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Meaningful Performance Measures for the Vehicle Size and Weight Programs that are Useful for all Stakeholders

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16. Abstract

The research project to develop meaningful performance measures useful to those engaged in the Nevada vehicle size and weight enforcement program yielded a much better understanding of the relationships, obstacles, and opportunities for improvement in this vital program area. This report documents those findings. The most significant discovery was that the effects of existing enforcement strategies intended to reduce the frequency and severity of overweight vehicles and provide for enhanced safety of motor carrier operations cannot be adequately determined based on available historical data. The creation of performance measures to determine the cost effectiveness of modifications to existing strategies and/or allocation of additional resources to specific strategies is impractical and premature absent new data collection. Consequently, the research team recommends a data collection and analysis plan be developed cooperatively between NDPS and NDOT in order to understand the immediate and residual effects of current enforcement strategies. This data collection plan should be incorporated into the upcoming (FFY 2023) State Enforcement plan (SEP), which is developed cooperatively by the vehicle size and weight enforcement alliance comprised of members of NDPS and NDOT and prepared on an annual basis.

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Investigation of Meaningful Performance Measures for Vehicle Size and Weight Enforcement

FINAL REPORT

Nevada Department of Transportation

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EXECUTIVE SUMMARY

The research project to develop meaningful performance measures useful to those engaged in the Nevada vehicle size and weight enforcement program yielded a much better understanding of the relationships, obstacles, and opportunities for improvement in this vital program area. This report documents those findings.

The most significant discovery was that the effects of existing enforcement strategies intended to reduce the frequency and severity of overweight vehicles and provide for enhanced safety of motor carrier operations cannot be adequately determined based on available historical data. The creation of performance measures to determine the cost effectiveness of modifications to existing strategies and/or allocation of additional resources to specific strategies is impractical and premature absent new data collection.

Consequently, the research team recommends a data collection and analysis plan be developed cooperatively between NDPS and NDOT in order to understand the immediate and residual effects of current enforcement strategies. This data collection plan should be incorporated into the upcoming (FFY 2023) State Enforcement plan (SEP), which is developed cooperatively by the vehicle size and weight enforcement alliance comprised of members of NDPS and NDOT and prepared on an annual basis.

The alliance has evolved over time with the principal purpose being to develop an SEP and subsequent certification to FHWA that ensures compliance with federal law and protects federal constructions funds from being withheld. Ultimately, useful performance measures could be developed by the existing vehicle size and weight enforcement alliance. However, the stakeholders agree creating a memorandum of understanding (MOU) between NDPS and NDOT that would document authority and responsibilities and provide a mechanism for adequately funding the program area is desirable. Evolving technology, an aging inventory of portable scales, and inadequate resources for improvements to fixed facilities, are among the budgetary challenges facing both agencies and is but one example of obstacles that could be addressed in an MOU.

Introduction

Performance measurement and ultimately performance management continues to develop and mature as an essential element of good governance through multiple, interlaced domains. In-depth investigation of performance-based dynamics for an inter-organizational program jointly administered among state-level agencies to meet federal-level reporting requirements needs to acknowledge these different domains. These domains serve as a useful frame of reference as this research explores the ongoing experiences surrounding the program in question discussed in the following chapter. Public sector performance reference domains include public policy and public administration scholarship, federal government practices, state government practices, and performance practice and advocacy.

Research through state DOTs is recognized as an organizational pursuit with a focus on providing for organizationally focused outcomes. The work is undertaken within the broader environment of other transportation focused organizations particularly in the public sector. This aspect of state DOT research extends to investigations exploring organizational dynamics such as performance measurement (Knott & Martinelli, 2005).

The phase transition from performance measurement to performance management requires making real the idea of managing based on performance. The collected data must be analyzed and scrutinized to the point of providing the impetus for changing management strategies (Radnor & McGuire, 2004).

Initiatives, such as performance measurement and management are central to the conception of new modern bureaucracies that can overcome their histories to adapt to complex contemporary public sector situations (Pollittt, 2008).

Performance management goes beyond just being a combination of two challenging human concepts, performance, and management to include the complex interrelated environment in which this concept emerged and continues to evolve. This environment includes public administration studies and associated explorations. A significant part of this emergent environment includes the federal government, integration of performance management including the congressional initiatives.

Similarly, the state of Nevada experienced its own emergence of performance management through executive and legislative processes. Included are distinct to the state's experiences are the experiences the Nevada Department of Transportation and allied state organizations have experienced with performance management. All these activities at different scales continue occurring within the broader, global experiences with performance management as an organizing practice. Public service motivation (PSM), when investigated in terms of work motivation continually indicate intrinsic motivators such as esprit de corps remain more central than extrinsic motivators such performance pay. It's the work that is most important (Anderfuhren-Biget, Varone, Giauque, & Ritz; 2010).

The roots of performance management can be traced to many different aspects of government and particularly the federal as it triggered throughout the 20th century. Simplistically expressed, the public sector transitioned from a historically patronage system supplying collateral benefits for whomever won the latest election to the nonpartisan, policy implementing professionals of today. This transition provided a portion of the impetus for the establishment of schools of public policy and public administration among institutions of higher learning.

Performance management presents a significant potential to become a transformative practice for the public sector. As such, the practice of public management has emerged as a significant initiative among good government nonprofits and other institutions associated with the provision of goods and services. This effort has produced seminal guides, training, coaching, and other initiatives to enhance public sector governance through the application of performance management concepts.

As individuals working in public sector careers become more aware of the concept of performance management, they instinctively understand the benefits of this approach to achieving desirable outcomes. While public sector motivation is recognized as a driving force behind working in the public sector despite broader counter narratives, work continues to better understand the social, psychological, and cultural aspects of these dynamics. In short, we understand individuals excel in their careers working in the public sector, yet we don't necessarily understand the reasons they do (Ritz et al., 2016).

One recurring reality about performance in the public sector is that on a personal level it is not closely related to pay for performance and more closely tied to the intrinsic value individuals have in their work outcomes. More succinctly, individuals want to do a good job (Frank, 2011).

Perhaps even more contemporary than performance management in public administration is the emerging debate about the realist approach to modern government through governance of stakeholders with an accountability backstop (Almquist et al., 2013).

Literature Review

This research integrates a wide range of information to inform the conclusions drawn through the participatory action research (PAR) process. The many of the different types of information were identified while organizing the PAR such as industry reporting on the performance initiative.
However, as is fundamental with the exploratory nature of PAR a significant number of themes surfaced throughout the process that required deeper exploration in the literature. These include topics as diverse as public sector work motivation and the complex dynamics of information dissemination. All of the originally identified as well as those discovered through the PAR process are discussed in the following section.

Ultimately this foundational information serves as a resource for the insights discussed udder PAR exploration, Results, and Conclusions sections of this report.

Any exploration of performance, whether in the public sector, private sector, in sports competition, or among nation states will quickly reveal the widely varied and transient personal conceptualizations that are held. The following discussion traces perspectives of public sector performance that emanate from inside and outside public sector service. In other words, from the perspective of doing the work and the perspective of observing the work. Successful performance measures should be mindful of these different perspectives and the potential tensions that often arise from observer observed dynamics. This discussion begins from the observer perspective of public administration and then turns to the New Public Management paradigm that nurtures the performance management pursuit.

Public sector work occurs in an environment distinctly different than work in the private sector. This distinction provides impetus for understanding the dynamics of how public policies generated through the political process of government are implemented in the administrative processes of government. Roughly, since the mid twentieth century this pursuit for insights has three distinguishable phases. Post WW II Public Sector Development (1950 – 1970) in which the public sector, like much of government in western oriented countries experienced a transition toward a more science-focused, information driven approach. While most of this emphasis remained in the normative, descriptive accounting of public service there always emerged various ideas about how to demonstrate government accountability in a mode comparable to the private sector. The second phase, Public Sector Professionalization (1970 – 1990) is distinguishable with government service professionalization as political and economic approaches to democratic governance continue shifting and the private sector is held up as the standard. This is the environment in which New Public Management emerged. The third and ongoing phase is viewed as Public Sector Maturation (1990 – on-going) in which ongoing research and theory building for public policy and administration continue maturing to understand public sector service as both prescribed and practices in an increasingly complex democratic governance environment.

NEW PUBLIC MANAGEMENT

New public management's origins can be traced to multiple sources involving different philosophical perspectives on the efficacy of government in societies typically ties to accountability. Accountability for performance in the New Public Management framework comes from initial ideas of public service in the Progressive Era at the turn of the 20th century through the 1930s with benchmarking. Ultimately, "Decisions about administrative structures are political questions and are closely related to political philosophy" extending to the idea of performance management (Gruening, p. 20, 2001). Public sector organizations have been experiencing the consistent nudging of political entities toward versions of accountability since the 1980 and 90s when the label New Public Management or New Public Governance gained prominence. Some of the implications are privatization, contractual relationships, communications, and organizational boundaries overall (Almquist et al., 2013). It should be noted that performance measurement and New Public Management represent a distinct theoretical perspective among public administration scholars that continues to be discussed and debated in terms of theoretical validity among other comparisons (Riccucci, 2001). This is complicated by public administration scholarly practice of drawing on a wide range of theoretical fields yet remaining relatively isolated when viewed through the outcomes produced in academic journals (Ni et al., 2017). While public administration requires elements of legal, managerial, and political theories, dynamics, practices, and so on, there is little actual formal integration among the academic and scholarly efforts among the different focus areas (Wright, 2011). In other words, while in practice public administration, law, management, and political science reality draw on each other for the day-to-day tasks of doing the different work, they do not formally explore each other theoretical space.

For example, the public verses private sector motivation, performance, innovation, and similar emergent characteristics are anchored with the notion that public sector actors engage more freely in volunteer activities. This implies a bias toward public service (Piatak, 2014). Interestingly, investigating actual practices identifies innovation through collaboration among public and private sector actors is near universally identified as fundamental in connecting government service with accountability (Agolla & Lill, 2013). New Public Management seeks to leverage these observable tensions between public and private sector actors to enhance the public sector performance.

The New Public Management framework for public administration surfaces some longstanding philosophies about public service. In terms of transportation, the prescriptive critique can be captured in the National Academies of Sciences, Engineering, and Medicine (2017) identification of six distinct areas for strategic program delivery including "Performance-based program delivery: State DOTs are becoming more focused on incorporating performance measures into program delivery. A performance-based program delivery approach increases transparency and accountability, encourages innovation, and helps stakeholders make decisions based on real information and performance. More than half of the agencies in this study track the performance of their program delivery" (p. 5).

Compared to a review of the status of the transportation workforce capacity and competency were there was little attention paid to the role of performance management as an organizing concept for employee development (National Academies of Sciences, Engineering, and Medicine, 2019a). Essentially, performance is mission critical, yet no one appears responsible.

This discontinuity extends to the meanings within performance measurement and resulting management which extend to the broader view of public administration (Raadschelders & Lee, 2011). Quantitative information implies objective knowing in a positivist and empiricist approach to knowledge. Meanwhile qualitative information favors critical theory, post-positivist, and interpretive knowing. A focus on ontology and epistemology should guide the utility of quantitative and qualitative methodologies (p. 26).

These ontological and epistemological concerns are displayed with the perceived continual readjustment process viewed as manipulation in service of justifying New Public Management precepts. This criticism is described as "churn" as it causes continuous challenge to longitudinally evaluating government functions through time as well as devaluating organizational institutions (Pollitt, 2008). Regardless, the area of accountability in the public sector permeates throughout public administration theories, bureaucratic practices, and rhetoric about public service (Shafrizt, Russell, Borick, & Hyde, 2017) and the tensions about broader dissemination of performance measurement information is not dissimilar to the ongoing work involving the broader dissemination of transportation-related research information. While both performance measures and research inform agents close to the source of the information the information could and should be invaluable to audiences well beyond these limited, situational actors (Knott & Martinelli, 2005).

The Nature of Public Sector Service

While New Public Management represents a prescriptive version of public administration scholarship informing the investigation of performance measures, the interpretive knowing of motivation research provides additional perspective. Public service motivation (PSM) appears to exist and demonstrates positive influence on public sector outcomes. PSM works within supportive work environment with good relationships suggesting "a social identity theory of work motivation" (Anderfuhren-Biget et al., p. 232, 2010). This is demonstrated with public sector, as well as non-profit sector employees being more likely to volunteer and to volunteer for longer periods of time with local public sector individuals demonstrating greater altruism (Piatak, 2014).

Further research into public service motivation is increasing revealing that motivation is not central in human resource management in public organizations and that pay- for-performance tends to have counterproductive outcomes based in potential mismatch with individual propensity for public service (Ritz et al., 2016). An additional wrinkle reveals research into individual personal perceptions of public service indicate incentive programs may not be strongly related to motivation as much as motivation being related to perceptions of performance (Alonso & Lewis, 2001). People in public tend to try to do a good job for their own personal reasons. Further, one useful framework for individual conceptions of public sector motivation involves four characterizations. One, "Samaritans" or "individuals…strongly motivated to help other people". Two, Communitarians" or "motivated and stirred by sentiments of civic duty and public service" Three, "Patriots'" or "act(ing) for causes much bigger than themselves, protecting, advocating, and working for the good of the public." And four, "Humanitarians" "motivated by a strong sense of social justice and public service". With "all four groups convey(ing) a general distaste for politics and politicians" (Brewer et al., pp. 25-60, 2000).

Expanding out from the individual there are useful notions about organization and motivation. Lok and Crawford's (1999) research revealed "organizational subculture had a greater effect on organizational commitment than did organizational culture." In particular, the study showed that innovative and supportive subcultures have a significant and positive effect on participants' commitment" (p. 371). This subcultural and commitment link has been identified in the performance initiative. The performance measurement and management implementation initiative continuously occur within organization along with the ever-present tensions of matching perceptions consistently throughout the authority structure. Supervisors and employees continuously struggle to achieve productive perceptions of each other view of the workspace.

These efforts may benefit from the undertaking of mutually advancing the common goal of performance measurement and management (Penning de Vries et al., 2020). Performance pursuits have a role to play in public sector motivation and performance.

Innovation Catalyst

New Public Management positions the performance initiatives as an innovation of the application of private sector dynamics of accountability to public sector governance. As Potts and Kastelle (2010) establish, "innovation refer not simply to something new, but rather to a micro and macro dynamic process by which agents, organizations, institutions and the macro structure of the economy are transformed by the effects of a novel idea, however embodied" (p. 123). Further, modern economies and societies are complex and overlapping to the point of challenging distinctions between individual and organizational aspects of innovation, creativity, and problem-solving (Bloch, C. & Bugge, M. M., 2013, p. 11). Similarly, Moussa et al., (2018) identify "The market innovation literature along with perspectives on public sector innovation showed that within any organization, an innovative culture must be supported by individuals in power" (p. 231). "A variety of factors influence and drive public sector innovation which can be grouped into strategic and political, organizational, data governance and technical dimensions". (Janssen et al., p. 194 2017). It should be emphasized that tacit work of implementing public sector innovations, such as performance management require detailed attention to "organizational routines which represent the most micro feature of an organization", the "fundamental change of implicit routines" (Lin et al., p. 476, 2017). Simply, if the performance initiative is to be a true innovation it must generate fundamental change within the system.

Innovation as a catalyst, a small item that makes a much larger item possible adds to the potential applications of the concept. The need to understand innovation has long realized understanding the positions and more importantly the interests of stakeholders impacted or benefiting from the innovation such as the public agencies and industries associated with vehicle size and weight (Bunn et al., 2002).

While organizational culture can foster innovation it has been observed that hierarchical cultures that "prefer stability in their systems of thought and action" may lead to innovation failures (Büschgens et al., p. 777, 2013). Research indicates that top-down mandated innovations in the public sector are often generated through political dynamics with the reality of potentially being quickly altered or reversed (Bloch & Bugge, p. 11, 2013). The concept of innovation is significant in the dialogic of change and by extension the organizing premise of performance regimes.

Innovation exists in the literature involving transportation beginning with the public and private sector dichotomy. Overall, innovation, including the types of remote information gathering that would enhance data collection on rural truck activity would encounter a range of inhibitive dynamics embedded in longstanding organizations. Some inhibitive dynamics include “lack of profit motives”, “intellectual property and procurement restrictions”, and resistance or inability to change” (Orcutt & AlKadri, p. 66, 2009). The world of performance measurement and management innovation expands the continuing need in transportation-focused government entities to actively train to achieve the capacity for innovation which in itself is undergoing innovation (Laffey, 2017). Performance measurement and the potential performance management applications have the potential to be integrated into planning practices that shape initiatives as important as sustainability (Ramani et al., 2011). The implications for performance measurement in the vehicle size and weight program are interlaced with the emerging needs to better conceptualize global freight in light of shifting practices world-wide (Holguín-Veras et al., 2016b). Investigations have found that once stakeholder reach a collective understanding and agreement on the programmatic aspects of performance regimes, they are adapt in using desktop software and virtual environments to generate reporting platforms (White et al., 2016).

Performance Practice and Advocacy Organizations

Good governance organizations, such as The Urban Institute provide continuing support to governments in adopting performance-based approaches to service delivery. Harry Hatry has published through The Urban Institute a seminal guide, Performance Measurement: Getting Results (2006) providing pragmatic advice for developing, implementing, and managing with performance measures. This guide presents the performance initiative from the perspective of an embedded public employee charged with operationalizing performance measurement within an ongoing public sector initiative.

The guidance includes emphasis on the aspects of the undertaking that typically tend to be the most challenging and provides strategies for coping with these situations***.***

Prevention Programs and Difficult to Measure Outcomes

"Not everything that counts can be counted." Some outcomes may require indicators that are extremely difficult or expensive to track directly, in which case surrogate indicators or in-depth evaluations (or both) are likely needed. The following activities are particularly difficult to measure:

• • Prevention programs. These include programs such as crime and fire prevention, child abuse prevention, and disease prevention. Regulatory programs such as environmental protection and state licensing boards face the same dilemma: They also are ultimately intended to prevent a variety of public health and safety problems. But how can one measure the number of incidents that were prevented? Such a direct determination typically requires highly sophisticated and expensive program evaluation designs that attempt to provide some way to measure what would have happened in the absence of the program. For regular performance measurement, less sophisticated and less expensive alternatives are needed. The traditional approach is to use the number of incidents that were not prevented as a surrogate for cases prevented. In addition, sometimes surrogates can be found that track reduction in major factors known to lead to undesirable incidents, such as risk factors—factors that, if reduced, are expected to help prevent the unwanted incidents.

These indicators are important, however; reducing risk factors is an intermediate outcome. For example, the U.S. Department of Health and Human Services regularly surveys behaviors presumed to lead to health and safety problems among young people. These risk factors include poor diet, inadequate physical activity, alcohol and other drug abuse, tobacco use, and unsafe sexual behavior. Surrogates used for prevention of communicable diseases include age-appropriate vaccination rates (or non-vaccination rates). The survey data provide indicators of the presence of each risk factor among youth in the United States.

For regulatory programs, useful indicators of intermediate outcomes track the detection and correction of violations and complaints.

• • Programs in which major outcomes apply to a very small number of events. For some programs, the results of a small number of particularly important events may have significance far beyond their statistical incidence. For example, the results of a very small number of major federal or state litigation programs may be extremely important, even though the program has also litigated a large number of other cases that individually and collectively are much less important. Tabulations of overall litigation success rates, though useful, do not adequately

•• Consider the impact of the few very important cases. Another example is that of emergency response programs if only a few major emergencies occur during a reporting period.

Putting the Management into Performance

Public administration spans a diverse range of topics and initiatives involving the dynamics surrounding public sector activities. Individuals involved in careers in the public sector may not be fully aware of the level of engagement or the nuanced influences that these public administration activities play in their day-to-day activities. One specific item does, though make the connection between public administration and public sector employees. As Juliani and de Oliveira (2016) review of public management research over a decade (2004 to 2014) found, performance is the fourth highest keyword topic across the spectrum of research keywords flagging the pervasiveness of governance accountability in the recent past (p. 1036). The emergence of performance measurement which Hatry (2006) defines “as regular measurement of the results (outcomes) and efficiency of services or programs” (p. 3): accountability.

There is evidence that the notion of performance in of itself influences human systems. For example, Gerrish’s (2015) statistical meta-analysis found merely having performance measurement systems improved performance. Further, with the inclusion of robust performance management best practices, such as bench marking notably better performance were observed (pp. 62-1). The consideration of performance has been observed to activate learning processes.

Moynihan (2005) connects the generative capacity of performance initiatives to providing single and double loop learning potential.

Single loop learning seeks the “exploitation of old certainties” while the potential for double loop learning goes deeper with “the exploration of new possibilities” (p. 214). Considering performance potentially challenges underlying norms to facilitate deeper considerations. One example identified by Jakobsen & Mortensen (2015) is “The classic rule-based bureaucratic form of governance has been challenged by the doctrine of performance management, which advocates that the managers of public service provision should be relieved of their rule-based constraints and instead held accountable based on their results" (p. 302). Further, Jakobsen and Mortensen (2015) conclude from their study of performance measures in education systems that rules do not decrease with the accountability of performance. Rather, they theorize the overall production rules of the rules-based bureaucracies are not allowed to fade in exchange for performance outcome rules of accountability (p. 310).

Jackson's (1993) early observations about learning identified "(i)f the introduction of performance measures/indicators is to give the expected pay off then it is necessary for public service organizations to have the capacity to learn from information signals that indicator provide, as well as the organizational capabilities to act upon that learning" (p. 14) are still salient. In summary, merely introducing performance under any public administration doctrine induces actions that can be viewed positively such as further generate learning cycles and performance concepts that are stuck dealing with the past unless deeper learning can be generated and nurtured.

Public sector performance elicits learning and positively oriented dynamics yet what are parameters for these dynamics. For example, typically elected officials are relatively close to the functional management level for the delivery of public services making performance ultimately the responsibility of this political and bureaucratic coupling and alignment (Walker et al., 2013). Beyond political and bureaucratic dynamics research indicates organizations that support "experiment with potential responses to emerging environmental trends, prospecting support vertical strategic alignment thus facilitating successful performance regimes (Andrews et al., p. 88, 2011). Essentially, performance dynamics are linked to strategic organizational alignments efforts. Beyond organizational alignment performance research "establishes a direct link between capacity and government performance" that is tied to "internal structures and processes of organizations" as well as a leadership "link between organizational characteristics and performance" (Andrews & Boyne, pp. 45-51, 2010). Going beyond political and organizational internal bureaucratic dynamics, Goh's (2012) investigations identified additional stakeholder involvement in development and implementation, accessing local knowledge, and treatment of performance as a learning and feedback system dynamics. Goh further concludes the performance discussion to performance measurement systems metamorphosis will remain sub- optimal in the public sector despite the high costs and investments that have been made (p. 40). Merely considering performance in the public sector generates change.

While communicating about public sector activities under the performance lens associates to identifiable positive attributes, more causal and purposeful attributes continue to be more challenging to identify. As an example, the management aspect of performance measures continues to be considered suspect. The measurement and evaluation of performance is typically observable, yet less observable is the using of the information in management activities for performance improvement (Radnor & McGuire, 2004). Fryer et al., (2009) summarizes the concern as "Around the world there are common issues arising in performance management systems from conflicts between different interest groups – between politicians and professionals, internal politics between factions and coalitions, pressures from special interest groups, conflict between central agencies wanting control and departments/local bodies and professionals all wanting autonomy" (p. 488, 2009).

Briefly, there are technical, systems, and involvement concerns. Technical issues involve indicators, the data, and items dealing with the mechanics of performance indicators. System issues revolve around those indicators and integration into the broader management world they are meant to inform. Involvement issues emerge within the human dynamics of assigning and monitoring accountability (Fryer et al., p. 489, 2009). Finally, this more rigorous assessment of performance, in the view of van Helden & Reichard (2013) roughly divides into two types: "A large amount of literature in this field has a dominant prescriptive approach and aims to contribute to the improvement of public sector performance" or as a "body of literature dealing with analytical, theoretical and explicative aspects of public sector performance" (p. 10). There is the performance program owner's manual perspective or the Monday morning quarterbacking perspective both of which can be helpful.

Consider the State Context

Performance accountability presumes the responsibility for what is being measured can be attributed to an entity that has influence over what is being measured. Thus, those responsible can make adaptations to improve outcomes and thus accountability.

When the situation involves an initiative required at the federal level for interstate and international reasons yet administered through the state and impacting at the local level, roles and responsibilities become complicated rather quickly. Crossett et al. (2019) characterize the situation as finding "(a) means to compare performance outcomes and business practices among peer organizations by using compatible measures and data with the intention of continuously improving agency and system performance" (p. 13). Subtly, as Wilson (1989) observed, even peer organizations can operate under uniquely different organization cultures with diverse senses of mission. State-level government organizations are the intersection of bottom up and top-down originating government functions.

Several situations to consider for state-level performance programs. First, research on the qualities of state legislatures suggests "that less professional legislatures" may allow for "more positive administrative outcomes" with performance related initiatives (Bourdeaux & Chikoto, pp. 261-62, 2008). State agencies need space to implement. Second, Hatry (2010) recommends performance measurement expertise focus on "(g)etting systematic citizen feedback—from all segments of the population—as a major way to obtain reasonably reliable data on service quality and outcomes" (p. S209). Constituent and customer perspectives are integral. And third, "measurements are used not only to manage programs but also to enhance and demonstrate accountability and transparency" making communication about performance central to the overall initiative (Bremmer et al., p. 183, 2005). State-level performance initiatives should be sensitive to establishing sufficient autonomy, focus on customers, and pay attention to communicating about the initiative.

State departments of transportation share the unique issues other state-level organizations continue to deal with as well as those unique to transportation's role as a public good and its traditional funding arrangement. At the core "State DOTs operate under heightened political pressures, and accountability mandates drive change in performance measurement practices" (Bremmer et al., p. 175, 2005). The Federal Highway Administration (FHWA) supports transportation performance management (TPM) in a manner organized around "safety, pavement and bridge conditions, transit asset state of good repair, system performance, freight, and air quality" (Harrison et al., p. 2, 2019).

Poister et al. (2001) identified through early assessments of performance management deployment of the federal initiative at state DOTs indicated reasonable acceptance of the federal challenge characterized as “widespread acceptance”, “customer orientation”, “top management commitment”, “deliberative pace and frequent reinforcement”, “ongoing communication”, “and omni-directional alignments” (p. 19). In Nevada, Duncan et al (2018) identified “(i)nitial priorities have been recommended for conducting a formal business planning process for the NDOT divisions and regions and modifying the employee evaluation process within the agency to include strategic and tactical performance measures” (p. iv).

The transportation sector of government continues advancing performance management practice with articulation of how to incorporate broader benchmarking performance practices into the focuses unique to mobility (Crossett et al., 2019). Moynihan and Kroll (2015) conclude “exposure to these new routines is associated with the use of performance data, but it does not necessarily follow that exposing all employees to the same routines would generate equivalent effect”. However, looking more broadly “suggests that routines can leverage behavioral effects not just by direct exposure but also through indirect effects” (p. 320).

Complex Performance Environment

Poister et al. (2015) characterize data aggregation and use through time as cycling through performance measures producing systemic data, program evaluation taking systemic data for programmatic attribution, evidence-based practice for gleaning effective programs that again undergo performance measurement (p. 30).

National Academies of Sciences, Engineering, and Medicine (2011) recognizes public sector information and knowledge about national and international freight networks and even the actual volumes of freight being moved is “only partially and anecdotally understood” (p. 21).

While the performance data for these various performance goal domains may be diverse, the data management process entails three fundamental processes with sub-processes: foundation (specify and define data, obtain data); reporting (store, manage, and share data); and insight (analyze and use data, present and communicate data) Harrison et al., pp. 6-10).

A scan of self-reported performance practices for transportation at the state and local level indicate state level efforts appear to be ahead of local implementation efforts. The scan organized the reporting around bridge, pavement, mobility, and safety attributes of the transportation system with topics such as data analysis and tools, target setting, collaboration, proficiency of staff and resources. (National Academies of Sciences, Engineering, and Medicine, 2019b).

Moynihan and Lavertu’s (2012) investigation of GPRS and PART found little observable evidence of public managers changing discretionary behaviors concluding “managers retain significant discretion in their use of performance information” (p. 601). Adopting quarterly performance reviews and focusing on fewer measures with complimentary routines attempt to foster management performance adaptation.

Poister (2010) makes the case that in the future change will apparently occur with increasing rapidity requiring clever, strategic responses that need to be informed with realistic, ongoing assessment of performance (p. S248).

Hatry (2010) characterizes "Considerably more attention will be paid to across-agency, across-sector issues. More formal "performance partnerships" will be formed.

Partners will agree on the outcomes to track and the targets for these outcomes, and they will identify each partner's role and responsibilities in producing those outcomes" (p. S209).

Hatry (2010) cautions that "the exponential increase in performance information…will lead to much misinterpretation and misuse of that information (p. S210).

Heinrich (2002) summarized the ideal requirements of outcome-based performance measures as: "(1) are closely aligned with their stated goals; (2) approximate actual performance as closely as possible; (3) are relatively simple and inexpensive to administer; and (4) make it difficult for managers to increase their measured performance in ways other than increasing their actual performance" (p. 712).

Kelle & Jin (2014) provide an approach to performance measures in the freight realm that demonstrate that the concepts can range widely. Their approach focuses on detailed mathematical analysis of collected data to develop descriptive matrices for six objectives: safety; reduced congestion; global connectivity; environmental stewardship; security; organizational excellence.

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Kelly (2005) observes "performance measures capture financial performance and internal process improvement, but they do not capture other ways that businesses create value, namely, through its customers and employees" which occurs in the public sector as well (p. 82).

Borrowing from the private sector, Kelly argues the natural higher level of performance is value creation and customer satisfaction.

Kroll and Moynihan (2015) assessed federal performance management reform initiatives in terms of training finding positive associations yet not able to establish any causality (p. 416). They conclude training informed managers "but it failed to equip managers to deal with implementation problems" (p. 416).

Moynihan's (2006) assessment of partial implementation of managing for reform (MFR) at the state level found "elected officials would not structure relationships to make the link between performance and accountability; perhaps agency managers would feel there are better ways to spend their time than seeking to reengineer processes, or perhaps they would see reengineering as a waste of time if they are not rewarded for cost savings" (p. 84).

Enhancements

Ellig et al (2012) reviewed the federal Government Performance and Results (GPRA) implementation over the initial decade plus since initial implementation and concluded the initiative should focus on communicating and making the connection between "high-priority performance goals" and "making performance data more relevant and useful" (p. 226).

National Academies of Sciences, Engineering, and Medicine (2011) advocates for "(t)he Balanced Scorecard is a performance measurement system that includes measures that reflect the tensions that exist for decision making. Instead of focusing on a few narrow measures, the scorecard juxtaposes measures of competing values" (p. 6).

National Academies of Sciences, Engineering, and Medicine (2011) identified 29 freight performance measures for the Freight System Report Card (balanced scorecard) to be reported in three tiers: “highly summarized and condensed report card itself”, brief one- to two-paged summaries…each measure”, and “links to more voluminous standing reports” (p. 23).

Performance evaluates as a public management system through design, implementation, operations, or use as operational objectives and strategy inputs resulting in improved performance outputs (van Helden & Reichard, 2013, p. 12).

Yang and Hsieh (2007) “As performance measurement continues to diffuse, technical knowledge, standards, and best practices have been developed, and studies have emphasized factors such as stakeholder support, technical capacity, leadership commitment, citizen participation, and technical training” (p. 870).

In addition to confirming the importance of external stakeholder participation, organizational support, and technical training, this study places them into the context of bureaucratic politics and links them to external political support (Yang and Hsieh, 2007).

Sanger (2008) posits ”(t)he value of performance measurement is recognized for helping executives hold their managers accountable for meeting their mandates and for promoting useful reward, sanction, and motivational efforts to improve the performance of management down the line” (p. 571).

Sanger (2008) draws four conclusions from investigating state and local performance:

•• Performance measurement is growing in states and local governments, but more often without the engagement of citizens and with unrealized use for management.

•• Some improvement is evident at all levels of government, but cities do better than states and performance management efforts are growing most successfully at the agency level.

•• Jurisdictions and agencies with the best performance reporting and performance management efforts have strong mission driven leaders at the helm who communicate the mission, motivate employees, shape strategies, and provide support, rewards, and sanctions for achievement.

•• The state of knowledge about what jurisdictions and agencies are doing, why, and with what success is growing but remains inadequate to inform intervention or policy” (p.581).

Inter-Government

Widespread implementation of public policy innovations, such as performance-based government administration often begin at the federal level of the spectrum of government in the United States. In the case of performance management, this may be linked to performance management initiatives beginning in other democratic governments around the globe such as in Europe.

State-level government forays into performance focused practices occurred in informal ways in response to different federal-level initiatives. This was followed in a more formal manner through state legislatures.

These efforts often were undertaken to replicate performance innovation undertaken at the local city and county levels of government within different states.

One public sector dynamic that emerged during the 21st century was the local adoption of federal employee practices into local government employee practices. This assimilation process emerges from multiple avenues typically involving legislative innovation or mandates as well as administrative innovation. The state of Nevada continues to assimilate performance management in different ways across state and local level governments. Early signs of performance management integration into Nevada state government occurred at both the local level and state level of government. These were typically initiatives undertaken in sub level parts of government as standalone initiatives. State DOTs historically measured performance as part of their planning and engineering functions in terms of system functionality. More recent is the response to pressures beyond the organization, such as political for accountability in business management processes. As Bremmer, Cotton, and Hamilton (2005) argue state DOTs will by the broad range in diversity and varying levels of complexity necessarily move forward individually with performance measurement practices in a generational fashion (p.176). Essentially, first- generation, traditional infrastructure and organizational measurement responds to directives, such as legislative in a total quality management framework. Second-generation agency, hierarchy of measurement begin to incorporate more long-term strategic visions into the performance realm as an organizing principle for business practices. Third-generation agency, catalyst-driven adaptation actualizes the ongoing practices of hierarchical performance measurement into management to serve as the impetus for organizational restructuring and adaptation of continuous improvement practices (pp.176-77).

Performance Measurement Definitions

The International City/County Management Association (1997) played a foundational role in developing the framework for the public sector performance initiative providing the following definitions. These definitions closely tied to the practice of establishing performance measurement and management programs and regimes. They provide a common conceptual departure for the numerous, diverse actors, including the general citizenry who play a role in public sector performance. The connecting of performance to measures must remain aware to the often-convoluted self-reporting of employees' views and outlooks about the jobs and careers embedded in the human resource-centric job performance evaluation process. These personal conceptions from individual experiences with job performance process like overlap with program performance measurement (Alonso & Lewis, 2001).

Inputs: Resources (i.e., expenditures or employee time) used to produce outputs and outcomes***.***

Process: Workload or activities.

Outputs: Products and services delivered. Output refers to the completed products of internal activity: the amount of work done by the organization or by its contractors (such as number of miles of road repaired or number of calls answered).

Outcomes: Events, occurrences, or conditions that are outside the activity or program itself and that are of direct importance to customers and the public generally. An outcome indicator is a measure of the amount and/or frequency of such occurrences. Service quality is also included under this category.

While outputs are what work the organization does, outcomes are what these outputs accomplish.

Intermediate outcomes*:* Outcomes that are expected to lead to a desired end but are not ends in themselves (such as service response time, which is of concern to the customer making a call but does not tell anything directly about the success of the call). A service may have multiple intermediate outcomes.

End outcomes*:* The end results sought (such as the community having clean streets or reduced incidence of crimes or fires). A service may, and usually does, have more than one end outcome***.***

Efficiency, unit-cost ratio, and productivity*:* The relationship between the amount of input (usually dollars or employee-years) and the amount of output or outcome of an activity or program. If the indicator uses outputs without considering outcomes, a jurisdiction that lowers unit cost may achieve a measured increase in efficiency at the expense of the outcomes of the service.

Performance indicator*:* A specific numerical measurement for each aspect of performance (e.g., output, efficiency, or outcome) under consideration. Further includes demographic and other workload characteristics, explanatory information, and Impacts.

Source*:* *Adapted from Comparative Performance Measurement. FY 1996 Data Report (Washington, DC:), 1-4.*

Performance Measurement Systems (Models)

An International Monetary Fund assessment of performance budgeting, the entwining of performance measurement with budgets revealed that even in this accounting-focused practice the impetus for performance accountability remains rooted in political rational (Robinson & Brumby, 2005).

One cautious observation about personal performance in the public sector, as well as the private sector is that from an economic perspective the interplay between motivation, pay, and performance are likely interchangeable. In other words, none of the three elements change in relation to each other (Langbein, 2010).

Many areas of transportation performance measurement, such as sustainability present challenges with quantification, multi organizational responsibility, divergent organizational objectives. These conditions introduce multi-criteria decision-making (MCDM) dynamics that complicate typical performance measurement regimes with narrow, single-objective goals. Ramani, Zietsman, Knowles, and Quadrifoglio (2011), drawing on Olsen (1996) advocate for a multivariate utility theory approach (MAUT). Essentially, MAUT collectively identified agreeable evaluation criteria, rank them, and negotiate relative weightings for each criterion (Ramani et al., pp. 108-9, 2011)

Nevada Assembly Bill 595 (2007)

Assembly Bill 595 was introduced into the 2007 Nevada Legislature on March 26th as a clean bill focused on changes to the fuel tax laws to address collection abuses at the state and local levels. Amendment No. 378 on April 13th to refine the bills original intent with implications to the State highway Fund while reinforcing the funds use only for “construction, reconstruction, improvement and maintenance of public highways” and “may not be used for any costs of administration or to purchase any equipment". Amendment No. 1101 strikes the previous Amendment No. 378 language concerning restrictive funds use and substitutes "for administration pursuant to subsection 3 of NRS 408.235".

Section 47.2 of Amendment 1101 addresses NRS 408 by adding the language for a performance measurement plan "for each division of the Department and for the Department as a whole". Section 47.3 expands this reporting function to specific "highway project(s)" estimated to cost at least $25 million. Amendments No. 1101 changes Section 47.4 to specifically addresses changes needed to NRS 408.235 and reintroduces the use restrictions. Finally, Amendment No. 11124 maintains the performance reporting and specific highway projects reporting requirements while deleting blanket use restriction language and focuses the funds use restrictions to the counties specifically associated with being the source of those funds. Assembly Bill 595 introduces the practice of performance management with the language for performance measures in the context or a bill originating in the generation of Highway Trust Funds. The Legislative Council Bureau summarized it as:

In addition, the measure requires the Board of Transportation to adopt a plan for measuring the performance of NDOT, which must include separate sets of performance measurements for each division of the Department and for the Department as a whole. The Director of NDOT must submit such a performance measure report annually to the Board of Transportation and the Interim Finance Committee. Nevada's Department of Transportation must also prepare a written analysis of the costs and benefits of any highway project over $25 million before it submits the project to the Board of Transportation for approval. Nevada's Department of Transportation must report annually the projects undertaken with that funding. Finally, NDOT must provide a quarterly report to the Board of Transportation and the Interim Finance Committee on the status of all of the "super and mega" projects, as identified by the Blue-Ribbon Task Force (2007, Legislative Council Bureau).

METHODOLGY

An action research approach to identify viable performance measures for multiple public sector organizations reinforces the realization that "public organizations and the quality of public sector governance" rely on "sustaining dialogues between practitioners and scholars" (Dull, 2010; p. 362). Action research (AR) methodology integrate the interactive nature of inquirer-focused research into the ongoing activities. As Alfaro-Tanco, Avilla, Moscoso, and Naslund (2021) observe AR provides systematic access to operational management, such as performance measurement and management program. This access allows for mutual assessment of the existing nature of a situation and generative capacity to strive for mutually agreeable research outcome. Ultimately, the process provides participants the opportunity to develop operational theories about processes that allow for ongoing collaborative engagement about the process (p. 13). As Baskerville and Wood-Harper argue from their research, an inclusive action research paradigm provides a rigorous approach to subjects that application oriented such as performance measurement and management (Baskerville & Wood-Harper, 1998a). Action research goes beyond the research question about whether to do something and illuminates the questions about how to do something.

G Nigel Gilbert, & Publications, S. (2008) Agent-based models. Sage Publications. (G Nigel Gilbert & Publications, 2008)

R Robert Huckfeldt, Kohfeld, C. W., & Likens, T. W. (1982). Dynamic modeling: an introduction.

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(R Robert Huckfeldt et al., 1982)

Knoke, D., & Yang, S. (2010). Social network analysis. Sage. (Knoke & Yang, 2010).

Yin, R. K. (1984). Case study research: design and methods. Sage Publ. (Original work published 1994)

(Yin, 1994/1984)
Mcintyre, A. (2008). Participatory action research. Sage Publications. (Mcintyre, 2008)

“A system is a group of interdependent elements that affect each other and the group as a whole” thus “identifying interrelationships rather than individual system components” and “identify patterns of change within a system” (Crichton-Sumners et al., p. 116, 2013)

Agent based modeling highlighted those nonlinear relationships between communication robustness and a strong sense of organizational culture highlight implications for strategies. Stronger organizational cultures can communicate using the communications media for a limited number of cues. At the agent level, existing network connections are more productive than establishing connections outside the network (Canessa & Riolo, 2003).

An interesting insight about the nature of data comes from the understanding that performance data and research data share similar dynamics around acquisition, organization, and ultimately use (Clare et al., 2019).

Complexity science and its guiding theories provide public administration scholars a generative framework to explore the observable dynamics of governance and develop theories of action (Erkoçak & Açıkalın, 2014).

Document analysis represents a thoughtful means to access descriptive type data about a subject of interest. Importantly, a document analysis should choose documents with “authenticity, credibility, representativeness, and meaning “which points to imbedded documents with intrinsic meaning for the subject of interest (Morgan, p. 75, 2022).

Once an initial comprehensive coding scheme is developed it can be used to explore diverse data sets such as text, audio, and video allowing the code elements to emerge from the data. Subsequent recoding schemes integrate the dynamics of the different data element formats into the process of establishing meaning (Kuckartz & Rädiker, 2019).

Performance measurement and performance management, being innovative and requiring new learning within established career environments will require adult learning involving “a combination of intuitive reasoning, inference and inductive thinking which is normally tacit” (Cox, p. 459, 2005). This situation requires intentional consideration in the action research undertaking.

Action Research

Establishing performance measures for and enforcement program encompassing federal state and local governments as well as departments of public safety in transportation necessitates an exploratory approach. For research this situation points to action research methodology. Successful action research, research that leads to change relies on the specific research environment and the appropriate methodologies for exploration (Erro-Garcés & Alfaro-Tanco, 2020). As a meta-methodology, action research views the scholar practitioner collaborative exploration as the framework that will guide the utilization of situation appropriate research methodologies withing the larger collaborative undertaking (pp. 8-9).

Further, a significant component to engaging in action research stems from the natural co-learning that occurs through the process as participants in essence become co-researchers in the initiative (Sparre, pp. 7-8, 2020). Discoveries become immediately assimilated into the network and organization in question in varying ways. Often this assimilation can be observed as organizational adaptation and change regardless of the final end products of the research initiative itself (Sparre, 2020).

As Alfaro-Tanco et al (2021) established, action research and it's methodologies provide valuable practitioner "support infrastructures" "that allow establishing a collaborative framework that lets the researchers develop the project from inside the organization" (p. 12).

Essentially, action research braces the often-messy operational management perspective programs and opens the subject government program to a collaborative approach to assessment through a collective search for meaning. This allows qualitative inquiry's "philosophy of encouraging" "critical thinking by scholars and the people we engage" means to cooperatively engage in discovery (Nowakowski, p. 2260, 2019). Action research relies on the ongoing engagement between the researchers and the situation they are exploring. While this often occurs with the appearance of informality, researchers themselves typically operate within a more formal model of partnership research where participants are viewed and organized with varying levels of engagement with the overall research initiatives (Numans et al., 2019). Equally important aspect of this collaborative engaging approach in qualitative research is the research teams draws on each other's strengths while openly coping with each individual's biases in the assigning of meaning to collected data points. As well as interpreting the implications of the analysis of this concourse of data in a manner that works to neutralize individual bias (Giesen & Roeser, 2020).

One aspect of qualitative research that needs attention is how to treat generalizability in consideration of typical views of quantitative research standing among different potential research users. The empirical attributes of case study methodology provide a rigorous approach and structure to action research that allows research results to be generalizable beyond the particular context in which the case study was conducted (Rashid et al., 2019). Yin represents the bedrock for case study approaches to researching phenomena of interest arising from a contextual situation in this supporter of nested research methodology (1994). As Baskerville and Wood-Harper (1998) argue, action research provides a principled framework from which case study and other defined theory-building qualitative approaches can freely operate (p. 18). Often these theory-building approaches are applied as a means to understand and ground what is discovered in the action research process.

Analysis Foundations

Qualitative approaches to research use different means to achieve validity. In qualitative research the focus shifts from trying to get a large enough sample size to give results validity as with quantitative methods. Rather the focus is on obtaining in-depth information from enough sources to feel confidence that the subject of interest has been properly sampled.

This required the development of a coding system for the concourse of data collected that included a management approach to determine the require confidence that sufficient data had been obtained to support the conclusions derived from the investigation (Turner, 2021).

Techniques

The nature of action research and qualitative inquiry generally centers on the idea of discovery, to sense a dynamic and setting out in search of more knowledge and understanding of that dynamic. As Kuckartz and Rädiker (2019) point out, researchers engaged in qualitative discovery currently define “more than 40 methods” across the social science and, increasingly the physical science spectrum (p. 6). Indeed, Kuckartz and Rädiker further make the distinction that computer aided qualitative data analysis software (CA QDA) programs themselves poses the properties of a methodology (p. 10). This all fits neatly under the rubric of action research as an exercise in disciplined discovery.

Often the analysis of interview, focus group dialogue, or other free response data compiled into written form integrates coding schemes to capture a general or more specific concept across the entire concourse of data. While the identification of this data focuses on the qualitative aspects of the information, a use full additional phase would be to capture quantitative properties of this information: frequency; distribution; location; generalized form; among others (Radiker & Kuckartz, 2020).

Interestingly, qualitative research pays particular attention to linguistics and interpretation for meaning. The language of performance measurement, management, and the entire initiative shares common ground with broader language in human resources and management causing significant communication barriers. Many of the shared words carry significant and personal intimations that are not mutually shared among initiative partners (Redman-MacLaren et al., 2019). In short, performance has many diverse, personal meanings.

Qualitative research relies on interpreting meaning from diverse data. When the research involves situations more sensitive than government program evaluation the interpretation of the data can be elevated to a higher level through inter-coder reliability. However, data rigor is enhanced merely by integrating this level of consideration with any coding practice (O’Connor & Joffe, 2020).

One realization among public sector professionals dealing with performance measurement challenges is that they possess considerable data collected for various other reasons. This has given rise to broad practices for collaborative groups to explore the possibilities of integrating these information sources into something new and viable such as performance metrics. A purpose-driven example of data mining (Clare et al., 2019).

Transformation to Meaning

As Huffman (2021) discusses, the process of moving from statements to meaning requires researchers to engage in creative heuristic exercises. Individuals make espoused statements during the engaging data collecting activities that provide deeper meaning based on the context. Once potential insights to these potential meanings are identified, they can be woven with other pieces of information to begin making claims of understanding to advance the collective thinking about the situation (pp. 314-15).

As Dull (2010) argues, public administration scholarship is intimately entwined with the practice of public sector governance and organizations. Exemplifying this tension is Herbert Simon's lifelong work on "bounded rationality" which acknowledges academic models idealize the reality of actual governance.

Ultimately, collaborative engagement between government practitioners and scholars benefits everyone in particular the people and citizens they serve (pp. 862-3).

The process of taking the identified data of interest from the concourse of data collected to useful information for the action research initiative requires a search for meaning through categorization and theming (Richards, 2021). Interestingly this process draws upon the reflexive practice of asking and answering global questions about the data itself in order to account for personal epistemological and ontological biases (pp. 161-163).

Part of assessing diverse qualitative data is finding the appropriate balance between judging statements in terms of espoused theories to theories-in-use. Simply, a person makes a claim to one set of values while actually demonstrating the use of a different set of values. The tension between these two positions provides rich information for critical reflection about the implications for this condition (Savaya & Gardner, 2012). Qualitative inquiry's capacity for gleaning insights from otherwise innocuous data and
information lies in "the process of conscious qualitative reflections as a tool for synthetic understanding of the world around us" (Nowakowski, p. 2259, 2019).

Virtual Interview and Focus Groups

Video conferencing, technology bringing dispersed participants together in a common virtual environment to emulate an in-person engagement environment has gained broad acceptance as a valid data collection technique (Archibald et al., 2019a). Initial assessment indicates participants experience increased rapport, convenience, and user-friendliness with mutual appreciation of cost-effectiveness and beneficial time effectiveness (pp. 3-4).

Interestingly the only identified impediments for virtual qualitative data collection involve issues with the technology itself such as call quality and reliability (Archibald et al, p 5).

Action research benefits any research domain in which it is employed for its ability to generate actionable knowledge among participants.

Daniels, Gillen, Casson and Wilson (2019) identified "Stability of group numbers, Technology, Environment, Evaluation, and Recruitment´ as the essential validity dimensions of virtual, online focus group data collection (Daniels et al., 2019). Stability considers late arrival, early leavers, and unexpected late cancelations/no shows. Technology entails audio and video connectivity, underutilization of the virtual meeting platform, and participants range of technology familiarity. Environment deals with participant capacity to participate given immediate distractions, threatened anonymity, and level of comfort with the engagement format. Evaluation notes virtual focus group practice is relatively new and needs "calibration" with traditional face-to-face practices with their traditions of reflective practice among researchers. Finally, recruitment for virtual focus groups limit access to individuals lacking the capacity to participate though the prevalence of smart phones across all socio economic, demographic strata may lessen this concern (Daniels et al., pp. 5-6, 2019).

Online, web enabled video conferencing technologies provide viable and rigorous interview technique. Specific investigations of participant experiences providing qualitative research data through such virtual interactions bare this data validity claim specifically for typical, professional, non-youth participants (Gray et al., 2020).

ABM

Social systems do not operate in isolation and are continuously interacting with other systems through time (Johnson, 2016). Given this reality, however agent-based modeling provides the means to explore these complex dynamics in a way that allows greater insight to be discovered.

Railsback & Grimm (2019) make the convincing argument that genuine science knowledge generated through agent-based modeling of complexity and network science concepts requires replication. In short, every agent-based model developed to study phenomena must be capable of being replicated by independent means. Thus, there must be concise means to describe and detail models which they have established as the ODD Protocol. (pp. 39-43).

Using evacuation warnings as the message, agent-based network analysis found that network structures including “seeding, strategy, network trust, and trust distribution affected the distribution process” (Hui et al., p. 16, 2010). Trust differential enhanced information diffusion better the equal network trust.

One of the generative aspects of agent-based modeling extends beyond building models that replicate observable phenomena. As Wilensky and Rand (2015) highlight, once a sense of underlying complex and networked dynamics are understood for the emergent behavior of interest the thought experiments about these dynamics can be explored in the computational virtual world of the NETLOGO software (pp.3-7).

RESULTS

Recognition of the implications of the effects of larger vehicles operating on the roadway network being developed throughout the 20th century has existed since the massive public infrastructure project began. The basic tension that exists lies in the fact that we collectively invest in the infrastructure and often individually reap rewards for those collective investments individually. In economic terms, the “free rider” problem.

Performance Management and The State of Nevada

Performance measurement and management continue developing and maturing throughout the public sector both in the United States as well as other countries and levels of government. The following discussion broadly summarizes the commonly agreed upon characterization of performance regimes. This demarcation of what constitutes performance measurement and management for the public sector is important since without setting bounds the perspective of what is being discusses can veer into superfluous information. The need for resourcefulness and creativity in managing public sector programs continues to become more of an imperative and embodied in innovation. These imperatives can be achieved with thoughtful balancing of public and private sector “business”-focused practices that maintain the social equity purposes of governance (Agolla & Lill, 2013).

Public service motivation (PSM) has been identified to fall into four descriptive domains: samaritans; communitarians; patriots; and humanitarians. Samaritans are driven to help others at the individual level.

Communitarians are motivated to public service by civic duty at the community level.

Patriots work and advocate for causes bigger than themselves at the national level. Humanitarians seek social justice through public service at the humankind level. Not part of the motivation is economic rewards, politics, or policymaking (Brewer, Selden, & Facer II; 2000; pp. 258-62).

Performance measurement and ultimately performance management is been an evolving practice for public service for nearly 50 years. For this investigation the current state of performance measurement practice is characterized Hatry's (2006) performance measurement: getting results. This guidebook provides the framework, standard definitions, practices, and detailed examples for successful performance management. This resource provides a touchstone for this investigation.

What are the program's mission and objectives?

A mission statement encompasses the basic objectives of a program. Objective refers to the basic way a service is provided.

Who are the customers?

Programs have multiple categories of customers and stakeholders. Typically, there are in the customers and intermediate customers particularly in programs that span federal state and local governments.

What outcomes should be tracked?

Selecting the outcomes that should be tracked is essentially a judgment call similar to the identification of a program's mission and objectives. P. 47. Logic models provide a framework for identifying outcomes beneficial to the intermediate steps in a program sequence.

What outcome indicators should be tracked?

Outcome indicators are a major focus of results-based performance measurement systems. There are essential criteria for selecting outcome indicators (p. 62). Providing an outcome indicator for each element in a logic model ensures that the performance measurement regime speaks to all aspects of a program’s performance and ultimately the program's full range of customers and stakeholders. Difficult to measure outcomes involve prevention programs, basic research and long-range planning activities, programs in which customers are anonymous, programs in which and outcomes apply to very small number of events.

What methods of data gathering should be used?

Organizational Culture

An academic tradition in public policy and administration continues to be the study of what is characterized as bureaucracies. Seminole work by Wilson (2001), Bureaucracies: What Government Agencies do and Why They provides elements of culture. Wilson provides a framework for how an organizations origins, perceived roles, traditions, and channels for transfer knowledge greatly influence they ongoing day-to-day dynamics of how organizations function. It is important to note the essential nature of culture which is defined as:

- ***the set of shared attitudes, values, goals, and practices that characterizes an institution or organization.***
- ***the set of values, conventions, or social practices associated with a particular field, activity, or societal characteristic.***

These cultural traits may or may not be actualized by individuals embedded in the culture even though they are acted upon.

Further, these dynamics provide insight to how different organization interact with other public sector actors including other public sector agencies.

A Competing Values Framework provides an informative way to structure thinking about organizations and their differences and similarities. Organizations operate along two dimensions of opposing values. The first is flexibility verses control, the second is internal verses external orientation. Organizations working together on initiatives like innovations, such as performance management systems benefit from insights from where the different organizations land within the framework (Büschgens, Bausch, & Balkin; 2013).

Stakeholders mutually exploring with each other personal organizational routines undertaken to accomplish what is viewed as shared inter-organizational undertaking open up space for exploration. These interactions naturally take on the probing of rational for actions and the tentative introduction and exploration of small changes that could provide greater inter-organizational benefits beyond the original intra-organizational action (Lin et al., 2017).

Public sector organizations represent particular environmental conditions in terms of knowledge transfer, "knowledge is that which allows an individual to know and understand, or to increase

his or her personal knowledge and apply it within an organization (Crossett et al., p. 113, 2019). From an organizational learning perspective, knowledge transfer is the purposeful movement of knowledge through channels by a definable means from source to recipient (p. 113). Introducing frameworks like organic and mechanistic dualism as a way for diverse groups of public sector organization members to capture their organizational realities facilitates the conceptualization of knowledge transfer for the organization (p. 118).

Nevada Department of Transportation

State level departments of government charged with providing public roadways typically originated during the national adoption of motor vehicles during the late 1800s and early 1900s.The work typically consisted of converting wagon trails to surfaces appropriate for rubber- tired vehicles: Macadams. Each state treated the provision of public roadways as an extension its unique development situation. Public works programs in response to the Depression introduced the federal government into the nation imperative for an improved transportation network among public sector actors to support both public and private sector initiatives. The introduction of transportation as national level public good of importance continues to the present. The national Interstate program introduced in the 1950s transformed state level highway departments into department of transportation across the United States, Nevada's included.

The federal government continues playing a significant role in state departments of transportation organizations and the culture through transformative federal infrastructure authorizations such as the 1992 Intermodal Surface Transportation Equity Act (ISTEA).

ISTEA signaled the federal government considered the Interstate construction initiative essentially complete and transportation should shift focus to other aspects of mobility. The federal shift in focus was met with varying degrees of success among the diverse state departments of transportation. From an organizational culture perspective, state departments of transportation are often considered to be continuing to operate with an ethos of infrastructure expansion.

While performance measurement and management revolve around the accountability mantra emerging through the late 20th century in public sector management practice, there exists persistent elements of innovation providing impetus. In a sense connecting public sector performance to outcomes is posited as innovation yet the real potential for innovation lies in the exercise's capacity to serve as a change agent for broader public sector dynamics (Zolnik & Sutter, 2010). State DOT respond to change requirements, like adopting to a performance management approach to service delivery with different strategies. In this change space there are perception tradeoffs similar to those encountered with outsourcing involving quality verses costs. State DOT organizations engage in quality verses costs tradeoff across most business practices including performance management (Yusuf & O'Connell, 2013). Scenario thinking provides a useful way to think and reflect on the implications of performance measurement and management. Simple put, establishing a performance regime sets a trajectory based upon the trends that went into the establishment that can interact and lead to vastly different outcomes. Scenario thinking makes these potentialities implicit and encourages reflection on how the performance regime becomes institutionalized (Sadatsafavi et al., 2017).

Stakeholders from organizations like state DOTs experience and are influenced by a culture embedded in engineering. As such the concept of innovation often is rooted in technology as well as associated with the practical production of infrastructure. These operational experiences influence how these stakeholders view performance measurement in light of being an organizational innovation (Orcutt & AlKadri, 2009).

Nevada Department of Public Safety

State level role in public safety has emerged over time in incremental response to a broad range of advances across the public sphere. As activities deemed detrimental to other individuals in society requiring laws forbidding those activities were enacted the requirement for an enforcement function for government emerged becoming known as public safety. One aspect of this public safety function emerged with society adopting vehicular transportation in the late 1800s and early 1900s. Many laws were enacted to provide some guidelines for how individuals interacted in using vehicles to travel. As travel increased the complexities increased and the laws became more stringent. Laws dealt with what vehicles were allowed to operate, who could operate these vehicles, how the vehicles were to interact, as well as the administrative elements of who pays for what. These laws came from multiple actors for diverse reasons and often through political processes all to be implemented by the organization charged with enforcement implementation. At the federal level the emergence of transportation as an essential public good for both public and private purposes led to the authorization of multiple federal agencies, such as the Federal Motor Carriers organized under the United States Department of Transportation. This expands the enforcement range of activities that state public safety organizations are committed to engage. From an organizational culture perspective, state departments of public safety deal with a plethora of laws to be enforced and adopt an ethos of enforcement to accomplish the greatest good.

Overly bureaucratic situations in the public sector are perceived to and evaluated to be hinderances to performance. (Pandey & Moynihan, 2005).

Highly Networked Program

Vehicle size and weight dynamics extend across diverse public and private domains.

While these diverse entities may not be central to Nevada's Vehicle Size and Weight Program or related issues, they do have identifiable interests and different levels of direct and indirect influence on the Program. All these considerations play collectively an important role in the Program in a networked context.

Other State Agencies

The organizing element for state agencies is that theoretically they are interconnected at the core organizing level of being public sector organizations subject to executive leadership and legislative oversight. The theoretical characterization recognizes that all public sector organizations operated with differing levels of actual and perceived autonomy.

Further, Wilson's concepts of organizational culture apply across these state agencies and the roles they play in this Program's network structure.

Department of Agriculture: Nevada's rural communities thrive on a range of agricultural activities such as cultivating alfalfa, raising sheep and cattle, and truck farming. Integral to the success of agriculture in Nevada is the ability to connect the long distances between production activities and market as well as other support activities. These operations use the public roadways often in ways that require special consideration such as State of Nevada over-dimensional permits to operate. There heavy vehicle activities are closely related to the state's vehicle size and weight program and need consideration as stakeholders contemplate how best to capture programmatic performance.

Department of Mining**:** Nevada's association with mining has existed since before statehood as western migration of people from older parts of the United States in the east revealed deposits of precious metals such as gold and silver. These precious metal deposits define a significant part of the typology of rural communities in Nevada such as Ely in White Pine County and Tonopah in Nye County. With the advent of expansive surface mining operations there has been a proliferation of the need to use rural public highways as an integral part of overall operations. These often include heavy vehicle operations with over-dimensional permits and the interplay with the state's vehicle size and weight program. Mining is part of the program's network of stakeholders.

Department of Taxation**:** This state function, taxation shares some of the organizational traits exhibited by public safety based on its organizing principle to implement actions legislated and administered by the elected government of the state. A portion of that involves aspects of the vehicle size and weights program and affiliated activities in which revenues are collected. These revenues are characterized as taxation and subject to the administrative codes and practices of the department of taxation.

This makes them a stakeholder of the vehicle size and weight program for ensuring all activities meet the requirements of tax collection standards.

Private Sector

The private sector involvement in the vehicle size and weight program approaches the situation as an essential part of conducting business in exchange for a public service of have the transportation infrastructure for operations.

At best the situation is a partnership and in less than desirable situations it appears to be more adversarial. This characterization is not unique for the provision of public goods supported by the broader public for the benefit of the more narrowly focused business interests. Particularly when the public sector identifies those private sector entities for providing more targeted quid-pro-quo exactions such as over dimensional permits and penalties for violations. The following groups represent various private sector perspectives and program stakeholder interests.

Trucking Industry**:** This stakeholder group represents a diverse range of operational approaches and practices as well as continuously evolving purposes such as being an integral strategic element in global supply chain business models. The trucking industry represents local, statewide, regional, nationwide, and international scales with different types of interests in a statewide level vehicle size and weight program. A main focus from this diverse perspective is to have consistency in a program in order to internalize it into the competitive operational strategies among competing interests.

Construction Industry**:** The construction industry involves

Advocacy Groups**:** The trucking industry, as most private sector businesses and professions augment their position by developing representation in the form of advocacy groups, trade organizations or similar. These groups focus on aspects of the trade, trucking that each individual operator in the trade could not reasonably focus on with public policy and federal and state level

legislation being a prime example. One principal activity these representative organizations engage in is known as framing. Framing relates to shaping and organizing the arguments, the environment, and other elements of dynamics surrounding public policy and administration to favor the perspective you represent. While to some degree this is always the situation, advocacy organizations tend to make a more conscience, active approach to framing.

Businesses: Individual business's role in vehicle size and weight typically gets translated through intervening organizations such as the trucking industry and it advocates or through business interests involved in the public policy aspect of private businesses.

Dynamics in Highly Networked Programs

Emerging research and complexity theory building opens a perspective on the implications of multiple organizational unites working collaboratively to establish performance regimes. At this theory building stage, perhaps the most tacit benefit is the capacity to use complexity language as a way to describe phenomena and dynamics observed in the action research undertaken (Erkoçak & Açıkalın, 2014).

Analyzing Program Outcome Data

The practice of performance measurement has established a systematic approach to assessing diverse program associated information and data to describe meaningful outcomes.

As with all data and information analysis there must be vigilance to associating spurious relationships between all the different programmatic variables. The following guidelines provides significant support to generating analysis that minimize the effects of spurious associative, not causal relationships**.**

Basic Steps for Analyzing Program Outcome Data	
Examine the Aggregate Outcome Data	
Step 1.	Compare the latest overall outcomes to outcomes from previous time periods.
Step 2.	Compare the latest overall outcomes to pre-established targets.
Step 3.	Compare the program's outcomes to those of similar programs and to any outside standards.
Examine Breakout Data	
Step 4.	Break out and compare outcomes by workload (demographic) characteristics.
Step 5.	Break out and compare outcomes by service characteristics.
Step 6.	Compare the latest outcomes for each breakout group with outcomes from previous reporting periods and to targets.
Examine Findings across Indicators	
Step 7.	Examine consistency and interrelationships among inputs, outputs, and outcomes.
Step 8.	Examine the outcome indicators together to obtain a more comprehensive perspective on performance.
Make Sense of the Numbers	
Step 9.	Identify and highlight key findings.
Step 10.	Seek explanations for unexpected findings.
Step 11.	Provide recommendations to officials for future actions, including experimentation with new service delivery approaches.

Stakeholders allude to the exciting availability of existing data and the field telemetry to collect a wide range of additional information. The information contains the basic performance dimensions of time and space related to size and weight enforcement. Big and Open Linked Data (BOLD) recognizes the potential these emerging realizations of technology in contemporary society. It provides the foundation for innovation and could be the potentialities that emergent performance measurement requiems rely upon (Janssen et al., 2017).

Hatry (2006) provides a step-by-step approach to working through the logic of preferred outcomes and the implications for achieving them.

Criteria for Selecting Outcome Indicators

- Relevance to the mission/objectives of the program and to the outcome the indicator is intended to help measure.
- Importance to the outcome. Does the indicator measure an important aspect of the outcome? n Understandability to users of what is measured and reported.
- Program influence or control over the outcome. Do not use this criterion as a way to avoid measuring important outcomes. A program will almost always have less than full influence over most outcomes, especially end outcomes.

  As long as the program is expected to have some tangible, measurable effect on a specific outcome, an indicator of that outcome should be a candidate for inclusion—whether the effects are direct or indirect. (As suggested elsewhere, however, the program should in its performance reviews consider how much the program can influence the outcome.)
- Feasibility of collecting reasonably valid data on the indicator.
- Uniqueness. If an indicator is duplicated by, or overlaps with, other indicators, it becomes less important.
- Manipulability. Do not select indicators that program personnel can easily manipulate to their advantage.
- Comprehensiveness. The set of indicators should include outcomes that identify possible negative or detrimental effects. Classic examples are harassing citizens to achieve large numbers of arrests, indictments, or tax collections. Where negative effects are a danger, indicators such as the number of valid complaints should be tracked as a counterbalance. Other questions about comprehensiveness include the following: Does the list of indicators cover all the quality characteristics of concern to customers, such as service timeliness? Does the list of indicators include relevant feedback from customers?
- Cost of collecting the indicator data. This criterion should be used with caution. Sometimes the most-costly indicators are the most important. 'Manipulability depends considerably on the particular data collection procedure used, as discussed in chapter 7

Comparing Findings to Benchmarks

While programs in the public sector are each individually unique, even if they are the product of a universally applied initiatives like federal programs, the programs are accessible to benchmarking. Benchmarking is the practice of comparing different sets of information in a compare and contrast manner to identify insights. The following list provides a range of useful benchmarks for consideration in periodic reporting regimes.

1. *Performance in the previous period*
2. *Performance of similar organizational units or geographical areas*
3. *Outcomes for different workload or customer groups*

4. *Different service delivery practice*
5. *A recognized general standard*
6. *Performance of other jurisdictions*
7. *Performance of the private sector*
8. *Targets established at the beginning of the performance period*

CONCLUSIONS

Useful performance measures can be developed by the existing vehicle size and weight enforcement alliance after additional data collection activities are conducted with a focus on relating enforcement strategies to an observed decline in the severity and frequency of violations. Creating a Memorandum of Understanding between NDOT and NDPS is essential to document responsibilities and authority as well as providing a mechanism for funding the program area.

MEMORANDUM OF UNDERSTANDING

A draft MOU is attached to this report and is intended as a new point of departure for advancing the interests of the program participants.

Agreement Number **XXX-XX-XXX**

COOPERATIVE AGREEMENT

This Agreement is made and entered into on **July 1, 2022**, by and between the State of Nevada, acting by and through its Department of Transportation, hereinafter called the “DEPARTMENT”, and **Nevada Department of Public Safety**, hereinafter called the “**ORGANIZATION”**.

WITNESSETH:

WHEREAS, a Cooperative Agreement is defined pursuant to Nevada Revised Statutes (NRS) 277.110 as an agreement between two or more public agencies for the joint exercise of powers, privileges, and authority; and

WHEREAS, pursuant to the provisions contained in Chapter 408 of the Nevada Revised Statutes, the Director of the DEPARTMENT may enter into those agreements necessary to carry out the provisions of the Chapter; and

WHEREAS, NRS 277.110 authorizes any two or more public agencies to enter into agreements for joint or cooperative action; and

WHEREAS, the parties to this Agreement are public agencies and authorized to enter into agreements in accordance with NRS 277.080 to 277.110, inclusive; and

WHEREAS, the purpose of this Agreement is to **Enforce vehicle size and weight laws**, hereinafter called the “PROJECT;” and

WHEREAS, the **DESCRIPTION** services to be provided by the **ORGANIZATION** shall be of benefit to the DEPARTMENT, the **ORGANIZATION**, and to the people of the State of Nevada; and

WHEREAS, the parties hereto are willing and able to perform the services described herein.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants herein contained, it is agreed as follows:

ARTICLE I - **ORGANIZATION** AGREES

To provide the DEPARTMENT with **all services described in each iteration of the State Enforcement plan submitted annually to the US Department of Transportation regarding the enforcement of vehicle size and weight laws**.

During the performance of this Agreement, the **ORGANIZATION**, for itself, its assignees, and successors in interest agrees as follows:

Compliance with Regulations: The **ORGANIZATION** shall comply with all of the regulations relative to nondiscrimination in federally-assisted programs of 49 CFR Part 21 as they may be amended from time to time (hereinafter “Regulations”), which are herein incorporated by reference and made a part of this Agreement.

Nondiscrimination: The **ORGANIZATION**, with regard to the professional services performed by it during the Agreement, shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The **ORGANIZATION** shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when this Agreement covers a program set forth in Appendix B of the Regulations.

Information and Reports: The **ORGANIZATION** shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its facilities as may be determined by the DEPARTMENT or the Federal Highway Administration (FHWA) to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of the **ORGANIZATION** is in the exclusive possession of another who fails or refuses to furnish this information, the **ORGANIZATION** shall so certify to the DEPARTMENT, or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.

ARTICLE II - DEPARTMENT AGREES

To provide the Organization with **all services described in each iteration of the State Enforcement plan submitted annually to the US Department of Transportation regarding the enforcement of vehicle size and weight laws.**

ARTICLE III - IT IS MUTUALLY AGREED

The term of this Agreement shall be from the date first written above through and including the **first** day of **July, 2023.**

This Agreement shall not become effective until and unless approved by appropriate official action of the governing body of each party.

The **ORGANIZATION**, on behalf of itself, its spouses, heirs, executors, administrators, successors, subrogees, servants, insurers, attorneys, independent representatives, personal representatives, agents, and assigns, does hereby waive, release, and forever discharge the State of Nevada, the DEPARTMENT, and each and every of their departments, divisions, agencies, officers, directors, agents, contractors, and employees, from any and all claims, demands, liens, liability, actions, causes of action, and suits for damages, at law and in equity , in any way connected with or arising from the **ORGANIZATION**'s provision of services and work performed following termination of this Agreement and/or following the expiration date of this Agreement, as it may be amended from time to time through written amendment signed by the parties hereto and approved by appropriate official action of the DEPARTMENT's governing body, prior to such expiration date.

Neither the State of Nevada, the DEPARTMENT, nor any of their departments, divisions, agencies, officers, directors, agents, contractors, and employees, shall have authority to extend this Agreement beyond the expiration date set forth within this Agreement, unless such extension is set forth within a written amendment signed by the parties hereto and approved by appropriate official action of the DEPARTMENT's governing body prior to such expiration date.

The **ORGANIZATION** shall not rely upon any oral or written representations expressed extrinsic to a written amendment signed by the parties hereto and approved by appropriate official action of the DEPARTMENT's governing body prior to such expiration date, purporting to alter or amend this Agreement, including, but not limited to, representations relating to the extension of the Agreement's expiration date.

Paragraphs 1 through 6 of this Article III - It is Mutually Agreed, shall survive the termination and expiration of this Agreement.

This Agreement may be terminated by either party prior to the date set forth above, provided that a termination shall not be effective until thirty (30) calendar days after a party has served written notice upon the other party. This Agreement may be terminated by mutual consent of both parties or unilaterally by either party without cause. The parties expressly agree that this Agreement shall be terminated immediately if for any reason Federal and/or State Legislature funding ability to satisfy this Agreement is withdrawn, limited, or impaired.

All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by telephonic facsimile or electronic mail with simultaneous regular mail, or mailed certified mail, return receipt requested, postage prepaid on the date posted, and addressed to the other party at the address set forth below:

FOR DEPARTMENT:	Kristina L. Swallow, P.E., Director Nevada Department of Transportation Division: 1263 South Stewart Street Carson City, Nevada 89712
FOR **ORGANIZATION**:	**George Togliatti** **Director** **Nevada Department** **of Public Safety 555** **Wright Way, Carson** **City, Nevada 89711**

The **ORGANIZATION** shall ensure that any reports, materials, studies, photographs, negatives, drawings or other documents prepared in the performance obligations under this Agreement shall be the exclusive, joint property of the **ORGANIZATION** and the DEPARTMENT.

Neither party shall be deemed to be in violation of this Agreement if it is prevented from performing any of its obligations hereunder due to strikes, failure of public transportation, civil or military authority, act of public enemy, accidents, fires, explosions, or acts of God, including, without limitations, earthquakes, floods, winds or storms. In such an event, the intervening cause must not be through the fault of the party asserting such an excuse, and the excused party is obligated to promptly perform in accordance with the terms of the Agreement after the intervening cause ceases.

To the fullest extent of NRS Chapter 41 liability limitations, each party shall indemnify, hold harmless, and defend, not excluding the other's right to participate, the other from and against all liability, claims, actions, damages, losses, and expenses, including, but not limited to, reasonable attorneys' fees and costs, caused by the negligence, errors, omissions, recklessness, or intentional misconduct of its own officers, employees, and agents. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described herein. This indemnification obligation is conditioned upon the performance of the duty of the party seeking indemnification (indemnified party) to serve the other party (indemnifying party) with written notice of an actual or pending claim, within thirty (30) calendar days of the indemnified party's notice of such actual or pending claim or cause of action. The indemnifying party shall not be liable for reimbursement of any attorney's fees and costs incurred by the indemnified party due to said party exercising its right to participate with legal counsel.

The parties do not waive and intend to assert available NRS Chapter 41 liability limitations in all cases. Agreement liability of both parties shall not be subject to punitive damages. Actual damages for any DEPARTMENT breach shall never exceed the amount of funds which have been appropriated for payment under this Agreement, but not yet paid, for the fiscal year budget in existence at the time of the breach.

Failure to declare a breach or the actual waiver of any particular breach of this Agreement or any of its material or nonmaterial terms by either party shall not operate as a waiver by such party of any of its rights or remedies as to any other breach, including a breach of the same term.

An alteration ordered by the DEPARTMENT, which substantially changes the services provided for by the expressed intent of this Agreement shall be considered extra work and shall be specified in a written amendment which shall set forth the nature and scope thereof. The method of payment for extra work shall be specified at the time the amendment is written.

This Agreement and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Nevada. The parties consent to the exclusive jurisdiction of the Nevada state district courts for enforcement of this Agreement.

The illegality or invalidity of any provision or portion of this Agreement shall not affect the validity of the remainder of the Agreement, and this Agreement shall be construed as if such provision did not exist. The unenforceability of such provision shall not be held to render any other provision or provisions of this Agreement unenforceable.

Except as otherwise expressly provided within this Agreement, all or any property presently owned by either party shall remain in such ownership upon termination of this Agreement, and there shall be no transfer of property between the parties during the course of this Agreement.

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of this Agreement to create in the public or any member thereof a third party beneficiary status hereunder or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

Each party agrees to keep and maintain under generally accepted accounting principles full, true, and complete records and documents pertaining to this Agreement and present, at any reasonable time, such information for inspection, examination, review, audit, and copying at any office where such records and documentation are maintained. Such records and documentation shall be maintained for three (3) years after final payment is made.

The parties are associated with each other only for the purposes and to the extent set forth in this Agreement. Each party is, and shall be, a public agency separate and distinct from the other party and shall have the right to supervise, manage, operate, control, and direct performance of the details incident to its duties under this Agreement. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for one agency whatsoever with respect to the indebtedness, liabilities, and obligations of the other agency or any other party.

Neither party shall assign, transfer or delegate any rights, obligations, or duties under this Agreement without the prior written consent of the other party.

The parties hereto represent and warrant that the person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement and that the parties are authorized by law to engage in the cooperative action set forth herein.

Pursuant to NRS 239 information or documents may be open to public inspection and copying. The parties shall have the duty to disclose unless a particular record is confidential by law or a common law balancing of interests.

Each party shall keep confidential all information, in whatever form, produced, prepared, observed, or received by that party to the extent that such information is confidential by law or otherwise required to be kept confidential by this Agreement.

This Agreement shall not become effective until and unless approved by appropriate official action of the governing body of each party.

This Agreement constitutes the entire agreement of the parties and such is intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other agreements that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Agreement specifically displays a mutual intent to amend a particular part of this Agreement, general conflicts in language between any such attachment and this Agreement shall be construed consistent with the terms of this Agreement. Unless otherwise expressly authorized by the terms of this Agreement, no modification or amendment to this Agreement shall be binding upon the parties unless the same is in writing and signed by the respective parties hereto and approved by the Attorney General.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

State of Nevada Department of Public Safety	State of Nevada, acting by and through its DEPARTMENT OF TRANSPORTATION
Director	Director
	Approved as to Legality and Form: Deputy Attorney General
Approved as to Form:	
Attorney	

Nevada Department of Transportation

Kristina L. Swallow, P.E. Director

Ken Chambers, Research Division Chief

(775) 888-7220

kchambers@dot.nv.gov

1263 South Stewart Street

Carson City, Nevada 89712