

# NCHRP 08-36, Task 142

## Guidebook for Multi-Agency Collaboration for Sustainability and Resilience

### Requested by:

American Association of State Highway and  
Transportation Officials (AASHTO)  
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## Preface

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Transportation agencies have historically been dominated by their mission to move people and goods quickly and efficiently from one location to another. However, increasingly, transportation agencies are asked to meet multiple community goals with each project and transportation dollar spent. This is happening because of an increased realization by agencies, elected officials, and the public that actions taken by transportation agencies affect other areas such as air quality, affordable housing, community resilience, etc.

This situation creates two challenges. First, agencies must shift their thinking from focusing exclusively on transportation to considering other broad goals such as sustainability, housing affordability, and historic preservation. Second, agencies cannot achieve these broader goals on their own; they need to collaborate with other agencies, organizations, and institutions to effect change. This project is motivated by the need to understand how transportation agencies can pursue multi-sector collaborations most effectively. Collaboration sounds easy on paper, but actually developing and maintaining partnerships and using them to collectively pursue joint goals is anything but.

The project objective is to develop a guidebook for multi-agency collaboration, identifying factors that lead to success, that may be used by transportation agencies interested in collaborating with other agencies and nongovernmental organizations. We use the term “transportation agencies” broadly to include: state departments of transportation (state DOTs), metropolitan planning organizations (MPOs), and jurisdictionally-oriented organizations (cities, counties, regions, etc.).

This work was funded by the Cooperative Research Programs, Transportation Research Board, National Academies of Sciences, Engineering, and Medicine. The research was directed by Mr. Larry Goldstein, Senior Program Manager. Development of the guidebook was a collaborative effort between researchers and analysts at the RAND Corporation and Nelson-Nygaard. Susan Resetar and Liisa Ecola of the RAND Corporation were responsible for the overall research. Rachel Liang, a Department of Homeland Security fellow at RAND’s Homeland Operations Analysis Center contributed to the writing of this report. Chris Forinash, Lilly Shoup, Brynn Leopold, and Zachery Zabel executed the case studies and were instrumental in pulling the material together.

### **Community Health and Environmental Policy Program**

RAND Social and Economic Well-Being is a division of the RAND Corporation that seeks to actively improve the health and social and economic well-being of populations and communities throughout the world. This research was conducted in the Community Health and Environmental Policy Program within RAND Social and Economic Well-Being. The

program focuses on such topics as infrastructure, science and technology, community design, community health promotion, migration and population dynamics, transportation, energy, and climate and the environment, as well as other policy concerns that are influenced by the natural and built environment, technology, and community organizations and institutions that affect well-being. For more information, email [chep@rand.org](mailto:chep@rand.org).

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# Executive Summary

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The purpose of this Guidebook is to provide a framework and practical advice for how to establish and sustain multi-agency collaborations that seek to address wide-ranging comprehensive policy objectives. The primary focus of the Guidebook is on the organizational arrangements and practices that contribute to a successful collaborative endeavor using a framework derived from academic and practitioner literatures, the authors' direct experiences with collaborations, and analysis of several case studies of agency collaborations (presented in full in Appendix A).<sup>1</sup> The case studies include:

- Transit Oriented Denver,
- Partnership for Sustainable Communities,
- Resilient Pittsburgh – OnePGH,
- Southeast Florida Climate Compact,
- Massachusetts Healthy Transportation Compact,
- Minnesota GreenStep Cities Program, and
- Puerto Rico hurricane recovery planning.

Collaborations are a form of collective action and governance that enable agencies to work across organizational boundaries to solve problems that cannot be effectively addressed unilaterally. They require leadership that realizes an objective cannot be achieved by acting alone, such as when authority is fragmented or when the actions of one organization affects another. Collaborations are varied in purpose and therefore in structure; they may be formed for a specific purpose for a given time period, or more open-ended endeavors that seek systemic change.

The steps for organizing and operating a collaboration are illustrated in figure S.1.

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<sup>1</sup> Our focus is on sustainable transportation collaborations, but we incorporate lessons from other disciplines, varying levels of government, and both successful and unsuccessful efforts.

**Figure S.1. Steps in Developing and Operating a Collaboration**



Several factors that contribute to the success of collaboration are:

- including all stakeholders who have a vested interest in the issue;
- identifying and clearly defining member roles and responsibilities;
- having committed leadership and competent staff;
- implementing a process to ensure all members have a deep understanding of the mission and appreciate the priorities and risk profiles of other members;
- ensuring honest and open communications;
- practicing transparent decision-making and having mechanisms for conflict resolution;
- implementing equitable and effective governance;
- monitoring progress; and
- anticipating and preparing for change.

Working together for systemic change takes time and effort but the broad participation and diverse inputs can lead to improvements in our communities. Often, the collaborations we reviewed were sparked by personal relationships and mutual interests or a funding opportunity that could be leveraged to pursue long-standing common interests. Others, however, such as the Puerto Rico recovery plan, were initiated by legislation in response to an extreme event.

Our research highlights the importance and value in building and sustaining organizational and personal relationships. These are long-term investments that require attention to communication, learning, and transparent analysis. The knowledge and trust gained through these relationships is what allows the collaboration to succeed and is what can generate long-lasting cascading effects. Other highlights include:

- Multi-agency collaborations are essentially seeking *innovative* approaches to complex problems and will need competent and committed boundary-spanning leaders and staff who are capable of working effectively in this environment.
- Practically speaking, there are limits to the span of control any collaboration has, but by engaging others within their organizations and the public, members can extend their influence, which can also have long-lasting effects in breaking down silos.

- Decision-making in the case studies consisted of primarily consensus processes. There was less use of formal models or decision support tools.
- Members must invest in the support needed to organize, manage, and sustain a collaboration. Enlisting a third part to provide operational and administrative functions worked well in several cases.
- Effective collaborations generally engage the public, generating informal and formal communications.

Finally, we note when addressing complex social problems there can be substantial time lag – years to decades -- before results can be seen. It will be important to continuously communicate the goals and objectives of the collaboration and to set realistic expectations by identifying achievable short-, intermediate- and long-term goals. Showing value, providing proper resourcing, and anticipating and preparing for change both internally and externally are crucial for remaining relevant and functional.

Despite all the experience with collaboration over the decades, gaps in understanding how to implement inter-organizational pursuits remain. Some areas for additional research on multi-agency collaboration, described in more detail in Appendix D, are:

- Identifying and understanding the legal and institutional barriers to greater levels of collaboration and collective action among transportation agencies and prospective collaborators.
- Understanding data and information sharing requirements for greater systems change.
- Exploiting new technologies for engaging and partnering with stakeholders.
- Exploring the benefits and interest of an open-source curated forum that provides guidance, standards, and tools for multi-agency collaboration.

Many community-, state-, regional-, and national-issues will require resources and capabilities that necessitate working together across organizational boundaries. Each collaboration will have unique contextual environments, motivating forces, and ultimate goals. There is no simple recipe for success.

## Acknowledgments

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We would like to thank Larry Goldstein, Senior Program Officer for the Cooperative Research Programs of the Transportation Research Board at the National Academies for his vision, unwavering support, and patience, without which this report would not be possible. The authors would also like to thank the panel for their attentiveness, guidance and the investment of their valuable time to ensuring this work meets the needs of transportation agencies.

And the case studies would not be possible nor nearly as rich without the participation of the individuals who were interviewed for this study. We would like to thank those interviewees who participated in the Partnership for Sustainable Communities, Transit Oriented Denver, OnePGH, Minnesota's GreenStep Cities, Massachusetts' Health Transportation Compact, Puerto Rico Recovery Planning, and the Southeast Florida Climate Compact.

Formal technical reviews were provided by Dr. John Betak (Collaborative Solutions, LLC and Center for Risk Management and Insurance, The University of Texas) and Marjory Blumenthal (RAND Corporation) whose additional insights and comments strengthened the report and ensured the material provided is comprehensive and useful. Lori Usher-Pines provided overall quality assurance review for the Social and Economic Well-Being Division.

## Abbreviations

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DLP	Denver Livability Partnership
DOT	U.S. Department of Transportation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HUD	U.S. Department of Housing and Urban Development
MARC	Mid-America Regional Council
MnDOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
NHCRP	National Highway Cooperative Research Program
NOFA	Notice of Funding Availability
PSC	Partnership for Sustainable Communities
PSP	Planning Sustainable Places
RCAP	Regional Climate Action Plan
RDM	Robust Decision Making
TCSP	Transportation, Community, and System Preservation Program
TIGER	Transportation Investments Generating Economic Recovery
TOD	Transit Oriented Development
UN	United Nations

# 1. Guidebook for Multi-Agency Collaboration

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The purpose of this Guidebook is to provide a framework and practical advice for how to establish and sustain multi-agency collaborations that seek to address wide-ranging comprehensive policy objectives. The primary focus of the Guidebook is on the organizational structure and practices that contribute to a successful collaborative endeavor.<sup>2</sup> The material in this Guidebook draws from the academic and practitioner literatures, the authors' direct experiences with collaborations, and analysis of several case studies of agency collaborations (presented in full in Appendix A) to pursue complex social issues.<sup>3</sup> The framework was derived from a synthesis of the academic literature and refined with information provided by the case studies. The specific case studies were selected because they had been ongoing for enough time to generate lessons and that had the greatest potential to provide wide-ranging insights for the guidebook. To ensure we captured the breadth of contextual environments and issues faced by collaborations we selected a sample that occur at different geographic scales (locally, regionally, and state-wide), operate in different regions of the country, and pursue different comprehensive societal goals requiring cooperation among multiple agencies. Goals such as sustainability, better health outcomes, or community resilience were of interest because they cannot be effectively pursued by a single agency acting unilaterally.

The case studies were developed from publicly available documentation and literatures with information from structured interviews. For each case study three to five individuals representing different participating organizations were interviewed and a total of over 25 total interviews were performed. The case studies include:

- Transit Oriented Denver,
- Partnership for Sustainable Communities,
- Resilient Pittsburgh – OnePGH,
- Southeast Florida Climate Compact,
- Massachusetts Healthy Transportation Compact,
- Minnesota GreenStep Cities Program, and

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<sup>2</sup> The success of a collaboration is determined by its ability to achieve its goals or outcomes. We define “success” loosely as progress toward sustainability, resilience, etc. whether this means refocusing investments to include non-transportation community goals or larger geographic areas, establishing procedural changes that contribute to longer-term relationships, or improved information sharing among agencies. The characteristics of successful collaborations presented in this guidebook are based on the academic and professional literatures that generally measure success according to satisfaction with the collaborative process as opposed to quantitative measures of performance outcomes.

<sup>3</sup> Our focus is on sustainable transportation collaborations, but we incorporate lessons from other disciplines, varying levels of government, and both successful and unsuccessful efforts.

- Puerto Rico hurricanes recovery planning.

The Guidebook provides practitioners with

- A discussion of the motivation and advantages for collaborating with other agencies;
- A comprehensive framework for ensuring all the necessary elements and issues are considered when developing and implementing a multi-agency collaboration;
- The steps required for collaborating; and
- Practical advice and examples of how to implement these steps.

## Multi-agency Collaborations 101

Collaboration is a form of collective action and governance that brings together agencies to work across organizational boundaries to solve problems that cannot be effectively addressed by any single agency or organization. Collaborations are pursued when organizations realize that they cannot achieve an objective or address a social issue by acting alone. This may occur when there is fragmented authority to do so, such as when trying to protect an environmentally sensitive corridor that crosses several jurisdictions; or when the actions of one organization affects another, such as when the actions of transportation agencies affect air quality or public health objectives or limit vulnerable communities' access to centers of commerce. While some progress is possible by working individually, more significant progress will likely require cooperation and coordination, in part because of the spillover effects that action by one agency (or jurisdiction) will have on another.

Collaborations are varied in purpose and therefore in structure (see Figure 1). They may be formed for a specific purpose for a given period of time, or they may be more open-ended, seeking systemic change over an indefinite period. The focus can range from seeking to coordinate activities, to joint planning and project execution, or to greater operational integration. The level of collaboration will have consequences for the degrees of institutional linkages such as the amount and frequency of information exchange at functional and leadership levels, the distribution of authority for decision-making, operational coordination, and required amount of resource allocation flexibility, each of which may be constrained somewhat by agency or jurisdictional authorities. In Figure 1, as inter-organizational relationships advance to the right, institutional boundaries become blurred and increasing levels of information, coordination and planning, and operational interdependence become the norm. Decision-making is performed at both functional and senior leadership levels and some final decision-making authority is conveyed to the collaboration. In many of the cases decisions are made collectively generally through consensus (without legislative change, each member retains final decision-making authority for investments and operations). Operational coordination moves from rule-based, using shared information, to complete integration of available information. Greater interdependence and harmonization may require modest to major legal, regulatory, and procedural changes.

**Figure 1. The Spectrum of Inter-organizational Relationships**



Collaborations may be directed by policy, such as the case with the Partnership for Sustainable Communities, which focused on harmonizing the member agencies' grants making to more effectively meet community needs, or the National Institute of Technology and Standard's (NIST's) Global Cities Team Challenge (GCTC), which supports voluntary collaborations between public and private sector entities to advance the implementation of new technologies into city operations. Collaborations may also be directed by federal or state law, as is the case with the Federal-Aid Highway Act of 1962, which established multi-jurisdictional metropolitan planning organizations (MPOs) to manage planning and programming of regional transportation funding, or the California Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375), which requires MPOs to work with housing and land-use planning departments to meet regional passenger vehicle emissions reduction targets.

*Benefits of collaboration are tangible and intangible.*

Sustainability, resilience, smart cities, public health, economic development, climate adaptation, etc. are examples of social issues that transcend the authorities of individual transportation agencies in addition to those of individual localities. While some progress is possible by working independently, more substantial progress will likely require cooperation and coordination, in part because of the effects that actions by one agency (or jurisdiction) have on others; and because individual agencies may not have the capabilities, capacities, or authorities to pursue more comprehensive courses of action. Collaborative action has the potential to enhance outcomes because access to more information and expertise on the needs of the community, capabilities of the greater whole, and consequences of various courses of action support better decision-making and investment, which can lead to more efficient use of resources.

The collaborative process can also be used for many other purposes such as to provide a forum for developing policy options and use this forum to drive policy consensus or to garner a

broader base of political and stakeholder support and remove barriers to action. Some have suggested that there is evidence that collaborative efforts can support greater policy innovation because political actors, who can provide critical support, gain more insight into community issues from exposure to a wider range of perspectives, while also establishing support for change.<sup>4</sup>

Ultimately multi-agency collaborations seek to improve outcomes such as public health, climate adaptation, community resiliency, or sustainability. Collaborations can yield both tangible and intangible benefits that should be recognized when assessing these efforts. For example, tangible benefits might include:

- improved community sustainability, public health, resilience, etc. outcomes;
- more efficient and effective operations (through less duplication of effort or elimination of projects that work at cross-purposes);
- improved services to residents;
- more-comprehensive plans, policies, or strategies;
- new legislation;
- novel infrastructure projects or new technology implementation;
- comprehensive assessment tools; or
- spin-off programs.

Intangible benefits include participants' increase in skills, knowledge, and awareness of the broader community's interests; increased trust and communication among members and with stakeholders, better inter-agency and inter-personal relationships, and more robust information sharing. Some note collaborations may increase participants' receptiveness to innovative or novel policy options and over time may serve as a constructive forum for discussing inter-agency conflicts and identifying mutually agreeable solutions.<sup>5</sup>

A cautionary note, that while collaboration may be necessary to fully address complex social problems, inter-organizational cooperation of this nature is not always easy or successful. Collaboration requires sustaining leadership over the course of the collaboration. Collaboration will take resources. Collaboration will require sharing power and control. Participants need to be realistic about the time and resources it will take to properly pursue collaboration. Because these are generally voluntary, it is especially critical to frame the problem in terms that are relatable to the missions of member organizations and to express how collaborating will contribute to each member's interests. When there is not general awareness and agreement on the issues, or when there are a lot of spill-over effects and uncertainty over outcomes, this will be more challenging and consensus building may add delays.

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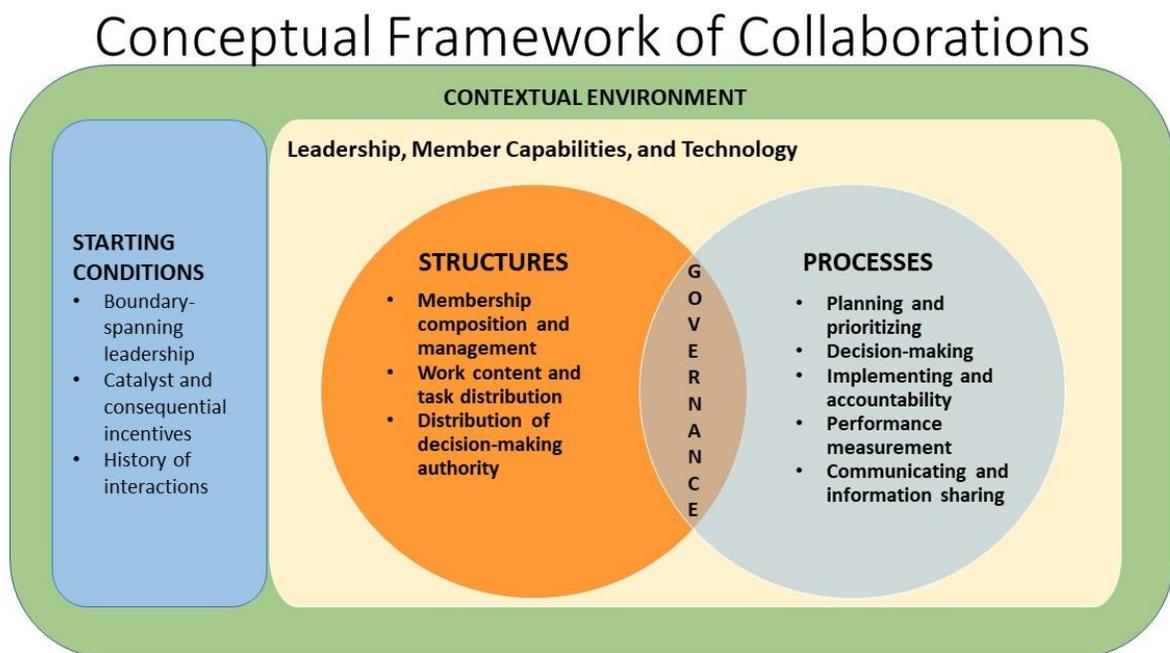
<sup>4</sup> Torfing, Jacob and Christopher Ansell, "Strengthening political leadership and policy innovation through the expansion of collaborative forms of governance," *Public Management Review*, 19:1, 2017, pp. 37-54.

<sup>5</sup> Torfing, Jacob and Christopher Ansell, "Strengthening political leadership and policy innovation through the expansion of collaborative forms of governance," *Public Management Review*, 19:1, 2017, pp. 37-54.

## How to Think About Collaborations: A Framework

This section presents a framework (shown in Figure 2) derived from the academic literature supplemented with a number of case studies that may be used to guide the development, operations, and progression of a collaboration. The framework presents aspects of a collaboration that need to be methodically considered and thoughtfully managed throughout its life cycle. The elements of the framework determine how parties interested in collaborating identify what objectives and goals to pursue, how best to pursue them, and ultimately what may be accomplished.

**Figure 2. Collaboration Framework**



This framework was developed from the case studies and the literature: Ansell and Gash, 2008; Bryson, Crosby, and Stone, 2015; Emerson and Nabatchi, 2015; Gold, 2013; Institute of Internal Auditors, 2014; Kania and Kramer, 2011; Rudolf, 2013; and Swanstrom, 2015.

The framework consists of the following key elements:

1. The *contextual environment and starting conditions* that influence the collaboration-- its mission, formation, operations, and outcomes. These include the social, economic, environmental, and political factors that trigger the need for organizations to work together. The contextual environment also includes existing political leadership,

authorities and legislative requirements, community financial resources, infrastructure and other assets, and technical expertise that can be accessed to advance the collaboration's mission. The type and quantity of these resources, as well as their distribution, condition, and fungibility, affect both the mission of the collaboration and the ways in which it can proceed to achieve the desired outcomes. Successful collaborations take stock of all these resources, develop approaches for managing or mitigating potential negative effects, and actively monitor changes to the contextual environment over time. Some key issues to consider are:

- The receptivity, incentives, and capacity that agencies and stakeholder groups have for participating in the collaboration. If a group can accomplish their objectives without collaborating there will be little incentive to participate. In addition, key groups may have disparate levels of resources needed to actively participate, potentially affecting the distribution of power and influence. In these situations, efforts must be made to ensure decisions consider the priorities of all participants. In other instances, there may not be an organized group to represent a class of stakeholders, and efforts will need to be made to ensure key actors are able to effectively participate in the activities of the collaboration through capacity building or other approaches.
- The prior experience and interactions of key stakeholders will affect subsequent efforts to collaborate. Relationships among individuals and agencies are critically important to collaborations and previous experience can either accelerate or hamper progress. If communication lines are already established, progress may proceed more quickly. However, if previous interactions led to discord, strong leadership or a compelling reason for cooperating will be required to overcome this stumbling block. Extra time and effort will need to be incorporated in the process to address previous issues.
- Legal requirements and policy priorities may catalyze action through mandates. Collaborations initiated under these circumstances may have delegated authority within a pre-determined scope or there may be requirements that certain procedures be followed. Other collaborations may be established at-will, often due to leadership interest, and therefore can determine directly the level and distribution of authority and the range of activities they can pursue. Yet others may be catalyzed by an existing crisis or funding opportunity.
- A changing political environment and priorities can affect the resources and direction of the collaboration. Support for the mission and goals of the collaboration may wax and wane. Enduring collaborations anticipate this change and may adapt mission, objectives, or activities to retain support for the collaboration's objectives and goals to sustain cooperation.
- The more turbulent the external environment, the more uncertainty there will be for the members of the collaboration. A challenge for the leadership and the membership is to balance the need for consistent focus while enabling adaptation to the changing environment.

2. *Leadership, member capabilities, and available resources* for collaborating where resources include leadership focus and member capabilities, capacities, and technologies. Collaborations are formed for different purposes that may be voluntary or mandated.

They may be for a defined period and will disband after an objective is achieved, or they may continue indefinitely as a formal institution and governing body for the issue for which it was formed. Others may evolve and reconstitute themselves as purposes evolve or resources change. Financial resources can also vary. Many collaborations rely on in-kind support and seek change by aligning member resources. Some may have funding from public grants or philanthropic organizations. All of these elements will influence how a collaboration organizes and the activities it pursues to generate the intended outcomes.

3. *Organizational structures and processes* that refer to membership criteria, arrangement and focus of working groups, distribution of decision-making authority, etc. and processes for communicating, decision-making, prioritizing actions or investments, accountability, etc. The elements of organizational structure and processes can range from the informal to the formal.
  - Members should have an interest in participating and be able to affect the outcomes being pursued
  - Organizational structure needs to balance inclusiveness and the ability to efficiently and effectively make progress.
4. *The system of governance*, which refers to the rules and norms of behavior among members “to direct and control its activities, to achieve its objectives, and to protect the interests of its diverse stakeholder groups in an ethical manner.”<sup>6</sup> Essentially collaborative governance institutionalizes collective decision-making by delineating the responsibilities of membership, enabling engagement and decision-making, and determining a system for resolving conflicts. Effective governance will facilitate engagement and mitigate any power imbalances. An effective and transparent system of governance, which must be adaptable to respond to different forces during policy planning and implementation is crucial for collaborative success.<sup>7</sup>

As noted, collaborations do not operate in isolation. Fundamentally, collaborations should be viewed as dynamic systems that are influenced both by external and internal factors over their life-cycle. Sustained collaborations anticipate change and potential challenges and adapt when necessary. Therefore, it is important to identify and understand the conditions that motivate the formation of a collaboration and the environmental factors (such as community resources and capacities, political environment, legislative requirements, etc.) that influence both the activities and ability to affect outcomes. Successful collaborations recognize that the external environment is dynamic and that individual factors such as political priorities, technologies, or revenue sources will change over time. They monitor them and adapt accordingly. Failure to anticipate

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<sup>6</sup> Institute of Internal Auditors, “Assessing Organizational Governance in The Public Sector,” October 2014. Accessed October 6, 2017, p. 2. Accessed October 25, 2017 at: <https://www.iaa.org.uk/media/1022989/assessing-organizational-governance-in-the-public-sector.pdf>

<sup>7</sup> Ansell, Chris and Alison Gash, “Collaborative Governance in Theory and Practice,” *Journal of Public Administration Research and Theory*,” Vol. 18, No. 4, October 2008, pp. 543-571 and Page, Stephen B. "Theories of governance: Comparative perspectives on Seattle's light rail project." *Policy Studies Journal* 41.4 (2013): 583-607.

change, and to adapt accordingly, could negatively affect the collaboration's ability to effectively function, or to attain its objectives.

The following chapter provides a guide for establishing and sustaining a collaboration organized into six steps. Each of these steps will likely be iterative and involve some overlap with other steps. The chapter provides generalized lessons as a useful guide for identifying key issues to focus on, however, because of variability in the contextual environment, purpose, membership, and available resources among potential collaborators there is no single, simplified recipe for success.

## 2. Steps in Establishing a Collaboration.

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Before organizations will be willing to collaborate, there are several starting conditions that must be present. First there must be a catalyst that galvanizes action. There are many types of catalysts. For example, a leader can provide a catalyst when he or she decides to address problems that are either persistent or are exposed with the availability of new information. Grants or other funding opportunities (e.g., HUD regional grants, Urban Partnership program), impactful regional decisions, policy or legal mandates (e.g., infrastructure development such as a major airport or water distribution, California's Sustainable Communities and Climate Protection Act of 2008 known as Senate Bill 375 aligns land use and transportation planning), multijurisdictional projects (e.g., habitat corridors, roadways), or new technologies. (e.g., cyber-physical systems) may also trigger these efforts. A crisis, such as the sudden failure of a select public service (such as a water treatment plant failure, or a bridge collapse) or newly available information and data about a problem's significance (such as an extreme weather event or other natural disaster) that may heighten emergency responders' awareness of the need for more coordination are others.

Second, there must be leadership that recognizes the importance of the problem to the community, the need to respond, and that these needs cannot be addressed without working with other organizations. Leaders must be willing and able to effectively articulate the importance of collaborating and exhibit commitment to its purpose with their own organizations, potential collaborators, and external stakeholders. For example, committed leaders were at the very core of the Partnership for Sustainable Communities, which was initiated when Secretaries LaHood (DOT) and Donovan (HUD), and Administrator Jackson (EPA) realized that working together on solutions driven by the communities themselves would be more effective, and efficient.<sup>8</sup> As another example, the Transit-Oriented Denver effort was led by Denver's Department of Community Planning and Development (CPD), under the leadership of then Planning Director Peter Park and a working group comprised of representatives four city departments and the area's regional transit district.

Third, people and organizations need incentives to collaborate (positive or negative). There needs to be a consequential benefit to working together. Thus, as agencies attempt to work together it is important to frame the collaboration's purpose and objectives in terms that each

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<sup>8</sup>US Senate, "Greener Communities, Greater Opportunities: New Ideas for Sustainable Development and Economic Growth," Hearing Before the Committee on Banking, Housing, and Urban Affairs, United States Senate, One Hundred Eleventh Congress, First Session on Examining the Ways in Which Housing and Transportation Policy Can Work in Common to Meet Future Housing, Transportation, and Environmental Needs in Our Communities, June 16, 2009.

member can relate to their own missions and operations. When these conditions are present collaboration will occur.

Figure 3 presents the steps involved in establishing and sustaining a collaboration covering who should be involved, what the collaboration intends to do and how, and acting, monitoring, and adjusting as necessary. They are presented sequentially, but in practice these may be iterative processes with some overlap. For each step we discuss the characteristics of successful collaborations and present ideas for how to carry out each step.

**Figure 3. Steps in Establishing a Collaboration**



## Step 1: Gather Key Actors

The first step in establishing a collaboration is to identify the appropriate agencies and stakeholders<sup>9</sup> that should be involved. Participants in a collaboration should be motivated to participate because the issue is important to them and they recognize sufficient progress cannot be achieved by working unilaterally. Additionally, they can either:

- affect the desired outcomes, have a vested interest in addressing the social issue,
- can contribute expertise, resources, political capital, or
- are implementers.<sup>10</sup>

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<sup>9</sup> We use the term stakeholder to refer to everyone other than a governmental body – civil society, nongovernmental organizations (NGOs), academia, industry, or private citizens.

<sup>10</sup> The United Nations’ definition of stakeholders does in fact include those: “whose activities strongly affect the issue; who possess information, resources and expertise needed for strategy formulation and implementation; or

A Living Cities analysis suggests that it is more effective to view potential membership when multiple agencies from different sectors are collaborating by considering what groups have an *interest* in the problem -- as opposed to thinking of members as representatives of a specific sector. This point of view focuses on the interests, functions, and capabilities of each potential member, yielding a more constructive group of participants (as opposed to representing a sector where there may be a diverse set of actors with varying interests that cannot be adequately represented by one member) and a clearer picture of their representative roles.<sup>11</sup>

At least initially, it is preferred to take a broad view of stakeholders who might have a vested interest in the issue in addition to those governmental agencies that have functional and jurisdictional responsibilities. Once an initial membership list is established it is worthwhile to reassess the available expertise and assets of each member to identify potential gaps in authorities and resources needed to pursue the collaboration's mission after it is developed. Other stakeholders enrich the collaboration because they can provide input on goals and needs, priorities, and potential solutions that encompass a more comprehensive understanding of all the facets of the social issue. Stakeholder participation may also help eliminate barriers, garner political support, and facilitate implementation. Stakeholders such as technology and resource providers or neutral third-party conveners could contribute to the activities or solutions in meaningful and novel ways. For example the individual who provides administrative, logistical, and communications support to the Southeast Florida Climate Compact is credited with providing leadership to ensure members remain focused and action oriented.<sup>12</sup> A counter-example is the 2014 San Francisco Bay Area Prosperity Plan, a regional plan for improving job opportunities for low- and middle-income workers, developing affordable housing near transit, and mitigating the negative consequences of gentrification funded through a grant from HUD's Sustainable Communities Development Program. This collaboration did not give as much attention to the cities in the region (which were represented on the Steering Committee mostly by regional agencies and who attended meetings sporadically), even though they will be a critical implementer of the plan and will affect its success.<sup>13</sup>

Another important feature of successful collaborations is they consider member capacities to participate. Not all parties for which the issue is important will have the same capacity to participate in a collaborative effort and lack of capacity could preclude the collaboration from

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who control relevant implementation instruments." Cited in "Integrated Management for Local Climate Change Response: Involvement and Communication," Champ Project, accessed on November 2, 2017 at: [http://www.localmanagement.eu/index.php/cdp:local\\_authorities\\_involvement\\_and\\_communication](http://www.localmanagement.eu/index.php/cdp:local_authorities_involvement_and_communication).

<sup>11</sup> Gold, Alison, "What Barriers? Insights from Solving Problems through Cross-Sector Partnerships," Living Cities, September 2013.

<sup>12</sup> Interview with steering committee member, September 30, 2018.

<sup>13</sup> Frick, Karen, Karen Chapple, Elizabeth Mattiuzzi, and Miriam Zuk, "Collaboration and Equity in Regional Sustainability Planning in California: Challenges in Implementation," California Journal of Politics and Policy, 7:4, 2015, pp. 1-25.

obtaining all necessary information and insights, thus limiting its ability to develop a comprehensive understanding of the problem and potential solutions. Effective collaborations find ways to reach stakeholders who may not otherwise have the resources to participate to gain input and ensure buy-in from all affected parties including essential political and project implementation support. These collaborations devote attention to the factors that may limit stakeholder engagement such as the location, timing, and structure of meetings and hearings, or unfamiliarity with the policy process. The development of the San Francisco Bay Area Prosperity Plan mentioned earlier focused on reaching out to community groups that may not have had the capacity to participate.

Member motivation must be substantial enough to justify the investments in human capital that will be required. There must be a reason for organizations to be willing to change their way of doing business and to expend the effort and resources to work with others. As mentioned earlier when an organization can accomplish its goals by acting unilaterally or when there are substantial legal or regulatory constraints, the motivation to participate in a collaboration is weak. Participating in a collaborative effort must be consequential and must offer some advantage to each member that they cannot achieve as effectively or efficiently by acting unilaterally. These consequences can be positive, such as being able to access new funding or contributing to a long-term goal; or they can be avoiding the negative, such as having to deal with increased traffic congestion resulting in increased infrastructure expenditures. Not surprisingly, collaboration works best when there is a tangible outcome desired or opportunity to more effectively get funding for initiatives. The collaboration benefits when these members champion its efforts to other potential members or supporters.

After broadly considering who should participate, organizers must eventually balance inclusiveness with efficiency. Collaborative efforts work best when member roles are clear and these roles align with, or build upon, individual strengths. Regardless of how membership is determined within any collaboration, for the collaboration to be effective, members should have a stake in its success and make a good-faith effort to contribute.

“Commitment to the collaborative process requires an up-front willingness to abide by the results of deliberation, even if they should go in the direction that a stakeholder does not fully support. Of course, the consensus-oriented basis of collaborative governance greatly reduces the risks for stakeholders. ... Commitment depends on trust that other stakeholders will respect your perspectives and interests. It is also easy to see how clear, fair, and transparent procedures are critical for commitment. Before committing to a process that could go in unpredictable directions, stakeholders must feel confident that the procedure of deliberation and negotiation has integrity.”<sup>14</sup>

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<sup>14</sup> Ansell, Chris and Alison Gash, “Collaborative Governance in Theory and Practice,” *Journal of Public Administration Research and Theory*, Vol. 18, No. 4, October 2008, p. 559.

## *Build off Previous Experience*

In some cases, the organizations involved in a collaboration have worked together on prior projects and programs, and have an understanding of each other's organizational priorities, cultures, strengths, and limitations. Examining what worked well and why, as well as what might not have been as effective as hoped, allows new collaborations to build off past success without reliving prior mistakes. If time allows, reviews of similar collaborative efforts may provide insight into what others attacking similar issues in comparable contexts have accomplished and how they organized to do so. Ongoing collaborations may want to consider periodic "temperature checks" to identify potential issues before there are any operational impacts and to recognize any exceptionally successful elements that deserve recognition.

## Step 2: Develop the Collaboration's Shared Vision and Mission Statements

Collaborators will need to clearly state the reason for working together to focus the efforts of the group and to enable communicating its purpose to others. A robust vision and mission state the purpose of the collaboration, the outcomes that are desired, and values that will guide activity. It should clearly and succinctly state the shared purpose of the organization, what it is trying to accomplish, and how this will be accomplished (in broad terms). In effect it explains the reason and goal of collaborating. The vision statement ensures everyone understands and can effectively communicate their common purpose, guides the group's activities and decisions, and conveys to others what the group is trying to accomplish, in effect what constitutes "success". A well-crafted vision can be used by leaders and members to articulate to the community and other stakeholders the intended benefits of collaborating.

The actual discussion and debate over the vision and intended mission is a critically important step. Done well, the discussion establishes the foundation for future interorganizational relationships and ensures that participants develop a common level of understanding of the issues the collaboration seeks to address, are fully aware of the commonalities and differences in various stakeholder perspectives on this issue, agree on the relevant indicators for desired outputs and outcomes, and have internalized the collaboration's vision and purpose so that it can be operationalized. A common pitfall is the group does not spend enough time discussing the vision and mission in enough depth, resulting in varying interpretations of what the group is trying to accomplish. To avoid this pitfall the federal Partnership for Sustainable Communities staff from HUD, EPA, and

### **Elements of Effective Vision and Mission Statements**

- Presents the central lasting purpose of the organization
- Specifies the core values of the organization, and
- Identifies what constitutes success of the collaboration including the desired long-term outputs and outcomes.

The vision should be sufficiently well-defined to guide the collaboration's activities and well-understood by different stakeholders (Collins and Porras, 1996 and Lipton, 1996).

DoT began by discussing and negotiating a set of six Livability Principles to define sustainable communities and guide their collaboration. There was agreement from all three agencies that the Principles should be broad enough to include the variety of programs and policies at each agency, while clearly defining the parameters of the collaboration. There was also a shared desire to ensure they were simple enough to be used in grant agreements, communication and outreach materials, and as a framework for on-going decision-making.<sup>15</sup>

As part of this process it is important to develop a narrative for why the collaboration is important in terms that each member can relate to their own mission to create buy-in and leverage resources properly. This is easier to do when members have a similar view of the problem and potential solutions. However, regardless of how closely aligned these views are to begin with, developing this narrative is an important first step that cannot be skipped. The more explicit this narrative is about benefits to each, the greater the buy-in will be and it will reduce the likelihood that misunderstandings will occur later on.

Over time this narrative may change as circumstances change and the collaboration evolves. For example, it is possible to refine general objectives, (such as sustainability or livability principles); into specific terms (such as a 5% reduction in GHG emissions from vehicular traffic, maintain economic growth at 10%, and quality of life satisfaction at good levels on surveys (some level of specificity also helps with measuring progress and maintaining accountability)). Another strategy used in the Health for All Policies program in California is to identify interventions, or actions, that have co-benefits, i.e., those that satisfy multiple areas of concern. For example, promoting active transportation may reduce congestion, but it also has the co-benefits of decreases in pollution and increases in public health outcomes. Active transportation also frees up resources for other basic needs among lower income people for other basic needs and may increase social engagement.<sup>16</sup>

There is a natural process that developing relationships cycle through beginning with the initial stage of coming together, followed by working through challenges and disagreements, developing understanding, and moving forward. Generally, trying to short-cut this process leads to problems down the road. The following box presents a description of this process that was developed for Living Cities using the seminal work of Tuckman on group development.

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<sup>15</sup> The six Livability Principles are presented in the Partnership for Sustainable Communities case study within Appendix A.

<sup>16</sup> Rudolph, Linda, Julia Caplan, Connie Mitchell, Karen Ben-Moshe, and Lianne Dillon, "Health in All Policies: Improving Health Through Intersectoral Collaboration," Institute of Medicine, September 18, 2013.

## Stages in Developing Working Relationships

*The stages that collaboration members need to go through to build and maintain trust are:*

**Form**—*Forming is the stage when partners first come together. It has been described as the ‘honeymoon’ period for a partnership because it is when partners are excited about the newness and potential of the effort.*

**Storm**—*when partnership members stop being polite and start getting real. This might involve airing fundamental differences of opinion and approach among partners, struggling to figure out objectives, roles, leadership, and also feeling threatened by working with partners who you don’t know, don’t trust or view as competitors.*

**Norm**—*when roles and partner conflicts are sorted out and the focus turns towards the work. Objectives and rules of engagement get clearer; a sense of identity forms, and conflict moves from among partners to between the partners as a group and the problems they are trying to solve (i.e., us vs. us vs. them).*

**Perform**—*when the partnership reaches a steady state where it can do the work it needs to do to achieve its intended goals (Gold, 2013, p. 16).*

### Step 3: Establish Organizational Structure

An organizational structure must be developed so the members can work together to pursue the collaboration’s vision and mission. The organizational structure establishes how the collaboration decides to allocate member resources and activities to achieve the vision and mission of the collaboration.

The organizational structure refers to three primary characteristics: membership composition, work content and task distribution, and distribution of decision-making authority. These can be developed informally or written formally in guidance documents. Regardless of level of formality, a robust organizational structure and shared focus can help ensure the elements of the collaboration remain strong despite the stresses of addressing complex social problems in dynamic environments. A collaboration is held together by its governance system, or the rules and norms used to direct activity while protecting stakeholder interests. The governance system can delineate the responsibilities of membership or prescribe the criteria for resolving conflicts. Effective governance will facilitate engagement by all members and mitigate any power imbalances.<sup>17</sup>

While it is unlikely that a collection of independently operating organizations will have the mechanisms in place to address complex or challenging issues, not every collaboration calls for

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<sup>17</sup> Collective Impact Forum, “The Intersector Toolkit: Tools for Cross-Sector Collaboration,” undated.

legal modification or overly formal structures. However, accurately assessing the degree of formality that may be needed and building in the appropriate collaborative framework at the beginning of the engagement can prevent challenges and delays in meeting the desired objectives. Factors to consider include:

- **Scope.** Identify the desired scope of the collective action. In some, this may be legislated or flow from community or agency leadership’s vision and priorities. For others, it may be drawn from the observations and stakeholder requirements of several disparate organizations and require some degree of coordination and compromise to establish. Collaborations with a broader mandate or a scope that may shift over time would benefit from stronger integration or governance structures.
- **Existing Statutory or Process Environment.** Collaborations are not born in a vacuum, and often participants are already beholden to prior legal, statute, or process constraints. Some departments and agencies may have internal procedures designed to protect mission and staff, while others may have process requirements needed for further leadership buy-in. Members themselves will need to retain their own self-interests during the course of the collaboration and identifying and establishing these parameters will assist them in doing so.
- **Timeline.** Some collaborations have schedules and timeframes dictated by external factors like legislation or oversight recommendations. Others coalesce around enhancing a capability such as sustainability or climate resilience. Collective activities facing longer time horizons or consequences for missed deadlines may warrant a more formal framework to survive personnel changes and time crunches.
- **Subject Matter.** By their very nature, the issues being tackled by multiorganizational collaborations are complex, multifaceted, and potentially impact a broad range of stakeholders. The potential for spillover effects, controversy of the topics, and complexity of the issues all play a role in a collaboration’s structure. While simpler topics may not require it, complex or controversial projects may benefit from more formalized decision-making and well documented processes able to withstand internal disagreement or outside scrutiny.

Once the mission and vision are widely understood, it is helpful to establish each member’s operating parameters. This needs to be an open and candid discussion of why each participant is at the table, and what activities within the partnership’s purview are acceptable, or, potentially more importantly, unacceptable. Understanding this “realm of the possible” proactively constrains a partnership’s mission to prevent conflict later in the decision-making process. The National Disaster Recovery Framework for example establishes an overarching coordinating structure, adaptable to the unique needs of a specific recovery operation to enhance recovery collaboration and coordination in support of affected communities. Each federal agency identified in the framework has a specified role and each function has standard operating procedures. While this level of formality and specificity may not be necessary for all collaborative efforts, it is extremely helpful

in situations involving large organizations coming together in an operational setting where personal working-relationships may not have been previously established.<sup>18</sup>

### *Membership Composition and Management*

The first element of organizational structure is to determine which stakeholder organizations should be involved and define their respective roles. Participation of all key actors is only one aspect of a collaboration's membership; these actors must also be organized in an effective, sensible manner. The initial step in membership establishment is identifying the group of participants with the greatest interest or stake in the issue, as they have the incentive to be the most active and will likely be the key actors for implementation. Identifying a core active member set can streamline agendas and communications, while also identifying individuals and organizations with the resources to act on collaboration decisions. As mentioned earlier, it is beneficial to assess the resources and capabilities of each member to ensure that there are no gaps in resources needed to achieve the desired outcome.

If possible, member status should be at the organization or institution level so that the collaboration remains resilient to personnel or structural changes in a member's home agency and has the authority to break down organizational barriers or silos. For example, California's Central Valley's Smart Valley Places collaboration, funded by the HUD's Sustainable Communities Development Program, was not able to overcome pre-existing notions that cities and counties did not need to work together, in part because the appropriate level of leadership was not actively involved (city planners were more involved than the city managers who would have had more power to break down these silos). As a result, cities and counties developed their projects independently, even though previous regional planning efforts were spearheaded at the county level.<sup>19</sup>

In addition to core members, there are a variety of potential roles for other participants such as technology providers, resource providers, neutral third-party conveners, informational or consultative, and implementers. These members may be included only when their interest or capability is being discussed or they may be brought in for a specific subject matter expertise. Some stakeholders may only be interested in one specific element of a collaboration's mission; others may be interested but not have the resources for full participation. In some instances, there

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<sup>18</sup> For more information see FEMA, National Disaster Recovery Framework, updated October 22, 2018. As of November 4, 2018 at: <https://www.fema.gov/national-disaster-recovery-framework>. For a more in-depth description of these operational plans and procedures begin with DHS, Recovery Federal Interagency Operational Plan, August 2016, which may be accessed at: [https://www.fema.gov/media-library-data/1471451918443-dbbb91fec8ffd1c59fd79f02be5afddd/Recovery\\_FIOP\\_2nd.pdf](https://www.fema.gov/media-library-data/1471451918443-dbbb91fec8ffd1c59fd79f02be5afddd/Recovery_FIOP_2nd.pdf). The Natural and Cultural Resources Sector concept of operations may be found here: <https://www.doi.gov/recovery/plans/DOI-Guidance/NCR-RSF-Operations>

<sup>19</sup> Previous plans include the 2009 blueprint plan, which laid the groundwork for the Smart Valley Places initiative and the Sustainable Communities Strategy required by California State Bill 375. Frick, Karen, Karen Chapple, Elizabeth Mattiuzzi, and Miriam Zuk, "Collaboration and Equity in Regional Sustainability Planning in California: Challenges in Implementation," *California Journal of Politics and Policy*, 7:4, 2015, pp. 1-25.

may not be an organized group to represent a class of stakeholders so efforts will need to be made to build capacity or create alternative opportunities for these stakeholders' involvement. There may also be individuals already represented in the collaboration in a certain capacity but who on occasion may play a different role, such as designee, implementer, or decision-maker. Knowing the roles and contributions of each member highlights the need to and benefits of working together and improves the likelihood that all will remain committed to the collaboration.

Many collaborations establish structural distinctions between formal and informal and standing or ad-hoc members. More formal organizations follow strict procedural protocols that dictate how discussions are initiated, conducted, and closed, and require formal nominations and votes for decision-making. In these kinds of structures, voting privileges are often limited to active core members who have a fuller understanding of the considerations and issues at hand. This distinction also allows for smaller, more focused, discussions on topics that may be sensitive or controversial, or would simply not be practical for members with more limited resources to attend. Lastly, drawing a distinction between voting and non-voting members may also incentivize participants to take and retain an active role in the process, since voting status may be rescinded should members not meet their agreed-upon obligations.

In addition to identifying members at the outset, it is important to establish mechanisms for adding and removing members, as well as changing the type of member participation. This member flexibility will enable the collaboration to incorporate stakeholders inadvertently omitted, hold members accountable, and evolve as organizations shift personnel and resources. This can be as informal as a verbal consensus among participants, to a more formal set of bylaws that is drafted and voted upon by all involved, as long as the wider membership understands and supports the process.

Once these members are identified, membership requirements and expectations should be established and mutually agreed upon. Each participant is collaborating for different reasons, has a different capability and resource profile, and their anticipated contributions should reflect this. A crosswalk of a collaboration's primary mission and requirements and member resources can be beneficial to identify overlooked stakeholder sets or capability gaps. By breaking down a collaboration's requirements in this way and comparing them against the capabilities and resources of its members, partners can quickly identify challenges or areas where they may need additional support. Members may consider using a logic model construct to develop this crosswalk. Logic models, frequently used for program design, provide a simplified visual representation of the relationship between the inputs, activities, outputs, and intended outcomes of the collaboration. They may be a relatively quick and easy way to determine what activities

are necessary to pursue and how to measure progress. More information on logic models and their structure is provided in Appendix C.<sup>20</sup>

This exercise will also assist in determining whether the collaboration has sufficient resources and influence to pursue its desired objectives. Ideally, tasks will be evenly distributed among participants to prevent individual burnout or perceptions from leadership that their organization is shouldering an unfair level of burden, but this may not be feasible. The level of effort each member organization is able to dedicate is not always a function of the collaboration's requirements, leading to a mismatch between individual contributions. As an example, in the Southeast Florida Climate Compact, some larger counties contributed more resources than smaller, less resourced areas out of necessity. There may also be other stakeholder groups, such as NGOs or civil society groups who have even more limited resources or capacity but should still be included in the process.

First and foremost is having the right staff, with necessary functional knowledge and communication skills. The Partnership for Sustainable Communities' success was derived in part from its highly competent and motivated staff. It's been noted that in addition to functional knowledge, expertise in consensus building, facilitation, policy analysis, and communications management are important capabilities for personnel to have. It may be necessary to invest in training to ensure the collaboration has access to the right skills mix.<sup>21</sup> These staff will be working across organizational boundaries to pursue nontraditional approaches to complex issues. In addition to specific skills, individual traits that are frequently recognized as useful within this environment include the ability to understand how "others define the issue in relation to their own values and interests,"<sup>22</sup> and can be innovative, opportunistic, and willing to engage others. Essentially, staff build trust by being honest, committed, and reliable.<sup>23</sup> Moreover, members must be cognizant of supporting key stakeholder groups that may not have the capacity to actively participate.

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<sup>20</sup> A logic model begins with the problem a collaboration is intended to solve and presents the theory or assumptions about how the activities of the program will effect change. Resources, or inputs, are the financial, material, informational, and personnel resources available to the collaboration. Activities include all the actions required to produce the outputs. Outputs may be products or services provided to the community. Outcomes are the ultimate results or effects of the outputs produced by the collaboration. Logic models frequently identify the desired short-, medium-, and long-term outcomes. Sources: W.K. Kellogg Foundation Logic Model Development Guide, W.K. Kellogg Foundation, 2004; Broeckling, Jerica, "Performance Measurement: Theory and Practice," Marquette University, 2010; and Greenfield, Victoria A., Valerie L. Williams, and Elisa Eiseman, *Using Logic Models for Strategic Planning and Evaluation: Application to the National Center for Injury Prevention and Control*, Santa Monica, Calif.: RAND Corporation, 2006. [http://www.rand.org/pubs/technical\\_reports/TR370.html](http://www.rand.org/pubs/technical_reports/TR370.html).

<sup>21</sup> Rudolph, Linda, et al., "Health in All Policies: Improving Health Through Intersectoral Collaboration," Institute of Medicine, September 18, 2013 and US Army Corps of Engineers, Environmental and Water Resources Institute, "Collaborative Modelling for Decision Support in Water Resources: Principles and Best Practices," Revised February 11, 2011.

<sup>22</sup> Hosking, D-M. and I.E. Morley, "A Social Psychology of Organizing," London: Harvester Wheatsheaf, 1991, p. 228.

<sup>23</sup> Williams, Paul, "The Competent Boundary Spanner," *Public Administration*, 80.1 (2002): 103-124.

## *Organization of Tasks and Leadership*

The collaboration will need to decide how to divide the work required to pursue its activities. Often this is done by establishing working groups that report to a steering committee. Working groups can serve several purposes: evaluating or resolving a specific topic or area of disagreement, developing recommendations for broader group adoption, or implementing a discrete project or policy. Some working groups exist only for the duration of a specific task, while others exist during the lifecycle of the collaboration itself. Working groups focusing on periodic events like elections or oversight cycles may have a standing membership roster but only be active during a set timeframe. Working groups may also have differing relationships with the larger collaboration. Some may be subordinate to the parent organization, developing products or recommendation for consideration and approval of the full collaborative body. Others may be more autonomous, tasked with implementing specific initiatives with guidance or oversight from the larger group.

Working group structures and tasks should be clearly articulated and agreed upon, and how working groups are established and decommissioned, as well as their relationship to the wider collaboration, should be determined. As the collaboration matures and achieves different milestones, membership structure and distribution of authority may evolve. For example, collaborators in Minnesota received funds from the DoT's Urban Partnership program for a traffic congestion reduction project. Initially, in the planning and proposal writing stages, the collaborative organization's steering committee was very inclusive, including representatives from the Minnesota Department of Transportation (MnDOT), Metropolitan Council (which serves as the federally-designated Metropolitan Planning Organization for the Twin Cities metro area), local officials in congested corridors, county officials, and academics. As it entered project implementation, authority became more concentrated within the steering committee, and decision-making more hierarchical – MnDOT appointed a project manager and the Met Council and localities worked on their areas of responsibility.

Leadership is another important element of organizational structure. There may be one organization that, based on its mission and resources, may retain the role of chair for the duration of the collaborative effort. In other cases, having the role rotate among member agencies may be ideal to ensure equal influence and prevent overtaxing individual contributors. If the position rotates, identify the frequency and codify the replacement process (elections, sequential, etc.). The specific role and authorities of leadership positions should also be clarified. Leadership positions may be in name only, providing a central point of contact and serving administrative and logistical purposes, or they may convey some authority, such as the ability to allocate resources, break electoral ties, or veto recommendations. Larger or more formal structures may warrant additional leadership positions focusing on finances, administration and logistics, and messaging and communications.

## *Governance and Decision-making Authority*

Before progress can begin, members must identify and adopt a general governance and process structure that directs how business is conducted. Governance includes organizational customs, rules, and policies, including methods used to enforce these policies. Establishing the rules of engagement early in the process ensures that all parties understand how decisions are made and can provide a structure to work through significant disagreements when they emerge. At the most basic level, this includes the ongoing operations of each collaborative effort. It also includes identifying vital processes that must be in place for a collaboration to meet its objectives. This will differ depending on the mission, but may include the following (which can also serve as a checklist for determining the governance process):

- Meeting conduct and frequency. This would include how meetings are scheduled and how often, who is expected to attend, how the agenda is determined, who leads the discussion, etc.
- Degree of participation among member types. Members may have broad or focused levels of involvement and part of clarifying roles is to determine the expectations for participation.
- Task determination. Issues such as how tasks are agreed upon and assigned, what outputs are expected and output or deliverable development, timelines, and approval.
- Voting. First, determine whether voting is necessary for decision-making, and if so, how it takes place. This includes how voting eligibility is determined and the process for conducting votes.
- Activity prioritization. This includes determining the criteria for prioritization and their relative importance, as well as assessing activities against these criteria to create a prioritized list.
- Dissent/Conflict resolution. This is the process for how dissent and disagreements are raised, communicated, and addressed, as well how conflicts among members are resolved.
- Process enforcement/Member sanction. A clear and repeatable corrective action and sanction process for members do not meet agreed-upon obligations or neglect established procedures should be preemptively developed as part of the collaboration's oversight system.

Inclusivity, or the tenet that members can engage in meaningful exchanges regardless of position, is important to establish trust and facilitate the open flow of communication. If members don't feel their equities are understood, it will be difficult for them to consent on or commit to decisions that may not be their preferred alternative. This may be accomplished through rules or norms that equitably allocate speaking time during discussions and formal voting procedures.<sup>24</sup> The level of formality that a collaboration ultimately adopts will depend on

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<sup>24</sup> Collective Impact Forum, "The Intersector Toolkit: Tools for Cross-Sector Collaboration," undated, p. 14.

the participants' organizational cultures, purpose of the collaboration, and expected duration of the collaboration, among other factors.

A final note about collaboration resources. Member investment in the collaboration can take many forms – personnel, time, political, financial, and physical resources. Resourcing is vital; to be successful, collaborations need to recognize upfront that not everything can be done as a collateral duty. Often collaborations fail because the act of collaborating is not sufficiently supported. Several of the case studies have designated staff, an organization, or a neutral third party that takes on the role of providing support for the collaboration necessary for it to function. Support can include administrative and logistical support, meeting facilitation, communications management, public outreach, policy analysis and research, or data and information management, and other forms of support needed to sustain collaborative activities over time.<sup>25</sup>

In regard to funds for investments in activities supported by the collaboration, the process for maintaining, allocating, and prioritizing resources should be established early on in the collaboration's development so that resources can be effectively used and cost saving or cost avoidance measures, if necessary, can be implemented. During the collaboration's life cycle, it may be beneficial to reassess resource allocations as milestones are met and mission requirements change. Most of the collaborations we reviewed did not have a distinct fund for investment (notable exceptions are Transit-Oriented Denver and OnePGH) but each promoted use of the collaboration's strategy and goals identified in a planning document for aligning individual agency investments. Promotion alone however is not always enough to overcome organizational inertia and silos. Ensuring investments align requires sustained active engagement such as jointly developing and applying common evaluation criteria for agency investment (used in the Partnership for Sustainable Communities) or routinely assessing investments' contribution to goals and objectives (used in OnePGH).

#### Step 4: Determining Strategies and Actions

Developing strategies for action or determining priorities for investment can be the most challenging aspects of collaboration. It is at this phase where choices that balance the needs of individual members with the group's goals must be made and yet the analytic processes used for decision-making are not discussed very much in the literature. Determining strategies and actions can only be successful if the foundation for these discussions has been established. If at this point members don't have a common understanding of the problem, the needs and priorities of other members, nor a working-level understanding of the vision and mission of the collaboration, the strategies development and decision-making process will falter and resources may not be

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<sup>25</sup> For more on the importance and roles of backbone support see: Kania, J. and Mark Kramer, "Collective Impact," *Stanford Social Innovation Review*, 9 (1), 2011 and Turner, Shiloh, Kathy Merchant, John Kania, and Ellen Martin, "Understanding the Value of Backbone Organizations in Collective Impact," *Stanford Social Innovation Review*, November 2012.

effectively leveraged resulting in a need to revisit these topics. Therefore, investments should not precede consensus building and buy-in on the purpose of the collaboration.

Before determining the analytic process used for decision-making, a collaboration must determine the basis and requirements for how decisions are made within a group. Ideally, decisions will be made with unanimity, working together and iterating on concepts to fully incorporate each other's feedback. However, this is not always possible and there will be situations where disagreement within the group cannot be fully resolved. Below are some decision paradigms to consider:

- **Full Group Consensus.** Full group consensus requires that, for any decision to move forward, all members of the group are in support (or at least not opposed). While this is the gold standard for a partnership's outcomes, it may be time and effort intensive, especially if the topic is controversial, or if complex outputs need to be revised and modified multiple times to accommodate concerns. Multiple or prolonged rounds of revisions may also result in products that feel "watered down", or they may be less actionable if there are significant disagreements related to resourcing or tasking.
- **Majority Rule.** Many organizations rely on simple majority votes to approve decisions within a collaboration. An advantage is that this approach can be simpler and quicker, since holdouts do not jeopardize the process and decisions still represent the balance of members. However, it can enable members to bypass more consensus-driven options in favor of solutions that are quicker but potentially alienating to dissenters. Variations on this option require larger (such as two-thirds or three-quarters) majorities without needing unanimous consent.
- **Majority Plus Dissent.** Some outputs, such as studies or analyses, present an opportunity to proceed with a majority rule decision, while providing a platform for dissent to be recognized. This can be in the form of a minority report published as an annex to a primary document, or as an alternative course of action. It can also be a different prioritization process or rubric that can be periodically referenced throughout the course of a collaboration's activities.

While each of these approaches reflects different decision-making priorities, it doesn't mean that a collaboration is limited to only one approach. For example, vital, structural elements like mission and vision may warrant requiring a full group consensus, while less important elements, such as the date of the next meeting, may be better suited for a simple majority. What matters is that the selected paradigm is agreed to in advance so members are aware of how decisions will be made.

While not necessarily a decision-making strategy, avoidance is also a valuable, and sometimes necessary, tactic. Collaborations represent disparate groups convening to achieve a common goal they would not be able to reach on their own, and it is possible that in some cases, it is not possible to identify a solution that stakeholders deem acceptable. If this is a smaller issue or minor aspect of the collaboration's mission, the group can discard that one specific element in

favor of less controversial activities. There may be instances where consensus cannot be reached on a topic that is vital for the continuation of the partnership as a whole.

Lessons from case studies of collaborations indicate a focus on building consensus for decisions, emphasizing the importance of open, honest discussion among members who by this time hopefully have developed a deep mutual understanding built on trusting relationships. (As staff and leadership turnover new members must also be inculcated into the culture of the collaboration.) Since collaborations are generally voluntary endeavors and support for activities and investments result from shared interests as opposed to executive authority or rational self-interest<sup>26</sup> it is not surprising that decisions on public policies or investments are often made through interactive, consensus-oriented discussions. Planning activities and decision-making should be transparent, devoid of political meddling divorced from individual organizations' agendas, and derived from the best information and analysis available.

The use of formal decision support tools<sup>27</sup> was less common in our case studies, but there are many analytic options for structuring discussions about strategy and decision-making. Because collaborations are quite varied in scope and available resources there is no single "best practice." Below, we outline a few approaches for structuring the strategy development and decision-making processes that were mentioned in the literature. These do not represent an exhaustive list of the possibilities but are presented to stimulate thinking of potential options. Each of these approaches will require different levels of resources and quantitative information to implement. And each can be used in combination with another or alone. The approaches are:

- problem-solving approach,
- collaborative modelling,
- risk governance using robust decision-making analysis tools, and
- socio-technical roadmapping.

### *Problem Solving Approach*

The problem-solving approach for use by multi-agency collaborations to address complex social problems provides a high-level structure for planning.<sup>28</sup> It consists of four stages that rely on the expertise of participants using the information that is available and what is known from experience.

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<sup>26</sup> Public choice theory in economics suggests agencies work to their best self-interest. Ansell, Chris and Alison Gash, "Collaborative Governance in Theory and Practice," *Journal of Public Administration Research and Theory*, Vol. 18, No. 4, October 2008, pp. 543-571.

<sup>27</sup> Decision support tools or decision support systems refers to methods or models used to array information or generate analyses that are useful for participatory decision making.

<sup>28</sup> Gold, Alison, "What Barriers? Insights from Solving Problems through Cross-Sector Partnerships," *Living Cities*, September 2013, pp. 18-19.

- problem defining: gather and assess all available information, experiences, and expertise to understand the problem, resolving any conflicting evidence. Determine and articulate the problem the collaboration seeks to address;
- interpreting and hypothesizing: use the assessed information from the problem definition stage to characterize what has been observed and then to develop hypotheses about what change is needed;
- solution finding: identify many potential solutions and related projects, programs or policies and test these within available resources; and
- analyzing and reflecting: compare expectations to actual experience identifying what changes are needed, including what new information is needed, to improve future solutions.

After these steps are undertaken, restart the cycle.<sup>29</sup>

This process relies on structured discussions, often with a facilitator, among working groups and leaders. This could be done in tandem with the development of a logic model to provide a little more structure to the discussions and its output.

### *Collaborative Modelling for Decision-Making*

The second approach is collaborative modeling, which is an iterative process that combines mathematical modeling with group facilitation to integrate scientific or engineering principles with stakeholder interests, values, and priorities. By linking a scientifically-derived model with stakeholder interests this approach can provide a more holistic representation of an issue. Collaborative modeling has been used in water resources planning and can be applied to other complex social problems, such as sustainability, climate change planning, or energy system design that sometimes involve contentious, value-laden topics.<sup>30</sup>

Scientific principles, stakeholder or social values, and policy options are integrated within a systems model (a mathematical model or combination of models that represent the sub-elements of the entire system and their relationship) to focus collaborators' discussions. Using this structured approach, facilitators help participants identify desired outputs and outcomes in a participatory and transparent way and design and test models of the system to test their own understanding of the interconnections among the activities they are trying to influence. To accomplish this, it is necessary to build a model that can incorporate new information relatively quickly and parsimoniously with enough granularity to accurately represent the system. It also

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<sup>29</sup> Gold, Alison, "What Barriers? Insights from Solving Problems through Cross-Sector Partnerships," Living Cities, September 2013.

<sup>30</sup> Collaborative modeling has been referred to by other names such as shared vision planning, group model development, and computer-aided dispute resolution among others. The US Army Corps of Engineers has used a form of collaborative modeling, called Shared Vision Planning, since the 1990s. Beall, Allyson, et. al., "Collaborative Modeling for Decision Support in Water Resources: Principles and Best Practices," *Journal of the American Water Resources Association (JAWRA)*, Vol. 49, No. 3 June, 2013 pp. 629-639. As of September 8, 2019 at: <https://www.onlinelibrary.wiley.com/doi/full/10.1111/jawr.12065>

must be at a high enough level to focus discussions on the key issues, goals, and decisions to be made.

Through this process decision makers and participants gain a shared, science-based, comprehensive understanding of the system and participant interests, which is critical for reducing the potential for conflict and misunderstandings in the future. The modeling process also provides an opportunity to discuss and explore various policy, management, or investment options and trade-offs that exist using “what-if” scenarios. The engagement can also help to resolve conflict, build trust, and create buy-in to an agreed-upon and understandable rationale for decisions. This buy-in increases the likelihood that stakeholders will provide the necessary long-term support needed during the implementation period.

Developers of this approach suggest that it is most useful in the initial stages of planning, when difficult decisions must be made and “when scientific information must be integrated with social and economic concerns to develop a shared vision of action.”<sup>31</sup> In addition to collaborators that have the motivation and resources to work together, these researchers have found that involving decision makers and ensuring the participants communicate the modeling discussions back to the larger stakeholder groups are best practices. “It has been argued that interaction among stakeholders, experts and decision-makers, while not changing values and interests, can result in a more holistic view of a given issue for all involved. This will improve the chance that decisions are robust in the longer term, given that their underlying rationale is transparent to most people involved.”<sup>32</sup>

### *Robust Decision-Making*

The third approach is very similar to the problem-solving approach, but uses a modelling technique, Robust Decision Making (RDM) within the risk governance framework<sup>33</sup> to develop and analyze options. It also emphasizes risk communication at all stages and iterative and interlinked decision-making.

The four steps of the process are comparable to the four stages of the problem-solving approach – initial problem scoping using societal values and information on risks and responses;

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<sup>31</sup> US Army Corps of Engineers, Environmental and Water Resources Institute, “Collaborative Modelling for Decision Support in Water Resources: Principles and Best Practices,” Revised February 11, 2011, p. 1.

<sup>32</sup> Mostashari, Ali, “Collaborative modeling and decision-making for complex energy systems,” World Scientific, Singapore; Hackensack, N.J., 2011, p. 11.

<sup>33</sup> Collaborations, and society at large must balance risks when making decisions about activities or technologies that have uncertain consequences. A risk governance framework refers to the actors and processes used to identify, assess, manage, and communicate those risks. It is especially relevant to situations where there are multiple agencies determining actions with uncertain consequences, as in the case of collaborations seeking to address resilience, climate change, sustainability or other complex social issues. For more on this topic see International Risk Governance Council, “Introduction to the IRGC Risk Governance Framework,” revised version. Lausanne: EPFL 2017.

analysis of the problem and identification of alternatives, analysis of alternatives, and choice and implementation that balances risks among social goals.

Various available models can be used within this framework. One such example is RDM, which is a decision support tool and analytic technique that allows decision-makers to explicitly view the trade-offs among policy options using multiple indicators. RDM was designed to support making decisions in circumstances in which future trends are uncertain and policy options that would be useful if one trend occurs might be harmful if other trends predominate. (For example, some water management strategies might be useful in case of drought, but harmful if trends change towards higher-than-normal rainfall.) RDM thus tries to identify policies that are robust in the face of multiple future, rather than optimized for one specific future that may not come to pass.

Applying RDM begins with proposed policy options and then uses analytics to array how well they do over thousands of alternative paths into the future. The output of the model summarizes the conditions in which each policy option will work well, or poorly.<sup>34</sup> This process also reveals potential vulnerabilities for the policy options, allowing the group the opportunity to develop additional options to reduce these vulnerabilities. The process is interactive, participatory, and iterative in which decision-makers and stakeholders discuss the nature of the decision; and identify goals, metrics, uncertainties, potential strategies and options, vulnerabilities, and available modeling tools. This gives decision-makers and stakeholders opportunities to debate and discuss the issues with the help of quantitative tools. The output is presented in such a way as to allow decision-makers to understand the trade-offs among the desired objectives and policy options, with the ultimate goal of identifying those options that perform well across a wide range of possible futures.

This approach offers decision support for complex, interlinked decision-making, especially when there is uncertainty. Additionally, it provides opportunities for learning and understanding in addition to communicating and managing risk. It can also help generate transformational strategies.<sup>35</sup> It is suitable for climate change and sustainability planning and has been used to facilitate the U.S. Bureau of Reclamation Colorado Basin Supply and Demand Study<sup>36</sup> and

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<sup>34</sup> For more information on RDM modeling see: Lempert, R. J. and M. Collins, "Managing the Risk of Uncertain Threshold Responses: Comparison of Robust, Optimum, and Precautionary Approaches," *Risk Analysis* 27(4): 1009-1026, 2007; Lempert, R. J., D. G. Groves, S. W. Popper and S. C. Bankes, "A General, Analytic Method for Generating Robust Strategies and Narrative Scenarios," *Management Science* 52(4): 514-528, 2006; and Lempert, R. J., S. W. Popper and S. C. Bankes, "Shaping the Next One Hundred Years: New Methods for Quantitative, Long-term Policy Analysis," Santa Monica, CA, RAND Corporation, 2003.

<sup>35</sup> Knopman and Lempert, "Urban Responses to Climate Change: Framework for Decisionmaking and Supporting Indicators," RR-1144-MCF, RAND Corporation, Santa Monica, CA, 2016.

<sup>36</sup> Groves, David G., Christopher Sharon, and Debra Knopman, *Planning Tool to Support Louisiana's Decisionmaking on Coastal Protection and Restoration: Technical Description*, Santa Monica, Calif.: RAND Corporation, TR-1266-CPRA, 2012. As of October 16, 2017 at: [http://www.rand.org/pubs/technical\\_reports/TR1266.html](http://www.rand.org/pubs/technical_reports/TR1266.html)

Louisiana's Comprehensive Master Plan for a Sustainable Coast (which included a multi-attribute planning tool that considered coastal storm risk reduction in terms of expected annual damage, loss of land expressed in acres, cost of actions to mitigate risks and land loss, and other indicators important to the public).<sup>37</sup>

### *Socio-Technical Roadmapping*

Socio-technical roadmapping is a useful decision-making approach when decision-makers recognize investment decisions have both technical and societal consequences, and that these effects are likely to change over time. Socio-technical roadmapping identifies and models the technological and sociological trade-offs that occur when deciding among alternative long-term investments, incorporating a broader range of variables into infrastructure decision-making than traditional cost-benefit analyses.<sup>38</sup> Factors to consider in the analysis are determined through consultation with stakeholders and review of historical data. Sociological factors these can include measures of quality of life, equity, economic activity, environmental conditions, cost, time, safety, etc. Technical factors will vary with the type of project but generally measure aspects of capacity and performance of the physical system. Socio-technical roadmapping is useful for decisions related to sustainability, resilience, climate change mitigation and adaption – issues that are complex, encompass multiple objectives, and exhibit levels of uncertainty.

The first steps in roadmapping are to involve stakeholders in a process to identify the important decision factors. Four types of analyses are used to develop the important decision factors that will be included in the roadmap. These analyses are:

- **Systems analysis**: The vision, goals, and objectives of the project are established and then the social and technical factors are identified. This analysis can draw from existing databases and studies, surveys, and focus groups to identify the factors. Once they have been identified the interactions among these factors and on performance is analyzed.
- **Sustainability analysis**: Once the system is described and the socio-technical factors identified, the project is assessed from a sustainability point of view, incorporating the anticipated behavior of various stakeholder groups and their effects on system performance.
- **Uncertainty analysis**: During this step the instabilities and risks to system functioning and performance are assessed. This assessment can be done through public meetings and surveys of stakeholders.
- **Socio-technical roadmapping**: The information from the previous three steps are incorporated into a roadmap that shows the decision factors, the types of instabilities

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<sup>37</sup> Groves, David G., Jordan R. Fischbach, Evan Bloom, Debra Knopman, and Ryan Keefe, *Adapting to a Changing Colorado River: Making Future Water Deliveries More Reliable Through Robust Management Strategies*, Santa Monica, Calif.: RAND Corporation, RR-242-BOR, 2013. As of October 16, 2016 at: [http://www.rand.org/pubs/research\\_reports/RR242.html](http://www.rand.org/pubs/research_reports/RR242.html)

<sup>38</sup> Long, Suzanna, Ruwen Qin, John Betak, Akhilesh Ojha, and John Myers. "Quantifying Economic Benefits for Rail Infrastructure Projects," October 5, 2014.

affecting each, and activities needed to ameliorate these instabilities to achieve the projects' goals and objectives.

A few modeling techniques are available to develop more quantitative estimates of the projects' potential effects on the socio-technical system. Each approach has strengths and weakness. Modeling approaches are determined by expectations of relationships – linear or nonlinear. Available data.

Three common approaches are: input-output models (Leontief), Bayesian analysis, and systems modeling. A very brief overview of each is provided.

- Input-output models assume a linear relationship between the inputs and the outputs and use historical data to generate a series of linear equations that model the inputs and outputs of the interdependent subsystems that make up the entire system.
- Bayesian network models represent the probabilistic relationships of types of variables that are dependent on each other and is a useful approach when considering the effects of different sets of decision variables on outputs. Three categories of variables are considered – decision variables, performance or evaluation criteria, and objective variables. Data for this model are frequently based on subjective judgements gathered from expert panels and surveys.
- Systems dynamics models represent the interactions between the various elements of the system over time. Parameters are estimated using engineering data, expert interviews, and surveys. These models have the advantage in that they provide a good visual representation of the system, but the data collection and quantitative analyses can be complex.

Whichever modeling approach is used, the benefit of socio-technological roadmapping is that it extends the criteria used for project decisions by incorporating the interests of a larger number of stakeholders to develop system performance criteria. Moreover, the approach considers time and the associated uncertainties, which can lead to more robust decisions.

Each of the analytic decision-making approaches introduced in this section offers a way to organize deliberations among collaboration members, who initially will likely have different frames of reference regarding social problems and needs and different priorities for meeting these needs. They provide opportunities for member learning to identify policy options utilizing available data, expertise, and community values. Ultimately the strength of any collaboration will be its ability to identify effective policy options that can be acceptable to all parties for tolerable levels of risk. The appropriate analytic approach to apply will vary with the complexity and knowledge of the problem, amount of information available, types of initiatives and investments under consideration, resources available for the analysis, and the levels of risk involved.

## Step 5: Take Collective Action and Monitor Outcomes

Once decisions are made about how to move forward, members are able to act. Collective action refers to implementing the activities the collaboration seeks to pursue together. Collective

action is varied and, in our case studies, range from seeking policy change by establishing the rationale for such change to making investments that advance the goals of the collaboration. No two collaborations will pursue collective action in the same way but there are a few common elements that help make them more successful.

The first element of success is to maintain focus on the collaboration and its progress through member accountability. Working collaboratively requires members to actively engage outside their day-to-day responsibilities. Accountability means that members of the collaboration will make a good faith effort to provide timely and accurate information and will follow through on commitments. Accountability is enabled when the organization is structured appropriately such that members have clearly articulated roles and responsibilities and when mutual interests are reflected in the goals. The use of timelines, clearly articulated expectations, and communication reinforce accountability. Members must also candidly agree on what individual members can or will do, as well as cannot or will not do, so that all expectations are aligned. Accountability is also enhanced when collaborations engage individuals at several management levels and across functional levels, which supports greater information exchange and coordination. The expectation that members meet their obligations is then fostered among members, but also among leaders at different levels within their organization.

The second element is to continue to actively manage activities and investments. This is especially important when a collaboration has no financial resources of its own and relies on member organizations to align their investments with the goals of the collaboration. Actively managing these investments is necessary to ensure these resources are effectively leveraged and that the tendency toward silos is reduced. For example, in some cases, members of a collaboration jointly developed common evaluation criteria for projects and investments that reflected the objectives of the collaboration. As an example, two planning grant programs administered by members of the federal Partnership for Sustainable Communities were assessed by the six cross-sector livability principles established within this partnership. Both HUD and the DOT worked together on the DOT's TIGER II planning grant, and HUD's regional planning grant programs, to ensure that each included the Livability Principles in their respective Notice of Funding Availability (NOFA) announcements and award processes. DOT also applied the Livability Principles to other departmental programs, such as DOT's New Starts Program and the Federal Transit Administration's Livability Bus Program. Similarly, EPA, another member of the Partnership, modified its brownfields planning grants to explicitly incorporate these principles, going so far as to announce the awards jointly with HUD while using the opportunity to discuss the role of affordable housing and job creation in brownfields redevelopment.<sup>39</sup> In contrast, the San Francisco area's Bay Area Prosperity Plan collaboration funded projects that competed

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<sup>39</sup> Pendall, Rolf, et al., "Can Federal Efforts Advance Federal and Local De-Siloing? Lessons from the HUD-EPA-DOT Partnership for Sustainable Communities," Urban Institute, Washington, DC, April 2013.

within each of three focus areas – housing, community, and jobs. Because the projects were evaluated within a respective focus area, the final projects resulted in the reinforcement of these silos despite having joint committees to oversee project selection .<sup>40</sup>

Most of the collaborations we reviewed did not have their own funds for investment (notable exceptions are TOD and OnePGH), and each promoted use of the collaboration’s vision, strategy, and goals for aligning individual agency activities and investments. This generally requires frequent communication (daily or weekly) to share information and updates on activities.

The third element is to continue to engage in routine stakeholder and public education and outreach as appropriate. This is important to do because often achieving the desired outcomes will require others to provide input and to act. Engaging in outreach to the public and other stakeholders also creates awareness and support for the activities of the collaboration, helping to sustain momentum. (OnePGH has many engagements, TOD and SEFCCC not as many.) While it seems simple, this can be a challenging and lengthy process, and it can take time for the messages to reach the intended recipients and produce results.

An initial step is determining whether public outreach is appropriate. While many may benefit from public awareness and engagement, sometimes the issues collaborations address can be sensitive or not relevant for broader coordination. Examples of sensitive topics include specific security practices, the development and coordination of response plans, or engagement with controversial or sensitive partner sets. In other instances, a collaboration may need to focus its scarce resources elsewhere and has made the informed decision to forego public outreach. Once the need for public outreach is identified, partners need to establish the primary message and outreach objectives. The message should tie directly to the collaboration’s goals and objectives and be clear enough to be understood by those outside the area of practice. The target audience depends on the objectives; it could be sympathetic stakeholders who may be able to provide support, or antagonists who may be persuaded to change their minds. Or, it could simply be a general outreach campaign for those unfamiliar with the topic at hand.

In addition to a message and an audience, platforms for public engagement need to be identified on which the message is shared. Often these are preexisting, like member newsletters and websites, but they may also include media outlets, press releases, and more ad hoc outreach campaign efforts. If the resources exist, it is often helpful to iterate on this process, examining whether the information is getting to the appropriate audience with the intended message. This allows the message to be adapted and reissued, if needed.

A fourth element is to monitor progress or performance and adjust if necessary. This is necessary for determining what may and may not be working well and builds momentum for the

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<sup>40</sup> Frick, Karen, Karen Chapple, Elizabeth Mattiuzzi, and Miriam Zuk, “Collaboration and Equity in Regional Sustainability Planning in California: Challenges in Implementation,” *California Journal of Politics and Policy*, 7:4, 2015, pp. 1-25.

activities of the collaboration. Members also can develop the narrative of what the collaboration is accomplishing and demonstrate to themselves (and others) that resources are being used effectively for attaining the intended goals. Communicating progress and the value of a collaboration to members and the public, whether it be conveyed through stories or quantitative data is important. It also reinforces that members are accountable for its success but could also backfire if the collaboration is not well-established and reporting exposes members who are not following through on commitments.

Monitoring and reporting should use a variety of data gathering methods and include both short- and long-term effects. Members need to agree on what data are relevant for understanding the issue and tracking progress. In addition, the collaboration needs to have the capability to gather and assess the needed data. For example, OnePGH uses the p4 framework – that focuses on people, place, planet, and performance -- developed by the Heinz Endowments. The p4 framework is intended to guide the city’s economic and technological growth in ways that sustain the environment and address social and economic inequality. To measure progress OnePGH draws data and information from the Western Pennsylvania Regional Data Center (WPRDC), which is hosted by the University of Pittsburgh. The WPRDC seeks to provide a legal and technological infrastructure for the dissemination of community and regional data and institutionalize the critical role of a data intermediary to support decision-making, research, and public engagement. Participants in Pittsburgh found that having a data intermediary is critical in regions with disparate and fragmented jurisdictions. The WPRDC seeks to create a community of data users and provides documentation and access to over 250 community datasets and reports on community profiles and regional indicators on an open-source platform.<sup>41</sup>

The majority of the case studies reviewed for this guide did not routinely track a deliberate set of performance indicators. However, as it progressed OnePGH developed a set of community equity indicators to monitor community outcomes.<sup>42</sup> and the Southeast Florida Climate Compact

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<sup>41</sup> The WPRDC evolved from the work on the PNCIS, which collected data from government agencies to support community development in Pittsburgh and Allegheny County. These were informal agreements to share data. Although the PNCIS had many users and led to strong working relationships, the data often had to be cleaned-up, processes were not automated, and download capacity was limited. As a result, data was not updated as frequently. Gradeck, Bob, “Lessons Learned,” Western Pennsylvania Regional Data Center, May 27, 2015 accessed at: <http://www.wprdc.org/news/lessonslearned/>

The WPRDC is managed by the University of Pittsburgh’s Center for Social and Urban Research, which is a partnership of the University, Allegheny County, and the City of Pittsburgh and has funding support from the Richard King Mellon Foundation, The Heinz Endowments, and the University of Pittsburgh. The Western Pennsylvania Regional Data Center is a partner in the National Neighborhood Indicators Partnership (NNIP) a collaboration between the Urban Institute and over 30 organizations across the United States to facilitate the provision of community and neighborhood data to inform policy development and local decision-making. The data center provides city and county information collected by public sector agencies, academic institutions, and non-profit organizations. It maintains the data, data guides, and legal framework and provides services to data users. For more on the NNIP see: <https://www.neighborhoodindicators.org/>

<sup>42</sup> See City of Pittsburgh, “Pittsburgh Equity Indicators webpage, accessed October 8, 2019 at: <https://pittsburghpa.gov/equityindicators/index.html> for the indicators and related information.

as well as Minnesota's GreenStep Cities program periodically survey local communities on the implementation of their guidelines. The Partnership for Sustainable Communities' agencies on the other hand developed the Sustainable Communities Indicator Catalog to help grantee communities identify indicators that can measure progress toward their own sustainability objectives success by selecting from the catalog (the Partnership did not use measures for its activities).

For those collaborations that can develop detailed, quantitative sustainable performance measures, the authors of the "Guidebook for Sustainability Performance Measurement for Transportation Agencies," developed in 2011, presents a framework for how a transportation agency should think about useful performance measures for sustainability. The authors identify 11 categories of goals relevant for sustainable transportation, keeping in mind that sustainable transportation is one part of a larger system of sustainability across various sectors. The recommended goals for sustainability in the transportation sector are:

1. Safety—Provide a safe transportation system for users and the general public.
2. Basic accessibility—Provide a transportation system that offers accessibility that allows people to fulfill at least their basic needs.
3. Equity/equal mobility—Provide options that allow affordable and equitable transportation opportunities for all sections of society.
4. System efficiency—Ensure the transportation system's functionality and efficiency are maintained and enhanced.
5. Security—Ensure the transportation system is secure from, ready for, and resilient to threats from all hazards.
6. Prosperity—Ensure the transportation system's development and operation support economic development and prosperity.
7. Economic viability—Ensure the economic feasibility of transportation investments over time.
8. Ecosystems—Protect and enhance environmental and ecological systems while developing and operating transportation systems.
9. Waste generation—Reduce waste generated by transportation-related activities.
10. Resource consumption—Reduce the use of non-renewable resources and promote the use of renewable replacements.
11. Emissions and air quality—Reduce transportation-related emissions of air pollutants and greenhouse gases.<sup>43</sup>

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<sup>43</sup> Zietsman, Josias and Tara Ramani, "Guidebook for Sustainability Performance Measurement for Transportation Agencies," NCHRP Report 708, 2011. p. 37.

## Step 6: Sustain and Institutionalize

Once a collaboration has been established and begun working towards its goals, efforts must be made to sustain momentum as members settle into their new roles and responsibilities. To do this, participants must not only understand the initial external environment, but also be able to predict shifts over time that might impact a collaboration's ability to produce value. Balancing the need for consistent focus, while adapting to the changing environment, is a challenge for the leadership and membership. Elements of this dynamic environment include changes in the catalyst leading to the collaboration, drivers and motivations of the participants, resource constraints, and political factors.

The first element in sustaining a collaboration is the ability to anticipate change and adapt accordingly. While the initial catalyst was sufficient to galvanize collaboration, as time passes the impact may fade as participants and resources get pulled in different directions. Or, follow-on events may stress a collaboration's initial operating structure. Members may be affected by the collaboration catalyst, but each participant also has its own equities and motivations, leadership priorities, and resourcing that may change over time. At an even more basic level, as the emergent work of establishing a partnership slows, participants may instinctively ease back into the day-to-day routines that predate the collaboration, sapping it of its resources.

Collaboration membership will also shift as members retire or change jobs and are replaced by individuals unaware of the collaboration's history. Even within organizations, individuals bring their own strengths, priorities, and agendas, which can impact partnership outcomes. Resource availability will also shift over time, growing and shrinking as budget windfalls or changing priorities alter funding and staff support. Political realities will also change as elected and appointed leadership leave and are replaced, or different topics and issues rise to the forefront of people's minds. Leadership support can be vital to collaborations, so changes in leadership, leadership structures, or priorities can cascade down. Understanding how the initial motivations or events shaping the collaboration may change can help a collaboration quickly adapt to remain relevant and effective. Predicting the impact these changes might have on a collaboration's support and resourcing will allow members to take preemptive steps to protect its ability to meet its mission.

The second element in sustaining an effective collaboration is the identification of leaders and champions who can coordinate the group's activities and advocate on its behalf. While a strong cadre of dedicated members is important, it is not enough to sustain a collaboration. As mentioned earlier, leadership is necessary to initiate collective action. However, sustaining a collaboration also requires leadership that brings diverse groups to work together, maintains focus, and can navigate differing equities, priorities, and potential conflict to retain member buy-in. A good leader is able to tactfully and gracefully guide the collaboration to resolution of conflicts among members trying to balance organizational equities with partnership demands. A good leader is able to intervene when members are not meeting their obligations. Furthermore,

leaders must have formal authority to secure resources and to make or guide decisions so the collaboration can achieve its goals. And if leadership is shared then individual roles and responsibilities must be clarified and agreed upon just as with all members of the collaboration.

Another role for leaders is to communicate with the public, elected officials, and other organizations to gain support for what the collaborative effort hopes to accomplish for the community and publicize its accomplishments. These messages must be framed in ways that are understandable and actionable to the various constituencies and stakeholders. Leaders do not have to be the only individuals who are championing the collaboration's purpose, they can work with other community members to reach out to all relevant stakeholders. The ideal champion is someone who is passionate about the collaboration's mission, has access to both decision-makers and the community, and can speak eloquently and convincingly on behalf of the collaboration and its members.

Lastly, leaders must be able to look holistically at the collaboration's broader environment to anticipate and recognize the changes in requirements and operating environment discussed above, adjusting course as necessary. When a partnership is able to proactively identify changing operational environments while recognizing strong leaders and champions, it is better poised to: meet its milestones and objectives despite resource shocks, remain on task as requirements change, and communicate victories to its surrounding community. In short, these considerations enable it to continue to produce value. It is this value that allows decisionmakers to continue to allocate resources, motivates participants, galvanizes communities, and supports the operating environment needed to sustain the partnership. Just as important as change in the broader environment, there needs to be attention given to how leadership will be sustained over the long-term and adapt to the changing contextual environment if the intent is to collaborate indefinitely. The importance of consistent leadership support to provide resources, negotiate these challenges cannot be overstated. This leader tracks activities and objectives, providing guidance and direction to constituent members to ensure they remain relevant, accountable, and impactful over time. Effective leadership will facilitate the transition to a successor at the appropriate time. Leadership is discussed throughout the literature as being one of the most important contributors to successful collaborations.

### Institutionalize

Once a collaboration has agreed on a shared vision and roles and responsibilities for the collaboration, it needs to institutionalize the process by which it achieves these objectives. As the Government Accountability Office (GAO) has noted, they must "establish compatible policies, procure, and other means to operate across agency boundaries."<sup>44</sup> Others found that in addition to developing policies and procedures, overarching change may require coordination on how

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<sup>44</sup> Government Accountability Office, "Best Practices and Leading Practices in Collaboration," accessed August 10, 2017 at: [https://www.gao.gov/key\\_issues/leading\\_practices\\_collaboration/issue\\_summary#t=0](https://www.gao.gov/key_issues/leading_practices_collaboration/issue_summary#t=0)

programs (or grant applications should this be pertinent) are evaluated, strategic planning is performed, budget information is developed, and contracting activities are executed.

As mentioned earlier, while some collaborations are established for specific projects and periods of time, others may have indefinite time frames for driving broader social change. This affects the organization and formality of collective action, which would also require them to adapt and institutionalize practices over time. It can be difficult to maintain a collaboration in the face of staff turnover, priorities that change when new leadership comes into power or in changing budget environments and public opinion. A robust organizational structure tailored to a collaboration's unique requirements will help it weather these shocks to achieve the desired outputs and outcomes.

The process of institutionalizing a collaboration involves translating its purpose, strategies, and policies into guidelines for daily activities of the members as one means of instilling fundamental objectives and values into the collaborative culture. By doing so, the organizational relationships can become more stable and permanent, giving it the ability to withstand a change in leadership or personnel. This can be done formally, through written documentation of policies and procedures, etc. but achieving the right level of stability and permanence through formal documentation must be balanced with maintaining some flexibility and responsiveness. To a large extent, finding the right mix will depend on the collaborative purpose and cultural norms of member organizations. While informal agreements about the collaboration membership, purpose, and process can work (as in the case of the Partnership for a Sustainability Community), formal agreements have the advantage of supporting accountability.

The process of developing formal agreements, and having them accessible by members and the public, if appropriate, has the added benefit of serving as a narrative to explain the rationale and purpose of the collaboration, and a means to publicize its goals and objectives, create buy-in, and encourage collective action. The other advantage of having formal agreements is that the relationship between the agencies cannot be broken easily and will persist when there is staff turnover or other changes. These formal agreements should be revisited and modified appropriately as new information becomes available, or as the collaboration adapts to the changing internal and external environments.

In addition to committed leadership and codified policies and procedures, effective collaborations also tend to exhibit the following best practices:

- **A strong investment in interpersonal bonds among participants.** While institutional relationships are important for longevity, it is the individuals who collaborate frequently, (in some cases collaborating partners communicated on a daily basis), to meet partnership objectives. Individual working relationships based on trust, shared mission, and mutual respect will produce a stronger, more resilient partnership
- **An established knowledge management process.** As collaborations mature, participants will shift as members leave and are replaced, or as new stakeholders are identified and added. It is important that the partnership not only find a mechanism to retain historical context and information, but also ensure these resources are passed on to newer members.

In this vein, it is important to establish a documented process to “read in” new partners, ensuring they have the same depth of knowledge of the collaboration’s history, member priorities, and constraints. This ground truth enables new members to come to the table fully aware of the activities, successes, and challenges faced before their arrival. This allows for more seamless transitions that don’t impact the collaboration’s forward momentum.

- **Organizational links at multiple levels.** Creating organizational linkages at different levels across member agencies builds resilience in a partnership, helping it withstand shocks ranging from personnel changes to resource shortfalls. It also increases mutual cultural understanding and reinforces the shared practices that help institutionalize successful collaborations.
- **Synchronized budget planning cycles.** Aligned planning and budgeting cycles allow constituents to jointly develop a single, coordinate set of requirements and budget demands, instead of addressing each individual organization’s contribution piecemeal. It also provides insight into each member’s internal process, increasing trust through transparency.
- **Consistently recognized and celebrated successes.** Multi-agency coordination is challenging; it requires the coordinated effort of many individuals (with differing mandates and equities) all working in concert to address challenges too difficult to address alone. Some aspects are frustrating or even disheartening, which can overwhelm individual perceptions of a collaboration and its achievements. As such, it is important that achievements and successes are recognized, celebrated, and shared. This reinforces to members the value of the work and illustrates the utility of the partnership to both decision-makers and the community at large.

Unfortunately, there is no one institutional structure that fits all partnerships; the degree of formalization some require to thrive may stifle the productivity of others. Moreover, lessons from the case studies suggest that while having formal agreements and documentation is more robust, it is necessary to develop working relationships first. Maintaining strong documentation and records management may assist future collaborations navigate the complexities of multi-agency coordination. By identifying and developing necessary formal agreements, strengthening interpersonal relationships at multiple levels, and coordinating administrative and resource planning cycles, partnerships can create lay the institutional groundwork for strong, enduring relationships and effective collective action.

### 3. Communication is Critical for Successful Collaboration

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Other than leadership, communication is perhaps the most important contributor to a collaboration. Why is communication so important? By design, multiagency collaborations bring together groups with different perspectives, cultures, authorities, equities, and goals. A distinguishing feature of collaborations is that communication is deliberate and interactive to develop the necessary trusted working relationships. These relationships among participants and between agencies are not always recognized as a principal output of collaboration, but it is these relationships that will affect the collaboration's success and can influence other related activities or future engagements. A trusting relationship, necessary for making progress, cannot develop without effective and open communication.

First, within the collaboration, communication is important for establishing a common, fact based, baseline understanding of the problem and how each group is affected. Articulating the problem may be easier when there is a shared understanding of the overall issue and general agreement on community challenges and needs. Interviewees from the Southeast Florida Climate Compact stated their common knowledge base facilitated their ability to discuss issues of mutual concern and develop close working relationships as a result. However, when members come from different backgrounds or have different capacities and resources they may have divergent views on these concerns and it may be necessary to educate individuals, either formally or informally, on all aspects of the issue (such as what sustainability means in other contexts other than their own agency) to develop a shared level of understanding.

When members are cooperating for the first time there are many ways miscommunication can occur. Organizations all have their own internal cultures that those inside may be blind to. Cultural elements that become relevant during collaborations include: how decisions are made and how decision-making authority is delegated, the emphasis on hierarchies versus individual autonomy, the formality of processes and procedures, the relative importance of quantitative or qualitative data sources, the speed of anticipated response and deliverable timeframes, and tolerance for risk and uncertainty. Even language, definitions, and jargon can inadvertently create confusion, and if this difference is not recognized, it is possible for entire meetings to pass without attendees realizing what they consider to be a widely-recognized acronym means something else entirely to others in the audience. It can be that basic. Until members have a shared level of understanding of the problems and needs, the collaboration runs the risk of having to revisit these issues further down the road.

Moreover, complex social problems, such as sustainability, resilience, or climate change tend to be value-laden and unpredictable. For these kinds of issues, we have found in other research that formal training can be used to catalyze behavioral change and more comprehensive decision-making. For example, when developing design-for-environment practices both Volvo

and Texas Instruments developed training programs to increase awareness of environmental issues among their employees and to develop new competencies for addressing them. They discovered that it was necessary to address an individual's value system and ethics toward the environment to affect change. Providing this training throughout the organization also improved communication on environmental issues by establishing a common level of understanding.<sup>45</sup> Regardless of whether formal or informal approaches are used, it is necessary to spend the time and effort to ensure that members have a common understanding and frame of reference for issues such as sustainability, resilience, etc., members should be able to openly discuss differing perspectives and concerns, and eventually members should be able to articulate the reasons for joint action and the benefits of the collaboration.

Additionally, communication is essential for ensuring accurate and timely information is used to develop consensus, create plans, make decisions, take action and change course if necessary. For collaborations based on trust, use of outdated or inaccurate information (especially for inclusion in resource allocation or externally-facing documents) can be detrimental and take a long time to recover. Members must be able to discuss their organization's needs openly and equitably to enable the group to work through disagreements toward compromise in a manner that allows all to remain engaged and committed. Sometimes members don't know what they don't know and these issues can only be revealed through frequent interactions, preferably face to face. Communication and the relationships allow groups to effectively problem-solve and to overcome the inevitable obstacles that will appear.

While working relationships built during collaborative processes can take years to develop, longer if there is an acrimonious history among various members, strong working relationships contribute to the collaboration's success. They can also lead to long-lasting intangible outcomes or spark new collaborations. For example, the Sacramento Joint MPO-COG collaboration on the HUD Regional Grant Program benefited from blueprint planning that was done in the prior 10 years and the Partnership for Sustainable Communities built on previous cooperative efforts: a 2005 Interagency Agreement to help with transit-oriented development, and a 2008 joint report on statutory barriers that inhibited coordination of housing and transportation investments.<sup>46</sup> OnePGH benefits from the long history of public, private, and non-profit organizational

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<sup>45</sup> Volvo developed their Dialogue environmental awareness and training program, which was provided to all Volvo Car Corporation employees and associates worldwide. Employees' attitudes were surveyed periodically to determine the effectiveness of the program. Texas Instruments had a "Winning Designs" briefing that sought to increase awareness of environmental, health, and safety issues, which was provided to all company designers worldwide. See pages 45-46 in Resetar, Susan, Frank Camm, and Jeffrey Drezner, "Environmental Management in Design Lessons from Volvo and Hewlett-Packard for the Department of Defense." RAND Corporation, Santa Monica, CA, 1998.

<sup>46</sup> U.S. Federal Transit Administration and U.S. Department of Housing and Urban Development. (2008). Better Coordination of Transportation and Housing Programs to Promote Affordable Housing Near Transportation. A Report to Congress. Viewed on: [www.fta.dot.gov/FTA\\_HUD\\_Action\\_Plan\\_-\\_Report\\_to\\_Congress\\_2008.pdf](http://www.fta.dot.gov/FTA_HUD_Action_Plan_-_Report_to_Congress_2008.pdf) As cited in Pendall, Rolf, et al., "Can Federal Efforts Advance Federal and Local De-Siloing? Lessons from the HUD-EPA-DOT Partnership for Sustainable Communities," Urban Institute, Washington, DC, April 2013.

collaboration that have led to significant investments in revitalizing the city. OnePGH leverages this tradition and the fact that members of the nonprofit and philanthropic communities in Pittsburgh frequently have some other professional or personal connections that allows them to check in on OnePGH initiatives outside of formal meetings and to align organizations across a broad spectrum of interests with the goals and objectives of the resiliency plan.

The frequency and content of internal communications will obviously depend on the timeline and the purpose of the collaboration, but ideally internal communication should:

- Be routine and frequent; face-to-face communication is the gold standard.
- Occur at multiple levels or departments among the organizations, since complex problems will likely require input, expertise, and action from different departments within an agency.
- Contain accurate and comprehensive information that is readily shared in a timely manner. If sensitive information is needed, agreements may have to be established for protection.

Collaborations can use pre-existing forums for communicating and sharing information or can create new ones as necessary. However, the communication forum should reflect preexisting habits and centers of gravity among the target audiences; if group members already frequent a specific portal or information resource, it would be easier to leverage those existing habits to quickly and effectively share information.

In addition, it is important to communicate externally to let others know what the collaboration seeks to accomplish and how and why this is important. This builds support and facilitates implementation. Socializing these ideas and insights with others both within the participant organizations and within the community and public at-large can lead to improved outcomes and institutional resiliency. One of the challenges in Transit-Oriented Denver is the effectiveness of a strategic plan is dependent to some extent on a changing public behavior toward transit and high-density. Yet the collaboration does not engage in much public outreach and communication.<sup>47</sup> Knowledge gained through these interactions can be applied to decisions within the collaboration, but also to decisions within the home agency and the community, which helps to reduce silos. Minnesota's GreenStep Cities on the other hand works through the network of regional CERT staff to gain insights into new plans, projects, and issues developing within the cities and communities they outreach to. This crucial information helps the program staff make needed adjustments to ensure the program remains relevant and adds value. Its relationship with the League of Minnesota Cities also provides visibility into community needs and opportunities to exchange information and stories to expose city staff that may not necessarily be focused on sustainability issues to the program. Moreover, new realizations of overlapping equities can create additional opportunities for future collaborative efforts. For example, the relationships formed during collaborative efforts can spur or enhance the creation

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<sup>47</sup> Personal interview with member of Transit-Oriented Denver, February 23, 2018.

of subsequent partnerships or collaborations (for example, the Sacramento Sustainable Communities Strategy built off the work that was performed for a HUD regional grant, and as a result was able to include a broader set of stakeholders in transportation planning).<sup>48</sup>

Accountability is focused on involving the public as much as possible through updates, summits, and outreach. Special issue-oriented workshops are conducted for relevant stakeholders, NPOs, and public employees to gather input. Some felt that pushing accountability with qualitative or quantitative measures too early could cause unnecessary tension in a developing organization where working relationships are not well-established. Being able to demonstrate return on investment is a key tool in selling the value of the compact.

External communication is also important because systemic change takes a long time. When there is a long lag time before outputs and outcomes are realized, communicating purpose and progress to the community and other stakeholders is necessary to sustain support. As mentioned earlier, having a respected person or organization that can champion the collaboration provides increased awareness and potentially greater access to needed resources is valuable for this reason.

Finally, communication can also play a role in institutional learning. Effective collaborations can create an institutional learning process by celebrating success, and by learning from failure. A second-order benefit of developing good communications practices is that once relationships are established, the collaboration can potentially be an effective forum for finding mutually agreeable solutions in areas outside the collaborative effort directly, where individual agency goals may be working at cross-purposes. The staff engaged in the Partnership for Sustainable Communities conducted intra-agency outreach and engagement about PSC ideas, livability principles, and work that led to more in-depth and interactive discussions with other programs within HUD, DOT, and EPA. For example, EPA's program offices (water, air, brownfields, etc.) administer most of EPA's grant funds and regulate many environmental conditions that affect development patterns. By building understanding of these cross-sector effects, PSC staff were able to influence the direction of larger programs, expand the reach and influence of PSC messages (including in regional offices), and build support for PSC initiatives (including recruiting reviewers for grants).

In sum, collaborations are generally voluntary arrangements that rely on participants' recognition that collective action is necessary to attain the systemic change often needed to address complex problems and their willingness to pursue such change. Yet silos and differences in baseline knowledge and cultural can create disconnects among the participants and the objectives and goals they wish to collectively pursue. Effective leadership and open communication that requires information exchange and honest discussion provide the

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<sup>48</sup> Frick, Karen, Karen Chapple, Elizabeth Mattiuzzi, and Miriam Zuk, "Collaboration and Equity in Regional Sustainability Planning in California: Challenges in Implementation," *California Journal of Politics and Policy*, 7:4, 2015, pp. 1-25.

mechanisms necessary to break through these silos and the bridge gaps in knowledge and capability. Leadership and frequent communication are critical for examining and resolving these disconnects and creating a common level of understanding among the participants that is necessary to come to agreement on the appropriate courses of action.

## 4. Concluding Remarks: What We Learned About Collaboration from the Case Studies

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Interagency collaborations are shaped by a multitude of contextual variables and cultural norms that determine their enabling resources, available authorities, necessary activities, desired outputs, and the ultimate outcomes achieved. The good will, diligence, and skills of a variety of stakeholders are critical to their success, especially in the common case of a voluntary collaboration. Stakeholders must acknowledge that collective action is necessary to attain the systemic change often needed to address complex problems. They must be willing to transcend organizational boundaries and bureaucratic inertia to pursue such change. This requires managing cultural differences between members, as well as the differences in baseline knowledge that can hinder action toward a common objective. This is accomplished in part through honest discussion and debate and a willingness to learn from all parties. Effective leadership and frequent communication are critical for examining and resolving these disconnects, but also noted is the need for participants who not only have functional expertise but who can communicate effectively and are committed to the endeavor.

Working together for systemic change takes time and effort but can lead to improvements in our communities -- as illustrated in the seven case studies that address social issues at the local, regional, and state levels -- through broad participation and input. These cases demonstrate that multiagency collaboration has led to more integrated, holistic approaches to social issues, especially in the areas of planning and coordinating policy and investment. The Southeast Florida Climate Change Compact, Massachusetts Healthy Transportation Compact, and Minnesota GreenStep Cities focus on developing the knowledge, tools, and policies at a regional or state level that could be used to guide the investments and actions of member organizations and others. Over 1,400 participating cities in the Minnesota GreenStep Cities program have implemented sustainability best practices, benefiting over 54,000 residents state-wide. While in Southeast Florida municipalities and counties self-report that they have implemented nearly 30 percent of the Compact's Regional Climate Action Plan recommendations, improving the regions resilience to climate change effects.<sup>49</sup> The Southeast Florida Climate Compact members also explicitly recognized the value of joining forces for pursuing funding opportunities, legislative change, and policy priorities after recognizing that uncoordinated local sea level rise projections were a barrier to achieving regionally consistent adaptation strategies and policies, and to effectively influence supportive policies at the state and federal levels. Finally, transit-oriented development planning has been ongoing in the Denver area for decades, and although

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<sup>49</sup> RCAP recommendations are grouped into eight topical areas numbering 110 in total. 109 recommendations were included in the survey because one had limited relevance to those surveyed.

impossible to ascribe to any singular activity such as the TOD plan, the Denver area has seen an increase in development density around transit stations. Furthermore, members of city government point to improved coordination and planning, in part because they have embraced accountability to the plan leading to a greater focus on implementation than before, and in part because they were able to engage in more effective relationships and partnerships by focusing more broadly at the community level.

The collaborations we reviewed were often sparked by personal relationships and mutual interests in pursuing more comprehensive and holistic systems change. For example, the Partnership for Sustainable Communities, and the Massachusetts' Healthy Transportation Compact were initiated after leadership recognized the benefits of working together to pursue sustainability and public health goals (and unfortunately despite their accomplishments and legislative mandate in the case of the HTC, these collaborations waned after its leadership changed).<sup>50</sup> Other collaborations were developed from long-standing common interests that could leverage a funding opportunity. For example, OnePGH leveraged grants from the Rockefeller and the Heinz foundations, and Transit Oriented Denver and the Southeast Florida Climate Compact leveraged grants from the Partnership for Sustainable Communities. Requirements from funding sources often influence or determine the focus and framing of these collaborations. The Puerto Rico recovery plan on the other hand was initiated by legislation in response to an extreme event. In this case the legislation prescribed the timeline for preparing the plan and elements it should contain (these were information on damages and needs, recovery actions, and funding sources).

The Puerto Rico recovery plan represents an example of short- and mid-term recovery planning that taps the expertise and needs of a broad range of stakeholders and synthesizes the collective priorities of agencies across Puerto Rico's government into a comprehensive and cohesive plan. The Puerto Rico recovery plan development was an extensive planning effort in response to a major disaster that affected the entire territory and as a result there was strong motivation and substantial support for this effort. The existence of an established organizational structure in the NDRF that delineated clear roles and responsibilities while also bringing in the required expertise to pursue recovery planning contributed to the success of the collaboration. Transit-Oriented Denver, the Partnership for Sustainable Communities, and OnePGH are focusing on planning *and* coordinating at the federal, state, or local levels to coordinate policy and investment. Legislative limitations prevented HUD, DOT, and EPA from pooling resources in the Partnership for Sustainable Communities, so instead they developed common criteria for evaluating grant applications that they applied jointly to ensure the criteria were applied

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<sup>50</sup> The Healthy Transportation Compact was codified in Massachusetts' June 2009 Transportation Reform Act Section 33. Source: Commonwealth of Massachusetts, "Acts (2009): Chapter 25:An Act Modernizing the Transportation Systems of the Commonwealth," Approved July 2009. As of December 21, 2018 at: <https://malegislature.gov/Laws/SessionLaws/Acts/2009/Chapter25>

uniformly. Transit Oriented Denver established a fund in 2010 to provide low-cost loans to mitigate the challenges of finding financing for affordable housing developments near transit centers. The \$24 million loan fund is a partnership between Enterprise Community Loan Fund and several public- and private-investors.<sup>51</sup> OnePGH also has developed an investment prospectus to identify sources of funds and communicate investment priorities for pursuing its resilience strategy. The OnePGH fund is planned to be a non-profit financing body with contributions from nonprofits, foundations, and the private sector. Community engagement on this issue continues as OnePGH members work through finding the right balance of transparency and public participation in a resource allocation process that is funded by private sources for public purposes.<sup>52</sup> We did not observe any collaborations that pooled agency resources or that closely coordinated operations activities, which would require greater integration of financial, personnel, and information resources.

Our interviewees universally mentioned the importance and value in building and sustaining organizational and personal relationships, highlighting that collaborations are long-term investments that require attention to communication, learning, and transparent analysis. Through these relationships, members not only developed a more in-depth understanding of the issues but grew more aware of the risks and trade-offs from all perspectives. They note the knowledge and trust gained through these relationships is what allows the collaboration to function and succeed and the knowledge and relationships gained can have long-lasting cascading effects.

Multi-agency collaborations are effectively seeking innovative approaches to complex problems and will need staff who are capable of working effectively in this environment. Essential to successful collaboration is involving highly competent and motivated senior staff to establish the collaborative structures and to initiate its activities. For example, the PSC drew staff that had extensive experience within their agency and stakeholder organizations or were attracted to the mission of the Partnership. Specifically, it benefitted from staff with key private, non-profit, and legislative experience and those with experience at the local elected-leadership and state smart growth levels. Moreover, staff were good communicators both internally and with a broader audience. Not only is it necessary to have people with deep functional knowledge but also those with expertise in consensus building, facilitation, policy analysis, and communications

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<sup>51</sup> Bellis, Rayla, “How Denver and Seattle are working to preserve affordable housing near transit,” posted July 2, 2018 in State Smart Transportation Initiative News. As of September 3, 2019 at: <https://www.ssti.us/2018/07/how-denver-and-seattle-are-working-to-preserve-affordable-housing-near-transit/> and Enterprise Community Investment, Inc., “Denver Regional Transit-Oriented Development TOD Fund,” undated. As of September 3, 2019: <https://www.enterprisecommunity.org/financing-and-development/community-loan-fund/denver-regional-tod-fund>

<sup>52</sup> Kraus, Margaret, “Peduto’s OnePGH Aims To Address Pittsburgh’s Problems. So Far It Hasn’t Solved Its Own,” 90.5 WESA, December 21, 2018 accessed at: <https://www.wesa.fm/post/peduto-s-onepgh-aims-address-pittsburghs-problems-so-far-it-hasn-t-solved-its-own#stream/0> and Murray, Ashley, “Mayor working on nonprofit fund, but deal still out of reach for now,” Pittsburgh Post-Gazette, April 14, 2019 accessed at: <https://www.post-gazette.com/local/city/2019/04/14/Mayor-Peduto-OnePGH-report-pittsburgh-raise-critical-needs-tax-exempt-organizations/stories/201904110090>

management. It may be necessary to invest in training to ensure the collaboration has access to the right mix of knowledge, skills, and capabilities among its members. Staff who are problem-solvers, opportunistic, and willing to engage others are essential. And as staff turns over it will be important to integrate new staff, instilling them with the norms of the collaboration and previously gathered information that can ensure they have a deep understanding of all the issues.

Another important lesson is the value in reaching out within member home agencies to spread these ideas and insights. Practically speaking there are limits to the span of control any collaboration has, but by engaging others, members can potentially expand their influence on additional behaviors and investments, which can have long-lasting effects in breaking down silos. For example, the PSC participants recognized in retrospect that the partnership staff could have spent more time communicating with other, well-established programs as another way of institutionalizing the approach. Perhaps the PSC could have created a fellowship program to allow staff from around the federal government to cycle through the program to build a wider network of individuals who appreciate the perspectives of a broader approach that recognizes a community in a given geographical area may confront a wide range of problems and opportunities and that policies that take this into account (by establishing relationships with other agencies) and may be both more efficient and more effective.

We did not hear much about the use of formal models or decision support tools. Decision-making in the case studies consisted of primarily consensus processes with minimal use of formal decision tools (an exception is Puerto Rico hurricanes' recovery planning, which used a formal decision support tool that arrayed portfolios of recovery activities for decision-makers in Puerto Rico's government). Massachusetts's Healthy Transportation Compact collaboration did not control funds but helped to develop and spread the use of Health Impact Assessments that analyze the air quality effects, safety risks, noise effects, mobility levels across all modes, and economic development consequences of transportation infrastructure projects.<sup>53</sup>

Another important element of collaborating is to invest in the support needed to organize, manage, and sustain a collaboration. TOD and OnePGH had initial support from PSC grants, which helped them get started. Several of the collaborations – Southeast Florida Climate Change Compact, Puerto Rico recovery planning, and Minnesota GreenStep Cities had funding for such activities as meeting logistics and facilitation, administrative support, policy analysis, and in some cases management by a neutral third-party or a platform for providing data and information. Given that most of the collaborations we reviewed were voluntary activities, participating staff had other primary responsibilities and could not devote the time needed to run what essentially is a separate organization. Performing the level of stakeholder outreach and data gathering required to develop the Puerto Rico recovery plan within the six-month timeframe was challenging but was facilitated by leadership, support for the required administrative and analysis

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<sup>53</sup> Massachusetts Department of Public Health, "Health Impact Assessments," webpage accessed October 21, 2019 at: <https://www.mass.gov/health-impact-assessment>

needs, and communications practices that facilitated face-to-face interaction (when possible), public outreach, and the sharing of information. Effective collaborations generally engage the public, generate informal and formal communications, seek grants or philanthropic funding, produce planning and strategy documents, collect data and surveys to measure outcomes, etc. and are more likely to effectively perform these activities when resources and staff are devoted to them.

Experience with collaboration in natural resources conservation, presented in the box below, succinctly summarizes many of the observations from our case studies and literature review.

### **Lessons from Co-management of Natural Resources**

Lessons from the natural resource management community provide insight into collaboration for sustainability and similarly focused collaborations. The practice of community and government co-management of natural resources in the Caribbean has been used as a means for improved management of these resources and alignment with community needs. However, lessons from these experiences indicate that this approach is not always successful and cannot “be seen as a panacea for solving all resource management problems.”

Factors that contribute to the success of co-management are: “the inclusion of all interested parties and respect for their objectives, well defined membership and clearly defined rights and responsibilities, collective recognition of the existence of the problem (excessive exploitation of resources), clear objectives for managing the resources, clear and proportional benefits to all parties for their contributions, clear management rules, mechanisms for conflict resolution and dialogue, committed and sustained leadership, and the participation of non-governmental organizations (NGOs) as agents of change.”

Factors that detract from the success of co-management are: “lack of resources, negative attitudes toward co-management, policies that tend to maintain centralization of government power, a lack of capabilities in the community, and the community’s economic dependence on the government.” In these examples it is suggested that to overcome some of the negative factors it will be important to engage and activate civil society, identify organizational and financial support to supplement what the government can do, and communicate and educate others on the benefits of co-management. (Garcia-Lopez, 2012)

Finally, we note when addressing complex social problems there can be substantial time lag – years to decades -- before there are results. It will be important to continuously communicate the goals and objectives of the collaboration and to set expectations by identifying achievable short-, intermediate- and long-term goals. Showing progress toward these goals, providing value to members and stakeholders, and demonstrating impact help sustain interest in and support for the collaboration. Communicating these successes to members and the public at large is essential. Inevitably over periods of time leadership, priorities, and resources will change.

Formalizing collaborative arrangements through memorandums of understanding, membership requirements, and performance metrics are helpful tools for institutionalizing a collaboration (if long-term engagement is desired) but this will not be enough to sustain it. Showing value, providing proper resourcing, and anticipating and preparing to change both internally and externally are crucial for remaining relevant, functional, and influential.

Despite all the experience with collaboration over the decades, gaps in understanding how to implement inter-organizational pursuits remain. Some areas for additional research on multi-agency collaboration, described in more detail in Appendix D, are:

- Identifying and understanding the legal and institutional barriers to greater levels of collaboration and collective action among transportation agencies and prospective collaborators.
- Understanding data and information sharing requirements for greater systems change.
- Exploiting new technologies for engaging stakeholders.
- Exploring the benefits and interest of an open-source curated forum that provides guidance, standards, and tools for multi-agency collaboration.

The previous discussion provides guidance and insight into collaborative endeavors. Effective response to many community-, state-, regional-, and national-issues will require resources and capabilities that necessitate working together across organizational boundaries. Each collaboration will have unique contextual environments, motivating forces, and ultimate goals. There is no simple recipe for success.

## Appendix A. Case Study Narratives

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The case studies developed to inform the guidebook are described in more detail in this appendix.

**Table A.1. Case Studies**

Geographic Focus	Sustainability/ Health	Resilience
<b>Cities</b>	Denver, CO (Transit Oriented Denver) (2011 - ) (a)  Partnership for Sustainable Communities (federal level) (2009 - 2016)	Pittsburgh, PA (Resilient Pittsburgh - OnePGH) (2015 - )
<b>Regional</b>		Southeast Florida (Southeast Florida Climate Compact) (2009 - )
<b>State</b>	Massachusetts (Healthy Transportation Compact) (2009 - )  Minnesota (GreenStep Cities Program) (2008- )	Puerto Rico (Puerto Rico Recovery Plan) (2018 - )

The Guidebook was developed from a review of the literature supplemented with multiple case studies. Before the case studies were initiated we developed a preliminary framework for collaboration based on the academic literature. This framework was then tested and applied to multiple case studies to gain insights into how collaborations function, specifically to identify the major elements of a collaboration and the characteristics of these elements that contribute to success.

The final cases were selected in cooperation with the National Academies' project panel. Two case studies, the Partnership for Sustainable Communities and Puerto Rico Recovery Planning, were specifically identified in the statement of work. The remaining five were selected from a list of 13 potential candidates using limited information gathered on each candidate such as: strategic goals, collaborators, select activities, and interesting features. The preliminary material was presented and discussed with the panel to select five collaborations for further

study. Case study collaborations were selected because they had been ongoing for enough time to generate lessons and that had the greatest potential to provide wide-ranging insights for the guidebook. To ensure we captured the breadth of contextual environments and issues collaborations face we selected a sample that occurred at different geographic scales (locally, regionally, and state-wide), were in different regions of the country, and pursued different comprehensive societal goals requiring cooperation among multiple agencies. Goals such as sustainability, better health outcomes, or community resilience were of interest because they cannot be effectively pursued by a single agency acting unilaterally.

The case studies were developed from publicly available documentation and literatures with information from structured interviews. An interview protocol (provided in Appendix B), aligned with the framework developed from the academic literature, was used and responses were entirely voluntary and not-for-attribution. For each case study three to five individuals representing different participating organizations were interviewed and a total of over 25 total interviews were performed.<sup>54</sup>

There are some limitations of this approach. Given the range of possible contextual environments and goals of collaborations this remains a relatively small sample of collaborative efforts. Additionally, it was not possible to speak with representatives from all stakeholder groups involved in each case. And while those interviewed provided invaluable insights, not all interviewees responded to all questions on the protocol. Finally, the collaborations varied in the amount of relevant written material available that could be used to flesh out details of the collaboration.

Apart from the Partnership for Sustainable Communities, which ended in 2016 and Puerto Rico recovery planning which provided a report to Congress in August 2018, these collaborations are ongoing. Specifically, we were interested in learning several things about each collaboration: the motivation and purpose; and how the collaboration is organized; how it develops goals, plans, and makes decisions; communications and how it ensures members are accountable; how it measures progress; and how it sustains or institutionalizes collective action. Information from written materials and the interviews were assessed and synthesized in the following presentation. When available we present information on the outputs and outcomes of each, but otherwise we have not performed an independent assessment of their success.

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<sup>54</sup>The interviews were conducted in a manner consistent with the requirements of RAND's Human Subjects Protection Committee. These interviews supplement a review and analysis of available data, reports, statutes, and policy documents. Thus, the interviews were conducted to clarify our understanding of the collaboration and represent only one component of our assessment. Participation was voluntary and not-for-attribution.

## Transit Oriented Denver

### *Purpose of the Collaboration*

Developed in 2014, the Transit Oriented Denver strategic plan (TOD) focuses on providing multimodal transportation options and is intended to guide city-led actions related to transit-oriented development. According to the TOD website, “transit-oriented development in Denver generally describes a development in an existing or planned transit community that adds to the walkable, vibrant, mixed-use environment and is oriented towards frequent, high-quality transit service that connects the community to the rest of the region.”<sup>55</sup> The collaboration’s purpose, stated in the form of principles, is to:

- *Connect* -- achieve a high level of connectivity at station areas by facilitating access through walking and biking.
- *Innovate* – seek innovative thinking around TOD to foster sustained, responsible economic growth.
- *Be efficient* – be an intrinsically efficient to live, play, and do business by consciously placing homes, jobs, civic uses, shopping, entertainment, parks, and other daily necessities that are close to transit stations.
- *Place* – make places not just to travel through but rather to stop, linger, converse, and generally live life.
- *Mix* – provide a balanced mix of complementary uses and activities within a close proximity, increasing the chances that people can meet the majority of their daily needs by foot, bike, or transit.
- *Shift* – lead the region’s effort to shift into a new way of thinking about personal mobility.<sup>56</sup>

The 2014 TOD Strategic Plan is designed to guide a multitude of user groups (residents, business owners, developers, public agencies) in creating investment around Denver’s rail stations. The plan’s goals are to facilitate the implementation of existing recommendations and projects identified in adopted city plans. TOD 2014 was developed as a parallel effort to the Strategic Transportation Plan led by the Denver Department of Public Works which signaled a shift towards multimodal transportation planning that considers person-trips over traditional vehicle travel metrics. Together the two efforts provided the opportunity to connect future mobility planning with density and land use.

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<sup>55</sup>City of Denver, “Transit Oriented Denver: Transit Oriented Development Strategic Plan,”2014, pp. 10-11. Accessed September 22, 2019 at: [https://www.denvergov.org/content/dam/denvergov/Portals/193/documents/TOD\\_Plan/TOD\\_Strategic\\_Plan\\_FINAL.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/193/documents/TOD_Plan/TOD_Strategic_Plan_FINAL.pdf)

<sup>56</sup>City of Denver, “Principles Transit Oriented Development,” accessed October 31, 2019 at: <https://www.denvergov.org/content/denvergov/en/transit-oriented-development/setting-the-stage/tod-principles.html>

## *Contextual Environment*

The rationale for developing the 2014 Transit Oriented Denver Plan was to address the following concerns:

- Lack of dedicated funding for station area plans,
- Barriers to transit-oriented development observed at existing stations,
- Varying levels of market and development readiness at existing stations,
- Limited city resources allocated to implement transit-oriented development, and
- Misalignment of approaches to transit-oriented development among city departments.

These problems have existed for decades. Transit planning in the Denver area dates to the 1970s, when the Regional Transportation District (RTD) supported developing a transit network to connect centers of activity in the region. However, the RTD, working largely on its own, was unsuccessful in getting community support. Beginning in the 1990s, a broader group of business and community leaders were developing consensus around transit through the Metro Mayors' Caucus and began to educate the public about the benefits of transit in the region. However, transit planning was not associated with land-use planning until 2004, when the FasTracks plan was passed. The FasTracks plan called for the expansion of transit service in nine existing and new corridors and development of Denver's Union Station into a multi-modal transit hub. Originally projected to be completed within 12 years, financial constraints and cost growth caused delays.<sup>57</sup>

Local planning capacity was increased because of the Partnership for Sustainable Communities' grant program. In 2011 the City and County of Denver received a joint HUD Community Challenge and DOT TIGER II grant totaling \$2.95 million.<sup>58</sup> The grant served as the foundation for the Denver Livability Partnership (DLP), which allowed Denver to leverage partnerships and opportunities along the west light rail corridor to support livable, transit-oriented neighborhoods in west Denver.<sup>59</sup> The DLP's goals were to expand permanent affordable housing, improve access to jobs, and create better multimodal connectivity along Denver's transit corridors. At this time the Housing Development Assistance Fund was created to help preserve land for affordable housing within one-half mile of transit stations and high

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<sup>57</sup> Pendall, Rolf, Kate Lowe, and Mai Nguyen, "Bringing Equity to Transit-Oriented Development: Stations, Systems, and Regional Resilience," paper presented at Urban and Regional Policy and its Effects, Washington, DC, May 21, 2010.

<sup>58</sup> HUD, "FY2010 Community Challenge/TIGER II Grant Program – Grantees," As of November 1, 2019 at: <https://www.hud.gov/sites/documents/LISTCOMCHALAPPLIC.PDF>

<sup>59</sup> The DLP included representatives from the City and County of Denver, Enterprise Community Partners and Enterprise Community Loan Fund, Urban Land Conservancy, the Denver Housing Authority, Regional Transportation District, Denver Regional Council of Governments (DRCOG), Denver Health, the Department of Public Health, LiveWell Westwood, Transit Alliance, and Urban Land Institute.

frequency bus routes and the City’s TOD Fund also provided a match to supplement land acquisition costs.<sup>60</sup> Several studies were completed with funds from these grants, most notably the 2014 update to the 2006 TOD Strategic Plan.

### *Organizational structures and processes*

The initial effort to develop the 2014 TOD plan was led by the Department of Community Planning and Development (CPD), under the leadership of then Planning Director Peter Park. A working group was formed with representatives from each of the four involved city departments -- Community Planning and Development, Public Works, Finance, and Economic Development, who had worked together on the 2006 TOD plan. The group met regularly to discuss updates and progress. RTD was engaged throughout, however the staff was less focused on planning, which has a large land-use component, and more focused on implementation and operations. The RTD held workshops in addition to city planned events that included staff from smaller city jurisdictions, Denver Housing Authority, and other City of Denver offices. Once funding was established, other departments were brought into the Community Planning and Development office’s efforts to initiate planning studies.

Each of the city and regional organizations bring a different perspective to the collaboration. Currently, the collaborating organizations are:

- Denver City Council
- Denver Planning Board
- Denver Department of Community Planning and Development (CPD)
- Denver Department of Finance
- Denver Department of Public Works
- Denver Department of Parks and Recreation
- Denver Office of Economic Development
- Regional Transportation District (RTD)

Both the City and the RTD each have a full-time TOD directors who manage all TOD related projects and planning.

### *Communications and information sharing processes*

During development of the plan the primary planning team met at least weekly and updates were provided at managers meetings weekly.<sup>61</sup> Continual engagement between the City, RTD, and other jurisdictions during their planning efforts helped to build solid working relationships

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<sup>60</sup> Denver Livability Partnership, “Housing Development Assistance Fund: Project Summary,” June 2014. Accessed October 31, 2019 at:

<sup>61</sup> Interview with previous Denver Community Planning and Development staff member, December 6, 2018.

that have been sustained during implementation.<sup>62</sup> The process of joint development allows RTD to work closely with other agencies, and there is strong rapport between RTD staff and the involved city departments. Information sharing among the departments is relatively easy since all departments work on same software programs and all information is readily available to share between different departments as well as with the public. RTD is responsible for sharing of ridership data.

### *Activities*

While multiple city departments and agencies had policies, goals, and strategies that either broadly or specifically addressed transit-oriented development, the TOD Strategic Plan provided an opportunity to produce a concise work program for the entire city. The 2006 TOD Strategic Plan established long-range planning for 21 station areas, strengthened partnerships, and created a TOD Fund.<sup>63</sup> In 2010, the city sought to build upon the success of the 2006 plan to expand the idea of transit-oriented development through adoption of form-based, context-sensitive zoning to fuller implementation of “transit communities” that accommodate daily life through a combination of transit, walking, and biking.

Denver’s 2014 TOD Strategic Plan is intended to guide public and private investment at transit stations. Within the plan are implementation actions identified by city department and an assessment of each station’s readiness for investment based on financial and developing indicators. As a strategic plan, the document is intended to facilitate the implementation of existing recommendations and projects identified in adopted city plans, including Comprehensive Plan 2000, Blueprint Denver, neighborhood plans, and station area plans.

Recognizing that not all transit locations needed, or should be the same, the TOD plans present a station typology that provides common lexicon for planning, information exchange, and investment around transit-oriented development. They provide a basis for evaluating proposals and a shared vision for planning and implementation around a station. The key elements of these typologies are the characterizations of housing types, commercial activities, and desired land use mix around each station, which referenced some of the place-type

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<sup>62</sup> Interview with staff from Denver Bureau of Planning, December 15, 2018.

<sup>63</sup> In 2010 the Denver TOD collaboration established a fund to provide low-cost loans that mitigate the challenges of finding financing for affordable housing developments near transit centers. The \$24 million loan fund that was established is a partnership between Enterprise Community Loan Fund and several public- and private-investors is used for affordable housing investments in seven counties within the metropolitan area. Sixteen loans for a total of nearly \$33 million have been made as of mid-2018. Bellis, Rayla, “How Denver and Seattle are working to preserve affordable housing near transit,” posted July 2, 2018 in State Smart Transportation Initiative News. As of September 3, 2019 at: <https://www.ssti.us/2018/07/how-denver-and-seattle-are-working-to-preserve-affordable-housing-near-transit/> and Enterprise Community Investment, Inc., “Denver Regional Transit-Oriented Development TOD Fund,” undated. As of September 3, 2019 : <https://www.enterprisecommunity.org/financing-and-development/community-loan-fund/denver-regional-tod-fund>

discussion from the Blueprint document.<sup>64</sup> Investments are unevenly distributed among the stations and given that stations have different characteristics, determining investment priorities is challenging.

Another aspect of TOD planning and implementation in Denver is the TOD Development Fund. The Denver Regional Transit-Oriented Development Fund is a low-cost loan fund that was established in 2010 to preserve land for affordable housing as well as existing stock around transit stations as the city expands. Interest in a fund stemmed from the need for affordable housing in the region in general, and the desire to preserve opportunities for lower-income households to use transit (also maximizing the effectiveness of transit infrastructure investments). The fund itself is a partnership between the City of Denver and Enterprise Community (an investor and fund manager), the Urban Land Conservancy, the Colorado Housing and Finance Authority, and other philanthropic and investment organizations.<sup>65</sup> The \$24 million fund has been used for 16 loans that have created or preserved 1,354 affordable homes, a new public library, and over 100,000 square feet of supportive commercial and non-profit space near public transit.<sup>66</sup>

### *Progress and performance tracking*

Each department is responsible for implementing their portion of the plan, however no formal agreements or accountability measures have been developed. Neither is there a formal mechanism used to track progress. However, RTD generates several reports that provide indicators of progress and performance. RTD publishes annual TOD status reports that summary development activity and project updates.<sup>67</sup> It also periodically publishes a Quality of Life Study that provides data on quality of life in relation to mobility, environment, economic activity, development, and land use for areas most affected by transit improvements. Reports have been published in 2006, 2010 and 2015, and 2017.<sup>68</sup> Ridership tracked by RTD is another key indicator of performance. Otherwise there are no formal updates such as annual progress reports.

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<sup>64</sup> Interview with previous Denver Community Planning and Development staff member, December 6, 2018; Newman, Peter, Mark Bachels, Brian McMahon, Jan Scheurer and Mzingisi Mqhum “Delivering TODS: Transit-Oriented Development Zoning, Contracting, Engagement and Governance,” 2012. and Ratner, Keith and Andrew Goetz, “The Reshaping of Land Use and Urban Form in Denver Through Transit-Oriented Development,” National Center for Intermodal Transportation, March 2010.

<sup>65</sup> Pollack, Melinda, “Denver Initiatives Around Mixed-income TOD,” briefing, Enterprise, June 21, 2011.

<sup>66</sup>Enterprise Community Partners, “Denver Regional Transit-Oriented Development (TOD) Fund,” October 17, 2018.

<sup>67</sup> The 2018 report can be found here: <https://www.rtd-denver.com/projects/transit-oriented-development-projects>

<sup>68</sup> More information on these reports can be found at: <https://www.rtd-denver.com/projects/quality-of-life-study>

Performance tracking is a topic for future updates to the plan and would likely benefit public outreach as well.<sup>69</sup>

### *Outcomes and outputs*

It is not possible to tie outcome to the TOD strategic planning process explicitly, but several studies have concluded that the history of transit-oriented planning in the region has met with some success. For example, a 2011 review of several indicators of transit-oriented development concluded that the nearer to downtown Denver the station, the greater the effect of TOD and the changes in the area of Union Station downtown are dramatic.<sup>70</sup> Related work concluded that with “an aggressive transit-oriented development programme, Denver is offering a different urban alternative to its sprawling past. A broader coalition of support, especially including the development community, has characterized smart growth efforts in contrast to previous growth control initiatives. New forms of regional collaboration have contributed to a stronger regional identity, less jurisdictional infighting and greater consensus on issues of regional importance.”<sup>71</sup>

### *Challenges and opportunities*

TOD has engaged in multiple notable practices. First, because agencies have embraced accountability to the broader collaboration, they have become more action-oriented and focused on implementation than before. Second, relationship building across the collaboration has helped to create stronger and more effective partnerships by focusing on the broader scale of a community. In addition, the plan has been institutionalized in the sense that it has not been affected by political changes in administration – both mayors over the course of the plan have been strong supporters of regional collaboration.

TOD has also affected other planning efforts. For example, Blueprint Denver, which is an integrated land use and transportation plan is incorporating transit and transit-oriented development more into its scope and implementation strategies laid the groundwork for subsequent collaborative planning. Although public engagement and attitudes toward transit are slow to change.<sup>72</sup>

Sustaining focus on the plan over time has been variable for some participants and the plan could have been more holistic by including bus lines. Changes in the external environment

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<sup>69</sup> Interview with staff from Denver Bureau of Planning, December 15, 2018.

<sup>70</sup> Ratner, Keith and Andrew Goetz, “The Reshaping of Land Use and Urban Form in Denver Through Transit-Oriented Development,” National Center for Intermodal Transportation, March 2010.

<sup>71</sup> Goetz, Andrew. "Suburban sprawl or urban centres: Tensions and contradictions of smart growth approaches in Denver, Colorado." *Urban Studies* 50.11 (2013): 2178-2195.

<sup>72</sup> Interview with staff member from RTD, December 7, 2019.

however has affected the outcomes. Low gas prices, a car-centric culture, and continued expansion of the region contribute to growing congestion in Denver despite increasing density.

The plan's expected impact is taking longer than expected to materialize (10-15 years). Early projects created some level of backlash from the community that has slowed down other implementation strategies. An analysis of cities within the Denver region found that transit investment and market forces are two of the primary factors influencing the rate of adoption of transit-oriented development by local communities. The analysis also indicates that in some communities, public concerns about maintaining community character over density can lead to backlash that slows implementation.<sup>73</sup>

## Southeast Florida Regional Climate Change Compact

The Southeast Florida Regional Climate Change Compact is an agreement among four counties in southeastern Florida -- Broward, Miami-Dade, Monroe, and Palm Beach -- that was executed in January 2010 to improve coordination of climate mitigation and adaptation activities across the four jurisdictions. These counties hope to improve planning for climate change to mitigate the negative effects on the economy and society in their region. The voluntary Compact is designed to allow the four counties to work together on climate issues while enabling local governments to set their own agenda for mitigating and adapting to climate change.

### *Contextual environment*

South Florida is experiencing persistent flooding, accelerated beach erosion, and salt water inundation into water sources and sea level rise threatens substantial investments in built structures and the regional economy and strategies for climate resilience need to be tailored to the unique characteristics of South Florida.<sup>74</sup> In 2008-2009, discussions between representatives in Washington, DC and districts in South Florida around how to distribute revenue from cap and trade monies revealed that each district was using different sea level rise projections, developing different adaptation strategies, and identifying different priorities. At a subsequent regional summit focused on regional challenges and adaptations related to climate change the discussion around working together crystallized after the state failed to take action. The impetus for development of the Compact was spurred from a mutual recognition that planning initiatives within the region lacked an effective system of coordination and execution that would better-

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<sup>73</sup> Margerum, Richard, Rebecca Lewis, and Stephen Dobrinich, "Collaborative metropolitan governance: An evaluation of local adoption in Denver," *Cities*, Vol. 93, 2019, pp. 136-144.

<sup>74</sup> Strategies must be able to apply to a region with minimal elevation combined with porous limestone that characterize South Florida. Vella, Karen, William H. Butler, Neil Sipe, Tim Chapin, and Jim Murley, "Voluntary Collaboration for Adaptive Governance: The Southeast Florida Regional Climate Change Compact, Symposium on Planning for Climate Adaptation, *Journal of Planning Education and Research*, Vol 36(3), 2016, pp. 363-376.

serve their communities. Local agencies were further influenced by the slower pace of climate change adaptation planning by the state and federal agencies, which did not align with the response timing needed to combat sea level rise in Southeast Florida and recognition that the issue is so large no single county or city can address it alone.<sup>75</sup>

### *Organizational structure*

As mentioned, the collaborators include Broward, Miami-Dade, Monroe, and Palm Beach counties. Additional members are the cities of Hollywood, West Palm Beach, Key West, and Miami Beach. Ex-officio members, who participate on the Compact's Steering Committee include the South Florida Regional Planning Council, South Florida Water Management District, the Florida Chapter of the Nature Conservancy, and the Florida Climate Institute provide technical support and needed data. The Institute for Sustainable Communities also provides essential technical, administrative, and logistical support to the Compact.

A steering committee oversees and initiates compact activities and governs the collaboration. Two senior staff members who are county administrators, planners, or resiliency officers from each of the four counties are designated to serve on the Staff Steering Committee and have voting capacity. The four cities, each within a different county, also have a seat on the Steering Committee but do not vote. Members of the Steering Committee have been described as self-motivated and committed to the issues.<sup>76</sup> Another factor contributing to the effective working of the committee is that the members have comparable backgrounds and levels of expertise.

There are standing working groups on the built environment, transportation, and natural systems. Other working groups (i.e., public policy, shoreline resilience, summit planning, etc.) are established as needed to focus on special topics or initiatives as they arise. Each of which have their own meeting schedules.

The compact itself is not a governing entity. It has no legislative mandate or investment fund. Rather, its purpose is to bring actor entities closer together; participation by each county and city is voluntary. The initial organization was described in a simple document that outlined immediate needs, coordination of advocacy and planning activities, an interest in developing common data and tools, and regular meetings to connect the efforts of participants. An important feature of this document is that it includes the shared desired outcomes from all parties.<sup>77</sup> The Compact agreement posted on the webpage presents the conditions in Southeast Florida and the motivation for collaborating; the high-level goal of adapting to climate change to protect natural

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<sup>75</sup> Interviews with Compact participant, February 26, 2018 and steering committee member September 30, 2018.

<sup>76</sup> Vella, Karen, William H. Butler, Neil Sipe, Tim Chapin, and Jim Murley, "Voluntary Collaboration for Adaptive Governance: The Southeast Florida Regional Climate Change Compact, Symposium on Planning for Climate Adaptation, *Journal of Planning Education and Research*, Vol 36(3), 2016, pp. 367.

<sup>77</sup> Interviews with steering committee member September 30, 2018 and compact participant February 26, 2018.

resources, drinking water sources, quality of life, public infrastructure and private property; the desire to working collaboratively to develop policy positions and statements related to climate change effects and adaptation for federal and state legislatures; the intent to develop a climate action plan that addresses greenhouse gas emissions and adaptation planning and strategies; participation in annual summits to discuss progress and future activities; and the commitment to provide appropriate staff resources and expertise within budget constraints.<sup>78</sup>

Discussions and debates around the development of the Compact helped to build understanding of a mutual objective, establish trust, and identify future stakeholders. Despite identifying common goals, the structure of the Compact recognizes that each county has differing needs and localized contexts.

### *Funding*

Initial funding to manage the collaboration came from the federal government through a Sustainable Communities grant followed by a contribution from the Kresge Foundation of nearly \$1 million over three years. The Compact did not have a dedicated funding source from any county until 2016, when each respective county board agreed to an annual contribution of \$50,000. Funding from the counties is provided through a signed, interlocal agreement<sup>79</sup> and one agency takes on the responsibility at a given time. In addition, the Kresge Foundation provides an annual matching contribution of \$200,000, which will eventually be phased out. Funding is primarily used for contracting external staffing support and services. The seed money provided by the federal grant and philanthropic contribution was crucial for getting the collaboration started and because of the accomplishments of the Compact in the first several years counties saw the value and were more willing to fund the effort.<sup>80</sup> As mentioned earlier the Compact does not have its own funds to distribute or make investments. However, the Compact has been successful in acquiring funds from federal agencies and regional planning organizations to develop some of the Compact's guidance documents and initiatives.

### *Communication*

The steering committee meets in person once a year to develop the work plan. These retreats are crucial for developing relationships. Additionally, coordination, and knowledge sharing

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<sup>78</sup> "Southeast Florida Climate Change Compact," accessed October 31, 2019 at: <https://southeastfloridaclimatecompact.org/wp-content/uploads/2014/09/compact.pdf>

<sup>79</sup> For more on these agreements see Florida statutes Title XI: County Organization and Intergovernmental Relations, Chapter 163, Intergovernmental Programs, Section 163.01 Florida Interlocal Cooperation Act of 1969. Accessed October 31, 2019 at: [http://www.leg.state.fl.us/statutes/index.cfm?App\\_mode=Display\\_Statute&URL=0100-0199/0163/Sections/0163.01.html](http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0100-0199/0163/Sections/0163.01.html)

<sup>80</sup> Interview with Compact participant, February 26, 2018.

occurs during bi-weekly staff steering committee phone calls. A research report states that in-between formal meetings there is frequent (nearly daily), routine email communication and information sharing among committee members. These communications provide a way to share insights on planning and implementation derived from their experiences and contributes to improved transparency and coordination of activities while building a stronger rapport and trust among members.<sup>81</sup>

Steering committee members are not elected officials and are relatively senior in their organizations with strong scientific backgrounds. Even though members had strong scientific backgrounds that provided a relatively common baseline understanding of the issues, it took time to develop enough trust and common and mutual understanding levels so that frank conversations are possible (although their common backgrounds did facilitate trust).

There is a strong mutual understanding that issues of climate change transcend a single actor or organization. In addition, there is an understanding that tradeoffs must be made in order to achieve the overarching goals of the Compact. “For successful collaboration there needs to be a level of selflessness and realization that the region may be best served for one of the partners to lead on a certain action or be the beneficiary of a grant to tackle a specific action item – and share those returns and experiences regionally.”<sup>82</sup>

The Compact also publishes a quarterly newsletter, “Compact Currents,” to highlight initiatives, provide information on workshop results and topics of interest, and publicize the progress of the Compact, counties, and municipalities in Southeast Florida.<sup>83</sup> There is a conscious effort to communicate the findings to the public through publications, use of social media, and other communication platforms.<sup>84</sup>

### *Activities*

The Compact provides an effective platform for engaging state and federal agencies and educating the public on policy issues important to the region, pursuing funding for climate resilience, developing regionally consistent planning assumptions derived from scientific analyses, providing needed information and technical guidance to local governments to improve climate resilience, and identifying issues of mutual concern that are better served through a coordinated response. This platform can be used to steer work with regional, municipal, nonprofit, academic, and private sector organizations.

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<sup>81</sup> Vella, Karen, William H. Butler, Neil Sipe, Tim Chapin, and Jim Murley, “Voluntary Collaboration for Adaptive Governance: The Southeast Florida Regional Climate Change Compact, Symposium on Planning for Climate Adaptation, *Journal of Planning Education and Research*, Vol 36(3), 2016, pp. 369.

<sup>82</sup> Personal interview with steering committee member, September 30, 2018.

<sup>83</sup> Issues of the quarterly can be found here: <https://southeastfloridaclimatecompact.org/news/compact-currents/>

<sup>84</sup> Interview with steering committee member, February 1, 2018.

There are three sets of annual activities in which the counties coordinate their efforts. These are to:

- Cohesively promote desired state and federal policies and seek funding for projects.
- Contribute resources and collaborate on a Southeast Florida Regional Climate Action Plan that includes mitigation and adaptation strategies.
- Hold a formal meeting annually to assess progress, consider emerging issues, and plan for the following year.<sup>85</sup>

The Compact’s combined efforts have produced several products. Unified sea level rise projections developed by an ad hoc working group of subject matter experts and community representatives from all levels of government and based on the best information available for the region were produced in 2011, updated in 2015, and a third is expected to be released imminently. It is expected, but not required that these projections will be used in city plans within the four-county area to comply with Florida State law while ensuring that major infrastructure investments in the region use consistent planning assumptions. In addition to the projects the Compact developed a guidance document to assist communities interested in using these projections.

In addition, the Regional Climate Action Plan (RCAP); first produced in 2012 and updated in 2017) provides a customizable framework for building sustainable and resilient plans. It is an online tool structured around topic areas such as agriculture, coordination, energy and fuel, natural systems, public health, public outreach and engagement, public policy advocacy, regional economic resilience, risk reduction and emergency management, social equity, sustainable communities and transportation, and water that includes best practices for mitigation and resilience-building actions. Guidelines for integrating sea level rise projections into local plans have been produced by the Compact and members have obtained the authority to develop adaptation action areas, which are an optional comprehensive plan designed to address climate adaption for areas that experience coastal flooding and are vulnerable to sea level rise.<sup>86</sup>

## *Outcomes*

Key outcomes of the Southeast Florida Climate Compact collaboration include the following:

- Increased ability to attract investment from outside sources.
- Reduction in duplication of effort and use of more cohesive planning assumptions regarding sea level rise for infrastructure investments.
- Changed Florida planning legislation and funding that includes climate change and sea level rise.

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<sup>85</sup> Southeast Florida Climate Compact, “What is the Compact,” webpage accessed at: <https://southeastfloridaclimatecompact.org/about-us/what-is-the-compact/>

<sup>86</sup> More information on Adaption Action Areas can be found here: <http://www.southeastfloridaclimatecompact.org/wp-content/uploads/2014/09/final-report-aaa.pdf>

- Implementation of Compact recommendations by cities and counties in the region.
- Increased public awareness and engagement on climate change in the region as a whole.
- Assistance to colleagues in the Gulf Coast and Central Florida to explore regional collaboration and potentially adopt compacts of their own. Internationally, Durban, South Africa collaborated about resiliency and then implemented the DAC Central KwaZulu-Natal Climate Change Compact, which has served as a direct transfer of the Compact model.<sup>87</sup>
- Facilitating statewide collaboration on climate change research at the University of Miami, Florida Atlantic University, and Florida International University using the Compact as a means for developing strategies and assessment tools.

The Compact is widely recognized as one of the nation’s leading examples of regional-scale climate action, the Compact continues to serve as the mechanism for these counties to collaborate for climate mitigation and adaptation.

### *Decision-making process*

Decision-making processes occur during bi-annual retreats (rotated among the counties) that seek to achieve the following:

- Set and assess the progress of the annual business plan.
- Identify advancements with the action plan.
- Identify future working partners (i.e. NGOs, private firms, and government entities).

Generally, the group seeks consensus, not necessarily unanimity, on issues and works with the network of members and partners within the cities, academia, NGOs, and others to build a coalition of support behind its initiatives. Occasionally consensus is not achieved and they will vote to decide on actions.<sup>88</sup> The group is constantly working to keep the planning tools and action items current and up to date.

Member counties are varied in terms of population and level of urbanization affecting their priorities and interests in specific adaptation and mitigation activities. Over time the members have focused on areas of mutual concern and realize that as a group they can affect policy at the state and federal level more effectively than individually. As a result, while the development of goals for the Compact was relatively smooth to accomplish, developing action plans for specific communities was more challenging. The group attempts to mitigate this by coordinating to ensure the counties bring the right people and expertise to the workshops.

Information available to the Compact is enhanced through its relationships with the South Florida Regional Planning Council, which provides data to the Compact. Additionally, the South

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<sup>87</sup> Interview with steering committee member September 30, 2018.

<sup>88</sup> Interview with steering committee member September 30, 2018.

Florida Water Management District (comprised of 17 counties) collaborates at a higher regional level on water issues and canal management and are a partner to the Compact, providing data and models on water resources and infrastructure.

### *Progress and performance tracking*

Implementation of Compact recommendations is up to the individual counties and cities which makes monitoring progress a challenge. The Compact focuses on providing needed information and guidance, whereas local governments are primarily responsible for applying this guidance and the many actions identified in the RCAP (for example, increasing the use of electric vehicles to reduce local greenhouse gas emissions). Furthermore, some activities are intended to be ongoing efforts for an indefinite time frame. There is not checklist or results matrix for performance tracking.

However, a survey to assess implementation of the RCAP recommendations, which are intended to be implemented in a five-year time period, by counties and municipalities in the region was initiated in 2014 and reissued in 2016. The municipalities' and counties' self-reported results indicate that nearly 30 percent of the recommendations<sup>89</sup> were implemented, with the areas of energy and fuel, sustainable communities and transportation, and water supply having the highest proportions of their recommendations implemented.<sup>90</sup>

There is a strong desire to produce annual reports to highlight accomplishments, however while some have been produced, this was not possible in early years due to a lack of staffing resources. Creating specific performance measures for the counties to adhere to is seen as a problematic proposition as they each have varying levels of resources to work with.

Accountability is focused on involving the public as much as possible through updates, summits, and outreach. Special issue-oriented workshops are conducted for relevant stakeholders, NPOs, and public employees to gather input. Some felt that pushing accountability with qualitative or quantitative measures too early could cause unnecessary tension in a developing organization where working relationships are not well-established. Being able to demonstrate return on investment is a key tool in selling the value of the compact.

There is a conscious effort to disseminate findings to the general public through social and traditional media outlets, albeit there is no recognized metric for achieving this and nationally,

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<sup>89</sup> RCAP recommendations are grouped into eight topical areas numbering 110 in total. 109 recommendations were included in the survey because one had limited relevance to those surveyed.

<sup>90</sup> Southeast Florida Regional Climate Compact, "2016 Regional Climate Action Plan Municipal Implementation Survey Report," February 2017. Accessed September 24, 2019 at: [https://southeastfloridaclimatecompact.org/wp-content/uploads/2017/03/2016-Regional-Climate-Action-Plan-Municipal-Implementation-Survey-Report\\_Final.pdf](https://southeastfloridaclimatecompact.org/wp-content/uploads/2017/03/2016-Regional-Climate-Action-Plan-Municipal-Implementation-Survey-Report_Final.pdf)

the Compact has been highlighted in the National Climate Assessment as an example of successful regional cooperation for addressing climate change and sea level rise.<sup>91</sup>

### *Sustaining and Institutionalization*

Several factors contribute to the endurance of the Compact. First, they have developed consensus on the motivation for collaborating. In Southeast Florida, the direct local impacts of climate change are acknowledged as a problem by public officials of both parties and there is a strong regional commitment to addressing the issue. All four counties have linked environmental protection to economic interests. The Compact has been successful in part because members have framed the issue to focus on areas of common concern such as coastal flooding, protection of property, and their links to economic interests while accommodating local differences. Second, the group has generated relevant and actionable outputs and results that demonstrate its value and enables it to endure many changes in local elected leadership despite being a voluntary activity. Additionally, the Compact is designed to be resilient to staffing turnover as local elections are staggered with none of the four counties reelecting their board at the same time ensuring there are always officials in power with working experience and knowledge of the Compact.

Fourth, the relationships developed among the members and the successes of the Compact have built momentum in the region and has established the Compact as an example of effective collaboration. In the words of an interviewee this has created a certain level of peer-pressure for others in the state.<sup>92</sup>

Several agreements with various partners not only provide additional expertise and capacity but help to sustain progress and extend the value of the Compact to stakeholders. For example, a 2014 agreement with the Florida Climate Institute (FCI) provides access to academic research and support needed by policy makers and county planners. In 2017 a Statement of Collaboration of Economic Resilience with regional chambers of commerce was intended to achieve greater resilience in the region. The Regional Climate Action Plan provides guidance for improving the credit worthiness of regional governments, performance of risk assessments, accessibility of flood insurance, and planning of future development.<sup>93</sup> And finally, the Mayor's Climate Action Pledge, a written commitment for Southeast Florida mayors to support the Compact and to work to integrate the RCAP recommendations into municipal sustainability action plans, comprehensive plans, and climate action plans has been signed by about a third of the cities in the region.

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<sup>91</sup>Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.), "Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II," U.S. Global Change Research Program, Washington, DC, USA, 2018.

<sup>92</sup> Interview with steering committee member February 1, 2018.

<sup>93</sup> Interview with steering committee member, September 30, 2018.

### *Notable practices*

The Compact has been successful for a variety of reasons, notably members began by identifying the areas where collaborating would benefit everyone regardless of the differing local priorities and they are focused on the immediate and long-term needs of local government.

The Compact also has buy-in and support from all relevant elected officials (although because of Florida's Sunshine law and the formal requirements that it requires, elected officials are not active members of the Compact). Furthermore, the activities of the Compact have demonstrably contributed to enhancing the region's political clout, gaining more recognition at the state and federal level helping to sustain and institutionalize the collaboration.

The professional and working relationships that have evolved through participation in the Compact are strong and input is provided and shared equally among the counties despite the potential for power differences. As a result, the members have been able to debate thorny issues and the information sharing that has resulted enhances the effectiveness of the individuals in their respective jobs and the effects of the Compact overall.

Variation in available resources among the different counties can be a pressure point and sometimes the larger counties are required to take on more work. While this has not caused a problem with the Compact it is something that needs to be actively managed.

The backbone support from the employee of the Institute for Sustainable Communities (ISC) helps the group focus, facilitates discussion, and provides leadership to sustain momentum. The support for the summit and all communications is especially helpful and is especially valuable given that participation and the associated workload are collateral duties for members. An area that continues to present challenges is using common software services for file sharing and internal communication and ensuring consistent messaging at speaking engagements.

The Compact extends its reach and gains additional support from its agreements with the Florida Climate Institute to access research and technical expertise and agreements with the South Florida Regional Planning Commission and the South Florida Water management District to provide data and modeling and collaborate on regional issues of mutual concern. Its joint statement with regional chambers of commerce and business councils announcing their participation with the Compact highlights the importance of climate adaptation activities to economic resilience and risk management.

## **Massachusetts Healthy Transportation Compact**

This case study is focused on the Commonwealth of Massachusetts' effort to use transportation policies and investments to help improve public health outcomes through active and clean transportation strategies. The Compact institutionalizes a mechanism to achieve both greenhouse gas reduction and healthy living goals through multi-agency collaboration among transportation and public health state agencies.

### *Purpose of the collaboration*

The 2009 Transportation Reform Act, Section 33, established the Healthy Transportation Compact (HTC). The HTC brings together policymakers into a working group, used when any project or program intersects multiple sectors and the missions of multiple state agencies. The Compact requires the heads of designated Massachusetts state departments, and the agencies under their supervision, to coordinate on transportation, health, and land use policies through an Executive Policy Group for the following purposes:

- i. Inter-secretariat cooperation on, and establishment of a healthy transportation, policy to reduce duplication and overlap in programs and services,
- ii. Increase access to healthy transportation alternatives that also improves access for those with mobility limitations,
- iii. Increase bicycle and pedestrian travel building off the MA Bicycle Transportation Plan
- iv. Implement complete streets approaches in urban and suburban areas,
- v. Develop methods for using health impact assessments to determine the effects of transportation projects on public health, including on vulnerable populations,
- vi. Provide access for persons with mobility challenges
- vii. Expand Safe Routes to Schools program,
- viii. Encourage public-private partnerships,
- ix. Establish an Advisory Council of representatives from nonprofits, researchers, and advocacy groups
- x. Institute a health impact assessment approach that can be used by developers, planners, and transportation and public health agencies,
- xi. Monitor and evaluate progress on GHG emissions, health outcomes, and accessibility goals.<sup>94</sup>

The ultimate purpose of the compact is to support transportation decisions that balance the needs of all users while improving mobility and access to transportation, improving public health outcomes, and supporting a cleaner environment.

### *Contextual environment*

The Healthy Transportation Compact (HTC) builds on growing evidence that active transportation and obesity rates are inversely correlated, and that bicycle infrastructure and rates of bicycle commuting are positively correlated. Interest in balancing public health and environmental goals with transportation planning and investments in the Commonwealth led to varied active transportation, climate change, and public health initiatives. These initiatives each had their own existing organizational structures, bureaucratic program, and legislation.<sup>95</sup> For

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<sup>94</sup> Commonwealth of Massachusetts, “Acts (2009): Chapter 25: An Act Modernizing the Transportation Systems of the Commonwealth,” Approved July 2009. As of December 21, 2018 at: <https://malegislature.gov/Laws/SessionLaws/Acts/2009/Chapter25>

<sup>95</sup> Codd, Ned, MASSDOT, “Healthy Transportation in Massachusetts,” Presentation to the Institute of Medicine, September 19, 2013.

example, in 2006, the Massachusetts Bicycle and Pedestrian Advisory Board within the Office of Planning and Programming was established to serve an advisory role to advance bicycle and pedestrian transportation for MassDOT and other state agencies.

Just prior to the Transportation Reform Bill that established the Compact, three other statewide legislative initiatives brought renewed focus and momentum for actions to promote sustainability with transportation related investments:

In August 2008, Massachusetts passed the Global Warming Solutions Act (GWSA) to create a comprehensive regulatory program to address climate change and set economy-wide greenhouse gas emission reduction goals for the state. With the GWSA, promotion of biking, walking, and transit became a key mechanism to reducing emissions from the transportation sector.

Also, in August 2008, the Green Communities Act created the Green Communities Program that created a framework to organize technical assistance for efficiency and renewable energy and provide municipalities resources to purchase new clean vehicle fleets and traffic signals to reduce municipal emissions.

- **Mass in Motion**, a Department of Public Health Program, was established in January 2009 to promote opportunities for healthy eating and active living by working with communities, schools, childcare centers, and businesses. Comprised of several activities Mass in Motion includes a wellness program, nutrition standards, regulatory requirements, and community funding opportunities for cities and towns across the state to begin wellness initiatives, including promoting active transportation.

In an effort to improve the coordination and systematization of these varied initiatives the Healthy Transportation Compact was codified in Massachusetts' June 2009 Transportation Reform Act that reorganized separate but overlapping agencies within MassDOT under one multi-modal entity to coordinate decision-making and use resources more efficiently. Section 33 of this Act created the Healthy Transportation Compact to coordinate transportation, land-use, and health policy decision-making for more effective use of resources to improve health outcomes and reducing environmental impacts.<sup>96</sup>

Governor Deval Patrick's executive branch officials were open to collaboration at the Secretariat level. An initial meeting between JudyAnn Bigby from the Executive Office of Health and Human Services, James Aloisi from MassDOT, and senior staff from both agencies furthered renewed interest on how a collaborative process would focus policy on safety, health, and mutual accountability. The two agencies would come to be the co-chairs of the HTC Executive Policy Group, which has a level of legitimacy because the HTC is required by law. The HTC Executive Policy Group and Advisory Council have much the same structure as the

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<sup>96</sup> Commonwealth of Massachusetts, "Acts (2009): Chapter 25: An Act Modernizing the Transportation Systems of the Commonwealth," Approved July 2009. As of December 21, 2018 at: <https://malegislature.gov/Laws/SessionLaws/Acts/2009/Chapter25>

Bicycle and Pedestrian Advisory Board within the Office of Planning and Programming, with an additional emphasis on representatives from the public safety and public health sectors.

### *Organizational structure and responsibilities*

The legislation called for an Executive Policy Group, whose membership includes:

- Secretary of Transportation (co-chair)
- Secretary of Health & Human Services (co-chair)
- Secretary of Energy & Environmental Affairs
- MassDOT Highway Administrator
- MassDOT Transit Administrator
- Commissioner of Public Health

Recognizing the link between land uses and transportation, the Compact added the Secretary of Housing and Economic Development to the Executive Policy Group in 2014.

Item IX of Section 33 also called for the creation of an Advisory Council that explicitly includes private and nonprofit advocacy groups focused on sustainable transportation modes, smart growth, and public health. This group of advisors also includes university professors and researchers to help inform policymakers. Participation in the Advisory Council is entirely voluntary and there are no requirements for industry participation, nor is there a defined size for the Council.

Chairpersons are responsible for convening the compact members, determining the compact's agenda and establishing subject-matter focused subgroups as necessary. Meetings were generally attended by mid-level staff as collateral duty and leadership participated at times. As noted by an interviewee, the broad agenda of the council could be unwieldy at times and could have benefited from more guidance from the department secretaries.<sup>97</sup> Initially the Advisory Committee met monthly in-person to help establish objectives and norms of collaboration. These meetings involved discussion, but an interviewee did not observe much communication between meetings.<sup>98</sup> As the Compact matured, meetings became bi-monthly and began to focus on specific programs, such as the Complete Streets Program.

### *Decision-making process*

Decision-making processes revolve around discussions on how each agency will implement initiatives cooperatively, rather than in departmental silos. Interviewees did not indicate whether or not there were consequences to not cooperating but noted that institutional change requires a series of actions, the first of which is to explain why change is necessary. The Executive Policy

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<sup>97</sup> Interview with member of Compact, September 27, 2018.

<sup>98</sup> Interview with member of Compact, October 11, 2018.

Group had clout because of the focus on transportation reform at the time and focused on identifying:

- responsible agents
- advancements within the plan or program being discussed
- future research needed
- future working partners (i.e., universities, private firms, advocacy groups, and non-profits)

### *Funding*

The 2009 Transportation Reform Act did not dedicate direct appropriations for the HTC to carry out initiatives. Since its creation, no sustained appropriations have been passed by the legislature. Actions carried out to achieve goals set by the Compact are staffed and paid for through the budgets of the state departments and agencies represented by the Executive Policy Group.

### *Outputs and outcomes*

The HTC led to several notable outputs that strengthen institutional support for the Compact and promotes public health and environmental considerations in transportation planning. These are:

- **GreenDOT Policy Directive**, issued by MassDOT in June 2010, seeks to promote sustainable development, protect the natural environment, and enhance quality of life for citizens. The directive has three objectives to promote sustainable transportation. These are to: a) Reduce greenhouse gas emissions; b) Promote more active transportation options of bicycling, public transit, and walking; and c) support smart growth development. A 2010 implementation plan sets a statewide mode shift goal for 2030 to triple the share of travel by transit, bicycling, and walking.<sup>99</sup>
- **Healthy Transportation Policy Directive**, issued in September 2013, requires that all MassDOT projects serve all travel modes. Any project funded in-part, or in-full by MassDOT should promote healthy modes of transportation, including walking, biking, and public transit. GreenDOT policy directive put in place standards for walking and bicycle access that are judged during design review. All projects, except for those that explicitly prohibit pedestrians and cyclists, should support either on-street and off-street facilities. Projects not meeting standards require the Secretary of Transportation's approval before permitting.<sup>100</sup>

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<sup>99</sup> Massachusetts Department of Transportation. "P-10-002: GreenDOT Policy Directive." 2010, <https://studylib.net/doc/12409674/greendot-policy-directive>

<sup>100</sup> Massachusetts Department of Transportation. "P-13-001: Healthy Transportation Policy Directive." 2013, [https://nacto.org/wp-content/uploads/2015/06/MassDOT\\_Healthy-Transportation-Policy-Directive\\_09.09.13.pdf](https://nacto.org/wp-content/uploads/2015/06/MassDOT_Healthy-Transportation-Policy-Directive_09.09.13.pdf)

The HTC is charged with establishing methods and approaches for implementing Health Impact Assessments for community plans and infrastructure projects. These voluntary assessments provide an analysis of air quality impacts, safety risks, noise impacts, mobility levels across all modes, and economic development consequences of transportation infrastructure projects. The first major project to pilot an HIA during the design and review phases was the alternatives planning of an outmoded highway viaduct through Somerville, MA just outside of downtown Boston.<sup>101</sup> The HIA analysis in this case supported transportation alternatives. Additional HIAs have been performed in several other communities and the Massachusetts' Department of Public Health provides baseline health and environmental data, completed assessments, and other information to support the incorporation of these risks into investment planning.<sup>102</sup>

In addition to these outputs, HTC has led to improved coordination of programs between MassDOT and the Department of Public Health (DPH) as well as the leveraging of expertise, information, and resources. Specifically, the MassDOT Safe Routes to School program, which receives federal funding for elementary and middle school education and other activities geared toward increasing active forms of transportation to and from school, and the DPH Mass in Motion program, share information and best practices, and help to connect schools and communities to the resources and activities of the complementary program as direct result of the collaborative relationship between the two agencies developed within the HTC. Examples of leveraging resources more effectively is the use of DPH data instrumental for developing HIAs, co-developed educational workshops, and better focused MassDOT research funding for mobility and health issues.<sup>103</sup>

Key outcomes of Compact collaboration include an increased focus on sustainable transportation and energy projects across the state in diverse state agencies and the requirement to incorporate health impacts into the infrastructure project review process.

### *Accountability and communication*

Executive Policy Group members, and Advisory Council members, are not elected officials and are relatively senior in their organizations. There is no mandate for regularly meetings, requiring good will to maintain frequent high-level collaboration or conscious effort to

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<sup>101</sup> Massachusetts Department of Public Health Bureau of Environmental Health. "Health Impact Assessment of the Massachusetts Department of Transportation Grounding McGrath Study," 2013 and Codd, Ned, MASSDOT, "Healthy Transportation in Massachusetts," Presentation to the Institute of Medicine, September 19, 2013.

<sup>102</sup> Massachusetts Department of Public Health, "Health Impact Assessments," webpage accessed October 21, 2019 at: <https://www.mass.gov/health-impact-assessment>

<sup>103</sup> Center for Health Care Studies, "Making a Compact to Strategically Connect Transportation and Public Health Goals in Massachusetts," May 2018. As of December 21, 2018 at: <https://www.chcs.org/resource/making-a-compact-to-strategically-connect-transportation-and-public-health-goals-in-massachusetts/>

disseminate findings to the general public, either through social and traditional media outlets or to state legislators.

At the initiation of the collaboration, the members of the Advisory Council all had some other personal or professional connection through their work to other members of the Executive Policy Group and staff at executive agencies, giving them additional opportunities to continue to promote active transportation policies, investments, and cultural changes. With the change of gubernatorial administrations, the new staff on the Executive Policy Group had different styles and approaches to communication. Previously members notified the Advisory Committee and legislators when they met and provided the agenda items that were discussed. More recently, communication occurs through legislative liaisons who vary in willingness to talk.

Although the HTC is required by law, no official goals are identified, targets, or indicators are established for the Compact. In addition it is difficult to measure the effects of the Compact on outcomes for several reasons.. First, monitoring outcomes is a challenge as the implementation of many action items in the HTC that could increase access to healthy transportation or expand the Safe Routes to School program are either out of the direct control of MassDOT or Health and Human Services or are part of other ongoing initiatives and efforts. However one statistic that can be partially attributed to the activities of the HTC is the increase in commuter travel by bicycle by 106% between 2005 and 2014.<sup>104</sup> Adding to the challenge of measuring progress and accountability is the loss of momentum around reducing fossil fuel use and transit-oriented development in Massachusetts in general.<sup>105</sup> The inability to demonstrate progress or improvements in outcome measures hampers the ability of the Compact to demonstrate its importance.

### *Sustaining and institutionalization*

The HTC was established to help state departments and agencies think holistically about achieving the goals for transportation mode shifts and greenhouse gas emissions reduction. More than collaborating generally, the formal HTC structure and advisory body created a framework to address issues through a working group, where differing agencies could each bring their own expertise and implementation avenues towards one common goal. This structure linked different agencies together at both the leadership and working levels and provided opportunities to learn from subject matter experts outside the state government.<sup>106</sup>

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<sup>104</sup> Center for Health Care Studies, “Making a Compact to Strategically Connect Transportation and Public Health Goals in Massachusetts,” May 2018. As of December 21, 2018 at: <https://www.chcs.org/resource/making-a-compact-to-strategically-connect-transportation-and-public-health-goals-in-massachusetts/>

<sup>105</sup> Miller, Steven, “The Healthy Transportation Compact: Public Health Needs To Reclaim Leadership,” April 8, 2016. As of December 21, 2018 at: [https://www.livablestreets.info/the\\_healthy\\_transportation\\_compact\\_4\\_14\\_16](https://www.livablestreets.info/the_healthy_transportation_compact_4_14_16)

<sup>106</sup> Center for Health Care Studies, “Making a Compact to Strategically Connect Transportation and Public Health Goals in Massachusetts,” May 2018. As of December 21, 2018 at: <https://www.chcs.org/resource/making-a-compact-to-strategically-connect-transportation-and-public-health-goals-in-massachusetts/>

However, when gubernatorial administrations changed in 2015, the momentum of the HTC slowed. Incoming department heads were less knowledgeable about, and less focused on previous legislative efforts, like the Complete Streets Program and Mass in Motion wellness grants.

Under the Charlie Baker administration, there was an attempt to combine the roles and responsibilities of the Massachusetts Bicycle and Pedestrian Advisory Board and the HTC Advisory Council, resulting in the marginalization of public health officials serving in an advisory capacity. The Bicycle and Pedestrian Advisory Board explicitly requires members who are bicycle and pedestrian transportation experts, whereas the HTC Advisory Council does not. Both groups persist in a diminished capacity after being de-prioritized by executive leadership, and neither one meets on a regular basis.

After the change in the gubernatorial administration it was necessary for Compact members to educate the new administration on the purpose and intent of the Compact since the members were not directly involved in the discussions behind the legislative change that created the Compact. Given the broad agenda of the HTC, staff turnover with the administration change, and lack of specific goals and targets, the Compact eventually lost some of its focus on air quality and other transportation public health issues, although it continues with the HIAs.

## Minnesota GreenStep Cities

### *Purpose of the collaboration*

Minnesota GreenStep Cities is a voluntary program to help communities in the state pursue continuous improvement toward sustainability and quality-of-life goals. The primary goals of the program are as follows:

- Achieve meaningful reductions in greenhouse gases (GHG) and other environmental outcomes;
- Provide assistance for local governments to achieve best practices in energy use reduction and sustainable development;
- Provide a “pathway to sustainability” that is cost-effective, pragmatic, and achievable for all cities;
- Identify specific existing state agency staff and others who are committed to and technically able to help cities implement each specific best practice;
- Promote innovation;
- Inspire and assist residents, businesses, and community institutions to take action; and
- Recognize local governments for their past accomplishments and their new efforts spurred by the program.

## *Contextual environment*

The idea to create a sustainable cities program was first raised in 2007 when Minnesota's Clean Energy Resource Teams (CERTs) held regional listening sessions across the state to discuss community-based energy solutions as part of the Minnesota Next Generation Energy Act. At these sessions the need for a mechanism to leverage statewide expertise to provide free assistance to cities was identified in addition to the need for a mechanism to challenge cities to implement sustainability strategies and recognize progress. Following up on these discussions, the 2008 Minnesota Legislature directed the Minnesota Pollution Control Agency (MPCA) and CERTs to develop actions for cities to implement on a voluntary basis. This resolution was codified as Minnesota Session Laws 2008, Chapter 356, Section 13, which required the MPCA and CERTs to "recommend municipal actions and policies that work toward meeting the State's greenhouse gas emissions reduction goals."<sup>107</sup>

In spring of 2008, The Green Institute (now defunct), coordinator for the Twin Cities CERTS region, was awarded a grant from the MPCA to coordinate the development of program recommendations in response to the state Legislature. The partner agencies, in addition to other contributing organizations and practicing experts, developed the Minnesota GreenStep Cities report, which was released in February 2009. Thereafter, the GreenStep Cities program was formally initiated for Minnesota cities' participation in June 2010.<sup>108</sup>

## *Organizational structure and processes*

GreenStep Cities is a program that was developed collaboratively and is implemented collaboratively. The organizations that currently oversee the GreenStep Cities program represent city administration and management, state energy and environmental agencies, and nongovernmental organizations. In the 2010-2011 timeframe these organizations signed a memorandum of understanding. They are listed below.

- Minnesota Pollution Control Agency
- Clean Energy Resource Teams
- League of Minnesota Cities
- Minnesota Department of Commerce, Division of Energy Resources
- Minnesota Environmental Quality Board
- Great Plains Institute
- Urban Land Institute Minnesota
- Izaak Walton League, Minnesota Division
- Preservation Alliance of Minnesota

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<sup>107</sup> Minnesota Session Law 2008, Chapter 356, Section 13. Report; Green Star Award Expansion. As of October 31, 2019 at: <https://www.revisor.mn.gov/laws/2008/0/356/>

<sup>108</sup> Minnesota Pollution Control Agency, "Minnesota GreenStep Cities Program." As of December 14, 2018 at: <https://greenstep.pca.state.mn.us/aboutProgram.cfm>

The program was developed by an advisory committee that oversaw general direction of the programming, four technical committees that drafted the core requirements of the program, and a workgroup committee of partner organizations that met more than 15 times. The advisory committee was made up of more than 30 individuals representing leadership in Minnesota city and county governments, state agencies, sustainability organizations and non-profits, and utility power companies in the state (such as Xcel Energy and Great River Energy).

Four technical committees were designed to provide expertise on specific best-practice areas and were comprised of groups of four to five individuals from participating governmental and other organizations for the following four topics: Building & Facilities, Transportation, Land Use Planning, and Environmental Management & Economic Development. The Environmental & Economic group was supported further by subcommittees focusing on water, solid waste, and economic & community development. Today technical committees are organized into five best practice areas: Buildings & Lighting, Land Use, Transportation, Environmental Management, and Resilient Economic & Community Development.

Two co-directors manage the program and make day-to-day decisions. Workplans and potential programmatic changes are discussed at the in-person monthly meeting with the steering group. The partnership among these groups with the state agencies is credited with sustaining the program and catalyzing innovation.<sup>109</sup>

Space to conduct dozens of meetings over the development of the report and program was provided by the League of Minnesota Cities and The Green Institute.

### *Activities*

To support communities, the program provides tools, expertise, and information, including a set of 29 identified best practices that have more than 170 associated implementable actions in the areas of buildings, land-use, transportation, environmental management, and economic and community development. Participation in the program may be tailored to the community or city in terms of the level of participation in addition to the specific actions taken. For example, the five levels for participation and recognition are defined as follows:

- Level 1 - Formal declaration of participation through a city council resolution
- Level 2 - Implementation of best practice actions most relevant to the needs and interests of the city. Level two requires implementation of 4, 6, or 8 best practices (depending on the community's category).
- Level 3 - Doubles the number of best practice actions required and requires some in areas of high impact.
- Level 4 – City reports on several core performance measures as well as additional measures of their choice for a total somewhere between seven and 15 measures.

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<sup>109</sup> Interview with steering committee members November 2, 2018.

- Level 5 – City reports improvement in key performance measures

The GreenStep Cities program provides an array of example ordinance language for each of the 5 best practice categories for cities to modify as necessary and adopt to their own accord based on local context. In order for a municipality to enroll in the program they must pass a city council resolution to participate in GreenStep Cities. GreenStep Cities provides sample resolutions and guidance on how to conduct this process.

The program also celebrates and promotes participant communities.

### *Communication*

Each of the five best practices areas are served by a group of GreenStep Advisors, made up of subject matter experts from state government, the University of Minnesota, and participating non-profit organizations. Cities can reach out to these advisors as a resource to provide context-specific expertise and assistance, suggest implementation resources, and identify possible funding sources. The program also works through CERT regional staff throughout the state to be more accessible to cities (both participating cities and new). Staff at these offices are aware of activity in the region and the program has monthly phone calls with regional coordinators to discuss what they are hearing.

While different agencies have different goals and objectives the best practices have been agreed upon as mechanism for achieving goals that will benefit everyone. In developing strategies such as resiliency it was critical to identify shared goals and mutually desired outcomes. While GHG emissions are not a core concern of all participating communities, GreenStep best practices that address environmental impacts provide tangible quality of life and economic development benefits that are sought by a majority of communities statewide. The program co-directors make sure to communicate with partners to make sure they are aware of new programs and financial opportunities within those organizations so they can share it with others and provide a one-stop-shop type service.

The MPCA works with the League of Minnesota Cities to promote the program, develop incentives for continuous improvement, and encourage participation. A crucial part of program is providing cities recognition and sharing stories and the program could not have the visibility and reach it does without the League of Minnesota Cities' support, which gives them access to city staff and elected officials that are not sustainability professionals. At the League's conferences the program can present on different topics or emerging issues and this facilitates peer-to-peer discussion, which is the high value of the program.<sup>110</sup>

In order to assist cities in achieving goals the program report provides a summary of existing state programs, loans, and grants to fund sustainability infrastructure improvements and the

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<sup>110</sup> Interview with program members, November 2, 2018.

program provides ongoing support to help participants finance their objectives. Finally, corporate sponsors, primarily energy companies, provide funding in exchange for visibility at the GreenStep Cities annual awards each June during the conference of the League of Minnesota Cities.

Participants are updated about modifications to and additional best practices via listserv and the program website whose content is changed daily. Additionally, administering organizations communicate with more than a dozen programs similar to GreenStep across the country to share achievements and emerging best practices through the National Network of Statewide-Local Sustainability Organizations.

### *Funding*

Staff time and funding for the GreenStep Program is contributed by the state agencies (listed collaborators) that provide assistance on the GreenStep program. The McKnight Foundation and Metropolitan Council provide funding to support the staff time of the six non-profit partner organizations. Funds from the McKnight Foundation are diminishing but the program is stable and has enough support from partners.

### *Progress and performance tracking.*

As a non-regulatory initiative, GreenStep is continually learning from and recognizing efforts in cities throughout Minnesota. GreenStep recognition of cities is based upon review of city-reported progress toward completing best practices and performance measures. The primary purpose for city reporting is to promote accountability and offer incentives for continuous improvement. Through this data collection, cities gather data against which they can compare their progress over time and loosely benchmark against others if they wish.

### *Outcomes and outputs*

As of August 2018, more than 100 municipalities in Minnesota have completed over 3,700 GreenStep Cities best practice actions. In 2014, Leech Lake became the first Tribal Nation to be awarded with GreenStep Cities recognition for implementation of energy reduction measures.

The program has also received awards. In 2012 GreenStep Cities was awarded the Partnership of the Year by the Minnesota-based Environmental Initiative from a pool of 15 finalists. And in 2016 GreenStep Cities was awarded the 2016 State Government Innovation Award by the School of Public Affairs at the University of Minnesota.

The National Network of Statewide-Local Sustainability Organizations was established in 2015 in part with input from the GreenStep Cities program. The purpose of the organization is to connect and align statewide sustainability programs across the country to enable sharing of resources and best practices and collaborate on projects. GreenStep services as the representative program for Minnesota with eleven other states currently participating. Member organizations

represent successful implementation of sustainability best practices in more than 1,400 municipalities that are home to 54 million combined residents.

### *Sustaining and institutionalizing*

The program has had stable membership and each member contributes resources. These factors have contributed to a high level of trust, although sometimes partners' participation wanes when their primary duties are demanding.<sup>111</sup> In addition, the same gubernatorial administration has been in power since 2011 so turnover in elected officials has not been an issue, although participants monitor the external environment. The initial MOU, which is in effect through 2019 is being revised and may include provisions to enable continuity.<sup>112</sup>

The partner organizations have increasingly refined the best practices actions and track the value of the program to document the importance of the program and to solidify institutional support. One of the challenges is keeping the program relevant, providing new technologies, or updating best practices when members and the staff hasn't changed.

## Partnership for Sustainable Communities

### *Purpose of the collaboration*

The Partnership for Sustainable Communities (PSC) was a federal interagency collaboration among EPA, HUD, and DOT whose purpose was to ensure that each agency's policies, programs, and funding took a joint, holistic approach to affordable housing, transportation, and environmental protection. The goals of the Partnership for Sustainable Communities, stated in the form of "Livability Principles," are:

1. Provide more transportation choices, and develop safe, reliable, and affordable transportation choices to decrease household transportation costs, reduce energy consumption and dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
2. Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
3. Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.
4. Support existing communities. Target federal funding toward existing communities—through strategies like transit-oriented, mixed-use development, and land recycling—to

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<sup>111</sup> Interview with program members, November 2, 2018.

<sup>112</sup> Interview with program members, November 2, 2018.

increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.

5. Coordinate and leverage investment. Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
6. Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.

These principles were announced at a U.S. Senate Committee on Banking, Housing, and Urban Affairs hearing on June 16, 2009.<sup>113</sup>

### *Contextual environment*

This initiative began in 2009 when, soon after their respective appointments, HUD Secretary Donovan reached out to DOT Secretary LaHood after hearing him speak about livability and transportation.<sup>114</sup> Staff from HUD and DOT had been collaborating on affordable housing requirements around public transportation projects, but the effort soon expanded to address all kinds of transportation projects, including coordination between housing and economic development.<sup>115</sup> Because it had been working on smart growth since the mid-1990s, high-level political appointees at HUD and DOT approached EPA leadership about joining the collaboration.

Staff from the three agencies began by negotiating a set of six Livability Principles to define sustainable communities and guide their collaboration in establishing a strong shared sense of purpose. In addition to working within their agencies to identify priorities and requirements, the PSC also engaged in public outreach through listening sessions in several cities and other community events held in the regional offices when developing the Principles. Participants agreed that the Principles needed to also be simple enough for inclusion in grand agreements and communication and outreach materials and provide a framework for ongoing decision-making. All three agencies also recognized that that the Principles should be broad enough to include the variety of programs and policies at each agency while still clearly defining the parameters of the collaboration – including that the Principles were simple enough to be used in grant agreements, communications, and outreach materials while serving as a framework for on-going decision-

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<sup>113</sup> US Senate, “Greener Communities, Greater Opportunities: New Ideas for Sustainable Development and Economic Growth” Hearing before the Committee on Banking, Housing, and Urban Affairs, Tuesday, June 16, 2009. As of October 25, 2019: <https://www.banking.senate.gov/hearings/greener-communities-greater-opportunities-new-ideas-for-sustainable-development-and-economic-growth>

<sup>114</sup> Congress also was encouraging agency coordination.

<sup>115</sup> General Accountability Office, “Affordable Housing in Transit-Oriented Development: Key Practices Could Enhance Recent Collaboration Efforts between DOT-FTA and HUD,” GAO Report 09-871, 2009.

making. Because of this mutual understanding of the document's intent, most of the negotiations could be focused on text and details.

During this period there was also a growing interest in thinking about policy differently, emphasizing a community's characteristics and issues to ensure that policy decisions comprehensively consider the range of issues a community faces, leverage geographic proximity, and are better coordinated among all federal agencies and others. There was a growing recognition that in the long-term communities will be better off if stakeholders and actors collaborate and align their activities as opposed to operating in isolation from each other.<sup>116</sup>

### *Organizational structure*

Leadership for the collaboration came directly from the HUD and DOT Secretaries and the EPA Administrator, but important groundwork for collaboration on these issues had been laid with staff working at each of the agencies over the preceding years. While the formal collaboration was new, a shared desire for the federal government to work more closely in addressing the challenges faced by state and local governments already existed, and agencies were aware that coordinating federal investments in infrastructure, housing, and services meets multiple economic, environmental, and community objectives. For example, investment in public transit can lower household transportation costs, reduce greenhouse gas emissions and air pollution, decrease traffic congestion, encourage healthy walking and bicycling, and spur development of new homes and amenities around transit stations. At a time when federal investment resources are limited, the PSC provided a way to leverage investments and ensure that HUD, DOT, and EPA were targeting these investments with precision.

Each PSC agency brought key complementary skills to the collaboration. EPA had a long history of working directly with cities and towns, unlike DOT, which typically worked with states, and HUD, which more often worked with housing authorities. DOT's Federal Transit Administration (FTA) provided transit investments supporting livability, such as transit-oriented development, while the Federal Highway Administration (FHWA) worked with the EPA to design guidelines for better streets. Finally, HUD had a legacy (if not a recent one) of supporting economic development and community and regional planning.

Each agency offered a demonstration of how creating stronger, better-designed communities contributed to their mission and statutory goals. EPA research showed better environmental outcomes from reduced automobile emissions; HUD connected community design and transportation costs with affordable housing to reduce the burden on low-income

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<sup>116</sup> Cytron, Naomi, "Improving the Outcomes of Place-Based Initiatives," *Community Investments*, Federal Reserve Bank of San Francisco, Spring 2010, Volume 22, Issue 1 accessed December 4, 2019: [https://www.frbsf.org/community-development/files/Spring\\_CI\\_2010a.pdf](https://www.frbsf.org/community-development/files/Spring_CI_2010a.pdf)

households; and DOT saw reductions in construction time and broader community support for transportation projects.

Partnership members did not develop a memorandum of understanding, in part because there was not a specific project or particular goal to codify and the work that would be required to develop one would not necessarily have added value, especially since MOUs alone aren't sufficient to develop and sustain working relationships.<sup>117</sup> Each of the Partnership agencies structured their staff working on the PSC differently; there were no dedicated, full-time PSC staff. Agencies tasked staff and offices with responsibility for achieving PSC goals based on institutional factors and what leadership thought would be most successful. They made internal structural changes that supported both their individual missions as well as the objectives of the PSC.

HUD created a new Office of Sustainable Housing and Communities reporting to the Deputy Secretary of HUD (later renamed Office of Economic Resilience and then the Office of Economic Development within the Office of Community Planning and Development).<sup>118</sup> Two distinct initiatives were housed within the new office: the Sustainable Housing Initiative, which advanced energy efficiency, green building and sustainable design in affordable housing; and the Sustainable Communities Initiative, which focused on community development linking housing development and transportation.

After joining the PSC, EPA elevated an existing office within the Development and Environment Division to become the Office of Sustainable Communities in the larger Office of Policy.<sup>119</sup> The move immediately brought staff with expertise in technical assistance, smart growth, and working directly with communities and stakeholder organizations to the PSC effort.

DOT hired a new staff person within the Office of Policy in the Secretary's Office to lead coordination of the PSC activities and to work with staff throughout the agency on specific activities. Within DOT, FHWA created a new staff position within the Office of Human Environment focused on Livability and the FTA designated a staff person to participate from the Budget office.

The PSC collaboration was built on a foundation of committed staff members meeting regularly to share ideas and information. These standing interagency meetings, sometimes with political leadership, provided a forum for presentations and building relationships. Furthermore, commitment to the Partnership is demonstrated by the internal institutional changes made by each constituent. In addition, there were working groups on specific topics areas. The longest standing one of these working groups was the Regional Engagement Team. The Regional Engagement Team was comprised of staff from HUD, DOT, and EPA headquarters responsible

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<sup>117</sup> Interview with former PSC staff member, August 29, 2017.

<sup>118</sup> HUD, "Economic Development," webpage as of October 7, 2019 at: [https://www.hud.gov/program\\_offices/economic\\_development](https://www.hud.gov/program_offices/economic_development)

<sup>119</sup> EPA, "Smart Growth," webpage, as of October 7, 2019 at: <https://www.epa.gov/smartgrowth>

for communicating with staff from the Federal agencies located in regional and division offices outside Washington, D.C. The Regional Engagement Team held regular conference calls with the staff located away from headquarters to foster relationships among staff supporting communities in different regions of the country. EPA, HUD, and FTA have ten regions, while FHWA has offices in all 50 states. Because the staff at the regional level had varying levels of obligation to the PSC, attendance and commitments varied among different areas and agencies. In general, staff who were interested in greater collaboration with other agencies that participated in the regional collaborations, while others did not.

### *Communication and leadership*

As a collaboration among agencies with little history of working together effectively, the PSC sought to build and institutionalize relationships. Political support for the Partnership was provided by agency deputies, while day-to-day leadership fell to appointed staff within each agency to provide direction. At HUD this was the Director of the Office of Sustainable Housing and Communities; at EPA the Director of the Office of Sustainable Communities; and at DOT the Deputy Assistant Secretary. PSC staff met weekly about operational issues, maintaining this frequency over at least the first four years of the Partnership.<sup>120</sup>

PSC political appointee leadership and career staff created annual work plans and coordinated budget requests, developing deep working relationships in the process. Senior leadership met at least quarterly for briefings and high-level decision-making. Senior implementing staff held weekly in-person meetings, rotating locations across all the partners, which provided a forum for agency staff from other offices within HUD, DOT, or EPA to present material to staff from other agencies. For example, FTA staff presented early concepts for updates to the regulations for major new capital projects to the PSC and received feedback on the affordable housing requirements. This early input helped the rulemaking move more quickly through the regulatory process and be more meaningful to communities.

Within EPA, HUD, and DOT, PSC staff conducted intra-agency outreach and engagement about PSC ideas, livability principles, and coordinated work. This partnership led to more in-depth and interactive discussions with other programs within each agency about the effects individual activities had on the others' programs. By enabling routine contact, and developing close relationships among external partners, the PSC created opportunities constituent members could not have done on their own.<sup>121</sup> For example, EPA's program offices (water, air, brownfields, etc.) administer most of EPA's grant funds and regulate many environment conditions that affect development patterns. By building understanding of these cross-sector effects, PSC staff were able to influence the direction of larger programs (namely brownfields),

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<sup>120</sup> An interviewee noted that there has to be a specific purpose for weekly meetings and when projects or activities are completed, communication may naturally wane. Interview with former PSC staff member, August 29, 2017.

<sup>121</sup> Interview with former PSC staff member, August 29, 2017.

recruit staff to carry forward PSC messages (including in regional offices) and build support for PSC initiatives (including recruiting reviewers for grants). Work at DOT and HUD had similar goals and effects. Finally, the agencies coordinated budget requests somewhat, and briefed Congressional staff on the synergies between the budget requests.

### *Activities*

The PSC improved coordination among the member agencies by engaging together in several activities to promote the Livability Principles. The PSC also pursued several activities to provide information, technical assistance, and grants funding to support *local* communities' collaboration and application of the Livability Principles, which was the key focus of the collaboration.

### Grant funding

To facilitate innovation, Congress bypassed traditional programming and funding structures and approved new funding for grant-making directly to communities through the Community Challenge Grants and the Transportation Investment Generating Economic Recovery II (TIGER II) Planning Grants. External (non-federal) stakeholders, such as Smart Growth America and PolicyLink also played a key role in motivating the Partnership and supporting members of Congress in securing funding. Grant-making provided opportunities for federal staff to work together to apply the Livability Principles by crafting NOFAs, evaluating proposals, and supporting the grantee activities. Grant-making also let local jurisdictions be creative and develop innovative approaches to collaboration to address local challenges and priorities that could ultimately be used as best practices by federal staff. Thus, the grants program created a focal point for the Livability Principles, and having funding tied to these principles was an effective means for making progress. For example, the grants allowed HUD to integrate social equity and affordability with other issues such as environment and transportation, which is easier to do in a new program. The development of NOFA requirements and evaluation criteria, joint agency review process helped these agencies to work across cultural and institutional barriers. By reviewing the grant applications together each agency member had an opportunity to learn how housing, environment, and transportation issues relate. The grants also allowed regional staff to learn from each other by working on real problems in specific communities.<sup>122</sup>

The highest profile grant programs associated with the PSC were the Community Challenge Grant Program and the Sustainable Communities Regional Planning Grant Programs through HUD. These new HUD programs received approximately \$250 million from Congress for grants to communities and regions in fiscal years 2010 and 2011. Through the PSC, HUD invited DOT

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<sup>122</sup> In addition to the standard comment period, when developing the NOFA requirements, the PSC had a virtual online opportunity for the public stakeholders to share comments. Interview with members of PSC, August 30, 2017 and September 5, 2017.

and EPA to provide input into the design of the NOFA, which included the Livability Principles. DOT, EPA, and other agencies were also invited to participate in staff reviews of the proposals and PSC leadership was involved in selection of the communities to receive funding.

In 2010, the agencies jointly published a NOFA soliciting local planning projects for city-wide, small area, corridor, or special topics' planning projects supporting the Livability Principles. There was funding available from the TIGER II Planning Grants and the Sustainable Community Challenge Grants for localized planning activities that ultimately led to projects that integrate transportation, housing and economic development. The NOFA explicitly stated that "DOT and HUD have decided to issue this NOFA jointly in order to better align transportation, housing, economic development, and land use planning and to improve linkages between DOT and HUD's programs. HUD's funding is designed to target housing, economic development, and land use planning strategies that will increase the efficiency and effectiveness of a related transportation project being planned. Therefore, DOT and HUD believe this joint effort has the potential to encourage and reward more holistic planning efforts that result in better projects being built with Federal dollars. The effort is also consistent with the PSC's priority on removing artificial barriers between Federal programs and barriers to State and local governmental level innovation."<sup>123</sup>

The NOFA also noted the specific roles that each PSC agency would play in the grant process. HUD took the lead in funding, evaluating, and supporting integrated regional planning for sustainable development, and invested in sustainable housing and community development efforts. DOT focused on building the capacity of transportation agencies to integrate broader plans and actions that promote sustainable development into their planning and investments and investing in transportation infrastructure that directly supports sustainable development and livable communities. EPA provided technical assistance to communities and States to help them implement sustainable community strategies and develop environmental sustainability metrics and practices.

The main rating factor for this competitive process, accounting for a full 35% of the overall score, was explicitly tied to the Livability Principles and PSC staff from all three agencies were involved in reviewing and evaluating proposals. While the funding and NOFA were a collaboration between DOT and HUD, the agencies were not able to issue joint grant agreements to the selected communities. Due to the legal requirements associated with federal funds being appropriated to each agency with their own regulations, communities that were selected for funding had to sign separate grant agreements with DOT and HUD. Each agency appointed their own grant manager to oversee the grant implementation and reporting was done for each agency

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<sup>123</sup> Interim Notice of Funding Availability for the Department of Transportation's National Infrastructure Investments Under the Transportation, Housing and Urban Development, and Related Agencies Appropriations Act for 2010; and Request for Comments, 21695-21715 [2010-9591] accessed October 27, 2019 at: <https://regulations.justia.com/regulations/fedreg/2010/04/26/2010-9591.html>

separately. Despite these challenges, the joint HUD-DOT grantees were able to deliver multiple community benefits from single projects.

For example, in 2010, the Mid-America Regional Council (MARC), the MPO for the Kansas City region, received a \$4.25 million Sustainable Communities Regional Planning Grant from HUD to fund the Creative Sustainable Places initiative. This effort was focused on guiding sustainable development in the region. In addition to forging partnerships between local governments, businesses, universities, housing associations, and community-based organizations, the three-year grant funded the following key projects:

- Six corridor plans that integrated land use, transportation, housing, and sustainability
- Demonstration projects that helped local communities advance sustainable development practices
- Technical tools used by partner agencies to guide future development
- Training classes and forums through the Academy for Sustainable Communities

In 2012, dedicated demonstration project funding was combined with transportation funds to launch the Planning Sustainable Places (PSP) program. The program, which has had four rounds of funding so far, offers grants to local communities and nonprofits to develop and implement plans for sustainable development. The first round of grants provided in 2013, blended HUD and federal Surface Transportation Program (STP) funds to the state DOT to provide over \$1.5 million in grants to 18 projects.<sup>124</sup> These projects were limited to the designated redevelopment area and required community engagement and integration of transportation, land use, and the environment. Due to the success of the first round of grants, the PSP has continued to provide three additional rounds of funding through the state-allocated STP. In total, the PSP has funded 67 projects in seven years and four rounds of funding.<sup>125</sup> According to the PSP Program Manager, much of the continued PSP success is attributed to the community-driven approach of the program. Projects are community-led and have encouraged communities to cross jurisdictional lines and form partnerships to submit joint applications. Since the first round of funding, many communities have benefited from the grants, which has helped PSP build a constituency. In addition, the call for projects are very specific and help foster applications that advance sustainable development.

Agency NOFAs, particularly those by HUD, required applying communities or regions to assemble very ambitious consortiums, spanning sectors and levels of government, as well as including significant participation from typically marginalized groups and populations. Some of these consortia emerged from preexisting regional agencies; others were newly minted

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<sup>124</sup>Mid-America Regional Council, “Planning Sustainable Places Projects and Grantees Map: Round1:2013,” accessed December 6, 2019: <https://marc-gis.maps.arcgis.com/apps/MapSeries/index.html?appid=0a958d0637c14704b267d92d16104e54>

<sup>125</sup>Mid-America Regional Council, “Planning Sustainable Places Projects and Grantees Map: Overview,” accessed December 6, 2019: <https://marc-gis.maps.arcgis.com/apps/MapSeries/index.html?appid=0a958d0637c14704b267d92d16104e54>

organizations specifically created to find regional solutions. Breaking down barriers between sectors, departments and governments to create a collaborative planning effort allows all stakeholders to work together to identify common goals and priorities and to leverage shared resources during both the planning and implementation phases. Turning those paper consortiums into real collaborations at the local and regional scales required a tremendous amount of work. But those consortiums – really, the personal and organizational relationships that underpin them – are one of the most important lasting legacies of the Partnership’s investments in communities. An additional level of collaboration, detailed elsewhere, brought national expertise from the capacity-building consortium directly to the 143 grantee communities.

Finally, with the Livability Principles as a guide, the PSC also worked with other existing departmental programs to encourage them to consider referencing the Livability Principles when funding projects – including EPA’s brownfields planning, DOT’s Transportation, Community and System Preservation Program (TCSP), and HUD’s Choice Neighborhoods funding (see table). PSC agencies leveraged funding within these existing programs to reference the Livability Principles, as shown in the table below. The Partnership, through the Regional Engagement Team, also empowered agency regional staff to provide hands-on assistance to grantees with their projects and planning. Staff from HUD, DOT, and EPA located outside of headquarters worked with communities that received grants to troubleshoot issues early, coordinate staff across different agencies locally, and connect grantees to implementation funding opportunities and wherever possible coordinated grants happening in the same geographic area so receiving agencies were aware of other potentially complimentary projects nearby.

Using grant-making to strengthen the federal collaboration and incentivize local collaboration was successful, until the funding was no longer available. After several years of fully funded Partnership programs, Congress began to restrict discretionary grant programs and make changes to others that limited their ability to be used for innovative projects and interagency purposes.

#### Information Resources, Tools, and Technical Assistance Activities to Build Local Capacity

PSC agencies developed information and tools for communities to use to more closely link transportation, housing, and environmental decisions. For example, HUD and DOT created the Location Affordability Portal to help consumers, researchers, and policy-makers better understand how transportation costs affect housing affordability. The portal featured downloadable housing and transportation cost data at the neighborhood level, covering 94 percent of the U.S. population. This collaboration marks the first time that standardized data on housing and transportation costs have been available at a national scale.

While standardized performance metrics were not required across all communities or PSC grant programs, the Partnership agencies did see a need for grantees to measure progress toward their goals. To this end, the Sustainable Communities Indicator Catalog was funded by HUD with leadership and input from staff from DOT and EPA. The Sustainable Community Indicator

Catalog was an online catalog intended to help communities identify indicators that can measure progress toward their sustainability objectives. The indicators focus on the relationships among land use, housing, transportation, human health, and the environment drawing from indicators and metrics being used by state DOTs, MPOs, environmental and housing agencies, and others across the country. (Transportation-related indicators were extracted from the website and are presented in Appendix A.) By providing an array of in-house metrics grantees could choose from to define their own measures of success, and the PSC was supporting local efforts and leadership. Communities are still using some variation of the metrics pulled from the partnership and sometimes they use the precise language.<sup>126</sup> Integrations, cross-sector collaboration and partnership has been sustained/nurtured; maybe not to the same level but there. Subgrants to community groups has shown value and are becoming a best-practice.

The Partnership took the approach of documenting the numerous ways a transportation agency could measure progress toward sustainability, transportation, housing, and related goals, rather than prescribing inflexible measures or definitions that might not work for all communities, across agencies, and across issue areas. This allowed communities to craft their own goals toward a locally developed vision. That flexibility was invaluable as it became clear that many communities prioritized economic, climate, and other kinds of goals not necessarily envisioned when the Livability Principles were developed in 2009 or the NOFAs written in 2010. Other tools and resources were gathered and presented on the Partnership website.<sup>127</sup> This site included information on available grant opportunities, Partnership publications, reports on an array of topics, and case studies of local collaborations and grantees.

Additionally, the Federal government provides technical assistance to communities through a bewildering variety of programs, including many longstanding ones at DOT, HUD, and EPA. Often this technical assistance is focused on compliance and meeting minimum standards – documenting how funds are spent, making sure rules are followed, and the like.

The PSC agencies wanted to create an “aspirational capacity building” program to promote policy innovation and to elevate and inspire the communities, which were already striving for unprecedented collaboration. To accomplish this goal, the PSC designed a program that was flexible to the needs of communities by applying two guiding mandates: 1) to listen, learn, and customize assistance, while 2) “leaving no grantee behind.” The aspirational focus allowed a broader approach to building the capacity of local communities and organizations and at the same time creating a foundation of local collaboration that would allow the plans to become real change. Technical assistance involved providing subject matter expertise, problem solving assistance, information sharing forums, and training materials.

For the first two years of this program, EPA assembled funding from three of its Offices – Water, Brownfields, and Smart Growth – totaling about \$550,000 for the first two-years. The

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<sup>126</sup> Interview with former PSC staff member, September 5, 2017.

<sup>127</sup> The website is no longer maintained.

funding was passed to HUD via an interagency agreement. HUD added roughly another \$5 million and ran a competitive solicitation spanning seven specific areas of expertise. HUD, DOT, and EPA collaborated on the selection process. During the second 18-month phase, HUD and EPA provided around \$2.5 million to a single consortium of 15 organizations.

The resulting National Sustainable Communities Learning Network connected the community of people working to develop more sustainable, prosperous and equitable communities and regions. Organizations that received technical assistance or grants from either EPA or HUD were eligible to participate in the Learning Network and receive capacity building services. The Learning Network provided a way for grantees to discuss issues, share information and get connected with experts as well as other grant and technical assistance recipients.

The Learning Network consisted of a suite of virtual and in-person peer-learning and networking services including:

- Calendar of events, consolidating all in-person and virtual offerings;
- Resource library, a one-stop shop for best practices and successes, templates, how-to guides, promising practices, workshop archives, and other tools;
- Professional networking platform, limited to peers and the Capacity Building Resource Team with opportunities to interact with others based on issue area, grant type, location and more; and
- Capacity Building Resource Team members active on the Network to provide direct assistance and lead discussions on key topics.

A series of Sustainable Communities Leadership Academies and other in-person events, in which multi-disciplinary teams of practitioners from partner communities learned from each other and expert guests by directly sharing experiences and ideas were also offered. These workshops focused on high-priority challenges such as integrating and collaborating across sectors and jurisdictions, engaging the community, designing inclusive processes and achieving equitable outcomes, and financing sustainable development strategies and initiatives.

### *Key Outcomes*

PSC staff did not formally develop a list of measures to track outcomes or progress of the partnership directly, although annual progress reports were published and the Institute for Sustainable Communities, as the lead organization for the capacity-building program, characterized some of the effects of the Partnership grants in a capstone report “Better Plans for Better Places.”<sup>128</sup> Describing the regional and local collaborations at the heart of the PSC, the evaluation highlighted the multifaceted outcomes desired by many communities today – a stronger economy, a healthier environment, and greater social equity – which demand strong collaborative efforts across jurisdictions and sectors at the local and regional scale. A

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<sup>128</sup> Bent. Elliott, Chris Forinash. Henry McKay. Debra Perry. And Rebecca Webber, “Better Plans for Better Places,” Institute for Sustainable Communities, undated., As of November 9, 2017 at: <http://betterplansbetterplaces.iscvt.org/>

conventional planning processes, with a single organization, agency or department working in isolation cannot effect change on these larger community driven issues. Further, these isolated planning processes, whether conducted within jurisdictional or sectoral silos, can lead to plans that work at cross-purposes with other agencies within the same government, or with the plans of neighboring local government resulting in conflicting priorities and competition for limited resources.

The Partnership has demonstrated the value of collaboration, serving as a model for other interagency efforts, such as the Strong Cities, Strong Communities Initiative; the Urban Waters Federal Partnership; and America’s Great Outdoors Initiative.<sup>129</sup> These efforts share the Partnership’s focus on close coordination with communities and their priorities. All of these efforts are grounded in the belief that coordination of federal investments is an efficient and effective use of federal monies and that these efforts can be improved through strong community and stakeholder engagement.<sup>130</sup>

### *Challenges and opportunities*

At the same time, while the PSC model of collaboration was largely successful at making progress toward improving the delivery of federal programs, there are lessons learned from the PSC that can inform the creation of future collaborations between transportation agencies and other departments or organizations.

- Clear definition of goals. Over time, the partnership lost some momentum when the grant funding was cut, but adapted and continued to work with communities, develop tools, and influence other programs to continue referencing the Livability Principles.
- Prepare for institutional change. While the PSC had strong leadership support initially, its leadership and staff didn’t prepare for the change in agency leadership and priorities. Further, once new priorities were articulated, the PSC was unable or not nimble enough to link the collaboration’s approach to new goals nor to develop the policies, procedures, and deep organizational relationships that would institutionalize the work.
- Institutionalize within agencies. While the PSC invited staff from federal agencies to present information at regular Partnership meetings, in retrospect the PSC could have spent more time communicating with other, well-established programs as another way of institutionalizing the approach. For example, perhaps the PSC could have created a

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<sup>129</sup> The Urban Waters Federal Partnership seeks to improve coordination among federal agencies to reconnect disadvantaged communities with their waterways and to support community-led efforts to improve these waterways for environmental, economic, and social benefits. For more on this program see <https://www.epa.gov/urbanwaterspartners>. The America’s Great Outdoors (AGO) Initiative, started in 2010 required the Secretaries of the Departments of the Interior and Agriculture, the Administrator of the Environmental Protection Agency, and the Chair of the White House Council on Environmental Quality to develop a plan for a community-based approach for preserving natural and cultural resources for future generations.

<sup>130</sup> In August 2011, the White House issued a memorandum to all department and agency heads calling for “place-based” policies that “break down federal ‘silos’”. Office of Management and Budget (OMB) (2009). Memorandum: Developing effective place-based policies for the FY 2011 budget, August 11.

fellowship program to allow staff from around the federal government to cycle into and out of the PSC in order to build a wider network of established relationships with other agencies.

The PSC demonstrated many characteristics of successful collaborations. Key factors that shaped the work of the PSC are:

- Support and impetus from the highest levels of leadership. Participants in this collaboration felt the support and inspiration of their leadership, particularly cabinet appointees at HUD, DOT, and EPA. The applicant communities also felt supported by agency leadership, as the work of the Partnership was often highlighted by political appointee leadership in technical assistance, trainings, and events.
- Highly competent senior staff to design and launch work. Given the high priority of the PSC, key senior staff either rose from the ranks of the agencies or were attracted to join in the earliest days of the Partnership. Specifically, appointees at DOT brought key private, non-profit, and Hill experience; HUD staff had local elected leadership and non-profit innovation; and EPA appointees had worked in smart growth at the state level and were effective communicators both internally and to a broader audience.
- Importance to participating agencies. HUD and DoT were interested in affordable housing near transit and EPA was interested in reducing vehicle miles traveled. Each brought critical expertise and resources to the table.
- Firm alignment around the Livability Principles. Strong senior leadership support and highly motivated staff meant a memorandum of understanding was unnecessary. Absent such an agreement, however, some common guidelines had to be developed to govern the collaboration. Staff developed the Livability Principles and secured buy-in across the agencies. This easily communicated list of six principles helped to socialize the Partnership within the agencies and to communicate its priorities to outside stakeholders.
- Investments were made jointly using agreed-upon criteria, which reinforced the integrated approach.

Finally, interviewees' observations are that for a partnership to be successful participants should acknowledge upfront that collaboration requires work, committed staff, and resources. Furthermore, each participant needs to make it a priority to be a good partner. While organizational bureaucracies need to see value to their mission or budget, participants also need to remember why they are coming together and how this provides the value to the public. Moreover, effective partnerships require participants to give up some power. This is challenging to do within an organization, and especially challenging between organizations. Finally, collaborators should pay attention to the timeline associated with leadership or funding changes in light of what the collaboration is trying to accomplish. Knowing eventually there would be leadership change the PSC probably should have pursued permanent legislation change earlier.<sup>131</sup>

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<sup>131</sup> Interviews with former PSC members August 30, 2017 and September 5, 2017.

## OnePGH – Resilient Pittsburgh

### *Purpose of the collaboration*

OnePGH is an attempt to bring cohesion to a decade of city efforts focused on individual neighborhoods and singular topics in one integrated and comprehensive resilience plan. OnePGH, released in March 2017, is Pittsburgh’s first resilience strategy and its most recent citywide cross-cutting planning document. The strategy document includes a list of cross-sector strategies to improve community resilience across the transportation, land use, energy, waste management, and community development sectors.

The guiding structure for all OnePGH resiliency strategies and associated target goals and objectives is the p4 framework developed by the Heinz Endowments. The framework is intended to guide the city’s economic and technological growth in ways that sustain the environment and address social and economic inequality toward building a just, sustainable, and inclusive future. Achieving the objectives of the p4 framework requires collaboration across all levels of Pittsburgh governance and civil society. The OnePGH strategy helps to deepen and increase commitment to the shared goals of:

- **People:** Pittsburgh will empower all residents to contribute to thriving and supportive communities by ensuring that basic needs are met. We will be an inclusive city of innovation that celebrates our diversity, and all residents will have equal access to resources and opportunity.
- **Place:** Pittsburgh will use land to benefit all residents; to increase social cohesion, connectivity, public and ecological health; and to protect against current and future risks. We will design, scale, and maintain our infrastructure for current and future needs, providing benefits.
- **Planet:** Pittsburgh will achieve long-term environmental health through wise stewardship, improved use of our resources, and a reduced carbon footprint.
- **Performance:** Pittsburgh will work closely with neighbors and partners for improved planning and decision-making.”<sup>132</sup>

The strategic plan identifies and concentrates new resources and efficiencies for the purpose of addressing systemic challenges by integrating complementary projects and advancing beneficial partnerships. To implement the strategies in the strategic plan city staff engage collaboratively with different partners throughout the city.

### *Contextual environment*

Public, private, and non-profit organizations have a long history of collaboration in Pittsburgh and have made significant investments in building a more livable city, cleaning up

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<sup>132</sup> City of Pittsburgh, “One PGH: Resilient Pittsburgh Strategy,” 2017, p. 12. As of October 29, 2019 at: [https://pittsburghpa.gov/onepgh/documents/pgh\\_resilience\\_strategy.pdf](https://pittsburghpa.gov/onepgh/documents/pgh_resilience_strategy.pdf)

Pittsburgh's industrial legacy, and creating new opportunities for businesses, housing, recreation, and the environment.

Significant collaborative efforts that demonstrate the long history of community cooperation and momentum behind these concepts in Pittsburgh are (in chronological order):

- Pittsburgh signed the U.S. Mayors Climate Protection Agreement in 2007, pledging to implement local solutions to addressing climate change, beginning with an inventory of greenhouse gas emissions sources and magnitudes.
- In 2008, the Green Government Task Force published the first Pittsburgh Climate Action Plan with the goal of reducing greenhouse gas emissions to 20% below 2003 levels by 2023. An update was completed in 2012 and again in 2017, coinciding with the release of OnePGH.
- In April 2012, the Pittsburgh 2030 District, a locally driven initiative to support building owners and managers to reduce energy use, water consumption, and transportation emissions, was launched. Like other 2030 Districts across the country and the globe, the Pittsburgh 2030 District follows the 2030 Challenge for Planning framework created by Architecture 2030.
- In December 2014, Pittsburgh was selected to join the 100 Resilient Cities Network (100RC). Pioneered by The Rockefeller Foundation, 100RC has been dedicated to helping cities become more resilient in the face of globalization, urbanization, and climate change<sup>133</sup> and involves three phases that factor into OnePGH, including:
  - Phase 1 – stakeholder engagement and data collection to understand the City's existing resiliency level
  - Phase 2 – in-depth research, additional stakeholder engagement, the development of goals, objectives, and actions, and the prioritization and synthesis work
  - Phase 3 – implementation
- In 2015, the City signed Memorandum of Understandings with US Department of Energy (DOE) and National Energy Technology laboratory (NETL) and University of Pittsburgh to develop a clean energy plan focused on district energy systems. District Energy Pittsburgh is a collaboration to demonstrate that technologies like combined heat and power can create energy security and resilience to critical infrastructure like hospitals during power outages and disruptions. The EcoInnovation District was launched the same year.
- In the spring of 2015, p4 hosted its first summit and unveiled the people, planet, place, and performance framework to the public. P4 quickly became an umbrella initiative for social, economic, and environmental improvement projects that focus on inclusion and innovation. OnePGH also uses this framework.
- During the fall of 2016, the City of Pittsburgh joined the global network of Biophilic Cities.<sup>134</sup> Each Biophilic City is required to choose its commitments and to monitor its

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<sup>133</sup> The 100 Resilient Cities organization was ended in July 2019 after announcing it will commit \$8 million to continue to support the work of resilience officers and member cities within the 100RC Network.

<sup>134</sup> Biophilic cities is a collaborative program run by Professor Beasley at the University of Virginia to advance the theory and practice of planning for biophilic cities, which involves promoting interactions with nature in urban design.

own progress, but Biophilic Cities also monitors Pittsburgh’s progress. Among Pittsburgh’s goals are to eliminate the use of pesticides, fungicides and herbicides, to increase the city’s tree canopy from 42 percent to 60 percent by 2030, to pursue when possible the daylighting of streams in stormwater management efforts, and to develop more greenways.

OnePGH grew out of a decade-long concerted effort among non-profit organizations, foundations, community leaders, and city officials working on climate change mitigation and adaptation in Pittsburgh. Joining the 100RC network and adopting the p4 framework were the most influential activities leading to OnePGH.

### *Organizational structure*

OnePGH builds on the long-standing relationships and expertise of businesses, nonprofits, neighborhood groups, universities, foundations, and individuals working with the city. Expertise and resources from outside the city include the 100 Resilient Cities (100RC) network, which has since ended but was also a major collaborator and source of technical assistance.

The focal point for the OnePGH effort is the City Planning Department’s Division of Sustainability and Resilience in addition to the Mayor’s Office. Both are working with Allegheny County, local universities, and many of these nonprofits and foundations to steer funding and investments to support OnePGH, which provides a basis for coordinated decision-making. A steering committee works with the office to identify and form working committees, such as one on developing a governance framework.<sup>135</sup>

The OnePGH collaboration does not have an existing, formal organizational body; the Division of Sustainability and Resilience partners with fellow city departments, nonprofits, universities, advocacy organizations, and others to help carry out implementation. However, the Division seeks to lead and encourage near-term implementation of projects through four pathways identified in the strategic plan:

- Convening action leadership groups
- Establishing a governance and institutionalization framework<sup>136</sup>
- Establishing a measurement framework
- Integrating resilience-building concepts into civic engagement and public events.<sup>137</sup>

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<sup>135</sup> Interview with city representative on November 6, 2018 and City of Pittsburgh, “One PGH: Resilient Pittsburgh Strategy,” 2017, p. 84.

<sup>136</sup> Since the collaboration is still new and in the process of being institutionalized, there is no permanent governance nor institutional framework documented.

<sup>137</sup> City of Pittsburgh, “One PGH: Resilient Pittsburgh Strategy,” 2017, p. 14. As of October 29, 2019 at: [https://pittsburghpa.gov/onepgh/documents/pgh\\_resilience\\_strategy.pdf](https://pittsburghpa.gov/onepgh/documents/pgh_resilience_strategy.pdf)

Decision-making is diffuse because there are many initiatives and actors. OnePGH works to integrate the p4 goals and objectives into these decisions by focusing on performance and equity measures. OnePGH is working with its partners to develop a common system for the city and partners to ensure projects are addressing resilience and have developed equity indicators. Within the city, performance measures are used in the capital and operating budgeting process to measure progress for goal attainment and every Urban Renewal Authority project requires p4 review.<sup>138</sup>

### *Funding*

The Division of Sustainability and Resilience is working on creating a new organization to control and manage the OnePGH Fund, an investment fund that includes both public, private, and philanthropic money to fund projects identified in the OnePGH Investment Prospectus. Philanthropic organizations have in the past and will continue to provide funding for programs and projects that support OnePGH goals. Continued success as OnePGH implementation matures is dependent on maintaining good will and healthy relationships with these philanthropic and large nonprofit organizations to ensure their resources can be channeled to priority investments.

### *Communication*

OnePGH communicates with the public, other city offices, and other partners to gain input into plans and to discuss the goals and objectives of the resiliency plan. Communicating with the public occurs in a couple of ways. Plans and activities are communicated to the public through the OnePGH website. In addition, the Sustainability and Resilience Division of the City Planning Department convenes residents and other stakeholders in roundtables, deliberative forums, working groups, resilience fairs and steering committees (since the beginning they have reached out to approximately 2,000 individuals).<sup>139</sup> The Division of Sustainability and Resilience continues to reach out to subject matter experts to provide context-specific assistance, suggest implementation resources, and identify possible funding sources and the Office of Community Affairs organizes deliberative forums to bring together subject matter experts and community partners to discuss and prioritize projects.

However, there is no mandate or schedule for regular meetings among nonprofit partners and the City, requiring good will and proactive outreach to maintain frequent high-level collaboration. Still, several partners have almost monthly coordination meetings related to city initiatives they help support, providing opportunities to review and discuss OnePGH indicators, progress, change in the contextual environment, and policy ideas. And this has led to more

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<sup>138</sup> Personal interview with member of city government, November 6, 2018 and personal interview with nongovernmental organization October 25, 2018.

<sup>139</sup> City of Pittsburgh, "About," OnePGH website, <https://pittsburghpa.gov/onepgh/about.html>

routine contact between foundations and city departments.<sup>140</sup> The Office also communicates with other city departments on a daily basis.<sup>141</sup>

When engaging non-profits without a sustained history of collaboration, more frequent contact with additional transparency is desired, particularly while negotiating next steps and implementation priorities given the magnitude of private funding involved.

OnePGH messaging is complicated by the fact that while the complementary actions of several of the initiatives identified above help to build and solidify buy-in and momentum for these activities, overlapping messaging and marketing of 100RC, p4, Biophilic Cities, 2030 Challenge, SmartPGH, and City of Tomorrow reduces the power of the branding as a central focus for implementation and justification for projects.

### *Activities*

OnePGH was developed using the 100RC phased planning process that begins with outreach activities to identify community challenges and needs; proceeds to identifying and developing a strategic plan that includes actionable initiatives and projects; and finally enters implementation of the plan.<sup>142</sup> OnePGH is in the implementation phase of this process.

For example, within two years since p4 launched, OnePGH engaged and received input from over 600 Pittsburgh stakeholders in focus groups, workshops, and deliberative forums. The OnePGH resilience team also utilized the broader knowledge from 100RC, Biophilic Cities, 2030 Challenge, and other networks to develop the plan.<sup>143</sup> Key outputs resulting from the OnePGH engagements and planning processes include the following that address resiliency evaluation, strategy and performance assessment, and funds for investments that contribute to community resiliency:

- **Preliminary Resilience Assessment (PRA)** document, produced in 2016, which scans the shocks and chronic stresses to Pittsburgh’s governance and quality of life, including all resilience challenges.
- **Resilience Strategy** document, produced in 2017, which outlines steps to increase resilience within the City.
- **Project-focused performance review** meetings to discuss how development efforts or institutional master plans are aligned with OnePGH goals.
- **Investment Prospectus** that outlines the amount and potential sources of capital needed to fund actions aligned with the resilience strategy’s objectives in addition to

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<sup>140</sup> Interview with city representative on October 30, 2018

<sup>141</sup> Interview with city representative on November 6, 2018.

<sup>142</sup> Lipper, Bryna, “How to Develop a Resilience Strategy,” 100 Resilient Cities, October 3, 2016. As of October 29, 2018 at: <https://www.100resilientcities.org/how-to-develop-a-resilience-strategy/>

<sup>143</sup> City of Pittsburgh, “One PGH: Resilient Pittsburgh Strategy,” 2017, p. 115. As of October 29, 2019 at: [https://pittsburghpa.gov/onepgh/documents/pgh\\_resilience\\_strategy.pdf](https://pittsburghpa.gov/onepgh/documents/pgh_resilience_strategy.pdf)

ameliorating chronic stresses identified in the PRA. It also shows where gaps exist and where new investment could yield the greatest benefits and co-benefits for all city residents.

- **OnePGH Fund** is in the process of being established to mobilize the public, private, nonprofit and philanthropic sectors to work together to make targeted investments and to encourage cross-sectoral partnerships that generate multiple benefits. Investments will be determined in collaboration between the city and the funding institutions using common performance measures and equity indicators.<sup>144</sup> An interviewee noted that having the city engaged with the fund provides more authority and credibility with potential funders than if NGOs were pursuing them on their own.<sup>145</sup>
- **Pittsburgh Equity Indicators**, which are intended to measure the state of (in)equity in the city, a chronic stress identified in the resilience strategy, and to begin to establish a measurement framework for the OnePGH Fund. Indicators measure equity relative to health, food, and safety; education, workforce development, and entrepreneurship; housing, transportation, infrastructure, and environment; and civic engagement and communications.<sup>146</sup>
- **PreparedPGH classes** are funded through a Cities of Service grant to bring together more than 200 actors to discuss possible resiliency efforts.

OnePGH activities are geared toward building momentum around the p4 goals and objectives, facilitating discussions across city departments, nonprofits, NGOs, and community groups on the resiliency issues associated with plans and projects, and aligning these projects with desired goals and objectives. Specifically, these goals are:

- Creation of a learning culture within city government so that staff investigates and analyzes how city systems operate compared to other examples across the country.
- Sharing the information with colleagues in order to build confidence in internal capacity.

### *Notable practices*

#### *Strong relationships with nonprofits and connected individuals*

Long-term relationships among stakeholders in Pittsburgh have led to significant investments in building a more livable city, cleaning up Pittsburgh's industrial legacy, and creating new opportunities for businesses, housing, recreation, and the environment. Each of the strategies in the four focus areas (people, place, planet, and performance) is aided by subject matter experts from city government, universities, and participating non-profit organizations to help guide OnePGH, which continues to establish and solidify working relationships between organizations across a broad spectrum of interests, the City, and regional agencies. Moreover, communications and relationship building are aided by the fact that members of the nonprofit and philanthropic

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<sup>144</sup> Interview with member of city government, November 6, 2018.

<sup>145</sup> Interview with member of a nongovernmental organization, October 25, 2018.

<sup>146</sup> For more information see <https://pittsburghpa.gov/equityindicators/glance.html>

community in Pittsburgh frequently have some other professional or personal connection to staff of the City Planning Department that allows them to check in on OnePGH initiatives of interest outside of formal meetings.

#### *Participation in intercity networks*

The Office of Sustainability and Resiliency, required with participation in the 100 Resilient Cities network, was originally placed under the Mayor's Office of Innovation and Performance. As the focus broadened from leveraging technology for innovative approaches to resilience, it was later moved into the Department of City Planning where there can be more direct coordination with officials who draft neighborhood plans and approve development projects.

#### *Institutionalization and accountability*

As part of the 100RC, Biophilic Cities, 2030 Challenge, and other multi-city communities, the City of Pittsburgh must report annual metrics and indicators that track progress toward associated goals. The collection of these data is useful for measuring OnePGH progress as well. One source of indicator and community data is the Western Pennsylvania Regional Data Center (WPRDC), which evolved from the Pittsburgh and Neighborhood Community Information System (PNCIS) hosted by the University of Pittsburgh from 2005 to 2014. The WPRDC evolved from the PCNIS to improve the legal and technological infrastructure devoted to the dissemination of community and regional data and institutionalizes the crucial role of a data intermediary to support decision-making, research, and public engagement. Having a data intermediary is critical in regions with disparate and fragmented jurisdictions that seek to improve planning and decision-making on comprehensive social issues. The WPRDC seeks to create a community of data users and provides documentation and access to over 250 community datasets and reports on community profiles and regional indicators on an open-source platform.<sup>147</sup>

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<sup>147</sup> The WPRDC evolved from the work on the PNCIS, which collected data from government agencies to support community development in Pittsburgh and Allegheny County. These were informal agreements to share data. Although the PNCIS had many users and led to strong working relationships, the data often had to be cleaned-up, processes were not automated, and download capacity was limited. As a result, data were not updated as frequently. Gradeck, Bob, "Lessons Learned," Western Pennsylvania Regional Data Center, May 27, 2015 accessed at: <http://www.wprdc.org/news/lessonslearned/>

The WPRDC is managed by the University of Pittsburgh's Center for Social and Urban Research, which is a partnership of the University, Allegheny County, and the City of Pittsburgh and has funding support from the Richard King Mellon Foundation, The Heinz Endowments, and the University of Pittsburgh. The Western Pennsylvania Regional Data Center is a partner in the National Neighborhood Indicators Partnership (NNIP) a collaboration between the Urban Institute and over 30 organizations across the United States to facilitate the provision of community and neighborhood data to inform policy development and local decision-making. The data center provides city and county information collected by public sector agencies, academic institutions, and non-profit organizations. It maintains the data, data guides, and legal framework and provides services to data users. For more on the NNIP see: <https://www.neighborhoodindicators.org/>

The city released an Equity Indicators Report in 2017 and 2018 to serve as the baseline for tracking disparity across the city.<sup>148</sup> A second report containing metrics is the Preliminary Resilience Assessment, which was published in 2018, with annual updates expected.

Institutionalizing funding sources for OnePGH implementation is still in progress. The 2018 fiscal year city budget cycle incorporated advancing OnePGH and Climate Action Plan implementation and the establishment of a Sustainability and Resilience Commission as stated goals. In the 2019 Fiscal Year Operating Budget, the integration of OnePGH into City Scale Operation is a goal. However, the establishment of a non-profit financing body, the OnePGH Fund, with contributions from nonprofits, foundations and the private sector remains incomplete. The City anticipates \$55 million in annual contributions, including \$20 million from UPMC, Highmark Health, the University of Pittsburgh, and Carnegie Mellon University who are now tax-exempt and yet make up a substantial share of the city's tax-base, but has not yet made a formal request for funding commitments. Community engagement on this issue continues as they work through finding the right balance of transparency and public participation in a resource allocation process that is funded by private sources for public purposes.<sup>149</sup>

### *Challenges and opportunities*

*Challenge.* The OnePGH collaboration is occurring in an area that has a long history of engagement with, and collaboration among academic, philanthropic, and nongovernmental organizations and has demonstrated an ability to access outside sources of funding from philanthropic (Rockefeller 100RC, Heinz Endowment) and government sources (Partnership for Sustainable Communities). However, this broad array of organizations can present a challenge by contributing to an overly diffuse set of activities and messages.

Challenges also remain in establishing an organization that can effectively manage private funds for public purposes in suitably transparent ways and sustaining the momentum of a diffuse set of actors responsible for implementation.

*Opportunities.* Having a chief resilience officer in the city planning department as a focal point for resiliency planning and implementation presents an opportunity to reduce this diffuse and potentially fragmented approach and sustain momentum during implementation. Essential to this approach is identifying performance and equity measures and developing the information and data infrastructure to generate them. Implementation is also enabled by the ability to align city budgeting and capital investment to the goals and objectives of the plan.

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<sup>148</sup> The reports can be found here: <https://pittsburghpa.gov/equityindicators/>

<sup>149</sup> Kraus, Margaret, "Peduto's OnePGH Aims To Address Pittsburgh's Problems. So Far It Hasn't Solved Its Own," 90.5 WESA, December 21, 2018 accessed at: <https://www.wesa.fm/post/peduto-s-onepgh-aims-address-pittsburghs-problems-so-far-it-hasn-t-solved-its-own#stream/0> and Murray, Ashley, "Mayor working on nonprofit fund, but deal still out of reach for now," Pittsburgh Post-Gazette, April 14, 2019 accessed at: <https://www.post-gazette.com/local/city/2019/04/14/Mayor-Peduto-OnePGH-report-pittsburgh-raise-critical-needs-tax-exempt-organizations/stories/201904110090>

The Investment Prospectus and OnePGH fund provide focus and an opportunity to act on initiatives and projects identified in the planning process that include extensive community outreach.

## Puerto Rico Recovery Plan Development

### *Purpose of the collaboration*

This case study focuses on the collaborative effort between agencies within the federal government and the government of Puerto Rico for gathering and developing the information needed to prepare Puerto Rico's Hurricanes Irma and Maria recovery plan, *Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico*.

The Bipartisan Budget Act of 2018, passed on February 9, 2018 (Public Law 115-123), required the Governor of Puerto Rico, with support and contributions from the federal agencies with responsibilities defined under the National Disaster Recovery Framework (NDRF) (a standing organizational structure described later), to produce an economic and disaster recovery plan within 180 days. Congress directed that the recovery plan includes the priorities, goals, and outcomes of the recovery effort for 12- and 24-month time horizons. Congress also specified that the plan include the following sectors: housing, economic issues, health and social services, natural and cultural resources, governance and civic institutions, electric power systems and grid restoration, transportation, and water infrastructure. Moreover, the legislation calls for the plan to be based on an assessment of the damage from Hurricanes Irma and Maria and that it be developed in coordination with federal agencies, commonwealth agencies, and key partners from private and nongovernmental entities. Last, the plan must be certified by the Financial Oversight and Management Board, which was established in 2016 by the Puerto Rico Oversight, Management, and Economic Stability Act to provide a framework for restructuring Puerto Rico's debt.<sup>150</sup>

### *Contextual Environment*

The contextual environment for this case is distinct from the others in that the collaboration was created after a catastrophic event, which created a clear sense of urgency and provided a focus for management attention and resources. After the widespread destruction that resulted from the hurricanes in Puerto Rico, it was clear that no single organization had the capacity or the expertise to develop a comprehensive recovery plan. Definitive Congressional requirements determined the timeline, overarching focus, and output of the collaborative activities.

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<sup>150</sup> <https://www.congress.gov/115/bills/hr1892/BILLS-115hr1892enr.pdf>

Note, the activities described in this case study occurred in parallel to FEMA’s recovery operations,<sup>151</sup> and therefore occasionally we refer to the broader collaborative effort since both sets of activities were underway within the same organization at the same time and were not always distinct. The focus for this case study, however, is limited specifically to the collaborative efforts within two recovery sectors, natural and cultural resources and transportation, although some overall observations are provided. The next section briefly describes the overarching organizational structure for disaster recovery followed by the organizational structure for developing the recovery plan as exemplified in the two sectors.

### *Organizational roles and responsibilities*

Puerto Rico recovery planning benefited from the existence of the National Disaster Recovery Framework (NDRF), an established organizational structure that provides specific guidance on roles and responsibilities of federal agencies and many other supporting organizations during disaster recovery. The NDRF facilitates collaboration after a disaster by establishing an overarching coordinating structure that is adaptable to a specific recovery operation to meet the needs of the affected community and provides:

- “Eight principles that guide recovery,
- Roles and responsibilities of recovery coordinators and other stakeholders,
- A coordinating structure that facilitates communication and collaboration among all stakeholders, guidance for pre- and post-disaster recovery planning and;
- The overall process by which communities can capitalize on opportunities to rebuild stronger, smarter and safer.”<sup>152</sup>

Leadership of the coordinating structure is provided by the Federal Coordinating Officer (FCO), who is the primary point of contact with the government of Puerto Rico and works cooperatively to identify urgent and priority needs. In Puerto Rico the FCO was dual-hatted and was responsible for federal leadership of recovery operations in addition to coordination with federal partners and commonwealth agencies (alternatively this responsibility can be assigned to a Federal Disaster Recovery Coordinator, who operates as the FCO’s deputy).

Recovery operations and planning is performed within sectors. These sectors are led by a Recovery Support Function Field Coordinators (RSF), a FEMA Sector lead, and a government of Puerto Rico agency representative that worked together to bring together the knowledge and resources of over 30 federal agencies and other organizations to focus on the recovery. This structure is intended to facilitate problem-solving for recovery needs, coordination of resources

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<sup>151</sup> Response operations are those carried out directly following a disaster to save lives and safeguard property; recovery operations focus on restoration. While normally these two activities are sequential, due to the magnitude of the disaster both response and recovery operations were occurring simultaneously.

<sup>152</sup> FEMA, *National Disaster Recovery Framework*, updated October 22, 2018. As of November 4, 2018 at: <https://www.fema.gov/national-disaster-recovery-framework>

and recovery activities (including longer-term planning), and improved access to resources and needed expertise. The RSF field coordinator comes from the designated lead federal agency for that sector (shown in parentheses). This triumvirate works cooperatively to manage both short- and long-term recovery activities, where the RSF responsibilities are to facilitate recovery planning, the Sector Lead ensures the FEMA programs are accessed, and the government of Puerto Rico's agency representatives communicate recovery needs and priorities for the commonwealth. The sectors, their lead federal agency, and government of Puerto Rico agency representative are as follows:

- Housing
  - Lead agency - U.S. Department of Housing and Urban Development with support from Department of Agriculture; Department of Justice; Department of Housing and Urban Development; and Federal Emergency Management Agency
- Infrastructure Systems, which include Energy/Power, Transportation, Communications/Information Technology, Water, and Public Buildings.
  - Lead agency - U.S. Army Corps of Engineers
  - Supporting agencies are the Department of Energy; Department of Homeland Security; Department of Transportation; and Federal Emergency Management Agency.
    - Within Transportation, collaborating agencies included USDOT (Federal Transit Administration, Federal Highway Administration, Federal Aviation Administration, and Maritime Administration), the Puerto Rico Department of Transportation and Public Works (DTOP), the Puerto Rico Highway and Transit Authority (PRHTA, which is a component of DTOP), the Puerto Rico Ports Authority (PRPA), and the Department of Homeland Security.
- Community Planning and Capacity Building
  - Lead agency - U.S. Department of Homeland Security/FEMA with Department of Housing and Urban Development
- Economic Recovery
  - Lead agency - U.S. Department of Commerce with support from Small Business Administration; Department of Agriculture; Department of Homeland Security; Department of Labor; and Department of the Treasury
- Health and Social Services and Education
  - Lead agency - U.S. Department of Health and Human Services with support from Corporation for National and Community Service; Department of Agriculture; Department of Commerce; Department of Homeland Security/National Protection and Programs Directorate; Department of Homeland Security/Office for Civil Rights and Civil Liberties; Department of Housing and Urban Development; Department of the Interior; Department of Justice; Department of Labor; Environmental Protection Agency; and Federal Emergency Management Agency
- Natural and Cultural Resources
  - Lead agency - U.S. Department of the Interior with EPA
  - Collaborating with Puerto Rico's Department of Natural and Environmental Resources, the Institute for Puerto Rican Culture, and the State Historic Properties Office.

Also, a municipalities sector that worked with the 78 Puerto Rican municipalities cross-cut these recovery sectors. FEMA coordinated disaster recovery operations in collaboration with

federal, territorial and municipal governments, private sector entities, and voluntary, faith-based, and community organizations across Puerto Rico.

The representatives from Puerto Rico's government, including agency leaders provided the overarching vision and priorities for the recovery plan, and made the final decisions on recovery activities to pursue (and is responsible for applying for and managing FEMA recovery grants as part of the recovery operations activities). The Central Office for Recovery, Reconstruction and Resiliency (COR3), created on October 23, 2017, through executive order, has primary responsibility for providing the government's input and consulting appropriate agency department heads as necessary. The COR3 Director had decision-making authority and acted as the Governor's Authorized Representative.

The Recovery Support Function Leadership Group (RSFLG) is a policy and decisionmaking body comprised of undersecretaries of federal agencies that have primary responsibilities in the NDRF. During recovery operations and plan development in Puerto Rico this leadership group met weekly (meetings have since subsided somewhat) to oversee high-level interagency operational coordination and policy changes; monitor priority issues; and coordinate supplemental budget spending. Very few, if any, coordination issues or conflicts around recovery planning in Puerto Rico needed to rise to this level.

The Homeland Security and Operational Analysis Center (HSOAC), a federally funded research and development center operated by the RAND Corporation for the Department of Homeland Security, provided analytic support to the collaboration to develop and write Puerto Rico's recovery plan. HSOAC worked collaboratively with FEMA, federal partners, and the Government of Puerto Rico.

Each recovery sector has the same basic organizational structure and was co-led by an RSF coordinator and FEMA sector lead that worked with Puerto Rico's agencies. Sector activities were performed by personnel deployed from FEMA and other federal agencies. However, each sector used their own approach for gathering the information necessary to support Puerto Rico's recovery planning. For example, the Natural and Cultural Resources (NCR) RSF organized working groups of subject matter experts and scientists from academia, federal and commonwealth government, NGOs, and consultants to obtain expertise and stakeholder input required for recovery planning. These groups had support available to analyze and synthesize the information generated by them for the plan. In NCR these working groups also functioned as FEMA solutions-based teams. A combination of FEMA funds, mission assignments,<sup>153</sup> and leveraged federal agency resources (when program activities had relevance to recovery) were used to perform damage assessments.<sup>154</sup> The Transportation sector used an iterative process to gather background data and stakeholder input and develop the courses of action for the plan.

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<sup>153</sup> Mission assignments are requests from FEMA to other federal agencies to carry out specific recovery tasks, with funds provided by FEMA.

<sup>154</sup> Personal interview with member of NCR RSF staff, March 10, 2019

Information from stakeholders including the solutions team, RSF staff, the U.S. Department of Transportation, DTOP and PRHTA, and subject-matter experts from other organizations was gathered first. The team then drafted courses of actions and shared and discussed them with the solutions team and the government of Puerto Rico's COR3, modifying them in response to this input.

Cross-sector issues were handled as needed by the RSFs and FEMA sector leads either one-on-one or through participation in the FEMA solutions-based teams that were established to address specific recovery topics. NCR for example, identified specific personnel that were dedicated to ensuring cross sector issues were coordinated. Solutions-based teams that were set up on specific topics to develop recovery courses of action also included personnel from multiple sectors as needed. The NCR RSF and staff worked closely with the water sector on issues related to water quality and stormwater management and with the economics sector on workforce development and tourism issues.<sup>155</sup> Overall, the transportation sector had fewer cross-sector issues to address, and much of FEMA's focus during this period remained on recovery actions, given the ongoing needs for road and bridge repair. However, the sector coordinated closely with the economic sector regarding developing a COA to address the Jones Act,<sup>156</sup> a law that affects both shipping as well as economic development.

In addition to the development of the plan (the focus of this case study), the collaboration was engaged in recovery operations, which were initiated after the disaster declarations that authorized the FEMA to aid individuals and public institutions in Puerto Rico. Both recovery operations and the plan were closely coordinated with the government of Puerto Rico and the Commonwealth's municipal governments.

In sum, the NDRF provided the overall organizational umbrella or structure. Broadly speaking FEMA provided the overall organizational leadership and facilitates collaboration and communication with high-level coordination meetings, communications capabilities, information systems, facilities, etc. Federal agencies identified in the NDRF provide expertise and staff. The Puerto Rico's government agencies provided the commonwealth's priorities and expertise throughout the recovery planning process and made the final decisions on priorities to pursue. And HSOAC provided the backbone support to analysis, data collection, stakeholder engagement, decision-making, and writing to ensure the recovery plan aligned with observed hurricane damages and needs, reflected the priorities of the commonwealth, and met the Congressional requirements.

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<sup>155</sup> Personal interview with member of NCR RSF staff, March 10, 2019.

<sup>156</sup> The Jones Act requires that all goods shipped by water between U.S. ports, including the port of San Juan in Puerto Rico, be carried on U.S.- made ships with U.S. crews. This limits the number of shipping lines that can serve San Juan from the Continental United States, as well as possibly raising the cost of imported and exported goods due to the limited competition. The final plan contains an economic sector COA calling for further study of the economic impacts of the Jones Act, since no identified studies use impartial methods and data to analyze the impacts.

## *Funding*

Funding for recovery, which includes investments to repair damages from the hurricanes and mitigate potential damage in the future, as well as those funds necessary to develop and implement the recovery plan (our focus in this case study), is available from multiple sources. A primary source of funding is the Disaster Relief Fund, which becomes available after a presidential disaster declaration under the Stafford Act. The presidential declaration releases these funds and specifies the types of assistance authorized. These funds can only be used for those purposes that are allowable under the Stafford Act, including technical assistance, repair and mitigation needs, and other services. These funds are being used to acquire and support the workforce necessary for recovery planning, recovery actions, and some of the damage assessment work.

Additionally, Congress may authorize supplemental funds as an event dictates. The Bipartisan Budget Control Act 2018 provided additional funds to federal agencies for specific purposes, some of which include repairs to federal property damaged by the hurricanes and some of which include funds to pre-existing program activities in Puerto Rico that could assist with damage assessments and the implementation of some recovery courses of action (depending on the agency mission and language in the Act).

Numerous philanthropic organizations are also providing some funding for recovery (many have a focus such as health and community well-being, natural resources, the arts, etc.). Unfortunately, the financial crisis that existed in Puerto Rico before the storms severely affected the Commonwealth's capacity and resources available for response and recovery in general, including its ability to cost-share on projects.

## *Communication and information sharing*

FEMA consistently emphasizes the value of face-to-face interactions that are critical for developing working relationships, particularly in an emergency. Frequent, face-to-face contact was instrumental for sharing information, some of which was developing at a rapid pace. This contact also facilitates problem-solving since organizational capabilities to meet recovery needs (for the plan and for operations) could more readily be identified. These working relationships (especially when there was no prior contact) helped to ensure priority recovery needs were addressed, and available information was shared during the development of the recovery plan. Contact was facilitated by the co-location of recovery personnel, estimated at over 1,500 in a single facility,<sup>157</sup> organized by sector and FEMA program<sup>158</sup> at the joint field office. The Puerto

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<sup>157</sup> Lusher, Brian, "Deploying to Puerto Rico," National Endowment for the Arts. Accessed October 24, 2019 at: <https://www.arts.gov/article/deploying-puerto-rico>

<sup>158</sup> FEMA programs include grant making programs of individual assistance, public assistance, and hazard mitigation as well as other recovery supporting programs such as external affairs, environmental and historic preservation, planning, etc.

Rico recovery for the first time integrated operational activities (primarily FEMA’s responsibility) with planning activities (primarily RSF’s responsibility) within the same reporting structures, which some believe contributed to greater effectiveness because information on priorities for recovery, and access to expertise was more readily available -- both informally (conversations) and formally (meetings).

For example, one interviewee in NCR commented that while formal meetings are helpful for information exchange, sometimes an individual “doesn’t know what they don’t know,” and having the sector staff sitting together provided opportunities for conversation that often led to useful insights and additional assistance.<sup>159</sup> In past disasters the operations and planning activities primarily coordinated through formal meetings, but in Puerto Rico they were in close proximity physically and organizationally, resulting in greater interaction, which led to greater awareness and knowledge sharing and an improved ability to reach-back to partner agencies for additional expertise or information.

In addition, NCR had weekly stand-up meetings<sup>160</sup> for staff in the sector. At this meeting each FEMA program activity and working group reported on the week’s activities. Newsletters were also circulated weekly. The transportation sector initially convened similar daily stand-up meetings, tapering off to several times per week as the pace of work slowed.

FEMA has a formal structure for communicating externally with stakeholders as well. The NCR sector also had personnel who are responsible for internal and external communications on activities of the sector. FEMA also has a cadre of personnel dedicated to external communications for stakeholder and public awareness.

Sectors and solutions-based teams also outreached to a variety of stakeholders throughout the process to gather input for developing the plan. Estimates are that over 400 organizations (over 220 government and 210 nongovernmental, academic, and private) and 250 individuals were consulted.<sup>161</sup>

### *How the plan was developed*

The recovery plan, *Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico*, was developed in three phases. The first phase involved an assessment of the damage from the hurricanes and of remaining needs across the commonwealth, which provided the baseline needed to define, compare, and prioritize recovery actions. HSOAC team members gathered information from FEMA, RSFs, and the Government of Puerto Rico. During this phase, the government of Puerto Rico also developed the vision and goals for the plan.

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<sup>159</sup> Personal interview with member of NCR staff, February 11, 2019.

<sup>160</sup> Meetings deliberately kept short by having all attendees stand for the duration of the meeting).

<sup>161</sup> Central Office for Recovery, Reconstruction and Resiliency, “Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico,” August 2018, p.487.

The second phase consisted of the government of Puerto Rico, the FEMA and HSOAC teams working together in an iterative process to identify and develop potential courses of action that addressed the identified damages and needs. A course of action (COA) is “a collection of potential activities, policies, investments, and other actions that could contribute to recovery.” Each course of action included in the plan includes a preliminary order-of-magnitude cost estimate to support high-level planning and inform decisionmaking. They are higher-level strategies that include supporting activities and actions and each presents the problem observed, a description of what it does, benefits that are expected, potential spillover effects on other sectors, rough, order-of-magnitude cost estimates, potential funding sources, potential implementers, pitfalls, and precursors. These courses of action were developed by teams of experts, each focused on a specific sector (such as energy, natural and cultural resources, transportation, or economic activity) that conducted background research and engaged with sector stakeholders and subject-matter experts in Puerto Rico and elsewhere. These teams drew from a variety of sources to develop the courses of action such as existing plans and proposals, recovery efforts in other post-disaster regions, scientifically sound practices, and sector-specific literature. And while it was not possible (due to both time constraints and insufficient data) to conduct formal cost-benefit and feasibility analyses for each course of action, these actions were based on best practices (including scientific and engineering principles where applicable).

The third phase of the plan development effort involved aligning the plan objectives and courses of action with the vision and goals for recovery, making decisions on which courses of action best fulfilled the vision and goals, and identifying potential funding sources. To facilitate decision-making the HSOAC team, with support from FEMA and commonwealth agencies, combined these courses of action into multiple portfolios that addressed the broadly defined objectives aligned with the overall plan vision. At the end of this phase, the Governor’s representative and the COR3 made final decisions about what to include and the plan was published in August 2018. A draft of the plan was made available for public comment before it was finalized.<sup>162</sup>

Because of the financial situation in Puerto Rico, the plan also had to be certified by the Financial Management Oversight Board. When the Financial Oversight Management Board certified the plan, they identified two overarching issues. First, that the plan was not at a level of detail sufficient for determining project-level estimates and that the total funding required was greater than what Puerto Rico could responsibly fund from its own budget. Second, that the plan did not address oversight of the federal funds and actual recovery process, suggesting that the

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<sup>162</sup> For a more detailed description of how the plan was developed see: Central Office for Recovery, Reconstruction and Resiliency, “Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico,” August 2018, p.12 and pp. 487-499.

Government of Puerto Rico use best management practices and put compliance protocols in place to minimize the risk of pursuing non-reimbursable projects.<sup>163</sup>

### *Activities and outputs*

The courses of action developed for the recovery plan were constructed bottom-up from observed damages and needs resulting from the hurricanes. However, decision-making on specific portfolios of courses of action (grouped to emphasize a specific goal such as more resilience, lower cost, etc.) was top-down. These portfolios of courses of action were aligned with the strategic and capital objectives of Puerto Rico's Government. The COR3, with input from Puerto Rico's agencies' department heads, made the final decisions on which specific portfolios of COAs that were within the desired overall level of funding to include in the plan.

For example, the Transportation Sector team developed COAs from damages and needs, with ideas from internal discussions, background materials and previous plans, and interviews and meetings including and input from a wide range of stakeholder groups. The team developed a list of 22 COAs using an iterative process over the course of several months. As part of this process, some courses of action were eliminated from consideration or adjusted in an effort to roughly align the costs and benefits.

In the NCR sector 30 COAs were developed collaboratively by the HSOAC team, experts in alternative tourism, and working groups of subject-matter experts with input from Puerto Rico's Department of Natural Resources (DNER) and Institute for Puerto Rican Culture (ICP). The imperative for the NCR team was to relate natural and cultural resource recovery activities to the strategic objectives and priorities of the COR3. Therefore, connections to the economy (including the visitor economy), public health, and the value of natural infrastructure (e.g., coastal natural resources such as coral reefs and wetlands that protect shoreline infrastructure) were important linkages to be made. COAs were initially developed without specific budget constraints, although working group members implicitly understood the need to maintain budget realism. Therefore, most NCR working groups developed COAs that addressed economic and ecological priorities, rather than seeking complete recovery to pre-storm conditions.

Given the diversity of needs and the breadth of priorities stemming from the overarching vision for the plan, the developed courses of action vary in terms of their granularity and operational level (e.g., strategic versus tactical). As indicated in the previous paragraphs, choices among possible courses of action and priorities for recovery occurred at multiple levels – within the RSF Sector working groups and solutions-based teams, through interactions between sector staff and commonwealth partners from the agencies, and ultimately by the COR3, which made

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<sup>163</sup> FOMB, Letter to Mitch McConnell, August 28, 2018. As of November 2, 2018 at: [https://media.noticel.com/o2com-noti-media-us-east-1/document\\_dev/2018/08/28/FOMB%20-%20Letter%20-%20P.R.%20Recovery%20Plan%20Certification%20-%2028%20Aug%202018\\_1535497186677\\_12977093\\_ver1.0.pdf](https://media.noticel.com/o2com-noti-media-us-east-1/document_dev/2018/08/28/FOMB%20-%20Letter%20-%20P.R.%20Recovery%20Plan%20Certification%20-%2028%20Aug%202018_1535497186677_12977093_ver1.0.pdf)

the final decisions on the portfolios of COAs that were included in the plan. While it was not possible to conduct formal cost-benefit and feasibility analyses for each course of action, the teams considered an action's characteristics—such as its responsiveness to needs or significance of the asset's recovery, level of innovation, and alignment with engineering standards, scientific principles or best practices—when developing courses of action.

In preparation for the final decisionmaking by the COR3, each sector team developed portfolios of COAs that supported the strategic and capital objectives developed by the COR3 with the HSOAC team. For example, the Transportation sector developed portfolios of COAs that emphasized different strategies, such as a focus on resilience as opposed to a focus on maintenance. The NCR sector team had fewer strategic options and focused on recovering ecological-, cultural- and economic-critical assets using scientific principles without suggesting alternative themes for recovery. Decisions on which portfolio to include for each of the strategic and capital objectives were discussed among the governor's representative and Puerto Rico's agency department heads.<sup>164</sup> The decision support tool presented costs of each COA and sector portfolio of COAs. The total cost of the plan was tracked during this iterative decision-making process. Moreover, decisions needed to be fiscally conscience if the FOMB was to certify the plan as required by legislation. FEMA and other federal agencies with monies (HUD) will be the arbiter of what is ultimately funded through their programs.

### *Institutionalizing and sustaining progress*

Collaboration for disaster recovery planning is institutionalized through the laws and operating procedures guiding disaster recovery. Each disaster will also have community, institutional, and political support for recovery implementation.

For example, the NDRF determines the overall recovery planning and coordination structure and doctrine. The Recovery Federal Interagency Operational Plan guides implementation of the NDRF. It records the mission objectives, organizational structure, roles, and responsibilities and provides the concept of operations for integrating and coordinating a federal response. Additionally, each component within the organizational structure will also have a concept of operations to provide operational guidance for implementation of the NDRF for that component, and standard operating procedures.<sup>165</sup> The collaboration was required by federal law, facilitated by FEMA and HSOAC, but included the vision and priorities of the commonwealth. At lower organizational levels there was leadership change during development of the plan, which

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<sup>164</sup> A cautionary note, public choice theory in economics essentially predicts that agency department heads will work for their self-interest despite expressing concern for others.

<sup>165</sup> For a more in-depth description of these operational plans and procedures begin with DHS, Recovery Federal Interagency Operational Plan, August 2016, which may be accessed at: [https://www.fema.gov/media-library-data/1471451918443-dbbb91fec8ffd1c59fd79f02be5afddd/Recovery\\_FIOP\\_2nd.pdf](https://www.fema.gov/media-library-data/1471451918443-dbbb91fec8ffd1c59fd79f02be5afddd/Recovery_FIOP_2nd.pdf). The NCR sector concept of operations may be found here: <https://www.doi.gov/recovery/plans/DOI-Guidance/NCR-RSF-Operations>

affected momentum, and required staff to invest the time to ensure information was transferred. Disruption was mitigated in part because these changes were staggered, and staff overlap provided some level of continuity.<sup>166</sup>

The plan contains over 275 courses of action but will need more detailed analyses in many cases to support implementation. The COR3 has assigned responsibility for implementing each of the courses of action included in the recovery plan, *Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico*, to over 30 of Puerto Rico's commonwealth agencies. The ultimate outcomes and progress of the plan's implementation will be influenced by a combination of financial, management capacity, and logistical factors.

### *Challenges and Opportunities*

The Puerto Rico recovery plan development was an extensive planning effort in response to a major disaster that affected the entire territory. Legislation determined the basic requirements for the planning effort – that it be performed within six months, develop 12- and 24-month recovery actions, and be based on initial assessments of damages and needs. There was strong motivation and substantial support for this effort.

The existence of an established organizational structure in the NDRF that delineated clear roles and responsibilities while also bringing in the required expertise to pursue recovery planning contributed to the success of the collaboration. Performing the level of stakeholder outreach and data gathering required to develop the plan within the six-month timeframe was challenging but was facilitated by FEMA and the RSF leadership, provided support for the required administrative and analysis needs, and communications practices that facilitated face-to-face interaction when possible, public outreach, and the sharing of information.

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<sup>166</sup> Personal interview with members of the NCR staff February 11, 2019 and March 10, 2019.

## Appendix B. Interview Protocol

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### **Purpose and Organization: Can you describe your collaboration?**

1. What is the motivating factor for your collaboration? Was there a legal, policy, or funding requirement to collaborate? A crisis in the community? Are there decisions the collaboration is intended to inform?
2. What is the general purpose and desired outputs of the collaboration?
  - a. Ex purpose; Sustainability, resilience, other [how does the group define sustainability, resilience, etc.]
  - b. Ex outputs; Communication, coordination, plan development, seek federal or state funding, joint investment, joint operations, etc.
  - c. Do you have a **vision/mission/policy statement**?
3. What organizations are involved in the collaboration, and what are their respective roles?
  - a. Are there **formal agreements or MOUs**?
4. How are you organized?
  - a. What are the commitments and responsibilities of each member?
  - b. What levels of management within member agencies are directly involved with the collaboration (leadership to working level groups)?
5. What are your sources of funding and approximate expenditures each year?
  - a. How is funding determined or leveraged and are resources pooled or separate?

### **Objectives, Goal Setting, and Priority Setting**

1. How was the purpose and strategies/principles/long term objectives determined?
  - a. Were these developed by consensus or other methods?
2. What process does the collaboration use to establish priorities? How are decisions made on actions to take (including conflict resolution)? Who makes the ultimate decision and what is the basis for it?
3. **Do you have an implementation plan?**

## **Communications and Information Sharing**

1. How many people and organizational levels routinely interact?
2. How often do members interact? What is the nature of these interactions -- Emails, phone calls, meetings, etc.? What have been the lessons learned about the nature and amount of interaction and communication (for example, meeting fatigue, lack of time, skewed power dynamics, responsiveness, appropriate organizational levels)
3. Were there any cultural issues that had to be overcome (and if so how did this happen)?
4. How would you characterize the level of trust among members? What has contributed to this level/How do you try to develop trust? Commitment to the collaboration?

## **Accountability and Performance Measurement**

1. How does the collaboration measure success or progress? Are there measures, metrics, or indicators used for this and if so what are they?

## **Institutionalizing and sustaining progress**

1. Change management process -- what was the motivation for the collaboration? How was this communicated and who was responsible? Does this motivation still exist?
2. What was the role of political and institutional leadership in the success of the collaboration? How was this effective or ineffective? Was there ever a change in leadership, and if so how did this affect the collaboration? What other organizational levels were critical to success?
3. Were there any political changes that affected the collaboration, and if so how? Do you have advice for others on what worked and what didn't work in this regard?
4. What has been your biggest challenge? Your biggest success?

## **Wrap-up Questions**

- If you could improve one area of your collaboration what would it be? What do you think the overall strengths of your system are? Are there any areas that could be strengthened or streamlined?
- THANK YOU



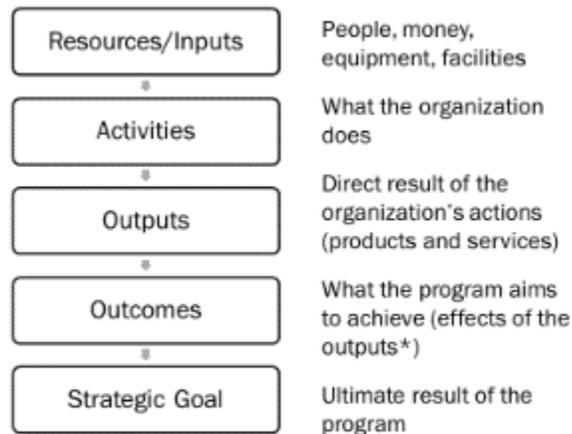
## Appendix C. Logic Models

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Logic models provide a simplified visual representation of what a collaboration may do by revealing the relationship between the inputs, activities, outputs, and intended outcomes. A logic model begins with the problem a collaboration is intended to solve and presents the theory or assumptions about how the activities of the program will affect change. Logic models have been used over the years to:

- Ensure resources, activities, and outputs have linkages to, and can effectively achieve the desired outcomes (including identifying gaps and redundancies);
- Reveal and identify key program performance measures by focusing on how activities contribute to the desired outcomes; and
- Communicate what the program does to create a shared understanding of what it is resourced to do, what it seeks to accomplish, and how the accomplishments will be realized;
- The basic structure of a logic model is presented in Figure C.1.

**Figure C.1. Logic Model Structure**



\*It is acknowledged that the organization modelled cannot completely control the outcomes.

Sources: W.K. Kellogg Foundation Logic Model Development Guide, W.K. Kellogg Foundation, 2004; Broeckling, Jerica, "Performance Measurement: Theory and Practice," Marquette University, 2010; and Greenfield, Victoria A., Valerie L. Williams, and Elisa Eiseman, Using Logic Models for Strategic Planning and Evaluation: Application to the National Center for Injury Prevention and Control, Santa Monica, Calif.: RAND Corporation, 2006. [http://www.rand.org/pubs/technical\\_reports/TR370.html](http://www.rand.org/pubs/technical_reports/TR370.html).

Resources, or inputs are the financial, material, informational, and personnel resources available to the collaboration. Activities should include all the actions required to produce the outputs. Outputs may be products or services provided to the community. Outcomes are the

ultimate results or effects of the outputs desired by the collaboration. Logic models frequently identify the desired short-, medium-, and long-term outcomes.

The community can be incorporated into the model either implicitly or explicitly. Including the community explicitly is preferred when it is important to communicate what groups, or populations are being served and how the activities and outputs will generate the desired effects on them. More detailed models will typically emphasize either the theory of how the resources and activities will produce the desired outputs and outcomes; the outcomes that are desired from the resources and activities; or the activities and their connections to outputs and outcomes.

Not illustrated in this figure are the key contextual factors that could affect the ability of the collaboration to successfully affect the outcomes. These are external factors described in in Chapter 1 that the collaboration does not control, but which clearly must be considered to properly understand how the program may affect the outcomes and to develop realistic expectations of what can be accomplished. An illustrative example of a logic model that could be developed for a collaboration is shown in Figure C.2.

**Figure C.2. Illustrative Logic Model to Crosswalk Resources, Activities, and Outputs**

Resources	Activities	Outputs	Near-term Outcome	Long-term Outcome
Staff S <sub>a</sub> S <sub>b</sub> S <sub>c</sub>	Identify policy priorities	Consensus Policy statements	Local-legislative change	State-level legislative change
Consultant support	Determine infrastructure investments	New transportation infrastructure	Improved mobility	Improved mobility, economic and public health
Extramural funds	Make research investments	Innovative technical solutions		
Facilities				Expansion of mobility, economic, and public health improvements
Data	Develop assessment tools	Analysis tools and guidance documents	Increased implementation of collaboration's objectives	
	Public outreach	Communication documents	Community awareness of collaboration's objectives	Community awareness and support for collaboration's objectives

Note: S<sub>a</sub> represents staff with expertise a.

Logic models should be developed with the input from all members. By using a participatory process to develop the logic model members can build consensus around what the collaboration seeks to pursue and can enhance members' understanding and appreciation for what the

collaboration seeks to accomplish. In particular, once the logic model is developed members will have a greater understanding of the relationships between stakeholder roles, the activities, and the desired outcomes and can use this information to identify resource gaps and to guide discussions of how to prioritize activities. Finally, this structure can also inform the development of performance measures and narratives about the collaboration.

## Appendix D. Areas for Further Research on Organizational and Governance Challenges for Pursuing Broad Social Goals such as Sustainability or Resiliency

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Several areas for future research were identified during our research and analysis of the case studies. These are:

1. Identifying and understanding the legal and institutional barriers to greater levels of collaboration and collective action. Public agencies have distinct missions and authorities to pursue them. Effective solutions to complex social issues by definition will require a portfolio of coordinated action by more than one agency. However, there are limits to the authorities of individual agencies and their abilities to pool resources and jointly manage them. Moreover, there has been very little work to assess existing collaborative and collective action arrangements against theoretical social science models.<sup>167</sup> This research would look at the barriers to closer multi-agency collaboration and explore how current legal and institutional requirements constrain or support progress. The research would seek to answer what limitations exist on resourcing, managing, and implementing joint investments by public agencies. It would also seek to explore if new governance concepts needed to mitigate or eliminate some of these barriers. This research would improve understanding of what plans and projects multi-agency collaborations can realistically expect to pursue and if there are innovative ways of transcending political and jurisdictional boundaries when issues are cross-jurisdictional.
2. Data and information sharing requirements for greater systems change. Another research area is to determine the data and information systems requirements for greater systems change through collaboration. This research would look at both the challenges in sharing data and existing information gaps that limit decision-making and monitoring of outcomes in collaborations that seek system-wide change. It would look at how advancements in data analytics and computing might be leveraged to address these challenges and gaps to answer the following questions:
  - a. What are the challenges and potential solutions for providing the needed data for decision-making and performance monitoring when systems-change is being pursued? Specifically, what information are collaborations lacking and how can this information be gathered, documented, and shared more easily?

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<sup>167</sup> Page, Stephen B. "Theories of governance: Comparative perspectives on Seattle's light rail project." *Policy Studies Journal* 41.4 (2013): 583-607.

- b. At the operational level how should data control, security, and interoperability be managed?
  - c. What are common research needs of collaborations and smart city concepts in the areas of data analytics, privacy protections, cybersecurity, multi-objective decision-making, and new governance concepts? How can they be leveraged for multi-agency collaborations?
3. Exploiting new technologies for engaging and communicating with stakeholders. Public stakeholder outreach and communication is important for ensuring all perspectives contribute to robust and effective solutions to complex problems. Outreach is also crucial for sustaining support for the actions of a collaboration, including those that are necessary to achieve the desired outcomes. Stakeholder outreach and communications was identified in a couple of case studies as an area for improvement. In addition, it has long been recognized that stakeholder groups have varying capacities for participating in these processes. This research would explore the viability and utility of internet-based platforms and methods to better engage communities in the collaborative process. For example, how can web-based platforms, social media, etc. be leveraged for public outreach and engagement in collaborative processes? What are the advantages and disadvantages of these approaches for developing a shared understanding of complex problems, obtaining stakeholder input and feedback, determining overall priorities, and developing innovative solutions? How can they best be used to improve the collaborative process? This research could build off the work of the Institute for Local Government’s report “Broadening Public Participation Using Online Engagement Tools” found at: [http://www.ca-ilg.org/sites/main/files/file-attachments/broadening\\_participation\\_8.26.pdf](http://www.ca-ilg.org/sites/main/files/file-attachments/broadening_participation_8.26.pdf) among other papers.
4. Exploration of an open-source curated forum. There is a plethora of research and information on collaboration available to agencies and others. However, accessing this information and applying the lessons to a developing collaboration can take substantial time and resources. Moreover, as we have seen with the Partnership for Sustainable Communities the maintenance of web-based information by a singular collaboration can wane as priorities or resources change. Other fields have developed open-source standards of practice to reduce these barriers. This research would develop a roadmap for the development of an open-source, curated forum that would be available to agencies seeking to collaborate. This form could include a best management practices standard, much like ISO 44001: Collaborative Business Relationships Standard<sup>168</sup> or the open sourced standards for the conservation

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<sup>168</sup> See

[https://www.instituteforcollaborativeworking.com/Resources/Documents/leaflets/iso\\_44001\\_collaborative\\_business\\_relationships\\_standard.pdf](https://www.instituteforcollaborativeworking.com/Resources/Documents/leaflets/iso_44001_collaborative_business_relationships_standard.pdf)

community<sup>169</sup> but tailored to the needs and issues faced by transportation agencies and their collaborators.

These forums could also include tool kits for each aspect of a collaboration (e.g., visioning methods, consensus methods, project planning and decision support tools, performance measures, budgeting, etc.). The forum could post lessons learned using a standardized assessment protocol to ensure analytic consistency and case studies. The most sophisticated version could also include personalized facilitation for collaborations that are either just forming or those experiencing challenges. Another area ripe for additional research investment could be to begin to develop an open forum to provide guidelines and standards for collaborating in addition to practical advice to aid transportation agencies that are beginning the process. This open forum could be a platform to provide curated and peer reviewed tools and crowd-sourced solutions to common problems that collaboration face, including data, decision tools, and potential measures of effectiveness. Modelled after open source standards for conservation and Landscape Conservation Cooperatives (LCCs), which are collaborations of federal, state, tribal, and local governments; universities; and public and private organizations that share data and scientific expertise, identify best practices, and promote coordinated action. Other possible models include the Geotechnical Extreme Events Reconnaissance (GEER) Association and the C40 network of cities pursuing climate action planning.<sup>170</sup> In sum, this research would develop a roadmap for creating a forum tailored to transportation agencies and their collaborators.

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<sup>169</sup> See <http://cmp-openstandards.org/about-os/>

<sup>170</sup> See <http://geerassociation.org/> for the collaborative effort to document geotechnical events and <https://www.c40.org/> for the collaborative effort to plan for climate change.

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