Methods to Assess Co-benefits of California Climate Investments

Community Engagement

Center for Resource Efficient Communities, UC-Berkeley
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I. Background

Under California's cap-and-trade program, the State's portion of the proceeds from cap-and-trade auctions has been deposited in the Greenhouse Gas Reduction Fund (GGRF). The Legislature and Governor enact budget appropriations from the GGRF for State agencies to invest in projects that help achieve the State's climate goals. These investments are collectively called California Climate Investments (CCI).

Senate Bill 862 requires the California Air Resources Board (CARB) to develop guidance on reporting and quantification methods for all state agencies that receive appropriations from the GGRF. Guidance includes developing quantification methodologies for greenhouse gas (GHG) emission reductions and other non-GHG outcomes. Non-GHG outcomes are the positive or negative social, economic, and environmental impacts of projects, which are collectively referred to as "co-benefits." Some agencies use a competitive process to select CCI projects and they require applicants to estimate co-benefits when they submit a request for funding.

This document is one of a series that reviews the available methodologies for assessing selected co-benefits for CCI at two phases: estimating potential project-level co-benefits prior to project implementation (i.e. forecasting of co-benefits), and documenting actual co-benefits after projects have been implemented (i.e. tracking of co-benefits). The assessment methods at each of these phases may be either quantitative or qualitative. As with CARB's existing GHG reduction methodologies, these assessment methods will be developed to meet the following standards:

- Apply at the project level
- Align with the project types proposed for funding for each program
- Provide uniform methods to be applied statewide, and be accessible by all applicants
- Use existing and proven tools or methods where available
- Reflect empirical literature

CARB, in consultation with the state agencies and departments that administer CCI, has selected ten co-benefits to undergo methodology assessment and development.

This document focuses on one of those selected co-benefits and reviews available empirical literature on the ***community engagement*** co-benefit and identifies:

- the direction and magnitude of the co-benefit,
- the limitations of existing empirical literature,
- the existing assessment methods and tools,
- knowledge gaps and other issues to consider in developing co-benefit assessment methods
- a proposed assessment method for further development
- an estimation of the level of effort and delivery schedule for a fully developed method

II. Co-benefit description

Community engagement has been defined by the U.S. government (US HHS 2017) as "the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the wellbeing of those people." In the context of CCI, the community engagement co-benefit refers primarily to the extent to which CCI may contribute to community members' active participation in, or leadership of, affairs of importance to the community, such as policy and planning decisions or the construction of major infrastructure or building projects. Depending upon the circumstances of a particular CCI, this participation and leadership may be initiated either by a project proponent who engages the community in the planning and/or design of a project, or it may be initiated by the community itself in advocacy for a prospective or actual CCI. In either case, participation and leadership by the community in these matters can range from providing input and public comment to extensive collaboration and/or decision-making on the design and implementation of a project.

Community engagement refers as well to the extent to which CCI may contribute to positive social interaction between members of a local community. This type of community engagement can increase due to formal interactions such as organized volunteerism, as well as informal interactions such as chance meetings and casual "neighboring," if they occur frequently enough. This second type of community engagement may be thought of as enhancement of the community's "social capital," commonly defined as the value of social networks and of the benefits people receive from and provide to others in their social network (Jacobs 1961, Rogers et al 2013).

CCI therefore can affect community engagement through two pathways. First, public participation in the planning and design of a CCI investment may increase community engagement by fostering access to, deliberation about, and potential leadership of policies, plans and projects that affect the community. Second, certain CCI may increase the potential for face-to-face social interactions within communities due to the construction of a trail project, active transportation project, or rail or bus station that generates walking trips. Although both of these types of project-level community

engagement co-benefits are difficult to quantify, opportunities for qualitative assessment are reviewed below.

Table 1, below, illustrates the CCI that may be able to document the co-benefit of community engagement.

***Table 1**: CCI Programs Affected by Co-Benefit*

Program	Project	Likely direction of co-benefit (+ = beneficial change)
Transportation and Sustainable Communities		
HSRA	*High Speed Rail*	+
CalSTA	*Transit and Intercity Rail Capital Program (TIRCP)*	+
LCTOP	*Low Carbon Transit Operations (LCTOP)*	+
Caltrans	*Active Transportation*	+
SGC	*Affordable Housing and Sustainable Communities (AHSC)*	+
	Sustainable Agricultural Lands Conservation (SALC)	+
	Transformative Climate Communities (TCC)	+
Clean Energy and Energy Efficiency		
CSD	*Community Solar*	+
Natural Resources and Waste Diversion		
CNRA	*Urban Greening Program*	+
DFW	*Wetlands and Watershed Restoration*	+
CALFIRE	*Forest Health Restoration*	+
	Urban and Community Forestry (UCF)	+

Table 1 shows CCI that have the potential to enhance community engagement at the *project* level. In keeping with the standards for co-benefit development identified in section I above, this is the scale at which co-benefit assessment methodologies must apply and to which the methods below are addressed. However, it should be noted that CCI at the *program* level may also enhance community engagement by, for example,

building additional capacity within the community to identify needs and interface with governmental agencies effectively. There also may be opportunities for entire CCI programs to engage the community in the establishment of program goals, funding criteria, or other program-level priorities. These engagement opportunities may be important co-benefits of CCI, but will be unknown to most project-level applicants and funding recipients, and therefore are not subject to co-benefit assessment using the methods discussed in this document.

III. Directionality of the co-benefit

As reflected in Table 1 above, research suggests that relevant CCI will likely increase community engagement, a *positive co-benefit*. Investments in projects in the High Speed Rail, TIRCP, LCTOP, Active Transportation, AHSC, TCC, and Urban Greening programs are likely to improve community engagement both by offering public participation opportunities in project planning and by increasing pedestrian trips (and thereby increase the likelihood of social interactions among community members). Investments in projects in the Community Solar, Wetlands and Watershed Restoration, Forest Health Restoration, and Urban and Community Forestry programs may also present opportunities for public participation in project planning. The potential varying levels and effects of such participation are described below.

IV. Magnitude of the co-benefit

Overall, it is possible that community engagement co-benefits may be significant at a project level, though given the wide variety of possible public participation techniques and possible effects, it is difficult to generalize. For CCI that fund investments in major infrastructure or changes to the public landscape (see Table 1), active public participation in planning could potentially be an important factor in fostering greater capacity for community participation and leadership in matters of public importance, as well as in fostering community acceptance of new infrastructure and higher levels of use. Projects that directly foster pedestrianism, such as those in the Active Transportation and Urban Greening programs, or projects that create new housing developments in the Affordable Housing and Sustainable Communities program, may also create significant co-benefits at the project level from face-to-face community interactions. At the scale of the entire CCI portfolio, community engagement co-benefits of CCI are not likely to be large when viewed in the context of other factors that contribute to overall community engagement. Personal and community empowerment flow from many sources that may not be related to individual project investments, such as a community's macro-scale physical design, cultural traditions, and the robustness of various community institutions such as schools and churches.

Projects that include public participation in planning

There is a large literature on public participation in planning, but most of it addresses the topic from the perspective of the agency or project proponent and comparatively

little focuses on assessment of the effects that such participation processes may have on participants, or on how community engagement leads to capacity building. Halvorsen (2003) summarized the findings of relevant literature addressing effects on participants and found that accessibility of the process is particularly important to participants because it is closely linked to a sense of representational fairness. Most participants find face-to-face discussion, especially when it is deliberative, more satisfying than written comments. Finally, she reports from the literature that high-quality participation may build tolerance for opposing viewpoints.

Martineau-Delisle and Nadeau (2010) studied the impacts of public participation in forest management and identified ten impact types, as shown in Figure 1.

Effective	A)		An effect on decisions and actions, and on the involvement of a diversity of participants T1: Direct power and influence on management decisions resulting from participation process T2: Concrete outcomes and greater effectiveness of the management process T3: Openness of forest management process to a wider range of participants than the traditional actors involved
Procedural	B)		Relevance and progressive adjustment of public participation practice T4: Evolution of participatory practices towards approaches more suitable to local contexts and participants
Reflexive	Cognitive	C)	Information and participant learning T5: Acquisition and exchange of information and knowledge by participants T6: Enhancement of participants' skills
	Affective	D)	Mobilization of participants T7: Expression of participants' motivation/commitment, and enhancement of their capacity to contribute to the management process
		E)	Relationships and interactions among participants T8: Changes in attitudes and behaviours with regards to the self and to the others T9: Communication among participants T10: Development of a collective capacity for collaboration and relationships among participants

Figure 1. The impacts of public participation in forest management: five groupings and ten types (Martineau-Delisle and Nadeau 2010).

This framework shows that public participation can have an effect on pending decisions and actions (effective impact), the relevance and legitimacy of the participatory practice itself (procedural impact), and the knowledge, mobilization and relationships of participants (reflexive impact). These reflexive impacts may include components that are relevant to lasting improvements in community engagement, including "changes in attitudes and behaviors with regards to the self and to others," "communication among participants," and "development of a collective capacity for collaboration and relationships among participants."

Irvin and Stansbury (2004) identified a number of advantages and disadvantages to public participation to both agencies and citizens. These relate both to the process of making decisions and to the outcomes of those decisions. Among the advantages are opportunities for agencies and citizens to educate and persuade one another about their priorities, to gain legitimacy for decision outcomes, to avoid litigation costs, and (for citizens) to gain skills for active citizenship. Disadvantages include costs, the potential to increase citizen distrust of government if decisions are not implemented, and (from the perspective of both sides) the possibility of an unwelcome outcome that is politically impossible to ignore.

To maximize advantages and minimize disadvantages for both sides, Reed (2008) surveyed the literature to identify a series of best practices in stakeholder (i.e. public) participation:

1. Stakeholder participation needs to be underpinned by a philosophy that emphasizes empowerment, equity, trust and learning
2. Where relevant, stakeholder participation should be considered as early as possible and throughout the process
3. Relevant stakeholders need to be analyzed and represented systematically
4. Clear objectives for the participatory process need to be agreed among stakeholders at the outset
5. Methods should be selected and tailored to the decision-making context, considering the objectives, type of participations, and appropriate level of engagement
6. Highly skilled facilitation is essential
7. Local and scientific knowledges should be integrated
8. Participation needs to be institutionalized

Reed argues that these best practice metrics, which pertain to the process by which decisions are made, will also tend to improve the quality of decision outcomes, including positive effects on participants. Atree et al (2010) have found that community engagement processes in health care delivery have beneficial effects on participants, including in “self-confidence, self-esteem, sense of personal empowerment and social relationships.”

Chess and Purcell (1999) also emphasize the distinction between evaluating process and outcomes. They find that the forms of participation (e.g. public meetings, workshops, etc) do not necessarily determine either process or outcome success, and that agency actions beyond simply determining the form of the participatory process are important to both process and outcome success. Based on empirical research, they identify five rules of thumb for success in public participation:

1. Clarify goals
2. Begin participation early and invest in advance planning
3. Modify traditional participatory forums to meet process or outcome goals
4. Implement a public participation program with various forms of public participation
5. Collect feedback on public participation efforts

These basic rules of thumb may pertain mostly to potential agency or project proponent “success” in a participatory process, but given the findings reviewed above, they may also enhance participant satisfaction and potentially foster more lasting community engagement benefits.

Projects that increase pedestrian activity

The literature supports a positive relationship between walking and community engagement, but findings differ on whether this association applies more to walking for transportation or walking for recreation. The difference in these findings has important implications for the types of CCI programs affected by the co-benefit. While HSRA, TIRCP, and LCTOP projects would likely generate mostly transport-related walk trips, projects under AHSC, Active Transportation, and Urban Greening may generate more recreational walk trips.

Several studies have found a positive relationship between walk trips in general and measures of community engagement. A survey-based study of New Hampshire neighborhoods that varied in built form and socio-demographic characteristics indicated that residents living in neighborhoods where people walk to more destinations experienced higher levels of social capital (Rogers et al 2013). Questionnaires administered to older adults in high, average, and low-income Montreal neighborhoods identified daily or almost daily walk trips as an independent predictor of an individual's social participation, as measured by a scale that included factors such as frequency of visiting family or friends, volunteering, or attending cultural events (Richard et al 2009). Surveys of older adults in Quebec, Canada supported walking frequency as a mediator between social participation levels and access to services and amenities conducive to social participation (Julien et al 2015). In a nationwide study using ZIP Code Business Patterns and U.S. Census data, Knudsen and Clark (2013) found that walking mediated the positive relationship between a location's density and connectivity and its prevalence of social organizations, and that this mediating effect was greater than that of income, local rent, or racial diversity.

The literature differs on the type of walk trips that are associated with more community engagement, with some research finding that walking for transport but not for recreation is related to greater social capital, and some finding the opposite. Du Toit et al. (2007) found that walking for transportation mediated the slight association they measured between neighborhood walkability and sense of community in Adelaide, Australia, but that walking for recreation did not mediate this relationship. French et al. (2014) also found that sense of community in Perth, Australia had a stronger positive association with walking for transport than with walking for recreation. Surveys of over 50,000 older adults in Belgium during a six-year period found a significant positive relationship between walking for transportation and neighbors' social support as well as frequency of contacts with neighbors (van Cauwenberg 2014).

Meanwhile, Lund (2003) found that among walk trips in four inner-city and four suburban neighborhoods in Portland, Oregon, both destination trips and strolling trips were associated with a higher frequency of unplanned interactions, but that only strolling trips were associated with a greater number of local social ties and that neither type of trip was related to the number of supportive acts of neighboring. Lund (2002) also found that strolling trips were positively correlated with sense of community but that destination trips were not. Wood et al. (2010) supported these results with their finding

that only leisurely walking, not brisk walking, was associated with sense of community in the Atlanta metropolitan area. Similar findings resulted from a study in which adults in Waterloo, Ontario recorded minutes of recreational and transport-related neighborhood physical activity and completed surveys of perceived neighborhood social connectedness (Kaczynski and Glover 2012). Results showed that perceived social connectedness had a stronger association with recreational physical activity in the neighborhood than with transportation-related physical activity.

Many studies have analyzed the relationship between social capital and neighborhood walkability, rather than walking behavior specifically. A survey measuring the social capital of residents in a wide range of neighborhood types in Galway, Ireland found a positive relationship between neighborhood walkability and knowing neighbors, participating politically, trusting others, and being socially engaged (Leyden 2003). Surveying residents in a variety of neighborhood types in three New Hampshire communities yielded similar findings (Rogers et al 2011). Another survey-based study found that walking levels, social interactions, and neighborhood cohesion all increased after residents moved to a walkable community in Austin, Texas (Zhu et al 2014).

A minority of studies found little or no relationship between walkability and social capital. While du Toit et al. (2007) found a slight association between neighborhood walkability and sense of community (mediated by walking for transportation, as described above), they found no association between walkability and social interaction or social cohesion. Surveys of older adults in 15 municipalities in Japan also found no significant relationship between walkability and general trust, norms of reciprocity, place attachment, community engagement, or meeting friends (Hanibuchi et al 2012).

V. Limitations of current studies

Both of these bodies of literature have important limitations, described below.

Projects that include public participation in planning

The main limitation of current studies of public participation in planning is the emphasis on the quality/success of the process from the perspective of the agency or project proponent rather than the participants. In addition, there are significant measurement challenges facing any attempt to assess the effects of such processes on participants. Participation in such processes is generally rather brief, consisting of a few meetings at most, and occurs within a much larger and more complex social context that may be encouraging or discouraging of increased social engagement. Isolating the effects of a participatory process from these larger factors is extremely difficult, and hence there will always remain a large degree of uncertainty as to how much of any observed increased in community engagement (itself difficult to assess objectively) may be attributable to a public participation process.

Projects that increase pedestrian activity

While most studies support a positive relationship between walking and measures of community engagement, the main limitation of current studies is that the directionality of these relationships is unclear. Due to the cross-sectional nature of most studies described above, the positive relationships found between walking and community engagement measures could mean that walking leads to more community engagement or that greater community engagement encourages more walk trips. Causality likely occurs in both directions, with positive reinforcement as walking leads to making connections or feeling more comfortable in the community, which in turn leads to more walking.

The potential for self-selection bias is another problem in the neighborhood-based studies. Neighborhoods that enable more walking might attract residents with shared characteristics and interests, which could lead to more community engagement (Talen and Koschinsky 2013). Lund (2003) explicitly addressed this problem by measuring the relative effect of personal attitudes and neighborhood characteristics on walking and community engagement. She found that self-selection bias was not a factor in the positive association between strolling trips and number of local social ties. However, self-selection bias is a significant issue in many studies examining linkages between the physical features of neighborhoods and transportation behavior.

VI. Existing quantification methods/tools

The two possible project types that may affect community engagement have different sets of assessment methods and tools, reviewed below.
Projects that include public participation in planning

Scholarship on the role of citizen participation in planning and project development flows from a foundational article by Arnstein (1969) that proposed a **"ladder of citizen participation"** with eight rungs that reflect an escalating degree of citizen empowerment, as shown in Table 2:

Type of participation	Example	Goal of agency/project proponent
1. Manipulation	"Rubberstamp" committees	Appearance of citizen approval
2. Therapy	Behavior change campaigns	Modifying citizen attitudes or behaviors
3. Informing	Posters, ads, press events, announcements	Distributing information to citizens
4. Consultation	Comment periods	Gathering input on already-developed plans
5. Placation	Citizen Advisory Committees	Modification of plans based on input
6. Partnership	Joint citizen-agency planning committees	Sharing decision-making power with citizens
7. Delegated power	Funding awards to citizen groups	Empower citizen groups to execute a selected task
8. Citizen control	Neighborhood corporations	Citizens in full control of project/plan development

Table 2. Arnstein's (1969) "ladder of citizen participation" with illustrative examples

Arnstein's ladder has been criticized for being too neatly delineated (Connor 1988) and as overly focused on citizen control as a desired outcome even though that may not align with citizen's desired outcomes for a participatory process (Collins and Ison 2009; Tritter and McCallum 2006). Nonetheless, modified versions of Arnstein's ladder have remained influential. As shown in Figure 2, several more recent typologies of community participation have borrowed the concept of a ladder of increasing levels of involvement in public decisions.

Increasing levels of involvement

Community					Risk Management	Company
Arnstein (1969)	Dorcey *et al.* (1994)	Wilcox (1994)	Pretty & Shah (1994)	UNDP (1997)	Fischoff (1998)	
Citizen control	Ongoing involvement	Supporting	Self mobilisation	Self-management	All of below	Decisional
Delegated power	Seek consensus	Acting together	Interactive participation	Partnership	All we have to do is make them partners	
Partnership	Test ideas, seek advice			Risk-sharing	All we have to do is treat them nice	
Placation	Define issues	Deciding together	Functional participation	Decision-making	All we have to do is show them it's a good deal for them	Consultative
Consultation	Consult on reactions		Participation by consultation	Consensus-building	All we have to do is show them that they've accepted similar risks in the past	
Informing	Gather info perspectives	Consultation	Participation by information giving	Consultation	All we have to do is explain what we mean by the numbers	Informative
Therapy	Educate	Information		Information	All we have to do is tell them the numbers	
Manipulation	Inform		Passive participation	Manipulation	All we have to do is get the numbers right	

Figure 2. Selected typologies of public participation (Green and Hunton-Clarke 2003).

Among the more influential of the recent updates to Arnstein's ladder has been the **Wheel of Participation** developed by Davidson (1998). As shown in Figure 3, it elaborates many of the steps of the Arnstein's ladder into more descriptive categories.

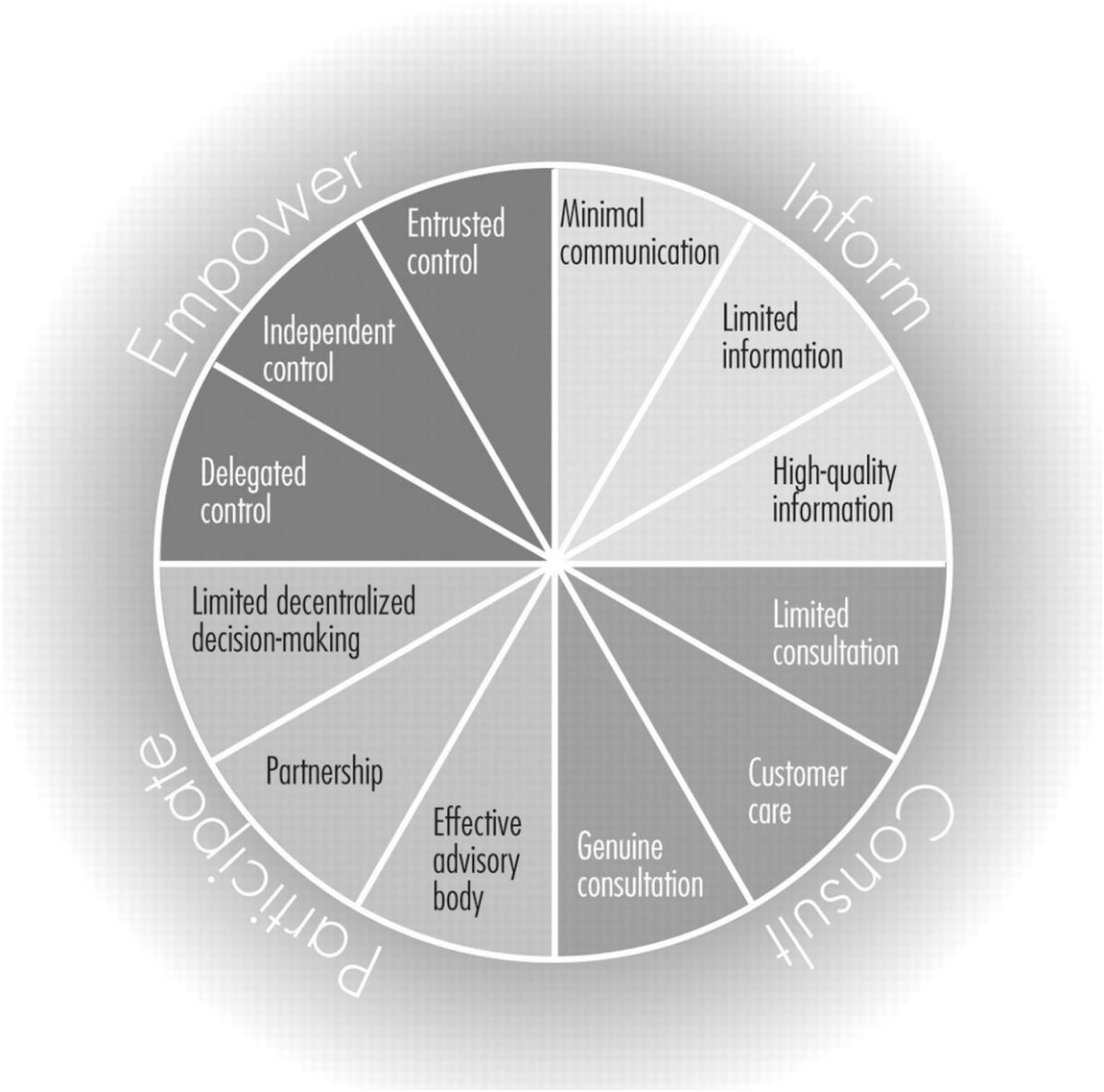

Figure 3. The Wheel of Participation (Davidson 1998).

Similarly, the **Public Participation Spectrum** of the International Association for Public Participation identifies five steps of “increasing impact on [a] decision,” as shown in Figure 4. The IAPP spectrum is clearly derived from Arnstein’s ladder, but is simplified and generalized sufficiently to apply to a wider range of situations.

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Figure 4. The Public Participation Spectrum.

Beyond these typologies, there is also research on frameworks for evaluating the outcomes and effectiveness of citizen participation. As Rosener (1978) noted, there are two main questions whose answers shape any evaluation framework: is citizen participation an end in itself, or is it a means to an end? If it is the former, then assessment of effectiveness is relatively simple – one can count the number of participants, events, or other basic metrics of the quantity of participation. If it is the latter, assessment must involve more complex questions about the quality and effects of the citizen participation effort.

Criteria	*Definition*
Acceptance criteria	
Representativeness	The participants should comprise a broadly representative sample of the affected population.
Independence	The participation process should be conducted in an independent (unbiased) way.
Early involvement	The participants should be involved as early as possible in the process, as soon as value judgments become salient.
Influence	The output of the procedure should have a genuine impact on policy.
Transparency	The process should be transparent so that the relevant population can see what is going on and how decisions are being made.
Process criteria	
Resource accessibility	Participants should have access to the appropriate resources to enable them to successfully fulfill their brief.
Task definition	The nature and scope of the participation task should be clearly defined.
Structured decision making	The participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision-making process.
Cost-effectiveness	The procedure should in some sense be cost-effective from the point of view of the sponsors.

Figure 5. Public participation evaluation of Rowe and Frewer (Rowe et al 2004).

Several frameworks have been proposed to carry out these assessments. The **Rowe and Frewer framework** (Rowe et al 2004) includes both “acceptance” and “process” criteria for evaluating participatory events (see Figure 5), in their case a “deliberative conference” dealing with food safety issues. The acceptance criteria pertain to the potential credibility or legitimacy of the process with the participants, whereas the process criteria can be thought of as professional best practices for participatory events. Though the definitions in Figure 5 are phrased specifically in reference to the deliberative conference model, they could be generalized to any type (or types) of citizen participation. Appendix A illustrates how several common formal public participation techniques generally perform according to these evaluation criteria.

Projects that increase pedestrian activity

The studies reviewed above examine the relationship between walking trips and community engagement by conducting statistical analysis, generally in the form of a regression analysis. In these analyses, community engagement is characterized by variables such as responses to survey questions or by social capital indices.

Surveys in use in these studies range from standardized national surveys such as the General Social Survey, which allow tracking of responses to identical questions over long periods of time, to special survey instruments devised specifically for the study in question (Brehm and Rahn 1997). The prominent social capital scholar Robert Putnam (1991) has relied heavily on data from large-scale national surveys such as the Roper

survey that ask respondents whether they had done things such as attend a local meeting, serve as an officer of a local club, write a letter to their congressman.

Social capital indices commonly combine aggregate responses to such survey questions with other empirical metrics, such as the levels of membership in various voluntary organizations, and philanthropic activity (Putnam 1991). In addition, some measurement efforts include indirect indicators that are thought to be related to social capital, such as crime rates (Sabatini 2009). These sorts of indicators are generally derived from census data or other large-scale social data collection efforts.

VII. Knowledge gaps and other issues to consider in developing co-benefit quantification methods

There are additional issues to consider in developing co-benefit assessment methods for both project types.

Projects that include public participation in planning

Assessment of the community engagement co-benefits from project planning must take into consideration that the California Environmental Quality Act (CEQA) already requires proponents of certain projects to disclose extensive information about the potential environmental impact of the proposed project, and to allow the public opportunities to comment on the Environmental Impact Report (EIR) at various points in the drafting and approval process. CEQA's requirements strongly shape the approach to public participation taken by many project proponents, since failure to meet these requirements can leave a project vulnerable to legal challenge by project opponents.

However, the public participation process embedded in CEQA and other environmental impact assessment laws has been criticized as deficient for several reasons (Shepherd and Bowler 1997):

- It occurs too late in the decision-making process to influence the selection of alternatives or key project variables;
- The scope of public participation is usually limited to verbal or written comments submitted within defined "comment periods" of 30 to 60 days;
- Project proponents can minimize public involvement by designing mitigations into a project in order to achieve a Mitigated Negative Declaration, which avoids the need to produce an EIR and hence deprives the public of any opportunity to evaluate or comment on the project.

More generally, because CEQA applies to most development projects undertaken by public agencies and to many private projects as well (Fulton and Shigley 2005), its requirements should be considered a minimum baseline for public participation efforts in California. Any method to assess community engagement co-benefits from CCI project

planning should therefore focus on public participation efforts that are “over and above” the basic requirements of CEQA.

Projects that increase pedestrian activity

The main barrier to developing quantitative tools for evaluating projects’ potential for community engagement benefits is the difficulty in measuring the magnitude of the relationship between walk trips and community engagement. The literature does not provide ready-made quantitative relationships that can be generalized to other contexts. In addition, the varying methods by which studies define community engagement (or social capital) mean that the dependent variable in these relationships is being defined slightly differently in almost every study. Moreover, community engagement (or social capital) is a multi-dimensional concept that may have many manifestations, and there is no reason to believe that those manifestations will be consistent across different communities. In addition, the literature is divided on whether community engagement is more related to walking for recreation or walking for transportation.

VIII. Proposed method/tool for use or further development, schedule, and applicant data needs

Given these findings, we offer the following recommendations for methods and tools for assessment of community engagement co-benefits, schedule for development of methods documents, and applicant data needs.

Methods for assessment prior to award of CCI funds:

a. Projects that incorporate public participation into project planning and design

- Characterization of low, medium or high level of community engagement depending upon the applicant’s response to six questions regarding public participation in project planning and design. These questions are based upon the distinctions between the categories in the IAPP Public Participation Spectrum. At the lower end of the spectrum, the IAPP category ‘Inform’ is essentially required by the California Environmental Quality Act (CEQA), though because not all CCI projects are covered by CEQA, this level of community engagement may still not be reached in some cases. At the higher end of the spectrum, the category ‘Empower,’ as written by the IAPP, involves placing “final” decision-making authority in the hands of the public, which is not feasible in the context of CCI because the State of California has already determined project selection criteria in advance. However, robust forms of collaboration, as revealed by responses to the questions below, may involve shared decision-making between project proponents and the community that approaches the level of engagement implied by the word “Empower,” even if it does not meet the literal definition used by IAPP. The six questions are:

1. How many public events did your organization hold to discuss this project proposal with members of the public or other stakeholders, apart from the public involvement efforts required by the California Environmental Quality Act?

2. What was the approximate total attendance at those events?

3. Please describe in a few words any other opportunities for members of the public or other stakeholders to comment or provide input upon the project, such as Internet- or telephone-based input opportunities, or additional non-public meetings beyond those included above

4. What was the approximate total number of people providing commentary or input upon the project through these opportunities?

5. In those events, which of the following took place (check all that apply):

    - Informed the public/stakeholders about various aspects of the project, including the process by which major decisions about the project were/are made

    - Solicited and recorded verbal or written input from the public/stakeholders about various specific aspects of the project or potential project alternatives before decisions on those aspects and alternatives were finalized

    - Incorporated specific proposals or ideas from the public/stakeholders into project alternatives or components, and reported back to them publicly on how their input was incorporated

    - Developed project features or project alternatives collaboratively with the public/stakeholders by one or more of the following means (check all that apply):

        - One or more **workshops or other meetings** in which the public/stakeholders identified and/or prioritized unmet needs of the community and developed a project alternative, or a specified component of the project, to address those needs that was subsequently included in the project's application for funding.

        - **Formal cooperation with a community-based organization** (i.e. via a memorandum of understanding, steering committee, etc) to acquire or distribute funding, identify project alternatives or project components, or

otherwise enhance community engagement in project design, planning and implementation.

- **Delegation of authority** to choose between project alternatives or components to the public/stakeholders through a steering committee, organized voting process, representative community-based organization or other means

- **A community-based organization**, steering committee or similar entity **designed, planned and implemented** the project in whole or in significant part.

6. Considering all of the events and input opportunities as a whole, which of the following statements are true (check all that apply):

    - The participants comprised a broadly representative sample of the population potentially benefiting from, or affected by, the project

    - The events and input opportunities were hosted at diverse and accessible times and locations throughout the area potentially affected by the project and not solely conducted through digital means

    - Events and written materials were offered in languages other than English if the population potentially benefiting from, or affected by, the project includes non-English-speaking communities

    - The participation process was conducted or assisted by a professional facilitator or public participation expert

    - The project proponents, or those acting on their behalf, prepared and followed a community engagement plan that meets the minimum criteria established by the Transformative Climate Communities program

b. Projects that increase pedestrian activity

- Given the lack of robust methods to assess the community engagement benefits of pedestrian activity, and the difficulty of relating those potential co-benefits with those achieved by projects in part (a) above, we do not recommend the development of an assessment method to cover this project type.

Methods for assessment after award of CCI funds:

a. Projects that incorporate public participation into project planning and design

- Given that the assessment of community engagement co-benefits for these projects relies upon characteristics of the planning and design of the projects prior to award of funds, rather than the operation of the projects after award of funds, we do not recommend the development of an assessment method to cover the post-award phase of this project type. Any such post-award assessment would involve surveys of the community, or another similarly intensive data gathering effort, to assess the enduring post-award effects of public participation activities that occurred during project planning and design.

b. Projects that increase pedestrian activity

- Given the lack of robust methods to assess the community engagement benefits of pedestrian activity, and the difficulty of relating those potential co-benefits with those achieved by projects in part (a) above, we do not recommend the development of an assessment method to cover this project type.

Schedule

Because these methods are generally straightforward to develop, we anticipate that we could develop draft co-benefit assessment methodology guidance within two months of ARB's instruction to proceed.

Data needs

a. Projects that incorporate public participation into project planning and design

- Responses to the Questions 1-6 in section XIII(b) above. These require simple addition of number of events held, approximate total attendance, and knowledge of the activities conducted at those events.

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Appendix A

Assessment of Various Formal Public Participation Techniques According to Rowe and Frewer (2000) Evaluative Framework

	Referenda	*Public Hearings*	*Public Opinion Survey*	*Negotiated Rule Making*	*Consensus Conference*	*Citizens' Jury/Panel*	*Citizen Advisory Committee*	*Focus Groups*
Acceptance criteria								
Representativeness of participants	High (assuming full turnout at poll)	Low	Generally high	Low	Moderate (limited by small sample)	Moderate (limited by small sample)	Moderate to low	Moderate (limited by small sample)
Independence of true participants	High	Generally low	High	Moderate	High	High	Moderate (often relation to sponsor)	High
Early involvement?	Variable	Variable	Potentially high	Variable	Potentially high	Potentially high	Variable but may be high	Potentially high
Influence on final policy	High	Moderate	Indirect and difficult to determine	High	Variable but not guaranteed	Variable but not guaranteed	Variable but not guaranteed	Liable to be indirect
Transparency of process to the public	High	Moderate	Moderate	Low	High	Moderate	Variable but often low	Low

	Referenda	*Public Hearings*	*Public Opinion Survey*	*Negotiated Rule Making*	*Consensus Conference*	*Citizens' Jury/Panel*	*Citizen Advisory Committee*	*Focus Groups*
Process criteria								
Resource accessibility	Low	Low-moderate	Low	High	High	High	Variable	Low
Task definition	High	Generally high	Low	High	Generally high	Generally high	Variable but may be high	Variable but may be high
Structured decision making	Low	Low	Low	Moderate	Moderate (influence of facilitator)	Potentially high	Variable (influence of facilitator)	Low
Cost-effectiveness	Variable/low	Low	Potentially high	Potentially high	Moderate to high	Moderate to high	Variable	Potentially high