Collaboration, Innovation, and Performance: Analyzing Collaborative Governance, Platforms, and Innovation in the Tennessee RiverLine

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Abstract

Collaborative governance is richly debated in public administration, with some consensus on its parameters and frameworks available to explore defining features. This study examined a less-developed area of collaborative governance: innovation and its effects on performance. Although innovation is a defining element of most examples of collaborative governance, little connection has been made between collaboration, innovation, and performance levels. This study reported the findings of a mixed methods approach to develop measures of collaboration, innovation, and performance and evaluate their effects within a collaborative system. The qualitative analysis provided a framework for understanding the system's intrinsic features, including performance metrics and perceived drivers of collaboration. The research proposed to quantitatively evaluate these features to determine the effects of collaboration and innovation on performance, testing a theory of performance driven by collaboration and mediated by the level of innovation produced by collaborative governance. The findings offered a detailed case study of collaborative governance, governance platforms, and public innovation that is valuable to a more generalizable knowledge of these important aspects of public life. The quantitative results were severely limited by low response rates but represented sound methodology that will be replicable in other research. The research contributed to understanding the relationship between collaboration, innovation, and performance within a collaborative system.

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Remember Family.

DEDICATION

This work is dedicated to my parents, C.W. and Elizabeth Willingham, and my wife, Carrie. I am strong because of your love.

Chapter I:

Introduction

Over the past 30 years, governance networks have become legitimate tools for distributing resources, facilitating action, and addressing public problems (Osborne, 2006, 2010; Torfing, 2005; Torfing, Andersen, et al., 2020). Despite mounting evidence from case studies, there are few comparative case studies and fewer quantitative research products providing practical guidance on techniques and performance in collaborative governance (Torfing, Krogh, et al., 2020). Collaborative systems are sometimes difficult to locate, define, and measure (Berkowitz, 2001; Emerson & Nabatchi, 2015a; Torfing, Andersen, et al., 2020), yet they appear to be gaining ground as sources of innovation in government (Borins, 2014). A recent Danish study by Torfing, Krogh, et al. (2020) developed and tested measures of innovation and collaboration and their relationship to the performance of municipal crime-prevention strategies. A similar research design shows promise for measuring innovation and collaboration levels and evaluating collaborative performance in other settings, including the central case analyzed in this research. This study uses mixed methods to develop similar scales of innovation and collaboration for an initiative in the southeastern United States. Qualitative research identifies the factors that drive success in a collaborative system, and appropriate performance measures are developed into an instrument to quantitatively test the relationship between innovation, collaboration, and performance.

The Tennessee RiverLine is a collaborative system crossing three states in the southeastern United States. The Tennessee RiverLine envisions a 652-mile trail system linking communities from Knoxville, Tennessee, to Paducah, Kentucky, along the entire

length of the Tennessee River. The multi-modal trail system will include opportunities for hiking, biking, and activities on the water and foster regional collaboration, environmental stewardship, economic development, and benefits to public health. The Tennessee RiverLine's signature initiative is the RiverTowns program. The RiverTowns program provides tools, resources, and technical support to communities interested in starting and expanding the local components of the trail system. Twenty-two communities participate in the RiverTowns program, comprising 56 cities and counties. Each community participates in a multi-year, three-stage process leading to designation as a "Tennessee RiverTown" after completing benchmarks established by the program.

This research focused on participants in Stage 1 of the program to understand the drivers of collaboration perceived by organizational leaders and the relationship between these drivers, innovation, collaboration, and performance. The qualitative portion of the study examined the drivers and performance measures, and the quantitative part proposed to test the relationships between innovation, collaboration, and performance.

Problem Statement

There is a lack of empirical evidence, particularly comparative case analysis and quantitative research, to describe the performance of collaborative systems (Torfing, Krogh, et al., 2020). The literature on networks and collaborative systems reflects a complex landscape of competing claims to explain performance (Cepiku, 2014; Cepiku et al., 2017). Fundamentally, research has not uncovered the secrets of achieving results by working together, even as use has increased and practices have become more institutionalized (Considine, 2013). Knowledge gaps exist because of complicated dynamics, unclear influences from exogenous variables, hard-to-assess internal

dynamics, and inadequate understanding of outcomes at distinct levels, e.g., organizational and system levels. “Perhaps *the* big question is whether networks do make some difference that single organizations cannot” (Agranoff, 2014, p. 201).

In cases like the Tennessee RiverLine, governance platforms collect specialized expertise into organizations formed to promote and steer networks of actors working together by supplying expertise and leadership to several different collaborative systems (Ansell & Gash, 2018; Ansell & Miura, 2020; Considine, 2013; Haveri & Anttiroiko, 2021; Sørensen & Torfing, 2019). Platforms are used to connect, scale up, intermediate, and mobilize collaborative governance systems (Ansell & Miura, 2020). Platforms use modular elements to connect people and catalyze innovation across hierarchies, markets, and networks (Ansell & Gash, 2018; Haveri & Anttiroiko, 2021). Their generative capacity is based on their ability to connect diverse populations and co-create innovative solutions to complex problems (Ansell & Miura, 2020; Sørensen & Torfing, 2019).

Governance platforms and collaborative systems must be better understood to guide practitioners (Torfing, Krogh, et al., 2020) because they are increasingly part of institutional design (Considine, 2013). This leaves significant opportunities to explore these systems in natural settings (Bulkeley et al., 2019; Karvonen & Heur, 2014; Vallance et al., 2020). This study replicates prior research by using mixed methods to evaluate connections between locally perceived drivers of collaboration, innovation, and performance. The Tennessee RiverLine is a representative case of collaborative governance using a governance platform and generating innovative solutions to complex problems. As such, this research will extend the empirical foundations of research in collaborative governance, governance platforms, and public innovation.

Definitions

This study describes the systems in which collaboration occurs and uses several key definitions from extant literature for a conceptual framework.

- Collaborative governance refers to public policy aimed at solutions that cannot be accomplished in isolation and conducted through networks made up of governmental entities (Agranoff & McGuire, 2003) or combinations of governmental and non-governmental organizations (Ansell & Gash, 2008) with "shared discretion" (Florini, 2019, p. 437) over public goods (Emerson et al., 2012; Emerson & Nabatchi, 2015a; Florini, 2019).
- A governance platform is an organization or institution "that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives" (Ansell & Miura, 2020, p. 264).

Theoretical Foundations

Collaborative governance exists to solve problems that no single entity can solve working in isolation (Alford & Head, 2017; Gray, 1989; Imperial, 2005; Kickert et al., 1997; O'Toole, 1997; Thomson et al., 2009; Thomson & Perry, 2006; Torfing, 2005). Collaborative governance uses network management techniques (Keast et al., 2014) and may operate in conjunction with a collaborative platform, which joins several initiatives into a broader network (Ansell & Gash, 2018; Ansell & Miura, 2020; Bell & Scott, 2020; Haveri & Anttiroiko, 2021; Selsky & Parker, 2010; Vallance et al., 2020). The aim of these efforts is public innovation, the process by which new actions are created by combining ideas and resources into new patterns of behavior (Ansell & Torfing, 2014;

Bommert, 2010; Cooke, 2007; Torfing, Krogh, et al., 2020; Vallance et al., 2020; Yuan & Gasco-Hernandez, 2021). Scholars have proposed an integrative framework for collaborative governance that identifies these systems' core elements and testable relationships (Emerson et al., 2012; Emerson & Nabatchi, 2015a). Others have theorized connections between collaboration, innovation, and performance, tying successful governance in part to the ability to work together and generate new ideas and actions (Bommert, 2010; Eggers & Singh, 2009; Hartley, 2005; Hartley et al., 2013; Sørensen & Torfing, 2011, 2019).

This study further integrated frameworks of collaborative governance, platforms, and public innovation to explore performance in a platform-managed collaborative system. The study focused on a systematic, qualitative understanding of how participants in such systems define performance to quantitatively test these relationships using a contextually valid survey of collaboration, innovation, and performance derived from an instrumental case study. The study extended existing frameworks and conceptual foundations for collaborative governance, platforms, and collaborative innovation to consider the question, "What is the relationship between collaboration, innovation, and performance in a platform-managed collaborative system?"

Study Description

This exploratory sequential mixed methods study evaluated the relationship between collaboration, innovation, and performance in an instrumental case of collaborative governance guided by a collaborative platform. The case, described in detail in Chapter III: Methodology and expounded in detail in Chapter IV: Results, was chosen as an example of a phenomenon that is increasingly common, that is, a network

that is guided by a collaborative platform. The study proposed qualitative and quantitative phases. The qualitative analysis used written materials and interviews to define the case context and validate an approach to measuring performance using data from the case study. The quantitative analysis proposed a survey instrument to measure relationships between collaboration, innovation, and performance in terms that are relevant to the case. This method of inquiry contributed to understanding relationships in this case by qualitatively examining participation in the collaborative system using an integrated conceptual framework for collaborative governance and proposing quantitative tests of a theory about the nature of collaboration, innovation, and performance. The framework specified elements that aided the understanding of collaborative systems, and the theory permitted hypotheses to be derived.

The qualitative phase provided rich, contextual insights into the drivers of collaboration, innovation, and performance. These findings contributed significantly to understanding collaborative governance, governance platforms, and public innovation, offering a detailed case study. However, while the quantitative results aimed to statistically test the relationships identified in the qualitative phase and by theory, a low response rate severely limited the ability to draw meaningful inferences from the quantitative data. Consequently, the quantitative findings must be viewed as preliminary and serve primarily to illustrate the methodology rather than as a test of hypotheses.

This method can be replicated in other instances of collaborative governance using this framework to specify elements important to governance questions and evaluate the validity of theoretical assertions about the nature of relationships between these elements. The research holds promise for understanding relationships in a typical

collaborative system, which is necessary to fill knowledge gaps that allow practitioners to develop working theories of collaboration and innovation based on empirical evidence. This can then be tested in practice to improve performance in governance systems. The study explores a central research question using mixed methods. The central research question is: How has collaboration affected innovation and performance among the Tennessee RiverLine RiverTowns[1] program participants?

This study proposed mixed methods to identify the drivers, incentives, and performance measures. It was similar to a Danish study of collaboration's effects on criminal activity (Torfing, Krogh, et al., 2020). The authors confirmed that the Danish case is unusual among Western nations, given the high levels of civic participation. However, they surmised that the cultural effects were observed in the magnitude rather than the significance of relationships. Several innovation surveys have taken place in Europe and Australia that included large numbers of participants and cognitive testing (Arundel et al., 2019). However, only a few public innovation surveys have been conducted in the United States. One reason to replicate the Danish study closely in other cases is to validate results and extend them to other circumstances with potentially different underlying conditions before extending a research agenda to large surveys. Following Torfing, Anderson, et al. (2020), this research treated collaboration as a process, innovation as an output of collaborative processes, and the success of participants and the system as outcomes- each of which can be researched, operationalized, and measured to understand relationships between them in the Tennessee RiverLine.

[1] "RiverLine" and "RiverTown" are the preferred style used by the Tennessee RiverLine Partnership and are therefore used throughout this study.

Research Questions and Hypotheses

The central research question is: How has collaboration affected innovation and performance among the Tennessee RiverLine RiverTowns program participants? This study proposed mixed methods through two phases of research. It included different but interrelated research questions and hypotheses in each phase, beginning with the qualitative stage and extending the knowledge from that phase into the quantitative phase.

Qualitative Research Questions. Four sub-questions were used to answer the central question during the qualitative phase. These detailed case descriptions provided and identified the best units to measure key explanatory and dependent variables. The qualitative sub-questions were as follows:

1. How do the Tennessee RiverLine RiverTowns program leaders describe their decision to join the program?
2. How has the decision to participate affected collaboration?
3. How has participation affected innovation?
4. How has participation affected goal setting and the way performance is measured?

Quantitative Research Hypotheses. Given the conceptual frameworks for collaborative governance regimes, governance platforms, and collaborative public innovation, what could quantitative research reveal about the performance of actors, organizations, and systems that combine all three? The literature indicates a relationship between collaboration, innovation, and performance that the study proposed to evaluate with the following hypotheses:

H1: A positive relationship exists between collaboration and innovation. The more often an organization works collaboratively, the greater the opportunity for novel ideas and practices to emerge, which will increase innovation.

H2: There is a positive relationship between innovation and performance. Where there is more innovation, organizations adopt new practices more frequently, increasing their potential for successful performance.

Significance

Practical guidance on collaborative processes and their impact on innovation and performance is lacking partly due to a need for more empirical studies of the theorized relationships within these systems. Collaboration and innovation are perceived to be normatively productive endeavors, but their effectiveness may be questionable. Additionally, their design and execution are complicated by uncertain knowledge about the internal dynamics of these systems. In part, the lack of empirical research stems from the difficulty of measuring processes and performance in these systems, which tend to be very specialized. This research proposed replicating a prior study of the effects of collaboration and innovation on performance using a similar research approach and methodology. Replication studies are rare in public administration literature and collaborative governance studies. However, they are essential to move beyond general frameworks into practical theories (Ostrom, 2005) with implications for public policy and the distribution of power and resources in society.

Assumptions and Limitations

One significant limitation of this study was the cross-sectional nature of the research design, which limited causal inferences. In a cross-sectional design,

directionality can only be inferred from theoretical reasoning and rational conjectures. While the theory may suggest plausible relationships, repeated samples or experimental controls are needed to establish causation. This underscores the need for future research with larger samples and statistical controls to establish causation, highlighting the urgency and importance of the topic.

A second limitation of the study's research design was the lack of control variables in the quantitative analysis. Control variables introduce alternative explanatory variables into statistical models and help to isolate the effects of the variables of interest. With a population drawn from leadership in just twenty communities and a small sample size, the analysis was designed around bivariate statistics, which lack statistical controls to account for other causes of observed effects.

The most severe limitation involved response rates in the quantitative phase of the survey, which severely impacted the ability to generalize the findings or draw statistical inferences from the results. Some associations were identified, but the findings were not robust enough to warrant inclusion in the main body of this research. These findings should be viewed cautiously as describing the sample only and serve as an illustration of the study's proposed methodology rather than having explanatory value. Therefore, the study's results derive exclusively from the qualitative research phase, and the quantitative results are presented separately in Appendix A as illustrative of the methodology that may be repeated in future research.

Although the qualitative results were context-specific, they offer detailed insights into collaborative governance within the studied communities. These insights may not be universally generalizable but have practical value that can inform similar contexts.

Collaborative governance varies significantly across different contexts and social settings, such that this qualitative understanding remains a significant contribution, even where it is limited to comparable settings.

Chapter II:

Literature Review

The persistence of complex problems with uncertain explanations and elusive solutions has generated a need for collaboration to solve difficulties that no single entity can solve alone (Alford & Head, 2017; Gray, 1989; Imperial, 2005; Kickert et al., 1997; O'Toole, 1997; Thomson et al., 2009; Thomson & Perry, 2006; Torfing, 2005). *Collaborative governance* refers to public policy aimed at such solutions and conducted through networks made up of governmental entities (Agranoff & McGuire, 2003) or combinations of governmental and non-governmental organizations (Ansell & Gash, 2008) with "shared discretion" (Florini, 2019, p. 437) over public goods (Emerson et al., 2012; Emerson & Nabatchi, 2015a; Florini, 2019). Governance in this context refers to self-organizing networks of autonomous but interdependent organizations that develop shared goals, cooperate, and exchange resources in pursuit of public ends (Rhodes, 1997). Collaborative systems take advantage of shared goals, incentives, and trust to create processes for shared decision-making that facilitate resource exchanges and resource sharing while respecting the autonomy of individual organizations. These features are critical where no entity has hierarchical authority over another (Agranoff, 2007; Gray, 1989; Huxham, 1993; O'Toole, 1997; Thomson & Perry, 2006). This results in networks sharing information and resources more frequently, which drives innovation within networks (Ansell & Torfing, 2014; Bommert, 2010; Cooke, 2007; Hartley & Benington, 2006; Torfing, Krogh, et al., 2020; Vallance et al., 2020; Yuan & Gasco-Hernandez,

2021). The capacity of collaborative processes to strategically leverage assets and create new solutions, i.e., civic innovation, is the purpose and measure of most collaborative systems (Keast & Mandall, 2014).

A governance platform is an organization or institution "that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives" (Ansell & Miura, 2020, p. 264). Governance platforms use standard rules, norms, and collaborative dynamics across numerous collaborative subsystems (Ansell & Gash, 2018; Bell & Scott, 2020; Vallance et al., 2020), which allows actors to overcome resistance to cooperation and resource-sharing (Ostrom et al., 1994) and use a standardized institutional design that lowers the opportunity cost of working together because entities do not need to create new institutional processes and structures (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). Modular elements and standard institutional design allow for easier collaboration and more efficient innovation.

Collaborative innovation occurs when participants align behind goals and offer resources that are not available without working together- including knowledge, skills, and financial capacity, which are combined into new forms of social action. Participants align behind shared systems-level goals, even as individual and organizational goals may differ (Vangen & Huxham, 2012), and hypothesize how resources and knowledge can be combined into an effective strategy, which generates innovation through recombination, adaptation, or invention (Ansell & Torfing, 2014; Bommert, 2010; Hartley, 2005). Public innovation may be incremental or radical, depending on the needs to be addressed and the

resources and leadership available (Bason, 2010). Increasingly, public innovations are initiated in collaborative contexts (Borins, 2014).

However, scholars have not thoroughly explored or tested the relationship between collaboration and innovation. The literature on collaborative governance and collaborative innovation contains many examples, but the role and function of innovation need better definitions for practical purposes (Torfing, Krogh, et al., 2020). Practitioners need more precise models for working with organizations to promote collaboration and innovation, the lack of which creates challenges for improving outcomes. Likewise, the advent of governance platforms to encourage and guide collaboration and innovation across several cases offers insight into their role in collaborative systems. The literature offers glimpses of the nature of these relationships, which provides a foundation for further research.

Collaborative Governance

Theoretical foundations for collaborative governance are deep and interdisciplinary, drawing on open systems theories from sociology, business, and public administration to create frameworks for different public policy contexts, including environmental management, public-private partnerships, service delivery networks, community engagement, and development organizations. The primary sources of theoretical knowledge come from the organizational, policy, and political sciences (Kickert et al., 1997; Klijn & Koppenjan, 2012) and encompass organizational ecology (Aldrich, 1999; Emery & Trist, 1965), inter-organizational theory and resource dependency (Van De Ven et al., 1975; Wry et al., 2013), principal-agent and contingency theories (Provan & Kenis, 2007), rational and boundedly rational actor theories (Ostrom

et al., 1994), transaction cost and collective action theories (Feiock, 2013), conflict management (O'Leary & Bingham, 2009), intergovernmental cooperation (Agranoff & McGuire, 2003), and network theory (Keast et al., 2014). Various research traditions have examined different actors, policy processes, decisions, power structures, values, and environmental contexts affecting organizations and networks. These establish different expectations for the system's drivers, dynamic processes, and outcomes (Emerson et al., 2012; Emerson & Nabatchi, 2015a).

Networks emerge for various reasons, which help explain the motivations of the actors within them. Demand for collaboration begins with establishing an inter-organizational domain, which is a sphere of influence with shared values, interdependence, and a need for pooled resources to achieve progress (Emery & Trist, 1965; Gray, 1985, 1989; Trist, 1977b, 1983). Domains emerge when the field occupied by organizations becomes so complex that individual organizations cannot effectively navigate competition (Emery & Trist, 1965). Domains will often coalesce around an existing or newly formed organization, which becomes central to the management and progress of the organizations through these turbulent fields (Trist, 1983). Gray (1985, 1989) synthesized literature on inter-organizational domain development into a process model with three phases: "problem-setting," "direction-setting," and "structuring."

The new public governance paradigm attributes an increase in networks to fragmented governance systems and complex problems that require information and resource sharing and innovative solutions (Osborne, 2006, 2010; Salamon, 2001; Torfing, Andersen, et al., 2020). A second explanation comes from resource dependence theory, which relates networks to resource scarcity that creates interdependence between

organizations and leads them to act in ways that enhance autonomy and increase survival (Aldrich, 1999; Hillman et al., 2009; Johnson, 1995). Managers take actions that shift power relations, which are defined by one party's dependence on another, in a way that allows them to maintain control and autonomy. Through this lens, strategic network management is driven by starting conditions and choices about controlling resources and surviving. These efforts should be empirically perceptible and understandable, even if they are difficult to quantify.

The shared goals in a collaborative system define its action frameworks and performance measures. Bryson et al. (2016) argue that performance in collaborative systems is best measured by referencing the goals, strategies, and actions that system participants develop for themselves:

> The work of the collaborators must join in such a way that collaborative advantage can be discerned and realized through collective creation and assignment of meaning, along with the articulation of action responsibilities tied to a subset of the goals system—specifically, the subset that defines collaborative advantage in the situation at hand. (p. 913)

Goals define the advantages sought through collaboration, actors' incentives to participate, and their desired performance measures. These are the prospective assessments of "collaborative advantage" or the margin of power over problems gained by working together (Huxham, 1993, 1996; Vangen & Huxham, 2012). Performance is the retrospective assessment of accomplishments. Evaluating collaboration and innovation and their impact on performance requires defining performance in terms of participants' understanding of drivers, incentives, and goals at various levels.

Goals come in different varieties and from different sources, so "shared vision" can require a nuanced understanding of participants' explicit and hidden goals for procedural and substantive outcomes (Vangen & Huxham, 2005, 2012). Organizations must balance levels of goal congruence, or the degree to which stated goals of individuals and organizations align with one another, or else they become too fragmented or too competitive for unified action (Vangen & Huxham, 2012). For goals in a collaborative system, high levels of congruence may indicate high levels of competition, and low levels of congruence may indicate fragmentation. A "right" level is somewhere between the two. The benefit of a governance platform can be, in part, standardizing institutional design features and goals (Bell & Scott, 2020).

Conceptual Framework: Collaborative Governance Regimes

The conceptual framework for this research is based on the integrative framework for collaborative governance (Emerson et al., 2012; Emerson & Nabatchi, 2015a), which defines collaborative governance as:

> The processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished. (p. 2)

Such frameworks identify key elements of a system that can be evaluated against several theoretical assertions (Ostrom, 2005). Rather than predicting relationships among elements, which is the purpose of theory, the framework identifies the elements that are perceived to interact in a system so their interactions can be observed under a consistent frame of reference, allowing more general theories to emerge from observation and

eventually leading to models of predicted behavior (Ostrom, 2005, pp. 28-29). The integrative framework describes collaborative systems in terms of four interactive components (I-IV) that interact and adapt over time:

- A collaborative (I) *system context* made up of the background, field, environment, or ecology from which collaboration emerges and operates, which is also the target of change that produces (II) *drivers* of collaboration that include leadership, incentives, uncertainty, and interdependence.
- A (III) *collaborative governance regime (or CGR)* that includes i) the processes of principled engagement undertaken that create trust, shared goals, and legitimacy; ii) the capacity possessed by those joined in collaboration; and iii) the actions they undertake.
- And (IV) *collaborative outcomes* that represent the impact of actions and adaptations in the system and the CGR because of action.

Table 1 provides greater detail for each of these elements.

Table 1

Diagnostic or Logic Model of An Integrative Framework for Collaborative Governance

Dimension & Components	**System Context**	**Drivers**	**The Collaborative Governance Regime**				**Collaborative Outcomes**	
			Collaborative Dynamics			Outputs & Collaborative Actions	Impacts	Adaptations
			Principled Engagement	*Shared Motivation*	*Capacity for Joint Action*			
Elements within component	-Resource conditions -Policy legal frameworks -Prior failure to address issues -Political dynamics/power relations -Network connectedness -Levels of trust/conflict -Socioeconomic, cultural health and diversity	-Leadership -Consequential Incentives -Inter-dependence -Uncertainty	-Discovery -Definition -Deliberation -Determination	-Mutual trust -Mutual understanding -Internal legitimacy -Shared commitment	-Procedural & institutional arrangements -Leadership -Knowledge -Resources	Contextual but might include: -Securing endorsements -Enacting policy, law, or rule -Marshaling resources -Deploying staff -Siting, permitting -Building, cleaning up -Enacting new management practice -Monitoring implementation -Enforcing compliance	Contextual, but the aim is to alter pre-existing or projected conditions in the system context.	-Change in system context -Change in the CGR -Change in collaboration dynamics

Note. Adapted from "An Integrative Framework for Collaborative Governance," by Emerson, K., Nabatchi, T., and Balogh, S., 2012, *Journal of Public Administration Research and Theory*, 22(1), p. 1-29. https://doi.org/10.1093/jopart/mur011

Performance occurs across three units of performance analysis and three organizational units of analysis. The units of performance analysis are expected in performance evaluation where logic models assess the actions leading to a. *outputs*, b. *outcomes*, and c. *adaptations* within the system. The CGR's participation crosses multiple organizational units and encompasses multiple organizational units when evaluating outputs, outcomes, and adaptations at i. the *participant organization* level, ii. the level of *the CGR as a collaborative organization*, and iii. the *targeted systems-level* or environmental context (Emerson & Nabatchi, 2015a, 2015c). By separating two organizational levels, i.e., autonomous participant organizations and the CGR itself, this performance system recognizes distinctions in values, effective incentives, and shared goals and objectives that may exist when autonomous collaborative units join to change the broader system context. This is critical when describing the actions of individuals and organizations that lead to collaboration, innovation, and performance within a CGR. Table 2 illustrates potential performance frameworks for three levels of participation in a collaborative system.

Table 2

CGR Performance Levels

Units of Performance Analysis	Organizational Levels		
	i. Autonomous Organizations	ii. Collaborative Governance Regime	iii. System
a. Actions/Outputs	e.g., efficiency	e.g., efficacy	e.g., equity
b. Outcomes/Impact	e.g., efficacy	e.g., legitimacy	e.g., efficacy
c. Adaptation	e.g., equilibrium	e.g., viability	e.g., sustainability

Note. Adapted from "Evaluating the Productivity of Collaborative Governance Regimes: A Performance Matrix," by Emerson, K., & Nabatchi, T., 2015, *Public Performance & Management Review*, *38*(4), 717–747. https://doi.org/10.1080/15309576.2015.1031016

The autonomous organization(s) might seek more resources to produce more efficient action, leading to more effective service production and an equilibrium balanced around independence and autonomy, consistent with resource dependency theory (Aldrich, 1999; Hillman et al., 2009; Johnson, 1995). The CGR might seek to increase the overall effectiveness of multiple organizations' actions, leading to increased legitimacy, support for its approach to networking and coordinating collaborative activities, and viability as a vehicle for action (i.e., a proof of concept for a theory of change). Collectively, the CGR's combination of autonomous and collective actions might seek more equity in the system, perhaps by re-balancing the resource inputs required for actions, leading to greater effectiveness in serving clientele and system sustainability. Performance is an aggregate of individual, organizational, and collaborative senses of accomplishment. Performance targets may be challenging to measure and change frequently, affecting the ability to manage these complex systems.

The CGR framework is flexible enough to accommodate two other vital concepts—governance platforms and public innovation without extensive revision. However, it requires slight adaptation to accommodate a multi-layered framework for governance platforms. Minor adjustments embed the public innovation framework into the CGR framework.

Governance Platforms

The concept of a platform as a foundation for ecosystem transformation originated in software, industry, and business literature (Ciborra, 1996; Gawer & Cusumano, 2014), but it is highly portable and migrated recently into civic entrepreneurship and governance discourse as a metaphor for institutional design oriented

toward managing multiple instances of governance using similar techniques (Ansell & Gash, 2018; Ansell & Miura, 2020; Bell & Scott, 2020; Haveri & Anttiroiko, 2021; Selsky & Parker, 2010; Vallance et al., 2020). Following Ansell and Miura (2020, p. 264), this research defines a governance platform as "...an institution that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives." This defines an organization that works across multiple institutional and environmental contexts, develops specialized expertise refined through organizational learning, and deploys techniques and expertise to facilitate social action in pursuit of shared goals. The multiple institutional and environmental contexts and intentionality of its expertise and learning set the governance platform apart from single instances of collaborative governance.

Ciborra (1996) was one of the earliest scholars to use the platform concept, reviewing business practices in microcomputing, and termed these efforts *bricolage,* which refers to a construct created with readily available resources. Morrison et al. (2019) use the term *recombinant innovation* or simply "linking and leveraging assets" to describe governance platforms' generative capacity to deploy assets creatively. Organizations may be incentivized to cooperate when working together lowers opportunity costs compared to the resources needed to create new institutional processes and structures to facilitate problem-solving (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). Working within existing networks and processes and gaining access to expertise may be attractive compared to creating new, organic networks, building new processes, and adding additional personnel with specialized knowledge. Because governance platforms create standardized processes and routines that facilitate

communication, idea exchanges, and innovations, platform-managed systems may reduce participating organizations' costs. The flexibility of governance structures embedded into platform logic may distinguish it from networks, hierarchies, and markets while still being capable of "plugging into" these systems when needed (Haveri & Anttiroiko, 2021). An adaptive, modular architecture is vital to the platform's institutional logic (Ansell & Gash, 2008; Ciborra, 1996).

Platform typologies are beginning to emerge based on combinations of features familiar to organizational theory. For example, Cooke (2007) recognized that a policy platform might accelerate policy diffusion through regions. Haveri and Anttiroiko (2021) type platforms based on the degree of local embeddedness and degree of facilitation and integration of policy. The more locally embedded and capable of creating policy and integrating it into the environment, the closer to conventional political systems (Haveri & Anttiroiko, 2021). Selsky and Parker (2010) identified three analytic types of platforms from the literature: the resource-dependent platform, social-issue platform, and societal-sector platform, each defined by the interests, contextual factors, problem sets, dependencies, and temporal perspective on issues. Governance platforms are similar to network administrative organizations (Provan & Kenis, 2007), except that the latter were conceived as evolving from the collaborative network rather than independently established. Conceivably, a platform could evolve in either direction- collectively from the specific needs of a convened group or independently to satisfy an understanding of the demand for one or more services. The "sensemaking" lens of platforms' taxonomy is valuable for understanding how organizations see their roles as participants in collaborative systems and the role of the governance platform. By defining the expected

benefits and their distribution to participants and individuals, organizations and sectors, and society (Selsky & Parker, 2010), this framework offers a valuable heuristic for evaluating complex goal systems. Actions inside collaborative systems are likely to differ even where governance platforms set goals for the system, collaboration, and actors within it because of differences in organizational-level goals and resource capacities across all of the collaborative system's participants (Bell & Scott, 2020).

Ansell and Miura (2020) attribute the potential power of platforms to their *generative capacity,* which is derived from their "interaction, production, and innovation" (p. 265). Innovation is the key driver of collaborative outcomes in new public governance (Ansell & Torfing, 2014). Interaction increases the likelihood of people exchanging knowledge and resources, reducing transaction costs, which are difficult to measure. Production involves generating additional services and taking advantage of the platform's modularity or larger scope of services. Innovation involves onboarding fresh solutions from other locations, accessing new data sources to recombine, and platform participants creating new ones.

The distinction between governance platforms and collaborative governance regimes (CGR) becomes important when measuring performance in a system exhibiting both. A CGR is not necessarily in the business of coordinating multiple similar systems like a governance platform. A governance platform may exhibit degrees of collaborative practice, with some platform participants taking hierarchical approaches to problem-solving and others adopting co-creation strategies. A governance platform that coordinates multiple efforts, each oriented to a more significant collaborative change, is both a CGR and a governance platform. Such an entity might work across systems with

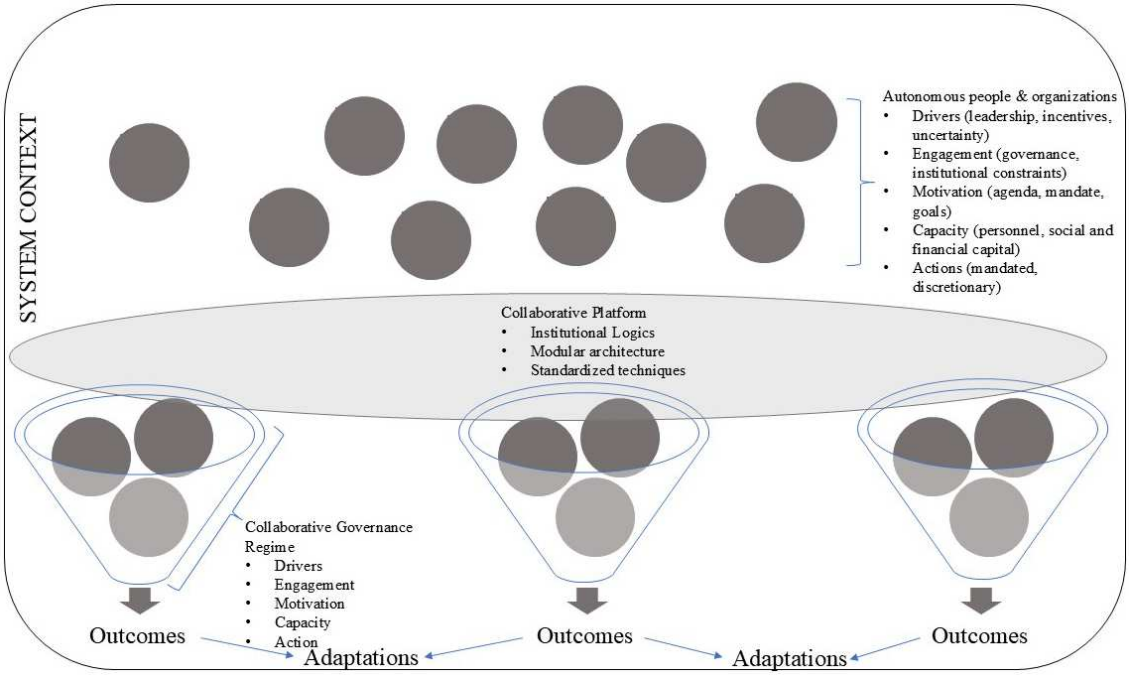
participants' governance structured as hierarchies and network governance, still pursuing broader outcomes that connect all participants, all while using modular institutional designs to promote outcomes that further integrate all participants into an organized pursuit.

Conceptual Framework: Governance Platforms

Ansell and Gash (2018) offer a conceptual framework for governance platforms focused on four major domains. The *agenda* of a platform defines its scope and governance efforts, adaptations that result from reconfiguring modular elements to new learning and context, and the institutional nexus of organizing several collaborative projects at once. The *distinctive logic* of a governance platform emphasizes its strategic intermediation among different constituent groups that participate and the consistency of institutional design rules that participants use to execute projects across multiple units. The *structure* of the platform focuses on managing distributed action. Distributed action may push constituents apart, for example, due to low trust, competition, or geographic distance. A central intermediary can forge collective identity among distributed constituents like a governance platform. Moreover, the governance platform's *strategy* produces novel opportunities for participants and promotes positive feedback and organizational learning. Figure 1 illustrates relationships between organizational units, governance platforms, and collaborative governance regimes.

Figure 1

Collaborative Governance Platform



Note. This figure illustrates the collaborative governance platform, which intermediates between autonomous organizations and collaborative governance regimes to provide standardized resources to facilitate collaborative governance and performance measures.

Collaborative Innovation

A central theory of this research holds that collaborative systems create opportunities for idea and resource exchanges that, in turn, foster innovation and increase the performance of organizations that participate in these systems (Ansell & Torfing, 2014; Bommert, 2010; Cooke, 2007; Torfing, Krogh, et al., 2020; Vallance et al., 2020; Yuan & Gasco-Hernandez, 2021). Innovation is a change that takes an organization's character and behavior in a new direction, which can be incremental or radical and is based on adapting existing ideas, recombining resources, or generating new ideas or resources (Ansell & Torfing, 2014; Bason, 2010; Bommert, 2010; Hartley, 2005; Hartley et al., 2013; Torfing, 2019). Innovation in governance can be generated through inter-

organizational dynamics and transmitted through networks (Borins, 2014; de Vries et al., 2018; Moore & Hartley, 2008; Rogers, 2003). Technology has driven much innovation, but governance paradigm shifts have also driven change as new social and political alignments have altered how public goods are managed and distributed. Governance paradigms emphasizing managerial efficiency and competition (D. Osborne & Gaebler, 1992), public value creation (M. H. Moore, 1995), or network management (Osborne, 2006) are each likely to view collaboration differently. These governance paradigms compete and co-exist in modern public administration and society (Torfing, Andersen, et al., 2020).

Collaborative systems bring actors together for a purpose they could not achieve independently (Emerson et al., 2012; Huxham, 1996). Collaborative processes introduce actors to other actors and provide access to networks with previously unavailable or unexplored resources. These resources include tacit knowledge and skills for executing strategy, social capital, financial capital, and physical assets. Participants align behind shared systems-level goals, even as individual and organizational goals may differ (Vangen & Huxham, 2012), and hypothesize how resources and knowledge can be combined into an effective strategy, which generates innovation through recombination, adaptation, or invention (Ansell & Torfing, 2014; Bommert, 2010; Hartley, 2005). The capacity for innovation may depend on opportunities to work with and learn from others, which introduces the knowledge and resources required for new ideas and forms of action to materialize. It is reasonable to expect that those actors with higher levels of collaboration may innovate more (Torfing, Krogh, et al., 2020).

Collaborative systems emerge to address complex problems for which no one actor has the resources needed for effective action (Alford & Head, 2017; Emerson et al., 2012; Huxham, 1996). The systems' goals are defined by desirable solutions, unreachable in isolation, and likely to vary to an extent based on the problems addressed and the diverse views of stakeholders (Head, 2008). Innovation is central to performance because closing the gap between collaborative actors' starting position and the envisioned future state requires new ideas and solutions that emerge from the negotiated use and recombination of resources.

Innovative capacity is integral to achieving solutions and progressing toward goals in a collaborative system. As participants convert resources to new forms of action, they are expected to make progress toward goals (i.e., performance). Innovation does not need to be optimally efficient to improve performance; it just needs to be diffused through networks and adopted (Rogers, 2003). Practitioners are unlikely to evaluate all potential alternatives; instead, they work toward suitable conclusions using bounded rationality and incrementalism as guiding principles. However, the presence of collaborative innovation is no guarantee of success. As such, while higher levels of innovation in a collaborative system can be expected to generate new ideas and new forms of action more efficiently, one must be cautious not to overstate the capabilities of collaborative systems while maintaining a context-sensitive understanding of performance measures (Torfing, Krogh, et al., 2020).

Conceptual Framework: Public Innovation

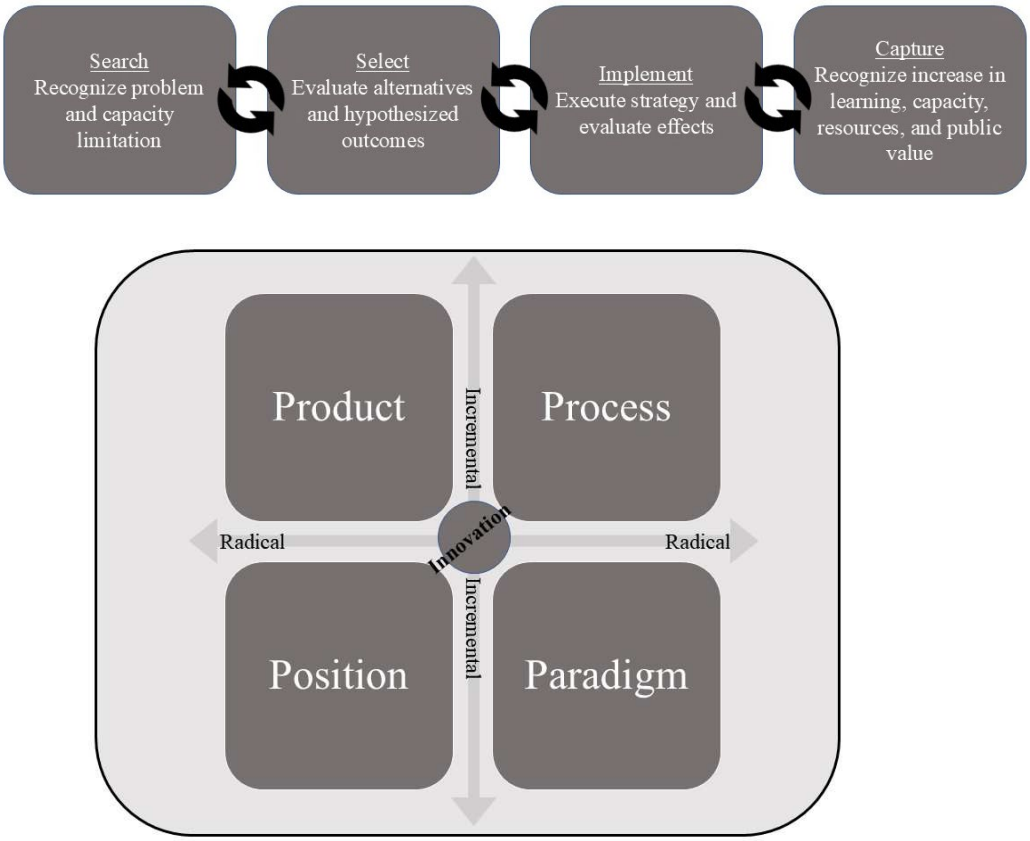
Tidd and Bessant (2013) offer a model of innovation in business and technology that emphasizes the contingent nature of innovation in a four-field innovation space

through a range of potential innovative degrees and through four phases of innovation to create innovative strategies and innovative organizations. Searching means understanding a dilemma and sourcing new information to apply to resolving it. Selecting determines the course of action and why it makes sense in each context. Implementing means executing the chosen course of action. Capturing is recognizing the reward of successful implementation.

The innovation process is incremental and iterative, with each stage taken tentatively as part of an overall learning process, as shown in Figure 2. This view contrasts with an earlier understanding of collaborative models as a linear process (e.g., Gray, 1985, 1989). This view mimics organizational learning models originating with a theory of action, which projects potential outcomes. Contradictions and feedback from applying this theory to real-world tests result in adjustments to future actions. Some adjustments are superficial responses to direct stimuli, while others are more profound adjustments to underlying assumptions and theories of action that led to initial outcomes (Argyris, 1995, 2008; Argyris & Schön, 1997). This incremental learning process learning has been applied to diverse practical settings (E. F. Morrison, 2021). Many of the same factors that influence collaboration, such as institutional design, social dynamics, and technology, also influence the processes that lead to recognizing and disseminating information within and between organizations; however, not all learning results in positive advancements, nor will all innovation be net positive- an important observation that rejects a normative assumption about learning and about innovation, recognizing instead that it is a social process without entirely predictable, or even positive, outcomes (Gerlak & Heikkila, 2011).

Figure 2

Innovation Process and Innovation Space



Note. The innovation process is iterative between four stages and occurs in an innovation space with four types of innovation. Adapted from *Managing Innovation: Integrating Technological, Market and Organizational Change*, 5th Edition, by Tidd, J. and Bessant, J., 2013. Wiley.

This innovation process takes place in an innovation space with four possible types of innovation: product, process, position, and paradigm, as shown in Figure 2. Products, including services, are the outputs of business efforts. Processes are how producers, including service providers, make products and services available. Positions are where producers introduce their products and services into the market. Paradigms are mental models that underwrite the organization's behaviors. Lastly, the degree of change can be viewed as a continuum from incremental, resulting in a small-step change in the

direction within the innovation space, to radical, where massive changes occur (Tidd & Bessant, 2013).

Bason (2010) adapted a version of this model to public innovation, adding context and values that differ from private-sector innovation. In addition to the process, innovation space, and continuum, public innovation must contend with different contexts, including political and structural factors, the strategy involved, the organizational constraints of public bodies, and the people and culture required to make innovation happen. In addition, the values of public innovation differ from private sector innovation and focus on balancing the degree of productivity of an agency, the service experience of its clients, the results of its efforts, and the democratic principles involved in policy inputs and outcomes (Bason, 2010).

Summary

The frameworks for collaborative governance, platforms, and innovation collectively produce a framework for public innovation within a collaborative system connected across geography by a governance platform. This provides a richer description of collaborative innovation in practice as organizations search, select, implement, and capture value from their efforts to work with others to solve problems they cannot solve alone. These frameworks can help to outline expected organizational behaviors in a multi-level system linking collaboration to innovation and innovation to performance.

First, individual organizations recognize turbulent, competitive environments within domains of shared interest where individual organizations cannot solve complex problems (Emery & Trist, 1965; Trist, 1977a). The complexity and lack of solutions prompt collaboration and a search for new, novel, or innovative solutions. Research

suggests by increasing an organization's exposure to new knowledge, skills, professional perspectives, and resources that new theories of action can emerge (Bommert, 2010; Eggers & Singh, 2009; Hartley, 2005; Hartley et al., 2013; Sørensen & Torfing, 2011, 2019). Through trial and error, successful collaboration builds trust and capacity for experimentation, increasing participants' willingness to share resources, experiment, and engage in more significant and risky propositions with scarce resources (Bommert, 2010; Hartley, 2005; Torfing, 2019). An implicit, testable supposition tying this research together is that more engagement and experimentation can lead to a better understanding of complex problems and novel solutions that enhance success; that is, collaboration leads to innovation that improves performance.

Torfing, Krogh et al. (2020) tested this in their study of Danish municipal crime reduction and concluded that collaboration drives innovation, creating positive change in crime outcomes. This research involved twenty-four collaborative policing projects and two indices, one for collaboration and another for innovation, constructed to evaluate the relationship between collaboration, innovation, and crime outcomes. An index of collaboration's breadth, scope, depth, and leadership measured collaboration. An index of innovation's depth at an ideational level, depth at a practical level, character as radical or incremental, and subjective reputation measured aspects of innovation. These indices demonstrated a relationship between collaboration, innovation, and outcomes in the systems studied (Torfing, Krogh, et al., 2020). The research proposal draws heavily from this precedential study's theoretical premise, methods, and results, adapting it to the Tennessee RiverLine's context to define and measure collaboration, innovation, and performance and test their relationships using similar mixed methods.

Chapter III:

Research Method

This chapter describes the study's methodology, which proposed an exploratory, sequential design to examine collaborative governance, governance platforms, and public innovation. An exploratory, sequential design used qualitative methods to develop an understanding of a phenomenon followed by quantitative techniques to test relationships between features (Creswell & Creswell, 2018). First, qualitative data were collected to identify features for testing, including variables and their likely relationships, and then quantitative instruments were developed to test relationships. The mixed qualitative and quantitative methods approach was fitting because the case's explanations and performance measures differed from those in other research contexts. However, while sound in its methodological approach, the quantitative phase faced significant limitations due to a low response rate, resulting in a small sample size. This limitation had implications for the generalizability and explanatory power of the quantitative findings. Despite this, the methodological framework established in this chapter remains valuable for future research, particularly as new cases emerge within the Tennessee RiverLine or in other contexts of collaborative governance.

Mixed Methods Research Design

Exploratory sequential study design allows for empirical evidence to fill gaps in understanding about the case's context, which is then used to collect quantitative data to test relationships. The qualitative data connects theory to the specific dynamics of the

case sufficiently to develop instruments to test hypothesized relationships. Given the need for qualitative evidence to construct a valid instrument, many of the specific parameters of the quantitative phase were built from qualitative exploration. Then, the theoretical relationships between collaboration, innovation, and performance were proposed to be tested using instruments derived from the qualitative analysis.

In the qualitative phase, non-numeric data was used to build theory through analytic induction (Frankfort-Nachmias & Nachmias, 2000), applying a deductive theoretical framework to explore and redefine the relationship between elements in a case study of collaborative governance and governance platforms. The quantitative portion of the research proposed to test the hypothesized relationships through statistical analysis using methods appropriate for a small number of cases. Case analysis has been used comparatively to study many other networks and governance platforms (Sørensen & Torfing, 2019; Vallance et al., 2020). While mixed-methods studies are rarer, several of the most productive research agendas in the field developed over many years using mixed methods and exploratory sequences (Ansell & Torfing, 2014, p. 20; O'Toole & Meier, 1999; Provan & Milward, 1995; Torfing, Krogh, et al., 2020).

Qualitative Phase Design

Case study research design was the primary framework for the qualitative analysis. According to Yin (2009), the case study research design is appropriate where the study's subject and context are difficult to distinguish from one another and where the number of possible explanations for outcomes is greater than the number of observations that can be made. A single case study allows for a deep understanding of relationships and meaning in a particular context, whereas a multiple case study permits comparisons

across different contexts. Similarly, an embedded case study allows comparisons across cases nested or embedded within a singular macro context (Patton, 2002). This latter approach best described the Tennessee RiverLine, which had individual community participants that functioned as separate units of analysis held together by association with the broader project focused on improving recreational access to the Tennessee River and the various benefits of that effort. This created a single case of collaboration with multiple embedded units of analysis; thus, a multiple-embedded case study design was appropriate. Case studies aim for holistic and context-sensitive subject explanations (Patton, 2002). The case study approach followed Creswell (2013) and Yin (2009) and proceeded as follows:

- Determined whether case analysis was appropriate for the subject and research questions.
- Identified a case or cases to be studied and the sampling frame for case selection.
- Collected data drawing on multiple sources.
- Analyzed data comprehensively to present a holistic description of the case, or, where units are embedded, of the embedded cases and the larger case context; moving into an analysis of themes within the context of the case, including themes that coincided within the case and across embedded sub-units of analysis.
- Interpreted and synthesized observations about the relationships observed and presented results in a written form.

The purpose of this method was to reconstruct participant's perceptions as accurately as possible to provide a better understanding of the relationships in the case, which allowed contrasting and competing explanations of phenomena to be understood in the context of the case and through the data provided by participants in case activities (May, 2011). Strong internal validity and sound methods within case study designs provided a foundation for generalizability so others may understand the analytical generalizations as they apply to other areas of life and practice (May, 2011; Stake, 1995; Yin, 2009).

In case study research, both qualitative and quantitative methods are appropriate depending on the subject of study (Creswell, 2013; Yin, 2009). Case study research may utilize inductive logic to provide theoretical explanations in an emergent fashion or deductive logic to test theory and frameworks already developed. In the latter case, these are potent tools for detecting gaps in understanding or falsification (May, 2011). The current research proceeded first in a deductive manner, applying the integrative framework for collaborative governance (Emerson et al., 2012) to evidence in the case, then inductively redefining elements of the case in its context to research questions about relationships between collaboration, innovation, and performance (Torfing, Krogh, et al., 2020). One strength of case analysis is the ability to detect diverging properties and create new explanations suited for the case context based on emergent observations (May, 2011), an approach applied here to explore research questions in context.

Case Selection.

One of the most critical research design issues involved selecting appropriate cases and sampling. Case selection is a central question of research design since the case

is the unit of analysis around which questions form, observations are made, and data is collected and analyzed to validate hypothesized relationships or build new theories for further analysis. “Information rich” (Patton, 2002, p. 230) cases must be purposefully selected to provide rich data on context and relationships. Case study research aims to describe the case holistically and context-sensitively (Patton, 2002). The case is the unit that provided insight into the relationships of “a knowable social world” (May, 2011, p. 221). Stake (1995) distinguishes between the instrumental case, which illustrates a phenomenon, and the collective case study, where multiple instrumental cases are chosen. Yin (2009) characterizes this as a multiple, embedded case analysis with the strongest analytical generalization possible for within-case analysis.

The Tennessee RiverLine- Case History of An Instrumental Case.

The Tennessee RiverLine is a vision for connecting people and communities into a 652-mile-long trail system along the Tennessee River from its source near Knoxville, Tennessee, to the endpoint where the Tennessee River and Ohio River merge at Paducah, Kentucky. The Tennessee RiverLine evolved from an idea into a collaborative system through a series of milestones from its early beginning as a student’s project into a network of partners that includes 22 communities, 56 cities and counties, and a host of other partners across the Tennessee Valley region in Tennessee, Alabama, and Kentucky. The Tennessee RiverLine is an instrumental case of collaboration and a governance platform with twenty-two embedded community-level units.

The Tennessee River flows 652 miles through Tennessee, Alabama, Mississippi, and Kentucky. It is the largest tributary of the Ohio River, one of the most biodiverse landscapes in the United States, and it meets navigation, public and private water,

recreation, and power generation needs across the Tennessee Valley. The Tennessee River includes over 400,000 acres of public surface water and is immediately adjacent to over 700,000 acres of public lands devoted to recreation and conservation land uses. The Tennessee Valley Authority has jurisdiction over the Tennessee River's shoreline and regulates land use and river access throughout its entire length. This creates a governance context with many institutional influences, competing interests, and potential for collaborative partners as different agencies, organizations, and individuals engage with the natural landscape for varying purposes.

The idea for the Tennessee RiverLine originated in a class at the University of Tennessee's School of Landscape Architecture. In 2016, Brad Collett, Associate Professor of Landscape Architecture, taught the inaugural Tennessee River Studio course at the University of Tennessee. This new course in the Master of Landscape Architecture program included six landscape architecture students and six architecture students. In the Fall of 2016, the students traveled more than 1,000 miles along the Tennessee River to understand its landscape and to derive creative solutions to understanding the river's role in community life, its potential for economic development, and the opportunities for engagement and improved stewardship. As a result, one of Collett's students proposed the Tennessee RiverLine as a nationally significant river trail system connecting communities all along the Tennessee River from Knoxville, Tennessee, to Paducah, Kentucky, and driving new connections to the river and its economic, recreation, and stewardship opportunities.

The idea took root and subsequently produced a watershed visioning event in January 2017, which involved seventeen partner organizations devoted to expanding the

endeavor further. Following the workshop, in the Fall of 2017, a partnership formed around the idea of the Tennessee RiverLine, which included leaders from sixteen different organizations representing tourism, recreation, economic development, government, and education interests invested in the Tennessee RiverLine's success. This Tennessee RiverLine Partnership included principal partners from The University of Tennessee, the National Park Service, and the Tennessee Valley Authority, among others. It became the collaborative platform driving the Tennessee RiverLine's development in communities across the Tennessee Valley. The product of this visioning event was a shared understanding of the importance of connecting communities to the Tennessee RiverLine and its potential for economic development and environmental stewardship. The participants also empowered the University of Tennessee to lead the engagement needed to implement the Tennessee RiverLine.

One of the Tennessee RiverLine Partnership's first initiatives was the 2019 Pilot Communities Program. This was an initial planning and design process led by the University of Tennessee's Department of Landscape Architecture and supported by the National Park Service's Rivers, Trails, and Conservation Assistance Program. This program initially selected five communities, known as the Pilot Communities, to participate in a new planning process to map out a shared vision for the Tennessee RiverLine and understand the next steps to building it. The effort was called 652-To-You, wherein each Pilot Community participated in local planning events, organized by the Tennessee RiverLine Partnership with University of Tennessee resources, which helped shape an understanding of the overall vision of the Tennessee RiverLine and its various partners' roles. The lessons learned from these events included the following:

- Cemented the vision for the Tennessee RiverLine as a continuous, 652-mile trail, with hiking, biking, and water connections along the entire length of the Tennessee River by demonstrating broad-based community support for the idea.
- Further defined the Tennessee RiverLine Partnership's and University of Tennessee's roles as the ambassadors and keepers of the Tennessee RiverLine's vision and a convener of resources and tools to help communities do their part to build new organizational and physical infrastructure to implement the Tennessee RiverLine.
- Placed primary responsibility for building and maintaining the infrastructure of the Tennessee RiverLine with local communities.
- Identified the waterway as the focal point for these efforts, leaving the implementation of landward trail development (hiking, biking, pedestrian, etc.) to others.
- Targeted organizational and social infrastructure as necessary next steps for the Tennessee RiverLine's success, eventually leading to physical infrastructure development.

The RiverTowns program was the next milestone in the evolution of the Tennessee RiverLine. A natural extension of the planning efforts undertaken in the 2019 Pilot Communities Program, the RiverTowns program is a signature initiative of the Tennessee RiverLine Partnership that supplies communities with various tools, resources, and technical assistance. The RiverTowns program supports communities along the Tennessee River that are developing new initiatives, sites, and resources to promote

recreational opportunities on the river. Each community that participates in the RiverTowns program receives heightened support from the Tennessee RiverLine Partnership to assist with planning events and improvements that build out the organizational and physical infrastructure of the Tennessee RiverLine at a local level. Communities apply to participate in the RiverTowns program based on an interest in improving their connections to the Tennessee River and implementing the Tennessee RiverLine. Communities enter Stage 1 of the RiverTowns program. Stage 1 is a two-year phase of programming focused on building organizations and supporting events linking to the Tennessee RiverLine. The Tennessee RiverLine Partnership and the University of Tennessee provide tools, resources, and technical assistance to help communities improve their capacity to plan and execute initiatives, including events and infrastructure improvements, necessary to the Tennessee RiverLine's success. Communities will eventually advance through two subsequent stages upon meeting programmatic benchmarks set by the Tennessee RiverLine Partnership.

The following timeline summarizes the milestones involved in the Tennessee RiverLine:

- Fall 2016: The Tennessee RiverLine is proposed as a 652-mile trail along the Tennessee River
- Winter 2017: The Watershed Visioning solidifies the University of Tennessee's leadership and the interests of key partners, including the Tennessee Valley Authority and National Park Service, which will shape the Tennessee RiverLine Partnership.

- Fall 2017: The Tennessee RiverLine Partnership is formalized in an agreement between the University of Tennessee, the Tennessee Valley Authority, the National Park Service, and a coalition of 14 other organizations representing tourism, recreation, and local governments.
- Spring 2019: Communities on the Tennessee River were invited to apply to the Pilot Communities Program, with five selected to participate in the piloting stage of planning for the Tennessee RiverLine.
- Summer 2020: The RiverTowns program launches, accepting applications to join the first cohort of communities to enter Stage 1 on the path to improving Tennessee River access and stewardship.
- In January 2021, the Tennessee Valley Authority invested $1.2 million into the Tennessee RiverLine Partnership through a 3-year cooperative agreement. The agreement was renewed for another three years at $1.5 million in March 2024.

In 2020, the first cohort of RiverTowns included the 5 Pilot Communities and ten other communities. All five of the Pilot Communities were automatically enrolled if they were interested (and all of them were). The other ten communities were selected from a pool of 34 applications submitted by communities from across the Tennessee Valley. These 15 communities became the initial 2021 RiverTowns cohort. Another five communities joined as a cohort in 2022, and two more joined in 2024, bringing the total to 22 communities participating in the RiverTowns program. Table 3 lists the RiverTowns communities by year of entry into the program.

Table 3

Tennessee RiverLine RiverTowns Communities' Year of Entry to Stage 1

2021	2022	2024
	Alabama	
Bridgeport	Jackson County	Lawrence County
Decatur		
Guntersville		
Huntsville		
The Shoals		
	Tennessee	
Benton County	Chattanooga	
Clifton	Meigs County	
Hardin County	Perry County	
Knoxville	Spring City	
Loundon County		
South Pittsburg		
Stewart County		
Roane County		
	Kentucky	
Calvert City		Calloway County
Paducah-McCracken County		

The RiverTowns program is a three-stage process leading to designation as an official "RiverTown" at the end of the second stage. Communities' progress from one stage to another is determined according to standard benchmarks for performance set by the Tennessee RiverLine Partnership. The benchmarks for Stage 1, which takes a minimum of two years to complete, include formally entering the program via a resolution of support from a local government entity, entering a formal partnership agreement with the Tennessee RiverLine Partnership, establishing a leadership team to regularly convene and guide local implementation efforts, and organizing events and activities that engage people with the river in alignment with the Tennessee RiverLine's vision for promoting recreation, stewardship, and cultural heritage. Program participants

are required to provide documentation of their efforts to the Tennessee RiverLine Partnership as a means of demonstrating benchmarks.

As briefly outlined in the above historical sketch, the Tennessee RiverLine Partnership affords many opportunities to view collaboration. The Tennessee RiverLine Partnership and three communities were selected for the qualitative portion of this study. The Tennessee RiverLine Partnership was selected as an instrumental case with multiple embedded cases. The embedded cases were selected from among the communities with the longest history of participating in Tennessee RiverLine Partnership activities and implementing the vision of the Tennesseee RiverLine. These three communities were part of the 2019 Pilot Communities Program, and the first cohort admitted to Stage 1 of the RiverTowns program. This purposeful criterion sampling (Patton, 2002) is based on history and participation in the Pilot Communities Program and the RiverTowns program. These communities have the longest history with the Tennessee RiverLine and the greatest influence on the collaborative planning that has shaped its emergence. They are the earliest proponents of the Tennessee RiverLine's planning and implementation strategies and subscribe to standard benchmarks for performance and advancement from Stage 1 to Stage 2 of the RiverTowns program. They share commonalities in their histories with the Tennessee RiverLine, and the RiverTowns program benchmarks create shared performance measures between them. Therefore, they are most likely to describe a coherent theory of action with drivers, incentives, and performance measures at multiple levels within the system. Table 4 summarizes the key terminology related to the Tennessee RiverLine and the various entities involved in its implementation.

Table 4

Key Terminology Related to the Tennessee RiverLine

Tennessee RiverLine- a proposed 652-mile trail along the Tennessee River.
Tennessee RiverLine Partnership- an organization housed at the University of Tennessee, Knoxville, with a mission of promoting the Tennessee RiverLine's development. It became a formal organization in 2017 with principal partners, including the University of Tennessee, Knoxville, Tennessee Valley Authority, and the National Park Service.
Pilot Communities Program – a 2019 initiative launched to research and refine the Tennessee RiverLine Partnership's role in communities. It launched planning workshops and engagement in five communities that became the foundation of future programming.
Pilot Communities – the five communities selected to participate in the Pilot Communities Program.
RiverTowns - an initiative of the Tennessee RiverLine, modeled after similar trail town programs found along the Appalachian Trail and elsewhere in the United States, to promote engagement with the river and lead to building out the Tennessee RiverLine. A three-stage initiative leading to designation as a "RiverTown."
RiverTowns communities- as of 2024, twenty (22) communities comprising 56 counties and towns across three states are participating in the RiverTowns program and receiving heightened levels of support from the Tennessee RiverLine Partnership to support the Tennessee RiverLine.

The Pilot Case: The Muscle Shoals National Heritage Area.

The Muscle Shoals National Heritage Area (MSNHA) is an organization devoted to heritage preservation and tourism in six counties in north Alabama. It is the host agency for the RiverTowns program in northwest Alabama. It is one of the five original participants in the Tennessee RiverLine's Pilot Communities Program, the first cohort of communities to participate in the Tennessee RiverLine, and a community in Stage 1 of the Tennessee RiverLine's RiverTowns program. The MSNHA is a viable pilot case for the embedded case analysis of the Tennessee RiverLine as a collaborative system. A pilot case may be chosen because it is accessible or convenient and used formatively to pilot and refine questions, techniques, and methods for later cases. The pilot case is formative and methodological and excluded from the final data collection, analysis, and presentation of results (Yin, 2009).

The pilot case has several innovations that are examples of actions taken in conjunction with the Tennessee RiverLine. As part of their Tennessee RiverLine affiliation, the MSNHA has undertaken two entirely new planning programs using resources that were not available until they became associated with the Tennessee RiverLine. They have hired new personnel through the AmeriCorps VISTA program through network connections made available through the Tennessee RiverLine, have launched a new course of study in strategy-as-practice disciplines using the Tennessee RiverLine as the subject of the course using funds obtained from new federal sources, and have initiated two new types of programming aimed at improving river recreation and stewardship among diverse audiences in the region served. The Tennessee RiverLine has also established a web-based platform for benchmark reporting and a separate

platform for collaborating across communities using the software platform Slack, which permits filesharing, messaging, and informative postings that may lead to many productive conversations. These are samples of activities catalyzed through new connections and resources provided across the Tennessee RiverLine's network using a platform-based approach to a broader collaboration program devoted to developing the trail system at a scale crossing multiple states. The research explores other collaborative innovations in other locations as examples of collaborative governance, governance platforms, and collaborative innovation in action.

Qualitative Data Sources.

Interviews, documents, and audiovisual artifacts are frequent sources of non-numeric qualitative data (Creswell & Creswell, 2018). Qualitative sources provided information about relationships in the collaborative system, drivers, and performance measures as perceived by participants at all system levels, including the Tennessee RiverLine Partnership, participant organizations, and indirectly from community stakeholders' documents and audiovisual artifacts included public and internal documents of the Tennessee RiverLine and social media from the Tennessee RiverLine and community organizations participating in its program. Interviews were conducted with Tennessee RiverLine officials and representatives of organizations and from communities in Stage 1 of the Tennessee Riverline's RiverTowns program. The methods used to collect data included interviews and document reviews, including social media and web-based data sources that included public members interacting with information shared publicly.

Qualitative Data Collection.

The Tennessee RiverLine's RiverTowns program started in 2020. Each cohort's participation in Stage 1 was meant to last two years. The study's data comes from document reviews, interviews, and observations that required approximately nine months to complete, commencing in November 2022, near the end of the second year of the RiverTowns program when the first cohort was scheduled to be eligible to advance to Stage 2 of the program. The research collected data on each location to complete a community profile, interviewed lead organizations' leadership and key community leaders, and reviewed internal documents provided confidentially by the Tennessee RiverLine, social media accounts, and publicly available organizational content. Data pertained to relationships within the collaborative system, drivers of collaboration, performance measures, and network structures but also included deeper details regarding the context of each case, the case setting and environment, and the community organizations that implement the RiverTowns program. A pilot case was a formative tool to test and refine research protocols (Yin, 2009). Protocols provide a format for collecting data and help record and track data consistently and ethically (Creswell & Creswell, 2018). Research protocols explicitly developed for this research guided data collection during interviews, document reviews, and surveys.

In the qualitative phase, seven key informants participated, including the leadership of the Tennessee RiverLine and organizational and community leaders in the three embedded cases selected from the community organizations in RiverTown communities. Semi-structured questions related to organizational history, network management strategies, goals, performance measures, and general operations. Interviews

were recorded and transcribed. Standard transcription software transcribed interviews for analysis. A secure case database stored data and metadata about the sources, including relevant field notes about the collection, such as time, place, and manner of collection. The case database formed a solid foundation for the collection, analysis, and verification or validation of the soundness of the research (Yin, 2009).

Qualitative Data Analysis.

Qualitative data was organized, cleaned, and analyzed with standard qualitative techniques. Consistent with Yin (2009) and Patton (2002), case studies were conducted independently and sequentially, with memos crafted and compared individually and collectively. Data from each embedded case was reviewed sequentially, using codes to classify data and abstract themes with which to map causal processes and write narratives describing within-case dynamics. After reviewing each case sequentially, the entire data set was reviewed again holistically to evaluate themes and causal processes for the entire case study (Creswell & Creswell, 2018; Miles & Huberman, 1994). These activities compressed data, categorized and displayed it, and allowed for conclusions based on relationships found within and between cases (Miles & Huberman, 1994). The underlying theoretical frameworks were reviewed at the end of each embedded case study and in the final synthesis.

Memos were used to separate data and analyses, track the evolution of thought in the case, record important observations, and maintain a record of research activities. Memo data was used to apply theoretical frameworks to evidence, abstract concepts from observations (Birks et al., 2008), and group concepts thematically (Patton, 2002). The within-case and cross-case analyses aimed to locate patterns or correspondence (Stake,

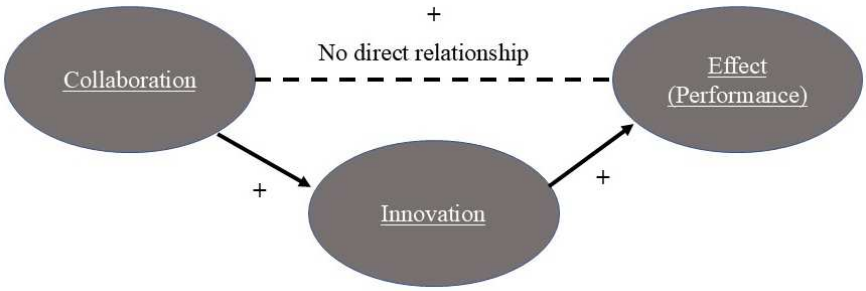
1995) in the data, indicating important themes or ideas as the pool of potential causal factors in the cases. Once each of the three case reports was completed, the case reports were merged into cross-case conclusions, making final adjustments to theoretical frames, describing implications, and drafting the synthesis. The synthesis guided the instrumentation of the explanatory variables in the quantitative research phase.

Quantitative Phase Design

In the quantitative phase, the qualitative results were used to build a survey to measure and test relationships between collaboration, innovation, and performance, emphasizing the intervening role of innovation as a mediator between collaboration and performance. To explore the role of innovation, quantitative research proposed to examine the relationship between collaboration and innovation first. Then, it proposed to examine the relationship between innovation and performance. In the first pairing, collaboration was measured as an independent variable with an expected positive association with the dependent variable for innovation. In the second pairing, innovation was measured as an independent variable with an expected positive association with the dependent variable(s) measuring performance. Observing a positive relationship between collaboration and innovation and, subsequently, a positive relationship between innovation and performance would have provided evidence of the expected relationships between variables. Figure 3 illustrates a path model of the expected relationships between variables.

Figure 3

Path Model of Expected Relationships



Note. Adapted from "Measuring and assessing the effects of collaborative innovation in crime prevention," by Torfing, J., Krogh, A. H., & Ejrnæs, A., 2020, *Policy and Politics*, *48*(3), 397–423.

The survey included instruments to collect data on innovation and collaboration and drivers and performance measures identified in the qualitative phase. Thus, the quantitative and qualitative phases were linked and synthesized into a single logic of inquiry. The population for the survey was organizational and community leaders from twenty organizations enrolled in Stage 1 of the Tennessee RiverLine RiverTowns program. Appendix B contains questions from the survey. The survey was administered online via Qualtrics. Survey measurements were confidential, not anonymous, so correlations could be made between systems-level performance and key explanatory variables. Results were to be reported anonymously.

A similar survey instrument originally appeared in Torfing, Krogh, et al. (2020). Respondents were asked four ranking questions about each variable (collaboration, innovation, and effective performance) on a scale from 1 to 5. Responses were then analyzed with confirmatory factor analysis and shown to be consistent on three variables (collaboration, innovation, and effect). Then, each question group was combined into an index of 1 to 20. The authors analyzed the correlation between collaboration index scores

and innovation index scores, as well as between innovation scores and measures of policing performance. They performed t-tests of significance for scores on each index between groups scoring above and below the median for collaboration. The authors concluded that the theorized relationships were supported by evidence, with higher collaborative scores evincing higher innovation and policing performance. These results and the indices are the foundation of the study's quantitative analysis of collaboration, innovation, and performance.

This dissertation research adopted a similar approach to instrumentation, working closely with qualitative case study participants to validate collaboration, innovation, and performance measures appropriate to the Tennessee RiverLine. The original Torfing, Krogh, et al. (2020) survey instruments for collaboration, innovation, and performance were revised for the Tennessee RiverLine context. Variables for collaboration and innovation were constructed as an index from survey responses. Three variables measuring performance were also included in the survey, as follows:

1. A dichotomous variable representing progression from Stage 1 to Stage 2 of the Tennessee RiverLine measured whether a community had advanced from Stage 1 to Stage 2 within the initial 2-year period from acceptance. It was coded zero (0) for those in Stage 1 and one (1) for communities that attained the benchmarks needed to progress to Stage 2 of the program.
2. Time to readiness to move from Stage 1 to Stage 2 measured the time, in months, needed for a community to complete all Stage 1 benchmarks.
3. The number of benchmark events completed by organizations. The Tennessee RiverLine's benchmarks for progressing from Stage 1 to Stage 2 included

> having local political support in the form of a resolution, having financial support for participation, completing at least one recreational event and one stewardship event during Stage 1, and providing reports on planning, execution, attendance, and lessons learned (Tennessee RiverLine Partnership, 2020).

Since the Tennessee RiverLine used standard benchmarks to track readiness to progress from Stage 1 to Stage 2 of the RiverTowns program, these performance variables provide an opportunity to compare performance between those who have and those who have not achieved Stage 2 readiness, the time to readiness among those with Stage 2 readiness, and the number of benchmarks achieved by communities. While progressing from Stage 1 to Stage 2 was a sign of capacity-building for the participants, the performance measures also indicated novel tasks had been accomplished for these organizations, potentially requiring innovative products, processes, positions, or even paradigms to achieve. The research objective was not to judge the value of progress, participation, or moving from Stage 1 to Stage 2 but to better understand the processes involved and the relationships between collaboration, innovation, and performance based on the system's standardized benchmarks for progress.

Collaboration and innovation were proposed as the principal explanatory variables, as rated on an index of multiple measures of collaboration and innovation. Torfing, Krogh, et al. (2020) first used a similar index to evaluate the relationship between collaboration and innovation in a study of Danish community policing collaboration. The instrument was modified to accommodate contextual differences between policing and the Tennessee RiverLine's collaborative systems. The qualitative

analysis was critical to developing this instrument based on the likely drivers of collaboration, innovation, and performance, which were included in the survey to explore other potential explanatory factors and relationships to collaboration and innovation. Appendix A contains information on the approach to creating indices and variables used in this research.

Selecting Research Participants.

Research participants for the quantitative phase of the study were selected in consultation with the Tennessee RiverLine and drawn from the local leadership teams in each of the twenty Tennessee RiverLine Stage 1 communities enrolled at the time of the survey. The Tennessee RiverLine Partnership provided contact information for these participants during the qualitative research. Participants were added to the users eligible to participate in a closed Qualtrics survey instrument administered online and distributed by email.

Quantitative Data Analysis.

Bivariate small-n statistics were proposed to analyze quantitative data. The survey instrument operationalized variables derived from qualitative research to measure collaboration, innovation, and performance based on prior research (Torfing, Krogh, et al., 2020). Bivariate correlations were proposed to test relationships between collaboration, innovation, and performance. Responses were divided into groups representing the communities that had completed all the benchmarks for Stage 1 of the Tennessee RiverLine's RiverTowns program and those that had not. The choice of test was driven by the data, which was determined not to be normally distributed. Spearman's

Rank Order Correlation was selected to test correlations for data that were not normally distributed.

Synthesis and Results

The results of the qualitative research drove the quantitative research design, and the degree of correspondence between explanatory factors was to be synthesized across phases, leading to a better understanding of the research questions and hypotheses of this research. A mixed methods approach was appropriate for addressing these questions since the initial qualitative stage was needed to ascertain the direct drivers of collaboration, the incentives, and the performance measures most likely motivating Tennessee RiverLine participants. This was to be followed by a small-n quantitative design testing these relationships in a larger pool of participants, which was considered valuable for verifying relationships within the case and those posited by prior research on collaborative governance, governance platforms, and collaborative innovation. As discussed elsewhere, the study had quantitative limitations that undermined its value for explanatory purposes. As a result, synthesis proved impossible, and the results relied exclusively on qualitative findings instead.

Assumptions and Limitations

The study assumed an embedded case study design produced a valid understanding of the performance measures relevant to the case. Further, it assumed that the research design's cross-sectional nature produced valid results when the hypothesized relationships were observed in accordance with theory. However, the direction of the relationship was never known with certainty. Additionally, the study was missing

experimental controls necessary to establish causation, and its statistical controls were limited due to the small sample size and reliance on bivariate analysis of correlations.

Second, the population was small, so the sample size for both qualitative and quantitative phases was small. There were only 20 communities enrolled in the Tennessee RiverLine RiverTowns program at the time of the study. The population of top leadership was limited, so several participants were included in both phases of the research. This can introduce confounding, duplicative factors into the study (Creswell & Creswell, 2018). To avoid this outcome when working with such a small population, the research used different question formats for each phase and separated the phases by six months. Open-ended questions were used in the qualitative phase so that, while the subject was the same, interview participants did not respond to prompts resembling the later survey questions. The survey was developed independently and then administered six months after interviews, allowing some time to separate responses for those who may have participated in both phases. This approach may have mitigated duplication and confounding factors in the survey responses. However, it also eliminated the ability to test the survey instrument in the population of interest, which is a best practice when developing a new instrument to pre-test, refine, and add additional checks on validity and reliability (Creswell & Creswell, 2018; Price, 2017).

The most significant limitation was the survey's response rate. With only 11 of 20 possible participants responding, the survey failed to achieve a sufficiently large response rate to be generalizable to the larger population of leaders in the Tennessee RiverLine RiverTowns communities. As such, the results were of little explanatory value and limited exploratory value.

Ethical Considerations

Researchers must consider ethics at each phase of the study, including before beginning the study and during the data collection phase, as data is being analyzed and results are being reported and published (Creswell, 2013). Since the research involved human subjects, Institutional Review Board (IRB) approval of the research protocol was required and obtained. Documentation of this approval appears in Appendix C. The research protocols described the research subjects and considered potential harms from the methods of collecting, safeguarding, and reporting data used in the research. They included information on research locations, data collection methods, informed consent, potential harms, and confidentiality issues.

Risks to participants were minimal. The most significant risks involved disclosing sensitive, damaging, or confidential information about participants' actions or opinions. Strict confidentiality protocols mitigated these risks. Due to small sample sizes and potentially damaging statements, the participants were assured of confidentiality and cited anonymously in this study's findings. No sensitive populations were targeted as research participants. During analysis, reporting, and publication, and even after, the researcher's ethical obligations continued. They included protecting participants from harm with appropriate confidentiality and information security practices, accurate reporting of ideas from multiple sources and perspectives, care to report honestly and accurately without misattribution or plagiarism, and ethical publication practices that included disclosing conflicts, sources of support, and prior use of data.

Chapter IV:

Results

The central research question was: How has collaboration affected innovation and performance among the Tennessee RiverLine RiverTowns program participants? Answering this question required qualitatively analyzing the Tennessee RiverLine's context and participants' motivations to develop a quantitative instrument for measuring participants' perspectives on key concepts of collaboration, innovation, and performance. An exploratory, sequential research design was selected, with results from the qualitative phase of the study informing a detailed case study of the Tennessee RiverLine. The case study specified the key concepts within a deductive application of the integrative framework for collaborative governance (Emerson et al., 2012; Emerson & Nabatchi, 2015a). Closely following Torfing, Krogh, et al. (2020), the qualitative phase results were converted to a survey instrument administered to the twenty Stage 1 RiverTowns communities participating as of January 2024. This chapter reports the results of this research.

Setting

Semi-structured interviews were conducted in the qualitative phase. Interviews were conducted via videoconference with interview participants from three communities that have participated in the Tennessee RiverLine since the earliest formal launch of its Pilot Communities Program. Interview participants were free to participate from a location of their choice. Due to small sample sizes and the potential for damaging

statements, the participants were assured of confidentiality and cited anonymously in this study's findings. No factors present during interviews are known to have affected responses. Likewise, the quantitative survey was administered electronically, with participants free to choose the setting in which they responded. No then-current factors are known to have affected responses from participants to the survey's questions.

Demographics

Demographic factors were not considered in the research design. Therefore, age, sex, and other personal characteristics were not collected during the research. Participants in both qualitative and quantitative phases were chosen from the leadership teams of Tennessee RiverLine communities. They included both male and female participants. Participants were likely to be adults from professional backgrounds contributing to a collaborative effort focused on recreational tourism, economic development, and cultural and environmental preservation.

Data Collection

Qualitative data was collected from written materials from the Tennessee RiverLine's internal file share drive, the Tennessee RiverLine's social media accounts, the social media accounts of three communities, and interviews with eight individuals in leadership positions associated with the Tennessee RiverLine and RiverTowns communities. Interviews were conducted from the researcher's home with eight individuals from different locations in the Tennessee RiverLine's service area. The interviews were conducted from November 11, 2022, through July 14, 2023. Leaders of the Tennessee RiverLine were first to be interviewed as informants to collect additional interviewee contact information and gain access to written materials. After the initial

interview and review of materials, a semi-structured interview guide was assembled and piloted with leaders of the Muscle Shoals National Heritage Area, which served as a test case for the interview protocol and coding procedures used in later data collection and analysis. The remaining interviews with seven informants from Tennessee RiverLine communities were conducted between June 8 and July 14, 2023. These occurred approximately six months after communities were eligible to move from Stage 1 of the RiverTowns program into Stage 2 (i.e., completing the initial two-year participation period in January 2023).

Quantitative data was collected by a survey distributed to the twenty principal leaders of the Tennessee RiverLine RiverTowns community as of January 2024. The participants were screened and identified in cooperation with the leadership of the Tennessee RiverLine Partnership. They represented the twenty individuals leading the Tennessee RiverLine RiverTowns effort in each participating community at the time of the survey in January 2024. The survey was distributed via email, and results were captured in the Qualtrics survey system. The survey had 11 responses, a response rate of 55% of the survey sample and the population of leaders in this project.

Data Analysis

Qualitative data was organized by source and media type. Social media posts were reviewed primarily as background for developing semi-structured interview protocols. Interviews were recorded using audio capture transcript software and were converted to verbatim transcripts in Microsoft Word document formats. Documents and interview transcripts were imported to Dedoose, a qualitative research software, and analyzed using three conceptual frameworks as deductive coding frameworks. Applying

35 codes produced 252 excerpts across the documents and interview transcripts, which were examined according to the coding frame in Table 5. Coding in this manner revealed the appropriate underlying elements of the Tennessee RiverLine's platform-driven innovation and collaboration system.

Table 5

Qualitative Coding Frame

Code	Count of Excerpts
Innovation stage	25
Search	18
Select	11
Implement	13
Capture	4
Innovation scope	18
Incremental	19
Radical	0
Innovation space	26
Process	20
Product	19
Position	10
Paradigm	1
Platform	58
System Context	101
Resource conditions	94
Policy and legal frameworks	14
Prior failure to address issues	2
Political dynamics & power relationships	32
Network connectedness	44
Levels of trust & conflict	17
Socioeconomic & cultural health and diversity	29
Drivers	109
Leadership	93
Consequential incentives	57
Interdependence	17
Uncertainty	12
The Collaborative Dynamics	106
Principled Engagement	44

Code	Count of Excerpts
Shared Motivation	48
Capacity for Joint Action	56
Outputs & Collaborative Actions	49
Collaborative Outcomes	42
Impacts	37
Adaptations	27

Note: Shaded headings represent parent codes, and unshaded represent child codes.

Findings

Qualitative findings revealed elements within the Tennessee RiverLine's approach to innovation and collaboration using a collaborative platform consistent with theoretical frameworks. They answered the research questions regarding leader motivation, collaboration, innovation, and performance in this collaborative system. The qualitative understanding was converted to a survey instrument administered to a sample of Tennessee RiverLine RiverTowns program participants.

Qualitative Findings

Four sub-questions were used to describe the central question during the qualitative phase. These provided a detailed case description and identified the best units to measure key explanatory and dependent variables. The qualitative sub-questions were as follows:

1. How do the Tennessee RiverLine RiverTowns program leaders describe their decision to join the program?
2. How has the decision to participate affected collaboration?
3. How has participation affected innovation?
4. How has participation affected goal setting and the way performance is measured?

These questions are answered in the case's context with three conceptual frameworks: collaborative platforms, collaborative governance, and public innovation. First, each community is presented as a narrative case study to summarize details related to these conceptual frameworks and ground the research in its context. Then, the cases are summarized to provide significant conclusions. Finally, to the extent possible, these conceptual frameworks are evaluated individually in synthesizing the case study results, noting areas of solid alignment with theory and weaker alignment, indicating a need for further study. A final synthesis of qualitative findings is presented at the close of the case study, which addresses the research questions directly.

Collaborative Governance in Action: The Tennessee RiverLine Case Studies.

The following three case studies of collaborative governance come from three communities participating in the Tennessee RiverLine Pilot Communities and RiverTowns programs. They illustrate and contextualize collaborative governance regimes operating with the help of a collaborative platform and engaging in innovation. Each community joined the Tennessee RiverLine Pilot Communities Program and later joined the RiverTowns program in its first cohort of fifteen participants. They each followed the processes developed by the Tennessee RiverLine Partnership and benefitted from its resource sharing. The communities followed a series of steps that involved standard practices and modular design principles reflective of a collaborative platform (Ansell & Gash, 2018; Bell & Scott, 2020). Following a framework for collaborative governance regimes (Emerson et al., 2012; Emerson & Nabatchi, 2015b), the communities and Tennessee RiverLine Partnership introduced planning and principled engagement practices designed to build trust, shared motivation for action, and a

combination of new social capacity along with physical assets and financial resources, leading to better capacity for joint action; these, in turn, changed local and regional systems involved in the Tennessee RiverLine and advanced the shared goals of the entities involved.

In the framework of public innovation (Bason, 2010; Tidd & Bessant, 2013), the communities involved searched for solutions to economic and community development challenges that would suit their context. Part of the search was recognizing the Tennessee River as an asset and being encouraged by the Tennessee RiverLine Partnership to think about new ways to improve conditions related to that asset. Having identified the issues to be addressed and a potential direction, participating in the Tennessee RiverLine Pilot Communities and RiverTowns program represented a strategic decision to select from among potential opportunities to improve their communities in alignment with the second phase of the public innovation framework. The third phase of this framework relates to implementation steps taken in the chosen strategic pathway, which emerged in cooperation with Tennessee RiverLine's structured approach to facilitating various processes and providing resources to build community capacity. Finally, the capture phase of the innovation process, while still emergent, was evident in the results experienced by communities that participated in these programs, which involved increased capacity for implementation and participation in river-related activities.

Community A. The first community case study illustrates Tennessee RiverLine's impact in a small city with a traditionally industrial and commercial relationship to the Tennessee River. Local leaders engaged in the Tennessee RiverLine to promote tourism, cultural heritage, and economic goals and objectives. Community A's collaboration was

shaped by the evolution of the Tennessee RiverLine Partnership's programming from the Pilot Communities program into the RiverTowns program. Community A, along with each other Pilot Community, applied to and was accepted to the Pilot Communities program in 2019, where they participated in planning workshops with Tennessee RiverLine Partnership's staff and then joined the RiverTowns program when it launched in 2020. The communities' novel activities involved engagement and planning around local river-related assets, organizing new events on the river, and attracting people to the waterfront. The collaborative dynamics surrounding these involved logistics and managing these new activities, collaboration and teambuilding, and leadership changes.

Initiation of the Collaborative Governance Regime (CGR). Community A's involvement in the Tennessee RiverLine was driven by an understanding of the alignment between the community's goals and those of the Tennessee RiverLine. The following excerpt from Community A's Pilot Communities application demonstrates this perspective:

> [Community A] sees the Tennessee RiverLine as a unique opportunity for further development to engage people with the river and area assets. We believe that the Tennessee RiverLine can introduce a conversation about the river that encompasses many different aspects, including recreation, tourism, industry, conservation, and stewardship. The Tennessee RiverLine is also an opportunity to connect [Community A] to other communities along the river that face some of the same challenges as we do and have new and innovative ways of addressing these challenges. [Community A] believes that the Tennessee RiverLine can be a catalyst for improvement along the river in terms of all aspects of life on the river.

> [Community A] sees the Tennessee RiverLine Partnership as a vehicle for moderating the larger conversation among the diverse communities. Also, the partnership can assist in the fulfillment of [Community A's] visions by serving as a clearinghouse for information, technical assistance, and innovative ideas.

The reputation and importance of the entities participating in the Tennessee RiverLine Partnership was an essential part of the Tennessee RiverLine's perceived legitimacy, as expressed by another local leader:

> There's a level of credibility with the University of Tennessee and anything they do, [like] the involvement of Tennessee Valley Authority. I mean that the history there and TVA's involvement throughout the Tennessee River Valley for the last 90 years… and then the way that the RiverLine cast the vision and involved the right people in the communities from tourism, folks, to city and county governments and other folks in the community. There was a level of credibility there that was really attractive, and I think it brought the right people to the table to be involved.

A central figure in Community A's participation in the Tennessee RiverLine's early evolution was the director of a local nonprofit focused on cultural heritage and the Tennessee River's role in the community's growth and development. They became involved while the Tennessee RiverLine was being conceptualized in the River Studio at the University of Tennessee. During this formative period, from 2016 to 2019, the community became a yearly stop on the student's annual tour of the Tennessee Valley due to its unique geography, commercial and industrial relationship to the river, and prior investments in cultural heritage. These engagements allowed students to learn about the

community's heritage and relationship to the river, which stood in contrast to the role of the river in other locations along the tour route. Connections and social networks established between local leaders and the leaders of the Tennessee RiverLine proved to be influential through successive phases of development. Local leadership participated in the earliest phases of the Tennessee RiverLine's planning and scoping activities through the Watershed Visioning and numerous calls and meetings leading up to the Pilot Communities program.

The same key leader led the Pilot Communities application process. To ensure broad support, they hosted meetings with county and city officials and communicated the benefits of involvement in the Tennessee RiverLine. The application itself described the various connections that the community had with the Tennessee River, including its geographic location along the major waterway and the river's influence on the history, economy, and heritage of the city and county. Three major river industry employers were in the top 10 employers for this city, so the river industry represented a significant part of the local economy. The community had invested in flood protection and boat ramps to improve motorboat access but had little nonmotorized access. However, its park and recreation plans called for additional trails and greenspace to improve connections from its downtown area to the river. These project types represented the commitments the Tennessee RiverLine hoped to see complement the broader effort of building the complete 652-mile trail system.

Processes and Activities. Once accepted into the Tennessee RiverLine Pilot Communities program in the Spring of 2019, the immediate focus shifted toward team-building and strategic planning. Once again, the key leader's role was integral to the

continuity of the Tennessee RiverLine's activities: "Once we were named, we started to put together a [local] team, and I helped when the [Tennessee RiverLine Partnership's] team came to do the workshop, and then once it went to the next level I was the first chair of our local leadership team."

The workshop was the Tennessee RiverLine Partnership's strategic planning pilot called 652-To-You. It focused on engaging community stakeholders, mapping local assets, and describing the Tennessee RiverLine's vision as seen by local stakeholders and informed by the Tennessee RiverLine Partnership. This work helped to solidify the Tennessee RiverLine Partnership's emerging strategic vision for how it might help communities to execute projects along the Tennessee RiverLine and to encourage further local partnerships for its development. The 652-To-You workshops piloted a technique for planning and local engagement with the Tennessee River through asset mapping and identifying issues with access and infrastructure. The 652-To-You workshop technique eventually became a standard part of the programming offered to RiverTowns participants.

Community A also established a local leadership team during this strategic planning effort. Initially, the team's role was defined around the planning process, but it would evolve as the plans for the Tennessee RiverLine emerged more concretely. The leadership team in Community A was comprised of representatives of a local nonprofit heritage organization (the team's first chairperson), a local architect (second chairperson), county and city governments (including parks and recreation), a local sporting and outdoor goods store, a local bank, a downtown theater venue, public schools, and the local tourism bureau. Team members were initially to help organize and participate in the

652-To-You process. Their roles expanded to include coordinating logistics for events and riverfront activities as the Pilot Communities advanced toward the RiverTowns program. The challenges of an all-volunteer effort required expanding the team to bring in enough supporters to meet the demand for the new programming, benchmarking, and reporting required of RiverTowns participants.

The RiverTowns program officially launched in the Summer of 2020 after the five Pilot Communities completed the 652-To-You process. One of the most significant issues identified across all five communities was the availability of boats and gear for people to use on the river. To address this issue, the Tennessee RiverLine Partnership applied for and received a grant from the North Face Corporation, allowing it to deploy a fleet of 60 kayaks along the RiverLine in Pilot Communities. In March 2021, Community A received $12,411 to purchase 12 kayaks, boating equipment, and a trailer for storing and moving equipment. This provided them with a fully equipped fleet of kayaks for use in RiverTowns activities. In exchange for this award, Community A committed to participating in various river-focused activities, providing insurance on the fleet, and making it available to neighboring RiverTowns for use in promoting the Tennessee RiverLine and meeting RiverTowns benchmarks.

The benchmarks for Stage 1 of the RiverTowns program, which takes a minimum of two years to complete, include formally entering the program via a resolution of support from a local government entity, entering a formal partnership agreement with the Tennessee RiverLine Partnership, establishing a leadership team to regularly convene and guide local implementation efforts, and organizing events and activities that engage people with the river in alignment with the Tennessee RiverLine's vision for promoting

recreation, stewardship, and cultural heritage. Program participants are required to provide documentation of their efforts to the Tennessee RiverLine Partnership as a means of demonstrating benchmarks.

Community A and other Pilot Communities had a head start on these benchmarks and were accepted automatically into the RiverTowns program. The initial Pilot Communities application included resolutions from county and city officials supporting the initiative. The local leadership team was already in place due to 652-To-You planning, although its membership would change to accommodate new activities. The remaining benchmarks involved starting new activities for recreation and stewardship in the community, which the community launched in conjunction with the RiverTowns program. Stewardship and cleanup events were already ongoing activities sponsored by local nonprofits, and some of these were adjusted to focus on the Tennessee River's shoreline and to incorporate paddle events into shoreline cleanup. The logistics of planning and executing these new boating events were early challenges, but once resolved, these new activities became regular community events. According to one leader interviewed, "We plan and execute paddling events on the Tennessee River in [Community A] anywhere from three to five times a year, primarily in the summer beginning in June [and] once a month into the fall."

Another initiative launched in connection to the Tennessee RiverLine involved a DEI grant to provide swimming lessons to underrepresented youth. The grant was supplied through the Tennessee RiverLine Partnership to increase diversity in access to the river, which had been identified as a significant issue throughout the planning process. Funds were intended to provide swimming and paddling lessons. Here again, the

logistics of financial management became a challenge for this program. Still, the community was eventually able to redesign its effort in ways that allowed greater outreach and improved diversity in community events. The grant culminated in an event where five youths from the local Boys and Girls Club participated in their first paddle event on natural water.

Outcomes and Impact. The Tennessee RiverLine effort brings new people to participate in riverine recreation through events that Community A hosts three to five times yearly. In addition, it increases the diversity of participation in recreational recreation. According to one person, the most significant impact is that new people are showing up and seeing the community from a new perspective:

> I think showing people that the river is not scary, it's not bad, it's not dirty like we think it's dirty. I think just [improving] people's comfortableness with the river, with being on it. We've heard really cool comments from folks when they get done paddling, 'That was great. I've never seen [Community A] from the river before!' You see things in a different perspective, and so I think it's just been encouraging for us to hear those comments and see people's reactions and for the folks that keep coming back time after time…and I think it's been fun to see that people are excited about this and want to experience this. We're continuing to see that grow, that level of excitement, grow.

At one event in July 2022, 29 boats were in the water at one time. Twelve were checked out from the Tennessee RiverLine fleet, and seventeen were owned by local paddlers, indicating a mix of participation from experienced and new boaters. The local

Boys and Girls Club event introduced five new youths to paddle sports and got them on the river for the first time.

The program also facilitates new partnerships in the community. The local sporting goods store has active representation on the leadership team and provides kayaks when needed, in addition to the Tennessee RiverLine's fleet. New bridges are being built between the Tennessee RiverLine and local government tourism and emergency services branches.

> The rescue squad comes out and supports our paddle each month. They supply rescue boats that track along with us for the five or six miles that we paddle, which brings a level of safety and security to what we do and makes people feel at ease. But it also gives them training, and they can get out on the boats and make sure that they're adequately prepared for any event that rises to their need.

The evolution of church partnerships is an example of new partnerships, as described by one local leader:

> Our local transit authority provided transportation for us last year. This year, we had to come up with funds for that… we've involved a local church this year that has buses, and they are providing our transportation now for free. We're actually taking some of the college students out paddling this coming Sunday as just kind of a separate event outside an organized RiverLine event. But [we are] using the RiverLine kayaks, having the waivers and all that stuff…The event is a way to say thank you to the church, but provides another opportunity for folks to get out and experience the local rivers.

Local leaders also view the RiverTowns program as part of a more significant effort with a broader impact. As one stated, "It's just amazing. When you think of three states and all these different communities, all coming together with a common goal and creating this regional trail system, it is just really powerful."

Challenges and Lessons Learned. Community A's experiences with the Tennessee RiverLine involved several challenges that illustrate issues that may arise in collaboration, particularly for balancing the drivers necessary to sustain collaboration. Critical challenges involved having sufficient local champions to sustain activity and manage transitions, sustaining engagement with elected officials through election cycles, and managing resources involved with new programming. These challenges illustrate drivers and areas of principled engagement in Community A in accordance with theoretical frameworks.

Building a large enough volunteer base of local champions to support new Tennessee RiverLine activities proved challenging in the early days of the RiverTowns program as the focus transitioned from strategic planning to deploying novel resources, such as the kayak fleet, for new activities. The local leadership team needed to adapt and expand to provide enough support for RiverTowns events to succeed. However, it was not always easy in the early days. According to Community A's key leader, in the early days:

> I sort of took on a lot of responsibility, and it was not a good thing because I was overwhelming myself … We just needed a lot more bodies to help us because the logistics of putting the kayaks in and such takes a lot. It was just sort of overwhelming, so we were starting to pull more people in that weren't even on

> the team. It really showed that we needed to expand the team… And so, we've done that this year. We got several new people, so our team is bigger and that helps distribute the responsibilities a little more equally…

Another problem involved the diversity of the leadership team, which did not represent minority residents in its early days. The team recognized this as a challenge and worked to reach a more diverse pool of participants and supporters to build a stronger pool of leaders. The team sought better representation from underrepresented groups to make the projects more inclusive and allow them to reach a broader audience of participants. This approach culminated in appointing several new leaders from different social, economic, and racial backgrounds. "We've tried to make sure our leadership team reflects our community's makeup. We want our community as a whole to feel valued and to be involved."

Over time, turnover among elected officials became another issue the leadership team encountered. Each election cycle brought new leaders into positions with control of resources needed for the Tennessee RiverLine to succeed.

> We've discovered that there's a disconnect with each successive tenure of newly elected officials—they don't have a concept of the RiverLine, they don't know what it is. We've talked about how we can keep that on the forefront of each newly elected body and how we can recast the vision every couple of years as folks change in and out of office.

In response, the leadership team developed a strategy to improve outreach to new elected officials. Early in their tenure, they were presented with an overview of the Tennessee RiverLine and its importance to the community, and periodically, they were

followed up with additional information about events, progress, and needs. This approach recognized the need to be proactive and continually re-engage as conditions changed.

Lastly, as time passed, the community faced another significant leadership transition with the retirement of Community A's first, most engaged team member. This person had a key role dating back to the earliest days of the Tennessee RiverLine, which meant they had built significant relationships with key stakeholders in the community and beyond. This person also played a crucial role in organizing events, recruiting volunteers, and providing their organization's resources to support the programming. Their retirement was a pivotal moment for Community A's participation since it had the potential to leave the team without leadership and resources. Fortunately, the transition was handled deliberately and with close collaboration between the two leaders who chaired the committee and the rest of the team. A successor was identified from the leadership team who had been involved and deeply committed to the project's success. The transition was handled deliberately over time, which ensured the transfer of some of the vested knowledge and skills. The leadership transition demonstrated the value of careful planning, understanding the resources and techniques necessary for project success, and a commitment to ensuring a smooth transition between leaders.

Community A's experience with the Tennessee RiverLine also illustrates the potential for resource conflicts and how Community A managed them, where the Tennessee River itself was a resource to be managed between users. Community A's commercial and industrial history with the river led to significant skepticism about the potential for success. The river was still heavily used for commercial barge traffic, and some saw the proposed activities as directly conflicting with the river's economic

functions. Safety was a paramount concern, most often and notably expressed by those with other interests in the river, e.g., barge operators and local industries, leading to significant worry on the part of elected officials and others in public safety roles. As a result, the team had to consider new ways to engage with skeptics and ensure paddlers' safety.

Community A's local leadership team made several adjustments to implementation strategies. As one person stated, "Each paddle event we go out that's always in the forefront of my mind—what type of commercial traffic are we going to experience today?" First, they connected local skeptics and leaders in other places who could point to the coexistence of industrial and commercial users alongside recreational users in other locations. Second, they engaged local disaster and emergency management agencies to get extra support for the safety of participants. These adjustments helped mitigate concerns about the potential for conflicts between used.

A final significant challenge involved managing novel resources flowing from the Tennessee RiverLine. As a new endeavor, the local institutions were not always sure where the RiverLine's activities best fit into local organizations' missions. Sometimes, what seemed to be a good fit became unclear in action. For example, when the community was awarded the DEI grant for $10,000, it initially flowed to a local nonprofit, whose board was uncertain about the purposes of the funds and created administrative roadblocks for accessing them.

> We received a grant through the RiverLine, a diversity, equity, and inclusion grant, but we have not been able to access any of those funds for a year and a half…The funds were transferred to a local nonprofit, but because of some

> transitions and misunderstandings, we've had zero access to this $10,000 grant…It's been very frustrating for us and everybody involved that we have this money, but we can't access it to pay for the swim lessons and other programming we had planned.

The leadership team eventually negotiated the return of these funds and their regranting to more willing administrators and partners, but the delay created frustrations among stakeholders and strained relationships. The funds were eventually released through persistence and negotiation with willing partners, including a new nonprofit administrator and the Tennessee RiverLine Partnership.

Concluding Thoughts. Community A's Tennessee RiverLine experience has created more opportunities for people to participate in river recreation and stewardship activities. It has created new partnerships and opportunities for cooperation in the community. The long-term goals of economic development and tourism are closer to within reach of the community due to the effort, which has persisted through numerous challenges to become a successful example of collaboration in the context of the Tennessee RiverLine. This case study demonstrates one example of collaboration rooted in a specific context. It also illustrates the drivers, collaborative dynamics, action, and outputs related to this specific case within the broader frameworks of collaboration that are central to this dissertation.

Community B. Community B is a rural county along the Tennessee River. Its shoreline is several miles distant from a city or town and passes through 42,000 acres of lakefront property, primarily undeveloped agricultural land. The population is small but relatively stable, with some outmigration mainly due to economic and employment shifts.

The county is slightly older than the U.S. population at large. Traditionally, the local economy relied on agriculture, crop and livestock production, and forestry with some small-scale manufacturing. Creating new economic opportunities poses a challenge, but there was interest in exploring new opportunities in tourism related to the area's natural resources, such as the Tennessee River and the county. Community B is typical of many rural communities confronting similar economic dynamics. The Tennessee RiverLine offered a new venue for exploring the potential for new recreational programming and tourism development opportunities in Community B.

Initiation of the Collaborative Governance Regime. Community B's engagement with the Tennessee RiverLine emerged from a local elected official's electoral agenda for the county's economic development. While seeking office, this individual promoted river recreation and other trail networks as a beneficial use of county resources to promote tourism and bring more people and money into the county. Once elected in 2018, they built relationships with key stakeholders who would later be involved in the Tennessee RiverLine. When the Tennessee RiverLine Partnership announced the Pilot Communities program in 2020, it appeared to be a good opportunity. According to this official:

> I knew that the Tennessee RiverLine fit the tourism and recreation part of my agenda…I realized they gave me a foundational element to go and pursue monies for development. Because what good is having all that lakefront property if you can't have docks and staging points for kayaks and…accessibility of land to the water?

The application process began with the elected official contacting the Tennessee RiverLine Partnership to learn more about the Pilot Communities Program. He then enlisted the help of the county's UT Extension agent, who agreed to spearhead the initial application process. According to the Extension agent:

> The [county] mayor asked if I would spearhead the campaign to apply as a pilot community. That is where my involvement began with the RiverLine project. I was the main point of contact. I coordinated with our chamber of commerce director at the time, and I coordinated with our State Park director... We asked all of the [municipal] mayors to sign off on support.

With this support, Community B submitted its Pilot Communities application, representing the county, four cities, and two unincorporated communities and emphasizing the Tennessee River's significant influence on local history and heritage, dating back to archaic times before colonization, its importance in U.S. history during the Civil War and New Deal Era, and Community B's vision for economic and tourism development through recreational infrastructure and programming connected to the river.

Processes and Activities. Upon acceptance to the Pilot Communities program in 2019, Community B participated in activities sponsored by the Tennessee RiverLine Partnership and enrolled in the RiverTowns program in 2020. These included establishing a local leadership team before participating in the 652-To-You workshop planning, developing plans for the RiverLine through the 652-To-You workshops, and launching new river recreation and stewardship activities aligned with RiverTowns benchmarks. The community received a North Face grant to purchase a new kayak fleet, which was

placed at a state park in the county and made available for events and to supplement the park's recreational offerings.

Community B's leadership team was comprised of representatives of the UT Extension service (first chairperson), a state park manager (second chairperson), the county and local municipalities, the county tax assessor's office, the state wildlife agency, a local radio station, the local economic development agency, and a retired teacher. Each recognized value to expanding tourism through recreational development in the county. Once initiated by local elected officials, the UT Extension service and the state park facility provided overall guidance and leadership to the program.

The initial stages were marked by significant community outreach and education regarding the benefits of this type of development for the county. As one local leader explained, "Younger people don't care. They love all the ideas... But older people always ask, 'How much is this going to cost me?'" The leadership team used various tactics to educate the public leading up to and following the 652-To-You workshop. These included meetings with elected officials and ad hoc planning committees before and after the workshop, which UT Extension coordinated to support their ongoing planning activities. The state-sponsored these activities and oriented toward a strategic plan for the county, which supported grant proposals for economic and community development. The Tennessee RiverLine provided UT Extension a foundation for anchoring innovative ideas about this type of development.

Community B's state park facility significantly increased river recreation, primarily due to the kayak fleet, waivers, and other materials supplied by the Tennessee RiverLine Partnership. Free access to boats increased participation, and the number of

visitors bringing their own boats to the park grew. One observer noted that "the park uses them [the kayaks] all the time...and space is limited for the free ones." In addition to offering new rentals, paddle guides also lead participants on designated routes during organized events held two to three times each year. The routes include stops at key points of interest. This provided recreational opportunities and supported the park's historical and nature education programs, enhancing visitor experiences focused on the Civil War, the history of the Tennessee Valley Authority, and Native American history and culture. The paddle events were popular and helped build a sense of community around river recreation. The program has also allowed many people to test out kayaking before deciding whether to invest in boating equipment.

In the meantime, Community B benefitted from its engagement with the Tennessee RiverLine Partnership, which provided heightened technical assistance to the community for projects, presentations, and proposals related to the Tennessee RiverLine. Local leaders saw the Tennessee RiverLine as "a Swiss army knife... multiple tools that you need to accomplish whatever the objective is." This heightened support included help with presentations, and other documents to promote the Tennessee RiverLine. It included assistance from college students from the UT School of Landscape Architecture, who helped to design these materials. The Tennessee RiverLine Partnership also supported several grant applications seeking funding for RiverLine activities and environmental projects by supplying letters of support and helping prepare parts of these proposals. These actions supplemented other activities, such as the 652-To-You workshop and the kayak grant provided to Community B.

Outcomes and Impact. Community B's participation facilitated new conversations with regulatory and resource management agencies. As observed by one participant, "They had TVA [Tennessee Valley Authority], Department of Interior, the EPA [Environmental Protection Agency], the National Wildlife Refuge system... and so it really brought us all together. We were able to bring all of these elements, these heavy players, into one room." These conversations streamlined communication efforts, increased buy-in and overall support between agencies, and created a stronger foundation for future cooperation. The Tennessee RiverLine Partnership provided this access and benefits at lower cost, in terms of time and effort, than Community B could accomplish acting individually. As an elected official observed,

> When I looked at the Tennessee RiverLine, I said, you know what? … they bring everybody under one roof ... Do I make one speech to 15 stakeholders rather than 15 speeches to 15? You know, I'm making more efficiency of my time and effort.

Community B also had a significant increase in boating at the local state park due to the kayak fleet being available for individuals and new events being organized to bring people onto the water. There is also a strong belief that the Tennessee RiverLine will provide long-term benefits as it grows into a regional trail system. According to one local observer:

> I do know that I'm seeing a lot more kayakers along our rivers every time I drive down to one of our boat landings at the State Park. You've got kayaks everywhere, and that tells me that, at least in this element, it's working. For a kayaker, they're now looking at [Community B] as an opportunity to go and recreate.

> People can go up to the box, swipe their card, and rent a kayak for a minimal price for so many hours in the day. They can drop it off anywhere along the area where the State Park is along the river, and it will be picked up and returned to the staging point to make it available for another community participant. Kayaking has really taken off, and I attribute a lot of that success to our involvement with the Tennessee RiverLine folks…the Tennessee RiverLine is definitely the catalyst for bringing them in.

Leaders generally view the Tennessee RiverLine optimistically, seeing the potential for long-term gains in tourism and economic development through recreational improvements in their community. They observe increased enthusiasm and capacity for river recreation because of their support for the Tennessee RiverLine and the resources it has brought to their community. The Tennessee RiverLine has become an important part of an economic and community development strategy, linking progress to the community's rich assets. It has united stakeholders and provided novel resources and capacity to achieve strategic goals.

Challenges and Lessons Learned. Community B's participation in the Tennessee RiverLine has required navigating significant challenges, primarily due to a rapid succession of changes in leadership within each key stakeholder organization. Local county government leadership was affected by local elections, and key employees' departures in the project's early phases affected the UT Extension and state parks. These transitions caused some troubling delays, requiring careful management in the community and by the Tennessee RiverLine Partnership.

One challenge was a change in the community's elected leadership, a recurring theme in Community B. When the Pilot Communities program started, the county official in place served from 2018-2022 but lost his re-election bid. This official expressed the dynamic as follows:

> Every two or four years that [leadership] changes in elections... You can have a county mayor…who can't have enough ideas... then the next election cycle, you could have a leader with no ideas, and that builds a lot of instability, and that is probably a risk to the Tennessee River line overall project, but …I think that they probably know that regardless of the faces and the names that change, that … they're always presenting [to] the county officials and municipal officials.

This variability in leadership commitment was a recurring theme in the community's experience with the project. The impact of changing elected officials was initially buffered by the presence of other community leaders who kept the project going, with UT Extension and state parks officials maintaining engagement with the Tennessee RiverLine Partnership for a while after the elections.

A seemingly more crucial set of transitions occurred in the partnership network leading Community B's efforts. First, the UT Extension agent who led the project's early application phase moved to another UT Extension office in a neighboring county, taking with them important knowledge and relationships at a critical juncture in the period between being accepted as a Pilot Community and launching the 652-To-You effort. Community B's UT Extension director, who had delegated much of the earlier effort while maintaining awareness of the project, stepped into a leadership role, coordinating the actions leading up to the workshop. However, they also managed many other projects

in the county. Therefore, although UT Extension remained engaged with the leadership team, the state park manager assumed the chairperson's role.

The state park manager made considerable progress in building relationships with the Tennessee RiverLine Partnership and facilitating the local community's activities during and immediately following the 652-To-You workshop planning. However, this official retired soon after the kayak fleet was acquired. A new park manager with fewer community connections replaced them and needed time to acclimate to managing an unfamiliar park and building community relationships. As observed by the UT Extension director:

> When we had a certain chamber director...the chamber and the [county] mayor's office were very focused on making sure things were running smoothly. In the beginning, those key players were at the table...because we had key players in place... [the first park manager] was also the president of the chamber board, so there was a lot of synergy and things were really moving at that time.
>
> But...[the first park manager], who started with us, is no longer with the park here...We've had what I would call an 'exodus'... [the UT Extension agent] went to work in [a neighboring county], and she passed the baton to [the first park manager], who was on the Chamber board and had connections with the [chamber] board and the [county] mayor... In the meantime, we've had three new chamber directors, we've had three mayors, and [the first park manager] is no longer at the park. We have a new ranger...but he wasn't the lead on the project, so we had a lot of turnover in that committee.

As a result, the focus on the Tennessee RiverLine and the RiverTowns benchmarks drifted toward other organizational priorities, which was a cause for concern within Community B and the Tennessee RiverLine Partnership. Leaders at both levels recognized the importance of performance concerning the benchmarks but struggled to re-establish them as a priority. The leaders in Community B struggled to bring the RiverLine forward and balance it with other internal organizational priorities. Meanwhile, Tennessee RiverLine Partnership sought to respect community autonomy and internal dynamics while still holding accountable to its funders and the need for performance as a system.

As made clear by a leader of the Tennessee RiverLine Partnership:

> One of the things we've encountered from a network management standpoint is the volatility of leadership in some communities, whether it's due to turnover or limited civic engagement…We've seen leadership turnover limit progress, making it necessary to be more intentional about managing the network...

The solution was a combination of patience, consistency, and sharing of information and resources. The Tennessee RiverLine Partnership acknowledged that Community B was in a "little of a low" and needed time to absorb these changes. The leadership team tried to maintain involvement with the Partnership and keep the communication lines open throughout the transitions. "Everything just kind of paused…but we've faced those things… [the Tennessee RiverLine Partnership] has reached back out [and] we want to make sure that we're moving forward," said the UT Extension director.

Both parties acknowledged the role of UT Extension, under the direction of the University of Tennessee's Chancellor, to support the Tennessee RiverLine, which came about concurrently with the Tennessee Valley Authority's three-year partnership agreement with the Tennessee RiverLine Partnership. According to the Tennessee RiverLine Partnership leader, "One of the things … we were trying to do is to connect them with other existing networks like state extension services, where there is a lot of stability, typically, and in these rural community specifically." Separate from the UT Extension director in Community B, "UT has made a big push [from] the Dean of Extension, our regional program leader, and getting our…extension offices [involved] in the program… and then just making sure we're keeping that project going."

These statements indicate that, despite local turnover, the UT Extension program is viewed as a stable entity working toward mutual goals alongside the Tennessee RiverLine Partnership and that it is an important stakeholder and critical partner in fulfilling goals expressed in Community B, those of the Tennessee RiverLine Partnership, and the University of Tennessee's broader goals. They illustrate how the Tennessee RiverLine Partnership operates at multiple levels of engagement and within different collaborative spheres to promote change. By supporting Community B's local efforts and working simultaneously to raise awareness and gain support from the broader university system, greater emphasis on shared goals and alignment of resources was achieved, ultimately helping push the RiverTowns program back on track in Community B.

Concluding Thoughts. This case study demonstrates the challenges of rapid changes in leadership in a collaborative setting and the power of shared goals and

objectives and continuity through such changes. Community B experienced a series of disruptions to its progress and the loss of elected champions that challenged its legitimacy as a local government project. Still, the idea persisted among stakeholders with missions aligned with recreation, stewardship, and economic development focused on tourism and recreation. The UT Extension service and the state park cooperatively carried the torch for the Tennessee RiverLine through these challenging events. UT Extension provided consistent leadership, with varying intensity reflecting personnel capacity while managing various projects. While managing their core mission and functions, the partnerships were ultimately able to absorb these shocks to the voluntary effort to build the Tennessee RiverLine in Community B.

Community C. Community C is strongly connected to the Tennessee River as a geographical and cultural anchor. It is a rural county and three small cities, each adjacent to the Tennessee River or one of its significant tributaries. The Tennessee River has driven the local economy through manufacturing and energy-related industries and continues to be a hub of activity, supporting industries, transportation, and recreation. The river offers outdoor recreation, including boating and fishing, public parks and marinas, and scenic views. Sites along the river are important to the region and nation's heritage of investing in economic development, energy, and national defense. Local leaders have recognized the Tennessee River's significant role and importance in the local economy and have sought new ways to improve water quality and access to the waterfront to promote tourism and economic development.

Initiation of the Collaborative Governance Regime. The Tennessee RiverLine's arrival in Community C began when the county executive at the time became aware of

the Pilot Communities program and application process. Community C decided to apply to promote tourism and economic development using the community's historical and environmental assets along the Tennessee River. The county executive felt strongly about the potential benefits of the Tennessee RiverLine and the impact on tourism and economic development. "The biggest issue was to help promote the tourism industry" and "giving kids [for] paddling... getting out in nature, understanding how we live with nature, and how we need to protect that environment."

The county executive had a deep personal connection to the Tennessee River, having lived on the river most of their life and having a family history in the commercial fishing industry, which had been eliminated over time as the river became contaminated. He believed that Community C was well-positioned to contribute to the project and to reap significant benefits from it in return, since the county's assets included a marina, RV park, and campgrounds that could support the Tennessee RiverLine. Additionally, the county executive's familiarity with the river and the county's assets was crucial in deciding to move ahead with the proposal.

The executive delegated most of the tasks in writing the application to his staff and focused on communicating the potential benefits to local stakeholders. Community C became one of the Pilot Communities in 2019, marking the beginning of their involvement in the Tennessee RiverLine initiative.

Processes and Activities. Community C established a local leadership team comprised of county and city leaders, economic and tourism development agencies, educational institutions, and local businesses. They initially organized and participated in the 652-To-You workshop and then launched new paddling and environmental

stewardship events in conjunction with the Tennessee RiverLine Partnership. The team participated in planning activities to document and map the river access points and locations along the river most conducive to paddling. They launched the first-ever paddle events organized in the county, allowing people to explore the Tennessee River and learn valuable lessons regarding event timing, coordination, and participant experiences and needs that informed future events. The first event attracted around 40 people, including Tennessee RiverLine Partnership staff and students from the University of Tennessee. More recent community events attracted a steady 20-30 people. By incorporating their experiences with the early events, which had significant support from the Tennessee RiverLine Partnership's staff, they could launch and sustain two to three events annually and expand into river clean-up and heritage education events on the water.

Community C also built new boat launches for canoes and kayaks along the river. A local leader remarked,

> I said, 'Let's build this pier and dock here,' and we got so many compliments. After a year or so…we put about 12 of those … on the reservoir. Everywhere, there was a TWRA [Tennessee Wildlife Resources Agency] boat ramp, a TVA boat ramp, or just a public boat ramp. We decided, 'Let's see if we can do that to help facilitate…people enjoying the river that much more.

Community C also used the Tennessee RiverLine in its marketing and promotions. Working with the local tourism board, they created new promotional materials centering the county as a destination for river recreation and highlighting river-based activities. These encouraged visitors to come to Community C and participate in different forms of recreation than previously marketed.

Outcomes and Impact. Community C's organized events increased the number of people participating in river activities, including outdoor recreation and environmental stewardship. Their efforts strengthened relationships with various stakeholder organizations, including the Tennessee Wildlife Resources Agency and the Tennessee Valley Authority. Planning efforts helped to identify areas for future growth and improvement, youth engagement, and infrastructure development, setting the stage for future growth. Overall, these actions created new foundations and best practices for future cooperation.

Community C's leadership viewed the Tennessee RiverLine as an incremental "win" that could unite people despite other disagreements.

> It's always good to have wins, you know? And even … if you have a big problem, if you can find these little gems, you can all be around and associated around; it helps the community, there's no question. They may have a lot of disagreements on the school system. They may have a lot of disagreements on, you know, where to do this and that. But it's always good to have these little wins.

Challenges and Lessons Learned. Community C's experiences with the Tennessee RiverLine highlighted the need for local champions to coordinate logistics and relationships and sustain cooperation. The project's early success was heavily influenced by the leadership characteristics of those in charge, primarily a county executive with a passion for river recreation. They stated, "You've got to have a leader, someone who is the champion, to put everything together and ensure that the project stays on course."

From the county executive's perspective, the role of an elected official in a project like the Tennessee RiverLine is to set the vision and find the right local leaders to

delegate and cooperate for the project's success. In addition, having an organization take the lead helps to ensure the local champion has the resources to succeed in ways an all-volunteer effort may not. According to this county executive:

> I think I think the biggest issue that most of us [elected officials] will struggle with … in any community is having that one champion that can take the ball and run with it…We've got a lot of good people [local elected officials] serving us, but everybody's part-time. They've got other interests…But I think that the biggest and most important thing in our communities for this project to be successful, year in and out, is to have that champion that can put that together.
>
> I think like being an executive…I signed up one person. I said, 'You know, I know you've got a lot of tasks, but this is your task. I'll help you put everything together. Then we'll go to the communities and let them …work. But you're going to have one person that's going to do most of the work. And that person *you've* got to champion. And most times they're not going to be volunteers, so it does take some resources and time from some organization.

This county executive emphasized that successful projects require a dedicated leader or champion who can take the initiative, coordinate efforts, and ensure that the project stays on track. They stressed that the committees are important for providing input and ensuring that projects remain within bounds, but ultimately, it takes a strong leader to push things forward.

Community C also confronted leadership changes while participating in Tennessee RiverLine's programming when this same county executive chose not to run again. "When I chose not to run again, I'm not sure how much the new leadership is

trying to accomplish what we were trying to accomplish. You know, their priorities may be a little bit different." The leadership change introduced volatility at the level of an important stakeholder, but it was effectively managed by finding others to "carry the torch" and sustain the initiative. The leadership team made the transition more successful by delegating responsibilities and creating a more diverse community team. However, the county executive noted that the Tennessee RiverLine's continued success would depend on whether new leadership could continue to find and empower local champions. "If you have somebody that really takes a leadership position, you get more done. But if not, the project can lose steam." They noted an ebb and flow to community support and enthusiasm. Still, they believed that the Tennessee RiverLine would be successful based on the foundations that had already been established.

Cross-Case Analysis and Conclusions. The preceding case studies illustrate and contextualize the Tennessee RiverLine in three participating communities. They contain details of community actions and relationships to the Tennessee RiverLine Partnership that illustrate collaborative governance, governance platforms, and public innovation. Analyzing and synthesizing across cases allows several important observations about the experiences of these communities in this context.

First, the Tennessee RiverLine was a successful example of collaborative governance across different communities and complex system levels. Agents engaged in governance activities in local communities were often unaware of the specific actions being taken in other local communities or in related systems, which supported the project. For example, the UT Extension office in Community B was unaware of the specifics of implementation in Community A or Community C, or of the specific actions the

Tennessee RiverLine Partnership was taking to build support at the highest levels of the University of Tennessee system. Instead, they observed progress made by other communities and an increasing involvement in the Tennessee RiverLine from across the UT Extension system, which increased motivation to refocus on the effort in Community C.

Second, the Tennessee RiverLine Partnership was a platform that constructed modular, adaptive processes piloted in several communities and institutionalized in the RiverTowns program. The Tennessee RiverLine Partnership and the University of Tennessee were crucial external support for communities, providing technical assistance, resources, and legitimacy to the effort. The Partnership's efforts were experimental and emergent. It was unknown if they would work in the Pilot Communities. Still, they followed an innovative process supported by communities and ultimately became standardized to be shared across a larger number of community participants. This is representative of platform logic (Ansell & Gash, 2018; Bell & Scott, 2020) and public innovation frameworks (Bason, 2010; Tidd & Bessant, 2013).

Third, among the drivers anticipated by collaborative governance regimes, leadership emerged as the most critical factor in the communities examined (Emerson et al., 2012; Emerson & Nabatchi, 2015b). Each community had committed leaders but struggled to navigate challenges associated with leadership changes. Transitions required careful management. Community success depended on how leadership was transferred from government and elected officials to *governance* by more resilient networks.

The largest community, Community A, had the least transition-related problems because it was less directly connected to electoral leadership and instability. However, it

still struggled with having enough people to succeed and how to hand off leadership. Still, owing to its size and the number of institutions supplying potential leaders, it had the smoothest transitions and the least delays.

Community B experienced the most disruptions in leadership and the most significant delays. Its involvement was initiated by a local elected official, who championed the program at its start and handed it off to others along the way. However, disruptions in the leadership network due to job changes created volatility. As a result of these dynamics, Community B's path toward completing the RiverTowns benchmarks was the longest and least certain. Leadership continuity and commitment appeared to be the most significant drivers here.

Community C also had leadership changes, but the dynamic was framed by retirement and a decision not to run for office instead of an electoral defeat. In addition, the executive's focus on visionary leadership and champion delegates appears to have smoothed the transition and made it more easily manageable.

Fourth, communities engaged in incremental innovation as an economic and community development strategy. Communities initiated the public innovation cycle by leveraging the Tennessee River as an asset and building new recreational activities, such as kayaking and paddling events where none existed. The Tennessee RiverLine Partnership's external support helped them navigate the phases of this cycle. This framework does not appear to guide communities conscientiously, and they downplay the novelty of their actions, seemingly because they focus on incrementalism and recombining existing assets. Still, innovation is evident in the cases studied, but its

impact on performance cannot be clearly identified because communities did not describe their actions as particularly novel or innovative.

Overall, the cases illustrate the complexities and rewards of collaborative governance in action, particularly in the context of the Tennessee RiverLine as a platform-managed, community-driven recreational, tourism, and economic development initiative.

Qualitative Application of Theoretical Frameworks

This section integrates multiple levels of embedded case study research into a summary of the instrumental case. In contrast to the preceding section, which contextualizes specific community cases embedded into the Tennessee RiverLine system, this analysis focuses on the specific elements of each theoretical framework to illustrate connections between them and each of the embedded cases and the Tennessee RiverLine system.

Collaborative Governance. As expressed in the literature review and definitions earlier in this study, collaborative governance refers to public policy aimed at solutions that cannot be accomplished in isolation and conducted through networks made up of governmental entities (Agranoff & McGuire, 2003) or combinations of governmental and non-governmental organizations (Ansell & Gash, 2008) with "shared discretion" (Florini, 2019, p. 437) over public goods (Emerson et al., 2012; Emerson & Nabatchi, 2015a; Florini, 2019). The Tennessee RiverLine falls within this definition.

In the context of this literature, this study has determined that the Tennessee RiverLine Partnership and each local community participate in collaborative governance for engagement with the Tennessee River. Likewise, the Tennessee RiverLine is a multi-

level collaborative system with a platform managed by the Tennessee RiverLine Partnership, which recruits and then supports separate and interconnected instances of collaborative governance within local subsystems. The platform functions to recruit communities into the collaborative governance system and to provide the collaborative resources necessary for them to progress toward the Tennessee RiverLine's long-term goal of creating a continuous 652-mile trail with stops in each community along the length of the Tennessee River, thus creating a series of new experiences for visitors and travelers to enjoy along the Tennessee River.

The Tennessee RiverLine Partnership is a multi-level collaborative platform that acts as an intermediary at a network-wide level among principal partners and multi-jurisdictional peer organizations with individual activity nodes in each community. This organizing principle is essential to understanding the Tennessee RiverLine Partnership's capacity as a platform to deliver value to independent organizations that share an interdependent set of goals that support creating the Tennessee RiverLine. The Tennessee RiverLine Partnership is a coordinating entity and resource conduit for principal partners-- the Tennessee Valley Authority and the University of Tennessee- Knoxville (and its College of Agriculture and School of Landscape Architecture). Meanwhile, participating communities are network nodes independent of the Tennessee RiverLine Partnership, its principal partners, and one another. Within each node, leaders strive to implement the Tennessee RiverLine through further coordination among independent organizations and individuals that cooperate locally and share a common vision with the broader effort.

Appendix D places this collaborative system into the integrative framework for collaborative governance (Emerson et al., 2012; Emerson & Nabatchi, 2015a). The following discussion elaborates on the framework elements studied in this case study.

System Context. The Tennessee RiverLine started as an idea in the Tennessee River Studio class at the University of Tennessee in 2016. This "Idea Studio" taught graduate students in the university's landscape architecture program a method for designing creative solutions to environmental design issues, community engagement, and planning. Part of the course involved traveling across the Tennessee Valley region and observing and engaging people from different walks of life with different interests in the river. Stakeholders like officials from the Tennessee Valley Authority, local politicians, aquatic biologists, and farmers offered perspectives on what the river means to their lives and communities. The different cultures and ways of life, from Knoxville to Paducah, left a lasting impression on students and instructors. As stated in interviews with Tennessee RiverLine Partnership leaders:

> And so this student's idea, based on those experiences, based on the research, was that… we need to build a community around the river in order for the river to be cared for [and] to be recognized as an asset because as it was in our current condition, it was very underutilized, underrecognized as an asset... It was through that recognition that the initial concept for this trail along and on the Tennessee River came into being.

With university affiliation comes a degree of status, legitimacy, trust, significant institutional support, and access to resources, which can be harnessed to help the program but must also be nurtured. Resources include office space, students who work and learn

in the program, access to allied academic disciplines, including the university's Agricultural Extension network, and the academic and creative freedom to simultaneously pursue professional, community, and university goals and objectives. These are not without cost to maintain, however. They must be nurtured through success, support from multiple networks of different social and political communities, and internal actions that demonstrate the value of the Tennessee RiverLine to university leaders. Support and legitimacy conferred by academic, governmental, and local community partnerships justify and sustain the Tennessee RiverLine Partnership's cost to its principal partners.

Each of the three local communities that participated in the study entered the Tennessee RiverLine's RiverTowns program through the Pilot Communities program in 2019, participated in planning processes that helped establish the vision of the Tennessee RiverLine, and then entered the RiverTowns Program in 2021. They are each adjacent to or bisected by the Tennessee River. Two are rural communities whose efforts were launched by county mayors. One is a small city within a county whose involvement flowed primarily through a local nonprofit. In two communities, principal urban centers were located directly on the river; in the third, the population centers were several miles away. The more geographically dispersed location experienced more difficulty recruiting others to support the RiverTowns program, especially from nearby local governments without a direct connection to the riverfront. Each participant described community resources derived from the assets of project sponsors and their networks of relationships with other organizations, but they described few available financial commitments.

People-power, volunteer networks, and convening power formed the primary starting resources, with little financial capital available for new local projects.

The communities are in two different states with similar land management regimes. Like all communities along the Tennessee River, the river's land management regime combines private and governmental agencies. Private property is subject to state, local, and federal land management regulations. County governments in two of the three communities practice zoning to control land uses in the unincorporated parts of the county. Policing waterways and adjacent land are conducted in cooperation between state police and local police jurisdictions, with limited engagement by federal officers employed by agencies located along the shoreline. Meanwhile, state laws and regulators apply another level of potential restriction, with state agencies involved in managing state-owned lands like state parks and regulating the environment, e.g., fish and game, clean water. Federal agencies regulate shoreline activities through the U.S. Army Corp of Engineers, U.S. Fish and Wildlife, and the Tennessee Valley Authority (TVA). TVA's role is vital in the region since it owns and manages shoreline property all along the Tennessee River through its shoreline management plan. TVA's holdings include significant recreational resources along with conservation and power-generating lands. As a federal corporation, TVA is subject to federal environmental review criteria and acts as an intermediary with other federal agencies. It is often viewed as an obstacle to local initiatives because of its bureaucratic processes.

The Tennessee River is a source of commerce and industry for each of the communities. It influenced their early development and provided natural resources for local industry use and jobs. Modern impacts have transformed river industries; examples

include the decline of commercial fishing due to pollution, increased water usage by industry and farming operations, and shifts in transportation from riverways to highways that have affected the movement of people and goods. As expressed by a leader of the Tennessee RiverLine Partnership, the questions of the 20th century were about electrification and flood control. In contrast, the 21st century will contend with climate change and population growth along the Tennessee River. As a result of these changes, for communities along the Tennessee River that participated in this study, the need for economic development related to river resources presented an unresolved challenge and source of untapped potential.

Drivers. The Tennessee RiverLine Partnership is driven by the University of Tennessee's land grant mission to improve the quality of life in surrounding communities, which extends through the School of Landscape Architecture's professional preparation, education, and training programs. The School of Landscape Architecture houses the Tennessee RiverLine Partnership, employs its staff, and supports its leadership. Leadership is driven by professional and personal motivation to educate students, engage creatively, and design solutions to community problems that respect culture, heritage, and the natural environment. A leader interviewed for this research described the project as follows:

> This is the modern land grant mission, right? [The] University of Tennessee, as a land grant institution, is charged with improving the quality of life for the people to stay in Tennessee, and for the broader region as well… This vision and the impacts that it has had, and is positioning to have, came from the classroom... It was a result of teaching. It was a result of community engaged education, working

> with partners, engaging with partners, [and] learning directly from stakeholders. And grounding innovative ideas in those understandings that you can only build through that kind of engagement.
>
> It has since been cultivated both through the classroom as well as through creative activity, which is what I as a designer reference in my research, right? …my dossier is not full of citations and publications and peer-reviewed journals. It's full of engaged, scholarship that's been published in other ways. And so, you know, I've been fortunate to be incentivized to develop this kind of work to pursue this kind of work.

Local community drivers center the need for economic development, using the Tennessee River for recreational tourism, increased visitation, and commerce. The two leaders of most rural communities included the need for increased outdoor recreation in their agendas while seeking office. In the third case, the nonprofit leaders viewed increased river use as an opportunity to raise their organization's profile, which was already engaged in the heritage and tourism industry. For each, the Tennessee RiverLine introduced new opportunities to access resources, start novel events and activities, and introduce new organizational models to help further the local agency's mission.

In each community, the Tennessee RiverLine was a part of the economic development agenda. It was guided by individual leaders with a professional and personal interest in the program's potential outcomes, viewing them as consequential incentives for participating in the Tennessee RiverLine. Participants clearly stated excitement for the RiverLine and its potential. In one community, a nonprofit leader had been engaged with the Tennessee RiverLine since its inception, having hosted students in class tours of the

river in the earliest formative days of the program. This relationship was instrumental in that community's involvement in the RiverLine. In two other cases, local leaders became aware of the new program through the advertising surrounding the Pilot Communities program. They decided to apply because of the potential benefits. The interview participants' desires ranged from generating more revenue through tourism to improving quality of life and community engagement to branding the community and getting additional financial support through grants and other transfers.

Leadership characteristics were the most evident influence on community success later in the program. Differences emerged based primarily on the background of the principal leadership, whether elected or nonelected, and whether the leaders' position was stable. Each team experienced leadership transitions during the two years of the RiverTowns program. In one community, the disruption came from the principal elected leaders' defeat in the next election and a critical staffer leaving to take a different job with the same employer (a critical partner organization with a statewide constituency) in another county. This created a leadership vacuum in local government and within a strongly allied local partner, substantially slowing progress. In the second, a long-serving and influential elected official retired, leaving a gap in the leadership. In the third, a nonprofit leader retired but successfully transitioned the leadership mantle to a community volunteer team. The community disrupted by elections and job changes experienced the program's most significant struggle and uncertainty. In contrast, places affected by retirements spoke less about the disruption and more about successful leadership transitions. Unsurprisingly, leadership impacted collaborative dynamics and capacity for action in each community studied.

Collaborative Dynamics. Collaborative dynamics are engagements within collaborative systems that connect participants and allow decision-making and execution. These include systems for identifying and selecting strategies, building and maintaining participant trust, and acquiring the resources needed for sustained action (Emerson et al., 2012). In this case, collaborative dynamics were driven by the Tennessee RiverLine Partnership and the network of partnership organizations available at the local level.

The Tennessee RiverLine's Stage 1 Partnership Agreement with local communities and the RiverTowns reference guide (Tennessee RiverLine Partnership, 2020) included a benchmark for forming a local leadership team to help organize and guide the RiverLine's implementation in each local community. The leadership teams were to facilitate recreation and stewardship events, recruit volunteers, provide information on assets and resources to the RiverLine Partnership to be used in promotions, and advocate within and between communities for the RiverLine's development (Tennessee RiverLine Partnership, 2020, pp. 42–45). Stage 1 focused on creating a shared vision for the Tennessee RiverLine and organizing cultural connections. In later stages, the focus was to shift to include infrastructure development to enhance access to the river with parks, boat ramps, and other riverfront amenities. Interviewees spoke of local leadership teams' efforts to organize new paddle events and stewardship activities and advocated for new projects along the river. Members of each local leadership team were interviewed for this study. They described the small group dynamics of these teams, which organized and executed events and other RiverLine tasks using the resources of their employer agencies and networks of volunteers. These teams successfully executed new forms of organization using volunteer networks and

introduced novel events such as organized community clean-ups and paddle events into their communities.

A second aspect of collaborative dynamics involves the shared motivation between participants, which permits continued action (Emerson et al., 2012). In interviews with participants, this was not easily distinguished from individual leaders' motivations and perceptions of potential gains from involvement, as described above. Some leading participants in each community had grown more detached from the RiverLine over time due to the leadership changes described above. Two of these communities had not lost much momentum due to leadership changes, but a third seemed to have lost more of the shared motivation due to leadership changes.

Finally, collaborative dynamics involve the resources (leadership, knowledge, financial, etc.) required for action. Leadership dynamics have been detailed elsewhere. In contrast, the knowledge and material resources to succeed were supplemented and improved in each community over time, mainly due to the material support and technical guidance provided by the Tennessee RiverLine Partnership. Having a fleet of boats, program guides, and regular conversations with RiverLine staff regarding progress appears to have created new forms of engagement and collaborative outputs and actions.

Outputs and Collaborative Actions. Outputs and collaborative actions include instrumental activities that could not have taken place working alone and are executed according to a shared theory of action (Emerson et al., 2012). Research participants described several collaborative actions. They principally included the benchmarks necessary for performance under the Tennessee RiverLine's Stage 1 RiverTowns Program. Those benchmarks included forming a leadership team, launching new river

recreation events, launching new river stewardship events, and advocating for the RiverLine's development.

Each community participating in this study also received a small fleet of kayaks under a grant provided to the Tennessee RiverLine partnership from the North Face corporation to use in conjunction with paddle events and to provide for use by other communities along the RiverLine. Accepting these assets and managing their use was a new experience for these communities, which required new processes to integrate into existing institutional settings. Ownership, asset management, storage, and maintenance questions were all new – sometimes controversial- questions to be navigated by local communities and the Tennessee RiverLine Partnership. Therefore, the fleet's deployment itself was a significant collaborative output.

Collaborative Outcomes. Collaborative outcomes include the impacts that create change in a system context, having value to participants, whether predicted or not, and adaptations to the operating machinery that the participants use to pursue impacts (Emerson et al., 2012). The Tennessee RiverLine's impact thus far has been to change participants' collaborative capacity, including new resources to execute strategy and implement the Tennessee RiverLine and new users engaged with the river.

The Tennessee RiverLine has allowed communities to create new partnerships locally and with others. Interview participants described recruiting different leaders than in the past due to the effort. In one community, a more diverse leadership team has evolved.

The Tennessee RiverLine has provided a new framework for engagement within the community and a new object of focus for economic development. Participants cited

the project as helping state and federal agencies more easily recognize them, adding to their influence over shoreline management and other economic development initiatives. In two locations, encounters with other agencies have led to additional projects related to the RiverLine that are beyond its scope. In one, a new partnership has evolved to improve the preservation of culturally and historically significant sites along the river. In another place, planning is underway to improve river safety by installing mile markers along a river segment. Connections between organizations would likely exist without the Tennessee RiverLine, but at a level of awareness without definition and action that led to these specific project outcomes. As such, the Tennessee RiverLine appears to have shaped networks and moved them toward more concrete goals, objectives, actions, and outputs related to its overall mission, including many novel activities that would not have otherwise occurred.

In addition to these impacts, adaptations have taken place throughout the system as the Tennessee RiverLine Partnership has learned to anticipate the challenges of local communities better, how to deliver more value with limited resources to a larger number of participants, and how to change technical and reporting requirements because of feedback from communities about the level and complexity of the Partnership's reporting system.

For example, the RiverTowns program was described as a response to a scaling problem and as the product of engagement and lessons learned working with communities. Following the Pilot Communities effort, there was such demand for participation that it would have taken three or four years to reach every community interested in being part of the RiverLine using the same model. Additionally, it was clear

that the organizational capacity and understanding of river opportunities and the Tennessee RiverLine's vision needed to be nurtured in many places where an organized approach to multi-jurisdictional planning was previously absent from the local environment. The RiverTowns program's phased approach was designed to allow the Tennessee RiverLine Partnership's resources to be shared more efficiently across communities while reaching more potential partners. As participation has increased, an important next step will be to measure the impact in direct terms related to visitation and economic development resulting from the Tennessee RiverLine.

Collaborative Platforms. Ansell and Miura (2020, p. 264) define a governance platform as "...an institution that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives." Such entities work across institutional and environmental contexts to deploy specialized expertise alongside modular and adaptive frameworks (Ansell & Gash, 2008; Ciborra, 1996) to create new opportunities for innovation and facilitate problem-solving (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). Four domains can help classify platforms based on their agenda, distinctive logic, structure, and strategy (Ansell & Gash, 2018).

The Tennessee RiverLine Partnership, led by the University of Tennessee-Knoxville, functions as a collaborative platform initiating and supporting the capacity of multi-level collaborative efforts throughout its service area. The organization is led by and located within the University's School of Landscape Architecture, allowing it to deploy resources of a land grant university's various academic programs across its service area. The program has developed collaborative outputs that increase the

RiverTowns program participants' capacity, including tools for community planning, event planning, trip planning, periodic networking events, an annual conference, guiding frameworks, and research reports. The Partnership supplied a fleet of boats to the first five RiverTowns communities. These are used for paddle events and are shared with neighboring communities.

The Tennessee RiverLine Partnership provides structured support and informal technical assistance for RiverTowns communities. At a network-wide level, the Partnership makes modular and adaptive resources available to communities through recreational programming guides. It provides branding, marketing, promotions, and communications support for the Tennessee RiverLine and its network of participating communities. Additionally, the Partnership provides conduits to expand the network capacity of local communities through a growing base of organizational supporters, including the Tennessee Valley Authority, National Park Service, Department of Fish and Wildlife, and other economic, recreational, and tourism development agencies. With its direct technical assistance, adaptive resources, and networkwide services, the Tennessee RiverLine Partnership acts as a platform to serve the Tennessee RiverLine's communities and vision.

Agenda. The Tennessee RiverLine Partnership's scale and scope is to promote a 652-mile multimodal trail system, benefiting communities along its length. This is evident in the Tennessee RiverLine Partnership's published materials and formal agreements with communities, which contain goals and objectives promoting these aims (RiverTowns Program — Tennessee RiverLine, n.d.; Tennessee RiverLine Partnership, 2020). The Tennessee RiverLine Partnership has adapted to change and organizational

learning. For example, between the initial Pilot Communities Program in 2019 and the RiverTowns Program in 2021, the Partnership had to accommodate new techniques that would allow it to scale effectively to meet the demand for community participation within the organization's limited resources. The Partnership's agenda includes coordinating resources at a network level, continuously building new partnerships with influential governmental and nonprofit organizations having allied missions, as well as at the community level, and facilitating collaboration across each level and in multiple directions at once.

Distinctive Logics. The Tennessee RiverLine Partnership's model for distributed action involves a central organization housed at the University of Tennessee and staffed with support from core partners like the Tennessee Valley Authority. Its engagement across multiple levels and in multiple directions allows it to harness internal resources of the University along with external resources that flow through to network-level support, e.g., branding, website development, and an interactive mapping tool, and down to the level of each community, e.g., resource guides for paddle events, grants for diversity and inclusion, and multiple fleets of kayaks gifted to local communities to foster river engagement. The program's design includes benchmarks for performance and access to standardized resource packages, along with specialized support and informal technical assistance as resources permit. In addition, the Partnership has structured regular networking events and an annual conference to celebrate successes and to exchange ideas among communities.

Structure. The platform's support structure includes standard services provided to all participants at the network level, such as communication strategy, a Partnership

website promoting the Tennessee RiverLine, and Tennessee RiverLine branding. The Partnership operates through formal agreements with communities that specify the roles and responsibilities of each party in the RiverTowns program, with expectations and benchmarks placed on each community. In Stage 1, communities are responsible for forming a leadership team, recruiting local government support, advocating for the Tennessee RiverLine's development locally and with adjacent communities and other potential supporters, and hosting events to connect people to the river through paddle and stewardship events. Each element is specified in the partnership agreements with participants and the RiverTowns Guide, which provides an overview of the program and all three Stages of participation. Partnership staff checks in periodically with leadership teams and benchmarks performance.

Strategy. The Tennessee RiverLine Partnership's application and screening processes balance resources and capacity against needs. The application is used as a screening tool to ensure overall alignment with the Partnership's vision and to keep participation at a level that allows the Partnership to provide high-quality support and engagement with communities and to learn and adapt from engagement continuously. The Partnership's network connections and engagement strategy ensure that the community participants and funding partners receive positive support and value for their investment of resources.

Public Innovation. The framework for public innovation explored in this study involves cyclical action between stages of innovation, leading to novel outputs (Tidd & Bessant, 2013). The Tennessee RiverLine has generated activity across each stage and created several novel outputs aligned to this framework.

Innovation Stage. The Tennessee RiverLine Partnership and the RiverTowns program are each relatively new collaborative efforts addressing a development effort across a significant subnational, regional scale within the Tennessee Valley and along the Tennessee River's entire 652-mile length. Accordingly, this research indicated significant effort in innovation's search and selection stages. Communities and the Tennessee RiverLine Partnership invented new planning processes and co-created them to surface and process knowledge about challenges and resources into actionable frameworks. The search for solutions involved new planning frameworks launched by the Tennessee RiverLine Partnership and local leadership teams. The selection of strategies for action was informed by the search effort but primarily structured by the Tennessee RiverLine Partnership through the development of the RiverTowns Program. Implementation has been simultaneously executed by the Partnership and local communities as the communities approached the RiverTowns program benchmarks: forming local leadership teams, hosting events, and advocating for the Tennessee RiverLine. These efforts have been cyclical, adaptive, and informed by community experiences and principled engagement as the program has launched to new communities. Value capture is in the earliest stages, but participants reported the impact and the number of river users.

Innovation Scope. The scope of innovation in the Tennessee RiverLine was described entirely as incremental. It is built upon existing resources and actions that build upon existing capacities. Communities are "linking and leveraging" (E. Morrison et al., 2019, p. 67) existing resources within understood organizing frameworks, even as they build and apply new collaborative frameworks. Communities are drawn to the Tennessee RiverLine because its mission aligns with organizations' development agendas. These

organizations have network resources supplemented by those of the Tennessee RiverLine Partnership, including financial capital, technical capacity, and organizational skills. New resources combine with existing ones to move projects forward incrementally rather than radically. Interview participants described significant progress toward entirely new and innovative actions in their communities and accomplishments that would not have been likely without participating in the RiverTowns program. Nevertheless, the scope of innovation was viewed mainly as the logical extension of existing resources into new spheres of activity in alignment with an incremental framework.

Innovation Space. The Tennessee RiverLine's RiverTowns program was described as innovative in the participants' process, placement, and products. Process improvements affected organizing frameworks and capacities to launch and execute successful events along the river. Support from the Tennessee RiverLine Partnership through resource guides and technical assistance programs aided improvements in the processes used to produce these collaborative outputs. The program was also described as an innovation in the placement of their products. By supplying another venue for community engagement, participants could market their existing products more effectively, i.e., get the word out about their existing organizations' efforts and build recognition for their local support networks. The RiverTowns program also sparked new products in the form of both one-time events, e.g., planning activities taking place over several days, as well as recurring events on the river that were products that were not part of the community's services before joining the Tennessee RiverLine effort.

Innovation Paradigm. Participating communities pushed into new innovation spaces as they expanded the scope of their organizational efforts to include the Tennessee

RiverLine, developed new processes for incorporating this scope into existing frameworks and resources, explored new opportunities to engage with constituents through the program, and launched new activities relevant to RiverTowns' benchmarks. These changes in process, placement, and products in each community were innovative and collaborative efforts insofar as they were novel to the organizations and participants and likely would not have been accomplished without the help and cooperation of the Tennessee RiverLine Partnership. However, they were not described as substantive shifts in the philosophy or organizing principles of the participant communities. Instead, they were described as incremental, novel, and progressive actions that introduced new ideas, projects, and relationships without altering basic organizing principles, assumptions about relationships, or approaches to goal setting, action, and task management. Therefore, the RiverTowns program was not innovative in terms of changing the "mental model" (Bason, 2010, p. 43) guiding participants in their implementation of new ideas.

Summary of Qualitative Findings. Returning to the qualitative research questions, they can be considered in the case study's context.

How do the Tennessee RiverLine's RiverTowns program leaders describe their decision to join the program? Leaders joined the Tennessee RiverLine's RiverTowns program because it provided hope for consequential outcomes in the form of economic development gains from increased recreational tourism. Due to professional backgrounds and community and economic development commitments, leaders engaged with the Tennessee RiverLine because it aligned closely with their existing motivations and operating frameworks. The Tennessee RiverLine allowed communities to participate in a

large-scale, well-organized project that engaged with other influential organizations like the University of Tennessee Knoxville and the Tennessee Valley Authority.

How has the decision to participate affected collaboration? Participating in the Tennessee RiverLine's RiverTowns program allowed communities to develop new products and deliver new services to communities. It introduced new venues for sharing information and building relationships within and between communities and government agencies.

How has participation affected innovation? Participants have started new programs but view them as extensions of existing agendas and leveraging existing resources to start something new. Interview participants from communities did not frequently use concepts like "innovation" in their responses. The Tennessee RiverLine Partnership's responses were more likely to describe innovation. In the communities examined, indications are that innovation has taken place in processes, products, and placements and that innovation has been increasing but has been incremental.

How has participation affected goal-setting and the way performance is measured? Participants did not report changes in their goal-setting, either individually or for their organizations, beyond accepting the benchmarks for performance specified in the participation agreements with the Tennessee RiverLine's RiverTowns program. Participants had mixed views of the benchmarking requirements. Some viewed benchmarking as a hassle to contend with for approval as a RiverTown. Others viewed it as a factor motivating performance. The program's ultimate goal, to increase economic opportunity through visitation, remains undefined as a specific and measurable goal. The RiverTowns program provided a new action agenda for organizations to work together

and innovate around new projects in alignment with existing long-term goals and objectives. Put differently, the Tennessee RiverLine's RiverTowns program offered a novel short-term agenda and benchmarks for outputs aligned with the outcomes already in place for participating communities.

Quantitative Findings

Quantitative data was collected by a survey distributed to the twenty principal leaders of the Tennessee RiverLine RiverTowns communities. The participants were screened and identified in cooperation with the leadership of the Tennessee RiverLine Partnership. They represented the twenty individuals leading the Tennessee RiverLine RiverTowns effort in each participating community. The survey was distributed via email and taken in the Qualtrics survey system. The survey had 11 responses, with a response rate of 55% of the survey sample and the population of leaders in this project.

The effects of small sample sizes are well-documented. They include limited statistical power or the inability to detect a true effect if one exists, which increases the likelihood of failing to reject a null hypothesis and committing a Type II error, and limited generalizability to the population of interest due to various response biases. Given these limitations, the quantitative results must be disregarded. They are presented in Appendix A solely as an example of the methodology and its application to future research.

Summary of Results

The exploratory sequential mixed methods design is appropriate for research questions requiring a deeper qualitative understanding of the phenomenon of interest to develop a quantitative instrument to test relationships in a novel way (Creswell &

Creswell, 2018). The findings of this study present results of a qualitative analysis of the Tennessee RiverLine's RiverTowns program derived from interviews with participants. Results from a quantitative analysis using survey data from a sample of leaders in communities affiliated with this program are presented in Appendix A as an example of sound methodology but were not robust enough to be valuable in synthesis. The qualitative results demonstrate a meaningful role for the Tennessee RiverLine's RiverTowns program within the frameworks of collaborative governance and collaborative platforms but gave only weak evidence to support the operation of a meaningful public innovation framework.

In the Tennessee RiverLine context, evidence from qualitative analysis supports a direct, positive association between collaboration and performance. As expressed in the literature review and definitions earlier in this study, c*ollaborative governance* refers to public policy aimed at solutions that cannot be accomplished in isolation and conducted through networks made up of governmental entities (Agranoff & McGuire, 2003) or combinations of governmental and non-governmental organizations (Ansell & Gash, 2008) with "shared discretion" (Florini, 2019, p. 437) over public goods (Emerson et al., 2012; Emerson & Nabatchi, 2015a; Florini, 2019). The Tennessee RiverLine is a collaborative system within this definition. Participants exercise discretion over resources they voluntarily share to produce coordinated social action, leading to novel results related to river recreation, stewardship, and economic development.

Ansell and Miura (2020, p. 264) define a governance platform as "...an institution that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives." Such entities

work across institutional and environmental contexts to deploy specialized expertise alongside modular and adaptive frameworks (Ansell & Gash, 2008; Ciborra, 1996) to create new opportunities for innovation and facilitate problem-solving (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). The Tennessee RiverLine Partnership, led by the University of Tennessee-Knoxville, functions as a collaborative platform that initiates and supports the capacity of multi-level collaborative efforts throughout its service area.

Qualitative results strongly supported collaborative drivers and dynamics (Emerson et al., 2012) in the operations of Tennessee RiverLine RiverTowns communities. Likewise, the Tennessee RiverLine Partnership played the central role of a collaborative platform deploying specialized expertise and modular, adaptive frameworks (Ansell & Gash, 2008; Ciborra, 1996) to create new opportunities and facilitate problem-solving (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). The qualitative analysis documented the Tennessee RiverLine Partnership's role as a collaborative partnership. Therefore, the analysis validates a collaborative governance framework as effectively improving performance in this system.

The conceptual framework of public innovation was less robust in the interviews with participants but more pronounced in the interviews with the Tennessee RiverLine Partnership's leadership, suggesting a different value for public innovation as a framework among participants. Interviews illuminated a descriptive framework of public innovation as searching, selecting, and executing strategy (Tidd & Bessant, 2013) via coding participant statements. However, community representatives did not frequently interpret their behaviors through this lens. The results of this study of public innovation

in the Tennessee RiverLine's RiverTowns program cannot conclude that public innovation is a framework that informs participants in executing collaborative programming. In contrast to strong qualitative evidence and quantitative results demonstrating the association between collaboration and performance, there is only weak qualitative evidence supporting the hypothesis that innovative ideas mediate between collaboration and performance in the system studied.

Chapter V:

Discussion and Conclusion

This study addresses collaborative governance, governance platforms, and public innovation in the Tennessee RiverLine's RiverTowns program. The purpose of this mixed exploratory sequential mixed methods research (Creswell & Creswell, 2018) was to explore the context of the Tennessee RiverLine's RiverTowns program within the conceptual frameworks of collaborative governance, governance platforms, and public innovation and test theory related to the intermediary role of innovation in collaborative systems. The first phase of qualitative inquiry explored the Tennessee RiverLine's RiverTowns program through interviews with its leadership to generate findings related to three conceptual frameworks and to develop a survey instrument to test hypotheses about the role of innovation as an intermediary between collaboration and performance. The quantitative research phase developed a new instrument based on qualitative inquiry and collected data using a Tennessee RiverLine RiverTowns leaders survey. The response rate was insufficient for statistical inference. However, the quantitative data analyses were conducted and are included in Appendix A to demonstrate the methodology.

The study addressed a central research question, a related qualitative subset of questions, and two quantitative hypotheses. The central research question was: How has collaboration affected innovation and performance among the Tennessee RiverLine's RiverTowns program participants?

Four qualitative sub-questions were used to answer the central question during the qualitative phase. The qualitative sub-questions were as follows:

1. How do the Tennessee RiverLine's RiverTowns program leaders describe their decision to join the program?
2. How has the decision to participate affected collaboration?
3. How has participation affected innovation?
4. How has participation affected goal-setting and the way performance is measured?

The quantitative phase used survey research and correlation analyses to address two principal hypotheses:

H1: A positive relationship exists between collaboration and innovation. The more often an organization works collaboratively, the greater the opportunity for novel ideas and practices to emerge, which will increase innovation.

H2: There is a positive relationship between innovation and performance. Where there is more innovation, organizations adopt new practices more frequently, increasing their potential for successful performance.

Previous Literature

This study builds on prior literature and research into collaborative systems, focusing on three significant frameworks for understanding the role and function of collaboration as a system of governance. *Collaborative governance* refers to public policy aimed at solutions that no single entity can create alone and conducted through networks made up of governmental entities (Agranoff & McGuire, 2003) or combinations of governmental and non-governmental organizations (Ansell & Gash, 2008) with

"shared discretion" (Florini, 2019, p. 437) over public goods (Emerson et al., 2012; Emerson & Nabatchi, 2015a; Florini, 2019). Governance in this context refers to self-organizing networks of autonomous but interdependent organizations that develop shared goals, cooperate, and exchange resources in pursuit of public ends (Rhodes, 1997). Collaborative systems take advantage of shared goals, incentives, and trust to create processes for shared decision-making that facilitate resource exchanges and resource sharing while respecting the autonomy of individual organizations. These features are critical where no entity has hierarchical authority over another (Agranoff, 2007; Gray, 1989; Huxham, 1993; O'Toole, 1997; Thomson & Perry, 2006). This results in networks sharing information and resources more frequently, which drives innovation within networks (Ansell & Torfing, 2014; Bommert, 2010; Cooke, 2007; Hartley & Benington, 2006; Torfing, Krogh, et al., 2020; Vallance et al., 2020; Yuan & Gasco-Hernandez, 2021). The capacity of collaborative processes to strategically leverage assets and create new solutions, i.e., civic innovation, is the purpose and measure of most collaborative systems (Keast & Mandall, 2014).

A governance platform is an organization or institution "that strategically deploys its architecture to leverage, catalyze, and harness distributed social action for the purpose of achieving certain governance objectives" (Ansell & Miura, 2020, p. 264). Governance platforms use standard rules, norms, and collaborative dynamics across numerous collaborative subsystems (Ansell & Gash, 2018; Bell & Scott, 2020; Vallance et al., 2020), which allow actors to overcome resistance to cooperation and resource-sharing (Ostrom et al., 1994) and use a standardized institutional design that lowers the opportunity cost of collaborating because entities do not need to create new institutional

processes and structures (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). Modular elements and standard institutional design allow for easier collaboration and more efficient innovation.

Collaborative innovation occurs when participants in collaborative systems align behind goals and offer resources that are not available outside of collaboration- including knowledge, skills, and financial capacity, which are combined into new forms of social action. Participants align behind shared systems-level goals, even as individual and organizational goals may differ (Vangen & Huxham, 2012), and hypothesize how resources and knowledge can be combined into an effective strategy, which generates innovation through recombination, adaptation, or invention (Ansell & Torfing, 2014; Bommert, 2010; Hartley, 2005). Public innovation may be incremental or radical, depending on the needs to be addressed and the resources and leadership available (Bason, 2010). Increasingly, public innovations are initiated in collaborative contexts (Borins, 2014).

This study integrates these three research frameworks. It explores the relationship between collaboration and innovation, which has yet to be thoroughly explored or tested in collaborative systems using integrative approaches and mixed methods. The study seeks to expand understanding of the role and function of innovation for practical purposes. This exploration is needed to advance an understanding of how to manage and execute strategies successfully within collaborative systems (Torfing, Krogh, et al., 2020). Practitioners need more precise models for working with organizations to promote collaboration and innovation, the lack of which creates challenges for improving outcomes. Likewise, the advent of governance platforms to encourage and guide

collaboration and innovation across several cases offers insight into their role in collaborative systems. The study explores the nature of these relationships, advancing current theory and providing implications for further research.

Mixed Methodology

The study used an exploratory, sequential mixed methods design (Creswell & Creswell, 2018). Qualitative inquiry was used to understand the Tennessee RiverLine's RiverTowns program, integrating three conceptual frameworks. Interviews with program participants and the deductive application of codes to interview transcripts validated the role of these frameworks in the collaborative system. This information was then used to identify features for quantitative testing, including variables and their likely relationships, and then a survey instrument was developed to test relationships. The mixed qualitative and quantitative methods approach was fitting because the case's explanations and performance measures differed from other research contexts, requiring a deeper understanding of the context of the case to derive an instrument with which to test relationships and hypotheses.

Qualitative Review

The Tennessee RiverLine's RiverTowns program was selected for an instrumental case study (Stake, 1995) of collaborative governance involving a collaborative platform. The case study involved interviews and a review of documents and audiovisual materials related to the case. Interviews were conducted with stakeholders selected based on their role as leaders of the collaborative platform and within individual communities. Interviews and documents were reviewed and coded with a coding frame reflecting the major themes of each of the three conceptual frameworks explored in the study. Codes

were developed for collaborative governance, collaborative platforms, and public innovation frameworks and applied deductively to qualitative evidence to describe and explore the role of each framework in the Tennessee RiverLine's RiverTowns system.

The qualitative findings described the leaders' motivations and goals for the program, the role of collaboration, and the role of innovation in the collaborative system. Leaders hoped for consequential outcomes in economic development and the ability to achieve their existing mission and goals through the Tennessee RiverLine. The program brought new organizing frameworks, creating new opportunities for individuals and organizations to work together toward specific goals and outcomes. These activities were viewed mainly as an extension of existing mission and action frameworks and an incremental form of innovation. However, although actions and objectives were novel, the concept of "innovation" was rarely used as a conceptual framework among community leaders who viewed their new activities as an extension of their existing mission and drive toward specific outcomes related to tourism, economic development, and improving their communities. The communities worked toward common objectives and outputs in the short term, guided by benchmarks established by the Tennessee RiverLine Partnership. However, the long-term goals for the program were not specific or quantifiable; instead, they focused on general improvements in economic and social conditions in each community.

Quantitative Review

The quantitative analysis involved a survey instrument and variables derived from the qualitative phase and past research by Torfing, Krogh, et al. (2020). The response rate was not sufficient for statistical inferences.

Implications and Recommendations

A research project should be grounded in a question that has practical importance and that contributes to scholarly literature (King et al., 1994). The study makes two contributions to the knowledge of collaborative governance, governance platforms, and public innovation. First, it offers a research question of practical importance and broad integration of conceptual frameworks into a method for studying this question and its sub-questions and hypotheses in a natural context. This is a novel use of an exploratory sequential mixed methods approach to explore three major frameworks that have yet to be joined into a broader scope. To date, they exist in separate strands of literature. This study brings these rich frameworks together in the qualitative phase and then refines measurements to test specific hypotheses in the quantitative phase.

Second, the study advances the literature in these fields by providing another case study of collaborative governance, enhancing the study with the treatment of collaborative platforms and public innovation, and extending the quantitative methods available to address the central research question. Quantitative results, which are relatively rarer than case studies, are an important goal for future research. As research into collaboration grows and is extended to encompass larger samples, it will likely require a degree of contextual sensitivity to understand the role of innovation in collaborative systems and construct valid instruments. The prior qualitative inquiry makes these efforts more viable, contributing to the literature with a case study that can offer a vital comparison or cross-class reference point for future scholarship. Additional research on collaborative systems with a focus on the public innovation framework and

connections between innovation and specific starting conditions, motivations, and drivers may help demonstrate that framework's value under different circumstances.

The value of qualitative research is the degree to which it improves the understanding of the particular context of the case (Creswell & Creswell, 2018) and builds a foundation for greater generalizability through future comparative case studies (Creswell & Creswell, 2018; Yin, 2009). The value of quantitative research is its capacity to test specific, falsifiable hypotheses derived from a theoretical premise (King et al., 1994). This study adds value through both methodological approaches in the context of the Tennessee RiverLine's RiverTowns program and the broader application and understanding of theories of collaborative governance, governance platforms, and public innovation. The results of this approach provide a greater understanding of the Tennessee RiverLine as a collaborative system. While they are not robust enough to falsify prevailing theories on the relationship between innovation and performance, they do contrast with them, indicating a need for additional understanding of innovation's role in successful collaboration.

Recommendations for Practice

For practitioners seeking to improve collaboration, this study reinforces the importance of institutional design and collaborative networks spanning multiple levels of action. The collaborative system's drivers and dynamic processes shape goal-setting and outcomes (Emerson et al., 2012; Emerson & Nabatchi, 2015a). A platform with resources and thoughtful leadership can reduce the barriers to action among individual organizations through meaningful incentives, including tools and technical assistance, financial resources, and, as is often overlooked, steady encouragement to action. Creating

and deploying standard tools, norms, and collaborative dynamics across numerous collaborative subsystems (Ansell & Gash, 2018; Bell & Scott, 2020; Vallance et al., 2020) allows individual organizations to overcome resistance to acting toward common goals (Ostrom et al., 1994) and creates tools that become institutional practices across the collaborative system (Bryson et al., 2006; Salamon, 2001; Scott & Thomas, 2017). Designing these institutions requires understanding drivers, incentives, and motivations to create effective collaborative dynamics, which can be more readily steered across a network via a collaborative platform.

Key Assumptions and Limitations

The study makes several methodological assumptions about the population and samples of leaders from the Tennessee RiverLine's RiverTowns program, and it builds on these with its methodology. For the qualitative phase, an important assumption was that an embedded case study design produces a valid understanding of the constructs and frameworks of collaborative governance, innovation, and performance and that this understanding could accurately describe the Tennessee RiverLine's RiverTowns program. This assumption rests on the premise that stakeholders share a common understanding of critical constructs and an ability to express them, and these expressions can be validated with an external coding frame, producing valid descriptive and explanatory results.

Following this basic assumption, the study assumes that purposeful sampling of qualitative participants is sufficient to represent participants' knowledge and understanding. These are vital assumptions affecting the survey instrument's validity for the quantitative phase. For the quantitative phase, the study assumes a survey instrument

can detect and measure knowledge and understanding in the sample selected and that the sample is representative of the population of interest in the study.

For both phases, the study assumes that the evidence collected at a point in time can accurately describe participants' knowledge and understanding. As a cross-sectional study conducted at one point, it uses theory to infer causation. There are no experimental controls for random effects, and bivariate analysis lacks statistical controls for simultaneous effects. Theory and qualitative evidence are relied upon to infer the direction of relationships where they are detected and supported by quantitative evidence.

The most significant limitations of the study directly relate to the size of the population of Tennessee RiverLine RiverTowns communities. With only 20 communities participating in the program at the time of the survey, the pool of top leadership from organizations at the helm of the Tennessee RiverLine's activities was small. As such, the participants in the qualitative phase were likely to be sampled in the quantitative phase, potentially affecting survey responses. Sampling the same participants twice across different phases can introduce confounding effects and duplication into the study (Creswell & Creswell, 2018). In this study, participating in both phases could create a social expectation among interview participants to respond to survey questions in a certain way or weight specific response categories more heavily in responding to questions.

To mitigate these effects as much as possible in a small population and sample, question-wording varied significantly between phases, and data collection in each phase was separated over several months. Qualitative questions were open-ended, allowed respondents to react freely, and were subsequently analyzed with a separately developed

coding frame. Quantitative questions were asked in a structured, multiple-choice format with limited response options. The quantitative survey took place six months after the interviews. The impact of these measures mitigating potential bias, as well as the impact of any potential bias, are unmeasurable and, therefore, are limitations of the study that may be inherent in small populations and samples.

Sample size affects the precision of results, standard deviation, level of confidence, sampling error, and statistical power of the quantitative tests, and nonprobability sampling can introduce unquantifiable biases (Henry, 2009). Sample size can also affect the statistical power of a test and the likelihood of not finding an effect when there is one (Type II error) (Lipsey & Hurley, 2009). These effects are known limitations for research designs with small populations and samples, such as this study of the Tennessee RiverLine's RiverTowns.

Suggestions for Future Research

The findings and limitations of this study suggest new directions for future research. In the Tennessee RiverLine's context, a series of follow-up qualitative interviews to explain public innovation survey results and better understand instrumentation failures would be warranted. This would extend the mixed-methods approach to a third phase, with results re-integrated following a deeper exploration of public innovation and specific inquiry into the mindset and understanding of how innovation influences organizations involved in the program.

In other contexts, there is a need for additional research integrating across three frameworks to allow better cross-case comparisons and generalization. This is a central requirement of qualitative generalization (Creswell & Creswell, 2018; Yin, 2009).

Understanding if the same conceptual frameworks produce similar or different results requires additional application of the same, replicable methodologies. Future research might explore whether different starting conditions and drivers affect goals and the development of collaborative dynamics and institutions in similar settings. Such research might evaluate whether public innovation emerges more prevailingly in different settings, with different missions and goals, and whether similar systems managed by a collaborative platform have the same observable relationships between collaboration and performance using quantitative methods. An exciting strand of research might evaluate whether the resource-acquisition needs of different collaborative stakeholders affected their engagement with public innovation frameworks, such as a collaborative platform housed in a research university expressing different values than its collaborative partners due to different resource requirements.

Conclusion

Understanding collaborative governance and effective strategies for managing collaboration across networks is increasingly important in public life. As public institutions struggle to do more with less and operate more efficiently, the responsibility for governance has shifted from public institutions to networks of public, non-profit, and private organizations to steer resources toward better public outcomes. The need to manage networks across geographic scale and organizational complexity has given rise to steering organizations with specialized knowledge, expertise, and the ability to craft modular tools adaptable to many different settings. The success of broad collaborative efforts may depend on such platforms' viability and ability to generate and share knowledge collaboratively and innovatively.

This study has sought to understand these features of collaborative governance, governance platforms, and collaborative innovation in a specific setting and to contribute to the shared knowledge and practical understanding of these systems. Its central research question involved the interaction of three frameworks of collaborative governance, governance platforms, and public innovation in the Tennessee RiverLine's RiverTowns program. The study's methodology sought to integrate these frameworks by mixing methods to develop a case study of this program and test specific hypotheses about the role of innovation in this collaborative system. The findings indicate a vital role for collaboration in performance but did not find evidence of an association between collaboration and innovation or between innovation and performance. Compared to theory and past research, the findings suggest that the role of innovation is not universal and that additional context-sensitive research is needed to evaluate how best to understand innovation and its role in collaborative governance.

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Appendix A:

Quantitative Instrumentation and Findings

Instrumentation

Survey Questions

The survey instrument was derived from qualitative research and adapted from Torfing, Krogh, et al. (2020). The survey contained 18 questions related to collaboration, innovation, and performance. Four questions addressed collaboration, four questions addressed innovation, and the remaining 10 addressed aspects of performance. The questions were designed to be combined into a composite index for each construct of interest (collaboration, innovation, and performance) as shown in Table B1. The full text of survey questions is included in Appendix B.

Table B1.

Survey Questions and Instrument Design

Construct	Question and Content	Test Correlation With:
Collaboration	Q1 Breadth of Collaboration Q2 Depth of Collaboration Q3 Scope of Collaboration Q4 Collaborative Leadership -Transformed by adding responses together to create a new composite index variable, Collaboration	-Innovation Index (composite Q5-6) -Performance Index (composite Q9-13) -Number of Benchmarks - Completed (Q15) -Time to Completion (Q17) (if Stage 1 complete)
Innovation	Q5 Innovation New Ideas Q6 Innovation New Activities -Transformed by adding responses together to create a new composite index variable, Innovation	-Collaboration Index (composite Q1-4) -Performance Index (composite Q9-13) -Number of Benchmarks Completed (Q15) -Time to Completion (Q17) (if Stage 1 complete)
Performance	Q9 Geographic Impact Q10 Overall Success Q11 Environmental Stewardship Q12 Social Engagement Q13 Tourism and Economic Development -Transformed by adding responses together to create a new composite index variable, Performance	-Collaboration Index (composite Q1-4) -Innovation Index (composite Q5-6)
Specific Performance Measures	Q15 Benchmarks Completed Q16A River stewardship events, e.g., community cleanups, wildlife viewing, environmental education program, etc. Q16B River animation events, e.g., paddle events, other activities Q17 Time to Complete Stage 1	-Collaboration Index (composite Q1-4) -Innovation Index (composite Q5-6)
Omitted Variables	Q7 Innovation Organizational Changes Q8 Innovation Reputation Q14 Stage of Completion	-

Descriptive Statistics

Composite indexes were created for Collaboration, Innovation, and Performance using survey responses based on the reliability testing described above. Eleven valid responses to the survey represented 55% of the population of top-level leaders in organizations participating in the Tennessee RiverLine's RiverTowns program. Table B2 presents descriptive statistics for composite indexes of Collaboration, Innovation, and Performance used for hypothesis testing.

Table B2.

Descriptive Statistics for Collaboration, Innovation, and Performance

Descriptive Statistics			
	Collaboration	**Innovation**	**Performance**
Number	11	11	11
Mean	14.727	6.545	18.909
95% CI Mean Upper	16.977	7.833	21.587
95% CI Mean Lower	12.477	5.258	16.231
Std. Deviation	3.349	1.916	3.986
95% CI Std. Dev. Upper	4.855	2.420	4.771
95% CI Std. Dev. Lower	1.136	1.214	2.119
Minimum Possible	3.000	2.000	5.000
Maximum Possible	20.000	10.000	25.000
Minimum Observed	6.000	4.000	13.000
Maximum Observed	18.000	10.000	24.000

The normality of data, or lack thereof, is an important consideration for hypothesis testing, affecting the appropriate choice of test statistic. Data that is not normally distributed violates an underlying assumption of many parametric tests of significance. Fortunately, there are nonparametric alternatives for such data.

Data that is not normally distributed may show signs of skewness or kurtosis. Skewed data has outliers that draw its distribution toward a scale's high or low end. Kurtosis describes the height of a data set's distribution, with positive kurtosis having a

higher peak than a normal distribution and negative kurtosis having a lower peak than a normal distribution. Table B3 provides descriptive statistics for skew and kurtosis. The negative skewness values for both Collaboration and Performance measures indicate data skewed toward the negative end of the scale and a non-normal distribution. The high level of kurtosis for Collaboration indicates a higher peak in the data than would be expected in a normal distribution. These indicate a non-normally distributed data set.

Table B3

Skewness and Kurtosis for Collaboration, Innovation, and Performance

Skew and Kurtosis			
	Collaboration	**Innovation**	**Performance**
Number	11	11	11
Skewness	-1.955	0.176	-0.520
Std. Error of Skewness	0.661	0.661	0.661
Kurtosis	4.742	-0.750	-1.149
Std. Error of Kurtosis	1.279	1.279	1.279

Table B4 provides the results of the Shapiro-Wilk Test of Normality for each index used in this study. The Shapiro-Wilk Test of Normality tests the hypothesis that the data's distribution is different from a normal distribution and is a helpful statistic for interpreting normality (Kim & Park, 2019). The Shapiro-Wilk Test of Normality has as its null hypothesis that the data's distribution is not different from the normal distribution, so a significant result indicates that the data's distribution differs from the normal distribution. A significant result indicates a non-normal distribution, i.e., the null hypothesis of no significant difference from a normal distribution is rejected, and the alternative hypothesis that there is a difference is accepted. The Shapiro-Wilk Test of Normality indicates a non-normal distribution for the index variable for Collaboration.

Table B4

Shapiro-Wilk Test of Normality for Collaboration, Innovation, and Performance

Test of Normality (Shapiro-Wilk)		
	W	**p**
Collaboration	0.772	0.004
Innovation	0.936	0.477
Performance	0.895	0.161

Validity and Reliability

"Validity refers to measuring what we think we are measuring…Reliability means that applying the same procedure in the same way will always produce the same measure" (King et al., 1994, p. 25). The quantitative research phase used a new survey instrument grounded in literature, based on past research (Torfing, Krogh, et al., 2020), and developed from an earlier qualitative phase according to an exploratory sequential mixed methods research design (Creswell & Creswell, 2018). The survey gathered data and tested relationships between collaboration, innovation, and performance in a case-specific context. Using new instruments to measure constructs requires carefully constructing questions (Fowler & Cosenza, 2009) and then assessing the validity and reliability of the instrument (Creswell & Creswell, 2018; Price, 2017). Validity describes how well the instrument captures data about the "true" phenomenon being studied and how trustworthy inferences drawn from the data will be (Creswell & Creswell, 2018; Lipsey & Hurley, 2009; Price, 2017). Reliability describes the degree to which the instrument can be trusted to measure the phenomenon in the same way across different participants and repeated trials and if the measurements are internally consistent (Creswell & Creswell, 2018; Price, 2017).

Question content and wording are important for achieving validity. Respondents must be able to understand questions, know the information being requested, understand

responses, and be willing to answer questions (Fowler & Cosenza, 2009). The qualitative phase of this research was grounded in literature and prior research, and the qualitative findings were used to shape the survey instrument to improve the validity of quantitative results in this exploratory sequential research design (Creswell & Creswell, 2018).

Reliability can be evaluated by testing the internal consistency of measures. Reliability in terms of internal consistency evaluates the degree to which survey questions measure the same construct by assessing how well they correlate to one another and account for unexplained variance or error (Trizano-Hermosilla & Alvarado, 2016; Zhang & Yuan, 2016). Traditional reliability tests present this as a ratio of explained variance to unexplained variance, with a threshold of 0.70 as a benchmark for a reliable set of measures for an underlying construct (Creswell & Creswell, 2018). McDonald's Omega and Cronbach's Alpha were calculated and presented for each item of the indexes used in this research.

The reliability metrics for Collaboration tested the internal consistency of responses to four survey questions addressing different aspects of collaboration. These included the number and type of organizations involved in the Tennessee RiverLine RiverTowns program (Breadth of Collaboration), the degree to which others have been involved in executing its programming (Depth of Collaboration) and planning RiverTowns interventions (Scope of Collaboration), and the amount of collaboration in leading the program (Collaboration Leadership). These measures attained the benchmark for internal reliability (statistic > 0.70), indicating they are internally consistent and measure the same underlying construct reliably enough to be merged into a single scale measuring collaboration. Table B5 shows the results of McDonald's Omega and

Cronbach's Alpha for four survey items: Breadth of Collaboration, Depth of Collaboration, Scope of Collaboration, and Collaboration Leadership.

Table B5.

Reliability Statistics for Four Indicators of Collaboration Index

Reliability Statistics		
Estimate	**McDonald's ω**	**Cronbach's α**
Point estimate	0.716	0.702
95% CI lower bound	0.003	0.173
95% CI upper bound	0.916	0.911

The reliability metrics for Innovation also tested the internal consistency of responses to four survey questions addressing different aspects of innovation. These included the new ideas introduced by the Tennessee RiverLine RiverTowns program (Innovative Ideas), the new activities initiated by participants (Innovative Activities), changes in the way organizations operate (Innovative Organizational Practices), and the perception by others of the level of innovation involved (Innovative Reputation). The initial design called for all four variables to be used in an index measuring innovation. However, the four measures were not reliable enough for a single index to be constructed. The four measures did not achieve the desired benchmark for a composite index (statistic > 0.70) on the McDonald's Omega and Cronbach's Alpha tests. Two measures (Innovative Organizational Practices and Innovative Reputation) appeared to be related to different constructs, as indicated by a negative correlation with the scale used to estimate reliability statistics. Table B6 shows the results of McDonald's Omega and Cronbach's Alpha for four survey items: Innovative Ideas, Innovative Activities, Innovative Organizational Practices, and Innovative Reputation.

Table B6.

Reliability Statistics for Four Indicators of Innovation

Reliability Statistics		
Estimate	**McDonald's ω**	**Cronbach's α**
Point estimate	0.616	0.091
95% CI lower bound	0.006	-1.660
95% CI upper bound	0.847	0.743

Note. Of the observations, pairwise complete cases were used. The following items correlated negatively with the scale: Innovative Organizational Practices, Innovative Reputation.

Isolating the two positively correlated innovation items (Innovative Ideas and Innovative Activities) provided an internally consistent metric based on McDonald's Omega and Cronbach's Alpha tests. Therefore, the Innovation Index was calculated and included only Innovative Ideas and Innovative Actions. Table B7 shows the results of McDonald's Omega and Cronbach's Alpha for two survey items: Innovative Ideas and Innovative Practices.

Table B7.

Reliability Statistics for Innovation Index Using Innovative Ideas and Innovative Actions Variables

Reliability Statistics		
Estimate	**McDonald's ω**	**Cronbach's α**
Point estimate	0.782	0.782
95% CI lower bound	0.303	0.275
95% CI upper bound	0.960	0.946

The reliability metrics for Performance tested the internal consistency of responses to five survey questions addressing different aspects of performance. These included a question related to the geographic areas affected (Geographic Scale), three questions on the perceived impact in three major areas of interest to the Tennessee

RiverLine (Environmental Stewardship, Social Engagement, and Tourism and Economic Development), and a question about perceptions of overall success (Overall Success). These measures attained the benchmark for internal reliability (statistic > 0.70) on McDonald's Omega and Cronbach's Alpha tests, indicating they are internally consistent and measure the same underlying construct reliably enough to be merged into a single scale measuring performance. Table B8 shows the results of McDonald's Omega and Cronbach's Alpha for five survey items: Geographic Scale, Environmental Stewardship, Social Engagement, Tourism and Economic Development, and Overall Success.

Table B8.

Reliability Statistics for Performance Index

Reliability Statistics		
Estimate	**McDonald's ω**	**Cronbach's α**
Point estimate	0.941	0.912
95% CI lower bound	0.888	0.816
95% CI upper bound	0.976	0.966

Quantitative Findings

How has collaboration affected innovation and performance among the Tennessee RiverLine's RiverTowns program participants? The quantitative phase of this study focused on the intervening role of innovation between collaboration and performance in collaborative systems, as described by multiple case studies (Bommert, 2010; Eggers & Singh, 2009; Hartley, 2005; Hartley et al., 2013; Sørensen & Torfing, 2011, 2019) and at least one previous quantitative study (Torfing, Krogh, et al., 2020). The hypotheses derived from this framework were as follows:

H1: A positive relationship exists between collaboration and innovation in the collaborative system. The more often an organization works collaboratively, the greater the opportunity for novel ideas and practices to emerge, which will increase innovation.

H2: There is a positive relationship between innovation and performance in the collaborative system. Where there is more innovation, organizations adapt new practices more frequently, increasing their potential for successful performance.

The analysis proceeded in stages, testing each hypothesized relationship using a series of Spearman's Rank Order Correlation tests to detect an association between measures of collaboration, innovation, and performance. The examination assessed whether relationships between each variable along the path between collaboration and performance were present and in the hypothesized direction. Four correlation matrixes were developed and presented to examine these relationships. The correlations probe and explore relationships between variables in each step of a hypothesized causal chain but are insufficient to prove causation (MacKinnon et al., 2002). The value of these tests lies in exploring and extending theory in the context of this case study.

The quantitative analysis does not support the hypotheses regarding an intervening role for innovation in the collaborative process leading to performance in the Tennessee RiverLine's RiverTowns program. Although the research found evidence of a positive relationship between collaboration and performance, the hypothesized relationships between collaboration and innovation (H1) and innovation and performance (H2) were not supported.

Hypothesis Testing Using Spearman's Rank Order Correlation

Spearman's Rank-Order Correlation (Spearman's Rho) was selected to test the correlation between the collaboration, innovation, and performance indexes constructed from survey responses. Spearman's Rho is a nonparametric test that does not rely on normally distributed data. It is appropriate for ordinal-level data such as that collected in this study's survey responses and the constructed indexes for Collaboration, Innovation, and Performance.

Table B9 provides results from the correlation matrices used to examine the central research question and hypotheses. As shown, the test finds no evidence of a mediating role for innovation in the Tennessee RiverLine's RiverTowns program among survey respondents (n = 11). The principal research hypotheses are that collaboration affects innovation (H1) and innovation affects performance (H2), and both are positive associations. In the first test (H1), collaboration is expected to correlate with innovation positively. In the second test, innovation is expected to correlate with performance positively.

Table B9

Spearman's Rank Order Correlation (Spearman's Rho) for Collaboration and Innovation (H1), Innovation and Performance (H2)

Spearman's Correlations		
	Spearman's rho	**p**
Collaboration – Innovation (H1)	0.092	0.394
Innovation – Performance (H2)	0.172	0.306

Note. All tests one-tailed, for positive correlation.
* $p < 0.05$, ** $p < 0.01$, one-tailed

Based on one-tailed significance tests ($\alpha = 0.05$), the evidence fails to support either H1 or H2. The weak magnitude of effect shown in each correlation fails to achieve significance between measures of innovation and collaboration (H1) or between measures of innovation and performance (H2). Therefore, the study fails to reject the null hypotheses in each of the tests examined, concluding there is no evidence of an intermediary effect for innovation in the Tennessee RiverLine's RiverTowns program study.

Upon examination, as shown in Table B10, the survey results demonstrate a significant positive association between collaboration and performance, supporting a positive impact on performance from greater levels of collaboration in the Tennessee RiverLine. Literature has long recognized this relationship, so while it is beyond the scope of the present research hypotheses, this important quantitative finding supports a general collaborative governance framework where increased collaboration is positively associated with performance. However, the framework of public innovation examined is not supported. Both findings have important implications for further research and practice in collaborative systems.

Table B10

Spearman's Rank Order Correlation (Spearman's Rho) for Collaboration and Performance

Spearman's Correlations

	Spearman's rho	**p**
Collaboration - Performance	0.683*	0.010

Note. All tests one-tailed, for positive correlation.
* $p < 0.05$, ** $p < 0.01$, one-tailed

The results are the same when focusing only on H2 and examining the relationship between innovation and performance using three different performance measures specific to the Tennessee RiverLine. When innovation is examined in context with the number of RiverTowns benchmarks completed, whether a community completed all the Stage 1 benchmarks and the time required to complete these benchmarks, the analysis found no relationship between innovation and any of these specific performance measures. The first performance measure is the number of benchmarks completed, which was reported by all survey respondents (n=11). The second variable includes those communities having completed all the Stage 1 benchmarks (n=5), coded as "1" in the data set. The third performance variable represents those communities that had completed all benchmarks (n=6). Table B11 provides Spearman's Rho correlation tests between Innovation and these three specific performance measures. The evidence from the Tennessee RiverLine study fails to support the hypotheses of a relationship between Innovation and Performance (H2).

Table B11

Spearman's Rank Order Correlation (Spearman's Rho) for Innovation and Three Specific Performance Measures

Spearman's Correlations

	Spearman's rho	**p**
Innovation - Number of Benchmarks	0.346	0.149
Innovation - Completed Stage1	0.029	0.466
Innovation – Time to Complete	-0.385	0.864

Note. All tests one-tailed, for positive correlation.
* p < .05, ** p < .01, one-tailed

Table B12 includes the same performance variables along with their correlation with Collaboration. Collaboration is significantly correlated with the number of

benchmarks completed and having completed Stage 1. Therefore, validating a general collaboration framework, two out of three correlations support a direct association between collaboration and performance. Still, the collective evidence does not support an intermediary role for innovation in this system.

Table B12

Spearman's Rank Order Correlation (Spearman's Rho) for Collaboration and Three Specific Performance Measures

Spearman's Correlations		
	Spearman's rho	**p**
Collaboration -Number of Benchmarks	0.761**	0.003
Collaboration – Completed Stage1	0.789**	0.002
Collaboration – Time to Complete	-0.135	0.645

Note. All tests one-tailed, for positive correlation.
* $p < 0.05$, ** $p < 0.01$, one-tailed

Summary of Quantitative Results

The only significant correlations are found between collaboration measures and performance metrics across several tests. Collaboration is associated positively with performance in testing correlations between Collaboration and Performance (Spearman's Rho = 0.683, p = 0.010), Collaboration and Completed Stage 1 (Spearman's Rho = 0.789, p = 0.002), Collaboration and Number of Benchmarks (Spearman's Rho 0.761, p = 0.003). This finding supports prior literature and analyses on the relationship between collaboration and performance. It provides evidence of an association between levels of collaborative effort and outcomes in the Tennessee RiverLine's RiverTowns programs.

However, the analysis fails to detect a mediating effect of innovation between collaboration and performance. None of the tests performed indicate any relationship between collaboration and innovation nor between innovation and performance. As such, the quantitative analysis fails to detect a critical hypothesized relationship between collaboration, innovation, and performance in the Tennessee RiverLine's RiverTowns programs.

The findings support prior literature on the relationship between collaboration and performance and the association between the two in the Tennessee RiverLine's RiverTowns programs. However, the analysis fails to indicate a mediating relationship between innovation and performance. Therefore, the central research question of this study is addressed: the relationship between collaboration and performance appears to be strong, but innovation has no observable role as a mediator or predictor of performance in the data collected from the Tennessee RiverLine's RiverTowns program. Future research with more robust samples and quantitative techniques may provide additional insight into this relationship.

Appendix B:

Survey Instrument

Consent to Participate in Research

You are being asked to participate in a survey for a research project entitled "Collaboration, Innovation, and Performance: Analyzing Collaborative Governance, Platforms, and Innovation in the Tennessee RiverLine," which is being conducted by Nathan Willingham, a student at Valdosta State University. The purpose of the study is to understand how organizations that work together use new ideas and improve performance. Participants will receive a $20 Visa Gift Card. This survey is anonymous unless you choose to provide contact information to receive this incentive. Should you provide this contact information, your participation in this survey will be confidential, and the researcher will not share your identity or your responses in a way that can be linked to you as an individual. Only individuals employed by organizations that are part of the Tennessee RiverLine's RiverTowns program are eligible to participate. Your responses may help us learn more about the Tennessee RiverLine and how organizations work together to implement similar large projects. There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life. Participation should take approximately 30 minutes to complete. The researcher will not know your identity. Your participation is voluntary. You may choose not to take the survey, stop responding at any time, or skip any questions that you do not want to answer. Participants must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older. You may print a copy of this statement for your records. Questions regarding the purpose or procedures of the research should be directed to Nathan Willingham at cnwillingham@valdosta.edu. This

study has been reviewed by the Institutional Review Board (IRB) review in accordance with Federal regulations to ensure the confidentiality and privacy of participants. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-253-2947 or irb@valdosta.edu.

I consent

I do not consent

COLLABORATION (Q1-Q4)

Q1 Breadth of Collaboration

In your involvement with the Tennessee RiverLine's RiverTowns program, please indicate the types of organizations you have collaborated with. Check all that apply.

We worked independently with no other organization's assistance.

We had support from the University of Tennessee Knoxville's Tennessee RiverLine Partnership staff.

We worked with at least one public entity (county, municipality, TVA) or university other than the University of Tennessee Knoxville.

We worked with at least one nonprofit organization.

We worked with at least one for-profit organization.

Q2 Depth of Collaboration

Thinking about involvement by other people and organizations (e.g., UT, TVA, local governments, and nonprofits, etc.) in the Tennessee RiverLine's RiverTowns program, please check all of the following that apply.

We have planned, funded, and worked on RiverTowns events independently without assistance from others.

Other people or organizations have helped us to plan RiverTowns events.

Other people or organizations have helped us to fund RiverTowns events.

Other people or organizations have attended RiverTowns events.

Other people or organizations have helped us by working at RiverTowns events (e.g., helped with registrations, booths, distributing supplies and equipment, etc.).

Q3 Scope of Collaboration

Thinking about how other people and organizations (e.g., UT, TVA, local governments, and nonprofits, etc.) are involved in your Tennessee RiverLine RiverTowns projects, please select the best statement to describe their level of involvement.

We plan these activities and inform others about them.

People from other organizations are informed about activities after they are planned and have an opportunity to provide feedback.

People from other organizations have an opportunity to contribute ideas, which we consider and sometimes include when planning activities.

People can directly contribute to most of the planning of these activities.

People are continuously engaged with planning these activities.

Q4 Collaborative Leadership

Considering the leadership of your Tennessee RiverLine's RiverTowns, please select the statement that is most accurate.

Apart from periodic meetings, no designated individual or group is responsible for ensuring the involvement of others in decision-making.

Someone assumes leadership when there is a problem but there is no established process for deciding who leads.

Someone leads who is consistent, inclusive, and seeks input from all stakeholders before making decisions.

There is a cooperative leadership structure and decision-making processes involve all partner organizations when needed.

A board or steering committee is responsible for most planning and decisions. It is active and engaged in all aspects of decision-making.

INNOVATION (Q5-Q6)

Q5 Innovation New Ideas

Considering how new ideas have come into your community due to the Tennessee RiverLine's RiverTowns program, please select the most accurate statement.

The program has not introduced any new ideas to our community. It is built entirely on ideas that we already had.

The program has introduced a few new ideas but builds mostly on ideas that we already had.

The program has introduced new ideas and builds on an equal mix of ideas we already had and new ideas.

The program has introduced new ideas but has built mostly on ideas that were new to us.

The program has been entirely built on new ideas that we did not have before.

Q6 Innovation New Activities

Considering the impact of the Tennessee RiverLine's RiverTowns on events and activities, please select the statement that is most accurate.

The program has not introduced any new events or activities. It builds entirely on events and activities that we already had.

The program has introduced a few new events and activities but builds mostly on events and activities that we already had.

The program has introduced new events and activities and builds on an equal mix of new events and activities along with ones we already had.

The program has introduced new events and activities but has been built mostly on events and activities that are new to us.

The program is built entirely on new events and activities that we did not have before.

Q7 Innovation Organizational Changes

Considering the changes in how you operate since you started the Tennessee RiverLine's River Towns program, please select the most accurate statement.

Our approach remains largely unchanged. An outsider probably would not notice any changes at all.

Our approach is mostly the same but there are some small-scale differences. An outsider might notice these differences in our approach.

Our approach differs noticeably. An outsider is likely to notice the differences.

Our approach differs quite a lot. An outsider is very likely to notice the differences.

Our approach differs significantly. An outsider would almost certainly notice the differences.

Q8 Innovation Reputation

Considering the projects you have worked on since beginning the RiverTowns program, which best describes how people view their innovation?

People do not consider the projects to be innovative.

People who are closely involved with the projects consider them innovative since they bring something new to a small group of people.

Everyone involved in the projects regards them as innovative.

The projects are regarded as innovative by a large segment of the community.

The projects are regarded as innovative by almost all of the community.

PERFORMANCE (Q9-Q13)

Q9 Geographic Scale

In terms of geographic impact, please select the option that best describes the extent of the impact of your community's RiverTown's project.

The impact has been very local and has affected a few small locations in our community (e.g., waterfront areas, parks, and places where activities are directly located).

The impact is local and affects larger parts of our community but not all of it (e.g., neighborhoods or particular districts in town).

The impact has been community-wide across all of our community (e.g., our city, county, or group of places that make up your community).

The impact has been regional and affected more than just our community (e.g., a few other counties or a region of a state).

The impact has been widespread and affected the entire Tennessee Valley.

Q10 Overall Success

On a scale of 1 to 5, with 1 being the strongest disagreement and 5 being the strongest agreement, please rate the following statement:

Overall, the Tennessee RiverLine's RiverTowns program has been a success for our community.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Q11 Environmental Stewardship

On a scale of 1 to 5, with 1 being the strongest disagreement and 5 being the strongest agreement, please rate the following statement:

The Tennessee RiverLine's RiverTowns program has positively impacted environmental stewardship and conservation in our community.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Q12 Social Engagement

On a scale of 1 to 5, with 1 being the strongest disagreement and 5 being the strongest agreement, please rate the following statement:

The Tennessee RiverLine's RiverTowns program has positively impacted social engagement and equity in our community.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Q13 Tourism and Economic Development

On a scale of 1 to 5, with 1 being the strongest disagreement and 5 being the strongest agreement, please rate the following statement:

The Tennessee RiverLine's RiverTowns program has positively impacted tourism and economic development in our community.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Q14 Stage of Completion [Not Used]

Please select the option that best describes the required events and activities that you have completed as part of Stage 1 of the Tennessee RiverLine's RiverTowns program:

We have not completed any of the required events and activities in Stage 1.

We have completed most of the required events and activities in Stage 1.

We have completed all the required events and activities in Stage 1.

We have completed one to three additional activities beyond those required in Stage 1.

We have completed over three additional activities beyond those required Stage 1.

Q15 Benchmarks Completed [also used to create 0 to 1 scale for Stage 1 completion]

Which of the following benchmark activities has your community completed for Stage 1 of the Tennessee RiverLine's RiverTowns program? (check all that apply)

Establish and regularly convene a Local Tennessee RiverLine Leadership Team.

Organize one or more community paddle events on the Tennessee River OR another public event, planned with Partnership support, on its banks each year.

Organize one or more river stewardship activities along the Tennessee River each year, such as a river cleanup, wildlife viewing, or environmental education program; a service project focused on habitat conservation, restoration, or cultivating citizen science; OR another Partnership-approved river stewardship activity.

Provide a formal resolution adopted by the council and/or commission of elected officials that articulates the city and/or county's understanding of the Tennessee RiverLine vision, and their support thereof.

Advocate to neighboring communities that they consider applying to the Tennessee RiverTowns Program during future enrollment cycles.

Share your community's participation in the Tennessee RiverTowns Program and your community's support for the Tennessee RiverLine vision with state and federal elected officials and Department/Agency leadership.

In collaboration with the Tennessee RiverLine staff and Partnership members, complete a comprehensive inventory of the elements, locations, and conditions of your community's River Park: its public landscapes, amenities, and support infrastructures that provide river access and experiences.

Q16 Activities Completed [Not Used]

How many of the following activities did your community complete during Stage 1 of the Tennessee RiverLine's RiverTowns program?

16A. River stewardship events (e.g., community cleanups, wildlife viewing, environmental education program, etc.).

16B. River animation events (e.g., paddle events, other activities).

Q17 Time to Complete Stage 1

How long did it take to complete the required activities and events for Stage 1 of the RiverTowns program? Please respond with the approximate number of months it required for your community to complete all of the Stage 1 RiverTowns benchmarks.

Appendix C:

Institutional Review Board Documentation

Institutional Review Board (IRB)
For the Protection of Human Research Participants

PROTOCOL EXEMPTION REPORT

Protocol Number: 04312-2022 **Responsible Researcher(s):** Charles Nathan Willingham

Supervising Faculty: Dr. Keith Lee

Project Title: *Collaboration, Innovation, and Performance Analyzing Collaborative Governance, Platforms, and Innovation in the Tennessee RiverLine.*

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **exempt** from Institutional Review Board (IRB) oversight under 45 CFR 46.101(b) of the federal regulations **category 2**. If the nature of the research changes such that exemption criteria no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research study.

ADDITIONAL COMMENTS:

- *Upon completion of the research study, all collected data (e.g. data set, name lists, email lists, payment logs, etc.) must be securely maintained and accessible only by the researcher(s) for a minimum of 3 years. At the end of the required time, collected data must be permanently destroyed.*
- *Pseudonym lists and corresponding name lists must be kept in separate, secure files.*
- *Qualtrics platform settings must allow participants to skip questions and/or not provide answers. The settings must prohibit the collection of IP addresses.*
- *VSU's Participant Payment Log must be securely maintained and up to date at all times. Each participant who receives a gift card must sign upon receipt of the card. Digital signatures are permitted.*
- *Exempt guidelines **permit** recording interviews for the purpose of creating an accurate transcript. Recordings must be deleted immediately upon creation of the transcript. Participant recorded testimonies, must be deleted upon creation of the transcript.*
- *Exempt guidelines **prohibit** the collection, storage, and/or sharing of recordings.*
- *The research consent statement must be read aloud to participants at the start of each interview session, and documented in the transcript.*

☒ ***If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.***

Elizabeth Ann Olphie *07.07.2022*
Elizabeth Ann Olphie, IRB Administrator

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-253-2947.

Appendix D:

Application of the Diagnostic or Logic Model of An Integrative Framework for Collaborative Governance

Application of the Diagnostic or Logic Model of An Integrative Framework for Collaborative Governance

Dimension & Components	**System Context**	**Drivers**	**The Collaborative Governance Regime**				**Collaborative Outcomes**	
			Collaborative Dynamics			Outputs & Collaborative Actions	Impacts	Adaptations
			Principled Engagement	*Shared Motivation*	*Capacity for Joint Action*			
Elements within component	-Resource conditions -Policy legal frameworks -Prior failure to address issues -Political dynamics/power relations -Network connectedness -Levels of trust/conflict -Socioeconomic, cultural health and diversity	-Leadership -Consequential Incentives -Inter-dependence -Uncertainty	-Discovery -Definition -Deliberation -Deter-mination	-Mutual trust -Mutual understanding -Internal legitimacy -Shared commitment	-Procedural & institutional arrangements -Leadership -Knowledge -Resources	Contextual but might include: -Securing endorsements -Enacting policy, law, or rule -Marshaling resources -Deploying staff -Siting, permitting -Building, cleaning up -Enacting new management practice -Monitoring implementation -Enforcing compliance	Contextual, but the aim is to alter pre-existing or projected conditions in the system context.	-Change in system context -Change in the CGR -Change in collaboration dynamics

Dimension & Components	**System Context**	**Drivers**	**The Collaborative Governance Regime**				**Collaborative Outcomes**	
			Collaborative Dynamics			Outputs & Collaborative Actions	Impacts	Adaptations
			Principled Engagement	*Shared Motivation*	*Capacity for Joint Action*			
Tennessee RiverLine Partnership								
	-Land grant university -School of Landscape Architecture -Land management regime(s) -Partnership affiliations (TVA, NPS, TDEC, etc.) -Resource limits	-Professional role and identity -Institutional support -Complexity: interdependence and uncertainty	-Evolution from classroom to Pilot to RiverTowns program -Formal planning processes -Formal agreements	-Institutional legitimacy -Gaining "currency" -Applications -Planning processes	-Formal agreements and benchmarks -Staff support -Network resources -Community resources	-Planning -Marketing and branding -Strategy -Research -Resource guides -Grants -Fleet program	-More boaters and first-time users (at least -New river experiences (75 events and 1500 people) -Master plans - Investors and supporters -Communities sharing resources -Regional framework for delivering value at scale -Elevated community capacity -Visibility and buy-in for the TRL vision -Local, regional, and national partnerships -Resources -Engagement -Research - Greater interest in new projects & infrastructure	-Growth and maturity about resource flows and value generated within constraints -More river users -More interest in the river -More support for the RiverLine

Dimension & Components	**System Context**	**Drivers**	**The Collaborative Governance Regime**				**Collaborative Outcomes**	
			Collaborative Dynamics			Outputs & Collaborative Actions	Impacts	Adaptations
			Principled Engagement	*Shared Motivation*	*Capacity for Joint Action*			
			RiverTowns Community A					
	-Small city -River industry -Economic development agenda -Land management regime(s) -Partnerships and working relationships -Resource limits	- Professional experiences -Personal experiences -Network connections	-Evolution from classroom to Pilot to RiverTowns program -Formal planning processes -Formal agreements -Local leadership team	-Economic development agenda -Heritage and preservation goals -Goals for community engagement	-Volunteer & professional networks -Fleet -DEI grant -Access to Tennessee RiverLine resources	-Planning -Paddle events (4-5 per year) -Stewardship events (1-2 per year) -Leadership team -Kayak fleet -Fleet sharing -DEI grant	-More people and comfort on the river -New partners -New leaders -Engagement & resource-sharing with/ other places -More diverse leadership team -Greater organizing capacity for events	-Leadership transition -Capacity gains -More river users -More interest in the river -More support for the RiverLine
			RiverTowns Community B					
	-Rural community --Economic development agenda -Land management regime(s) -Partnerships and working relationships -Resource limits	- Professional experiences -Personal experiences -Elected agenda	-Formal agreements -Formal planning processes -Local leadership team	-Economic development agenda	-Volunteer & professional networks -Fleet -Access to Tennessee RiverLine resources	-Planning -Paddle events (1-2 per year) -Stewardship events (1-2 per year) -Leadership team -Kayak fleet -Fleet sharing -Other technical assistance -New heritage preservation program	-New ideas to get people on the river -A new way to recruit community champions -New & better relationships -A baseline framework for engagement -New preservation effort w/ federal partner	-Leadership transition -Capacity gains -More river users

Dimension & Components	**System Context**	**Drivers**	**The Collaborative Governance Regime**				**Collaborative Outcomes**	
			Collaborative Dynamics			Outputs & Collaborative Actions	Impacts	Adaptations
			Principled Engagement	*Shared Motivation*	*Capacity for Joint Action*			
RiverTowns Community C								
	-Land management -Economic development agenda -Partnerships and working relationships -Land management regime(s) -Resource limits	- Professional experiences -Personal experiences -Network connections	-Formal agreements -Formal planning processes -Local leadership team	-Economic development agenda	-Volunteer & professional networks -Fleet -Access to Tennessee RiverLine resources	-Planning -Paddle events (1-2 per year) -Stewardship events (1-2 per year) -Leadership team -Kayak fleet -Fleet sharing -River markers planning	-More boaters -More boat purchases -Easier, better, faster working relationships with state & federal agencies	-Leadership transition -Capacity gains -More river users

Note. Adapted from "An Integrative Framework for Collaborative Governance," by Emerson, K., Nabatchi, T., and Balogh, S., 2012, *Journal of Public Administration Research and Theory*, 22(1), p. 1-29. https://doi.org/10.1093/jopart/mur011