

SECURING WATER SUPPLY: A CRITICAL EXAMINATION OF PRIVATE
SECTOR PARTICIPATION IN UNITED STATES MUNICIPAL WATER SERVICES

by

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ABSTRACT

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The United States is currently confronting a critical need to invest in, and update, its water delivery and treatment systems. Historically, the United States government provided communities with most of their water systems funding through federal grants for infrastructure development and maintenance. However, in the early 1980s, there was a paradigm shift as to who should provide such investments. Since the early 2000s, the Environmental Protection Agency has recommended that communities that do not receive enough federal grants for the necessary investment in their water and wastewater systems pursue partnerships with the private sector to generate investment capital. From the 1980s through the early 2000s, executive order, legislation, and tax reform enabled the gradual implementation of private sector involvement in the water services sector. Private sector participation (PSP or “Privatization”) has changed the landscape of United States water services governance. It also raises questions as to the overall effectiveness of such programs in creating and maintaining both the necessary infrastructure and level of investment in communities across the United States. Experience with PSP has also raised

a host of questions regarding various aspects of both the social and labor relations of production in these arrangements. My research explores the development and effects of private sector participation in municipal water services throughout the United States. The relevant issues are examined employing a political-economic framework, utilizing an understanding of neoliberal globalization as a lens for the current trend of PSP. My research methodology employs literature analysis and comparative case study to identify the most important issues in public-private water services arrangements. Identifying the effects through empirical case study and current literature analysis, will allow me to develop a clear presentation of the most critical problems and challenges involved with private sector participation in municipal water services, as well as alternative solutions to current problems.

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THE NEOLIBERALIZATION OF WATER SERVICES: A BACKGROUND

In the late 1970s and early 1980s, a new political-economic philosophy was embraced within the United States. This political-economic philosophy that has been labeled “neoliberalism” had its roots in a specific group of economists teaching at the University of Chicago. Neoliberalism is a form of highly liberalized capitalism that reorients the understanding of persons--including corporations--the state, and the market. While the definition of neoliberalism is disputed, many define neoliberalism as a political-economic system that resituates persons and their economic activities, towards a more direct relationship with the 'free market' and 'free market' values. These values state that the best way to deliver life's necessities and luxuries are through money-mediated relationships between the world's different consumers and producers. Neoliberalism defined as such, is a political-economic system that places persons consumption of goods and services in a more direct connection with the market, and reduces that consumption to a money-mediated service model. This political-economic philosophy arose in antithesis to the Keynesian political-economic philosophy of state-monopoly capitalism that had gained prominence in the post-World War II era. In the period that it rose to prominence, proponents of neoliberalism advocated it as a system better able to resolve the over accumulation of capital that western countries faced. Proponents of neoliberalism claimed this over accumulated capital was stalling-out the system of capitalism due to the inability to find reinvest opportunities for it. The political-economic system of neoliberalism was embraced by the United States and Great Britain in the early

1980s, and spread worldwide by the global trade and financial institutions over the next twenty years. This transformed regional landscapes of social services around the globe, and, in specific, changed how states and markets viewed and interacted with water services distribution. The enactment of neoliberal philosophy and policy within the water services sector created specific neoliberalizations of water services globally throughout the 1980s and 1990s. These neoliberalizations created similar effects in the unique political-economic and geographical landscapes wherever applied. During this period, the enactment of neoliberal policy began to transform the way that the United States government interacted with its municipal water systems. Throughout the 1980s and 1990s a host of legislative reforms and executive orders removed the responsibility of the United States government to provide the same level, or type of, investment to its municipal water systems, and reoriented that responsibility to the private sector. The shifting of United States water governance policy from grants for municipal water systems improvements to state revolving funds that communities needed to repay, put the responsibility for nearly of 100% of improvement and upkeep costs squarely upon the communities borrowing state revolving funds. This reorientation of governmental policy was infused with the rhetoric of neoliberalism, and marked a critical shift in the political-economic landscape of United States municipal water systems. Taken as a whole, this process created the private water services sector in the United States, and transitioned the responsibility for the upkeep of municipal water systems to the private sector. As part of this change in policy, the Environmental Protection Agency began to recommend that communities not receiving adequate funding for development, operation and maintenance

should partner with the private sector to generate the capital necessary to improve and maintain their water systems.

Due to this marked shift in the governance regimes of municipal water systems, there was a significant rise in private sector participation arrangements. These arrangements have produced certain effects in areas where neoliberal policy is implemented. Therefore, it is critical to engage with the process of neoliberalization of United States water systems to gauge if they have had similar effects with those globally. In order to engage with this question, an in depth analysis of two unique cases of neoliberalization in the United States water sector will be examined: Atlanta, Georgia, and Indianapolis, Indiana. These cities represent the most common forms of private sector participation arrangements. The analysis of these individual cases will provide a concrete basis for understanding the effects of private sector participation in the United States.

Once these cases have been discussed, alternative governance regimes that do not rely on neoliberal philosophy and policy will be identified. These arrangements, known as public-public partnerships, are based upon different philosophical and policy underpinnings and thus provide alternative options for municipal water systems. This is vital as both the EPA and the private sector acknowledge that private sector participation arrangements are not a blanket panacea for the current problems that face municipal water systems. Engaging with these governance regimes allows us to look at and evaluate alternatives, and may prove useful in creating different types of private sector participation arrangements.

The current literature on this subject tends to bifurcate the discussion of how best to address the dire needs of our water systems into arguments based on the belief that it is either public institutions or private organizations that are fundamentally better--or ought to be--at providing water services to the public. This dichotomous perspective is described as the “public vs. private” debate. While I employ a critique of neoliberal philosophy in evaluating this research, I do not espouse that the public vs. private debate is a useful one to be having at this moment. This debate does not help to solve the current and severe problems facing municipal water systems. Rather, we must engage with the differing governance regimes that present themselves to municipal water systems throughout the United States. This engagement allows us to better understand these governance regimes, and to work with them, to create more equitable relationships and partnerships for United States water systems.

RESEARCH APPROACH

Identifying the Issue of Bias

I came to this research with an understanding of the political economic framework of neoliberal globalization, as espoused by David Harvey and others. I also employ a critique of neoliberal capitalism and market values. Many might consider there to be a significant methodological bias in even using the terminology of neoliberalization in regards to the water services globally, and in the United States. This is because the terminology of neoliberalism and neoliberalization are most often employed by critics and opponents of neoliberalism. However, it is evident, based on the works of Noel Castree, Karren Bakker, Eric Swyngedouw, and David Harvey, that globally, neoliberal capitalism has failed to secure equitable services distribution. Neoliberal capitalism generates and accumulates profits from dislocating or dispossessing individuals, environments, and communities, from the value of their physical space and of their environmental resources.

Identifying the Inquiry Process

Originally, when I first started my research, I wanted to create a handbook for communities facing private sector involvement in their community water systems. This handbook would have given them information about the current state of private sector participation in the United States, and what citizens should know about PSP. Both its

effects and what the average citizen could do about them. This handbook was to be created by doing research with local community groups in several cities that had been affected by private sector participation. The groups that I was interested in meeting with had been part of successful remunicipalization efforts in their respective cities.

Unfortunately, the groups I was interested in working with had either disbanded or were too time-constrained with current efforts to participate in my research project. This led me to step back and look at the issue from a different angle. I immersed myself in the literature of neoliberalism and the neoliberalization of water services globally, and the political-economic system of neoliberalism. I examined the neoliberalization of the United States water services market specifically, looking for similarities that have been seen by researchers in various places around the world in the prior two decades. This period, underwent the spread of neoliberalism globally. After engaging with the literature, I realized that there were significant gaps in comparative research, especially in the United States. Most of what I found dealt with individual cases, yet appeared to be identifying similar effects of neoliberalization. I decided that an exploratory thesis would fill a significant gap in the current literature. I accomplished this by providing a comparative case study analysis, utilizing a political economic lens of neoliberal globalization. My research project synthesizes these cases that appear to be making similar claims but are otherwise unlinked.

In conducting the research for this thesis, I found specialized web search engines to be necessary to sift through vast amounts of data. In my case and in performing this type of research, this data was information on PSP in the United States. Having the ability

to access highly diverse and numerous sources was critical. My sources include governmental reports, news articles, business articles, business reports, academic articles, and community action organization research. I cannot imagine performing this research without the ability to access diverse sets of information quickly and efficiently. Modern day search engines, such as Google Scholar, Refseek, and Infomine, helped to such an extent that I would credit them with being necessary to my ability to perform this research. One general criticism that I do have is that there are a great many websites that are valuable resources for this type of research but are quite costly in terms of accessing their information archives. Certain water industry websites that are the best sources for finding out industry information and current contracts charge upwards of \$2,000 for access their archives. Online academic archives are also rather costly, and contained information that I was unable to access other than through personal purchase.

Identifying the Case Studies

The process of choosing my case studies was meticulous. I had reviewed a great deal of information on a wide variety of cases. But ultimately, I chose the three cases presented in this research project because they represented a diverse range of the largest water companies. The companies associated with each case are the three largest water services companies in the United States, and two of them, Veolia and Suez, are the largest water services companies in the world. Another reason I chose these companies is that in each of these cases the companies involved in the contracts were United States subsidiaries of multinational companies, implying that their decision making was

controlled by much larger organizations that were ultimately not familiar with the specific US communities. They also represent the most common style of PSP, which are operations and management arrangements. While there is significant research identifying the problems resulting from these particular cases, very little research has been done analyzing the negative impacts as resulting from neoliberal policy, or utilizing comparative case study to identify common aspects of the neoliberalization of water services in the United States.

Identifying the Limitations of the Research

One major limitation of my research is that it lacks “on the ground research.” Nearly all of my information comes from literature analysis. I think it would have been a great help for me in completing my conclusions sections on alternative modes of water governance if I could have spoken to more community water organizations about what they see as viable alternatives. I think that research in the future should attempt to collaborate with the myriad of water organizations that exist and are helping to empower community water systems in terms of local control. This is because water governance is expertise based and knowledge oriented. Thus, collaborating with community water systems organizations would grant access to a vast amount of community knowledge and local expertise. Further research would also benefit from a specific examination of public-public partnerships, utilizing my thesis as a rhetorical and empirical foundation.

I also understand that there may be limitations in the cases that I chose to study. Comparative case study analysis often elicits the question of why specific cases were

picked. Some question the validity of comparative case study because there is always a question of generalization from a few cases. I would like to make clear that I picked cases that I thought were most exemplary of the current failures of private sector participation. These failures do not occur in all communities as a result of the fundamental process of neoliberalization being transformed by the communities in which it was implemented. However they do occur in many private sector partnerships, some of which are considered to be successful by the private sector.

One aspect of the contemporary research that needs to be examined more closely is the extent of the effect of private sector participation arrangements on economically marginalized areas of communities. A substantial proportion of the current research on PSP's only identifies the broad effects on communities. However, it does not examine certain specific aspects, such as, if a contractor acquired a maintenance backlog, what percentage was from economically disadvantaged areas? Or, if maintenances were not kept up, were they disproportionately lacking in poorer areas of the community? Further research on this topic would be very helpful in identifying the specific effects of PSP's on communities' water systems.

A CRITICAL REVIEW OF NEOLIBERALISM AND THE NEOLIBERALIZATION OF GLOBAL MUNICIPAL WATER SERVICE

Starting in the early 1980s, the United States government embraced a new political-economic system that subsequently became dominant on the global stage. Many labeled this system “neoliberalism.”¹ From the 1980s to present, neoliberal policy has swept over the world through the process of neoliberal globalization. Neoliberal globalization is not uniform, although it is fundamentally influenced by its philosophy and policy. Since neoliberalism is a political-economic system, its philosophy and policy both shape and change the political and the economic landscape where it is embodied. Because neoliberalism is based on a hyper-form of capitalism, it has a significant impact on the entire structure of capitalism in each location where it is employed. Utilizing the theoretical framework of neoliberal globalization allows us to identify commonalities that arise from a specific capitalist modality’s interaction with a diverse set of organizations and businesses.

This allows researchers to study commonalities of the neoliberalization of a range of markets, natural resources, and social services. In this case, utilizing the theoretical framework of neoliberal globalization highlights the effects of neoliberal political-economic policy on different water municipalities in the United States. Employing this framework is useful because it draws together seemingly isolated events while identifying the core thread connecting them all--neoliberal philosophy and policy. To understand these interconnections and effects, it is necessary to examine: what the

political-economics of neoliberalism are; the rise of neoliberal globalization; how neoliberalism views and interacts with the environment; as well as the neoliberalization of water services globally. Once we have identified these aspects that are fundamental to understanding the theoretical framework of neoliberal globalization in general and the neoliberal globalization of water services specifically, we will be able to utilize this framework to critically examine the neoliberalization of water services in the United States.

The Political-Economics of Neoliberalism

The neoliberal system has its roots in the works of a group of economic and legal scholars writing in Freiburg, Germany, during the Weimar period. During the 1950s and 60s, this economic philosophy was further developed by the economists Friedrich Von Hayek and Milton Friedman.² In the late 1970s, these economists, working at the Institute for Economic Affairs in London and the University of Chicago, continued to develop the ideas of the Freiburg School of economics. Their economic philosophy had been influencing a select group of economists in the late 1960s and early 1970s. It began to be noticed more broadly in the 1970s when Hayek and Friedman were awarded the Nobel Prize in economics in 1974 and 1976 respectively.³

The definition of the term “neoliberalism” is in dispute among modern academics, and many authors give varying definitions of exactly what it is and how it should be applied.⁴ Noel Castree identifies three crucial aspects of neoliberalism: the “philosophy, program, and practice”—that are intertwined one with the other.⁵ To

understand how these components interrelate and function together, it is helpful to unpack and explore each of these components individually. The first component, the philosophy or worldview, is an understanding of both the world and society where the concepts of individual liberty and freedom are thought to be of paramount importance to the success to both society and the individual. Individual in this sense is persons as individuals, but it also includes an important component that recognizes corporations as individuals as well. Individual liberty and freedom are defined in neoliberalism as the individual's right and duty to make their own way in the world and support themselves in a marketplace free from government involvement. This puts them in a more direct relationship with the market. Neoliberal philosophy critiques the state as having failed to efficiently provide services that the unfettered market is able to provide in a more cost-effective manner. This philosophy identifies the ultimate relationship in society as between individuals and markets--with corporations considered as individuals in this framework--with little to no interference or regulation from the government. Thus, neoliberalism is a philosophy of marketization, privatization, and commodification where the state has failed to appropriately manage and distribute resources.

Castree's second facet of neoliberalism is neoliberalism as policy. This feature has evolved over decades in university departments, think tanks, and policy foundations.⁶ It is homogenous in its ideals, yet heterogeneous in its implementation. Castree identifies seven aspects of neoliberal political-economic policy: privatization; marketization; deregulation or state roll back mechanisms; market inclined regulation; use of market proxies in the state sector; pressure to implement "flanking mechanisms" in

society; and creating 'free', 'self-sufficient', and self-governing communities and persons.⁷ These seven aspects of neoliberalism as a set of policies demonstrate how neoliberalism as a philosophy becomes embodied to increase what neoliberalism identifies as 'individual liberty' and 'freedom'. This policy serves as the road-map for the implementation of the philosophy. And yet, as Castree points out, neoliberalism is fundamentally a state run process.⁸ While neoliberal philosophy and policy strive to eliminate governmental regulation and interference from the market, it relies on the state to either 'roll-out' policy reform that empowers neoliberal policy, or attempts to 'roll-back' governmental regulation that would impede the markets access to goods and services. Thus, while neoliberalism as a philosophy critiques state functioning, it cannot exist without the government enacting its policies.

The third facet of neoliberalism, as a set of actually existing policy measures, encompasses a wide range of economic, social, political, and environmental policy goals. Castree summarizes the extant policy that seeks to accomplish neoliberal ends.

These policies include:

Macro economic policies that place controls on government borrowing, keep inflation low, place constraints on domestic money supply, keep taxation's levels low, allow exchange rates to float, and allow interest rates to be determined by the market (or at least not to be determined by the government); *industrial and business policies* that remove selective subsidies, trade barriers, investment and entrepreneurial risk tasking; *labor market policies* that remove 'collectivist obstacles' to competition and reward, such as wage controls and trade union membership; *education and training policies* that focus on the supply side and encourage individuals to build their 'human capital', be adaptable, and commit to lifelong learning; *managing, monitoring, and auditing measures* which focus hard on setting targets, establishing benchmarks, and measuring performance; *social policies* that are oriented to 'workfare' not 'welfare'; *law and order policies* that

take an uncompromising approach to rule breakers or social deviants impinging on others rights; *governance policies* that, in a range of policy areas, de-democratize and devolve decision making by empowering a wide range of actors outside the formal sphere of government.⁹

These wide ranging policies can be understood as a formidable political-economic force when combined with the philosophy of neoliberalism. Understood in this way, neoliberalism is a hegemonic economic system and political philosophy that was spread throughout the world by the United States and Britain in the 1980s.¹⁰

The Globalization of Neoliberalism

It is critical to distinguish between neoliberalism as philosophy or policy and neoliberalization as it actually exists in any given space and time--the unique processes that occurs when neoliberal philosophy and policy measures are actually implemented in a given place. To better understand this difference between neoliberalism as a multifaceted philosophy and neoliberalization as it is actually manifested, it is useful to analyze the rise of neoliberalism on the global stage just before, and then during, the administrations of Margaret Thatcher and Ronald Reagan.

The earliest implementation of neoliberal economic principles occurred in Chile in 1973, after a military coup headed by Augusto Pinochet ousted the democratically elected government of Salvador Allende. This coup received significant support from the United States Central Intelligence Agency with the tacit support of Secretary of State Henry Kissinger. Pinochet, under the guidance of a select group of economists heavily influenced by Milton Friedman and the Chicago school of economics known as the

“Chicago Boys,” restructured the Chilean economy in line with neoliberal economic theory. This restructuring included the privatization of public assets and the increased extraction and exploitation of natural resources by private corporations that resulted in increased foreign investment and free trade.¹¹ These economic reforms also entailed a violent suppression of labor unions and leftist, worker oriented, political organizations, and led to the marketization, privatization, and the opening up of all of Chile's resources to global investors. These changes in domestic economic policy and practice led to a revival of the Chilean economy, although only for a short period of time and only among the wealthy elites of Chile and foreign investors. The average Chilean did not fare well under these reforms.¹² This economic experiment involving the implementation of neoliberal policies in Chile was initially considered a great success, and served as the impetus for the spread of neoliberal philosophy and ideology to the United States and Britain in the late 1970s and the early 1980s.¹³

By the 1970s, economic crises had come to much of the world.¹⁴ The Keynesian economic system that had so successfully guided the economies of Europe and The United States in the post-World War 2 era--burgeoning world markets, and creating a marked rise in infrastructure production in Europe and the United States throughout the 1950s and 60s--had begun to slow down. Keynesian economics, with its focus on infrastructure development and governmentally-mediated labor and commodity markets, combined with increasing foreign competition, seemed to be causing what David Harvey, Eric Swyngedouw, and others refer to as a crisis of capital accumulation.

This crisis was caused by the over accumulation of capital and the difficulty to find profitable investments in an economically troubled developed world. This over-accumulation of capital was identified by Friedman and others to be causing both the stagflation crisis of the 1970s as well as a general stalling out of global capitalism. This stagnation of global capitalism in the 1970s, opened up the door for neoliberal thought to be examined and then implemented. Neoliberal philosophy was so appealing at this time because it looked at what many economists identified as the problems that were stalling capital accumulation under Keynesian economics--governmental intervention in the labor and commodity markets--and its policy tried to increase capital production and accumulation by removing the government control from the market.

After witnessing the apparent success of this philosophy in Chile, the administrations of Reagan and of Thatcher began to utilize neoliberalism. They installed it in both their home countries' governments and economies, as well as in international institutions that were, in a sense, controlled by the UK and the US. The US began to abandon Keynesian economic principles in 1979, when the Chairman of the Federal Reserve Board, Paul Volcker, decided to implement a drastic shift in economic policy. This shift was away from Keynesian economic principles, principles through which the Federal Reserve had sought to keep the nominal interest rates low during the years of "stagflation." Volker oversaw a policy that raised the prime interest rate some twenty percentage points overnight, an act that had the effect, quite purposefully, of plunging the world, including the United States, into a recession and increased unemployment. Proponents of this policy shift argued it was the only way to take the United States out of

the period of stagflation.¹⁵ Once the shift had been made away from operating under Keynesian economics to operating under neoliberal economics, neoliberalization moved throughout the world through a wave of institutional reforms and structural adjustment.¹⁶ Some of the most important institutions to establish these reforms were the International Monetary Fund (IMF) and the World Bank (WB). During the Reagan administration, these institutions became among the most influential proponents of neoliberal policy throughout the world.¹⁷ The leverage of these organizations was based on the economic need of countries to abide by WB and IMF policies. Countries that did not adhere to the economic mandates of the WB and IMF faced severe economic and trade penalties. These mandates are privatization, marketization, and commodification of all goods and services in society. Thus, every country that wanted a developmental loan or wanted to participate in an organizational trade agreement was forced to adhere to neoliberal policies in their own country. This acceptance of neoliberal policies into a country's economy as a stipulation of lending is known as structural adjustment. Structural adjustment policies, or SAP, stipulate that a country that is to accept a developmental loan or participate in an organizational trade agreement must adhere to neoliberal economic policies. Structural adjustment policies thus had the effect of opening up many third world markets to access by western companies that had previously been excluded. These markets created a major increase in capital investment and led to an economic influx in the United States and Great Britain during the 1980s and 1990s. However, neoliberal policy also brought about the expatriation of profits from developing countries. This SAP process led

to the commodification and marketization of goods and services that had not been traditionally applied to the market. One such service that became increasingly focused on was the provision of water delivery and waste water services. Traditionally, the government supplied such services, but with the changes resulting from neoliberal policy, they became a lucrative area of investment for foreign companies looking to break the hold of state monopoly capitalism. Once neoliberal philosophy had been spread to international institutions in the West, the spread of neoliberalism became rampant, and subsequently opened up the world for neoliberalism to become embodied in a variety of different locales, at a variety of different scales, and in a variety of different manifestations.¹⁸

Neoliberalism and the Environment

At its inception, neoliberal philosophy had only a loose set of principles concerning various aspects of natural resources and the environment. Yet, over the decades, neoliberal policies found expression in a whole host of different natural resource and environmental policies, including water, forestry, and fisheries management, to name a few.¹⁹ Castree argues that there were several intertwined reasons for the development of the environment as an area of policy in neoliberalism. The first was a coupling of environmentalist thought with neoliberal philosophy and policy in the 1980s. The second was the notion of neoliberal environmental development--defined as the development of natural resources in the global south that had traditionally not been owned or not been tapped for resource utilization and

extraction--that took hold in the global institutions of the IMF and the World Bank in the late 1980s. The third was a rise in philosophies concomitant with neoliberalism, such as those espoused by Garret Hardin and H. Scott Gordon. The fourth was natural resources that had traditionally been managed by the government, such as municipal water services, that were transitioned to being managed by private companies under the Thatcher and Reagan administration, as a result of the neoliberal understanding that private companies are more efficient in all areas, economic, social, and thus by extension, environmental. Lastly, there were a select group of think-tanks and policy foundations working during the late 1970s and 1980s to create the notion of an “environmental neoliberalism,” or a form of neoliberalism that achieves environmental goals through market solutions and control, rather than 'command and control' governmental regulatory policy.²⁰

Proponents of environmental neoliberalism assert that it creates a range of positive effects, that can be summed up in the acronym GEDDS: growth; efficiency; development; democracy; sustainability.²¹ Castree breaks down these categories into five encompassing aspects that proponents of environmental neoliberalism have argued would achieve these goals. The first argument is that the most effective way to protect resources that are open to access by everyone is by applying private property rights and monetary values to those resources. Thus, environmental goods and services that are not valued and utilized correctly hold unrealized value and create lost income and mispriced or underpriced assets. The second is the belief that the private sector is able to manage

environmental services and natural resources in a manner that produces greater economic value to consumers than does the public sectors. Thirdly, introducing pricing and competition into the management of natural resources will increase environmental integrity as well as improved managerial standards. This allows governmental bodies to become more efficient managers and suppliers of environmental services on the condition that they instill commercial principles into how they fundamentally govern and produce legislation. The fourth principle is that empowering non-state actors creates a situation where the quality of environmental goods and services is increased through specifically tailored, creative, and non-bureaucratic solutions to environmental governance. Fifthly, proponents of neoliberal environmental policies assert that enacting the above changes will allow consumers, firms, citizens, and juridical units to assume responsibility for their own environmental impact, better respecting the rights of the individuals including corporations.²²

Currently, there are many individual case studies that analyze the political-economic process and effects of the neoliberalization of nature. Much of this work concludes that the claims of benefit made through GEDDS have not been substantiated.²³ Rather, the neoliberalization of nature has led to a natural landscape marked by what David Harvey and others have labeled as uneven geographic development, and capital accumulated through the dispossession of public goods and natural resources.²⁴ Many of these case studies have been synthesized by Castree, who outlines an extensive list of the various examples of the neoliberalizations of nature, and

their socio-economic and environmental effects. These examples include: forests, land, oil, minerals, hazardous wastes, wetlands, pollutants, animals, trees, and water.²⁵ However, one topic lacking in the current comparative case study literature on the neoliberalization of the nature, is the neoliberalization of municipal water services.

The Neoliberalization of Water Services

Many opponents of the neoliberalization of water services use the term “privatization” as a blanket statement to include the different manifestations of neoliberal philosophy and policy within the water services sector.²⁶ Karren Bakker writes that such an understanding is not helpful because it groups together many different forms of neoliberalization under one term. Rather than using this term in an overarching way, Bakker defines the term privatization as the sale or the transfer of ownership of municipal assets to the private sector.²⁷ Understanding the term privatization in this way allows us to identify other scenarios that represent the neoliberalization of municipal water services. Bakker defines these hybrids of outright privatization as private sector participation arrangements. These arrangements refer to a range of contracts where a private company builds, operates, and/or manages infrastructure on behalf of governmental organizations. They include concessions, leases, consulting services, and operations and management arrangements.²⁸ Defining the scope of the neoliberalization of municipal water services in this way is useful because it allows distinctions to be made between the multifaceted ways in which private companies can be brought into water services.

Bakker identifies three manifestations of neoliberal policy in regards to water services. The first is resource management institutions, the laws, rules and policies under which resources are governed. These target property rights with the desired effect of privatization, as well regulatory frameworks which are centered on deregulation. The second is resource management organizations. These are the collective social organizations that manage and govern resource use. They target reforms in the areas of asset management and organizational structure, with the desired reforms being seen in both corporatization of public entities or the partnering of public entities with the private sector.²⁹ The third is resource governance, which are the ways in which social organizations create and employ management institutions. As Bakker asserts, resource governance targets reforms in resource allocation, performance incentives and in user participation. The reforms that neoliberal resources governance create are thus collectively privatization, marketization, and commercialization.³⁰

Bakker stresses that it is important to understand the uneven nature of the manifestations of neoliberal reforms. She states that reforms can be implemented in specific categories, and are not necessarily always the same. A country may push privatization without deregulating, or deregulate without marketization, and commercialization could be undertaken without privatization.³¹ Bakker's analysis helps us to understand that the neoliberalization of water services can be embodied in a number of different way

In order to identify common effects of the neoliberalization of the water sector, and to expand further on Bakker's understanding, we will turn our attention to four cases studies. Alexander J. Loftus and David A. McDonald explore the neoliberalization of water services in Buenos Aires in *Of Liquid Dreams*. This work explores the thirty year municipal water concession that was undertaken in Buenos Aires in 1993 amidst a climate of public service privatization. In 1989, reforms in Argentina created a private water services market, marking the transition of state monopoly capitalism to a more competitive global capitalism. Loftus and McDonald explore the political economics of the concession contract through a neoliberal framework and identify effects that resulted from the concession. The first effect that these authors identified was that the concession resulted in over 3,600 job losses, half of the original workforce.³² In regards to the contract itself, concerns arose over the process by which bids were evaluated. In the Buenos Aires concession, bids were evaluated only by how much they claimed they could reduce cost of water and sewage services, or tariffs. These authors also raised concerns about the extent to which the regulator who was created to supervise the contract was free from the monetary influence of the companies involved, primarily Saur and Suez.³³ The regulatory agency was accused--although never convicted--of accepting bribes to comply with increased rate requests and signing paperwork for maintenance that was not completed. Due to this regulatory failure, many of the contract obligations were not met and many maintenance requirements were not upheld, nor capital improvements made. This resulted in a decrease in quality of water in some parts of the city, and also had the

effect of allowing thousands of tons of raw sewage to enter the Rio Del Plata.³⁴ While the concession contract was awarded based on the expectation of a decrease in tariffs, the concession ended up increasing overall costs for service by adding the cost of capital improvements and other ancillary fees to the users' water bills. Aguas Argentias, the concessionaire, also successfully renegotiated the contract to require users to pay more for capital improvements while they held steady profits of around 30% of total revenues. The concession was not terminated, and its proponents state that it had an overall benefit on water services delivery. Critics raise concerns with its overall effects on both the Buenos Aires environment and community.

Laila Smith, in *The Murky Water of the Second Wave of Neoliberalism*, examines the five year period of commercialization that lead up to the corporatization in 2004 of water services in Cape Town, South Africa. Smith examines three effects of the commercialization. The first was a decline in service quality due to cost recovery measures that were implemented in the municipality. These measures were the installation of new water meters, creating a pay as you use system, rather than a flat rate fee for service system. This had severe consequences for impoverished households in the area, and increased the overall price of water for economically disadvantaged households.³⁵ After this change, many households were quickly placed into arrears and had their water shutoff. The second aspect Smith identifies as a result of the commercialization was the effect on labor.

Once the municipality was commercialized, it started outsourcing many facets of its labor needs, including water main construction, bill collections and water service disconnections. This lowered the workforce for the municipality, but it also changed how persons were paid and employed. Prior to commercialization, a person hired by the government through the municipality gained the benefits of a union worker that came with that employment. Once the municipality commercialized, laborers became contract workers for the companies supplying contract services to the municipality. As Smith notes, this profoundly affected labor due to contract workers being employed on a part time or casual basis, with no long term job protection. Smith argues that this amounts to an exploitative labor process that seeks to circumnavigate workers' rights.³⁶ A final aspect identified as a result of commercialization is uneven development within the municipality. Smith's research documents that the municipality chose to delay and decrease maintenance, service orders, and new connections in the poorer parts of the city. They also increased water shutoffs in communities that were in arrears for bill payments.³⁷ While the municipality remained a public entity during these five years, the implementation of neoliberal policy had many profound effects on the economic and developmental landscape of Cape Town's water services.

Frank L. K. Ohemeng and John K. Grant also examine the neoliberalization of water services in their work *Has the Bubble Finally Burst? An Examination of the Failure of Privatization of Water Services Delivery in Atlanta (U.S.A) and Hamilton (Canada)*. Their work explores the 10 year \$180 million lease contract signed in 1995

with Philip Utility Management Company (PUMC). Only four years after acquiring and operating the contract, PUMC was sold to Enron's water division Azurix, in 1999. Shortly after Azurix purchased PUMC, Enron went bankrupt and sold Azurix to American Water Services in 2001. At the time, American Water itself was in the process of being acquired by the multinational company RWE.³⁸ The transfer of contract operations from Azurix to American required approval by the city. They stated the transfer was necessary because its expertise base in regards to the management of the water system had been lost. The city stated that due to this loss it would be far too costly to reassume operations and management of the utility. They were also concerned about a costly lawsuit with American Water, emerging from the various regulatory and legal issues involved in any remunicipalization effort.³⁹ Ultimately, the 10 year contract was not renewed and the city of Hamilton choice to re-municipalize its water utility in 2004. The case shows how even under the management of three different companies, the water utility was managed in a similar fashion. Prior to the original contract that PUMC signed with the city of Hamilton they guaranteed annual operations savings of \$500,000, the creation of 200 full time jobs, and over \$15,000,000 in investment in community water systems infrastructure.⁴⁰ By the time Azurix had assumed ownership of PUMC in 1999 they had not created a single job and had, in fact, cut over 50 from the water and sanitation department.⁴¹ This reduction in employment caused annual revenues to increase by \$700,000. In line with the contract, PUMC received 60% of the savings and the city received 40%. In 1996, after the

workforce reductions were made, a number of homes and businesses were flooded and several million liters of raw sewage entered Hamilton harbor and surrounding wetlands due to a pumping system failure at a main sewage treatment plant. This spill was purported to be the worst ever in Hamilton's history and was later determined by a Hamilton court to be the direct result of under staffing at the sewage treatment plant.⁴²

While the Hamilton court charged PUMC with responsibility for the spill and the monetary cost of cleanup--which cost the city around \$2.5 million--this was not until after the tax paying citizens of Hamilton had to shoulder the cost of cleanup. Ultimately, the city was never reimbursed by PUMC for this cost. In 1999 when Azurix bought PUMC they assumed all contractual obligations that PUMC had agreed to, as well as settling its legal debts. However, prior to meeting these requirements Azurix was sold to American Water, which did not assume the debt obligation of Azurix to the city.⁴³ Not only did PUMC fail to create jobs, but they also delayed performing maintenance until the costs were over \$10,000. This was due to a contractual stipulation that any repairs over \$10,000 would be paid for by the city. Thus, all of the savings that were generated via the contract with PUMC came from under staffing and delayed maintenance.⁴⁴ Further, PUMC cut the overall maintenance budget by 25% to garner the revenues from such cost savings. Under the ownership and management of PUMC, the city was faced with increased maintenance costs and a decreased labor workforce.

This situation caused the worst sewage spill--and costly litigation and cleanup--in Hamilton's history. American Water finished the last three years of the original

contract with the city of Hamilton and did not increase staffing levels.⁴⁵ In 2004, when Hamilton was weighing the decision to re-municipalize or to continue with contract operations, they chose to request proposals from private water companies for contract bids. The process was so rigorous that none of the four companies vying for the contract were approved. It is interesting to note that one of those companies was American Water Services that had been running the system for the prior three years. Their bid was more than double the current cost of the contract signed with PUMC that they were carrying out, and significantly above the cities anticipated budget.⁴⁶

In his work *Water Not For All*, Heni Kurniasih researched the neoliberalization of water services in Jakarta, Indonesia. This work examines the Jakarta water privatization of 1998, a 25 year concession contract. This contract was a part of the neoliberal reform being placed on the Suharto government from international finance organizations, including the World Bank.⁴⁷ These reforms, which contradicted the stipulations of the Indonesian Constitution, created the market for private sector participation in Jakarta's water sector. In 1998, water services were transitioned from the governmental municipality, PAM Jaya, to two local companies. The companies were P.T. Kekar Pola Airindo and P.T. Garuda Dipta Semesta. The company P.T. Kekar Pola Airindo was backed almost exclusively by foreign transnational water conglomerate RWE Thames Water, while P.T. Garuda Dipta Semesta was almost entirely backed by foreign transnational Suez Lyonnaise des Eaux.⁴⁸ Both companies were aligned with

powerful political leaders, including the son of the then current military dictator, President Suharto.

Taken from the French metropolitan model of city water services competition, the city was broken up into two districts. The east district would be operated by RWE Thames Water, while the western district would be operated by Suez. The process of obtaining these contracts was not through a bidding process but rather through political favors. RWE Thames and Suez approached the administration after securing primary ownership of the two local companies involved in the contracts. The owners of these companies were Suharto's son and a top military adviser.⁴⁹ There were two distinct stages to the water privatization, from 1998-2001 and from 2001 onwards. Once President Suharto fell from power in 1998, most of the contracts that his government had signed were considered illegitimate. The executives for Thames and Suez fled Jakarta during the ousting of Suharto and left the municipal water systems unattended. In 2001, the contracts were renegotiated, yet failed to achieve a more equitable arrangement. The contract itself stipulated low penalties for failures by the private companies to meet investment targets and was worded in such a way that those targets were left unclear.⁵⁰ The contract also failed to state the amount of private investment that was to come from the companies carrying out the contracts. It also provided no public recourse strategies, since it contained an unclear dispute resolution process, a process that was designed to allow the companies to abdicate blame rather than engage with the public. The contract also failed to create a regulator that had the power to compel the water companies to

carry out the contract. The regulator was only able to provide suggestions to the water company but has no legal power to force the company to accept its recommendations on maintenance issues or tariff rates. This led to increasing tariffs that have not been accompanied by increasing performance.⁵¹

Throughout the water contract, while overall water services delivery increased, it only increased in the wealthier sections of the city. This increase in flow has not been accompanied by increasing sewer outflow for new connections that are expensive to build and maintain. Overall, it is estimated that the rate of annual infrastructure investment from 1997-2007 under the foreign water companies had been only 5.61% per year, while the PAM Jaya annual rate of investment had been 11.6% from 1988-1997.⁵² The Jakarta case is unusual in that the contract was originally created and immediately carried out during a time of great political instability and upheaval. However, there are still questions to be raised as to the process that RWE Thames and Suez took in securing the original contract, as well as with the renegotiation in 2001. While proponents have lauded the increase in overall water connections under the public-private partnership, these connections were only increased in wealthier areas of the city.⁵³ The Jakarta water concession demonstrates how political manipulation can create contracts that lack public transparency and do not adequately stipulate targets for private companies to achieve. Such problems in contract creation that lack transparency often lead to uneven development and increased water rates, and lack of transparency as to how public money is being expended.

What is clear in the current research on the neoliberalization of water services is that there is much argument as to how the issues involved should be viewed, understood, and approached. One reason for this is because there is no uniform implementation of neoliberal policy in the water services sector. Each location transforms, and is transformed by, the neoliberalization of water services. There are many manifestations of neoliberal policy in terms of private sector participation, such as marketization, commercialization, corporatization, deregulation, and reregulation. Similar effects from the neoliberalization of water services in regional locales can be observed, and thus, it is necessary to examine the common effects of the neoliberalization of water services using a comparative case study analysis. Indeed, much of the current examinations of specific case studies seem to be turning up the same type of results from the neoliberalization of water services, whether they be outright privatization, public private partnerships, corporatization, or commercialization.⁵⁴ These common effects can be seen primarily in such areas as: labor dislocation; the lowered quality of water services and maintenances; the increased cost of water services; regulatory issues; the loss of expertise; contractual problems; and corruption.

Key Questions Identified for Further Research

In analyzing the neoliberalization of United States water services sector, it is important to answer three questions: how has water services governance in the United States been transformed by neoliberal policy? What specific effects are identified from the use of private sector participation in United States municipal water systems? What

alternative governance regimes can be utilized in the United States water sector that do not rely on neoliberal policy? Each of these three questions will be explored in the subsequent chapters of this thesis: the first will be examined in *A Changing Landscape: Governance Regimes in the United States Water Sector*; the second will be examined in *Private Sector Participation in United States municipal water systems: Comparative Case Studies of Atlanta, Georgia and Indianapolis, Indiana*; and the third will be examined in *Public-Public Partnership Governance Regimes in the United States Water Sector: A Case Study of Felton, California*.

A CHANGING LANDSCAPE: GOVERNANCE REGIMES IN THE UNITED STATES

The United States currently faces a pressing need to update and repair its aging municipal water networks. These networks, created during the twentieth century primarily through funding by the United States government, continued to be a vital component in the growth and success of the United States throughout the century. Improvement in water quality helped account for such diverse advancements and benefits as the drop in the infant mortality rate by 75% from 1900 to 1940, increased school attendance, increased labor productivity and an increased overall output of the industrial sector.⁵⁵ However, these water networks are in critical need of updating and repair.⁵⁶ In 2009, 10% to 25% of all municipal water in the United States was lost due to system leakage.⁵⁷ These growing water losses are a prime example of both the current, and historic, deficiency of investment in the infrastructure of municipal water networks--also known as community water systems (CWS).⁵⁸

Unfortunately, the situation is not currently improving. In 2002, the Environmental Protection Agency estimated that by 2020 over 45% of the nation's municipal piping infrastructure will receive a rating of "poor" or worse.⁵⁹ A 2002 Congressional Budget Office report found that aging infrastructure at municipal wastewater treatment plants accounted for over 12 trillion gallons of storm and wastewater spillage into the environment annually.⁶⁰ Maintaining current levels of funding, a coalition of the Environmental Protection Agency, the Congressional Budget

Office, and the Water Infrastructure Network projected a net funding shortfall of some \$533 billion dollars by 2020. Others put the total investment needs at upwards of between \$1 and \$2 trillion dollars.⁶¹ This deficiency in funding includes gaps of \$102 billion for capital investment for drinking water systems, \$122 billion for waste water systems, and \$161 billion and \$148 billion for operations and management costs for drinking water and waste water systems respectively.⁶²

The current funding crisis confronting community water systems is a result of the transitioning to neoliberal policy in the United States water sector in the early 1980s. Neoliberal policy de-emphasized the role of the federal government in funding community water systems, creating the space for neoliberal water governance regimes--as seen in private sector participation arrangements--within CWS. To cogently understand the effects that the neoliberalization of the United States water sector had on the composition and configuration of United States community water systems--including their ownership, operations, management, and funding sources--it is necessary to examine a number of interrelated factors. The first factor is the current composition and configuration of community water systems in the United States. The second is the shift away from governmental investment combined with the laws and regulations that have encouraged private sector participation in municipal water and waste water services. The third factor is private sector participation's (PSP) modes of operations. And the fourth factor is the rise and development of the private water services market in the municipal water sector in the United States.

Community Water Systems Composition and Configuration

In 2011, the United States had some 52,000 community water systems.⁶³ The EPA classifies these systems based on the source of ownership, as well as on the size of service population.⁶⁴ Service population is classified by the EPA into five categories: <500; 501-3,300; 3,301-10,000; 10,001-100,000; >100,000.⁶⁵ Community water systems collectively serve some 280 million persons with 80 million connections.

Table 1: Community Water Systems (Public and Private) in the United States, 2006.

Source: National Academy of Sciences, *Privatization of Water Services in the United States: An Assessment of Issues and Experience* (Washington, D.C.: National Academy Press, 2002), 13.

Population Served	No. of Systems	Percentage of Water Systems	Population Served	Percentage of Population Served	No. of Connections
<500	26,642	54	2.8 million	1	1 million
501-3,000	13,422	27	11 million	4	11 million
3,3001-10,000	4,564	9	19.6 million	7	5 million
10,001-100,000	3,928	8	84 million	30	28 million
>100,000	578	1	162 million	58	36 million
Total	49,133	99	279.4	100	81 million

As this data show, the majority of CWS are relatively small, with systems serving 10,000 or fewer persons accounting for upwards of 91% of all community water systems. These small systems only provide 11% of total service connections for CWS, and cover the use of only 5% of the population served by CWS. A very small percentage of total CWS serve the largest amount of persons. These larger systems total only 9% of total CWS, but account for an overwhelming 82% of total CWS service connections and

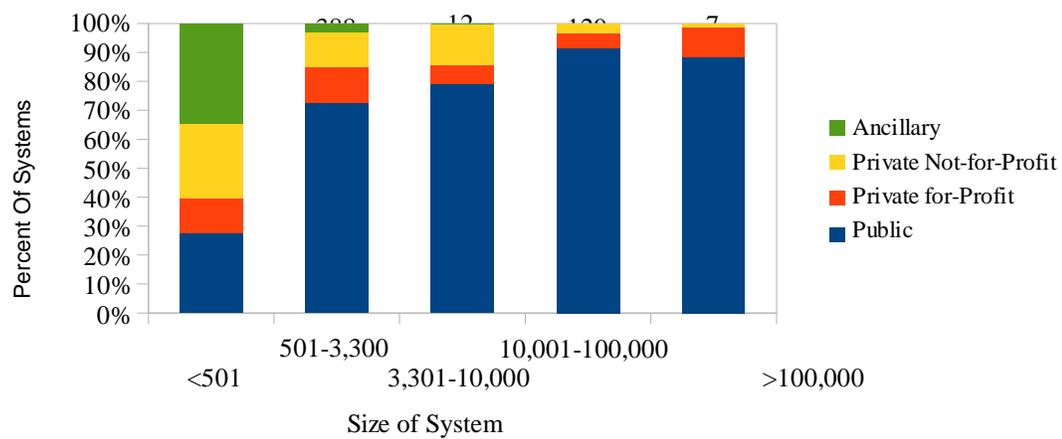
88% of persons served by CWS. The largest systems account for only 1% of total CWS, but serve 58% of the total population served by CWS.

The disparity in the percentage of CWS systems as compared to the populations served is also documented in the realm of wastewater systems. In 2002, there were over 16,000 publicly owned wastewater treatment works (POTW) in the United States that serviced 73% of the population.⁶⁶ As with community water systems, over 71% of all publicly owned wastewater treatment works supply smaller sized communities under 10,000 people.⁶⁷

The EPA classifies CWS not only by service population, but also by type of ownership. Of the total 52,000 community water systems in the United States, roughly 50% are privately owned.⁶⁸ Privately owned systems are classified into three categories: for-profit private systems; not-for-profit private systems; and ancillary systems.⁶⁹ Private for-profit systems account for 22% of total private systems, while not-for-profit private systems account for 38%. Ancillary systems account for 40% of private water systems, and are defined as systems that do not supply water as their primary business, but in which the supplying of water is integral to their business.⁷⁰ Ancillary community water systems include such entities as mobile home parks. While private for-profit systems are more commonly found in community water systems with smaller population demographics, they can be found in every size category: 60 systems over 100,000 persons; 207 systems from 10,001-100,000 persons; 299 systems from 3,301-10,000; 1,661 systems from 501-3,000 persons; and 3,179 systems under 500 persons.

Table 2: Community Water Systems by Size and Ownership

Source: Adapted from Environmental Protection Agency, 2006 *Community Water System Survey* (Office of Water, 2009), 9.



Since World War II, private investor-owned for-profit water systems have steadily provided water to some 39 million users--14%--of the population served by community water systems.⁷¹ However, since the late 1990s the number of investor-owned water systems in the United States has increased. In 1995 there were some 4,000 investor owned water utilities. By 2006, that number had grown to over 5,000.⁷² While this trend towards increased private ownership has important implications and consequences for community water systems of all sizes, it is especially important for small community water systems. The EPA has stated that small communities will be faced with the greatest increased capital investment and operating cost shortfalls. These shortfalls in funding have increased the growth in investor owned CWS serving between 501-10,000 persons quite drastically. From 2000 to 2006, private ownership of systems grew by 33.4% in the 501-3,300 persons CWS demographic category, and by 28.5% in the 3,301-10,000 persons category.

These gaps in funding for community water systems are compounded by the increased number of regulations that are placed on community water systems. The Clean Water Act, the Safe Water Drinking Act (SWDA) of 1974, and its addenda of 1986 and 1996 affected both public and private operators. The SWDA and its 1986 and 1996 addenda require community water systems to increase capital expenditure to meet more stringent water quality standards. These standards rose in response to the increase in listed regulated drinking water contaminants from 23 to 83 between 1986 and 1996. This rise has also contributed to EPA concerns about the ability of many of the nation's

small community water systems to secure the necessary capital to meet the increased cost of complying with greater regulations put forth by the SDWA.⁷³

A Shift in Funding Policy

In 1972, the United States government amended the Water Pollution Control Act of 1948. This amendment, known as the Clean Water Act, provided federal construction grants of upwards of 75% of total capital investment in Publicly Owned Wastewater Treatment Works (POTW). This amendment created massive capital investment in the POTW systems that amounted to \$5 billion in 1973, \$6 billion in 1974, and \$7 billion in 1975.⁷⁴ In 1977, Congress reauthorized this program to continue through 1982, with \$5 billion set aside each year for POTW investments. In 1981, when the program was revisited by Congress, a radical shift in the government's ideology towards neoliberalism created a climate far more wary of federal spending. Congress reduced POTW investments to 55% of total capital investment, and in addition, placed restrictions on which projects were eligible for funding.⁷⁵

By the mid-1980s, Congress and the Reagan administration were fiercely debating the appropriate role of the federal government in financing the construction grants program for POTW projects. This debate concerned the extent to which neoliberal policy would be implemented in the water services sector. This policy changed the way the federal government provided CWS projects with funding. In 1987, Congress resolved this debate when it amended the Clean Water Act, changing the role of the government

from supplying federal grants for POTW to supplying State Water Pollution Control Revolving Funds (SRF). SRF provide states with capital that they then loan to communities for the construction of POTW projects. Communities receiving these loans pay back the state with interest, putting the money back into the SRF, creating a revolving--and increasingly large--fund. The Reagan administration designed SRF to completely phase out federal funding for POTW projects.

This transition away from federal grants made state and local governments responsible for paying between 90-100% of capital investment costs. Prior to this transition in policy, communities received grants for between 55-75% of capital investment costs. By enacting these changes, Congress shifted the financial burden to the communities borrowing funds.⁷⁶ This policy shift was designed to completely phase out governmental assistance to the SRF program by the expiration of the policy in 1994. Yet, since 1994, Congress has apportioned over \$33 billion in SRF capitalization grants.⁷⁷ This continued increase in SRF since 1994, as well as the investment shortfalls that have accumulated every year since, are prime examples of this policies failure. This failure demonstrates that the shift in funding policy has not been effective in building up states capital reserves. States still require federal assistance and have been unable to build up enough capital to address all of their POTW systems' investment needs.

While the United States government historically provided funding for the construction of POTW projects, it was only in 1996 that Congress amended the 1974 Safe Water Drinking Act to provide Drinking Water State Revolving Funds (DWSRF) to

drinking water systems. Congress created this amendment in response to the mounting capital investment shortfalls that communities across the nation faced. These investment shortfalls prevented communities across the United States from improving their water treatment facilities to comply with EPA regulated contaminants. These contaminants rose from 23 to 83 from 1986 to 1996.⁷⁸ DWSRF function almost exactly like SRF, with the exception that any capital investment made by the DWSRF must be matched by the recipient communities in an amount equal to 20% of the government loan.⁷⁹ Just like SRF, DWSRF puts 90-100% of the financial burden in terms of repayment on the loan recipient. The changes in the legislation pertaining to funding for both POTW and drinking water systems have removed the financial burden--and thus the pressure--from the federal government to meet the needs of community water and wastewater infrastructures. Thus, combined federal funding for POTW and drinking water systems has dropped by over 70% since 1980, while local investment in POTW and drinking water systems has nearly doubled.⁸⁰

The Neoliberalization of Community Water Systems Governance

At the same time that the United States government deregulated and re-regulated its position as a supplier of funding for POTW and community water systems, it also enacted legislation that shifts the responsibility for meeting the investment gap from the federal government to the private sector. In 1992, President George H.W. Bush signed executive order 12803 that allowed private firms to purchase infrastructure that had been

financed with federal funding without being required to pay the federal government the full debt obligation for the public infrastructure being purchased. This was done in an effort to increase private investment in POTW systems. Proceeds generated from the sale would first go to local and state governments to repay their investments, with the remaining proceeds going to the federal government.⁸¹ This 1992 executive order was followed up by two more executive orders from President Bill Clinton in the 1990s. The first one in 1993, Executive Order 12875, mandated that all governmental agencies, including the EPA, accept waiver requests from state and local governments in regards to various infrastructure sales and partnerships in an effort to encourage private sector participation in a range of governmental functions. It also extended the 1992 executive order in the water services arena from POTW to CWS.

The second executive order signed by Clinton in 1994--Order 12893--has a specific section titled "Private Sector Participation" that states that agencies shall actively seek private sector participation for infrastructure investment and maintenance. This order also states that "agencies should work with state and local entities to minimize legal and regulatory barriers to private sector participation in the provision of infrastructure facilities and services".⁸² While the 1992 order only affected POTW systems, the 1993 and 1994 orders continued to lay the groundwork for a greater transfer to the private sector of the responsibility for investment in, and operations and maintenance of, both POTW and CWS.

In response to these executive orders, as well as to lobbying by the US Conference of Mayors, the Internal Revenue Service changed the way that the US tax code governing both POTW and CWS operated in regards to lease contracts of over five years' length for publicly funded water infrastructure. In 1996, the US Conference of Mayors and the National Association of Water Companies lobbied the IRS to change the language in the tax code regarding service contract length. In 1997, the IRS created procedure 97-13, which provides for the maintenance of tax exempt status of the bonds used to finance public water works. This change allowed private operation and maintenance contracts of up to, and in some cases exceeding, twenty years in length without the loss of their tax exempt status.⁸³

Prior to the 1997 tax reform, private entities entering into a contract to operate a public water utility funded by the revenue raised through selling tax exempt bonds would lose the tax exempt benefit, a benefit that could amount to two or three percentage points in interest. Before 1997, the only provision for tax exempt status for such bonds was one that permitted both operations and maintenance contracts of up to five years in length to be eligible for tax exemption. A stipulation of the tax exemption required that these contracts included a termination clause at the three year mark, which allowed the contract to be canceled. This 1997 procedure stipulated that while contractors are prohibited from partaking in net profits from operating the water system, they are entitled to share either in what is defined as "revenue enhancement" or "cost savings" from the operation of the water system, but not in both cost savings and revenue enhancement.⁸⁴ Prior to the 1997

tax reform, it was not as profitable for water companies to engage in operations and management contracts due to this five-year term limit. With the re-regulation of the tax reform, it became much more lucrative for companies to engage in longer term contracts. Thus, between 1997 and 2000, and after the tax re-regulation, over seventy large city centers signed long term operation and maintenance contracts with companies.⁸⁵

This legislative trend towards re-regulating and deregulating the government's role in water services investment, maintenance, and provision, continued under President George W. Bush with the passage of the Water Investment Act of 2002. This act makes private investor-owned water utilities eligible for governmental assistance from the SRF and DWSRF provided a state includes their need in a public drinking water needs survey.⁸⁶

These changes in the law enabled private companies to operate water infrastructure for extended periods of time, while keeping the debt obligation for the bonds in the public's hands. They also acted to keep the interest rates on the bonds lower, treating them as local government tax-exempt issues. After these reforms, private corporations were able to limit a potentially large operational cost while extending the length of the contract to a period in which they could reasonably risk an initial operating loss in order to realize a long term gain. These changes have created a space in the municipal water services arena for private sector participation through a variety of financial enticements and enhancements.

These policy reforms in United States water governance have created a need for community investment. These reforms have increased regulations on drinking water and effluent standards, while, at the same time, removing the federal funding that would traditionally have been provided for improvements to meet such regulations. Further, they have re-regulated the ability of the private sector to participate in the investment, ownership, and/or operations and maintenance of water systems. In doing this, the federal government has created a capability for the private capital market to enter the municipal water sector to 'partner' with municipalities to provide the necessary funding.

The process of neoliberalization is, as Noel Castree states, fundamentally a state-run project.⁸⁷ Castree identifies certain aspects of neoliberalization that are state led processes, several aspects of which can be readily seen in the neoliberalization of the United States water sector. The first is the state roll back and deregulation mechanisms over funding, as seen in the 1986 and 1996 amendments to the Clean Water Act and Safe Water Drinking Act. The second is market friendly re-regulation, as exemplified in the executive orders of George H.W. Bush and Bill Clinton. The third is the 1997 tax reform, which was achieved through the activities of a powerful water lobby. The fourth is the utilization of market proxies in the residual state sector that can be seen in private ownership and in operations and management contracts resulting from the re-regulation and deregulation of governmental policies. Taken as a whole, these state lead processes have created the space for private sector participation in municipal water systems.

Private Sector Participation Modes of Operation

Private sector participation can be broken down into four different categories of involvement: outsourcing; operations and management variations; design-build-operate variations; and divestiture.⁸⁸ These categories can be understood on a spectrum of light to heavy PSP.⁸⁹ The difference between light and heavy PSP is the extent to that capital investment, as well as the responsibility for bearing commercial risk, are shifted from the public to the private sector.⁹⁰ To identify modes of PSP, it is necessary to label the different arrangement styles. The first three types of private sector involvement are forms of PSP that are known in the water services arena as public-private partnerships or PPP. The fourth type of private sector involvement is asset ownership. However this is not considered a public-private partnership.

Table 3: Forms of Private Sector Participation (PSP) in the water and wastewater services sector

Source: Adapted from Jennifer Davis, "Private-Sector Participation in the Water and Sanitation Sector," *Annual Review of Environment and Resources* 30 (2005): 149.

Scale	Type of PSP Arrangement	Asset Ownership	Responsibility for Capital Investment	Commercial Risks
Light	Service or Management contract	Public	Public	Public
Light or Heavy	Lease Contract	Public	Public	Public and Private
Heavy	Concession Contract	Public	Private	Private
Light or Heavy	Build-Operate-Transfer and variations	Public or Private	Public or Private	Public or Private
Heavy	Divestiture	Private	Private	Private

The first type of private sector participation includes "outsourcing." These arrangements contract out to the private sector, for specific tasks or services that would normally be provided by the public agency operating the water system. This includes the contracting out of services such as meter reading, billing and collection, training, routine maintenance, and water quality testing. These contracts are negotiated as fee-for-service contracts, in which the public agency pays a flat rate fee for the service being provided by the private company. This style of private sector participation confers no investment responsibility, or risk in terms of revenues, on the private company. This style of private sector participation is widely used in United States community water systems, and on the scale of "light to heavy," can be considered a light style of private sector participation.⁹¹

The second types of PSP are operations and management variations. These are contract-based arrangements in which some, or all, of the operations, management, and maintenance of a system is assumed by a private sector company. In understanding

operations and management or O&M contract variations, it is critical to understand the different types--each holding successive degrees of involvement on the light to heavy scale--on behalf of the private sector. The first type of O&M is a contract-based agreement, often lasting between five and seven years, that transfers most or all of the agency's operations and management to a private company, as well as transitioning the operational decision making from the public agency to a private company.⁹² Payment for this service may be contracted for on a fee-for-service basis, and is usually tied into specified standards of performance that the private company must meet. These standards provide incentives to improve efficiency and lower operations costs for the private agency. This variation is considered “lighter” because the ownership of all assets--as well as the responsibility for capital investment and commercial risk--remain with the public agency rather than with the private company.

The second type of O&M variation is the “lease-contract.”⁹³ Lease-contracts fully transfer the responsibility for operations and maintenance of a specific set of water systems infrastructure, for example, a water distribution network or a waste water treatment plant, to a private company. While lease-contracts can exist for a specific asset of water infrastructure, both lease and concession contracts typically include most, if not all, of a water system's or a sanitation system's components. Lease-contracts typically stipulate length of transfers of between 10 and 15 years. These arrangements are considered “heavier” forms of PSP because the private company is responsible for at least part of the revenue risk associated with operating the system on a day to day basis.

While O&M lease-contracts stipulate that the private company must bear responsibility for at least a portion of the revenue risk for day to day operations, the public is still responsible for major capital investments, such as the extension or rehabilitation of a system.

The third style of O&M is a “concession” or “full-service” contract.⁹⁴

Concession contracts typically vary in length from between 20 and 30 years and are a style of lease-contract in which the local government transfers the O&M, the commercial risk, and the responsibility for all capital investments in the system over the life of the contract. The public still owns the actual asset, but the private company is responsible for the entire operation, management, maintenance, and capital investment in the system. The asset is then transferred back to the public, or to another contractor, at the end of the concession-contract. In this type of private sector leasing, all of the risks and benefits from running a water system accrue to the concession holder. This is considered a “heavier” form of PSP because all of the risk of day to day operations and investment is in the hands of the private company, while only the ownership of the asset is retained by the public. This allows the system to hold its municipal tax advantages. Both lease and concession contracts are much longer than other forms of operations and maintenance contracts because the private company must have the opportunity to recover its initial investment over the lifetime of the contract.

The third type of PSP is design-build-operate variations.⁹⁵ These variations include design-build (DB), design-build-operate (DBO), design-build-own-operate (DBOO), design-build-own-operate-transfer (DBOOT), design-build-finance-operate

(DBFO), build-operate-transfer (BOT), and other combinations thereof.⁹⁶ DBO arrangements are broken down into two categories. The first category includes contracts in which the local government contracts with a private company to design, build, and operate a facility. However, the local government finances the infrastructure with tax exempt municipal bonds. The second category of DBO arrangement is one in which the private company finances the capital investment cost of the infrastructure and owns and operates the infrastructure, possibly transferring the ownership of the facility back to the public at a designated time, or continuing to own the asset and operate it for a fee. DBO contracts that are financed through private investment contain a much greater risk for the private entity than DBO contracts that are financed through tax exempt municipal bonds. DBO contracts differ substantially from lease and concession contracts because DBO contracts often focus only on a specific piece of infrastructure, such as a water or wastewater treatment facility. However, there can also be combinations of DBO and lease/concession contracts where there is a DBO component attached to a lease or concession contract.

The fourth type of PSP, which is often considered the heaviest form of PSP, is asset divestiture, in which a public municipality divests its entire water asset to a private company.⁹⁷ In asset divestiture, all aspects and components of a community water and wastewater system are sold to a private organization. The private company is responsible for complying with all federal and state regulations for water quality, as well as all capital investment costs for the water system. The private firm also sets the rates for services it provides. Divestiture is usually characterized by a large up-front fee to the local

government in charge of a public water system. The private firm often recoups this initial lump-sum purchase amount through subsequent rate increases.⁹⁸ Asset divestiture has historically been the most uncommon form of PSP in the United States. However, from 1997 to 2006 it steadily increased, rising from a national total of 4,000 to 5,000 privately owned CWS. During this time period, the rise in these privately owned systems was most common among small to medium sized CWS.⁹⁹

The Rise of Private Sector Participation

The 1990s experienced significant growth in private sector involvement in the United States water services sector.¹⁰⁰ This growth was mostly due to the consolidation of a wide variety of smaller, investor owned water utilities and private companies supplying contract operations and maintenance services.¹⁰¹ This consolidation in the private sector grew throughout the 1990s as the private sector identified water services ownership, operations, and maintenance as potentially lucrative services sectors. However, prior to the 1997 tax reform, these investment opportunities were not able to be fully utilized due to the limitations on contract length. Once these reforms were in place, foreign multinational companies acquired the largest United States water companies in the late 1990s and early 2000s. In 1999, Vivendi Universal, now Veolia, purchased U.S Filter for \$6.2 billion. US Filter primarily operates in the western United States. Suez Lyonnaise des Eaux, now Suez Environment, purchased United Water for \$1 billion in 1999. United primarily operates in the northeastern United States. And in 2001 RWE,

which then owned Thames Water, purchased American Water Works for \$4.6 billion.

American Water Works operates across the United States.¹⁰²

Prior to 1997, only about half of the states in the US had any private operations and maintenance contracts, with some 60% of these contracts being held either in Texas or in Puerto Rico.¹⁰³ Yet, between 1997 and 2000, over seventy large cities entered into long term operations and maintenance contracts for their city's local water supply or wastewater treatment systems.¹⁰⁴ The 1997 tax reform resulted in the increased use of long term lease and concession contracts for large city centers, medium, and small sized communities. However, prior to the 1997 tax reform small communities, those classified as under 3,301 persons, often held contracts with local firms. The use of short term renewable contracts protected these firms from competition by larger companies. These shorter contracts, helped to create long term involvement between the local company and the community.¹⁰⁵

Once the large multinational companies started to become involved in the water services sector, these smaller and medium sized local providers faced mounting competition. As the 2002 National Academy of Sciences report on water privatization in the United States elucidates, larger contractors may be able to offer such significant improvements that the community is persuaded to open the contract process up to greater competition.¹⁰⁶ These local companies are not only experiencing greater competition in the realm of operations and maintenance contracts but also in terms of asset ownership. This rise in asset ownership in small CWS--those classed under 3,301--is identified in the

2006 EPA community water systems survey. This survey collected CWS data between 2000 and 2006, and shows that asset divestiture increased by 33.4% in small systems during that time. Asset divestiture also increased by 28.5% in medium sized CWS--those classified as serving between 3,301-10,000 persons.

Identifying the Current PSP Landscape

Since the late 1990s, five large companies have dominated the United States water services market: American Water Works Company, Veolia Water North America, Suez Environments United Water, CH2M Hill OMI, and Severn Trent Services.¹⁰⁷ These companies can be divided into two categories: those supplying contract operations, and those providing divestiture services. In terms of asset divestiture, the three largest companies in the US market are American Water Works Company, Aqua America, and Suez Environments United Water. In terms of the contract services market, the dominant players in the US water services market, as of 2013, are: American Water Works Company; Veolia Water North America; Suez Environment's United Water; CH2M Hill OMI; and Severn Trent Services.¹⁰⁸ These companies, often known in the industry as the “big five,” collectively generated revenues of \$1.67 billion dollars from the contract services market in 2011, up from 1.57 billion in 2010.¹⁰⁹ While these companies have dominated the market since the late 1990s, they have also been transformed, and by extension, have transformed the water services market, over the past decade.

The transnational German energy conglomerate RWE purchased American Water Works Company in 2001. The German energy giant identified the US water market as “the world's most attractive water market” and stated the need to enter the US market to force competition with its largest European rivals. At the time, these rivals were Vivendi Universal and Suez Lyonnaise des Eaux, the two largest water services companies in the world.¹¹⁰ Both Suez and Vivendi had acquired United States companies United Water and US Filter, respectively, in 1999. At that time, American Water was one of the top companies in the US water market, primarily engaged in the market through acquiring and managing small and medium sized community water divestitures. However, they too were beginning to enter the long term operations and maintenance contract market.¹¹¹

After RWE purchased American Water in 2001, American had a tumultuous history, and ended up being a prime example of the problems that face large publicly traded water companies.¹¹² American Water, like many other US water companies in the late 1990s and early 2000s, was purchased hastily for much more money than the company was worth. In 2001, when RWE purchased American Water, it paid \$4.6 billion dollars, an amount that was then estimated at a 37% premium over the actual value of the company, and assumed over \$3 billion of American's debt.¹¹³

This period from 1997 to the early 2000s was a 'blue gold rush' for large European multinational water companies trying to get into a market that was purported to have an extremely lucrative potential. Yet, after RWE purchased American in 2001, it faced a slew of problems, including mounting public outcry and resistance over increased

rate hikes in a host of communities that had divested water assets managed by American Water and its subsidiaries.¹¹⁴ Over the course of the next few years, RWE and American Water continued to face declining revenues--in 2002 RWE stock prices dropped by 40%-and public opposition. This opposition included costly public relations battles in several key areas where RWE or one of its subsidiaries held long term operations and maintenance contracts. The problems that arose from RWE's entrance into the long term operations and management contract market are exemplified in the contract failure of Stockton California's water and sewer system by the then RWE subsidiary Thames Water.¹¹⁵

Ultimately, RWE's entrance into the US water market failed, and in 2006 RWE announced plans to divest its full interest in American Water. In 2009, RWE fully divested its interest in American.¹¹⁶ Since 2009, American has reorganized its business strategy in regards to the US water services contracts market. American water had an explosive year of growth in 2009, where contract revenues jumped from \$156.1 million to \$225.3 million. American's contracts market revenues continued to grow, although only slightly, in 2010 to \$225.3 million dollars, and by 2.3% to \$230.5 million in 2011.¹¹⁷ Since RWE's divestiture of the company in 2009, American Water has rebounded from its initial failed market debut under RWE. Currently, it is the largest owner of divested public water and sewer systems in the United States, serving over 16.4 million persons in 2012. American Water has continued their long standing strategy of purchasing smaller and medium sized asset divestitures of water systems, aiming for

20-30 new acquisitions per year. American has also continued to increase their pursuit of long term concession and lease contracts for larger city centers in the US. American's entrance into the long-term contract market is evidenced by an aggressive, yet failed, bid for a 30 year O&M concession in Rialto, California in 2012. American has also started pursuing extremely long--50 year--O&M concession contracts with the United States government for military facilities. By 2013, American had secured nine long term--upwards of 50 years--concession contracts with the Department of Defense, and had another five pending.¹¹⁸

While American Water continues to grow steadily and to acquire more contracts and more divested assets, they also face continued resistance from organized communities. Community resistance played a large part in American's failure to secure the Rialto concession in 2012. The history of American Water is a prime example of the failed development of the long term contract market in the early and mid-2000s. Like many of the other "big five" companies, American failed to anticipate the negative community response to foreign multinationals participating in the ownership, operations, and maintenance of community water systems.

In 1999, Vivendi Universal--a French multinational corporation--purchased US Filter for \$6.2 billion. At the time, Vivendi Universal's water services subsidiary, Vivendi Environment, was the second largest water services company in the world. Vivendi needed to enter the United States water services market in order to continue to compete with its global water services rivals. The acquisition of US Filter by Vivendi allowed them to enter the United States water services market. At the time of purchase, US Filter

had just finished a vast consolidation of the water services market that had begun in the early 1990s. US Filter completed over 250 acquisitions and raised sales from \$17 million in the early 1990s, to over \$5 billion in 1999.¹¹⁹ Yet, only three years after acquiring US Filter, in 2002, Vivendi Environments parent company, Vivendi Universal, announced a 12.3 billion euro net loss from its slew of acquisitions made in the late 1990s. This loss forced Vivendi Universal to sell off its controlling stake in Vivendi Environment. Vivendi Environment compounded these losses by posting a \$2.3 billion loss for the first half of 2002. With Vivendi Universal divesting itself, and thus its debt load, from Vivendi Environment, Vivendi Environment spun itself off as Veolia Water North America. Meanwhile, US Filter was broken up and sold piecemeal, with the controlling stake going to German energy giant Siemens in 2004.¹²⁰

From the once prominent US Filter and Vivendi Environment, Veolia Water North America emerged. Yet, even with all of these fiscal problems, Veolia Water was operating contracts with 42 wastewater facilities and 26 water facilities, with some \$380 million in revenues in 2003.¹²¹ However, Veolia Water North America has had a mixed history in the United States. Veolia has had a plethora of high profile failures in both small towns and cities. In 2004, the city of New Orleans ended its contract consideration for its combined water/wastewater management lease with Veolia. However, this was not until after Veolia had cost the city \$5 million in contract review and legal fees. After nearly a decade of problems, Indianapolis ended its long term O&M contract with Veolia Water in 2010, a contract that was once the nation's largest at \$1.5 billion dollars.¹²²

While acknowledging these high profile failures, Veolia CEO Auguste Laurente stated that there was still a future for Veolia in the long term, large city center, O&M contract sector.¹²³ While Veolia is the largest contract operator in the United States, with revenues exceeding \$676 million for contract operations in 2011, it has lost a net total of 15 government clients from 2003-2012. This amounts to 9% of its total contracts.¹²⁴ While Veolia's business model has remained much the same, pursuing large city center O&M contracts, it has transitioned to a new model of generating revenues from O&M contracts. This model is "performance based", allowing Veolia to share in the savings from monetary performance targets.¹²⁵ Veolia has also branched into serving smaller sized community water systems with O&M contracts.¹²⁶ They have also stopped offering upfront discounts on their contracts to their clientele, a change that mitigates the financial impacts for Veolia in regards to early contract termination.¹²⁷

Veolia Water North America continues to grow, rebounding from the water market's sluggish growth rate during the US housing market collapse of 2008-2009. In 2013, they held over 40% of the contracts in the United States O&M market.¹²⁸ However, Veolia is still facing increased concerns from local governments over their cost efficiency claims. In 2012 alone, Veolia lost six local government clients, who chose to take back their water and wastewater systems.¹²⁹ Despite Veolia's many prominent failures and unsustainable business practices, they continue to grow, securing a 30 year highly publicized concession in Rialto, CA in 2013.

In 2000, the French multinational corporation Suez Lyonnaise des Eaux purchased the United States water company United Water for \$1 billion dollars. For over 15 years prior to this acquisition, Suez's predecessors had helped United Water consolidate the United States water services market.¹³⁰ When its main global rival Veolia--then Vivendi Universal--purchased US Filter in 2000 and entered the United States water market, Suez purchased the residual stake in United Water. This purchase increased its holdings in the company to full ownership from a non-controlling--but heavily invested--stake in the mid-1990s.¹³¹

In 1999, United Water was granted what was then seen as the 'flagship' long term O&M contract with Atlanta, Georgia. At the time, this contract laid the groundwork for how large city center long term O&M contracts would work in the US. The twenty-year O&M contract was worth some \$428 million dollars when United signed the contract in 1999. Yet, it was ended by the city only four years into the contract due to contract failures including maintenance issues, high user costs, and corruption.¹³² United Water never fully recovered from this failed contract, and over the next decade went on to continue to lose high profile contracts, such as those in Milwaukee in 2007, Gloucester, Massachusetts in 2009, and Gary, Indiana in 2010.¹³³

The result of these high profile cases created United Water's market stagnation throughout much of the mid to late 2000s. During this time United acquired no new contracts in 2008 and lost a total of 6 local government contracts in 2009. By 2012, United Water served a total of 1.8 million fewer people than it did when Suez purchased

the company in 2000.¹³⁴ In response to this loss, United Water embarked on a campaign to change its market strategy to secure more contracts. United's strategy was to remove competition by eliminating its competitors. They purchased Aquarion Operating Services, and Earth Tech North American in 2007 and 2008 respectively.¹³⁵ Even with this record of high profile failures, as well as a stagnated market presence in the late 2000s, United Water has continued to be a major market presence. In 2010, United rebounded from two years of negative growth and secured a number of large high profile contracts, including a \$60 million dollar DBO contract in East Providence, R.I., and a \$40 million O&M contract in Pontiac Michigan.¹³⁶ United's growth continued into 2011, when its contract operation revenues increased by 17% to \$358 million dollars. United reclaimed its position as the second largest contract operator in the United States through this increase in 2011.¹³⁷

Although still saddled with the stigma of high profile failures in large O&M contracts, United Water has only shifted its market strategy slightly. While United has sold off a portion of its owned and operated divested community water systems, it still makes over 65% of its operating revenue from systems it owns and operates. The remaining 35% come from its service contracts.¹³⁸ It appears that United Water's main strategy is to increase O&M contracts, DBO procurements, and asset divestitures in financially imperiled city centers, medium, and small sized community water systems.¹³⁹ While United Water's slew of failed high profile contracts has changed the landscape of long term contract services--especially in the mid and late 2000s--it

continues to secure contracts. Yet, United Water continues to operate along a very similar business model to the one it had in the early 2000s. Ultimately, while United Water still utilizes its original business model, it has been forced to reevaluate its place and role in the United States water services industry, and still carries a large stigma over its many failed and non-renewed contracts.

CH2M Hill is a United States-based multinational company that provides a host of services to both corporations and governments around the globe. In 1980, CH2M HILL OMI--a subsidiary of CH2M HILL--was founded as a water and wastewater operations and maintenance firm. At its inception, the company primarily engaged in what is defined as simple outsourcing of various aspects of water and waste water services. These services include meter reading, laboratory testing, billing and collection.¹⁴⁰ In 1990, after 10 years in the market, the company expanded its services to include full public works management, as well as industrial utility waste services and management. In 2005, CH2M HILL OMI once again increased its service provision to encompass all aspects of a city or community's water and wastewater needs. These services spanned the gamut of full service operations, management, maintenance, and DBO arrangements.¹⁴¹ After expanding its business model and the services that it offers, CH2M HILL OMI, hereafter referred to as OMI, had a record year of generating new water and wastewater service contracts in 2005.¹⁴² OMI continued to grow in 2007, increasing their contract operations by 1% to \$235 million. However, like many of the other "big five", their contract operations revenues shrank 16% to \$198 million

in 2008. This contraction was due to the United States housing market collapse of 2008. This collapse similarly effected many of the 'big five' water companies.¹⁴³ This contraction continued into 2009, where their contract revenues fell to \$182 million, an additional 8% lower than previous year.¹⁴⁴

Like many of the “big five” in the United States, OMI has continued to grow. Following the US housing market crash, OMI continued to increase its contract operations business, growing to \$201.5 million in 2010, and \$233 million in 2011--a 16% increase.¹⁴⁵ While OMI operates contracts in both the municipal and industrial water services sector, its growth from 2009 onwards has been almost entirely in municipal contract services.¹⁴⁶ Since 2010, it has increasingly become a large player in the market, doubling its O&M contracts in both 2010 and 2011.¹⁴⁷ Currently, OMI is a top competitor of companies such as Veolia and United, and in recent years, wrestled contracts away from the former. OMI's growth has been due to the wide range of services that it is able to provide. These services include facilities management--including janitorial services and HVAC--, consulting services, as well as more in depth contract agreements for large DBO procurements and O&M services.

Similar to the other 'big five' water companies, OMI's management of community water systems have not been without problems. They have been indicted for corporate bribery, and have suffered from a host of failed contracts.¹⁴⁸ Looking into the future, it seems that OMI will continue to grow in the DBO sector, and will increasingly become a top competitor for Veolia and United, the current the two largest companies in

the market. One lesson to be learned from the OMI business model--which many of the "big five" are now catching onto--is that the industry's standard approach of outsourcing operations has declined over the past decade, and may not be a viable approach in the future. As the director of business development for OMI stated, "If you looked at the world of potential customers, maybe 15 percent of customers will go into some kind of an outsourcing arrangement. That leaves you with 85 percent of the entire market that has no desire to outsource, but has great needs in how to be more efficient and they're willing to spend a little bit of money because the return on investment is so great."¹⁴⁹ This acknowledges that the standard lease/concession outsourcing model that was touted during the late 1990s and early 2000s has not materialized, due to the many prominent failures that occurred during those years. City centers are now wary of handing over full service operations contracts. However, they are still faced with mounting budgetary shortfalls, and are still looking for ways that the private sector can participate in alleviating these problems.

Severn Trent Services is a UK based water company that operates water and wastewater services contracts primarily in the UK, but which also has a US market presence. Severn Trent has been operating in the US since the late 1980s, and currently operates over 400 water and wastewater facilities in 20 states serving nearly 4 million customers.¹⁵⁰ Unlike several of the other "big five", Severn Trent Services had a stable market presence since the late 1990s. Although Severn Trent market revenues have fluctuated somewhat during this time frame, they have stayed relatively steady between

\$141 million and \$164 million.¹⁵¹ Unlike many of the other “big five,” Severn Trent Services has focused its business on O&M contracts in small to medium sized community water systems.¹⁵² This strategy has been very successful for Severn Trent. It protected them from competition in their specific services sector for the majority of the last decade. However, since 2010, they have faced increased pressure from other “big five” corporations trying to gain access to their specific services sector. Both United Water and Veolia entered the market for small to medium sized operations and management contracts, and collectively claimed three municipal contracts Severn Trent in 2011.¹⁵³ In order to maintain their market share, Severn Trent has embarked on a campaign that VP of operating services Dana Kaas labels “grass roots”.¹⁵⁴ This “grass roots” campaign is designed to convince small and medium sized communities that public-private partnership are beneficial to their communities. After working with communities, Severn Trent then offers to supply a bid, if the local government opens up a request for proposal and contract processes review. Examining Severn Trent Services in the United States, it is worth noting that in 2010, Severn was sold to HIG Capital, a private equity firm. This sale continues a trend of the entrance of private equity firms into the United States water services market, a trend that has been increasing since 2007.

Conclusion

With government funding drastically reduced, communities across the United States are facing a situation where they often have no other choice than to open

themselves up to PSP. Without implementing PSP, many communities are finding it difficult to fund necessary investments in their water and wastewater systems. While communities of all sizes face pressure to enter into PSP arrangements. Communities with the least amount of capital, the small to medium sized communities, face the greatest pressure from companies looking to privatize their water systems. These companies, including American Water Works Company, Aqua America, and United Water, endeavor to purchase divested assets from communities, and to run them as for-profit water utilities. While these companies are primarily focused on acquiring assets, other companies in the water services sector are more interested in acquiring service contracts. Companies including Severn Trent Services, OMI, Veolia, and United Water, endeavor to provide operations and maintenance services to communities that range from large to small. Thus, while smaller and medium sized communities face the greatest risk in terms of outright divestiture, large city centers, medium, and small sized communities also face mounting pressure from the “big five” to enter into PSP agreements. However, the results from these PSP arrangements are often questionable both in terms of their overall cost savings and contractual efficiency.

Certainly, without a host of legislative reforms throughout the 1980s and 1990s, the PSP water services market in the United States would be unable to exist. Community water systems can now be managed by foreign multinational companies, in which contracts may not be held by the same company over the life of a long term arrangement. This potential lack of accountability raises several concerns for communities in terms of understanding who actually owns or operates their community water and wastewater

systems. Ownership and management by multinational companies also raises questions as to whether these companies have the best interest of the community in mind. These concerns have been revealed through community experience with PSP arrangements throughout the first decade of the 21st century. During this time period the long term lease and concession contract model dominated the US water market. Yet, a plethora of high profile failures resulted in a host of non-renewed or canceled contracts during this time. These failures have led to several indictments and convictions for bribery and fraud. Due to these failures, the US public has become wary of signing sweeping agreements for operations and maintenance with foreign multinational companies. This is because these companies are viewed as driven by short term profits rather than by long term investment gains. Public resistance is acknowledged by the US water industry, and has caused a great deal of change in how many of these multinational companies are approaching community water systems.

More recently, in 2011-2013, the United States water services industry continued to grow at a rapid pace due to the mounting financial pressures that city centers continue to face. These pressures, coupled with the continuing lack of funding and the governmental push towards continuing PSP, led to the continuing growth of the private services market. While the United States water services industry changed its business approach in terms of how it is engaging with community needs--branching into smaller communities, and engaging more in DBO ect.--concerns still exist in communities where private sector participation is occurring.

To evaluate the effects that private sector participation arrangements have on communities throughout the United States, it is necessary to examine specific cases of private sector participation. These specific cases identify the broader community concerns with PSP. Once these individual cases have been analyzed, a cogent understanding of the most pertinent problems with the process of private sector participation can be identified. This analysis allows for the identification and examination of alternative methods to PSP, that do not rely on neoliberal policy and the effects that it creates.

PRIVATE SECTOR PARTICIPATION IN UNITED STATES MUNICIPAL WATER
SYSTEMS: COMPARATIVE CASE STUDIES OF ATLANTA, GEORGIA AND
INDIANAPOLIS, INDIANA

The neoliberalization of water services that occurred around the world throughout the 1980s and 1990s transformed regional water services governance landscapes in the United States. Neoliberal policy shifts have forced water utilities that were previously publicly funded and managed to secure both investment and services from the private sector. One example of this shift is the EPA advising communities that do not receive sufficient federal grants to partner with the private sector to generate required investment capital. The de-emphasized role of the federal government in the water services sector has created space for the private sector. Neoliberalization is a unique political-economic process that has affected communities in different ways. However, the research on neoliberalization globally shows that common effects arise from the neoliberalization of water services.

Currently, research on the neoliberalization of United States water services is lacking. Examining two cases of neoliberalization allows us to discern whether the effects of global water services neoliberalization are experienced in the United States. These cases provide insights into both mitigating the negative effects of neoliberalization, and charting a way forward that minimizes its negative and maximizes its positive effects. The literature review examines four global cases of water services neoliberalization.

These cases identify the common effects of neoliberalization: contract issues; labor dislocation; maintenance issues; water quality issues; service quality issues; pricing issues; the loss of expertise; regulatory issues; and corruption issues. Some of these specific categories are not well represented in each case. However, utilizing the categories that the contemporary research identifies, we can more effectively evaluate the results of each case.

Private Sector Participation in Atlanta, Georgia: A Failed Contract, Labor Dislocation, and Corruption

On January 1, 1999, the city of Atlanta, Georgia, signed a twenty year full service operations, management, and maintenance (O&M) contract with United Water Services, the United States subsidiary of the multinational corporation Suez. At the time, the contract was the largest full-service O&M contract ever signed in the United States. The CEO of Suez commented on the contract that “Atlanta for us will be a reference to the world...A kind of showcase”.¹⁵⁵ The contract stipulated that the city of Atlanta pay United Water Services \$21.4 million per contract-year, amounting to \$428 million dollars over the life of the contract.¹⁵⁶ The services fee that the city paid to United Water covered the operations, management, and maintenance of: two water treatment plants; twelve water system storage tanks; seven pumping stations; 25,000 fire hydrants; and 2,400 miles of water distribution mains. Additionally, United Water was given responsibility for managing billing, collections, and customer service. In total, United

served 1.5 million residents over a 650 square-mile area.¹⁵⁷ This agreement appeared to be a boon for the city, as its operating costs in the years leading up to this PSP arrangement were upwards of \$50 million per year. Thus, paying United Water \$21.4 million per year for full service operations and management would have potentially saved the city of Atlanta over \$400 million over the length of the contract.¹⁵⁸ However, the city of Atlanta canceled the contract after only four years.

Contractual issues

Prior to United Water services being awarded the Atlanta concession, Mayor Bill Campbell had championed the idea of entering into a PSP agreement, even as much of the city publicly opposed it.¹⁵⁹ Once the mayor's office decided to pursue a PSP agreement, the city began the request for proposal (RFP) process. Entering into a PSP arrangement is often started with a RFP proposal period. The initial RFP stage is often quite costly to the community entering into the PSP arrangement. It requires lawyers and consultants to create and assess the strength of the contract and the community water system. In the case of Atlanta, the RFP stage cost the city some \$2 million.¹⁶⁰ After the city created the contract and sent out the RFP, they began evaluating bids from companies. United bid against four other companies, including US Filter and OMI Thames Water. The bidding occurred in four different stages. In the first stage each company supplied an initial bid for the cost of a 10 year contract. The second stage was the final offer stage on the preliminary 10 year contract. A third stage followed where companies submitted a preliminary bid on a 20 year contract. During the fourth stage

companies submitted their final bid on a 20 year contract. The points assigned to each bid were tallied, and the city chose the company that scored the highest to carry out the contract.

Table 4: Atlanta Water Concession Contract Evaluation

Source: "Atlanta Chooses United Water," accessed March 22, 2014,

<http://www.waterindustry.org/UWR-atlanta1.htm>

	Annual Cost for 10-yr Contract	Annual Cost for 10-yr Contract Final Offer	Annual Cost for 20-yr Contract First Round	Technical Score (out of 70)	Final Scores 10 & 20 yr proposals
OMI/ Thames Water	\$26.8 Million	\$25.9 Million	\$27.6 Million	62.8	.087 and .093
US Filter	\$24 Million	\$22.7 Million	\$25.8 Million	54.1	.093 and .104
Companie Generale des Eaux	\$25.3 Million	\$23.2 Million	\$29.8 Million	60.4	.093 and .111
United Water/ Suez	\$23.3 Million	\$21.4 Million	\$27 Million	59.6	.109 and .130

The final bid submitted by United Water scored lower than two of the other companies that submitted bids. The technical score column of the chart above reveals that after the contract bids were submitted, but before the city had issued its final score, United Water lowered its "final" offer by an additional 21%, to \$21.4 million dollars. This offer was 45% lower than the city's original operating budget, and substantially lower than the other bidders.¹⁶¹ Underbidding was one of the key reasons for the resulting problems that Atlanta faced in the PSP agreement. United Water underbid to such an extent that it incurred \$44 million worth of debt prior to the cancellation of the contract in 2003.¹⁶² This substantial loss by United Water prompted the company to

attempt to renegotiate its contract with the city in 2002. United requested an additional \$80 million dollars from the city. It stated that \$10 million of this was for work that United had done outside of the boundaries of the contract. The rest was for an increase in contract compensation of \$4 million dollars per year, for the next seventeen years of the contract. When the city refused to allow United to renegotiate its contract, United billed the city for \$80 million.¹⁶³ This issue will be dealt with further below under the category of corruption concerns.

Both the creation of the contract and the process of bid evaluation turned out to be problematic issues in the Atlanta concession. The mayor's office acknowledged that both the city and the private companies did not spend enough time evaluating the condition of the city's water infrastructure network prior to creating the contract. However, every one of the bidders knew about both the lack and quality of data that the city supplied prior to the bidding process.¹⁶⁴ The city and their consultants evaluated the bids on a point system. They awarded points to categories on a declining scale of importance, which were: annual costs; technical and management quality; minority participation; employee relations; and experience.¹⁶⁵ The most important criterion to the city was how inexpensively the water system could be operated, managed, and maintained. This consideration in evaluating bids by the city led the companies vying for the contract to underbid its actual cost. Cost efficiency is a principle of neoliberal policy. The government's evaluation of the contract bids and the companies desire to secure the contract while operating at the least possible expense are both prime examples of the

political-economic interplay of neoliberal policy manifested in the contract process of PSP arrangements. This problem of underbidding is prevalent in PSP arrangements and is acknowledged by private companies as a tactic of operation in the water industry.¹⁶⁶

Throughout United Water's short tenure it was regularly accused of submitting bills for work that it had not performed.¹⁶⁷ Under the contract, United Water was responsible for routine maintenance, but not for capital investment. When Atlanta became suspicious that United wasn't performing required maintenance, they questioned United's billing records. United Water refused to release its billings records to the city. This forced Atlanta to spend \$1 million to hire private inspectors to verify United's billings and maintenance reports.¹⁶⁸ The inspectors that the city hired found that United Water had routinely billed maintenance costs as capital investment costs. At the termination of the contract in 2004, United Water agreed to pay the city of Atlanta \$6 million to settle all legal claims that the city had raised against them.¹⁶⁹

There are several key issues in the Atlanta contract that are interrelated. While citizens were mostly against a PSP arrangement, the elected political leaders chose to pursue the arrangement regardless of the public's lack of support. This dissent led the city to quickly push through the arrangement. In doing so, city leaders spent very little time doing the necessary research needed to evaluate the state of their current water system. The city also spent less than six months creating the contract and evaluating bids. The RFP was completed and published in March 1998, and by August first United Water was chosen to carry out the contract. This remarkably short process for the contract to be

created, bids to be accepted, and the starting of the contract, caused many of the problems that resulted from the Atlanta PSP arrangement. This short process, coupled with the manner in which the city evaluated and accepted the bids, led to a contract that was poorly designed or understood by both parties. The bidding process incentivized companies to bid unrealistically low to win the contract. As the subsequent sections of this case show, most of the problems that arose from the Atlanta PSP arrangement were directly caused by the contract itself and the bidding process.

One noteworthy feature of the contract was that it was not a lease or concession contract. Rather, it was an OMM (operations, management, and maintenance) contract on a fee for service basis, with the flat rate fee being \$21.4 million per year. Although it was a 20 year contract, United had no monetary performance incentives, nor did it receive a portion of revenues from customers. Thus, the contract reads more like a French style affermage.

An affermage is a French style lease-contract that differs from a lease in few key ways. The first is that in the case of a lease, the payment from the company to the local government for the rights to the lease is a fixed price. This means that regardless of revenues collected, the company must pay a fixed rate to the local government for the right to lease. The company in this case retains all revenues--also known as receipts--from the customer base minus a portion that is its lease fee. Basically, with a lease, the company pays the local government a fixed rate, regardless of how much revenues it collects from its customer base. In the case of an affermage contract, the local government has guaranteed the company a fixed rate for its services regardless of

revenues or receipts recovered from the customer base. Thus a lease puts the financial burden on the company collecting revenues, whereas an affermage keeps the commercial risk of receipt recovery--also known as revenue collection--on the local government. This demonstrates how certain PSP arrangements, by their very design, can create situations with questionable distributions of equitable risk between the local government and the private company.

Labor dislocation issues

In the Atlanta PSP arrangement, the issue of labor dislocation is of great importance. Prior to the PSP arrangement, municipal water works employees sued the city to enjoin it from entering into a PSP arrangement. Their argument was that the arrangement violated the then city code specifying the rights of city employees. They also stated that the city bypassed certain state statutes in entering into a PSP arrangement. Employees asserted that the termination of their employment, along with the loss of their pension benefits, was in direct contravention of municipal ordinances that were part and parcel of their employment contracts.¹⁷⁰ In response to this court case, on December 7, 1999, the city council changed the city code to allow civil service employees to be removed from their employment and divested of their benefits for the privatization of city services. This amendment was signed by the Mayor Bill Campbell and became effective December 10, 1999. The change in the city's code allowed the city to continue with the PSP arrangement without threat of the employee's lawsuit. The case subsequently went to court in *Abedi v. City of Atlanta*. However, the employees lost the

case due to the city's code having been changed. They lost again on appeal. On January 1, 1999, the city fired 250 of its workers and divested them from their pension benefits.¹⁷¹ This drastically reduced the number of employees United was contractually obligated to offer employment to from around 750 persons to 479 persons. Of the 479 persons to whom United offered employment within the municipality, only 417 accepted.¹⁷² Over the next four years of contract services to the city, United reduced its workforce from the 417 persons in 1999, to some 350 persons when the contract was terminated in 2003. Prior to the signing contract with the city, United Water guaranteed that they would not lay off workers for the entirety of the contract. The contract itself stipulated no layoffs for three years, this promise was one of its selling points in its negotiations with the city. United achieved the decrease in staff not through layoffs, but rather through an attrition of the workforce through retirement, buyouts and voluntary departures.¹⁷³ This is a prominent strategy for reducing the size of the work force in PSP arrangements. It allows companies to honor their promise of no layoffs--which is a great selling point to cities concerned about labor consequences--while at the same time lowering the workforce through other means. In the Atlanta arrangement, like in many other PSP arrangements, United targeted the workforce as a major area of potential cost savings. They substantially reduced the size of the work force and they eliminated the most expensive components of labor benefits, which were the workers post-retirement health benefits.¹⁷⁴ To further drive down labor costs, United reduced the amount of

training provided to the remaining employees to levels far below those stipulated in the contract with the city.¹⁷⁵

The effects of United Water reducing the workforce were substantial and catastrophic both for the city of Atlanta and for United Water. The reduction of the workforce negatively impacted United's ability to perform required systems maintenance. In response to United's inability to perform required systems maintenance, Atlanta Mayor Shelly Franklin--the mayor who immediately followed Campbell during United's contract--commissioned a five hundred page report to assess United's poor performance. This report states that the main reason United failed to perform contractually stipulated maintenance services was that it cut its workforce far too low. The report states specifically, "There is a readily ascertainable correlation between the decline in United Water staff and the continuing and unacceptable increase in backlogged facility maintenance items, as well as delays in distribution system repairs".¹⁷⁶ We will examine further the specific failures in maintenance services in the section titled maintenance concerns.

The labor dislocation that resulted from the Atlanta PSP arrangement demonstrates how re-regulation and deregulation are intrinsic parts of the neoliberalization of water services. The claim that neoliberalization is a state run process is certainly evident in the Atlanta case. The workers would have been able to successfully block the PSP arrangement, or at the very least renegotiated the contracts labor stipulations, had the city of Atlanta not amended the laws and regulations that

affected their rights as governmental employees. Once United took over, they proceeded to lower their workforce to a level that allowed them to produce substantial cost savings, but with catastrophic consequences. Neoliberal policy identifies the state as being inherently inefficient and thus prone to over-staffing. This feature of labor dislocation is one of the primary aspects and most readily apparent effects of private sector participation in the water services sector. The proponents of neoliberal policy agenda attempt to justify staff reduction by stating that they are increasing the skill and cross training of their workers. However, in the case of Atlanta, United displaced workers while, at the same time, provided the remaining labor force with less training.¹⁷⁷

Maintenance concerns

In 2002, only eighteen months into United's contract, the city was so dissatisfied with their performance in the area of maintenance that it threatened to terminate the contract if United did not uphold its contractual obligations in this and all other areas.¹⁷⁸ The city ended up canceling the contract only seven months later. United's massive dislocation of labor was a direct cause in the decline of system maintenance. This affected United's ability to reach contractual performance targets in several ways. First, it delayed response times to needed maintenance and repairs. Under United, it could take as much as two months to fix a broken water main.¹⁷⁹ One report to the city stated that United had let a broken water main gush into a street--during a severe drought--causing the road's pavement to wash away. Residents had called United about the issue for ten days before it

was fixed. The city labeled United's response times "consistently and habitually inadequate." When the city served United with a notice of contract cancellation in 2002, one of the reasons it stipulated was contractual failure in regards to response times. The report specifically stated, "United Water's response times are consistently and habitually inadequate and potentially hazardous conditions are not remedied in a timely manner."¹⁸⁰ Delayed response time ultimately led to a completion rate for work orders that stood at a paltry 50% over the course of United's contract with the city. This inability to adequately respond to maintenance issues as they arose led to United having a backlog of over 14,000 maintenance orders at the time the city canceled its contract. Not only did United fail to adequately perform maintenance, but they failed to adequately document their inability to perform. When the city resumed management of the water system, they had 14,000 maintenance orders to respond to, but did not know where these were located or what sort of issues needed to be solved.¹⁸¹

Another issue regarding United's maintenance performance was United's bills to the city for maintenance and improvements. During United's tenure, they billed the city \$37.6 million dollars for additional capital repairs and service authorizations. The city paid United \$16 million, but then discovered that the rest of the projects that United was billing the city for had either not been started or were only partially finished. The city then withheld the remaining amount billed by United for \$21.7 million.¹⁸²

Stated above in the contract concerns section, the city also found that United was billing the city for routine maintenance that it was contractually obligated to pay

for, under the guise of capital improvements, which the city was obligated to pay for. This deceptive billing was only resolved when the city spent \$1 million to hire private investigators to substantiate United's bills. Even as United was billing the city for work it did not complete or had not done, it was failing to collect late bills, a failure that was costing the city millions of dollars per year in lost revenues. The city found that further revenues were lost from customers due to United failing to read, install, and maintain enough water meters. Thus customers were not being charged for their water usage. When the city requested United's billing records to verify them, United refused to release its records in full.¹⁸³

Maintenance was a huge problem for United. United failed to meet contractually stipulated targets for maintenance in almost every area of the water system that they contracted to maintain. These included: main breaks; facility maintenance; meter installation; hydrant repairs; and fleet maintenance.¹⁸⁴ In Atlanta, United directly caused these problems by a reducing the workforce to levels deemed negligent by the city. While labor dislocation led to severe maintenance issues, these maintenance issues in turn led to a host of problems with water quality. Certain effects that result from the implementation of neoliberal policy often directly lead to other problems. In Atlanta, this can be seen in labor dislocation leading to decreased maintenance that in turn led to decreased water quality for the city.

Water quality concerns

The maintenance failures that resulted from a substantially decreased labor force led to a host of water quality issues. Water often ran a rusty brown color. This affected both the aesthetics and the perceived quality of the water, as well as affecting users in the washing of their clothes or themselves.¹⁸⁵ Insufficient pressure and treatment, as well as broken water mains, led United to issues five different “boil alerts” for unsafe drinking water. Many Atlanta citizens stated that during several of these boil alerts, they were not notified by United that the water was unsafe to drink until one to two days after the boil alert was issued.¹⁸⁶ These problems with water quality came to a head shortly before the contract was canceled in the summer of 2002, when complaints abounded throughout Atlanta about brown, brackish drinking water, as well as from boil alerts resulting from water main breaks.¹⁸⁷

United was very dismissive of persons raising water quality issues with United’s customer service. Gordon Certain, the president of the civic association of North Buckhead, the neighborhood that is often cited as the hardest hit with water quality problems, stated that United was extremely unresponsive to complaints, “they told one woman who wanted her water tested that she should get it tested herself.”¹⁸⁸ In 2003, after the city reclaimed its water services as a government run utility, the city’s deputy water commissioner told the Atlanta Journal Constitution, “my biggest concern is a lot of people have lost confidence in water itself. Over the past year, we've had so many boil water advisories and discolored water around the system.”¹⁸⁹

Loss of expertise

An often overlooked aspect of PSP arrangements is the community's loss of the expertise base that it has created within the water systems over the course of many years. In Atlanta, this loss of expertise had a substantial effect on the community's ability to reclaim management from United. After United took over, many of the managers that Atlanta had once employed in the water municipality moved away from Atlanta to accept other jobs.¹⁹⁰ United's drastic dislocation of labor also resulted in a substantially smaller workforce when the city resumed control. In Atlanta, the loss of expertise did not correlate to the length of the contract. Atlanta's contract only lasted for four years, but the city lost a significant amount of its expertise base during this time period. This loss put the city in a vulnerable position when it was forced to resume the operations and management of its municipality. Then city councilman Howard Shook commented to this effect when he stated he was "terrified by the process of successfully putting back together a water department with only three hundred and forty six current employees. Water is not just another city service, can you expect a seamless transition of something this huge in such a short time frame?"¹⁹¹

This loss of expertise is one of the greatest concerns with PSP arrangements. Once a community loses its expertise base in operating and managing its water systems, it is more or less beholden to water companies to operate and maintain its systems. Expertise is not only costly and very time consuming to rebuild, but it is unique to the given system, and is lost immediately, regardless of contract length. Thus communities

that are entering into contracts need to be aware of this effect of PSP arrangements, so as not to jeopardize the municipality's future ability to operate and manage the system itself. This loss of expertise has continued to plague Atlanta, forcing it to continue contracting out its water and waste water services. The loss of expertise is identified as a point of concern in the literature on the neoliberalization of water services. However, it does not receive as much attention in the current literature as it should. And as we will see below, this loss of expertise was a major factor in Indianapolis' need to contract out its water services.

Pricing issues

While increased cost of service is clearly identified as a common effect in the neoliberalization of water services globally, each case of the neoliberalization of water services is unique. In regards to the Atlanta PSP arrangement, while sewer rates did rise 12% annually under United, the rising cost of services was not a main concern of the PSP arrangement.¹⁹² This was due to a contractual stipulation that froze distribution rates for the first portion of the contract period. However, the contract was canceled prior to the ending of the contractually stipulated period that froze distribution rates. If the contract had proceeded between Atlanta and United Water, it is plausible that United Water would have increased distribution rates when it became contractually able to do so.

Corruption issues

The political-economic issues tied to the Atlanta case included charges of corruption by a political leader who had led the process of privatization. In 2006, former

Mayor of the city of Atlanta Bill Campbell, who presided over the privatization effort, was convicted of tax evasion, though acquitted of bribery and racketeering charges.¹⁹³ This court case uncovered several critical details about the Atlanta contract, and of Bill Campbell's relationship with United Water. Shortly after awarding the contract to United Water, he accepted \$12,900 from United to pay for a five day Parisian holiday with a friend. At the trial, United claimed that the money was for a business trip. However, it was demonstrated that over the course of his five day stay in Paris, he met with Suez/United representatives for a total of only two and-a-half hours.¹⁹⁴ His trial also uncovered that he had accepted \$6,900 dollars from United in campaign contributions at a time when he was not up for re-election.¹⁹⁵ He received \$4,750 dollars from four executives at a United Water subsidiary right before his 1999 reelection campaign. The year that United began the PSP arrangement. Campbell's brother, Ralph, had received \$10,000 in campaign contributions from United Water executives when he ran for state auditor of North Carolina.¹⁹⁶

Perhaps the most controversial connection between Bill Campbell and United Water, and the one that began the city's investigation into his actions, was the issue surrounding United Water's attempted contract renegotiation. As stated above in the section on contract concerns, in 2002, after operating at a substantial loss for the first three years of the contract, United attempted to renegotiate an additional payment of \$80 million. When the city council voted to decline the contract renegotiation, United Water billed the city for an additional \$80 million dollars. Just before Bill Campbell left office

as Mayor of Atlanta, a copy of a document approving the bill showed up at United Water headquarters with the mayor's signature.¹⁹⁷ The incoming mayor, Shirley Franklin, disputed the authenticity of the signature and launched an investigation into Bill Campbell's actions. At the trial, Campbell's lawyers stated that Campbell had no knowledge of the paperwork, and that the signature must have been forged by one of his aids.¹⁹⁸ However, United firmly maintained that the signature was authentic, but subsequently dropped the request for the funds after the investigation of Campbell had begun. Ultimately, while Campbell was convicted of tax evasion and spent two years in prison, he was not convicted of bribery, and United was never charged on the basis of what came to light in court. However, at the time of the contract being terminated, United did agree to pay the city over \$6 million to settle all legal disputes. One such charge was that United defrauded the city by having United Water personnel, who were being paid by the city to work on city projects, work on securing other contracts, in other cities, while being on the clock for Atlanta.

Given both the mayor's and his family's financial remunerations from United Water, it is not surprising that he pushed through a PSP arrangement that had no substantive public support. It is widely reported in the literature on the neoliberalization of water services globally that bribes are often used by companies in foreign countries to secure contracts. It should not be viewed as exceptional for United Water, which is itself a subsidiary of the second largest multinational water company, to employ this business strategy in the United States even though it is illegal. While United and Campbell were

never actually convicted of bribery, the data demonstrates that Campbell had been monetarily influenced by United Water. In assessing the PSP arrangement between the city of Atlanta and United Water under Bill Campbell, the fact that he was monetarily influenced by United calls into question the whole process that created the contract, including the process for evaluating and accepting bids.

Private Sector Participation in Indianapolis, Indiana: Contract Failure, Labor Dislocation, and the Loss of Expertise

The city of Indianapolis' water system has a tumultuous history of involvement with the private sector. In 1997, Indianapolis sold its water assets--its water utility and water rights--in the form of an asset divestiture, to a privately held company, NiSource, for \$290 million dollars.¹⁹⁹ In April 2002, after only five years of private ownership, the city chose to repurchase the water asset from NiSource. The city reclaimed its water assets, but at a cost of \$515 million dollars.²⁰⁰ In May 2002, almost immediately after re-purchasing the water and wastewater utilities, Indianapolis chose to sign a twenty year, \$1.5 billion dollar lease contract with Veolia Water Indianapolis, which contracted to provide operations, management, and maintenance for the city of Indianapolis water utility.²⁰¹ This contract was the largest of its kind ever to be implemented in the United States, with a cost far greater than the Atlanta contract. The CEO for Veolia Water Indianapolis, Tim Hewitt, stated that obtaining the contract was very important for Veolia Environment, which is VWI and

US Filters parent company, “when our senior managers go to Beijing and India, they talk about Indianapolis.”²⁰² The lease stipulated nearly \$1.1 billion dollars in fees the city would pay to Veolia Water Indianapolis over the contract period. The contract also stipulated \$400 million dollars for capital improvements that would be managed by VWI but provided by the public, through the Department of Waterworks. The water system that VWI would be operating, maintaining, and managing, covered 12 water treatment plants, 15 storage tanks, 19 water pumping stations, 30,000 fire hydrants, and 4,000 miles of mains and pipes.²⁰³

As with the Atlanta case, it is critical to evaluate the effects of the PSP arrangement in Indianapolis in light of the current research on the neoliberalization of water services. Thus, for Indianapolis, I will explore the results through the categories that have been identified in the literature with private sector participation in the water services arena. Ultimately, both Indianapolis and Atlanta highlight problematic effects in these categories very well. Both municipalities had quite similar experiences with problems arising from contract issues, corruption, and labor dislocation. However Indianapolis experienced end user rate increases to a much greater extent than Atlanta. Another key difference is that while loss of expertise is an incredibly important factor in both cases, it is much more readily evident in Atlanta. The loss of expertise occurred in Atlanta when the contract was signed with United. While in Indianapolis it occurred when the city first sold its water utility to NiSource in the late 1990s.

Contract issues

In 2002, prior to the contract being signed between the city of Indianapolis and VWI, a lack of transparency and openness characterized the city's decision making process regarding the PSP arrangement. The decision making process evaluating the arrangement included only minimal public participation, and held only one official public city hearing. This hearing was not to discuss the potential aspects of the PSP arrangement with the public, but rather, to inform the public about decisions regarding the arrangement that the city had already made.²⁰⁴ The lack of public participation in the city's decision making process led a founding member of the Indianapolis Board of Waterworks to write a letter to the Indianapolis media, condemning the purchase in 2002. After the Board of Waterworks learned that one of its members had spoken to the press about the arrangement, including the lack of public involvement, the Board passed a resolution prohibiting its members from speaking with the media regarding utility operations. After this resolution passed, the member of the board who had spoken to the press resigned in protest.²⁰⁵

Once the city decided that it was going to enter into a PSP arrangement, it sent out a RFP, soliciting bids from companies interested in entering into the contract. This solicitation process was performed by consultants the city hired to assist evaluating the bids. These consultants who worked for the city only recommended that the city consider bids from two companies, US Filter and United Water. The city evaluated these bids on a 100 point scale, with the most important consideration being the cost of the bid.²⁰⁶ The

city graded the bid from United at a 65.2 and the bid from US Filter at 77.4. This process, from the time the city sent out its RFP, through the city's evaluating the bids, to the city signing the twenty year contract with US Filter subsidiary, VWI, took only one month.²⁰⁷ Such a time frame--from requesting the RFP to entering into the contract--was remarkably rapid for such a long term contract serving such a large population base.

While the contract set forth standards and monetary-based criteria for performance, operations, and maintenance incentives, it empowered only one full time employee and the part-time members of the Board of Waterworks with overseeing and managing the contract.²⁰⁸ This was a major problem in the management of the contract because it laid out a series of complex relationships involving other intergovernmental contracts with other counties and cities. Relationships that extended beyond the borders of the city of Indianapolis and of Marion County, where the city is located. The contract also included the management of four smaller nearby water companies. The results of this situation were related to the lack of contractual oversight and management and were compounded by the Board of Waterworks focusing their attentions almost exclusively on the financial issues surrounding the implementation of the contract.²⁰⁹

Another area that proved to be contentious between the city and VWI involved the contractual obligation on VWI's part to create a public water system advisory council. This council, which was to be created by VWI, was to represent the public, and to be comprised of citizens of the city of Indianapolis. Under the contract, this council was created to allow a certain level of public oversight and participation in the management

of the contract. However, VWI initially understaffed the panel, and the staff that it did hire had no experience in water services or environmental management. Not only did VWI initially staff the committee poorly, but when the committee was first created and VWI started carrying out the contract, the committee had little to no public exposure.²¹⁰

One of the problems in the contract was that it did not require senior water managers, which VWI was charged with employing, to be approved by a regulatory board. Thus there was no public oversight of the persons that VWI designated to manage the water system. During the length of the contract, VWI went through several changes in the top-tier of its water management staff. The citizens of Indianapolis perceived these changes to have caused many of the problems that arose during VWI tenure.²¹¹ It is also worth noting, that in a contract of this size--serving over 1 million persons--it is very unusual for changes in the top tier of water managers to be implemented without the approval of a third party regulatory board.

Once VWI entered into the contract and began managing Indianapolis' water utility, problems surfaced almost immediately. While these will be dealt with individually in the analysis below, it is critical to examine the overall monetary effect that the contract had on both the city, and VWI. In the first four years that VWI managed the city's water utility, VWI lost nearly \$20 million. In the first year of operations, VWI lost \$10 million, followed by a second year in which they lost \$6 million. In the third year of operations, VWI lost \$2 million, and the fourth year, they lost a few hundred thousand dollars.²¹²

This loss was partially caused by the contractual stipulations that left VWI unable to renegotiate rate increases for the first five years of the contract, as well as their inability to lay off workers during the first two years of the contract. Speaking about the contract, Jean-Michel Seiller, the VWI employee charged with overseeing the contract, stated that the break even and profit accumulation point for VWI was not projected to be until 2009-2010. Lewis D. Solomon, author of *America's Water and Wastewater Crisis: The Role of Private Enterprise* notes, this may have lead VWI to skimp on routine maintenance, the use of purification chemicals, water testing, and repairing infrastructure problems in the initial years of the contract in order to mitigate its losses.²¹³

These losses led VWI to seek a contract renegotiation with the city of Indianapolis in 2007. The contract renegotiation, which was strongly opposed by the city's citizenry, was successful in shifting \$144 million dollars in costs from VWI to the city of Indianapolis. VWI also successfully renegotiated its fee for services in the amount of an additional \$1.9 million dollars per year. At the same time VWI shifted certain contractual responsibilities to the city of Indianapolis. This contract renegotiation also made it easier for VWI to request rate increases from the city, rate increase that subsequently occurred in 2007 and 2009.²¹⁴

By 2010, the city of Indianapolis had become so dissatisfied with VWI operations, management, and maintenance of its water utility, that it canceled the contract with VWI. However, due to the original contractual stipulations, the city was required to pay VWI a \$29 million dollar early contract termination fee.²¹⁵ This payment upset

many Indianapolis citizens who argued that VWI failed to uphold performance targets stipulated by the contract, and thus should be terminated due breach of contract.

However, the city agreed to pay VWI the \$29 million following a mediation process, the results of which allowed VWI to carry on operations of the contract until Indianapolis could sell its entire water asset to the not-for-profit Citizens Energy Company.

Several conclusions may be drawn from the contractual failings in the Indianapolis case. Narrowing the pool of competition in the bidding process presents problems due to the monopolistic nature of water utilities. Many in the water industry state that the only place for real competition in the water services industry is during the initial contract phase. Thus, limiting the number of bids limits the competition that companies face, and can have adverse effects on both the companies bidding as well as the city's ability to get the best deal possible through the bidding process. Bidding low enough to receive the contract led VWI to take substantial losses over the first half of the contract, while postponing its profitability to a date many years into the future. This business decision that was predicated upon its ability to reduce the workforce and increase user rates. The identified and expected loss also calls into question certain management practices during the years in which VWI knew it would be taking heavy losses.

Labor dislocation

In 2001, prior to the RFP process, Bart Peterson, Mayor of Indianapolis, stated in a letter to water employees that any contract would "honor all employee benefit

agreements, including the current bargaining units and collective bargaining rights.”²¹⁶ Reiterating this point during the short, month long, RFP process, the new Mayor of Indianapolis Greg Ballard stated that employee benefits would remain unchanged. However, when the city of Indianapolis signed the contract with VWI, the wording of the contract stipulated that the “value” of employee benefits be maintained. This was evidently a different standard than benefits remaining unchanged.²¹⁷ This confusion led to drastic consequences for both union and non-union workers under VWI. In terms of the non-union workers, it is estimated that this confusion in the wording, and thus calculation of benefits, led to a total loss in benefits, including pension and health, in the amount of \$16.5 million by 2010. It was further estimated by the Indianapolis accounting firm Isenberg & Chivington that this loss in non-union worker benefits would total \$47.7 million over a 26 year period.

These dramatic reductions in benefits lead the non-union workers to sue, however their case was ultimately dismissed by an Indianapolis court.²¹⁸ Union workers also faced similar cuts in benefits. Members of the local union, the National Conference of Fireman and Oilers 131, who were Veolia employees, stated that their new benefits packages were not equal to their previous packages. Members also stated that they found it difficult to trust any of the communications they received from Veolia management, due to: the dramatic reductions in the workforce; the decrease in the value of benefits; as well as the numerous changes in Veolia’s management. Members of the union stated that

this has caused very low morale amongst the union workers, and has led to persons leaving the operation at a rapid rate.²¹⁹

Not only did both union and non-union workers face severe cuts in benefits, they also faced dramatic cuts in the size of their workforce. After the contractually stipulated two year moratorium on layoffs expired in 2004, just over 200 union and non-union employees had their employment terminated. A local union with members employed by VWI, the National Conference of Fireman and Oilers 131, had membership reduced by fifty percent. These losses in staff and turnover in management occurred at such a high rate that many persons in the union and within the utility in general, questioned whether the utility will be able to retain enough institutional memory to operate well in the future.²²⁰

The dramatic reductions in employee benefits caused serious areas of contention between the city, union and non-union workers, and VWI. These issues have not been resolved, with the representatives of union and non-union employees maintaining that the contract was created in such a way as to equate “apples to oranges” in terms of contract benefits.²²¹ These issues could have been avoided had the contract been more carefully worded and included more public participation and union oversight. Below, we will see that many of the quality concerns that have been raised by both the citizenry of Indianapolis as well as union and non-union employees are viewed as resulting from these labor issues.

Water and service quality concerns

Service quality issues for the residents of Indianapolis began almost immediately after VWI took over operations and management of the water utility. Throughout 2002 and 2003, poor customer service and a high rate of billing errors plagued customers. In 2002 alone, VWI admitted to submitting over 15,000 incorrect bills.²²² Customers complained that when calling VWI to talk about their incorrect bills, they encountered a completely dismissive customer services department. This immediately created a negative view of VWI service quality among its customers. In 2008, service quality reports came to a head when members of the Indianapolis community sued VWI alleging that the company did not perform its contractual obligation in terms of reading water meters. The community members who brought the suit against VWI alleged that VWI was not reading water meters on schedule, and was overestimating water charges for unread meters.²²³ This situation resulted in hundreds of thousands of customers being over billed in 2008. In 2009, the lawsuit ended up being thrown out by the Indianapolis courts because the contract that was signed between the city and VWI prohibited litigation by customers over service quality issues. The Indianapolis public was outraged upon learning that the contract process--from which the public had been barred--prohibited the public from suing VWI over service issues. In April 2008, in response to massive outcry from the public, the Indiana Utility Regulatory Commission began an informal investigation into VWI billing and meter

reading processes.²²⁴ This investigation was never resolved prior to VWI contract termination in 2010.

Throughout VWI's tenure in Indianapolis, customers complained about both the odor and the taste of the water.²²⁵ This undermined the public's perceptions about the quality and safety of the water product that VWI was supplying the city. In 2007, this water quality issue came to a head when the magazine *Men's Health* rated Indianapolis drinking water as the second worst in the nation. The study ranked the city's water quality as 99th out of 100 large cities in the United States, with a failing grade for quality.²²⁶

Service quality in terms of fire hydrant operations were also extremely problematic. To trim budget costs, VWI cut back on the testing of the utilities 30,000 fire hydrants. In the winter of 2003, these cutbacks came to the public's attention when the city of Indianapolis was plagued with freezing fire hydrants. This problem ended up contributing to the destruction caused by a massive fire. Many buildings were destroyed due to firefighters' inability to access water from a nearby hydrant.²²⁷ VWI acknowledged these problems as errors on their part, the problem of freezing hydrants arose again, shortly before the contract was canceled in 2010.²²⁸

Perhaps the most serious water quality issue that arose during VWI's tenure with the city of Indianapolis occurred in 2005. On January 6, 2005, heavy rains swelled the White River. This triggered a slew of connected system failures at the White River Treatment plant. This caused over 40,000 school children and more than one million persons serviced by VWI to be put on a boil alert. This also forced hospitals and business

to either close, or provide bottled water at a huge extra expense.²²⁹ VWI blamed this mishap on a single employee, Rodger Edlin, whom it subsequently fired. However, Edlin, as well as seven other VWI employees, disagreed with this conclusion. Rodger Edlin, who was the head night shift operator at the White River plant, stated that the problem occurred when a computer glitch switched off a pump at the plant that added disinfectants to the water. This pump failure affected the water quality because VWI had taken two reservoirs out of service in order to cut back on the cleaning and repair costs of the plants filters.²³⁰ After Edlin was fired, he sued VWI, claiming that the problem occurred due to VWI drastically slashing maintenance and staffing levels to increase revenues. In response to this court case, seven other current and former VWI employees stated that tightening the budget had left the waterworks in poor condition. Jim Bullington, who, like Edlin, was a plant operator, stated, “You're sitting there holding your breath, hoping that your last pump didn't go down”.²³¹ While Edlin lost his court case against VWI, the Indiana Department of Environmental Management began a probe into VWI's overall water quality results. It concluded that the water coming through the system was safe to drink. However, it found elevated levels of disinfectant byproducts, such as chlorine and other chemicals known to cause cancer over prolonged exposure periods at 11 out of 19 locations.²³² While VWI claimed that its water quality had substantially improved in the years after it took over, there are serious questions that have been raised as to the authenticity of VWI reports and its claims in regards to drinking water quality. These concerns are will be dealt with further under corruption issues.

Pricing issues

Increased end-user cost of water services was a serious issue in the Indianapolis case. The contract stipulated that VWI would not raise rates for the first five years. This inability to raise rates coupled with the contracts labor stipulations led to tens of millions of dollars in losses during the first years of the contract. Yet, in 2007, after a successful contract renegotiation with the city, and as soon as this contractually stipulated period of rate freezes ended, VWI raised its rates. In 2007, VWI chose to raise its overall cost of water delivery by 27%. In 2009, only two years later, VWI requested an additional rate increase of 17.6%. However, the Indiana Regulatory Commission only approved a rate increase of 12.27%.²³³ This constituted an increase of nearly 40% in just under three years' time. This is a quite substantial rate increase. It explains why companies are willing to take substantial initial losses on the contract, due to their ability to raise rates in the latter portion of the contract to regain lost revenues. Due to this 40% increase, it is plausible that had the contract continued under VWI management, the overall cost of water services would have continued to increase over the latter portion of the contract.

Cost increase is a primary example of the strategy of underbidding and sustaining heavy losses in the beginning of a contract, in order to make substantial revenues in the latter half of a contract. This tactic, in and of itself, is one of the core reasons for modern water contracts being so long. Initial losses, which are substantial, must be recouped over very long portions of time. The amount recuperated is much larger than the initial loss, and is part and parcel of neoliberal philosophy in regards to how to manage water services. Yet, many high profile contracts never made it passed the loss to break-even

point. This is due to companies cutting corners to save money to such an extent that they ended up performing so poorly that the contract was canceled.²³⁴ Neoliberal philosophy critiques the state as being incredibly inefficient. However, the need to recoup profits for shareholders may well drive the rate at which costs rise under private companies to be far higher than the cost that services may rise under public operations.

Loss of expertise

By the time the city repurchased their asset from NiSource in 2002, they had completely lost their expertise base. It was this initial loss of expertise in the late 1990s that put the city into the position of having to contract out its utilities operations and management in 2002. The city has never recovered from this initial loss of its expertise base. When the city decided it would cancel VWI's contract, it faced a situation where it could not supply a workforce to operate and manage the various infrastructure components of its water assets. This loss of expertise forced Indianapolis to once again sell its entire water and waste water utility to a third party organization. The back and forth between sales and purchases in 1997, 2002, and 2010, cost the city over \$250 million and raises questions as to whether the city fully understood the effects that the loss of expertise was having on its ability to manage its own assets.

In 2010, the city sold its entire water asset to Citizens Energy Group for \$1.9 billion dollars. This sale included its wastewater and sewage contract with United Water. In exchange, the city received some \$425 million dollars, an amount that the city stated it would not use for water infrastructure repair needs. The not-for-profit organization

Citizens Energy has stated that it will increase sewer rates some 300% by 2025 and water rates 100%.²³⁵ This sale demonstrates the city's unwillingness or inability to directly tax its citizens to pay for needed infrastructure repairs. Rather, the sale amounts to an informal taxation 'through the tap'. It will be interesting to see if the sale to Citizens, which is the largest of its kind in history, will end up saving the city money while improving services. Citizens Energy has stated that it will continue to contract out operations of wastewater services to United Water, who currently holds the contract with the city for services. Citizens will also contract out the operations of its water treatment plants to Veolia, although not to VWI. Thus, it seems that while billions of dollars are changing hands between public and quasi-private organizations, no real organizational changes are being made, and certainly the neoliberal ideology that governs these organizations is staying in place.

The loss of expertise in Indianapolis is directly responsible for the city having to continue to contract out facilities operations and maintenance to the private sector. Neoliberal philosophy states that communities should rely on the expertise that the market provides. Proponents of neoliberalism state this is desirable because the market is able to provide more honed expertise than local communities. Thus, PSP arrangements remove local public expertise bases from communities, and replace them with global private expertise bases. This causes communities to both lose their local knowledge and become continuously beholden to companies for operations and maintenance. This effect can be clearly identified in the Indianapolis case.

Corruption issues

The contract that VWI signed with the city of Indianapolis guaranteed monetary performance incentives for both quality standards and maintenance response time standards. Yet, serious concerns have been raised as to the authenticity of many of the VWI reports that allowed them to collect these monetary incentives. Tom Plummer, a thirty-one year employee of the water utility who worked as an operating supervisor in the central control station, stated that he had personal knowledge of false record keeping by VWI, stating in an interview that “several Indianapolis Water employees told me that they were asked by [VWI] personnel to alter records in order to make it appear that [VWI] had earned an incentive payment when in fact the unchanged records would not have supported the claim for the incentive payment”.²³⁶ Plummer himself alleges that VWI earned \$294,000 dollars in 2003 because it reported that it met its contractually stipulated one hour response time for the 106 “water emergencies” that it recorded occurring that year. Plummer notes that “water emergencies” included water main breaks that take longer than one hour to fix and that during that year there were 600 water main breaks. Plummer explained this discrepancy by stating, “It was clear that many more of those main breaks would have been emergencies if not for under-reporting. Many employees have told me that (Veolia) personnel asked them to alter times recorded and events logged in so as to falsely show that the repair call was responded to within one hour, when in fact it took longer.”²³⁷

While in 2003 there were only 106 emergency calls to VWI, in 2004 this number shot up to 485 emergency calls. According to Plummer, the only possibly reason for this discrepancy could have come from more honest record keeping. It was this spike that prompted the United States Attorney's Office to begin investigating VWI in 2005, when they sent subpoenas to four employees of US Filter in connection with an investigation of falsified water quality reports. Investigations by the Environmental Protection Agency, the Indiana Department of Environmental Management, as well as the FBI followed. However, no court action ever resulted from these investigations.²³⁸

VWI was never convicted of wrong doing or breaking the contract. However, had these charges been fully investigated rather than settled out of court, the city of Indianapolis might have been exempted by the arbitrators from paying VWI a \$29 million dollar contract termination fee. This raises questions as to the political-economic interplay that the company had with various state agencies. It is certainly evident in the current literature on the neoliberalization of water services globally that, confronted with areas of contention between the state, the corporations involved, and the public, the state almost always sides with corporate interest. This trend seems to be holding true in the United States water sector, as exemplified in both the Atlanta, and Indianapolis cases.

Conclusion

Neoliberal philosophy critiques the state and asserts the superiority of the market. But the way that the United States water services market is set up creates a climate favoring underbidding during the contract process. This practice ultimately failed

the cities relying on the private sector. Contractors felt that they could underbid and take losses early on in the contract, in order to realize gains over the long term. A lack of an appropriate time frame for the creation of contracts, as well as severely limited public participation also proved to be a substantial problem for the communities engaging in PSP arrangements. Poorly worded and created contracts coupled with a lack of public participation caused massive dislocation of labor in both Indianapolis and Atlanta. The re-regulation that took place in Atlanta also highlights the state's role in the implementation of neoliberal policies and the effect that this has. Problems in labor dislocation directly caused the deficiencies in service and water quality, as well as the problems arising in the performance of contractually stipulated maintenance. Another feature is the extent to which corruption puts strains on already tenuous contractual arrangements. It is also readily evident that the lack of a regulatory board to regulate these arrangements presents significant problems. Such boards need to be free from influence--both monetary and political--to be able to regulate these arrangements in a fair and impartial manner.

An important issue in the contractual arrangements of Atlanta and Indianapolis involves a utility that transitions from city run operations and management to contractual oversight and regulation. When this occurs, the city's role in the utility does not decrease or go away, it simply changes to one in which it is responsible for regulatory oversight rather than operations and management. Contracted out utilities still need to maintain a sufficient expertise base. However, rather than it being an expertise base of utility management, it needs be an expertise base of contractual oversight and regulatory

management. This transition from one expertise base to another needs to be done very carefully. In regards to Atlanta and Indianapolis, it is important to identify that the loss of traditional managerial and operational systems expertise did not correlate with the length of the contract, but rather occurred over an extremely short time frame--occurring as soon as the contract was signed. Municipalities should consider maintaining a small local expertise base that could exist within a private contract in order to preserve local knowledge and the ability to transition back to public operations more easily.

These cases demonstrate that the effects that have been seen in the neoliberalization of water services globally are also present in the neoliberalization of United States water services. Yet they also further elucidate certain issues, such as the loss of expertise and its immediate occurrence, as well as identifying how important well put together contracts are. These similarities are likely the case because the neoliberalization of water services is based on specific political-economic strategies and philosophies that when applied to water services produce similar effects. This permits us to evaluate potential private sector participation arrangements in terms of effects that could arise based on how the arrangement is approached, procured, and created. It also provides a basis to identify different governance regimes and frameworks that provide alternatives to the political-economic governance regime of neoliberalism

PUBLIC-PUBLIC PARTNERSHIP GOVERNANCE REGIMES IN THE UNITED STATES WATER SECTOR: A CASE STUDY OF REGIONALIZATION IN FELTON, CALIFORNIA

In the United States, until the 1980s, there was a direct connection between the federal government and communities involving the funding of water infrastructure. However, after the neoliberalization of the United States water sector, this linkage was broken, creating a space where several different types of governance regimes could coexist. This thesis identifies the predominant neoliberal governance regimes that arose, and it analyzes the effects of these regimes on the involved communities. However, there is room for other governance regimes, known as Public-Public Partnerships (PUP), to emerge as well. Regionalization is an example of a PUP governance regime in which community's partner with each other to generate cost savings and other benefits. Regionalization as a PUP is between two or more public municipal operators or organizations. PUP forms of regionalization do not rely on the economic principles of neoliberalism that may include a stated for-profit motive or full-cost recovery mechanisms.

Besides offering alternatives to neoliberal governance regimes and the effects which PSP arrangements may create, PUP also provide insights as to how to better create PSP arrangements. These hybrid arrangements would be more equitable for the communities, the governments, and the companies involved in them. In order to engage

critically with PUP governance regimes, it is necessary to identify: how PUP are currently defined; their typology, focusing specifically on regionalization; the diverse community benefits of regionalization; and the specific ways in which PUP differ from PSP arrangements. A specific case of regionalization in Felton, California, will be analyzed for these components. Once these issues have been identified, a more cogent understanding of water services governance in the United States will become clear. This will permit the identification of how PUP governance regimes can assist in improving the serious issues that currently confront United States water systems. They also identify how combining aspects of PUP arrangements with PSP arrangements can create more equitable water services governance regimes and arrangements than traditional methods of PSP.

Due to the relatively recent creation, identification and definition of the terminology of public-public partnerships, it is useful to identify its core components. Four interrelated components are identified as being core to public-public partnerships in community water systems. These components must all be present to constitute a public-public partnership.²³⁹ The first component of public-public partnerships is the involvement of two or more partners, internationally or domestically, through a partnership--often referred to as twinning--framework.²⁴⁰ The second component is that PUP must involve the partnership of strictly public organizations. The third component is that these public organizations must be working within a not-for-profit arrangement. The final component is that these partnerships must be based on the improvement and

promotion of public services delivery.²⁴¹ Together, these components create the current definition of public-public partnerships: a multiple partnership arrangement with a nonprofit motive that seeks to improve water services in one or more of the partner regions and that must include only public partners.²⁴² There are many different types of PUP that have been identified, such as water co-operatives, mutualization, and community watershed boards. However, the most widely used, and most accessible for communities of varying sizes in the United States is regionalization.²⁴³

The EPA has identified regionalization as a water governance regime that may help community water systems achieve solutions to the many current problems they face.²⁴⁴ The recent case study literature on regionalization suggests an increasing trend towards regionalization partnerships in the United States. While this research does not present conclusive evidence for such a trend, there has certainly been a substantial growth in the literature on regionalization approaches in the United States. This research literature predominantly espouses regionalization as the most preferred approach to the organization and reorganization of water systems.²⁴⁵ Water systems regionalization has been defined as “the administrative or physical combination of two or more community water systems for improved planning, operation, and/or management. Regionalization should be viewed in the context of a range of possible approaches, from the actual physical interconnection of systems to an administrative and management arrangement to provide common technical, operational, or financial services for two or more systems.”²⁴⁶ This definition identifies the various aspects that are a part of

regionalization, and demonstrates how, within a PUP governance framework, regionalization can adhere to both subtypes of PUP, either focusing on capacity building between inter-municipal partnerships, or focusing on the shared or transferred responsibility of service delivery.

Community Benefits of Regionalization

There are five ways that regionalization can help community water systems.²⁴⁷ The first way that regionalization can help municipal water systems is through providing municipal partners with the economies of scale. Individually--especially for smaller systems--the cost of supplying water, water testing, and water treatment chemicals, is much higher than when combined with other regional systems.²⁴⁸ This aspect of regionalization can be seen in a group of smaller community water systems in Maryland. These communities, which were geographically close to Baltimore, partnered through a regionalization approach with the city of Baltimore to purchase in bulk items that all of these water systems needed, such as water treatment chemicals. This regionalized partnering created an economy of scale for these smaller community water systems and saved them \$1.5 million dollars in the 2010 fiscal year. This approach to creating regionalized economies of scale was also utilized in Garland, Texas, which was then able to both lower purchasing costs and accelerate delivery time by four to six weeks.²⁴⁹

Secondly, regionalization removes the strain of individual community water systems operations and management by increasing collaborative development.

Collaborative development allows individual systems to partner in order to critically evaluate the issues involved in “regional, sub-regional, and hydrologic sub-basin contexts”.²⁵⁰ This is important because there are often various issues involved in water systems development and management that transcend both service boundary and jurisdictional areas.²⁵¹ An example of this can be seen in the town of Cape Vincent, New York, that partnered with the Village of Cape Vincent to assess both communities' water storage needs. Since both communities are situated within the same hydrologic basin and receive their water from the same raw water supply, and are geographically close, they decided that, rather than each community maintaining their own water holding tanks, they would partner to purchase a single water tank. This partnership ended up saving the communities \$1 million dollars and reduced the average cost of water for residents in both communities by around \$200 dollars per year.²⁵²

Thirdly, regionalization achieves its stated goals is by encouraging cross communication and evaluation of program management and project development. This facilitates expertise transferring between program management and project development can reduce the risks and costs associated with various types of water systems projects.²⁵³ This aspect of regionalization can be seen in Garden City, Michigan, which saved \$30,000 upgrading their water meters by partnering with the City of Westland, Michigan, rather than using a private company.²⁵⁴ Canton Township, Michigan, also partnered through a regionalization approach with the City of Westland, Michigan, via a shared service agreement. This allowed the City of Westland to provide Canton Township

with a qualified systems operator to help the township comply better with water quality regulations.²⁵⁵ This regionalized sharing of expertise saved Canton Township from incurring further fines arising from water quality failures. Another example of regionalized project development can be seen in the towns of Fairhaven, Rochester, Mattapoisett, and Marion, Massachusetts, which collectively saved \$4.9 million dollars by partnering to build a shared and regional water treatment facility.²⁵⁶

Fourthly, regionalization facilitates public involvement. Increasing public involvement allows communities and community organizations, including labor organizations, to more fully understand, and be included in, the cost-benefit analysis of various water projects. The community of Nashville, Tennessee, utilized a utility-employee collaboration approach in 1998, when two private companies sought to privatize the water system. Rather than privatize, the city of Nashville partnered with the union of water worker's to reengineer the water system, a project that not only lowered costs, but passed on those lowered costs to customers in the form of lower rates. In 2002, after four year of this partnership, Nashville had saved \$8.5 million dollars and lowered end user rates.²⁵⁷ While this example is not a specific example of regionalization, but more of a public-public partnership within a community between a utility and a public employee union, this same schematic can be used between communities in a regional setting.

Fifthly, regionalization increases overall communication and cooperation between state, local and regional water agencies and the public that they serve, with

resulting benefits.²⁵⁸ An example of this collaborative benefit can be seen in the state government of Texas, that created an interconnected water plan for 16 individual planning regions. The collaborative regional water plan governed how these 16 individual planning regions would work together to create a united and cohesive plan for the management, development, and conservation of the various regions water supplies, in order to respond collaboratively to drought conditions.²⁵⁹

The positive benefits of regionalization can be achieved either through partnership arrangements that seek to build capacity, or through the managed or transferred responsibility of service provision. Thus, the combination of the multiple talents within a given region allows the coordination of financial as well as natural supply. Agencies, working in collaboration, have a greater chance of determining the fate of supplies--natural and fiscal--than those working in a dispersed and fragmented manner.²⁶⁰ Regionalization also helps to coordinate communities' future demands for both water and land. This has the effect of continuously preserving the future potential for both inter-, and intra-community growth and high quality water.²⁶¹

Regionalization can be effective among large communities, medium sized and small communities, as well as in partnerships between scalar levels. However, the EPA currently recommends it as a strategy primarily between smaller communities.²⁶² It is important for small communities to have multiple services options because private sector participation is not a blanket panacea for the improvement of small water systems. This has been acknowledged by both the EPA and the private sector water services

community, who have only recently begun engaging in PSP arrangements with smaller communities. In many circumstances, regionalization is the only option that smaller community water systems have to address their pressing needs. This is the primary reason why regionalization has been explored here as a specific type of PUP governance regime.

To better elucidate the process of regionalization as a PUP governance regime, we will examine a specific case of regionalization within the United States. The community of Felton, California, faced the problems of increased end user cost and water quality issues similar to both Atlanta, and Indianapolis. However, rather than seeking to repurchase the system and then sell it or contract out its O&M to a private operator, they chose to repurchase their water system and then regionalize with another municipality. The case of Felton, California, reveals the steps which the community took in order to municipalize, and then regionalize, their community water system.

The Municipalization and Regionalization of Felton, California

Felton, California, is a small, former logging, town situated in the redwood-clad hills above Santa Cruz, California. Felton's water system is classed by the EPA as a small community water system, serving around 3,500 persons, with 1,306 connections, a 2 square mile service provision area, one small, million gallon per day, water treatment plant, with no established sewerage, relying on septic systems.²⁶³ The private company Citizens Utilities, operated the Felton system until 2002. They then sold all of their assets and rights to California American Water, the California subsidiary of

American Water, at a 67% premium over the value of Citizens Utilities.²⁶⁴ In 2001, just prior to Cal-Am purchasing the Felton system, the transnational utilities conglomerate RWE announced its purchase of the Cal-Am parent company, American Water, for \$4.6 billion in cash and an assumption of \$3 billion in debt.²⁶⁵

In 2002, shortly after RWE announced the purchase, they faced a slew of problems, which caused its stocks to decline a substantial 40%.²⁶⁶ That same year, American Water, as well as Cal-Am, proposed substantial rate increases throughout all of the systems which they owned in the United States and in California, including Felton.²⁶⁷ In response to this rate increase, as well as experiencing the feelings of a loss of control to a large multinational company, community members in Felton created the organization Friends of Locally Owned Water (FLOW) to investigate the re-municipalization and regionalization of their water system. Ultimately, in 2008, Felton's FLOW organization was successful in its re-municipalization and regionalization effort, but not before embarking on a long and embittered conflict with Cal-Am over a host of issues.²⁶⁸ In 2002, when the community of Felton California learned of Cal-Am's proposed 74% rate increase, citizens began to hold a series of town meetings to discuss the state of Felton's water system. Out of this series of community meetings, the organization Friends of Locally Owned Water (FLOW) was created.²⁶⁹

The primary purpose of FLOW was to advocate for and support the process of municipalization and regionalization of the community's water system. The members of FLOW took the first step in this process in the spring and summer of 2003. FLOW

collected signatures from nearly 1,100 residents, representing 80% of the population that voted in the last election.²⁷⁰ These signatures were on a petition in which residents of Felton asked Santa Cruz County to help them in the process of acquiring their water system. On April 27, 2005, Santa Cruz County responded to the petition by unanimously voting to support Felton's efforts towards their goal of gaining control of their water system.²⁷¹ In order to acquire the Felton water system, the community would have to purchase it from Cal-Am. In order to achieve this, Felton would have to introduce a measure to be voted on and approved by a 67% margin of the voters of Felton.²⁷² This measure utilized the 1982 California Community Facilities Act. This act allows for California communities to create a "mello-roos," a special tax district, in which additional property taxes for real property owners of that district fund a bond to be used for the purpose financing improvements of public services.²⁷³ This measure to create the special Community Facilities District was known as Measure W and sought to create an \$11 million bond that could be used for the purchase of Felton's water system.²⁷⁴ Measure W was to be voted on in 2005. However, prior to the measure being voted on, Cal-Am launched a serious public relations campaign in Santa Cruz County and within the Felton community in an effort to defeat the measure.

In response to the introduction of Measure W, Cal-Am hired the Chattanooga, Tennessee, based political consulting firm The Moriah Group to fight Measure W.²⁷⁵ Cal-Am was very familiar with this Group, as they had hired them to fight re-municipalization attempts in Chattanooga Tennessee, Peoria, Illinois, and Lexington,

Kentucky.²⁷⁶ Cal-Am paid the Moriah Group \$37,000 to introduce a lawsuit challenging the legality of Measure W. When this lawsuit failed to materialize, Cal-Am embarked on an extremely costly misinformation campaign that included county wide mailers, phone calls, radio adds, and print adds, in an effort to defeat the measure.²⁷⁷ In response to this campaign by Cal-Am, FLOW launched its own campaign. The members of Flow knocked on every door in the small community of Felton three times to engage with citizens about the actual effects of the passage of Measure W.²⁷⁸ Ultimately, Cal-Am public relations campaign failed and in July 2005, the citizens of Felton voted by a 3-to-1 margin to pass Measure W.²⁷⁹ The measure was approved by the Santa Cruz County Commission, and upheld by a Santa Cruz County judge.²⁸⁰ Measure W, once passed, stipulated that the public San Lorenzo Valley Water District, which served most of Felton's neighboring communities but only 5,700 persons, would use the money from the bond to purchase the water system from Cal-Am.²⁸¹ The San Lorenzo Valley Water District used its calculation method for evaluating the cost of assets in a water system, and arrived at the conclusion that the Felton system was worth exactly \$7.6 million dollars.²⁸²

Soon after the passage of Measure W, Cal-Am proposed merging the Monterrey and the Felton water districts. This would have had the effect of eliminating the ability of Measure W to be implemented. However, in early August of 2005, a judge with the California Public Utilities Commission (CPUC) decided that this could not happen.²⁸³ While the CPUC decided against the merger of the Felton and the Monterrey water

districts, in October 2006 they flatly denied the petition of Felton to be allowed to purchase its water system.²⁸⁴ Once CPUC had denied Felton the ability to purchase their water system, the citizens of Felton hired lawyers to investigate the possibility of seizing the water system through California's eminent domain laws.²⁸⁵ The ability to use eminent domain gained ground when Santa Cruz County officials expanded the boundaries of the San Lorenzo Valley Water District to include Felton.²⁸⁶

While the San Lorenzo Valley Water District had evaluated the Felton system's assets at a worth of \$7.6 million dollars, FLOW estimated its worth at between \$10 and \$12 million. Cal-Am countered, arguing that its evaluation had returned a value of the assets in the amount of \$25.6 million, and at one point, even stated that the system may be worth as much as \$46 million.²⁸⁷ It is worth noting that during the evaluations, it had been discovered that Cal-Am only paid Citizens Utilities \$3 million dollars for Felton's water system.²⁸⁸ The evaluation by Cal-Am relied in large part on 250 acres of watershed land that abutted Felton's raw water source. Cal-Am argued that the land would produce substantially large revenues from selling all of the timber, and then the commercial development rights to the land.²⁸⁹ The members of FLOW hotly disputed this evaluation. Once Cal-Am had raised its evaluation to a monetary value substantially higher than the Measure W bond would have provided to the community, Cal-Am dropped its court case contesting the eminent domain proceedings. However, two days prior to the eminent domain "valuation" court proceedings, Cal-Am consented to sell Felton's water system. On Friday, May 30, 2008, the San Lorenzo Valley Water District

purchased the system for \$10.5 million dollars in cash, and the assumption of \$2.9 million in debt, from the water treatment facility built in 1997.²⁹⁰

The campaign that Cal-Am embarked upon against the citizens of Felton and their community organization FLOW was long and arduous, embittering both Cal-Am and the people of Felton. It is estimated that Cal-Am spent millions of dollars throughout the six year conflict on legal fees and public relations campaigns to prevent the re-municipalization of the Felton water system.²⁹¹ In response to the municipalization and regionalization, the members of FLOW spoke out about how the water system would be different now that it was in the San Lorenzo Valley Water Districts control. Barbara Sprenger, of FLOW policy committee stated after the deal that, “The people on our water board manage our water as part of our watershed...they care, and they are local--we see them at the grocery store. You really have to have local control over something so vital”.²⁹² Felton, California, only accounted for .8% of Cal-Am entire customer base, while accounting for nearly 18% of the SLVWD.²⁹³ This populist sentiment was readily evident in the immediate decision of the San Lorenzo Valley Water District to prohibit any future timber or commercial development on the 250 acres of watershed land that Cal-Am had valued so highly.²⁹⁴

A critical component in the Felton case was the amount of public involvement. It took a large amount of involvement for the community to become aware of the negative effects that resulted from Cal-Am's private ownership. It also requires a great deal of public involvement to understand and develop the alternatives that the community could

employ. The contracts in Atlanta and Indianapolis that took the communities into PSP arrangements suffered from serious lacks in public participation. However, the choice to reclaim the water asset from Cal-Am in Felton was put forward by a public organization and involved input and participation from nearly all of the community. Between 2002 and 2005, the citizens of Felton held “dozens” of town hall community meetings to discuss the reasons and implications for and of purchasing their water system.²⁹⁵ This was in contrast to Cal-Am's not engaging with the community over its decision to purchase its water system. Rather than working with the community to create an equitable transfer or deal with the community, Cal-Am spent millions of dollars on negative public relations campaigns, and on legal fees to stop the citizens of Felton.

This case outlines the steps that the community of Felton undertook to regionalize their water system. This process was arduous but in the end was successful. It demonstrates the difficulty in municipalizing and regionalizing when a community water system is owned by a private company. It also shows that alternatives exist that communities can utilize--such as regionalization strategies and public-public partnerships--that can help them achieve their community needs, and that do not rely on neoliberal modes of operation.

Evaluating PUP and PSP through the Case of Felton, California

Evaluating the differences between PUP governance regimes and PSP governance regimes, allows us to evaluate the case of Felton, California, in regards to PUP benefits broadly, and regionalization benefits specifically. There is one overarching

difference that affects the entire structure of these differing service arrangements: public-public partnerships are fundamentally constructed in a not-for-profit manner.²⁹⁶ Because private sector participation arrangements are based on cost recovery mechanisms, as well as the need to generate profits, they almost always lead to tariff increases that are manifest in the increasing end user cost of system customers.²⁹⁷ This can be seen in the case of Felton, California, which had continuous and substantial rate increases over the six year period in which California American owned and operated Felton's system. This was despite the guarantee by Cal-Am to the California Public Utilities Commission that its holding company, RWE, would not implement tariff increases as a cost recovery mechanism to offset the price that RWE paid for Cal-Am parent company, American Water.

The fact that PSP arrangements are based on cost recovery and the need to generate profits also leads to a very expensive contract creation processes. This process requires substantial amounts of capital for communities to hire legal consultants to carefully create and evaluate contracts in which profit incentives, maintenance and labor targets need to be created in a clear manner that achieves the goals that communities are seeking. This aspect of profits arising from contractual arrangements often leads to private sector contractors underbidding the cost of the contract and the subsequent renegotiation of the contract to increase profits. The need to generate profits also leads to communities that partner with the private sector to reorient their expertise from municipal

management to contractual regulation and oversight, which can be costly in and of itself.²⁹⁸

The community of Felton did not engage in an expensive contractual arrangement with Cal-Am, due to the nature of asset divestiture transfer in the state of California. However, they did save a great deal of money with the choice to regionalize, rather than to go through the request for proposal and subsequent contract process to hire a private company to operate and maintain their water system. Felton's community did not have to hire a team of outside legal or managerial consultants to evaluate the regionalization effort in which the community of Felton was engaging. They also saved a great deal of money choosing not to enter into an expensive contractual process to resell their asset after purchasing it, as was the case in Indianapolis.

This lack of profit incentive also leads to an increased level of trust between both parties involved in PUP arrangements that results in less political and public opposition to these arrangements.²⁹⁹ This was certainly the case for Felton. The prospect of regionalizing was overwhelmingly supported by the community, and witnessed only miniscule public opposition. It was also supported politically by Santa Cruz County, which voted to increase its services district to include to community of Felton, and that helped the San Lorenzo Valley Water District move forward with the regionalization effort.

Another critical distinction between PSP and PUP is that due to PUP arrangements not outsourcing their operations and management, or fully divesting the

ownership to a private organization, there is no loss of expertise in PUP arrangements. In fact, rather than a loss of expertise, there is a bolstering of expertise that can have long lasting positive effects for both partners involved in PUP arrangements. This is seen in Felton, which is now in a position to recreate a new expertise base after over a hundred years of private ownership and operations. This allows communities to continue to develop the skills that it needs to address its own water system's needs, in conjunction with its neighboring communities, who will also be provided with water services by the same municipal operator.

Public-Public Partnerships and PSP arrangements differ in yet another way. PUP must be between two public organizations. This helps prevent a loss of transparency and accountability. PSP arrangements often demonstrate a secretive contract process that is almost always free from public participation and engagement in the creation of the contract, due to the principle of "commercial confidentiality".³⁰⁰ This distinction is evident in the case of Felton. When Citizens Utilities transferred ownership of Felton's water system to California American, it was done without any involvement or choice from the community. However, in regards to the PUP regionalization effort, the community was extremely involved in the process, and specifically stated that they felt they had more transparency and accountability once the San Lorenzo Valley Water District began managing their water systems. This increased transparency and accountability is also driving factor in Public-Public Partnership arrangements focusing more on capacity building rather than simply on full cost recovery principles.

Perhaps the most important difference that again evolves from removing the profit motive is that all revenues which are created from the partnership are reinvested into the water system.³⁰¹ This creates an evolving cycle for improving the equity of the actual water systems that the PUP arrangements preside over, and removes the ability for partners to under-invest or over-evaluate capital improvements and maintenance. This aspect of PUP arrangements can also be seen in the Felton case. Whereas, under the ownership of Cal-Am, there was little understanding of how their increased water tariffs correlated to system improvements, under the San Lorenzo Valley Water District (SLVWD), citizens of Felton vote on all tariff increases, and the SLVWD must make a compelling case as to why rates need to be raised, and what infrastructure the raised rates will be maintaining or creating.

Evaluating the Benefits of Regionalization in Felton, California

Now that the general benefits of PUP have been identified in the case of Felton, it is critical to examine the specific ways that regionalization has helped the community of Felton. The first benefit of regionalization is that it creates economies of scale. When the community of Felton regionalized with the San Lorenzo Valley Water District, they added one more community to the number that they currently served, increasing from six communities served to seven communities served. This increased their overall connections served by 18%, and increased the SLVWD “economy of scale.”

The second benefit of regionalization is that it fosters collaborative development.³⁰² In the Felton case once the asset had been purchased from Cal-Am-- which had evaluated selling the 250 acres of land around Felton's water source--the SLWVD immediately implemented protections that would keep it free from both logging and commercial development. Once the SLWVD had acquired the land, they started a forum process with geologists, fisheries biologists, historians, Felton residents, and other SLWVD community members to develop a plan for how to best restore and preserve the land. This was not only for the benefit of Felton, but also for the benefit of the other communities that were interconnected with the SLWVD.³⁰³

The third benefit of regionalization is that it encourages cross communication and evaluation of program management and project development. This aspect of regionalization is directly pertinent to the case of Felton California. The SLVWD 2013 General Plan acknowledges that the SLVWD is made up of three different and totally interdependent water systems. These systems are made up of the Northern Distribution System, the Southern Distribution System, and the Felton System.³⁰⁴ The Southern Distribution System relies on two groundwater wells and often faces problems during high usage times during the summer. While the district allocated \$375,000 to build a third well to alleviate the production pressure of the other two wells, the General Plan called for a strategic interconnection of all three systems that will allow a transfer of water from systems with ample supply to systems that are lacking supply because of drought or through maintenance failures.³⁰⁵ This interconnection and transfer of water through the

system will allow the Southern District to utilize surface water from the Northern and Felton districts, allowing the Southern Districts groundwater aquifer to undergo a greater rate of recharge.³⁰⁶

Another example of collaborative development, and the cross communication and evaluation of program management, and project development, is the SWLVD utilization of Loch Lomond water. Historically, the SLWVD has water rights to purchase a certain amount of water from the city of Santa Cruz out of the Loch Lomond Reservoir. However, from the late 1970s until the community of Felton regionalized with SLVWD, they had not utilized this ability to receive this water. Once Felton regionalized, plans began to be drawn up to develop a project between the SLVWD and the City of Santa Cruz to divert this raw water allocation to the Felton treatment plant. This extra water source would be utilized to keep other water systems within the district from avoiding the overproduction of existing groundwater resources.³⁰⁷

These are both prime examples of how the regionalization of Felton within the SLWVD not only benefits the community of Felton, but also benefits the other communities that are a part of the SLWVD, and certainly lessens the financial constraints and bureaucratic red tape of the interconnection of the systems that they would have faced if they had been owned and managed by different municipal operators. It is important to note, that within the example of Felton, both the second and third aspects of the benefits of regionalization are specifically tied together.

The fourth benefit of regionalization is that it facilitates public involvement, and incorporates public values into various program assessments. The community of Felton experienced this benefit even prior to the regionalization within the SLVWD. During the long and arduous re-purchasing process between Cal-Am and Felton, the SLVWD supported Felton's decision to regionalize. The SLVWD helped Felton by independently evaluating the price of the system as well as extending their service boundaries to allow Felton to move along the path of municipalization and the subsequent regionalization. They also upheld the community's desires to immediately prohibit all development projects on the 250 acres of watershed land, and brought in a host of experts to work with the community to increase the equity of the ecosystem on the watershed land. The SLVWD was also more transparent in their rate setting process, as well as in the development of future projects. The SLVWD website engages with communities and sets up meetings within the different water system areas that it serves to discuss and gain feedback from the local communities on the SLVWD projects. Compared to the secret and obfuscating rate setting process and development projects that Cal-Am employed, the SLVWD is transparent and engaged with its communities, upholding their public values.

The fifth benefit of regionalization is that it helps to increase overall communication between state, local, and regional water agencies. This is manifest in the General Plan of the SLVWD. This Plan strives to interconnect three independent water systems, and to help each one address the needs facing it. It has also created increased communication between the SLVWD water system in Felton and the city of

Santa Cruz in determining how to receive and treat the water from the Loch Lomond reservoir. The interconnection and cross communication of the SLVWD systems has been so successful that the 2013 General Plan for the SLVWD includes the incorporation and regionalization of yet another geographically close water system, the Olympia Mutual Water Co. Like Felton, it started off with an increase in the SLVWD service boundaries so as to subsume the water system. This incorporation occurred when the community served by Olympia explored the possibility of treating and maintaining its own existing water supply due to the environmental violations and failings of the Olympia Water Company. However, through working with the State of California agencies and the SLVWD, the state's water agencies recommended that rather than the community attempting to operate and maintain its own extremely small system, it should look at partnering with the geographically close SLVWD. Working at the community, regional, and state level, all parties involved reached an equitable agreement to incorporate the persons served by Olympia into the SLVWD.³⁰⁸

When community water systems are examining water services governance regimes, they need to be aware that PSP arrangements are not the only arrangements that they have the option of taking. Not only this, but they need to be familiar with the effects that both PSP and PUP arrangements tend to exhibit, so as to best choose the appropriate governance regime for their community's needs. This is critical because communities need to be able to exercise choice in their partnership agreements, while at the same time retaining the malleability to change or shift from arrangements that are not working for them. Thus, the mere existence of PUP governance regimes that rely on a different set of

political-economic principles serve to provide an alternative for communities. They also provide a basis for incorporating principles of PUP into PSP in order to create more equitable PSP arrangements.

THE NEOLIBERALIZATION OF WATER SERVICES: LESSONS LEARNED

Neoliberal policy has flourished since the start of the 1980s, though its roots extend back to the nineteenth century. This political-economic understanding of the relationship of governments, persons--including corporations--and markets has changed many aspects of the ways in which we, as a society, operate and function. The global financial and international trade institutions, including the World Bank, and the IMF, have exported the neoliberal model throughout the world. This model has fundamentally changed the political-economic landscape of much of the world from Keynesian capitalism to a more “state free” form of highly liberalized capitalism. Throughout the 1980s and 1990, these neoliberal policies have changed public services landscapes around the globe. As part of this process, municipal water systems that had been traditionally owned and operated by the state began to be incorporated into the global private services provision markets. These new arrangements that water services became subject to soon became known as Private Sector Participation (PSP) arrangements. These arrangements allowed either the private ownership and operations of municipal water systems, or the outsourcing of operations and management of public water systems.

Since the late 1990s, the process of the neoliberalization of municipal water systems has affected regional landscapes in the United States. This process was the result of a general policy shift within the United States towards implementing neoliberal policy

throughout all levels of government during the mid to late 1980s. These policy shifts created the space for the entrance of neoliberal philosophy in the United States water sector. Legislation and executive orders put into place throughout the Reagan, Bush, and Clinton administrations implemented neoliberal policy in the marketplace. These policy shifts, most notably the 1997 IRS tax reform legislation, created the necessary conditions for the private water services market in the United States, and led to the neoliberalization of United States water systems.

This transition has profoundly affected the way the United States funds its water systems. The changes Congress made to the federal funding system by transitioning from grants to the State Wastewater Revolving Funds (SWRF) and Drinking Water State Revolving Funds (DWSRF) created a situation where community water systems across the United States are now responsible for generating close to 100% of their investment needs. This situation put United States community water systems in dire need of capital to improve their water systems. The United States government responded to the need faced by community water systems by recommending neoliberal governance regimes, exemplified in PSP arrangements.

Arrangements that include a transfer of asset ownership or long term contractual operations and management rose dramatically in the United States since 1997. However, they have resulted in only mixed success. The cases of Atlanta, Georgia, and Indianapolis, Indiana, demonstrate that there are common effects from the neoliberalization of United States water systems. These effects are produced by neoliberal philosophy and policy and thus transcend specific geographic and political-economic

contexts. Neoliberal policy does not manifest itself uniformly throughout these locations. Each case exhibits how PSP arrangements, as well as their outcomes, affect the specific political-economic-social context where they existed. Yet, the predominant negative effects of PSP arrangements are caused both by short contractual evaluation periods and by major oversights and deficiencies in the drafting of contracts. They are also caused by the lack of regulatory oversight that is needed to oversee PSP arrangements. Contract deficiencies subsequently led to a whole host of other problems experienced by the communities that entered PSP arrangements, including the dislocation of labor and the increase in end-user cost.

A new modality of governance regimes, known as Public-Public Partnerships (PUP), arose as an alternative option for communities looking to solve the serious problems that they currently face. These PUP arrangements are based on fundamentally different principles than PSP agreements. They offer an alternative to neoliberal governance regimes, which does not produce the negative effects associated with neoliberal regimes. Perhaps the most important aspect of PUP arrangements is that they are based on a not-for-profit agreement between two public entities. The removal of the profit incentive drastically reduces the cost of contractual negotiation and drafting, as well as system evaluation and management. This is due primarily to PSP contracts including profit incentive arrangements, as well as including contractually stipulated investment and maintenance targets that are connected to a contractual service fee. This fundamental difference between PUP and PSP removes many of the deleterious aspects of PSP. A critical benefit of PUP arrangements is that their not-for-profit schema allows

all of the capital produced by the water system to be reinvested into that water system, rather than being expatriated in the form of profits. This creates a situation where PUPs consistently reinvest, and thus continuously build equity and expertise, in the water system. The case of Felton, California, highlights the benefits of PUP.

One of the most important aspects of PUP as a governance regime are the ways in which they provide alternatives for communities. PUP does this in two distinct ways. Firstly, they are based on different principles that have been documented producing a wide range of positive benefits. Therefore they offer a wholly different alternative to arrangements that are based on neoliberal policy, while producing well documented positive systems benefits. Secondly, they provide a schematic for changing PSP arrangements themselves, and the effects that they often create. The overarching negative effects of PSP arrangements arise from the various aspects of a for-profit goal in water services contracts. If PSP arrangements are changed slightly so as to be based on a not-for-profit arrangement, many of the deleterious effects that PSP causes would be ameliorated. Thus, incorporating tenets of PUP into PSP, such as the not for profit stipulation, PSP arrangements could be created in such a way as to achieve more equitable outcomes for both companies and communities.

Ultimately, PSP arrangements are not going to stop. Communities will likely continue to embrace them throughout the world in the years to come. Due to this likely continuance, the importance of creating equitable PSP arrangements needs be realized. PUP arrangements have continued to grow in popularity and will continue to offer an alternative to PSP. PUP also offers ways to fundamentally change PSP arrangements and

the effects that they produce. Ideally when communities are faced with water system's needs, they will equally evaluate all of the options that are present to them, and choose the one that produces the greatest long term community benefit. Regardless of which arrangements local governments put forward, they need to spend a great deal of time and effort involving both the community and labor organizations, to create equitable, and transparent, situations for all parties involved in the water systems arrangement.

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