Dynamics of Cross-Sector Collaboration: Minnesota's Urban Partnership Agreement from Start to Finish

Final Report

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16. Abstract (Limit: 250 words)

The problems faced by today's public managers are often too large to be solved by a single entity, and require collaboration across government, nonprofit, and business sectors. As new technologies and systematic approaches transform the transportation field, cross-sector collaboration has become an increasingly important policy development and implementation approach. Particularly within the transportation field, an assemblage of technologies is often critical to implementing system-wide strategies aimed at, for example, mitigating traffic congestion. In many cases, designers and implementers of effective transportation policies must combine a variety of technologies with deft relationship building and management. Through the development of comparative case studies of the Urban Partnership Agreement (UPA) initiatives, this research study will complete the examination from start to finish of the Minnesota UPA, and provide additional comparative information from other UPA sites to enhance the certainty of conclusions, and to develop sound lessons for practitioners.

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Executive Summary

In August 2007, the Twin Cities (Minneapolis-St. Paul) metro area was selected to participate in a federal transportation initiative called the Urban Partnership program. The process leading up to this selection, along with the planning and implementation work afterward, required the formation of a multi-agency collaboration of transportation-focused groups in the Twin Cities area. This collaboration – including the external forces affecting it, the internal processes, structures, and competencies that allowed it to operate, and its accountability mechanisms – is the focus of this analysis. The research covers five overlapping periods: (1) the pre-grant planning period beginning in 2006 and ending in August 2007; (2) post-grant legislative strategy beginning prior to August 2007 and running through May 2008; (3) detailed project planning, which began before the grant was awarded and ran until May 2009; (4) the process of sequentially implementing (deploying) the 24 constituent projects that comprise the overall Partnership Agreement project from May 2009 through October 2010; and (5) the post-deployment period for individual projects that followed in a staggered fashion after each project's completion.

The research for this report is guided by a conceptual framework developed by Bryson, Crosby and Stone in 2006. The analysis itself unfolds in five main sections: initial conditions, process and structure, leadership and competencies, technology, and outcomes and accountabilities. In each of these sections, we provide insight into the dynamics of the Urban Partnership Agreement (UPA) collaboration in its attempt to plan for and implement a major transportation initiative in the Twin Cities.

Our research confirms a number of lessons found in the literature on collaborations, including that a collaboration on the scale of the Minnesota UPA is a very complex assembly of human (individuals and relationships) and non-human (technologies, artifacts, laws and procedures) elements, and that a collaboration is not an easy answer to hard problems but a hard answer to hard problems. Our research also highlights some relatively new findings. Most notable of these are: the important role of technology; linkages connecting high level federal policy making to local, operational implementation details; an emphasis on multiple roles played by sponsors, champions, neutral conveners, process designers and technical experts; the importance of specific competencies; the role of rules and routines as drivers of collaboration; and the importance of spatial and temporal organizational ambidexterity.

1. Introduction

In August 2007, five urban regions in the U.S. were selected to participate in a path-breaking federal transportation initiative. Known as the Urban Partnership program, the initiative supplied approximately $1.1 billion for developing integrated transit, highway pricing, technology, and telecommuting strategies aimed at reducing traffic congestion in major urban areas. The national UPA initiative was path-breaking because it broke down normal programmatic silos in the federal transportation system, bypassed typical funding procedures, and directed unprecedented levels of funding toward integrated urban transportation strategies. Considerable credit for the Urban Partnership program can be given to a group of policy entrepreneurs at the national, state, and local levels. Additionally, the money for the program became available because of a political shift in the U.S. Congress away from earmarking.

The Twin Cities (Minneapolis-St. Paul) metro area was one of the regions selected to participate. The process leading up to this selection, along with the planning and implementation work afterwards, required the formation of a multi-agency collaboration of transportation-focused groups in the Twin Cities area. This collaboration – including the external forces affecting it, the leadership, internal processes, structures, competencies, and technologies that allowed it to operate, and its accountability mechanisms – is the focus of this report. This introduction provides background on the federal Urban Partnership program and Minnesota's proposal development process. We then describe our research questions and methodology. The main body of the report unfolds in five main sections: initial conditions, process and structure, leadership and competencies, technology, and outcomes and accountabilities. In each of these sections, we provide insight into the dynamics of the UPA collaboration in its attempt to plan for and implement a major transportation initiative in the Twin Cities.

A. Development of the Urban Partnership Program

By the 1960s economists were applying their analytic tools to the traffic congestion that was beginning to plague major U.S. urban centers. They viewed the highway system as a classic public good that was being over-consumed in particular locations or at particular times because the roads were seemingly "free" to individual drivers. By pricing clogged highways, the economists reasoned, officials might reduce or better manage demand and even raise more revenue for transportation. The economists argued that some drivers would pay the fee, but others would take alternative, uncongested routes, vary their driving time, take the bus, or stay home. By the 1990s policy entrepreneurs were imagining integrated transportation systems that relied on congestion pricing, transit, a variety of advanced technologies, and telecommuting.

Unfortunately, from the 1960s through the 1990s, the idea of using pricing to manage traffic congestion had difficulty getting off the ground. Feasibility studies and a few pilot projects were tried, but elected officials and citizens generally weren't convinced that the approach would work. Citizens also objected to paying a fee for facilities they felt they had already funded through their taxes. By the late 1990s, however, congestion was getting even worse in many urban areas and a greater number of public officials were realizing they couldn't build their way out of the problem.

Within the U.S. Department of Transportation (USDOT) during the George W. Bush Administration, Tyler Duvall, Assistant Secretary for Transportation Policy, began working with a few other top transportation officials to move from researching congestion pricing to mounting larger-scale demonstrations. One of his key allies was Mary Peters, the then-administrator of the Federal Highway Administration, but there were a number of others in the department, including Patrick DeCorla-Souza, who was a long time advocate of congestion pricing. Duvall tried to convince USDOT Secretary Norman Mineta to make congestion pricing a federal priority. Initially Mineta was skeptical but after a top-level strategy meeting in 2006 he agreed to make the shift, and congestion pricing was included in the department's 2006 Strategy Statement. Duvall, Peters, and others then began designing a demonstration project to channel funding to major metropolitan areas that would tackle congestion with a set of complementary strategies called "the four T's": transit, technology, tolling, and telecommuting. The designers thought that integrating the four strategies would provide the biggest payoff in terms of congestion pricing. They were able to secure about $120 million in departmental discretionary funds to put into what became known as the Urban Partnership project. The project was designed specifically to demonstrate whether congestion pricing had a clear positive impact

Soon, however, a much larger amount of money became available when Congress suspended its usual practice of allowing members to earmark transportation funds. As a result, the pot for the project eventually grew to $1.1 billion. In addition, Mary Peters became U.S. Secretary of Transportation, allowing her to both sponsor and champion the program from the top position in the department.

2. Minnesota's Proposal Process

Meanwhile, in Minnesota congestion pricing advocates, state and local officials, and transit supporters began discussing participation in the Urban Partnership program, officially announced at the end of 2006. Minnesota, after all, was the site of one of the country's most successful congestion-pricing experiments, in the form of the MnPASS project on I-394 – an Intelligent Transportation System (ITS) application of dynamic pricing to a segment of I-394 in the western part of the Twin Cities metropolitan region.

Minnesota Department of Transportation (MnDOT) officials decided, after some initial reluctance, to submit a proposal for an Urban Partnership grant in collaboration with the Metropolitan Council (MetCouncil), the regional government that operates the bus and light rail transit system for the Twin Cities region. Soon after, the Citizens League, a nonprofit public policy study group focusing on the Twin Cities, and the University of Minnesota's Center for Transportation Studies and Humphrey School's State and Local Policy Program featured the Urban Partnership program at their Road Pricing Summit on February 1, 2007. It was here that Rick Arnebeck from MnDOT announced the department would seek a UPA grant. Tyler Duvall also spoke at the summit.

MnDOT project leaders assembled an interagency Steering Committee to oversee the proposal development process. In addition to individuals from MnDOT and the MetCouncil, the committee over time grew to include local officials from highly congested traffic corridors, county officials, and University of Minnesota experts. MnDOT hired SRF Consulting Group to prepare the actual grant proposal. John Doan of SRF played a key role in the drafting process; he was a former MnDOT employee who had worked on congestion pricing while there.

Since the proposal was due at the end of April, 2007, the Steering Committee members knew that they had to obtain agreement among numerous state and local parties about the main components of the proposal. For example: In which locations would congestion pricing be applied? What form would it take? What would be the implications for bus service and routing? What technological innovations would be emphasized? What role would telecommuting play?

The committee organized a half-day workshop in March, 2007, and several subsequent meetings to help numerous stakeholders consider possible answers to these questions and develop a consensus about what should be included in the proposal. Additionally, project supporters worked behind the scenes to make sure that powerful legislators, the governor, and the lieutenant governor would support the form of tolling that would be included in the Minnesota UPA proposal.

At times, project advocates worried that disagreements about proposal components would sink the effort, but eventually the Steering Committee and outside advocates obtained enough consensus and compromise to be able to submit a strong proposal, focusing on the I-35W corridor and its connections with downtown Minneapolis. Minnesota's proposal was selected as one of the nine semifinalists (out of more than two dozen entries) announced by USDOT in June, 2007. The semi-finalists then were invited to present their plans to USDOT, and in August, 2007 the nine were winnowed to five finalists – the Twin Cities, Seattle, New York, San Francisco and Miami. (In the spring of 2008 New York would drop out and Los Angeles and Chicago would be

added; later in 2008 Chicago would drop out and Atlanta would be added. The Los Angeles and Atlanta efforts would be relabeled as Congestion Reduction Demonstrations [CRD].)

The total UPA grant to Minnesota was $133.3 million to be matched with $55.2 million in funds from the state legislature and MetCouncil. In addition to approving the match, state legislators would also have to approve tolling authority for the I-35W corridor. The UPA partners had approximately one year to complete assembling all components of the implementation plan.

Once Minnesota was chosen as a finalist, the UPA Steering Committee went into implementation mode. It became a smaller, more operations-oriented group and MnDOT put Nick Thompson, operations manager, in charge of day-to-day oversight of the operational aspects of the project. At the same time, the MetCouncil transit officials and local government partners began working on their pieces of the project, while legislators and MnDOT senior officials worked on legislative strategy. The process unfolded in a series of five overlapping phases; see Figure 1: The *first phase* is the pre-award period from the UPA program announcement in December of 2006 through the proposal submission in mid-April, 2007. The *second phase* is a period that began before the end of the first phase, includes the USDOT grant award in September 2007, and ran until May 2008 when legislative funding and authorization were secured. The *third phase* includes detailed project planning runs from before the USDOT grant award through May 2009, when the first deployments of the first of 24 UPA component projects began, and beyond. In other words, detailed planning ran in parallel with gaining legislative funding. The *fourth* phase is what is called deployment, meaning implementation and completion at different times of the 24 projects that make up the overall UPA "project." This phase starts in May 2009 and runts until October 2010. The *final phase* is post-deployment, when the full system is essentially up and running.

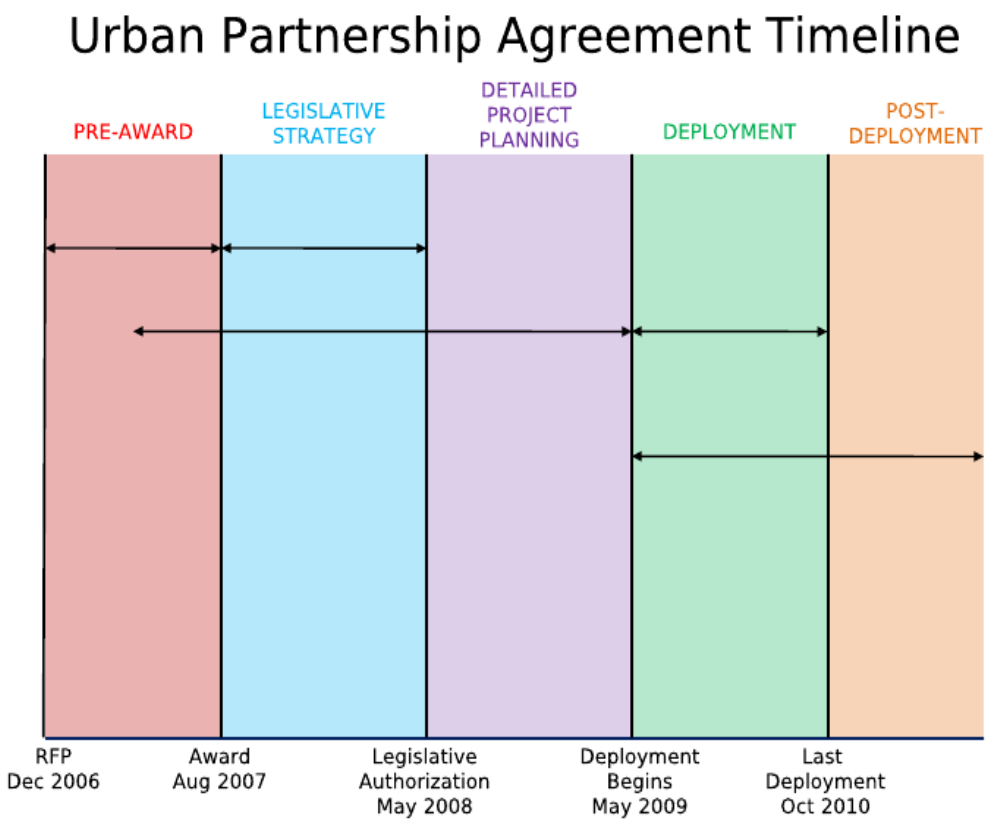

Figure 1. The Urban Partnership Agreement Phases and Timeline

Below, in Table 1, is a summary of principal stakeholders in UPA.

Table 1. Key Organizational Stakeholders in Minnesota's

UPA Organization/Agency	Role in UPA
USDOT	Initiated UPA program and selected grant recipients; awarded $133.3 in funding to Minnesota
MnDOT	Primary partner
Metropolitan Council	Primary partner
Governor's office	Support for proposal and state matching funds
MN State Legislature	Approved $55.2 million match to federal money
University of Minnesota: Center for Transportation Studies and the Humphrey School's State and Local Policy Program	Research; neutral conveners
I-35W Solutions Alliance	Organized local government officials along 35W corridor; pushed for 35W to be UPA's focus
Citizens League	Neutral conveners
City of Minneapolis	Strong advocate for UPA and implementer of major infrastructure changes
Transit for Livable Communities	Involved local community group
Minnesota Valley Transit Authority	Involved suburban transit agency

3. Research Questions and Methodology

Three senior faculty members and a research fellow from the Public and Nonprofit Leadership Center at the Humphrey School of Public Affairs were selected by the Intelligent Transportation Systems (ITS) School [is school right?] to study the Minnesota UPA process. Our team sought to understand what contributed to successes or difficulties in designing and sustaining the UPA collaboration in Minnesota. In keeping with our charge from ITS we were especially interested in examining how collaborative processes combined with transportation technology to achieve important transportation goals, catalyze institutional change, and create public value more generally. Minnesota's UPA provided an opportunity to deepen our understanding of how partners from multiple governmental levels and jurisdictions, along with partners from nonprofit and business sectors, came together to undertake and successfully implement a highly complex, time-constrained, and politically sensitive project.

A. Definition of Collaboration

We believe that collaboration occurs in the midrange of how organizations work on public problems (Crosby & Bryson 2005, pp. 17 – 18). At one end of the continuum are organizations that have little to do with each other when it comes to public problems that are beyond their capabilities. At the other end are organizations that have merged into a new entity meant to address the public problem through merged authority and capabilities. In the midrange are organizations that share information, undertake coordinated activities, or develop shared-power arrangements such as collaborations in order to pool their capabilities to address the problem or challenge. We thus define collaboration as *the linking or sharing of information, resources, activities, and capabilities by organizations to achieve jointly an outcome that could not be achieved by the organizations separately* (Bryson, Crosby & Stone, 2006a, p. 44). Note that by this definition the power sharing in a collaboration does not imply equal power, nor does it necessarily imply much in the way of shared interests and goals. Indeed, in our experience collaboration typically involves uneven power and mixed motives.

In contrast, other authors use a more restrictive definition of collaboration that requires extensive sharing of information, resources, and power; broad participation by all stakeholders; joint determination of goals and plans; and decision making by consensus. Anything less doesn't count as "real' collaboration (e.g., Bentrup, 2001; Innes, 2004; Innes & Booher, 1999, 2010; Margerum, 2002). Based on case study research, these authors also argue arrangements that have these characteristics demonstrate better performance in terms of outcomes than those that fall short on one or more dimensions. An important difference between their studies and ours is that theirs are typically focused on what Himmelman (2002) calls "community empowerment" situations; these typically are bottom-up exercises without clear mandates imposed from above and with looser timeframes. The UPA case, on the other hand, fits what Himmelman calls a "community betterment" situation, in which a goal, mandate for collaboration, and often a tight timeframe are imposed from above. We have chosen a looser definition of collaboration in order to encompass both situations.

B. The Conceptual Framework

The conceptual framework guiding the research (including the above definition) is presented in John M. Bryson, Barbara C. Crosby, and Melissa M. Stone, "Designing and Implementing Cross-Sector Collaborations: Propositions from the Literature," *Public Administration Review*, 66, Special Issue, 2006a, pp. 44 – 55. The literature review on which the paper is based covered the fields of organization theory, public administration, collaboration, leadership studies, and network governance and resulted in a set of testable propositions. The propositions were operationalized via a case analysis protocol. The researchers then tested this framework by applying the case analysis protocol to more than twenty published cross-sector collaboration case studies from various policy fields. Virtually all of the propositions were supported, although not all were strongly supported (Bryson, Crosby, & Stone, 2006b). For the UPA study, the researchers gave additional attention to research and theory in the areas of congestion pricing, public financing of transportation policies, and technology implementation.

We developed a set of interview protocols to explore the applicability of the propositions to the UPA case and three waves of interviews were completed between late 2007 and early 2011. The first wave of interviews covered the pre-award phase through the legislative strategy phase. The second wave of interviews focused on implementation and deployment of the UPA and its 24 component projects. The final wave of interviews covers the early part of the post-deployment phase. At the midway point of the first wave of interviews, we supplemented the conceptual framework with tentative themes that appeared to be emerging from the interviews. Most of the data collected were qualitative in nature, although various quantitative measures we also collected to help assess outcomes.

C. General Expectations

Based on our conceptual framework, we began this research with a number of general expectations. Midway through our first set of interviews, the team added explicit attention to a number of additional interview themes that had emerged by that point. Our general expectations were shaped by our literature review and conceptual framework. That work identified five main categories of inquiry: initial conditions; process; structure; contingencies and constraints; and outcomes and accountabilities.

In terms of *initial conditions*, we expected the Minnesota UPA to have been formed in a somewhat turbulent environment; that sector failure would have preceded it; and that the UPA effort, if it were to succeed, would rely on powerful sponsors, a variety of linking mechanisms, formal and informal networks, and general agreement on the problem. We expected the UPA *process* to involve a variety of initial agreements and that the way those agreements were formulated would have an effect on the outcome of the process. The process would also depend on leadership of many kinds, including having powerful sponsors and champions. Success of the process would also depend on its legitimacy in the eyes of key stakeholders, the creation and maintenance of trust, and effective conflict management and planning.

We thought that the *structure* of the collaboration would depend on the context and system stability, that the structure likely would change over time, and that what had to happen "on the ground" would affect the structure. Governance was also a focus and we assumed that formal

and informal governing mechanisms would influence the effectiveness of UPA. In terms of *contingencies and constraints*, we assumed that since the first phase of the UPA involved system-level planning, there would be extensive negotiation; we assumed there would be less negotiation in later phases. While we certainly did not expect equality in power sharing, we did expect that for the UPA process to succeed, there would have to be mechanisms and resources built in to deal with power imbalances and unexpected shocks. Finally, we expected there to be some conflicts in terms of competing institutional logics and that these would affect the process and outcomes of collaboration (Thornton & Ocasio, 1999).

In terms of *outcomes and accountability*, we assumed that the UPA would create public value to the extent that it built on individual organizations' self-interests and characteristic strengths, while minimizing or overcoming the organizations' characteristic weaknesses; and to the extent that the project was carried through to completion and sustained implementation. Finally, we assumed that the UPA's success would depend in part on its having an accountability system that tracked inputs, processes, and outcomes; used a variety of methods for gathering, interpreting, and using data; and used a system that relied on strong relationships with key political and professional constituencies.

D. Additional Themes

At the midway point in our first round of interviews, the team met to identify any tentative emerging themes. There were several. First, we were all struck by the relevance of John Kingdon's (2002) work on policymaking at the federal level. Kingdon identifies policy change as occurring when a public problem is linked with a viable solution and supportive politics in a window of opportunity. The fact that Kingdon's model had been used to help explain the success of the MnPASS project reinforced our view of the model's relevance (Hardy, 2007). Second, power was a pervasive theme, although power was of many different sorts and varied throughout the process. Third, we came to see collaboration and hierarchy as both occurring in the shadow of the other; each played a strong role. Fourth, in a related way we started to focus on spatial and temporal organizational ambidexterity. For example, sometimes fluidity and sometimes stability were required of the same organizations; sometimes informality and sometimes formality were required; and so on. To do both required a kind of ambidexterity, meaning doing different things in different places or at different times. Lastly, it was hard not to see the UPA process as a kind of "assembly" of human (people, groups, organizations) and non-human (roads, bridges, technologies, cars, buses) objects. (Latour, 2005). The collaboration was obviously not just about people, but about objects and technologies as well. The second round of interviews drew attention to technologies as a theme in and of itself and to the many ways in which technologies of various kinds affected the collaboration process.

E. Action Research

We have employed a form of action research methodology, partnering with key practitioners in the local transportation field to incorporate their unique perspectives into the research design and analysis. This included convening an Advisory Group comprised of leaders from each of the primary UPA partnership organizations. The Advisory Group responded to our questions surrounding the UPA, including offering comments and suggestions regarding our research design, interview protocols, choice of interviewees, and tentative findings.

Examining Minnesota's experience with the UPA collaboration required going straight to the sources and interviewing those closely involved in advocacy, conceptualization, and management of the implementation of UPA in our state. We conducted semi-structured interviews with fifty-one people involved in Minnesota's UPA (26 in the first wave, 43 in the second, and 7 in the third; these numbers do not add up to fifty-one because some individuals were interviewed in more than one wave). A note-taker was present at each interview to record the interviewee's comments verbatim. Those interviewed were chosen using a snowball sampling technique. In selecting our sample we paid careful attention to gaining perspectives from individuals at multiple levels of government and with varying levels of responsibility and authority over the UPA implementation, including federal officials, state legislators, MnDOT and Metro Transit staff, policy advocates. We also interviewed conveners from intermediary nonprofit and business organizations and their participants. See Appendix A for more information on our interviewees.

The interview protocols included questions related to the individual's background in the transportation field, the initial conditions leading up to the UPA collaboration, the process of decision-making, and the outcomes and accountability processes involved in the process of planning and implementing the UPA project and its 24 constituent subprojects. The protocols varied by wave to reflect each wave's different emphasis, but many of the same questions were asked each time; see Appendix B. Verbatim notes from these interviews were imported into the qualitative analysis software program, QSR NVivo version 8. A thematic coding structure was developed based on the original cross-sector collaboration framework and input from the Advisory Group; then it was modified to reflect the emerging and cross-cutting themes from an initial analysis of interviews. NVivo coding involves creation of a number of nodes (buckets) and sub-nodes (sub-buckets) that have names tied directly to the categories of search, in this case the categories that came directly from the conceptual framework; see Appendix C.] Researchers then allocated snippets of interview text to whichever node or sub-node most clearly reflected the content. The software thus allowed us to conduct our qualitative analysis thematically by analyzing the information assigned to each node and sub-node. (We were also able to break down our thematic results into categories based on the characteristics of interview participants, such as their organizational affiliation or position in the hierarchy; but little additional explanatory power came from this analysis.)

In addition, archival research on newspaper articles and other publications formed the basis of a secondary data collection effort; this review focused on capturing the story of UPA development and implementation as reported by local newspapers and publications in the recipient states, with particular emphasis on the legislative and political processes necessary for successful implementation of the UPA policy.

This study constitutes part of a larger research effort that includes study of the UPA process in several sites, including Atlanta, Los Angeles, Miami, New York, San Francisco, and Seattle. Similar interview protocols are being used in each city, although only in Minnesota have we done three waves of data collection. Atlanta, Los Angeles, San Francisco, and Seattle will involve two waves of interviews; Miami and New York involve one wave of interviews. Archival data is being collected in all cities. The results will be comparative case studies of these different efforts, allowing for an in-depth analysis of collaborative processes employed by actors involved in UPA across a range of communities.

4. Analysis of Minnesota's UPA

Our analysis of the collaboration surrounding the Urban Partnership Agreement in Minnesota will follow five broad categories: initial conditions, structure and processes, leadership and competencies, technology, and outcomes and accountabilities. Each of these broad topics is divided into subcategories, in which collaboration activities and characteristics are discussed in greater detail.

A. Initial conditions

We considered the following categories of initial conditions: environmental turbulence and sector failure; driving and constraining forces; and direct antecedents. We found that Minnesota stakeholders were favorably disposed to finding cross-sector solutions to traffic congestion, which had taken on the flavor of an intractable problem – neither governments, businesses, nor nonprofit advocacy groups had made much headway in combating the problem. Driving forces, such as the sizable federal funding for Urban Partnership projects, outweighed constraining forces, such as the governor's initial resistance to extension of highway tolling. Existing cooperative relationships among key stakeholders were an especially important antecedent for the collaboration.

Environmental Turbulence and Sector Failure. Analyses of collaborations and inter-organizational relationships more generally have found that these are most frequent in turbulent environments – that is, environments that are both complex and dynamic (Emery and Trist, 1965; Thompson, 1967). Developing relationships with other organizations decreases uncertainty and increases stability by promoting exchanges of needed resources, including information, technology, and funding (Emery and Trist, 1965; Powell, 1990). In the case of the UPA, the turbulence in the environment concerned rapidly escalating traffic congestion, especially in the Twin Cities metro area, that defied traditional solutions. Over time, a broad array of constituencies had become alarmed by this public problem. For example, at the state level, transportation cleavages among rural, suburban, and urban constituencies were dissipating. Suburban constituencies (especially in first ring suburbs) were becoming more supportive of transit, thereby making support for something like the UPA more palatable to a Republican governor and transportation commissioner. In 2006 citizens passed a constitutional amendment to provide dedicated funding for roads, bridges, and transit, indicating a growing consensus that all modes were necessary to create needed transportation infrastructure. Business groups were key backers of the amendment, indicating a growing understanding among them of diverse transportation issues and their impact on the business community, as well as increased support for major changes.

There was also growing recognition that many previous attempts to solve this problem had failed. Organizations and groups seem more likely to engage in cross-sector collaboration when single-sector efforts to solve a public problem have failed, or else it is clear from the start that such efforts cannot solve the problem (Bryson & Crosby, 2008). Several interviewees noted that legislators and government bureaucrats alike only were willing to consider use of a market-based tool (pricing) and collaboration as mechanisms for combating congestion because all the usual methods (e.g., road construction and regulation of access) had failed.

Driving and Constraining Forces. More specifically, collaborations are fostered by driving forces and delimited by constraining forces external to the group itself (Sharfman, Gray & Yan, 1991). Table 2 presents a summary of major driving and constraining forces in the UPA environment.

Table 2. Driving and Constraining Forces

	Federal Level	**State Level**	**Regional/Local Level**	**Other**
Driving Forces	USDOT creates and funds UPA program. Program design necessitates multi-party collaboration Champions of pricing	MnDOT is powerful institutional player, and has national reputation as a transportation innovator. Powerful DOT commissioner becomes supportive Powerful governor becomes supportive I-35W bridge collapse (perhaps) in later stages of the process	MetCouncil is powerful institutional player Presence of knowledgeable and credible conveners and researchers Twin Cities viewed as "smart" region nationally in Intelligent Transportation Systems	Key battles already fought and settled through successful MnPASS Project Availability of proven technology
Constraining Forces	Power of USDOT as authorizing and funding entity	MnDOT initially reluctant to pursue UPA Governor, DOT commissioner, and legislature at times resistant		Short time frame for proposal submission

In the case of Minnesota's Urban Partnership Agreement, several driving forces came from the federal level. Most obvious was the USDOT's creation of the generously funded Urban Partnership initiative. USDOT also insisted that congestion pricing, transit, technology, and telecommuting had to be included in the UPA package, thereby necessitating collaboration among various groups and agencies. Federal analysts also emerged as powerful champions of pricing – using an "economics frame" rather than an "engineering frame." The Democratic ascendance in Congress led to a rethinking of earmarking and ultimately gave USDOT authority for allocating a large sum of money that would previously have been earmarked. Additionally, USDOT champions – including Mary Peters, who had become Secretary of Transportation and thus was a champion turned sponsor – wanted to move quickly to spend the money before a new President took over in January 2009. The result was that powerful USDOT champions and a sponsor were able to develop a very generously funded program that was heavily focused on pricing and transit and forced local applicants to put together and implement proposals in a very short timeframe.

A driving force, however, can also have constraining aspects (Sharfman, Gray, & Yan, 1991) and that is also true with the UPA. The institutional arrangements that make the USDOT a powerful player (especially because of its funding role) in state and local transportation policies also constrain the activities that transportation agencies can do on their own or collectively. For example, Minnesota didn't have an alternative way to raise the kind of money that the feds were putting on the table, and develop needed consensus around the desirability of such an integrated a transportation solution as the UPA agreement represented. As another example, the short time frame severely constrained the Minnesota partners' ability to make sure that every project included in their proposal was actually ready to implement.

Another possible driver was an August 2007 event – the collapse of the I-35W bridge across the Mississippi in Minneapolis. This occurred just before Minnesota was named a finalist for a UPA. One interviewee said the I-35W disaster may have helped reduce controversy about UPA simply because it diverted media attention from the project, and may have made federal officials more ready to send money to Minnesota. The researchers and some interviewees speculated that the effect was to focus citizens' and policymakers' attention on transportation generally, and specifically on neglected maintenance of roads and bridges. Another effect may have been to increase enthusiasm for a federal project that sent significant new money for transportation, even if it wasn't about improving bridge safety.

Within Minnesota the power of USDOT and its regional offices is complemented (and partially offset) by other major power centers; these include MnDOT, the commissioner of transportation, the MetCouncil, and the governor. In MnDOT, the commissioner is quite powerful compared to similar positions in other state DOTs. The governor is an especially powerful player; he not only appoints the transportation commissioner and the members of the MetCouncil, but also determines their level of power. The MetCouncil experiences less concentrated power because its primary transportation policy-shaping group, the Transportation Advisory Board, includes individuals from MnDOT and local governments in addition to members of the council. This allotment of power is unusual; one interviewee called the concentration of power in the governor's office, MnDOT and the MetCouncil "unbelievable," in comparison with other states. Other players that hold some level of power are the Minnesota State Legislature (and chairs of transportation committees), the Minnesota roads lobby, transportation policy advocacy groups (such as the I-35W Solutions Alliance and Transit for Livable Communities), and transportation researchers and analysts, especially at the University of Minnesota.

In the case of Minnesota's UPA, what was called by one researcher "an alignment of the stars" (meaning the convergence of the driving forces, general agreement on the problem, generally supportive politics, and a workable policy solution) prompted almost all of these powerful, inter-linked players to move toward participating in this intensive effort to tackle traffic congestion. As already noted, a complementary alignment also occurred at the federal level within USDOT and in Congress. As far as we can tell, the convergence of driving forces, problem agreement, supportive politics, and workable solution matters far more than any one of these elements. At the same time the general agreement that traffic congestion was a pressing, costly, and thorny problem made stakeholders receptive to a solution -- "tolling"-- that had been floating around for some time, but now was more palatable because of transponder technology. Additionally, computer technology had made options such as telecommuting and real-time travel information viable parts of the solution. The linking of problem agreement and workable solutions was key to

obtaining policy makers' support for initiating the Urban Partnership program at the national level and the proposal process in Minnesota.

One cannot underestimate the importance of the MnPASS project on I-394 as a driver of the UPA collaboration. Through the MnPASS process, many key battles around pricing had already been fought and settled and forums for including a broad range of stakeholder voices were established. For example, MnPASS-related convening activities built support among local officials (through a so-called "grasstops" approach) and educated I-394 users about congestion pricing and its benefits. Workshops, focus groups and other forums helped get across the idea that adding "free" traffic lanes to deal with congestion only attracted more commuters and ultimately resulted in the same or worse levels of congestion. MnDOT set up a communications task force including local officials, residents in the I-394 corridor and Carol Flynn (former legislator and chair of Transit for Livable Communities). Academic advocates at the Humphrey School and Intelligent Transportation Systems program at the University of Minnesota helped organize these activities. Ultimately, Republican and Democratic legislators alike were persuaded to approve the MnPASS project. Even pressure from State Senator Dick Day (R-Owatonna) for an end to the high-occupancy vehicle (HOV) lanes on I-394, may have helped, since this put pressure on advocates of reducing peak demand to come up with a better solution: a HOT, or high-occupancy toll, lane. The HOT lane was dynamically priced, meaning that the toll varied based on the amount of congestion. MnPASS also helped defuse the argument that congestion pricing was unfair to low-income commuters because studies showed no negative effect.

Several interviewees referred to technology as its own driving force – as a solution, motivator, and facilitator. For example, technological advances made "dynamic pricing" possible as a solution to traffic congestion and allowed motorists to use transponders rather than toll booths to pay. This technology has been available for several years now. One said it this way: The technology facilitates "road pricing without significant transaction costs. …it's the pricing of access to a facility at a given time of day." He was among the interviewees who mentioned that technology helps improve transit services. He noted that it allows "buses to travel with shorter headways" and helps eliminate "the stigma that people associate with bus rapid transit." Making transit service more predictable and reliable (by, for example, providing "real-time" traveler information) enhances the attractiveness of Bus Rapid Transit (BRT) and "thereby creates a virtuous cycle for transit – the more appeal, the more demand for it, the greater the frequency with which it's provided, the better the economies of scale, the lower the cost per traveler [and therefore the more demand for it]."

Minnesota's application may have been helped by the Twin Cities metro area being, in one interviewee's words, "a very smart region in terms of ITS [Intelligent Transportation Systems]." He noted that this type of experience prepares the UPA partners in the state to make wise choices about vendors and the like. (Note that "smart" in the quotation can have two meanings: existing installation of "smart technology" and the ability to make smart choices; both meanings appear apt.)

Another interviewee noted that technological capability is often ahead of policy and that the UPA project is bringing technology and policy together. For example, congestion pricing was possible because the technology had been developed for auto transponders; however, the

contentious politics surrounding congestion pricing often stalled its implementation. Technology, in other words, was not the bottleneck in adopting congestion pricing; politics and policy were. Combining technology with policy and supportive politics brings "excitement to the partnership" and "bring[s] people to the table." He speculated that people are attracted by the possibility of being innovators, because "It's exciting to implement new technology." The UPA was therefore a technology-assisted motivating or attractor force. One interviewee said that the clear benefits that would result for the metro area were an incentive for participation. He added that an additional incentive for MnDOT was "another opportunity to be cutting edge."

Communications technology was also important, though less visible, to the success of the project. Telephone conversations obviously were important, but one interviewee also noted that without email and the ability to include attachments, the proposal could not have been done on time. Technology therefore also acted as a facilitator of the collaboration.

The success of MnPASS, along with MnDOT's national reputation for implementing advanced technologies for freeway management and for improving safety (and just perhaps the I-35W bridge collapse) convinced federal officials that Minnesota was a good candidate for UPA. Our interviewees indicated that this confidence in MnDOT's capacity overrode USDOT's expectation that the UPA projects would include pricing of existing lanes, rather than turning shoulders into lanes and then pricing them. In turn, the ability of Minnesota's UPA proposal to avoid pricing existing lanes, and instead to have shoulders become lanes and to price them, made it easier for the governor to support the proposal.

Despite these significant drivers of the UPA collaboration, there were several strong constraining forces. MnDOT's top leadership and the governor were apparently skeptical about congestion pricing and a UPA application. The resistance, however, had been diminished by the success of the MnPASS project, and, as noted, suburban constituencies (especially in first ring suburbs) were becoming more supportive of transit and therefore transit became more acceptable to a Republican governor and transportation commissioner. An interviewee argued that USDOT's creation of the Urban Partnership initiative also helped convince MnDOT that tolling should be part of a comprehensive approach (combined with the other three T's), "especially when making improvements on existing infrastructure." A threat by the legislature to submit its own UPA proposal if MnDOT did not also prompted MnDOT to act.

Additionally, the trucking association and state and national AAA had in the past opposed pricing highways. They were concerned, said one interviewee, that once "tolling got a foothold it would spread across the state and the country and where would it stop?" The careful work of local value-pricing advocates in including these skeptics in various forums softened their opposition.

Some legislators did not necessarily oppose shoulder pricing or other policy aspects of UPA, but disliked the idea of targeting such a large amount ($55 million) in state funds to one corridor. State Senator Steve Murphy (D – Red Wing), though, said most legislators from other corridors could see benefits to their areas if traffic congestion improved in other parts of the metro. Legislators in other corridors could go along with this project if they were assured their areas would have priority for future transportation funding.

Another major constraining force was the UPA requirements laid out by USDOT: the constrained timelines, the emphasis on the "4 T's," significant required state matching funds, and the competitive application process. This meant that only states that had "their act together" were well-situated to apply successfully for the program. It put a premium on previous success with tolling, transit, and smart technology. Because federal funds were not included for telecommuting, this "T" would necessarily have lower priority because funding would have to come from the state match. On the other hand, the short timeline and the large budget also provided an incentive for state public officials, advocates, and transportation experts to resolve their differences over proposed projects speedily. Less frequently mentioned driving factors included the scarcity of government funds for transportation, which made a large pot of new money especially attractive; the concentrated effect of the UPA proposal, which decreased awareness amongst the general public that could undermine support of public officials in unaffected areas; and predictions for even greater growth in the metro areas of the Twin Cities. Less frequently mentioned constraining factors included a solo driving culture and the fragmentation of authority for transportation infrastructure.

Direct Antecedents – Initial Agreement on Problem, Conveners, and Pre-existing Networks. General agreement on the problem to be solved is an essential antecedent condition for collaborations (Gray, 1989; Waddock, 1986). Interviewees unanimously cited traffic congestion as the problem the UPA was designed to solve. One interviewee referred to the "rapid and substantial increase in traffic congestion." Despite general agreement, however, interviewees presented multiple ways of framing the problem to which the UPA was a solution. Different people focused on safety and health concerns; lost economic opportunity; commuter frustration; the lack of adequate transit or other services; inadequate integration and communication among government agencies, units, and levels; hidden costs of transportation; inadequate use of data to shape federal policies; taxpayer resistance to paying higher gas taxes or tolls; low-density development; and unfamiliarity with alternatives to the status quo. Each of these frames implies a distinctive "causal story" (Stone, 1997) about traffic congestion. For example, the person who focused on safety and health might argue that traffic congestion led to far more traffic accidents and air pollution and must be reduced in order to prevent harm to life, limb and lungs. The person who focused on lost opportunity could be expected to cite evidence that hours spent in traffic jams adds significant costs for shippers and commuters. The differences in problem framing could have been significant detractors to the UPA collaboration; however, it appears that the influence of sponsors, conveners, and pre-existing relationships permitted the collaboration to move forward, despite these differences. It is also possible that the openness of the problem definition helped build a large and strong coalition, since it allows for many different interests to be accommodated. Additionally, the types of solutions included in the 4T's could fit with multiple frames or causal stories. In other words, a stakeholder who cared most about the health and safety effects of traffic congestion didn't have to adopt the causal story that had initially caused economists to support pricing highway use in order to reduce congestion. (That story featured rational consumers, who put a value on their time.) The health and safety advocates simply had to be convinced that a technology-assisted pricing method would significantly reduce traffic congestion.

Powerful sponsors and neutral respected conveners can provide legitimacy for a collaboration and bring potential partners together (Bryson, Crosby & Stone, 2006a). In this case, the endorsement of top transportation officials gave the Urban Partnership project legitimacy.

MnDOT's hesitance about applying for an Urban Partnership grant was overcome by internal champions as well as pressure from outside pricing and transit advocates like the Citizens League and legislators. Furthermore, respected groups like the University of Minnesota's Center for Transportation Studies and the State and Local Policy Program at the Humphrey Schoool of Public Affairs had brought many of the participants together in forums and research projects in the past.

Pre-existing networks among organizations are an important predictor of whether they will come together effectively to form a collaboration. Such relationships can supply a good portion of the trust that many observers deem vital to well-functioning collaborations (Hudson, Hardy, Henwood et al, 1999; Huxham & Vangen, 2005). Several of our interviewees cited existing working relationships as a key reason the Minnesota's UPA application process was successful. One interviewee noted, "Ten years ago you couldn't have done [the UPA]; there are established ways of working together now." This does not mean, of course, that the working relationships were completely harmonious. Interviewees did mention occasional interpersonal difficulties, but generally the characterization of the relationships was distinctly positive.

What is important to highlight with the UPA collaboration is that these prior relationships existed vertically, down through levels of government, and horizontally across public, business, and nonprofit entities. At the federal level, the formation of the urban congestion working group following the offsite meeting held by the Secretary of Transportation's office was instrumental in developing the Urban Partnership initiative. In turn, Federal transportation officials knew and respected advocates and public agency people in Minnesota, though this project was different than previous arrangements in that the UPA partners worked directly with the USDOT secretary's office during the application process. MnDOT and the MetCouncil had formed Team Transit previously in order to coordinate transit-related projects, while the MetCouncil chair Peter Bell had been involved in the MetCouncil/MnDOT cooperation (and he had to sign off on the UPA application). Brian Kary of MnDOT, who played a key role in putting the proposal together, had worked with local government professionals on integrated transportation corridor projects, and the regional Federal Highway Administration office had worked with many of the local partners previously. The Minnesota Valley Transit Authority (MVTA) had always worked with Metro Transit to coordinate bus services and had collaborated with University of Minnesota individuals on bus navigation technology.

At the same time, a number of new people in the agencies were involved. For example, Bernie Arseneau from MnDOT, the state traffic engineer and chair of the UPA Project Steering Committee, was fairly unfamiliar with transit issues prior to his involvement in the UPA. One interviewee noted that while the UPA partners had worked together in the past, they had never worked together "all at the same time, never in this way." Another interviewee mentioned his work with partners who were at higher levels in their organizations, compared with people he had worked with previously.

One interviewee commented that personal relationships, as well as "role" involvement, are important. He believes that relationships among the different Minnesota transportation agencies are in "good shape," compared to elsewhere in the country.

The Steering Committee put together to oversee the UPA application process built on prior generally positive relationships, and interviewees indicated that the meetings built additional trust through increased shared understanding, shared work, and tangible progress. The contracting relationship between MnDOT and SRF was also significant. The two organizations were already working together, so it was natural for MnDOT to ask SRF to handle much of the application process. As noted previously, John Doan of SRF had previously worked at MnDOT, specifically on the issue of priced shoulder lanes. The strength of the I-35W Solutions Alliance was a factor in selecting that corridor (in addition to the severity of congestion having made it a "Tier 1" corridor). Representatives of MnDOT and the MetCouncil were already familiar with the concerns of citizens along the corridor from attending alliance meetings.

Summary of Initial Conditions. The context within which the Minnesota UPA process began was generally favorable to the effort, although there was no guarantee it would succeed. There was a broad sense that traffic congestion was a serious problem and a realization that previous attempts to solve it had failed, or at least that more of the same wouldn't work. There was also a willingness to consider a market-based tool, dynamic pricing, rather than more traditional methods, such as construction or regulation.

The driving forces leading toward the local UPA effort outweighed the constraining forces. USDOT created a well-funded program that required multi-party collaboration. There were strong sponsors and champions at all levels willing to push the effort. The technology-related solutions appeared to work. And many key battles over congestion pricing had already been fought and won as a result of the I-94 MnPASS Project. Some important constraining forces actually helped the effort. USDOT's requirements, including the short time frame, channeled and focused efforts And while MnDOT, the commissioner, and governor at first were lukewarm to the project, they later got on board.

In terms of our general expectations, all of our propositions are supported, although with some important new emphases and clarifications. Our proposition about the importance of driving and constraining forces referred mostly to forces in the *competitive* and *institutional* environments. In the UPA case, the *political* environment was an important source of driving and constraining forces affecting whether a cross-sector collaboration could be formed and what kind it would be. In addition, the *technological* environment and *specific technologies* should be highlighted as drivers. The availability of relevant technology will affect whether a collaboration is formed and what it will be. Finally, our proposition about the importance of sector failure as a driver of cross-sector collaboration should be revised. Sector failure is not necessary, but a recognition of the limits of individual sectors is, along with the resulting recognition that multiple sectors will be needed to effective address the problem.

B. Process and Structure

Within the literature on formal organizations, structure often dominates the discussion. However, studying collaborations or relationships among multiple organizations demands attention to both structures and flows (Parkhe, Wasserman & Ralston, 2006), because process dimensions of collaborations are critical to our understanding of their functioning and effectiveness. Process dimensions, in particular, bring individuals and their social and political relationships into the

mix and interact with, shape and are shaped by structural arrangements (Emirbayer and Mische, 1998; Latour, 2005).

Our initial framework fairly sharply differentiated process and structure for analytic purposes. What we see in practice is intertwining and interpenetration of the two to the point that any rigid distinctions between the two are not only not useful – at least for the planning phases of cross-sector collaboration – but largely inaccurate. Inclusive convening resulted in inclusive structures that in turn fostered inclusive practice.

In this section, we examine processes and structures used within the UPA generally within five overlapping phases. (While there are marker events in these phases, overemphasizing them hides the fluidity with which phases overlap and interpenetrate.) As noted earlier, the *first phase* is the pre-award period from the UPA program announcement in December of 2006 through the proposal submission in mid-April, 2007. The *second phase* is a period that began before the end of the first phase, includes the USDOT grant award in September 2007, and ran until May 2008 when legislative funding and authorization were secured. The *third phase* includes detailed project planning and runs from before the USDOT grant award through May 2009, when the first deployments of the first of 24 UPA component projects began, and beyond. In other words, detailed planning ran in parallel with gaining legislative funding. The *fourth* phase is called deployment, meaning implementation and completion at different times of the 24 projects that make up the overall UPA "project." This phase starts in May 2009 and runs until October 2010. The *final phase* is post-deployment, when the full system is essentially up and running.

Within each phase, one can see how elements of process and structure display both network characteristics and more bureaucratic hierarchy, but the emphasis varies among phases. Large and relatively flat networks of stakeholders at the beginning of the process used forums and existing relationships to gain initial agreements and craft the proposal. Following the award and moving into the legislative strategy and implementation stages, more hierarchical structures, such as a Steering Committee and clearly designated subunits, moved the project along. Implementation efforts in the third phase saw the reemergence of hierarchies as `bureaucracies worked at putting in place their pieces of the various projects. The role of the Steering Committee receded, although a cross-boundary communications group worked on getting messages out to a broad array of stakeholders about progress and changes to be expected in the future. Post-deployment involves a stabilized system in which hierarchies dominate, but in which there is also a widespread appreciation of the importance of collaboration, a new emphasis on thinking in terms of broad transportation corridors involving multiple transportation modes and crossing multiple jurisdictions, and a habit of regular meetings across boundaries.

Phase I. Pre-Award Development – December 2006 to Mid-April 2007

This phase begins with MnDOT's decision to apply for a UPA grant in December of 2006 and concludes with the submission of the application in April of 2007. The phase is characterized by fluid and participatory decision-making processes within an emerging governance structure, the UPA Steering Committee. For many, this phase was exciting and innovative in the ways in which leadership and decision-making took place both within and outside of normal hierarchical channels.

Forging the Initial Agreement to Proceed. While agreement existed that traffic congestion in urban areas was a significant public problem that had to be addressed, there was not initial agreement on whether and how the metro area would respond to the Urban Partnership Agreement opportunity. Controversy over the grant's required pricing component and its potential to substantially shift existing transportation and transit plans both needed to be addressed early in the UPA grant development process.

MnDOT was opposed to pricing existing highway capacity, an important component for USDOT, but was more comfortable pricing added capacity. Knowing this, a nonprofit, citizen-led public policy group, the Citizens League, that had published an earlier report advocating the use of pricing, was helping a legislative group introduce its own UPA proposal. The Citizens League/legislative proposal was taken off the table when MnDOT decided to apply. Still at issue, however, was whether a MnDOT proposal would be innovative and bold enough to win the federal dollars. As one interviewee stated, "We were actually moving faster than MnDOT and we had to tell MnDOT, 'let's go ahead and do it.' We ended up having to push MnDOT."

Another issue that affected the initial agreement to proceed concerned the extent to which UPA, with its very short timeframe, would disrupt existing transportation and transit plans. Both MnDOT and the MetCouncil (a critical primary partner for the transit portion of the proposal) must carefully develop regional plans for priority projects in consultation with their constituencies, including community groups and local political leaders. For the MetCouncil, it was essential that elements of UPA be directly related to the Council's regional plan and not require massive plan alterations. In order to gain MetCouncil approval, those working on the UPA proposal had to work with its existing plan and amendment processes. According to one MnDOT interviewee, "We went to the MetCouncil and asked for permission to put this in the plan. At first we got resistance – they said 'you are going to shift the region's priorities.' We decided to split it up into different amendment processes and took the transit first, worked that through the system…[This] allowed us time to get better data…"

Proposal Development Processes and Structures. After agreeing to move forward with a UPA proposal (the first initial agreement), many realized that the UPA project was "much bigger than MnDOT," in the words of one interviewee. The consultant hired by MnDOT to manage the grant process first assembled an interagency Steering Committee and charged it with exploring options, gathering feedback, and making major decisions about components of the Twin Cities application. These decisions were significant and included how to use the pricing component, which metro corridor to target for pricing, the overall role of transit in the project, and how to develop a wide base of support among affected state leaders and local communities for a successful UPA application.

During this phase, the Steering Committee chose to maintain loose, not tight membership boundaries. Thus, the composition of the Steering Committee expanded as time went on, adding local officials from metro-area cities and counties, representatives from the University, and so forth. According to one interviewee from Metro Transit, the composition worked well: "It was, I thought, a really good series of meetings with the Steering Committee. It built a lot of trust and we all recognized we were working on a unique and complex proposal." Another interviewee from MnDOT felt that the fluid design of the Steering Committee was one of the most effective decisions the UPA partnership made:

> I guess what I would say was the recognition that we needed to be very inclusive in putting this partnership together. From early on, we had meetings that included folks from a real broad sector, including a variety of folks from different departments within MnDOT, folks representing Metro Transit and the MetCouncil…Just being inclusive and hearing what everybody had to say was, I think, effective…It was not politically driven, it was from a practical sense. If we can present ourselves and say this is how we think it should be done, then we can take it to the commissioners and give it to a champion for the cause.

As alluded to in this quotation, the processes used by the Steering Committee for proposal development included educating a broad range of stakeholders about critical elements of the proposal and drawing these stakeholders directly in project governance activities. Words like "champion," "coalition," "teams," and "partners" dominate the organizational chart for UPA during this stage.

Early on, the Steering Committee decided to hold "stakeholder workshops," a model used successfully in the I-394-MnPASS project. The first of these took place at a 2006 Road Pricing Summit organized by the Citizens League and held at the University, a neutral convening location. The timing was fortuitous as educating stakeholders about UPA became the focus at the summit, and a high level USDOT official delivered the keynote address. A second meeting was held in March with over 60 stakeholders and focused on which corridor would be targeted for tolling. Selecting a corridor could have been contentious and competitive. However, the design of the meeting highlighted neutral convening and facilitation and multi-agency collaboration: the event took place at the University with the Center for Transportation Studies in a leadership role, and both the Lieutenant Governor (and then Commissioner of Transportation) and the chair of the MetCouncil signed the invitation. It was through this process and subsequent discussions that the I-35W corridor from downtown Minneapolis south to Lakeville was chosen (L. Munnich, personal communication, August, 2008).

The role of the I-35W Solutions Alliance in the process and the selection of the corridor was critical. The Alliance is a joint-powers organization made up of elected city and county officials along the I-35W corridor from downtown Minneapolis to Lakeville in the south. In the words of a member, the Alliance is "a forum to hash out ideas, come to an agreement on issues. We don't have any power to force anybody to do anything. It is our ability to persuade." As frequent participants in the monthly meetings, MnDOT had established working relationships with the Alliance. According to one MnDOT manager, "Some of those programs – the ones that MnDOT's involved in – we float our ideas or recommendations to [outside groups]. One of those would be the I-35W Solutions Alliance. How we react depends on what the reaction of that group is." Regarding UPA, the Alliance was especially persuasive. In the words of another Alliance member,

> One piece of criteria for USDOT was having the support of jurisdictions in the corridor. In the Twin Cities, there were half a dozen bodies involved…So, the I-35W Solutions Alliance isn't the only one in the region, but we were exceptionally well positioned for it because all the outreach had already been done… We were the only corridor waving our hand saying, "hey, pick us."…Most of the money isn't highway money, it's transit money. So, we were

> already well along in the planning for the BRT [bus rapid transit] in the corridor. Every single criterion that needed to be met, we were already well-positioned for.

While not a political advocacy group, the I-35W Solutions Alliance nonetheless played useful political roles for the UPA project. First, it gave the UPA the local political support and legitimacy necessary to justify selection of the targeted corridor. Second, and crucial to gaining support from the governor, the corridor in question already had a High Occupancy Vehicle (HOV) lane that could be transformed into a High Occupancy Tolling (HOT) lane; therefore, no existing lane would be "taken away" to comply with the tolling requirement. This was especially important to MnDOT and to the governor who strongly opposed taking away any existing highway lanes. For the corridors advocated by other groups, UPA would have to take away an existing lane, something the governor would not support.

Effectively bridging differences among stakeholders appears to have occurred primarily through use of the multi-stakeholder forums that were convened to consider participation in the Urban Partnership program and then to develop the proposal. These and other forums helped participants change their minds enough to reach shared understanding and agreement on how to proceed. Process sponsors and champions were necessary conveners of these forums and helped assure that the kind of needed learning occurred that helped peop le align their positions and move forward (Crossan, Lane, and White, 1999; Foldy, Goldman, and Ospina, 2008; Crosby and Bryson, 2010). The first major forum in this process was organized and conducted by nongovernmental champions of congestion pricing or transportation policy reform, i.e., representatives of the Citizens League and the University of Minnesota's Center for Transportation Studies (CTS) and the State and Local Policy Program (SLPP). A second major forum, convened after MnDOT and the Metropolitan Council had agreed to submit a UPA proposal, was sponsored by the heads of these two organizations, but facilitated by people from CTS and SLPP. While the two major forums were inclusive, they were by invitation only and the invited participants were predominantly elected local officials, legislators, and representatives from state and regional government agencies.

Smaller forums were held at CTS with key people from MnDOT, the MetCouncil, and Metro Transit plus consultants to hammer out strategies. Later forums were organized by the consultant hired by MnDOT to pull the proposal together; they were overseen by a MnDOT senior manager and the UPA Steering Committee that evolved from the earlier meetings.

The tight timeline for the grant application provided incentives for forum participants to come to consensus about elements of the proposal. The time constraints also favored selection of the I-35W corridor as a major focus of the proposal, since local officials along the corridor had already formed the I35W Solutions coalition aimed at improving the corridor.

Some key stakeholders were either excluded or not heeded in the forums convened at this stage. In its effort to break through the usual bureaucratic silos and levels, USDOT had designed the UPA process to bypass federal regional highway and transit offices. The general exclusion of regional federal transportation officials at this stage would be problematic during the implementation stage, when their approval would be needed to carry out some aspects of the project. Additionally, local transportation planners and engineers weren't prominent in the forums and thus their knowledge about feasibility of some proposal elements couldn't be tapped

easily. Finally, the average citizen or commuter was fairly unaware of the whole endeavor and would need educating later in the process if they were to help create desired outcomes.

Stakeholders attending the various forums were often attached to one of the 4 T's more than another. The forums helped them develop a more holistic perspective. For example, some participants who had opposed highway pricing but supported transit-related parts of the project came to understand the interconnections of increasing transit ridership and imposing fees on motorists at peak highway times. This holistic understanding of strategies along with pre-existing (and growing) "corridor" thinking and appreciation of traffic congestion and transportation as regional issues were crucial for bridging differences. Process sponsors and champions acted as "integrative leaders" (Crosby and Bryson, 2010) and "sense-givers" (Foldy, Goldman, and Ospina, 2008) to help push this move toward more holistic thinking along. As one interviewee commented, "The [UPA] collaborative wasn't always strong; it went through a typical collaborative process with a lot of disagreement. But I think they realized there was a broader public good associated with collaboration, so they were willing to put their differences aside. I think the time frames really pushed them, and there was a goal right in front of them and they went for it."

Summary of Phase 1 Process and Structure. What is notable about the structures and processes used for the proposal development is how fluid they were in contrast to more typical decision-making in bureaucratic hierarchies. The Steering Committee membership included not just leaders from the two primary partners but coalitions such as the I-35W Solutions Alliance and others, including the Citizens League, the Center for Transportation Studies, and the Humphrey School's State and Local Policy Program, and elected officials from metro cities and counties. These outside members played significant convening, facilitation, and leadership roles throughout Phase 1 and used their political capital to gain bi-partisan support for the proposal. In terms of our general expectation, we do see that the form and content of a collaboration's initial agreements affects the outcomes of the collaboration's work. What appears to be key, however, is a sequence of increasingly operational formal and informal "initial" agreements involving key decision makers, while also keeping open some necessary flexibility and re-negotiability within the outlines of the agreement. The final initial agreement was the UPA grant proposal as submitted, but that proposal left open a number of details still to be negotiated.

Phase II. Post-Award Legislative Strategy – Early 2007 – May 2008

In the words of one UPA participant, the proposal development phase was characterized by "let's get all the ideas out there." In contrast, the process for crafting the strategy to gain legislative approval for matching funds required for UPA was far less fluid and participatory. Here, several interviewees concurred that decisions about legislative strategy were made at the top of MnDOT and took place largely outside of the UPA decision-making structures. Once funded, UPA, its partners and stakeholders had to deal deftly with the political environment. Three aspects of this environment are important. First, just prior to the UPA award announcement in August of 2007, the I-35W bridge over the Mississippi River collapsed. One interviewee said the I-35W disaster may have helped reduce controversy about UPA simply because it diverted media attention from the project, and may have made federal officials more ready to send money to Minnesota. However, the researchers and some interviewees speculated that the effect was to focus citizens' and policymakers' attention on transportation generally, and specifically on neglected

infrastructure. Attempts to assign blame for the collapse increased tensions between the Republican administration and the Democratically-controlled state legislature. The collapse placed the governor in the spotlight and not all of that was positive.

Second, the bridge collapse and the attention focused on the governor occurred as speculation mounted about Governor Pawlenty's position as a vice presidential candidate in a John McCain presidential campaign. Pawlenty's potential candidacy gained momentum as McCain emerged as the Republican front-runner during the winter of 2008.

Third, and most proximate to the UPA project, the state legislature had to approve $55 million in state matching funds and pass legislation that allowed the HOV lane in the I-35W corridor to be turned into a dynamically priced shoulder lane. Despite the attraction of $133 million in federal funds, legislative approval for these key aspects of UPA was far from assured. Some legislators did not necessarily oppose shoulder pricing or other policy aspects of UPA, but disliked the idea of targeting $55 million in state funds to one corridor. According to one State Senator deeply involved in transportation policy, legislators could go along with this project if they were assured that their areas would have priority for future transportation funding. Building on deep divisions over who was responsible for the bridge collapse, a key point of contention between the legislature and the governor and lieutenant governor (who was, at the time, also the Commissioner of Transportation) was transportation policy, funding, and future direction.

Given the high stakes politics involved, the process for crafting the strategy to gain legislative approval for these two aspects of UPA looked quite different from processes in Phase I. Decisions about legislative strategy were made at the top of MnDOT and took place largely outside of the UPA decision-making structures. According to one high level MnDOT official at the time,

> Well, there is some legislation that's needed that is being introduced today for UPA. It was worked out between key top staff at the MetCouncil and MnDOT outside of the whole [UPA] committee structure because it dealt with revenue distribution that was only being shared by the two agencies…We kept it close to the vest and didn't share with anyone except generally highlighting what the policy components were.

In part, the design of the legislative strategy was driven by the fact that state public administrators cannot testify at the legislature without authorization from the top. The MnDOT managers responsible for UPA simply didn't have the authority to involve other partners in developing a legislative strategy. However, this design also reflected the fact that MnDOT and its Commissioner, who was also the Lieutenant Governor, were aware of the Governor's status as a potential Vice Presidential candidate for Senator John McCain. MnDOT and the Commissioner/Lieutenant Governance wanted to be sure that any transportation initiative reflected well on the governor and did not violate his no-new-taxes pledge.

Summary of Phase II Process and Structure. In sum, in this phase hierarchy clearly was dominant.

Phase III and Phase IV. Detailed Project Planning and Deployment (Implementation) – Pre-August 2007 (i.e., Pre-Award) through – October 2010

The processes and structures for UPA's detailed planning and deployment (implementation) also differed significantly in the post-award phase; both became much more formal and hierarchical.

The Leadership Team and Steering Committee. A UPA organizational chart was developed with a Leadership Team at the top composed of the heads of MnDOT, the MetCouncil, the regional office of the FHWA, and a "project champion," who was Bob Winter, a high-level MnDOT official. Beneath the Leadership Team is the Steering Committee, which according to several interviewees, became more formalized in membership and duties. It was composed of top level managers from MnDOT, the MetCouncil, the Center for Transportation Studies at the University, and representatives from the FHWA, the City of Minneapolis, the four affected counties, and the Minnesota Valley Transit Authority. Beneath the Steering Committee is the Program Coordinator, MnDOT's Nick Thompson, who was also the project manager for the I-394 MnPASS project, and under his supervision, are department-like groupings for highway, tolling, and transit infrastructure, telecommuting, public relations, and so forth. As one key partner stated,

> Oh yes, I think we have a good process set up – we have a Steering Committee with all the partners and then there's a communications/outreach committee that just got going. Then there are the implementation teams. If you start to look at the structure, there's really a lot of people involved.
>
> When you are flying by the seat of your pants to put together an application and get it approved and then you win it, you take a step back and say, 'Who do we really want to assign this to for the next two years?' This is a humungous undertaking. I don't think people realize how huge this is.

The operational or technical teams within each of the department-like units were crucial for successful implementation phase and include people like county engineers and public works directors. As one middle manager put it, "[Coordination] has to start at the top and, to deliver something that's really, truly coordinated, it needs to make it down to the technical level where you have champions."

The stakeholder meetings, so important to the proposal development phase, continued after the award, but changed in tone and substance in the eyes of some. Several interviewees noted that these meetings had become more of an information exchange between the key stakeholders and MnDOT. In the words of one interviewee, "MnDOT does not want a lot of feedback [at this point in the process]." Interviewees' opinions during these phases diverged on whether the Steering Committee as an oversight body was driving UPA or whether, in fact, MnDOT is making most major implementation decisions, while other partners, such as MetroTransit and the City of Minneapolis were making their own complementary deployment-related decisions.

In other words, the Steering Committee evolved from the initial meetings to consider and develop a UPA proposal. Once Minnesota's UPA application was approved, MnDOT and MetCouncil established a more hierarchical structure to guide and implement the project.

Overall, Minnesota is an interesting case of upper level decentralization during the planning phase, upper level centralization during early implementation, and then devolution or decentralization at much lower levels as the specific projects rolled out. The UPA project was structured around a Steering Committee of stakeholders that changed significantly from the proposal development to the implementation phases. Initially, the Steering Committee was a loose, horizontally-organized group responsible for making the major policy and operational decisions required for the proposal – for example, the Steering Committee was charged with deciding how to meet the tolling requirement and choosing the corridor and the transit projects to target. When project implementation began in earnest, both the governance structure and processes for UPA became more formal and hierarchical. The Steering Committee still existed, but was much smaller and its membership included only representatives from the two primary partner agencies, the University of Minnesota, and the affected cities and counties. As implementation proceeded, meetings became infrequent and, as one interviewee described, "a one-way communication flow." In other words, the shape of the forums changed as the nature of the task changed.

The two project leads from MnDOT and MetroTransit were the committee's leaders. Interviewees were mixed in their reaction to infrequent meetings -- some thought this represented people "going back into their silos," while others saw a reduced role for the Steering Committee as appropriate during implementation because middle managers and technical experts in the lead agencies were collaborating on the specific UPA projects. Communication among these middle managers and technical experts was key, as one of the two overall project managers described:

> Project managers are everywhere but we have established communication lines. We do that by hitting the brakes – immediately calling meetings on the fly and dealing with stuff right away. We call meetings on the fly with appropriate personnel; those meetings tend to be affected by the complexity of the project. We like to deal with things quickly so that we can hit the gas again.

According to top level officials, problems were being solved at the mid-levels of their bureaucracies and not even reaching them, an indication that collaborative decision-making was working well.

There were also some indications by top-level officials that new structures or patterns of collaboration across agencies were developing that might outlast the UPA project but build on the Steering Committee concept. We call these "proto-institutions." As one official stated,

> We meet at MnDOT on a monthly basis anyway, on a variety of issue. We did that before UPA but UPA added to the book of business and brought in new, common things, such as our strategic approach to the legislature, various communities, various aspects. We're now thinking more strategicially…There might be a second-generation where we start looking at how it might be replicated. That longer-term vision might be another reason for the Steering Committee to stick around.

Additional structures for decision-making in Minnesota. As implementation proceeded, the process directly involved more stakeholders among the cities and counties affected by UPA projects along the I-35W corridor. For example, issues concerning transit stations, rights of way, commuter disruptions, and so forth had to be discussed across multiple city and county jurisdictions. As one interviewee stated, "in implementation, cities became decision-makers." Therefore, at the local level, structures were developed or activated for this decision-making. For example, the director of public works for one of the affected cities, described his UPA work with MnDOT, the MetCouncil, the Legislature, the I-35W Solutions Alliance, and the 494 Corridor Coalition.

At the county level, the structural complexity related to implementing UPA projects is even more impressive. A county engineer described how four different groups are involved in UPA decision-making in his county. The Dakota County Regional Rail Authority is "in charge" of the overall UPA project (where the members of the DCRRA are also members of the county's Board of Commissioners). Making recommendations to the DCRRA is also the Cedar Avenue Committee, consisting of elected officials and key staff from local agencies, who meet quarterly. The county engineer views this committee as a "sounding board for political direction and input, recommendations." Under the DCRRA is a technical group that meets frequently with him and acts as a clearinghouse for all pieces of the UPA projects. But the DCRRA is the final authority.

Given this level of complexity at the local level, it is not surprising that several interviewees mentioned the need for a degree of centralization, in particular, the need for a single point person through whom all communication flowed. As the one director of public works stated, "I don't want three people, I want ONE person so that that agency is speaking with one voice. As far as collaboration, this is key" (emphasis ours).

Marq2 as a project planning example. Collaboration at lower levels in these phases involved the very nuts and bolts work of making specific projects work on the ground. Several interviews in our third round of interviews focused on the Marquette and Second (Marq2) UPA component, which reworked two major north-south thoroughfares in downtown Minneapolis in order to increase the speed of bus travel. Interviewees noted the importance of a previous multi-stakeholder downtown transportation planning initiative called Access Minneapolis in building relationships and producing the plans for Marq2. The advisory committee for the initiative included several downtown business people, which helped the business community view Marq2 favorably. The Downtown Improvement District (DID), an association representing downtown employers and property owners, was very involved in implementing the Marq2 UPA component. One interviewee noted, "We [DID] work with both the city and Metro Transit in a whole variety of issues downtown so this [Marq2] is not by any stretch the only thing we talk to them about. We're all in it together. I think we have the same inherent goals."

The Marq2 project is a prime example of inclusive convening. Minneapolis city managers met monthly with Metro Transit partners and numerous times with stakeholders in the business community and the general public. The meetings with business people often focused on specifics of building access. Public forums focused on "what it's ultimately going to look like; this is the pain we're going to feel during the construction piece of it, and so forth."

Having downtown business people involved in the Marq2 component of UPA helped ensure that transit and streetscape improvement would not just benefit bus-users but would fit into the needs of the downtown employers, residents, and commuters. Business people succeeded in downsizing some proposed bus shelters or offering the use of their vestibules as waiting areas so that some bus shelters could be eliminated. They also ensured that planters were added to the streetscape by pledging to care for them. One interviewee also noted that the Marq2 implementers were careful to pay attention to "particular business concerns about access to businesses and certain parking ramps" during construction and were largely able to mitigate these concerns, thus ending up with an experience and outcome that "everybody is pretty happy with."

One interviewee argued that UPA and comparable programs should include business people in a stronger partnership role, rather than just being advisory. The interviewee said:

> …if you don't get private partners to the table and help that public policy work in a way that it's going to enhance the tax base and enhance the private investment in an area, what you are doing is ending up with more infrastructure to care for without also at the same time leveraging more dollars with which to care for that infrastructure.

The meetings helped resolve conflicts and deal with setbacks. As part of city government's desire to have a coordinated look for street furniture (bike racks, benches, bus shelters, etc.) city planners working on Marq2 were initially planning to take responsibility for the shelters, but at the last minute their negotiations with a business that they hoped would manage the shelters fell through. So Metro Transit agreed to take ownership of the shelters. Then the DID agreed to pitch in more support. Explained one interviewee, "Through collaboration with Metro Transit, our Downtown Improvement District and the City, we all came to agreement that we all put a little extra effort into operations and maintenance," including graffiti removal, snow plowing, and plant care.

Very few conflicts emerged between Metro Transit and city managers. One city manager noted that conflict can occur when transit people want the city to remove parking meters at bus stops. He added that in the case of Marq2,

> … I think we worked things out very well. I didn't sense any conflict with them per se. There might be a day where we had to pull some meters out that I didn't want to pull out, but for the most part, we did very well. And overall I think we work very well together, and worked even more so during the UPA project…

In the second set of interviews, some participants again raised the concern that the traveling public was not as involved in the implementation phase as they should have been.

> There was a lot of time and money spent on doing the technology and telling everyone about Marquette Avenue and how wonderful dual bus lanes are and all that stuff, and that they were going to have this real time technology. But there was zero dollars, zero time, zero energy spent on educating the customer on what they should be expecting... I think there were some issues, not thought about, that needed to be addressed. We lost an opportunity to educate the customers as to what 'real time' means.

The Marq2 project also had to deal with constraints and contingencies. One interviewee noted that tight time frames can escalate costs or hold them down. In the case of Marq2, the tight time frame probably helped save money because it led project planners to simply close down the affected streets rather than the more time-consuming and more expensive approach of keeping them partially open. The traveling public experienced greater inconvenience, but for a shorter period of time. One interviewee noted that the sense of urgency meant that the Marq2 project team made timely decisions. Staff, contractors, and consultants met frequently. "We didn't let decisions languish out there…I think that helped quite a bit in terms of keeping costs down." Another interviewee noted that the time constraint and the magnitude of the project required a team approach.

> I think knowing the constraints with the timing and magnitude of the project that the City had, more so than any other project, more of a team approach to these things, rather than going into your individual silos and operating from there. Everyone wanted to get this done. Everyone was willing to put in the extra effort to get it done and make sure information was shared overwhelmingly and not constrained to the different silos that the city operates in.

One interviewee argued that the tight time frame kept participants from fully thinking through issues like customer impacts: "[W]e were all focused on getting it done. And there wasn't the luxury of time to sort through what some of those potential issues could be." On the other hand, apparently USDOT was willing to relax the timeframe some in order to allow projects to deal with unanticipated hurdles. One project manager said, "[T]he Obama administration has been more lax than the Bush administration. As long as it's not a no-end-in-sight kind of thing, we can get extensions for 2 months or what have you."

Bridging differences among stakeholders in Phase III and IV. Once recipients received a UPA award, they faced yet another set of extremely tight timelines for finalizing and implementing their plans and obtaining legislative approval for the state matching funds and for tolling and other policy changes. In all the projects, the legislative and implementation strategies ran on parallel tracks.

In Minnesota the process became less inclusive and more confined to normal hierarchical channels within MnDOT and the Metropolitan Council. On the legislative track, senior MnDOT managers, the commissioner, governor, and top Metropolitan Council officials developed their strategy largely behind the scenes. On the implementation track, the multi-stakeholder Steering Committee became less and less important as working groups took over specific parts of the overall project. MnDOT appointed an experienced manager to provide overall ongoing coordination. Metro Transit appointed an experienced management to perform similar functions.

As the working groups organized they involved people with technical skills and local knowledge who hadn't previously been involved in the UPA process. In other words, collaboration – often across organizational boundaries – was important further down the organizational hierarchies. Vendors of particular technologies became more important. In many cases, working groups had to renegotiate parts of the original UPA plan due to new information about technical feasibility or political barriers. Several interviewees suggested that systems thinking was necessary to help group members break down barriers among themselves and within participating government

agencies. For example, one interviewee noted the importance of thinking of the I-35W corridor as a system in order to counter the tendency for MnDOT employees responsible for highway signage to focus on one or a few locations along a highway. Instead, signage workers had to shift their concern to how signs worked together to manage traffic flow along the whole corridor.

Sometimes working group members had to learn new language in order to work with other stakeholders in the UPA project. For example, local transportation planners had to translate unfamiliar federal transportation phraseology to their own situations.

As UPA elements such as reconstruction of Minneapolis streets or improvement of I-35W began to interfere with normal traffic and commuting patterns, UPA champions began communicating with appropriate parts of the travelling public, often through the Internet, to keep them updated on disruptions and explain the value of those parts of the project. A public information campaign helped commuters in the south metro prepare for the extension of the MnPass system to I-35W. A particularly delicate challenge was managing public expectations about the Bus Rapid Transit service planned for the Cedar Avenue corridor. The UPA project was only providing some parts of BRT, not full-fledged operation. The people responsible for this UPA component strove to excite users of the corridor about the potential of BRT, but also remind them that what they would experience early on wouldn't have the full benefit of a complete system (that would be similar to light rail service).

An challenge highlighted in various interviews was the difficulties caused by various federal rules that emerged more strongly during implementation than during proposal development. Several officials at local implementing agencies complained that rules at the federal level created bottlenecks for their work and that rules between the FTA and FWHA seemed to conflict. As one described, "Whose rules triumph? Instead of less, we got more and more… With tight timeline, there was going to be recognition of the need for relaxed systems [on part of FTA]. That was completely false."

Summary of Phases III and IV Process and Structure. Phases III and IV involved detailed project planning and deployment of projects as they were ready to go online. More traditional hierarchies were prominent, but there was also an emphasis of networks of relationships among implementers of specific projects.

Phase V. Post-Deployment – May 2009 On

The post-deployment phase began when the first of 24 separate projects came online starting in May 2009. The last project came online in October 2010. Interviewees reported on the fine tuning that was needed once elements of a complicated project like UPA is deployed. For example, following completion of the Marq2 project the Minneapolis Public Works department continued collaborating with Metro Transit on improving bus operations times and scheduling times, "getting the corridor fine tuned… for everyone …not just Met Transit, but for vehicle traffic, bike traffic, foot traffic." In the Marq2 project the fine tuning seems to have produced desired results. This hasn't been the case in the efforts to synchronize bus time reporting between downtown Minneapolis bus stops and stops along the Cedar Avenue corridor serving southern suburbs. [leave in reference to Cedar Ave.? b miller said this was true for the other opt outs.]

Again in the post-deployment is round of interviews we heard some concern that the inactivity of the UPA Steering Committee during the implementation phase was problematic. Governance for the project as a whole was diminished, as the locus of control shifted to the managers of specific parts of the UPA and to MnDOT or Met Transit decision makers. One interviewee was especially concerned that the inactivity of the Steering Committee meant that no one was really looking out for users of the new systems being put in place by UPA.

Interviewees noted that the UPA governance structure had a certain fluidity. "A lot of players came into the picture at different times and made critical contributions and then stepped out." Yet many key players supported the project throughout – project managers, supportive governor, upper echelons of MnDOT and Metropolitan Council, some legislators. Now a new governor and many new legislators call into question whether the model has a strong future.

In the case of the Marq2 project, key components of the collaboration structure were a project manager from the City of Minneapolis and a lead contact from Metro Transit. When meetings occurred between the two organizations, the lead contact brought along additional people "depending on what we were dealing with."

Influence of Power on Process and Structure across the Five Phases. While we discussed power relationships under Initial Conditions, we return to power here because of the way they evolved over time as UPA developed. Power, particularly at the level of overall design, was initially located at the federal level – both the FHWA and the FTA were involved in developing the project, but FTA was the stronger actor, led by Mary Peters: Ax one interview said, "She has her fingers all over this project." The USDOT secretary also was able to fund the Urban Partnership program so generously because Congress (unusually) failed to earmark a substantial portion of transportation funds. More broadly, several interviewees felt that the real leadership during the early stages of UPA came from those within these federal agencies and not state transportation officials. Interviewees, when asked who were key champions and sponsors of UPA, named eight different people, all associated with different partner organizations. The range of answers to this question suggests a broad base of power and support.

The locus of power then shifted to the collaboration itself as the proposal was crafted. For example, interviewees usually cited MnDOT and Metro Transit as the primary partners in designing and implementing the UPA project. However, the role of secondary partners, such as the I-35W Solutions Alliance, the Humphrey School's State and Local Policy Program (SLPP), and Citizens League, was often mentioned as a key reason why the project got off the ground in the first place. As one interviewee explained, "Basically, the SLPP and the Citizens League did the heavy lifting, going to all the cities…asking them to submit a proposal." The City of Minneapolis and the Minneapolis City Council were also mentioned frequently as very important partners. Having been convinced that transit – a big priority for City officials – was indeed a major component of UPA, the City became a strong (and needed) advocate for UPA. Counties, such as Hennepin and Dakota, and other local cities along the I-35W corridor were important secondary partners who played key roles.

Once it was decided that the UPA proposal would be submitted, and the I-35W corridor was chosen as the location for the project, the number of partners involved shrunk considerably. MnDOT handled much, though clearly not all, of the legislative strategy in Phase II. Phase III

partners representing community organizations or local government were not excluded entirely from the implementation process, as they still attended the quarterly UPA Workshops, but there was a feeling that the workshops were becoming less and less about gaining community input, and more and more about MnDOT running the show. One interviewee echoed the sentiments of several when he/she said, "I don't even think of it as a multi-agency partnership. I just think of it as MnDOT." That view may be a bit extreme, but certainly during the implementation phase, power appears to reside among implementation teams comprised of operating staff within relevant public bureaucracies.

We would also emphasize the findings that highlight the importance of collaboration sponsors and champions keeping in mind and working effectively with the full array of policy-making arenas that have authority over the progress and outcomes of their work. We found evidence that formal and informal leaders of the UPA projects needed to appropriately sequence attention to different arenas and keep in mind the interactions of different arenas . For example, in Minnesota, leaders of the UPA initiative put pressure on the governor to take responsibility for submitting an Urban Partnership application by offering a credible prospect that the legislature would do so if he did not. The Minnesota story also involves highly significant efforts by advocates from the Citizens League and the university, to gain support from the governor, upper reaches of MnDOT and the Metropolitan Council, City of Minneapolis, and key legislators for submitting a UPA proposal. Once top MnDOT and MetCouncil decision makers agreed to submit the application, the focus was on mediating among the interests of multiple local governments and constituencies that were affected by traffic congestion in the metro area. The locus of mediation was the forums discussed earlier, where we talked about development of shared appreciation of the congestion problem and potential solutions. Here we note the importance of more "political" factors. The general agreement to focus on the I-35W and Cedar Avenue corridors (along with some smaller initiatives elsewhere) was fostered by the existence of the I-35W Solutions Alliance, a joint-powers organization made up of elected city and county officials along the I-35W corridor from downtown Minneapolis to Lakeville in the south. In effect, this group already was a coalition seeking to mitigate congestion and develop transportation systems that fostered economic development. Including reconstruction of bus lanes in downtown Minneapolis solidified the support of the legislators and local officials who represent the biggest city in the region. Finally, the expectation of serial reciprocity mitigated the frustration of legislators and local officials representing other parts of the metro area.

During the post-award legislative strategy phase, supportive legislators such as Steve Murphy, chair of the Senate Transportation Committee, along with MnDOT representatives and other champions pressed legislators to approve the dynamic pricing arrangement and state matching funds. Relations between the Democratically controlled legislature and the Republican governor were tense, and metro and rural legislators had long been divided about allocation of transportation funds (especially rural highways vs. urban transit services). Yet all were aware of a developing consensus among Minnesota citizens that the state's transportation system was in dire need of improvement. One source of friction during this phase was disagreement about allocation of revenues from UPA's lane pricing. Metro Transit wanted to be sure that transit would benefit; MnDOT had other plans. Eventually, Sen. Ann Rest helped negotiate a formula that was acceptable to all.

Ultimately, the legislature approved the required matching funds and tolling authority without major battles. Several interviewees noted that familiarity with the MnPass program on I-394 was a contributing factor in legislators' comfort with the UPA plans. Additionally, one interviewee noted that no opposition group emerged "to make things more difficult."

During the detailed project planning and deployment phases, the power of local government officials became more of an issue, since they had to give consent for the specific UPA parts that affected them. In some cases, plans were modified and elements added to obtain those officials' approval. Working groups were a decentralized locus of power during implementation, but they were always answerable to the UPA coordinator and to the rule enforcers at MnDOT, MetCouncil, and the federal transportation agencies. The shadow of USDOT's power loomed over the entire project; and MnDOT and MetCouncil decision makers were powerful arbiters of disputes – for example, who would be in charge of new structures or systems. As the overall project neared completion, legislators were less and less involved. They tended to deem it a success because they were hearing no complaints, but some were miffed at not being kept in the loop and they were skeptical about the ultimate impact of the project.

Clearly some tradeoffs made to win over officials in the UPA project were problematic. Of special concern to some stakeholders was the overriding of safety concerns to allow dynamically priced shoulder lanes. Overall, it appears that the locus of authorization for collaboration can shift over time along with the structural forms (lateral or hierarchical). Those shifts, in turn, require that the leaders of a collaborative develop the political ambidexterity to navigate multiple (and sometimes conflicting) authorizing forums simultaneously and sequentially.

To summarize, collaboration overall in the UPA process more closely fits Himmelman's (2002) model of more top-down mandated collaboration, rather than the more bottom-up community empowerment. But that generalization masks the differences between the several phases of the effort. The first phase involved a substantial measure of power sharing among the participants, in part because there was simply no way to put together a successful proposal without the contributions and buy-in of a large number of players beyond MnDOT and the MetCouncil. The first phase thus might be termed "collaboration in the shadow of hierarchy" (S.E. Page, unpublished peer review comments to authors, May 23, 2008). In contrast, the following phases more closely resembled coordination among a few major hierarchies, with consultation along the way with other stakeholders. These phase might be termed "hierarchy in the shadow of collaboration."

C. Effective Collaborative Leadership and Related Competencies

Collaborative leadership and a related array of competencies appear to have been crucial to the success of the Minnesota UPA. We address collaborative leadership first and then go into more detail on related competencies. While different processes, structures, and configurations of power have evolved as UPA has evolved, the competencies of actors – including leaders – within the partnership have also developed and contributed significantly to UPA. UPA's success so far is closely tied to the competencies of actors in the network. Following Bryson, Ackermann and Eden (2007, p. 704), we define competencies as a subset of resources that connote "abilities, technologies, or processes that help an organization [or collaboration] perform well against important goals or critical success factors."

Collaborative leadership. Effective collaborative leadership focused on resolving complex public problems requires extensive visionary and political leadership by numerous formal and informal leaders (Crosby & Bryson, 2005). Effective visionary and political leadership were definitely crucial factors affecting the success of the Minnesota UPA application and implementation processes. We define visionary leadership as the creation and communication of shared meaning in formal and informal forums and political leadership as making and implementing policy decisions in formal and informal arenas (Crosby & Bryson, 2005). Other scholars have highlighted the importance of cross-boundary and multi-level leadership in forging successful cross-sector collaborations (Maattessich, Murray-Close, & Monsey, 2001; Huxham & Vangen, 2005; Bryson, Crosby, and Stone, 2011).

Two main types of leaders – sponsors and champions – are usually required for successful complex change efforts. At their best, these "policy entrepreneurs" (Roberts & King, 1996) manifest a deep understanding of the policy change process and are able to take a long view of societal well being. Sponsors have formal authority that they can bring to bear in securing political support and other resources for the effort. Champions, who often lack formal authority, supply ideas, energy, and determination to help stakeholders define public problems, evaluate alternative solutions, and push for the most promising solutions. The most effective champions have considerable facilitation skills but also are able to articulate and frame the policy idea in comprehensible ways to multiple constituencies. In the UPA case, several champions were "monomaniacs with a vision," true believers in a policy change effort, who persistently convened meetings and used other forums to communicate the importance of the change effort and the policy ideas that inspired it.

An especially important aspect of policy entrepreneurship at the very top of USDOT was tying together the funding sources for different modes of transportation together to fund UPA. The view at the top was that traffic congestion was the country's single biggest transportation problem, that "funding silos" (including via earmarking) had done damage to the transportation network, and that it was therefore important to link the modes. Joining the funding sources together also allows for introducing cost-benefit analysis "at the highest levels of the program, which might facilitate more rational decision making. Interestingly, even though there is evidence from our interviews of support from the White House for the UPA program, we did not pick up any real evidence of national politics being a driving force.

Helping people see pricing as different from tolling took competency in *issue framing*, as well as competency in *persuasion*. Getting people to see pricing as building capacity, rather than as taking it away, is a major rhetorical move with major political consequences (Kingdon, 2002). The struggle over language involved MnDOT, where many didn't see the difference between adding tolling (which involves the same prices regardless of congestion, and was also seen as "taking something away") and dynamic pricing (where the "toll" varies based on congestion and throughput, or vehicles moved per unit time, is increased). Pricing advocates nationally and regionally see linking pricing to capacity building as crucial for building broad public support for the idea and expanding its use.

Like entrepreneurs in other realms, champions need a high tolerance for risk and situational ambiguity. To the extent they are championing untried, unpopular, and truly innovative ideas, they may experience years in the policy wilderness. They risk being associated with "crazy

ideas," identified with a "lost cause," and/or considered "policy nags." Champions in this case included Patrick DeCorla-Souza amd Tyler Duvall at US DOT, Lee Munnich and Adeel Lari at the University of Minnestoa, Bob DeBoer at the Citizens League, and other less visible people. DeCorla-Souza had pushed the idea of road pricing at internal USDOT forums and external forums around the country for years. Munnich studied "value-pricing" as an antidote for traffic congestion and became a determined champion who helped convince state legislators to approve the MnPASS program, and then along with Ken Buckeye developed and circulated highly readable reports on the outcome of MnPASS implementation. Sometimes champions begin as skeptics – for example, Duvall. Leaders have to be convinced they will have followers. Fighting for a policy innovation will almost by definition begin on the margins of acceptability. Leaders want evidence that the battle won't be hopeless, that a defensible plan can be crafted.

Sponsors are people with formal authority and are more likely to provide political leadership. Mary Peters, Tim Pawlenty, Carol Molnau, Steve Murphy, and Peter Bell were all sponsors to a greater or lesser extent. Champions often take on the task of winning over sponsors. For example, Duvall helped win over Peters, and Munnich, DeBoer, and Lari attempted to win over Pawlenty, Molnau, and Bell. The champions in these cases were often walking a delicate line as they occasionally went around positional leaders to get to the sponsors; in doing so the champions ran the risk of alienating both the people they went around and the sponsors.

Several interviewees remarked on the sizable number of sponsors and (especially) champions involved in the Minnesota UPA and the relative stability of the group over the period from pre-application through implementation, though some champions changed roles during the process. (Of course, some of the stability was attributable to the project's short timeline.)

The most important change among the sponsors was the replacement of Carol Molnau as commissioner of transportation, when the Minnesota Legislature refused to confirm her in early 2008. Her successor was Thomas Sorel, the former regional FHWA administrator. Though the regional FHWA office had been unhappy with being largely left out during the design phase of the Minnesota project, Sorel as transportation commissioner was a whole-hearted supporter of UPA and touted its success around the state. He is a firm believer in collaborative approaches to transportation planning and implementation and enjoys great professional respect among his peers. He sees MnDOT as playing a strong formal leadership role during implementation, while needing to remain quite collaborative.

At the MnDOT senior management level, Bernie Arseneau remained, in the words of one interviewee, "the key point person to make this whole thing happen." Other important champions included Arlene McCarthy at the MetCouncil, and Beverley Miller at MVTA, They were crucial point people in their organizations; certainly Miller used her authority as MVTA executive director to keep the Cedar Avenue portion of UPA moving along during implementation despite a lot of unforeseen headaches.

Local officials also may have seen themselves as using their authority to ensure that the parts of the project directly affecting their communities were carried out appropriately. Said one:

> [O]ne of the things we're doing is holding peoples' feet to the fire to make sure that agreements are honored; if it was part of the funding, then it needs to be part of the

> project. It's very easy when costs get out of hand, and then things get taken out of the project, such as sound walls. And I'm not going to let that happen.

Several interviewees cited the partnership of Nick Thompson at MnDOT and Craig Lamothe at Metro Transit as crucial champions for successful UPA implementation. One interviewee said of the pair, "[T]hey both value professionalism and they get excited about innovation so it's been fun to watch [them]." The pair came from two notably different organizations but they were able to build a strong working relationship. They developed a "dog and pony show" that they presented on demand to numerous community groups in order to foster understanding of the project during implementation. At one point they were presenting about one a week.

One interview said of the two:

> Craig Lamothe is doing a great job and has worked really hard. He keeps everyone on task and lets us know when there are glitches. You really need that kind of point person (not a point agency) who can devote their life to the project and know everything that's going on. Otherwise, there's so many things in your daily activities that it's easy to get pulled away. Nick has also been an asset—particularly on community engagement around 35W.

During the implementation phase, the telecommuting part of the project became more prominent. Adeel Lari from the University of Minnesota's Humphrey School remained the chief champion, but new ones became involved from agencies focused on commuter services. Lari, said one interviewee, is "an eternal optimist, which can be frustrating, but also brings encouragement to continue." Also important was John Doan of SRF consulting, whose team is pulling together a lot of the pieces of the telecommuting project.

During the implementation phase, the chief champions worked together effectively as an entrepreneurial team. Said one interviewee:

> In addition to the political leadership, it's also important to have a team of managers who are technically competent and empowered by their leadership to do this project. They need entrepreneurial spirit. That includes Bernie Arseneau, Nick Thompson, Brian Lamb [MTA general manager], Craig Lamothe … Adeel Lari…. So you've got some pretty innovative people who aren't afraid to move forward. And they seem to work well together. There's not a lot of turf concern—it's more about getting the project done.

Other interviewees mentioned a number of others as important champions.

To summarize, sponsors and champions who were crucial to the development and post-award strategizing and planning for Minnesota's UPA remained, for the most part, committed during implementation. The governor and legislators faded in importance, while local officials and project managers became more significant. New champions joined the initial group. Cross-boundary relationship building was, if anything, a more crucial skill for these champions as they encountered unanticipated implementation challenges, exacerbated by the inability to do thorough pre-planning. Thomson and Lamothe especially exercised visionary leadership as they tirelessly promoted the central UPA idea of congestion reduction through lane pricing and transit

improvements. They also were called upon to be supreme coordinators – one interviewee referred to them as *uber* project managers. Champions at the working group level also were often required to have technical and technological competencies that enabled them to mesh people, procurement systems, machines, and advanced computer technology to produce innovative controls, signage, or a simulator bus.

Related competencies. Getting the UPA grant in the first place was a direct result of the political leadership competency of *building coalitions*. Interviewees noted that various groups had a history of working together, including the MnPASS coalition and the local governments along the I-35W southern corridor. Actors outside of MnDOT were crucial, including the Citizens League and the Humphrey School at the University of Minnesota; their competency in gaining outside and public support was critical. Some interviewees said the corridor coalition did a good job of bringing legislators along, but others argued that the coalition got out ahead of legislators too far, which put legislative funding at risk.

Once the Steering Committee was assembled, it provided collective leadership as a convener of stakeholder workshops, in which a variety of constituencies were helped to develop a shared understanding of the implications of a potential Urban Partnership Agreement and to help it take tangible shape. The committee also connected these forums to key political arenas by inviting elected officials, lobbyists, and implementers whose support would be essential for implementing UPA. John Doan and SRF played an important role in designing and managing this consultation process. Once Minnesota's UPA application was approved and Nick Thompson became the Steering Committee's coordinator, he played a strong organizational leadership role in ensuring that various parts of the project were developing well and were synchronized with each other, and in securing needed amendments to the MetCouncil's regional plan.

Building a coalition and securing the grant is one thing, but having a competency for actual *collaboration* is another – since collaboration involves more thorough and long lasting communication, cooperation, coordination, and highly consultative if not actually shared decision making (Huxham & Vangen, 2005; Margerum, 2002). Some interviewees argued that the project was funded because "whatever we [the collaboration] said they (USDOT) know we can deliver." Others, however, argued that, "I don't think we collaborate very well; basically the agencies make the decisions and just move ahead." Where collaboration has developed among stakeholders it has been a time-consuming and meeting-intensive process. As one interviewee said, "We had to learn to work together."

More *technical competencies* complemented the leadership and collaboration competencies. Getting the grant depended on competency in *grant writing and the organization that goes into it*. The University and consultants had this competency. The transportation field has a clear competency in *doing research*. Research on congestion pricing has been going on for years and clearly demonstrated its effectiveness in reducing congestion. This research has resulted in a *technical (or perhaps technological) competency* embedded in the UPA design. As one interviewee said, "The proposal is based on science that works." In a related vein, an interviewee argued, "I always saw technology as the glue that allows you to do the other stuff." MnPASS demonstrated the workability of the concept, as did successes in London and Stockholm. One interviewee said, "The technology thing is not such a big deal because of I-394; it's similar to what they already have in place, so it's just ramping that up and being able to do more prominent

things like real-time signage; that'll be really cool." It is clear, then, that technology did not hold back the UPA project. Looking back, an interviewee said, "I can't think of any instance where [technology held us back] or where we wanted to do something but couldn't because the technology wasn't where it needed to be."

Also present in the coalition is a technical competency in their *ability to make use of their knowledge of how the transportation field works.* Referring to the Steering Committee one interviewee noted, "We also have our members – the board is made up mostly of council members, commissioners, city managers and public works people. The people who know how this stuff [transportation funding, budgets, programs, all the details] works." USDOT offered its own expertise to bolster local competency: A federal official said, "We were explicit that we would make available to our urban partners the abundance of human capital that resides in the department on issues related to technology, ITS, transit, road pricing. Yes, the urban partners get the special service."

One final competency is important to emphasize, and that is the competency (or ability) *markets have to make rational resource allocations*. Congestion pricing is premised on the technology of market rationality. In other words, the "science that works" that was mentioned as part of technical or technological competency is partly the science that demonstrates that markets work. The Second Bush Administration and the Republican Party are certainly advocates of market-based solutions to public problems in general, and perhaps in that sense national politics played a role; but plenty of Democrats also favor the use of markets, so the Administration and Republicans hardly have a monopoly on market-based policy solutions. But it is also important to emphasize the closely related competency of being able to *design markets to work effectively*, since unfettered competition what not what was envisioned; instead, UPA sponsors and champions want to make use of market-oriented rationality to achieve the particular purpose of reduced traffic congestion.

D. Technology

Technology in organizations, including both work procedures and specific tools or equipment, is often conceptualized as part of an organization's social system (drawing on the socio-technical school or organizational analysis of the mid-20th century) *and* as an actor in its own right (Latour 1987; Sandfort 2009). Technology is not simply "a thing" disconnected from human work in organizations (Berg 1998) nor is it fixed and static. Viewed as technology-in-use (Orlikowski 2000), technology is an "ensemble or 'web' of equipment, techniques, applications, and people that define a social context…" (Orlikowski and Iacono 2001: 122). Within the UPA, both communication and specific transportation technologies fulfilled two crucial roles: first, as facilitators of collaborative behavior; and, second, as nonhuman actors in the project's processes. Table 3 summarizes the highway and transit technologies used in the MN UPA in order to help the reader understand references to these technologies below.

Table 3. Minnesota UPA Technologies

	SYSTEM	PURPOSE	IMPLICATIONS	OTHER NOTES
ROADWAY	MnPASS dynamic toll lanes	Create a congestion-free option for drivers willing to pay. Rate ranges from $.25 to $8.00 based on traffic density (free for carpools, transit, and motorcycles)	Provides more choices for commuters, improving overall traffic flow. However, fighting "Lexus Lane" labels continues to be a challenge	Paying users must opt in before use (by leasing a transponder from MnDOT). This differs from systems using license-plate video capture techs to bill users after use. *Includes Priced Dynamic Shoulder Lane (PDSL) on I-35W North*
	MnPASS enforcement system	Enforce correct HOT lane usage (fine solo drivers without a MnPASS transponder)	HOT lanes are enforceable, while most other managed lane system pieces are advisory	Video enforcement not legal in Minnesota. System reads radio frequency identification (RFID) tags in MnPASS transponders, transmits results to squad cars
	Managed lane system	Communicate with road users to improve traffic flow and safety	More efficient use of existing infrastructure, but dependent upon public acceptance and understanding	Sign information includes advised speed limit by lane, lane closures, lane status (e.g. general or HOT)
CUSTOMER INFORMATION	Variable message signs (aka blackout signs)	Provide drivers with context-appropriate instructions ("Do Not Enter", "Buses Only", "Share the Road", etc.) dependent upon time of day and direction of approach	Easy to make adjustments to "rules" as needed, though not just limited to rules: used for advisory messages, parking availability, recommended driving routes, etc.	Expanded from limited pre-UPA usage near Minneapolis convention center, to a total of over 60 (18 on Marq2 corridor, others around downtown)
	Roadway signs with Park & Ride availability info	Efficiently distribute commuters; make Park & Ride easier to use	Makes multi-modal commutes easier for customers	
	Time comparison signs (transit vs. driving)	Communicate transit advantage, if any; enhance predictability for potential transit users	How much information is too much? Once driving on highway, will commuters be willing to switch modes?	Likely left blank when transit/HOT time is equal to SOV

	Real-time bus arrival/departure signs	Predictability for transit riders (no uncertain waits)	Could attract more choice riders. Sets new expectations for transit customers	
TRANSIT	Transit signal priority	Enhance transit reliability by shortening red lights (or extending green lights) for behind-schedule transit vehicles	Encourages use of transit through greater predictability for users	While UPA project focuses on reliability, other TSP systems (including Cedar Avenue in south Metro) emphasize speeding up express routes
	Driver assist system	Keep buses in center of tight lanes/shoulders	Useful as marketing tool ("Bus 2.0" wraps on MVTA vehicles). Enhances reliability and safety, especially in winter months	Used by MVTA buses on Cedar Avenue in the South Metro
	Advanced bus simulator	Train drivers, especially for use of new technology (e.g. driver assist system), in controlled environment	Access to simulator could mean easy roll-out of other technologies in future due to low-risk environment for trial and training	Hosted by MVTA In Dakota County, but initially planned to be at U of M

Technology and collaborative behavior. In the Minnesota UPA, technology was a strong motivational force that attracted stakeholder involvement. The prospect of learning and using new technologies to meet UPA project goals was an important motivator to induce stakeholders to come to the table. In Minnesota, technology caused excitement and interest at regional and state levels, and the same kind of excitement moved to county and local levels as these officials worked to implement specific UPA projects. For these officials, UPA-related technologies, such as the bus driver assist system and use of driver simulators, were important opportunities that they could now seize.

Technologies also facilitated the work of the collaboration itself. Certainly common communications technologies, such as email and web sites, made coordination among implementation partners easier and faster. These communication technologies also allowed local officials to communicate with constituents about the progress of the project and alert them to road and lane closures and delays. As a relationship-builder among partnership members, technology allowed or forced people to integrate across boundaries, both within their own agencies or across different agencies and organizations.

Technology as nonhuman actor. By "nonhuman actor," we mean that technology played specific roles beyond simply motivating partners and facilitating partnership work. This is perhaps an unusual use of the term actor, but in sociology of science studies ''anything that does modify a state of affairs by making a difference is an actor'' (Latour, 2005, p.71). Our analysis of interview data suggests that technology: 1) enabled the design of solutions and a systems view of transportation that surpassed perceptions of individual actors; 2) was a significant policy mechanism and political factor; 3) was essential to changing public perceptions; and, 4) could stimulate internal organizational changes.

Technology provided a solution once congestion pricing was the policy response. Congestion pricing is not feasible without technology for electronic enforcement, collection of fees, and road signage. Additionally, technology presented a systems view of transportation that was ahead of policy and administration. Then-current thinking kept highway technologies separate from transit technologies, replicating fragmented policies and government agencies. However, managed lanes, dynamically priced shoulders, enforcement and incident controls, real-time bus arrival/departure signs, and bus driver assist technologies could be integrated across agencies to offer commuters a system of efficient, reliable, and safe transportation options. In Minnesota, top ranking MetCouncil and Metro Transit officials emphasized how "rolling transit technology into roadways at the same time" allowed them to look at corridors in terms of multi-modal systems and solutions. At the local level, county officials described how technology allows for "seamless transitions across corridors" for commuters. In other words, the ability of various technologies to coalesce into a coherent roadway and transit system remained latent (the uses of technology were never by themselves confined by agency boundaries) until technology was clearly established as central to this project.

Technology's role as a policy mechanism and political actor also was important. Dynamic shoulder pricing technology helped politically in Minnesota because tolling skeptics, including the governor and some members of the state legislature, could see tolling in a more benevolent light – that is, it would not take away an existing highway lane and drivers could choose whether to pay or not. A Republican state senator, for example, said how important it was to view congestion pricing as a "market-based solution" that then made "sense to me and my Republican colleagues."

At the local level, technology's role in politics was also evident. County officials, for example, described the risks elected officials were taking with some of the new technologies in use, especially in light of the current fiscal crisis: it is "really hard for elected officials to stand in front of naysayers and explain that this untested, multi-million dollar project is going to be 'good for you.' It is really an act of faith." Technology, however, also helped create effective, local efforts among politically contentious parties. A city public works director gives an especially good example:

> Location of bus shelters along the stretch here was a very controversial issue that I got involved in about a month ago. The business community was just outraged and very upset because we're gonna be placing all these very large bus shelters along the corridor and they thought they were ugly, distracting, and they didn't want them. Metro Transit felt they needed them to handle the volume of people we're going to deal with. At a meeting with the downtown business community group and Metro Transit and us, we realized that with the ability to do real-time display (with GPS and so forth they can add a bus stop and say your bus is 5 minutes away)… the businesses offered, "what if we put those into our foyers, into our atriums, into our lobby areas? And so people don't have to wait outside in the shelter; they can wait in the Wells Fargo lobby and you can have your display in there and then people can go out and get on the bus." So through that technology and then collaboration and with people we were able to eliminate some of the issues that people had concerns about. But it was the technology, the ability to use technology. *What I found fascinating about this whole thing is that*

> *the technology was always going to be there but no one kind of thought about how to apply it and that applying it in this manner would actually help us reduce infrastructure* (emphasis ours).

The hope and the ultimate goal is that UPA and its use of technology will change public perceptions about commuting and ultimately lead to less traffic congestion. As one project lead explained, the project provides commuters with a package of options and with information to make choices. More specifically, as one technology expert explained, "driver assisted technology could have an impact on how transit is viewed regarding reliability. By providing wireless service on busses, employers could even credit time spent working while on the bus." However, it is a challenge to communicate that travel during certain times on certain roadways is not free and a lingering question concerns whether commuters will make a mode shift when confronted with the information and options. According to several interviewees, for this to happen, "the technology really has to work perfectly."

Finally, there is some indication that technology as it has been applied in UPA's collaborative structure is changing the internal workings of partner agencies. For example, the director of a regional bus operation stated that the agency's experience using new UPA-related technology has created a more innovative and energized staff: "I make more of an effort to look at technology now. Staff are excited, great learning opportunity. Simulator, lane guidance, left turn off Cedar Avenue. All new and we can experiment which is good role for a medium-sized regional transit operator (easier to try new stuff than if you are Metro Transit with 800 buses) and exciting for staff. This wouldn't have happened without UPA." The state commissioner for transportation in Minnesota also reported the impact of technology on MnDOT's future work:

> When we started discussing our I-94 corridor, we sort of fell back into our conventional ways of thinking; then, we had to remember the UPA work we have done. It's really the technology we have. Our leadership is especially important because of the technology piece. There's some really creative stuff going on out there, such as LED lighting in the pavement. I'm not sure there is anyone else who could guide that, but it's not done on our own. Even that is collaborative.

To summarize, technology was one of the "4 Ts" in the national UPA project, along with tolling, transit, and telecommuting. In the eyes of most of the people interviewed, technology may have emerged as the most important "T" because of its ability to stimulate needed collaborative behavior and then inform practical and politically viable solutions. Successful implementation of UPA goals requires systems level thinking, not fragmented responses from siloed agencies. Roadway and transit technologies, along with communications technologies, were critical enablers of just such thinking because these technologies could be operationally synched to provide a holistic view of a transportation corridor. To implement this holistic view, however, collaborative behavior across government agencies was necessary and present in Minnesota's UPA.

E. Accountabilities and Outcomes

An essential but difficult element of collaborations concerns accountability -- determining who is ultimately responsible for the collaboration's work and how success will be measured.

Accountability can be particularly complex in collaborations, as the multiplicity of actors and agencies involved often causes ambiguity around the question of "who is responsible for what?" (Bryson, Crosby & Stone, 2006a).

In the case of the Urban Partnership program, the local or state agencies that submitted and signed a UPA with the USDOT were the prime locus of formal accountability and utilized existing accountability processes to evaluate UPA: "We're just implementing the funding and doing all our accountability [periodic review and reporting] processes as we always have." A few interviewees, however, did bring up additional aspects of accountability. One of these was accountability to the public for safety and enforcement of road management and behavior. Additionally, public officials noted UPA was an important vehicle that allowed them to be accountable to their constituents and responsive to their needs. Several noted the role of the state and federal governments as the funders of the project and hence the need to be accountable for the use of public dollars: "The collaboration will be accountable to the state legislature and also the federal DOT. Because it's about the money. Ultimately they're accountable to the public to deliver the product."

During implementation, accountability pressures were most intense on project coordinators and working group leaders and local government departments, local officials, regional agencies and governments. Many normal accountability processes – such as multi-level agency reviews of compliance with existing transportation plans, environmental impacts, and safety requirements – were waived or truncated in order to design and implement a high-impact project quickly. However, paperwork requirements for obtaining and tracking federal funds for particular parts of the UPA projects remained in place. When several federal transportation funding streams were involved, the multiple accountability requirements placed considerable pressure on local agencies. Said one interviewee:

> There should have been more consideration of the time required. Not only is it more complex, but a tight timeline. Personally I don't want to do it again under the same conditions…. We didn't get more staff to do this in the short amount of time. I just think that the federal side should have given more because they didn't really live up to the expectation of relaxing their rules and regulations. I'm a little frustrated with that.

The gross measures of success facing these agencies were fairly simple: Were they and their collaborators able to bring in their parts of the UPA on time and within budget?

In looking past implementation, the evaluation of project outcomes is an accountability mechanism. Considerable resources were built into the Urban Partnership program to evaluate the effectiveness of program processes and products. According to most interviewees, the chief indicator of success would be reduced traffic congestion in the corridors where UPA was implemented. Other, related indicators included increased transit ridership, better bus service, more carpooling, more telecommuting, and new travel options for motorists.

Ultimately, the test of a collaboration that takes on a complex public problem like urban traffic congestion and its related ills is whether or not it produces substantial public value (Bryson, Crosby, and Stone, 2006; Moore, 1995). By public value we mean fulfilling the collaboration's overarching and subsidiary purposes, meeting applicable mandates, and achieving lasting and

widespread benefits at reasonable cost that no single organization could have achieved alone. This somewhat abstract formulation can perhaps best be understood as encompassing: direct, or immediate effects, of collaboration; intermediate outcomes; and long-term outcomes, or what Innes and Booher (1999) call first-, second-, and third-order effects. Each of these effects have both tangible and intangible outcomes – in other words, when evaluating outcomes of collaborations, one must not only look out over time to see effects but also dig deeper to document those outcomes that may be less visible. Table 4 summarizes these various types of outcomes for the UPA in Minnesota over the four stages identified in our research, based on an analysis of interview data.

First-order outcomes are those that show up at or before the collaboration's project completion. Tangible effects include immediate, observable outcomes such as formal agreements, plans, policies, or reports from the collaboration, while intangible effects are directly attributable to the collaboration but less visible, especially to those outside of the collaboration. Importantly, intangible effects include social capital (stronger relationships and trust among members), intellectual capital (shared agreement on the problem and its scope), and political capital (a sense of obligation or debt that can be drawn on in the future). Second-order outcomes are likely to occur when collaboration is well under way. In our modification to the Innes and Booher framework, we defined these outcomes as those that took place outside of the UPA collaboration itself but were related to UPA processes, structures, or practices. These are "spin-off" partnerships or amplifying effects (Stone 2000) of the focal collaboration, such as application of UPA practices in another setting. Tangible, second-order effects are those that are directly observable while intangible, second-order effects are changes in practices or perceptions of non-collaboration members that resulted from UPA activities. Third-order outcomes are not evident until project completion and are likely to extend into the future. They represent more fundamental changes in behaviors, norms, perceptions, structures and practices. In essence, they are ripple effects of the collaboration since they move out, wave-like, after the collaboration's work is completed (Stone 2000). Tangible, third-order effects include results on the ground in terms of impact on the individuals, organizations, or communities while intangible third-order effects include, for example, norms or expectations for future collaborative behavior.

Table 4. Multi-Layered Outcomes by UPA Stages

UPA Stage/Outcome Level	Phase I – Proposal Development/Pre-Award	Phase II – Legislative Strategy	Phase III – Detailed Project Planning	Phase IV -- Deployment	Phase V -- Post-Deployment
First order outcomes: Show up at or before project completion					
1st order tangible	Stakeholders convened and committed to project Proposal developed with agreed upon targeted corridor Grant submitted and awarded	Legislative approval grants on shoulder use for dynamic pricing and for $55M match	Work begun on more detailed planning and the implementation of the 24 constituent UPA projects	MnPass on I-35W south Marquette and 2nd (Marq2) Park and Rides Bus signage not working in suburbs Driver assist not implemented	
1st order intangible	Relationships built and early trust established through stakeholder meetings and Steering Committee Some stakeholders dissatisfied with corridor selection	Overcame tolling issue with legislature		Significant increases in trust among key stakeholders Some people resentful about lack of forums to address implementation problems	
Second order outcomes: Take place outside boundaries of collaboration while collaborative work taking place; amplifying effects					

2nd order tangible				MetroTransit and City combining fiber optic systems Applied same UPA-tye thinking to I-94 corridor MNDOT new collaborations	Technology as a critical solution to system needs
2nd order intangible				Challenged traditional thinking	
Third order outcomes: More fundamental changes in behavior, perceptions, practices and norms that are likely to extend beyond life of the collaboration					
3rd order tangible					MnPass user numbers way up Marq2: faster average bus speeds, better on-time averages, perceived reduced congestion, dynamic messaging, fewer crashes, anecdotal evidence that Marq2 transit rider like system, better downtown environment for pedestrians and businesses

					Practices: • Performance-based, systems solutions • Demand management Setting an aggressive goal with tight timeframe • Revenue split between MNDot and Metro Transit • Spending money for planning even if don't have money to fund project New monthly meetings among City and suburban transit agencies But need for resources to maintain technological enhancements and physical things like bus shelters and planters. UPA as a project that is now a component of the transportation system MNDOT, MetroTransit, City of Mpls., and others involved in new collaborations

3rd order intangible					UPA thinking embedded in vision for MNDOT At operations level: general team-building mentality More of a systemic approach to pedestrian and commuter experience But, new political environment and now have legislators that don't understand the technology and want to go back to building capacity

The stages demarcated here include: first, the UPA proposal development, pre-award phase; second, the political, legislative strategy phase where UPA partners sought needed legislative approval to use highway shoulders for dynamic pricing and state matching funds of $55 million; third, detailed project planning phase; fourth, the deployment or implementation phase as UPA projects began to be designed and built; and finally, the post-deployment phase following implementation. It is important to note that some phases overlapped because numerous, specific projects were involved with different time frames and because some partners agreed to start projects before final funding approval. In particular, implementation on several projects was started before final legislative approval was secured and some projects entered post-deployment before other projects were completed. For analytical purposes, however, we have designated clear stage boundaries, understanding that these boundaries were more porous than the table depicts.

First-Order Outcomes. Tangible, first-order effects included the successful convening of multiple stakeholders, decisions regarding specific targeted corridors and projects, a completed UPA proposal, and grant award. The UPA's legislative strategy was also successful as it gained approval to use highway shoulders as dynamically priced lanes and the required state matching funds. On-time and within budget, the MnPass system on the designated corridor (I-35W south) was opened and the totally redesigned Marquette and Second Avenues bus lanes were completed. Park and Rides were built and opened and variable message signs in downtown Minneapolis began operation. Trouble with bus arrival/departure time signage for suburban commuters kept these projects from being implemented, much to the consternation of their transit authority. Implementation of the bus driver assist technology for this transit authority was also bogged down.

Intangible effects during the proposal development, pre-award phase were considerable. A diverse array of stakeholders committed to undertake an integrated, intensive strategy for dealing with traffic congestion, and, through stakeholder meetings and the use of a UPA Steering Committee, trust increased. These effects are seen through implementation and mentioned by most interviewees at project completion. For example, one commented, "Through this process we've gotten to know each other that we share common goals, and we are communicating more. There's a new atmosphere about how we communicate, and how we approach these challenges." More specifically, interviewees mentioned the positive relationships between MnDOT and the City of Minneapolis, MnDOT and Metro Transit, the City and Metro Transit, and the City and downtown businesses.

A less positive effect was disappointment on the part of some stakeholders that a project element they wanted was not included in the project or that the project simply did not include plausible direct benefits for them. Relationships between state and regional transportation officials and people in the regional offices of federal transportation agencies were also strained during the early phases of project development and implementation. And, immediately following implementation of some specific projects, some criticized the lack of forums to address implementation problems (the Steering Committee had essentially been disbanded) and lessons learned from UPA.

Second-Order Outcomes. As described earlier, these outcomes take place outside the boundaries of the collaboration per se but occur while the collaboration is still active. In terms of

tangible effects, there are several important examples involving technological advances made possible by UPA funding and now employed elsewhere. For instance, as a result of re-designing Marquette and Second Avenues, Metro Transit and the City of Minneapolis collaborated to combine five fiber optics systems by utilizing the same underground infrastructure. These combined systems now operate real time bus information for transit riders, dynamic traffic signs for car users, especially around Target Field (the new downtown baseball park), all traffic signals and streets lights throughout the City.

At a broader level, other examples concern work on additional corridors that began during the UPA implementation. As high level transportation official described,

> Well, this I-94 corridor, for instance, between St. Paul and Minneapolis. We've been trying to figure out how to address this corridor given the limitations we have with funding…so we said, let's take some of things we learned in UPA and apply them in this corridor – the technology answers, the technology solutions, and work with transit to make sure they still have transit advantages… So, we're essentially taking some of those UPA concepts and applying them on this corridor now.

Relative to using UPA-like approaches in other corridors, some interviewees complained about the projects that were not done because of the attention and money flowing to UPA efforts. One noted that people in other parts of the Twin Cities are already expressing interest in UPA-like approaches to corridors in their areas. One legislator, in speaking about the I-94 corridor in particular, said the project would be judged on "whether it eases congestion and produces better transit service. If one or none of those things happen, then this will be the first and last corridor we do. There's already talk about I-94; I think that's premature. It has to be proven." As a high ranking transportation official responded, "Our challenge," he said, "is really about managing expectations for other corridors."

MnDOT officials also described drawing on the UPA experience with collaboration to help them address disadvantaged business enterprise issues, workforce development opportunities for minority communities, and transportation issues for persons affected by disabilities. In each case, they Schoold new collaborations to define problems and arrive at solutions.

There were not many indications of second-order, intangible outcomes except one offered by a high-ranking state transportation official on how UPA has challenged traditional thinking:

> I think UPA has challenged traditional thinking and because of that, when we're trying to put out a solution and we've got to engage folks who want to take a traditional role, the UPA has presented good information where we can counter some of these discussions. I think what it [UPA] has done is challenged traditional thinking.

Third-Order Outcomes. These outcomes include longer term effects of collaboration activities through more fundamental changes in behavior, norms, expectations, practices, and so forth. Of highest priority here, given the goals of UPA, are tangible third-order outcomes, including changed commuter behavior and less congestion along the corridor. These have yet to

be proven but there are some positive indications. The number of MnPass users has increased significantly since I-35W south opened. On Marquette and Second avenues, there are faster average bus speeds and better on-time averages. Businesses and the City of Minneapolis both report a better downtown environment for pedestrians and commuters because of sidewalk and bus shelter improvements made for the Marq2 project. The dynamic messaging for downtown car commuters appears to have led to reduced congestion and fewer right-turn crashes (the most deadly).

Interviewees also noted several practices that have changed as a result of UPA experience. Two high-level transportation officials noted that the UPA experience has focused them on performance-based, systemic solutions to complex transportation problems. As one said,

> One of the big challenges we have right now with our limited resources is meeting expectations. Are we going to be able to come to the point where we will have more performance-based project selection processes. In the past, we used to just put a boilerplate expansion project on a corridor and that was what was expected, what was done, and it cost a lot of money. Now it cost twice as much and we don't have the money.

Other practices include a focus more on traffic demand management (versus "supply" of more roads), and, importantly, setting an aggressive goal with time frames (something business would like to see more of from public agencies), spending money for planning projects even if you do not have the money to fund the project. One interview at the operations level in a city department cited a specific new structure for coordination that has arisen because of the UPA experience – there are now monthly meetings among the City transportation and traffic departments and a host of suburban transit operators.

One tangible but unintended long-term effect is recognition that once sophisticated technological solutions are implemented, resources are needed to monitor, maintain and upgrade them. Supervisors and directors at the operations level in city and county governments all spoke of extra burden several UPA-related technologies have placed on their under-resourced staff, even though these technologies have produced positive benefits:

> There is some reality with technology that is not so positive and when you get all these systems installed, it's the maintenance and the operation of it. It does take resources to manage this stuff. It does require work plans in order to make sure things are monitored and kept up to date…With the dynamic message signs, we have to make sure those are monitored daily or else information might be incorrect. There is a drain on resources to keep this technology in place and keep it operational so that you can get the most benefit from it.

In terms of intangible, third-order effects, expectations were high among interviewees around forming collaborations to solve future transportation problems at the state, regional or local levels. Several also noted that federal officials should mimic UPA guidelines for future projects. Earlier reports noted that the most optimistic of interviewees saw the UPA project as a "model for our future" and a "beacon for the rest of the country." They predicted that the innovative thinking and experimentation prompted by the project would persist. And, if the positive long-

term effects of UPA are to be realized, determined leadership will be required, said at least two interviewees. One commented:

> I hope [UPA] will be the start of a positive and truthful cross-agency communication and pursuit of common goal. I do not think that is going to happen naturally by itself. It requires continued political leadership and leadership from upper management (who takes it from political leadership). But it will not sustain itself. Scales will not fall from people's eyes; love will not spring up across the land; and the common sense of this approach is not going to be self-evident. People go back to their corners quickly. It's going to take some fundamental change in policy as well.

In fact, a year later, several high-ranking state transportation officials were quite clear that UPA thinking is now embedded in MnDOT's explicit vision for the future,

> This concept of working together with our partners and stakeholders in collaborative ways. That's what drives this agency [MnDOT] right now. The UPA kind of got us started down that path and showed us how we could do that and deliver a project like that…If you look at our vision document that we have, we've tried really hard to embed some of these concepts. We've learned from UPA, so we behave that way.

Another, City of Minneapolis official described how his agency now sees collaboration as the most viable means to solving downtown traffic issues:

> I'll give you an example. The ballpark, when the Twins opened…There were a lot of concerns about the proximity to downtown and that this would be a disaster. But a lot of that had to do with being right on the tails of completing the UPA. When we were working on this, we had developed those relationships with all those partner agencies…It's people getting used to collaborations and partnerships and understanding that's how it is done [and therefore the disaster didn't happen].

Others down further in the chain of command and overseeing crucial implementation elements described how there was now "a general team building type of mentality." And from businesses in downtown Minneapolis who have had strained relationships with the City, interviewees spoke of benefits of now having a more systemic approach to the pedestrian and business experience.

Despite these positive and seemingly longer-term outcomes from UPA, changes to the political landscape in Minnesota have some worried about their sustainability. In particular, interviewees raised concerns that new, conservative state legislators want to go back to building capacity through building more roads and do not understand the roles that technology can play in offering commuters options. To counter these perspectives, one interviewee offered a good summary quote:

> Who knows what the outcome will be, but to be involved on a project with a new approach to unique challenges: it's cutting edge, and it's really exciting if you're in the

> transportation industry. It's better than traditional approaches. It provides us the opportunity to serve more people with a minimal level of impact. This way we've taken a systems look and brought in things that can grow over time without adding too much infrastructure. I don't know what the outcomes will be, but I hope it's successful. There's no safety net; it's never been tried before. But I think the opportunity and potential benefits are worth the effort.

The final impact of UPA will not be known for a couple of years but all signs point to tangible, public benefits – newly created public value – that may even convince skeptics and extend UPA-like norms, expectations, behaviors, and practices well beyond the UPA.

5. Conclusions and Lessons Learned

Our research confirms a number of lessons found in the literature on collaborations, but some findings are relatively new. We highlight key findings in *italics* and explore some of the practical and theoretical implications of each. The study confirms that collaboration on the scale of the Minnesota UPA is a very complex assembly of human (individuals and relationships) and non-human (technologies, artifacts, laws and procedures) elements (Latour, 2005). As has been amply documented in the literature, *collaboration is not an easy answer to hard problems but a hard answer to hard problems*.

As the literature documents, the difficulty of crafting an effective collaboration arises because of the complicated array of factors that need to be in place for a collaboration to succeed (Bryson, Crosby, & Stone, 2006a). For example, this collaboration was facilitated by pre-existing, supportive networks; powerful sponsors and champions; a variety of competencies; an alignment of policy ideas, favorable politics, and general agreement on the nature of a significant problem to be addressed (Kingdon, 1995); and strong incentives. In short, the Minnesota UPA represents a successful-enough "alignment of the stars" so far.

More generally, this finding implies that advocates of cross-sector collaboration as a solution to public problems must be ready for, and work at, "aligning the stars." Perhaps this requires advocates to think like playwrights, orchestrators, and choreographers – without being in charge of the actors, musicians, or dancers, who are all working to their own text, score, or choreography. Developing a comprehensive toolkit to assist would-be collaborators would appear to be a useful exercise. The toolkit would pull together many existing tools, but fit them within a useful framework for thinking about collaborations. Tools might include, for example, storyboarding, strategy mapping, and role playing, among many others. Theoretically the challenge is to figure out in general what the "stars" are that need to be aligned for a cross-sector collaboration to succeed. Once that is clear, a design approach to cross-sector collaboration makes some sense (Romme, 2003).

People, processes, politics, and structures all played significant roles in aligning the stars in the UPA case. People included a vast array of actors, including persons acting in *the apparently crucial roles of neutral conveners*. Interviewees consistently described the significant neutral convening role played by the Citizens League, the University's Center for Transportation Studies and the Humphrey School's State and Local Policy Program. (Note that when we say neutral, we mean neutrality regarding specific details of the proposal, not neutrality about the virtue of congestion pricing.) In practical terms, this means that advocates of cross-sector collaboration should carefully attend to the possible need for neutral conveners, who they might be, and what skills and attributes they will need to have. Theoretically, further exploration of the role, skills, and attributes required of neutral conveners is merited.

Also critical was the fact that *policy entrepreneurs – and especially sponsors and champions – existed at multiple levels*, particularly at the Federal and local levels. These policy entrepreneurs made the structures and processes work and helped nudge a reluctant MnDOT along during the early discussions. Absent these entrepreneurs, it is unlikely the collaborative could have been assembled; indeed, success in creating any cross-sector collaboration would appear to depend on effective policy entrepreneurship. More detailed research on the policy entrepreneur role also

appears to be merited. The sheer number of actors implies that *stakeholder analysis should be a standard part of designing and organizing collaboration efforts*; otherwise, it is hard to see how the differing interests and mixed-motives of the many actors might be accommodated, if not actually reconciled (Bryson, 2004).

Key components of process included an ongoing practice of regular meetings among major subgroups of key stakeholders and included the use of longstanding forums that existed outside of the UPA project. Practitioners and academics often discount the importance of meetings and forums, not seeing them as real work. In contrast, it would appear that regular meetings and forums are important components of building the cross-sector, cross-boundary understandings, appreciations, and commitment necessary to fashion an effective cross-sector collaboration. In other words, when it comes to cross-sector collaboration, meeting and forum-ing *are* real work. More careful study of the processes, structures, and functions of meetings in support of cross-sector collaboration appears to be justified.

Process elements also included *an important political dimension*. For example, project proponents and implementers started to get ahead of the Minnesota Legislature and high-level people within the Governor's administration. Some legislators and other politicians who played important roles leading up to the grant proposal felt left out. In the end, the legislature and administration provided what was needed, but that was not a foregone conclusion. Said differently, an important part of "aligning the stars" involves coordinating with key political leaders so that necessary elected-official support is available when needed. Even as legislative politics were settled, the technical staffers were toiling over the implementation details on a mainly separate parallel track.

A particularly important aspect of the process was *the effort key actors put into framing the UPA in such a way that support was increased and opposition was decreased*. Getting people to accept a market-based solution and to see it as capacity building was a major political achievement. *Strong monetary incentives clearly helped, but the framing mattered, too, as it helped make an unusual policy solution more palatable politically*. This reframing was a clear example of what Foldy, Goldman, and Ospina (2008) call *sense-giving leadership.* Beyond that, the issue was framed in such a way that costs and benefits were diffused, resulting in a less potentially conflicted political situation (Wilson and DiIulio, 1998).

Practitioners clearly would be well advised to attend to what is known about issue framing and put that knowledge to use when developing cross-sector collaborations (Crosby & Bryson, 2005). Further research into the types of framing that are likely to work when bridging sectors also would be useful.

Another key aspect of the process that also involves politics was *the opening of a window of opportunity* (Kingdon, 2002). Had earmarking in Congress not been curtailed for a year, the UPA program would have been very small at about $120 million for the whole nation. The window got a whole lot bigger when USDOT was able to put $1.1 billion on the table. The tight timelines dictated how long the window would be open, but also heavily favored those, such as Minnesota, who were close to ready to go, regardless. Practitioners should spend time discussing what kinds of windows of opportunity they need and how they might create them, to the extent that is possible, and be ready for them whenever they do occur. As one interviewee said,

"You've got to be ready for money to suddenly become available. Have some projects ready—foundation plans. Have some projects in the pipeline, so when money drops from the sky, you have something to work on." Theoretically, the idea of a window of opportunity is a metaphor. Further research into exactly what windows of opportunity entail, how they open, and how they close would be very useful.

Structural components included a complex intergovernmental system with various concentrations of power (USDOT, Governor, MN DOT, MetCouncil, City of Minneapolis). *Within this intergovernmental system, some elements fostered innovation to the benefit of UPA*. For example, several interviewees stated that the tight timeline mandated by the USDOT and the direct role played by the Secretary's office made possible, and even required, going around normal channels and various organizational, functional, and budgetary boundaries. During implementation planning, however, some of those boundaries re-emerged and needed to be managed well, including going through channels to get needed approvals and paying attention to repairing damaged relationships. Practically, in other words, cross-sector collaboration also requires horizontal and vertical cross-boundary management, which doesn't appear to be easy in all cases. Theoretically, the challenge appears to be finding those structural configurations that are most conducive to successful cross-sector collaboration.

While the alignment of stars (people, processes, politics, and structures) was critical to this partnership, *many of the people "stars" seemed to think they were the "center of the universe."* Many people thought that they or their group of stakeholders represented the crucial element in the firmament. *At least some people had to be able to connect (however tenuously) the stars into a constellation, and the work of several actors at the federal and state level was critically important*. This was the work of the policy entrepreneurs mentioned above. *The sense of efficacy and commitment on the part of others was nonetheless crucial and gave diverse people a sense of ownership*. Theoretically, it would appear useful to draw into the work on cross-sector collaboration the literatures on personal and group efficacy and commitment.

Relatively new to the collaboration literature are the following themes from this research: the important role of technology; linkages connecting high level federal policy making to local, operational implementation details; an emphasis on multiple roles played by sponsors, champions, neutral conveners, process designers and technical experts; the importance of specific competencies; the role of rules and routines as drivers of collaboration; and the importance of ambidexterity both spatially and temporally. Further exploration is called for concerning the practical and theoretical implications of these findings

First, *technology served as a solution, motivator, facilitator, and positive political factor*. Technical advances enabled dynamic pricing and other elements of the UPA package to be pragmatic, practical solutions to the problems of congestion; in other words, the technology works as a congestion reducer. Technology also attracted and excited people about being involved in cutting-edge work locally, nationally, and even internationally. Communications technology enabled people to work together and in sequence on a complex project on very tight timelines. Finally, dynamic pricing technology also helped politically because tolling skeptics could see tolling in a more benevolent light – that is, it wouldn't have to be something that slowed traffic with cumbersome tollbooths; drivers could have a choice about whether to pay or

not; and the charge could vary with levels of congestion, etc. More attention to the many roles played by technology would be helpful to practitioners and useful for theorists to examine.

Second, *the UPA was different from many cross-sector collaborations discussed in the literature in that it existed primarily within a complex intergovernmental system, although clearly there are exceptions* (e.g., Agronoff, 2007; Agronoff & McGuire, 2003). *Both horizontal and vertical relationships were critical*. For the UPA to succeed, connections and partnerships had to be maintained and/or developed vertically from the federal level to critical state agencies and the legislature, to regional authorities and to local cities and counties. Multiple and overlapping jurisdictions created tensions that had to be managed, and, as the project evolved, different roles and tasks had to be handled by staff at different levels in these hierarchies. Fortunately, in many cases, pre-existing, horizontal relationships among agency staff existed and facilitated their work; nevertheless, key actors at higher levels, had to maintain a clear view of the overall project and all of its moving parts. More extensive incorporation of the literature on intergovernmental relations into the literature on cross-sector collaboration would be useful.

Third, *the roles of sponsors, champions, neutral conveners, process designers, and technical experts all had to be played and played well for the collaboration to succeed*. *We particularly want to emphasize the process need for carefully designed and managed forums that further promote and stabilize horizontal relationships*. The role of process designer was one that MnDOT was not in a good position to play, but others were, such as SRF consulting, and still others were willing partners in producing a successful design. Careful attention to process design and management – knowing that the process in practice is not really controllable – is a requirement for successful practice. Understanding from a theoretical standpoint what process designs should contain, how they should be developed, how they should be managed, and what they should do is a subject for further research.

Fourth, *a variety of competencies were crucial to the success of the collaboration*, including skills of collaborative leadership referenced above. Also important were competencies in issue framing and persuasion, building coalitions, collaboration itself, technical competencies, grant writing and the organization that goes into it, being able to make use of understanding how the transportation field works, and understanding how to make use of the competencies (or technology) markets have to make rational resource allocation decisions. Practitioners need to make sure they have access to the competencies they need, and academic research should focus on just what those competencies are.

Fifth, within this complex intergovernmental system, *rules and routines from the various public agencies actually helped the collaboration at critical points*. For example, on the one hand, the extraordinary UPA RFP process drove innovation and new collaboration, while on the other hand, the decision by the Minnesota UPA partners to use their normal planning, decision making, accountability mechanisms as much as possible reduced the need for change on the part of the time-constrained collaboration (Feldman & Pentland, 2003, 2008).

Finally, *the UPA collaborative process demonstrated a kind of organizational ambidexterity on the part of its constituent organizations* (Raisch & Birkinaw, 2008) *over the course of the collaboration's development*. The UPA process forced the organizations involved to collaborate as a way of managing the interdependencies inherent in making the project work. Since the

interdependencies changed over the course of the process, different kinds of ambidexterity were called for at different times by the collaboration as a whole. Relatedly, many of the organizations involved in the collaboration needed to embrace a kind of organizational ambidexterity for themselves in order to manage their parts of the collaboration's interdependencies.

The ambidexterity involved managing a host of tensions, the poles of which involved: stability versus change; hierarchy versus lateral relations; the existing power structure versus voluntary and involuntary power sharing; formal networks versus informal networks; and existing forums versus new forums. Managing the tensions – meaning being able to handle both poles, to be ambidextrous – typically involved separating the elements of the tension in time or space, but sometimes both aspects of the tension were present. For example, actors tried to keep stable as much as they could while changing other things; this was *the strategy of spatial separation*. Alternatively, the application process relied a great deal on lateral relations, informal networks, new forums, and more power sharing, while the implementation process saw a re-emergence of the importance of hierarchy, formal networks, existing forums, and less power sharing; this was *the strategy of temporal separation*. Managing the tensions was not always easy; for example, MnDOT and the MetCouncil were not always keen on sharing power with other actors, but there were times when they had no choice. An important area for future research is to explore what kinds of ambidexterity are necessary in large, multi-actor collaborations, and how best they might be managed.

Let us pursue the idea of interdependence further. Organizational ambidexterity is also related to the kinds of interdependence that must be managed. We are reminded of James D. Thompson's (1967) classic description of pooled, sequential and reciprocal interdependence. In *pooled* interdependence, each organizational unit contributes to the whole but in a discrete manner. Standardization coordinates the units. *Sequential* interdependence is serial and ordered, where unit X's outputs are the inputs for unit Y. Coordination by plan is necessary here. *Reciprocal* interdependence includes pooled and sequential interdependence but each unit is penetrated by others and each unit poses a contingency for the other. That is, the actions of each unit must be adjusted to the actions of one or more of the others. As a result, the coordinative mechanism for reciprocal interdependence is mutual adjustment among units. It is, Thompson concludes, the most complex form of interdependence. The UPA's pre-award stage clearly involved mutual interdependence and understandings and agreements had to be worked out in cross-boundary forums. These forums were also necessary to coordinate much of the sequential interdependence laid out in adopted plans. Much of the detailed project planning and deployment phases involved dealing with sequential interdependencies as the various parts of the plan were operationalized in the necessary order. Mutual interdependence occurs on the boundaries of activities, but essential existing hierarchies each managed implementation of their respective parts of the plan. When the system is finally up and running pooled interdependence takes over and is managed by existing hierarchies.

It is worth noting that *the whole UPA process was been relatively invisible to the public until just before deployment began*. Its invisibility was probably a benefit during implementation planning; however, *attention to public education became necessary if the public was to adapt to the changes easily as they came online*. In addition, media reporters and editors did not pay much attention to the pre-grant process other than announcing the award, although they paid much more attention as deployment began. Lack of attention meant that media were not contributing to

the process of building (or undermining) trust, and the media also did not provided the accountability function that they often do. Practitioners obviously should pay attention to the role the media may or should play in cross-sector collaboration. Certainly, the media can be a potent force for framing problems and solutions, attracting supporters and participants, arming opponents, and assisting implementation of solutions, but they were most notable in the Minnesota UPA case by their absence. More research is needed into the roles and effects of the media in fulfilling these functions.

To conclude, our view is the UPA process to date must count as a very large-scale collaboration success of the community betterment sort (Himmelman, 2002). Pulling together such a complex assembly of human and non-human elements clearly was not easy, but equally clearly appears to have been necessary if Minnesota was to put together a winning proposal and then successfully implement the plan. We also believe the UPA collaboration appears headed for further success. Whether or not the desired outcomes of the collaboration are fully achieved, a number of important lessons can be learned from the effort so far that may help Minnesota and other areas in the future with addressing their transportation challenges.

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Appendix A: Interviewee Characteristics

Case	Sex	Organization	Elected/ Appointed	Policy Field Area	Policy Field Level	Wave I Interview	Wave II Interview	Wave III Interview
Case 01	M	Minnesota Valley Transit Authority	No	Transit	Regional		x	
Case 02	M	Metropolitan Council	Yes	Transit	State		x	
Case 03	F	Metropolitan Council	Yes	Transit	State		x	
Case 04	M	University of Minnesota	No	Academic	State	x	x	
Case 05	M	City of Bloomington	No	City Government	City		x	
Case 06	F	Metro Transportation Services, Metropolitan Council	Yes	Transit	State	x	x	
Case 07	F	Minnesota Valley Transit Authority	No	Transit	Regional		x	x
Case 08	F	St. Paul Regional Federal Highway Administration (FHWA)	No	Transportation	Federal		x	
Case 09	F	Dakota County Office of Transit	No	County Government	County		x	
Case 10	M	Minnesota Department of Transportation	Yes	Transportation	State	x	x	x
Case 11	M	I-35W Solutions Alliance	No	Advocacy	Regional	x	x	
Case 12	M	Metropolitan Council	No	Transit	State		x	
Case 13	F	Metropolitan Council	Yes	Transit	State		x	
Case 14	M	St. Paul Regional Federal Highway Administration (FHWA)	No	Transportation	Federal		x	
Case 15	M	City of Bloomington	Yes	City Government	City		x	
Case 16	M	Minnesota Department of Transportation	No	Transportation	State	x	x	
Case 17	M	Citizens League	No	Advocacy	State	x	x	
Case 18	M	Minnesota State Legislature	Yes	Legislature	State		x	
Case 19	M	Transportation Consulting Firm	No	Private	Regional	x	x	
Case 20	M	Minnesota State Legislature	Yes	Legislature	State		x	
Case 21	M	University of Minnesota	No	Academic	State	x	x	
Case 22	M	City of Bloomington	Yes	City Government	City	x	x	
Case 23	F	Minnesota State Legislature	Yes	Transportation	State	x	x	
Case 24	F	City of Minneapolis	Yes	City Government	City	x	x	
Case 25	F	Minnesota State Legislature	Yes	Legislature	State	x	x	
Case 26	M	Minnesota State Legislature	Yes	Legislature	State	x	x	

Case	Sex	Organization	Elected/ Appointed	Policy Field Area	Policy Field Level	Wave I Interview	Wave II Interview	Wave III Interview
Case 27	F	City of Burnsville	Yes	City Government	City		x	
Case 28	M	City of Minneapolis	No	City Government	City		x	x
Case 29	M	Dakota County Transportation	No	County Government	County		x	
Case 30	M	Metro Transit	No	Transit	State	x	x	
Case 31	M	Metro Transit	No	Transit	State	x	x	
Case 32	M	University of Minnesota	No	Academic	State	x	x	
Case 33	M	City of Apple Valley	Yes	City Government	City		x	
Case 34	F	494 Commuter Services	No	TMO	Regional		x	
Case 35	M	City of Lakeville	Yes	City Government	City		x	
Case 36	M	University of Minnesota	No	Academic	State	x	x	
Case 37	M	Minnesota State Legislature	Yes	Legislature	State	x	x	
Case 38	F	Minnesota State Legislature	Yes	Legislature	State		x	
Case 39	M	University of Minnesota	No	Transportation	State		x	
Case 40	M	University of Minnesota	No	Academic	State		x	
Case 41	M	Minnesota Department of Transportation	No	Transportation	State	x	x	
Case 42	M	Metro Transit	No	Transit	State		x	
Case 43	F	Downtown Minneapolis Transportation Management Organization (TMO)	No	TMO	Regional		x	
Case 44	M	Minnesota Department of Transportation	Yes	Transportation	State	x		x
Case 45	M	Minnesota Department of Transportation	No	Transportation	State	x		
Case 46	M	Metro Transit	No	Transit	State	x		
Case 47	M	Minnesota Department of Transportation	No	Transportation	State	x		
Case 48	F	Minnesota Department of Transportation	No	Transportation	State	x		
Case 49	M	City of Minneapolis	No	Transportation	City			x
Case 50	M	City of Minneapolis	No	Transportation	City			x
Case 51	F	Minneapolis Downtown Improvement District	No	Non-Profit	City			x

Appendix B: Interview Protocols

Wave 1 Interview Protocol

1. Tell me about your history with this collaboration.

2. What do you see as the purpose of UPA? What problem(s) is it trying to solve?

3. Who are the primary partners? Secondary partners? Had they ever worked together before? Example?

4. What do you see as the role of technology in this partnership? How is technology affecting who is in collaboration? How partners work together?

5. Let's get a bit more specific here. How does UPA actually get its work done?
    a. How is it organized?
    b. Where are important policy decisions about UPA made?
    c. How about operational or implementation decisions?
    d. How does UPA decide "who should decide?"

6. Can you talk more about decision-making? What is an example of an especially effective decision? A less effective decision?

7. Accountability can be tricky in partnerships. How does UPA hold partners accountable?
    a. Outcomes can also be hard to determine/measure. How had UPA determined successful outcomes?

8. Anything else you would like to add that I haven't asked?

Wave 2 Interview Protocol

1. Tell me about your history with this collaboration

2. What do you see as the purpose of UPA? What problem(s) is it trying to solve?

3. Who are the primary partners? Secondary partners? Had they ever worked together before? If so, how much? Example?

4. What do you see as the role of technology, broadly conceived, in this partnership? How is technology affecting who is in collaboration? How partners work together?

5. Describe the process of assembling your UPA proposal. Was there something circulating amongst the preparers of the proposal? If so, how was it circulated?

6. Let's get a bit more specific here. How does UPA actually get its work done?
    a. How is it organized?
    b. Where are important policy decisions about UPA made?
    c. How about operational or implementation decisions?
    d. How does UPA decide "who should decide?"

9. Accountability can be tricky in partnerships. How does UPA hold partners accountable?
    a. Outcomes can also be hard to determine/measure. How has, or will, UPA determine successful outcomes?

10. Anything else you would like to add that I haven't asked?

Wave 3 Interview Protocol

Introduction

1. Please describe your agency's role, and your personal role in deploying and operating the Minnesota UPA projects. OR Has anything changed in your agency's role or your personal role in the Minnesota UPA since we last talked?

Working relationships/Collaboration

2. What are your current working relationships with the partner agencies in the Minnesota UPA? Has this changed over the course of the UPA project?
    a. Who in the UPA partnership is making operational decisions?
    b. Who is making policies?
    c. Who has the power to decide how policies are made?
    d. And has any of this changed over time?

Technology

3. Technology is one of the four "T's" in the UPA. What role has technology played in the overall Minnesota UPA project? How have specific technologies been useful (or difficult) in your own UPA work?

Impact

4. From your perspective, what have been the immediate impacts of the deployment of the Minnesota UPA? What impact do you foresee in the future? Have there been any negative impacts or outcomes from the UPA project?

End-user Impact

5. What do you think is the general public awareness and/or acceptance of the UPA project? Has this changed over the course of the project's phases from planning to operational? How have your outreach activities contributed to the public's awareness and/or acceptance? What alterations have been made in the UPA project as a result of user interaction with implemented systems?

Wrap-up

6. Are there any other topics you would like to bring up related to the UPA?
    a. Who else do you think we should interview?

Appendix C: Thematic Coding Structure

Name	Description	Wave 1	Wave 2	Wave 3
Initial Conditions	1) General environment: Turbulence; Competitive and institutional elements. 2) Sector failure. 3) Direct antecedents: Conveners; General agreement on the problem; Existing relationships or networks.	x	x	
Project Process	1) Building and exercising leadership; 2) Forging agreements; 3) Building legitimacy; 4) Building trust; 5) Managing conflict; and 6) Planning	x	x	
Outcomes and Accountabilities	1) Effects of UPA: This describes the effects the UPA project has had on both individuals (personal, professional--how they do their work and how they think about their work) and organizations (both their own and others). Examples of this may include the personal impact UPA has had on an individual's career and whether they would do this kind of project again; the project's ability to leverage more money and greater investment in the corridor; the impact of the short timeline. This may come out in language such as, "I have/We've learned this" or "I/We now do 'x' differently because of UPA."; 2) Long-term impacts of UPA: This describes the long-term impacts of UPA on traffic congestion, on collaboration, on public policy, on public perception, on themselves and their organization, etc.; and 3) Lessons learned/Reflections: This is a general bucket for comments interviewees make on their reflections of the UPA project and lessons they've learned for moving forward.	x	x	
First Order Outcomes	First order outcomes that show up at or before project completion.			x
Second Order Outcomes	Second order outcomes: Take place outside boundaries of collaboration while collaborative work taking place; amplifying effects			x
Third Order Outcomes	Third order outcomes: More fundamental changes in behavior, perceptions, practices and norms that are likely to extend beyond life of the collaboration			x
Project Structure & Governance	1) Collaboration: This describes who are the major	x	x	

Name	Description	Wave 1	Wave 2	Wave 3
	collaborators, whether and how they have changed, how they communicate, and their impressions of the positive/negative nature of working together; 2) Formal & Informal: Membership; Structural configuration; Governance structure.			
Role in UPA	This describes the "who" and "what" of an individual's or an organization's role in the UPA project in the past, present and future. For example, "I have done this." Or, "We are doing that."	x	x	x
Story of UPA	This includes any narrative given by interviewees on the sequence of events of the UPA project both past and present. This node will be most useful as a way to organize the story of the UPA project as told through the interviewee's perspective. It may also include when interviewees express 'their version' of the project. The purpose of this categorization is to be able to combine everyone's stories into a combined story of the UPA project in Minnesota.	x	x	x
Technology	Broadly defined to include any and all uses of technology in the UPA project and its effects.	x	x	x
Power and Politics	1) Power imbalances; and 2) Competing institutional logics		x	
Leadership and Competencies	The skills, background, and attitudes people and organizations bring to the success (or failure) of the project.		x	
Communication--Outreach	This describes how UPA is interfacing with the public and what effects, if any, it's having (e.g. is it changing public perception, is there public outcry or support?). It also includes specific outreach and engagement strategies utilized by individuals and organizations.		x	