have proven very popular with municipalities in Canada. Given that municipalities can access funding by demonstrating that they are committed to sustainability planning (without necessarily demonstrating that they are faithfully implementing their sustainability plans or that they are making significant strides toward sustainable development), there remains a possibility that at least some municipalities

have viewed the funding as easy money brought in to the community from the outside to fund local staff and planning activities without fully intending to subsequently implement their plans once the money was received and the plan was created. This concern is fueled in part by the observations of scholars that sustainability might simply be a buzzword that has no meaningful influence on municipal behavior.

While there are many factors that combine to shape the extent to which plans are implemented, we focus on the content of plans and the extent to which they contain particular provisions that can be expected to promote their successful implementation. Including such provisions in a plan not only increases the likelihood that the plan will actually be used, but it also contributes to the overall "quality" of the plan (Berke and Godschalk 2009). We utilized the methodology of content analysis to examine the extent to which municipalities in British Columbia have addressed and promoted implementation within their sustainability plans. We began by consulting the academic literature on plan quality, sustainability, and plan implementation to develop an evaluation protocol that focuses on plan implementation. We relied heavily upon the general plan evaluation criteria developed by Baer (1997), selecting those criteria that were relevant and modifying them as necessary to meet our needs. We also replicated plan evaluation criteria presented in other studies, including those conducted by Berke and Manta-Conroy (2000); Wheeland (2003); Cherp, George, and Kirkpatrick (2004); Roseland (2005); and Berke and Godschalk (2009). As an example of how we replicated criteria from previous studies, Figure 3 in Baer (1997) provides a list of suggested general criteria for evaluating plans. One of these criteria is posed as the question "Is cost of implementation vs. nonimplementation considered?" Based on this question, we created an item in our protocol that reads "The cost of implementation vs. non-implementation is considered", and we created a decision rule for this item such that a score of 1 would be assigned to this item for a plan in which the cost of implementation vs. non-implementation was considered, and a score of 0 for a plan in which this issue was not considered.

We sought to apply our protocol to all existing municipal sustainability plans in British Columbia. To identify the plans, we searched the websites of all 162 municipalities in British Columbia for sustainability-related documents. When we did not identify a document on the website, we then used the website search engine to look for the key words "sustainability", "sustainability plan" or "sustainability strategy". If this proved unsuccessful, we performed a Google search for the same terms in conjunction with the name of the municipality.[3] These procedures helped us to identify a total of twenty municipal sustainability plans in British Columbia. Table 1 shows each of these plans, along with the year each plan was completed.

In November of 2011, we pre-tested our draft evaluation protocol on six sustainability plans from municipalities in Canadian provinces outside of British Columbia.[4] Our research team consisted of two coders,[5] who independently applied the draft protocol to each of the six pre-test plans, meeting frequently to compare results, resolve differences in interpretation, and make changes to the protocol to support

T A B L E 1 : Sustainability Plans in British Columbia

MUNICIPALITY	SUSTAINABILITY PLAN	YEAR
Bowen Island	Bowen Island 2020 Vision and Sustainability Framework	2008
Esquimalt	A Sustainable Development Strategy for Township of Esquimalt	2007
Highlands	Highlands Sustainability Task Force Final Report	2009
Kimberley	ImagineKimberley: ICSP	2011
Ladysmith	Sustainability Framework	2009
City of Langley	Sustainability Framework	2010
Township of Langley	Sustainability Charter	2008
Maple Ridge	Sustainability Action Plan	2007
Nelson	Path to 2040: Sustainability Strategy	2010
City of North Vancouver	100 Year Sustainability Vision	2009
Prince George	My PG: an Integrated Community Sustainability Plan	2010
Qualicum Beach	Qualicum Beach Sustainability Plan	2010
Rossland	Visions to Action: City of Rossland Sustainability Strategic Plan	2008
Sooke	Sooke Sustainable Development Strategy	2008
Sparwood	Community Sustainability Plan	2009
Surrey	Sustainability Charter	2008
Terrace	Terrace 2040 Sustainability Strategy	2009
Victoria	Sustainability Framework Report	2009
Whistler	Whistler 2020: Moving toward a Sustainable Future	2007
Williams Lake	Imagine Our Future: ICS Planning Framework	2010

consistency of interpretation and application of scores to items. In some cases, existing protocol items were modified in order to improve their usability; in other cases, new items were added to the protocol in response to discovering new content in the pre-test plans that we decided to look for in our sample of twenty sustainability plans from British Columbia as well. After the protocol was finalized and the two coders were confident that they were consistently applying scores for each item in the protocol, the two coders independently applied the protocol to each of the twenty sustainability plans from British Columbia using Atlas.ti software (Version 6.0). Each of the items in the protocol was assigned a score of 1 or 0, with a 1 indicating that the item was found to be present in the plan, and a 0 indicating that the item was not found to be present in the plan.[6]

The evaluation protocol that the two coders used to evaluate the twenty sustainability plans originally consisted of sixty-five items. To assess the reliability of the items under study, we first calculated Krippendorff's alpha (Krippendorff 2013) for each of the items based on the scores assigned to the items by the coders. To calculate Krippendorff's alpha, we utilized the web tool "ReCal" developed by Freelon (2010). We then applied the standards recommended by Stevens, Lyles, and Berke (Forthcoming) for assessing the reliability of each item. This procedure identified twenty-seven items that produced the combination of substandard α scores and low agreement across coders. We thus chose to exclude these unreliable items from our analysis, leaving thirty-eight items that meet the standards for intercoder reliability as recommended by Stevens, Lyles, and Berke (Forthcoming).[7] The findings and analysis presented in the remainder of this paper are thus based on thirty-eight items from the original protocol. (A list of items in the protocol is included in the Appendix, along with information regarding intercoder reliability for each item).

We grouped the protocol items into five categories that relate to the substantive focus of the items.[8] The first category (Plan Creation) contains five items that identify the groups and individuals that were involved and/or consulted in creating the plan. The second category (Sustainability Context) contains ten items that relate to the municipal context in which the plan was created, including an assessment of local priorities and awareness regarding sustainability and the local vision for how the sustainability plan will be used. The third category (Implementation) contains fifteen items that relate to features of the plan creation process and plan document itself that can be expected to help determine whether and to what extent the plan is actually implemented. The fourth category (Monitoring and Evaluation) contains five items that relate to monitoring the implementation and impact of the plan and evaluating the successful achievement of its goals. Lastly, the fifth category (Usability) contains three items that relate to "user-friendly" features of a plan.

We constructed a separate variable for each of the five categories, using a standardization process that allows for a comparison of scores across categories while accounting for the fact that the number of items included in each category varies across categories. To calculate standardized category scores, we divided each

observed category score for each plan by the number of protocol items included in the respective category. The resulting quotient is a value that can range from 0.00 to 1.00, reflecting the proportion of the items included in the plan. Each standardized category score thus becomes a variable with values that can be meaningfully compared across categories. We report and discuss summary statistics for each of the five categories, including measures of central tendency and dispersion. In addition to comparing category scores across plans, we also examine plan performance in relation to individual items within the categories. Due to space constraints that prohibit direct discussion of each of the thirty-eight items in our protocol, we focus on a subset of individual items that we consider to be particularly worthy of attention.

FINDINGS

We now present the results of our evaluation of the twenty sustainability plans from British Columbia. Table 2 shows summary statistics for the five categories in our evaluation protocol. The first category relates to Plan Creation, which in this paper refers to a discussion of the parties that were involved and consulted in promoting and creating the plan. Reporting such information in the plan helps to increase transparency and legitimacy by indicating whether or not a broad representation of relevant stakeholders contributed to the plan and whether their interests were taken into account during the process of writing the plan. The failure to represent important interests can reduce the extent to which the plan is broadly supported in the community and to which the plan actually gets implemented.

T A B L E 2 : Summary Statistics for the Plan Quality Variables

VARIABLE NAME	MEAN # OF ITEMS	MEAN SCORE	MIN SCORE	MAX SCORE	STD.DEV.
Plan Creation	1.95 / 5	0.39	0.00	1.00	0.28
Sustainability Context	4.95 / 10	0.50	0.10	0.90	0.18
Implementation	4.55 / 15	0.30	0.13	0.53	0.11
Monitoring and Evaluation	0.95 / 5	0.19	0.00	0.80	0.25
Usability	1.40 / 3	0.47	0.00	1.00	0.27

In general, the twenty sustainability plans were weak with respect to describing the plan creation process, as the mean number of items included was less than two and the mean standardized score was 0.39. Ten of the plans included just one item, and one plan (Township of Langley) included zero items. Only six plans included three or more items, with just one plan (City of North Vancouver) containing all five items. The Plan Creation variable displays the most variation in scores across the plans, with a range in standardized scores of 0.00 to 1.00 and a standard deviation of 0.28 (or roughly 1.4 items).

Seventeen of the twenty plans identified the parties that were involved in creating the plan, but just eight identified a particular "champion" or sponsor of the plan. Given that the sustainability planning process is typically administered by the municipal government, it is important for an individual (or group) within the local government to promote the plan and to foster commitment to its creation and implementation. Four of the eight plans that identified a champion or sponsor included a message from the local mayor in which s/he expressed the city's support for sustainability planning in general and for the sustainability plan in particular. By making a public declaration of commitment to explicitly identified sustainability principles, the leadership of a municipality can communicate to the local community the importance of sustainability as a framework for guiding local decision-making and create accountability to the public by setting a standard against which municipal actions can be measured and evaluated.

In addition to the issue of whether or not a local champion is identified, the Plan Creation variable also addresses the extent to which a broad set of local stakeholders was consulted during the process of creating the plan. We found that six plans indicated that the local business community was consulted during the plan creation process, four plans indicated that other government entities were consulted, and four indicated that the local non-profit community was consulted. In general, it would appear that such important groups were typically not consulted while the sustainability plans were being written, which raises concerns regarding the extent to which the plans accurately reflect local interests and will be successfully implemented. Previous studies have found that involving a broad range of public stakeholders and citizen groups helps to foster better plans and better implementation (Burby 2003).

The plans were strongest in the area of describing the local context for sustainability planning, though still not "strong" in an absolute sense. The Sustainability Context variable contains items that address taking an inventory of existing conditions with respect to sustainability-related concerns, describing community values and a vision for future conditions, and explaining the role of the sustainability plan in helping to promote those future conditions. The twenty plans under study included 4.95 of the 10 Sustainability Context items, for a mean score of roughly 0.50. One plan (Township of Langley) included just a single item, and one plan (Kimberley) included nine items. The most frequent score was five items, with seven plans containing that number. Twelve of the plans contained between four and six items.

The most frequently-occurring items (occurring in seventeen plans) within the Sustainability Context category were the items relating to (1) describing a vision for the community, (2) explaining the role/purpose of the sustainability plan, and (3) providing a qualitative outline of community needs, assets, opportunities, risks, and so on. Ten plans contained quantitative information regarding these concerns, which is particularly useful for enabling a community to track change (e.g., progress toward sustainability goals) over time. Establishing a quantitative baseline of existing conditions provides a standard against which future conditions can be compared in
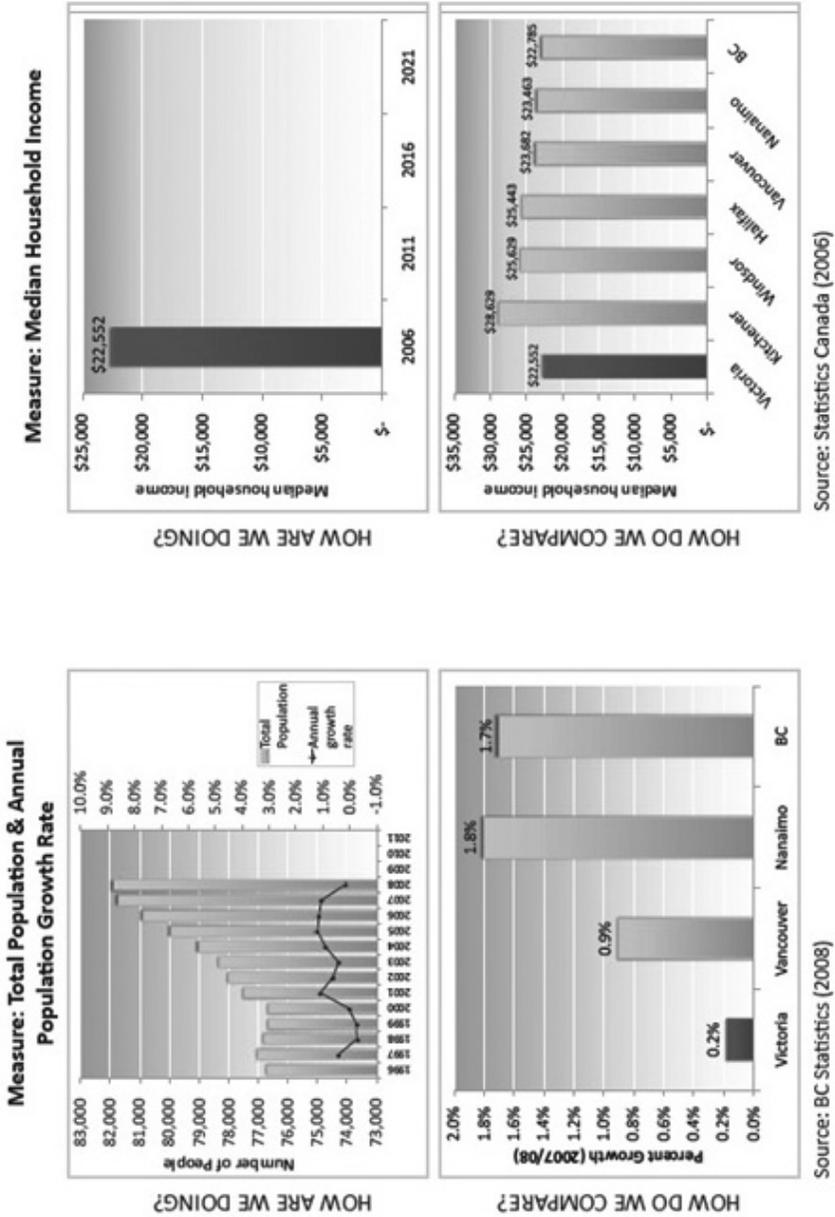
FIGURE 1: Quantitative Context Data from City of Victoria's Sustainability Plan

order to evaluate whether and to what extent conditions have improved. The Victoria plan, for example, provides detailed quantitative information regarding a very broad range of sustainability concerns, from economic (e.g., income, employment growth, tourism revenues) to environmental (e.g., impervious surface coverage, ecological ratings of shoreline areas, energy use and emissions) to social (e.g., sense of community belonging, child poverty, voter turnout). Figure 1 shows an excerpt from the Victoria plan in which population and income data are reported and compared to data from other (relevant) municipalities.

Five of the ten items in the Sustainability Context category were included in less than half of the plans. While most of the plans explained the plan's role, only five indicated that the sustainability plan was intended to serve as the guiding document for all other local government plans. Most of the plans also failed to discuss what was important to local residents. Just five of the plans identified community priorities/values, and only one plan (Whistler) identified potential tensions/tradeoffs between sustainability priorities (e.g., "jobs vs. the environment").

The plans performed poorly on the Implementation variable. On average, the plans contained just 4.55 (30%) of the fifteen items, and only two plans contained seven (Highlands) or eight (Kimberley) items. Fifteen of the plans contained five or fewer items, with two plans (City of Langley and Sooke) containing just two items. The Implementation category reflects the smallest amount of variation in the scores, with the smallest range (from 0.13 to 0.53) and the smallest standard deviation (0.11). In general, the creators of the plans appear to have put relatively little thought into how the plans should be used and supported in order to maximize their impact.

Only two of the Implementation items were included in more than nine of the plans. Eighteen of the plans contained specific strategies/actions/initiatives for promoting sustainability, and fifteen of the plans identified a timeline for achieving their vision. Nine of the plans assigned varying priority to the actions in the plan, which helps to ensure that implementation actions are connected to community values. By establishing systematic prioritization procedures, a plan is less arbitrary and maintains greater credibility within the local community. The Rossland plan (2012, 5) incorporated prioritization into their sustainability planning process by conducting an Actions workshop where "participants brainstormed Strategic Actions for each of the End-state Goals and prioritized the Strategic Actions into an initial list of short, medium and long-term priorities". Nine criteria were used to help prioritize the actions, including: (1) Direct Impact, (2) Leverage, Influence on Others, (3) Financial Capacity, (4) Practicality, (5) Timeliness or Consequences, (6) Resiliency and Adaptability, (7) Potential Exists for Champions, (8) Public Expectations, and (9) Synergy. In addition, the plan outlines a method for ongoing reprioritization as conditions change and implementation proceeds, as shown in Figure 2.

Whereas a true commitment to sustainability can require municipalities to make

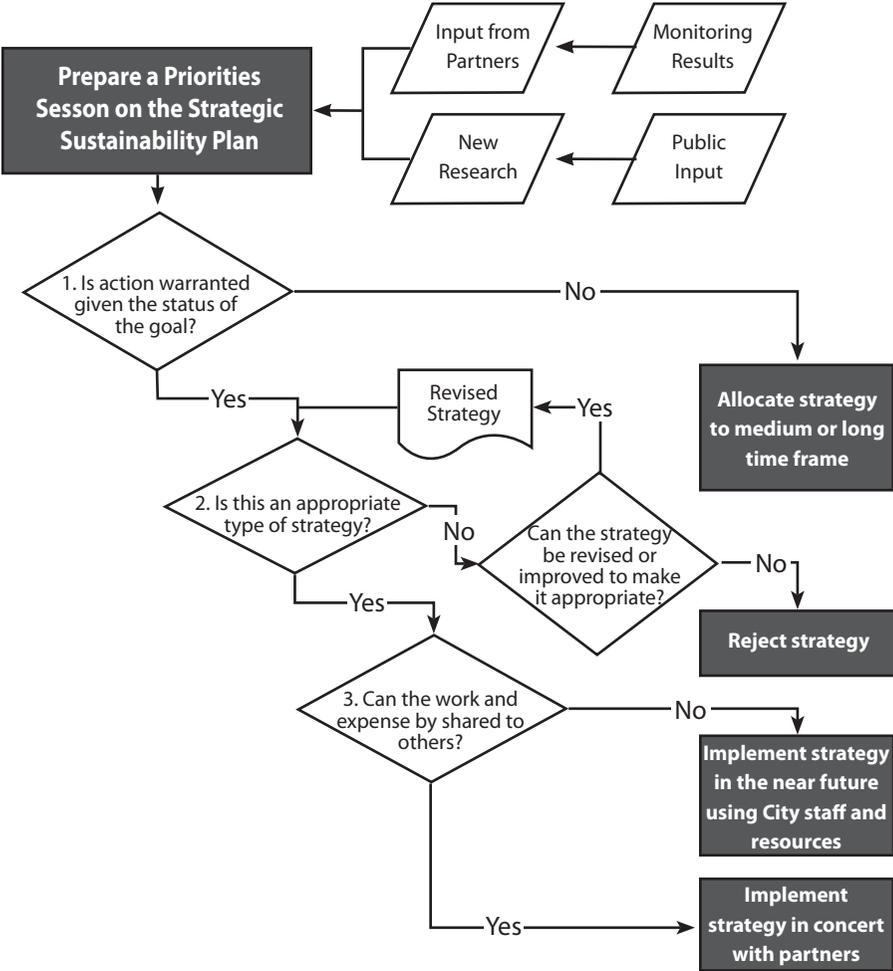## Utilizing Three Key Questions to Establish Strategic Priorities

FIGURE 2: Reprioritization Process from Rossland Plan

major changes that might be expected to be politically unpopular (if not infeasible), it is disappointing that only five of the plans identified "low hanging fruit" or "quick win" actions that could be pursued in the short term at relatively low cost. Only three of the plans indicated that the plan had been officially adopted by the municipal council, only three used mandatory language in writing their policies, and only three discussed funding opportunities and constraints. One plan (Victoria) identified committed funding for implementation of specific near-term specific strategies/actions/initiatives. Lastly, none of the plans included cost estimates for implementing near-term actions, strategies, and/or initiatives, and none of the plans considered the cost of implementation vs. the cost of non-implementation.

The plans performed even more poorly in the area of Monitoring and Evaluation. On average, the plans contained just 0.95 items, for a mean score of 0.19. Eleven of the plans contained zero Monitoring and Evaluation items, and an additional seven plans contained one or two items. Only one plan (Rossland) contained three items, and only one (Victoria) contained four. No plan contained all five items.

Short Name	Long Name	What is being measured?	Rationale, Additional Analysis (Source)	*ImagineKimberley* Related Priority
Greenhouse Gas (GHG) Emissions	Total GHG emissions		Most scientists agree that GHGs are contributing to global climate change. This changing climate will impact on Kimberley's local economy, community life, visitor experiences as well as directly on the local natural environment. Climate change and GHG emissions are global and local issues that require solutions at all levels and reducing Kimberley's contribution is an important aspect of our committment to stewardship of the natural environment, environmental responsibility and long-term sustainability. (CEEI)	Enhancing the Tourism Experience
Total GHG emissions results include the GHGs created from generating the electricity that we use, the energy used to generate heat/cooling, transportation energy for the larger fleets of vehicles in Kimberley and estimates of the emissions from intra-community transportation as well emissions resulting from Kimberley's landfilled waste.				Ensuring Economic Viability

F I G U R E 3 : Indicator from Kimberley Plan

None of the five Monitoring and Evaluation items was found in more than eight of the plans. Eight plans contained provisions to monitor the effect of the plan on at least some dimension of sustainability, and three plans contained provisions to monitor whether the municipality was doing what it said (in the plan) it was going to do. One plan (Victoria) identified the organization(s) responsible for monitoring specific indicators, and none of the plans specified short-term targets to reach long-term goals.

Seven of the plans established indicators to measure progress in relation to each target. Outlining what will be measured reinforces what is important. However, monitoring is a very resource intensive exercise that is often not completed (UN-Habitat 2005). By identifying indicators in the plan and establishing a baseline from which a target can be established, the plan authors are forced to narrow their focus to essential indicators, which can increase the likelihood that subsequent monitoring will occur. While no plan successfully tied indicators, baselines, and targets together, some plans contained examples of one or two of these components. For example, the Kimberley plan identified thirty-one indicators across the categories of Enriching Community Life, Enhancing the Tourism Experience, Ensuring Economic Viability, Protecting the Environment, and Partnering/Collaboration. Each indicator provided a description of what was being measured and why, along with a data source and the associated priorities from the plan. Figure 3 shows one such indicator from the Kimberley plan that relates to greenhouse gas emissions.

We conclude our discussion of summary scores with the Usability category, where plans performed relatively well in relation to the other categories but poorly in relation to what might be expected. The plans contained 1.40 items (or 47%) on average, with sixteen plans containing one or two items and three plans containing neither a table of contents, glossary, nor executive summary. Only one plan (Sparwood) contained all three of these "standard" features. Seventeen plans contained a table of contents, six contained an executive summary, and five contained a glossary.

DISCUSSION AND RECOMMENDATIONS FOR IMPROVING SUSTAINABILITY PLANNING

Overall, our findings suggest that there is much room for improvement in the twenty sustainability plans in British Columbia, particularly in the areas of implementation, monitoring, and evaluation. Among provisions relating to implementation, the plans in our sample did a poor job of identifying actions that could be pursued relatively quickly at little cost, but that could nevertheless make a meaningful contribution to sustainability goals. The plans were also silent on the issue of funding actions in the plan, which is worrisome in part because a lack of funding has been identified as a significant barrier to implementation (Durlak and DuPre 2008). Under ideal conditions, plans would be implemented and progress would be tracked over time. The sustainability plans under study were very weak in the area of monitoring and evaluation, consistently failing to include provisions for tracking the implementation of sustainability actions, designating responsibility for such tracking to particular organizations, and specifying indicators to help track progress toward targets. In general, the plans were not written in such a way as to provide the reader with confidence that they will be used and that their impacts will be assessed.

As noted by Laurian et al. (2004, 472), "The implementation of plans is conditioned by several aspects of planning practice: … [including] the inclusion in the

plan of provisions for implementation and of management techniques to implement plan polices." On a similar theme, Talen (1996) argues that if the authors of plans intend for the plans to be implemented, they should include evaluative mechanisms in the plan itself and clearly define the expected outputs and the activities involved in their delivery. We found that the sustainability plans were generally lacking in such provisions, which casts doubt on the extent to which the plans will be successfully implemented and will help to promote sustainability. Our findings are generally consistent with those of previous researchers, who have found that plans tend to be weak with respect to including provisions relating to implementation, monitoring, and evaluation. In a meta-analysis of sixteen plan evaluation studies, Berke and Godschalk (2009) found that the plans evaluated in the studies included just 44% of the implementation-related items that the researchers were looking for, and just 38% of the items relating to monitoring and evaluation.

The issue of specifying indicators to track progress toward targets warrants particular attention. Indicators provide quantitative and qualitative information to help demonstrate trends and patterns with respect to phenomena of interest and to the achievement of plan goals (Seasons 2009). Such information enables planners and other decision-makers to evaluate whether and to what extent progress is being made in the achievement of plan goals, and whether any changes are warranted with respect to current policy regimes. The use of indicators facilitates the monitoring and evaluation process, which can help to demonstrate whether a plan is making a difference, whether it is improving quality of life, and whether it is promoting sustainability (Seasons 2009). Scholars argue that such indicators are critical for ensuring effective plan and policy implementation (Wong, Baker, and Kidd 2006).

Based on our findings, we now provide recommendations for how municipalities can craft sustainability plans in such a way as to maximize their usefulness and efficacy for promoting local sustainability. The recommendations focus on establishing a framework for ensuring that sustainability goals and actions are appropriate to the local context and that the actions are faithfully implemented in order to achieve the goals.

1. *Provide a thorough description of existing conditions: A sustainability plan should* include a thorough description (quantitative and qualitative) of existing conditions in the community that relate to the dimensions of sustainability that the plan is intended to address. A thorough understanding of existing conditions enables the creation of goals and strategies that are well-informed and appropriate to the local context. It is particularly useful to describe baseline conditions in quantitative fashion, as quantitative contextual information helps to support a fact-base (Baer 1997; Cherp, George, and Kirkland 2004; Norton 2008) and thus, plan implementation. By failing to provide a detailed "snapshot" of economic, environmental, and/or social conditions at the beginning of the sustainability planning process, the ability to develop appropriate goals and strategies is compromised and it is not possible to compare future conditions with existing in order to evaluate progress.

On a related note, it is important for the goals and strategies that are developed in response to existing conditions to be informed by community values and priorities, in order to ensure that the plan serves to guide the community in a desired direction. Connecting goals and strategies with community values also helps to create institutional memory of the rationale behind the prioritization process, which makes plan content less arbitrary and less easily dismissed by subsequent users of the plan and/or community leaders. Additionally, a community-wide conversation regarding local values and the trade-offs between sustainability goals helps to identify what is most important to the community and to build support for subsequent implementation.

2. *Develop and include implementation cost and potential/committed funding information, including analysis of potential new funding sources*: A municipality can demonstrate meaningful commitment to sustainability planning by "putting its money where its mouth is" and allocating specified funding toward the implementation of actions in the plan. In cases where available local funding sources are not sufficient, a municipality can promote implementation by identifying potential funding sources external to the community that might be accessible for supporting local initiatives. Specific examples might include: (1) outlining the order of magnitude of the cost for the implementation of each action or strategy (e.g., projects: under $10,000; between $10,000 and $50,000; between $50,000 and $100,000; over $100,000; over $1,000,000; etc.), an approach that acknowledges the difficulty and resource-intensive nature of estimating the cost of implementing each action or strategy while still providing a ballpark figure that can guide funding decisions and efforts to identify funding sources; (2) identifying and indicating in the plans those actions that can be funded from normal operating budgets versus those that will require special funding; (3) identifying which, if any, actions have immediate implementation funding in place; (4) providing an analysis of potential new funding sources such as user fees, development cost levies, etc. and a timeline showing when they could be brought on-line or identifying one-off funding opportunities such as grants, if plan implementation requires funding beyond normal operating budgets.

3. *Identify indicators with a baseline and target for each*: Authors of sustainability plans should strive to develop indicators for all dimensions of sustainability that the community wishes to promote, along with baselines and targets for each indicator. By identifying indicators in the plan and establishing a baseline from which a target can be established, plan authors are forced to narrow their focus to what is most important to the local community, which can increase the likelihood that subsequent monitoring will occur. The baselines and targets foster the tracking of progress over time, in that conditions at future points can be compared to baseline conditions in order to assess whether and to what extent the targets have been met. Targets also serve to foster plan implementation by providing a concrete objective to aim for and encouraging the local community to reach that objective (Wong, Baker, and Kidd 2006).

4. *Identify the organization or position that will champion implementation efforts*: Champions facilitate action, and the presence of a plan champion can help to encourage plan implementation. Champions are particularly important in cases where plans call for behavioral change (Curley and Gremillion 1983), such as is the case with sustainability plans. The champion can be an individual (e.g., mayor, planning director, sustainability coordinator) or group (e.g., city council, planning commission, sustainability committee), but in either case it is critical that the champion possess sufficient influence and authority within the municipality to ensure that the plan is implemented in the face of opposition or proposals for projects that would benefit a small group of people (e.g., private developers) at the expense of longer-term, community-wide sustainability plan goals.

5. *Identify how the public will be engaged in implementation on an ongoing basis*: Ongoing public engagement is key to implementation success because it helps to maintain support for the project, thus enabling public decision makers to commit the resources required for implementation and encouraging local citizens to act in accordance with the plan. In order for plans to "matter" and to have their intended impact, it is important that a broad array of stakeholders be involved in creating and implementing the plans (Burby 2003; Stevens, Berke, and Song 2010). Authors of sustainability plans can thus contribute to the likelihood of successful plan implementation by explaining in detail when and how members of the local community will support the continued use of the plan.

LIMITATIONS

Before we conclude, we wish to acknowledge certain limitations in our study regarding the process of drawing conclusions from plan documents. We have evaluated whether or not sustainability plans in B.C. contain certain features, and while there is value in including these features in the plans, the fact that a given plan does not contain a given feature should not be interpreted to mean that the municipality that created the plan has not addressed the feature in some other way. For example, a municipality whose plan does not describe a program for monitoring and evaluation might nevertheless be conducting monitoring and evaluation of the plan's implementation and impact, in ways that help to track progress and to identify possible changes that might be necessary to better promote plan goals.

While it would technically not be necessary to describe such a program in the plan, a municipality can contribute to the plan's legitimacy and its overall quality by providing details in the plan with respect to how its implementation will be tracked over time and the means by which adjustments will be made as needed in response to changing conditions and community preferences. Such information helps to communicate to readers of the plan that the municipality is committed to using the plan and to evaluating whether and to what extent the plan is contributing to desired outcomes. As a result, there is value in including this type of information in the plan document itself.

CONCLUSION

Laurian et al. (2004, 472) state that "The implementation of plans is conditioned by several aspects of planning practice…[including] the inclusion in the plan of provisions for implementation and of management techniques to implement plan polices." Our evaluation of twenty sustainability plans in British Columbia has shown that the degree to which they include provisions for implementation leaves significant room for improvement, particularly if the plans are intended to be instruments of change that foster sustainability at the municipal level. Berke and Godschalk (2009, 227) observe that plan evaluation is difficult in part because of "differing academic views about the purpose of plans, for example, whether they are concrete documents intended to underpin development regulations and public investments or more transitory provisional schemes used as tools for professional deliberation."

Our findings in this paper suggest that municipalities are not viewing sustainability plans as authoritative blueprints intended to strictly determine future change. The plans are not written in such a way that municipalities clearly and thoroughly commit themselves to carrying out the actions included in the plans, and as such there is a risk that the plans will exist merely as token gestures rather than as mechanisms for promoting positive change. Given the monumental challenges facing humanity at the dawn of the twenty-first century, the imperative for a global transition to sustainable living is arguably so great that municipalities should maximize the potential of sustainability plans for supporting that transition by designing plans that not only identify necessary actions to foster change, but also commit and enable the municipalities to making certain those actions are carried out.

NOTES

[1] The City of Hamilton's "Vision 2020" was one of the earliest sustainability plans in Canada, and was first adopted in 1992.

[2] An official community plan is the British Columbia counterpart to a "comprehensive plan" in the United States.

[3] This final procedure identified some documents that were not previously identified, as some municipalities described their sustainability planning processes on a website separate from the official municipal website.

[4] We pre-tested our draft plan evaluation protocol on the following six sustainability plans from Canadian municipalities outside British Columbia: "Imagine Calgary Plan for Long Range Urban Sustainability" from the City of Calgary; "After the Gold Rush: The Integrated Community Sustainability Plan" from the City of Dawson; "Markham's Greenprint Sustainability Plan" from the City of Markham; "Our Bridge to the Future: Teslin Integrated Community Sustainability Plan" from the Village of Teslin; "The Whitehorse Strategic Sustainability Plan: Growing a Sustainable White-

horse" and "City of Whitehorse Integrated Community Sustainability Plan", both from the City of Whitehorse.

5   The two coders that coded the pretest plans and twenty sustainability plans from British Columbia were masters students in the School of Community and Regional Planning at the University of British Columbia, and had completed coursework in sustainability planning, qualitative, and quantitative research methods prior to their involvement in this study. One of the two coders is a co-author of this paper.

6   Stevens, Lyles, and Berke (Forthcoming) note that this type of scoring scheme (which is standard practice in plan quality evaluation studies) effectively assigns equal weight to each item, even though some items might be more important than others for promoting the goals of the plan. Stevens, Lyles, and Berke (Forthcoming) recommend that experts develop differential weighting schemes for protocol items, and that researchers continue to utilize equal-weighting for items until such schemes are developed.

7   This decision represents a departure from what has been done in previous studies, where researchers have instead chosen to include all items in the analysis when the average percent agreement across all items exceeded some minimum standard.

8   We grouped the protocol items into the five categories prior to conducting the reliability assessment. This enabled us to better apply the standards recommended by Steven, Lyles and Berke (Forthcoming).

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APPENDIX. ITEMS IN PLAN EVALUATION PROTOCOL

PLAN CREATION	ALPHA	AGREEMENT
The plan identifies who was involved in the plan formulation (e.g., staff from a variety of departments, consultants, politicians, advisory groups, etc)	1.00	1
The local business community was consulted during the plan development process	0.89	0.95
Neighboring local governments, the province and/or the Federal government were consulted during the plan development process	0.70	0.90
The local non-profit community was consulted during the plan development process	0.63	0.85
The plan identifies a plan champion/sponsor (can be individual or organizational; a commitment to leadership; may be an introductory letter from the Mayor, signaling council commitment).	0.61	0.80
SUSTAINABILITY CONTEXT		
The plan describes a vision for the community	0.83	0.95
The plan outlines the current fact based local sustainability context quantitatively (community needs, assets, trends, opportunities and risks)	0.80	0.90
The plan outlines the current provincial, national and/or global sustainability context	0.80	0.90
The plan identifies community priorities/values	0.77	0.90
The plan identifies potential tensions/tradeoffs between sustainability priorities (e.g., jobs vs. environment, income quality vs. growth, etc)	0.65	0.95
The plan outlines the current fact based local sustainability context qualitatively (community needs, assets, trends, opportunities and risks)	0.62	0.90
The plan includes a definition of sustainability (e.g., Bruntland Definition, definition developed through planning process, etc)	0.61	0.80
The Plan identifies that it qualifies as an Integrated Community Sustainability Plan (ICSP)	0.54	0.80
The role/purpose of the sustainability plan explained	0.46	0.90
The plan is the guiding document for all other local government plans	0.44	0.75

APPENDIX. ITEMS IN PLAN EVALUATION PROTOCOL

IMPLEMENTATION	ALPHA	AGREEMENT
The cost of implementation vs. non-implementation is considered	Undefined[a]	1.00
The plan has been received by Municipal Council	1.00	1.00
The plan identifies committed funding for implementation of near-term specific strategies/actions/initiatives	1.00	1.00
The plan has been adopted by Municipal Council	0.83	0.95
The plan ties specific strategies/actions/initiatives to each of the goals/objectives	0.70	0.85
The plan includes a call to action for all members of the community	0.69	0.85
The plan identifies a timeline (e.g., 20, 30, 50, 100 years; i.e., What year is the vision for?)	0.63	0.83
The plan has specific strategies/actions/initiatives	0.62	0.90
The plan includes strategies written in mandatory language (e.g., will, shall, must, require)	0.62	0.90
The plan commits the local government to using sustainability as a frame for all decisions	0.61	0.80
The plan actions are prioritized	0.59	0.80
The plan has an implementation section	0.59	0.79
The plan identifies 'low hanging fruit'/'quick win' actions	0.58	0.85
The plan discusses funding opportunities and constraints	0.58	0.85
MONITORING AND EVALUATION		
The plan identifies short-term targets to reach a long-term timeline	Undefined[a]	1.00
The plan establishes indicators to measure each target	0.89	0.95
The plan identifies the organization(s) responsible for monitoring specific indicators	0.78	0.95
The plan monitors for effect (i.e., Have our actions had an effect? If so, what effect?)	0.70	0.85
The plan monitors for compliance (i.e., Have we done what we said we were going to do?)	0.00	0.95
USABILITY		
The plan has a glossary of terms	1.00	1.00
The plan has an executive summary	0.88	0.95
The plan has a detailed table of contents	0.78	0.95

a. The value of alpha is undefined when the following two conditions are met: (1) agreement is equal to 1.00 (i.e., the coders agree on the item score for every plan), and (2) the item was found by each coder to be present in every plan, or the item was found by each coder to be absent from every plan. For more details, see Stevens, Lyles, and Berke (Forthcoming).