Meeting the Mission of Transportation Safety Through Information Technology: Insights from Richard McKinney, Chief Information Officer, U.S. Department of Transportation

By Michael J. Keegan

Since its inception, the U.S. Department of Transportation has been responsible for ensuring a safe, efficient, accessible, and convenient transportation system. Information technology enables government agencies to deliver mission services. Today, government IT executives must remain true to their agencies' strategic intent while addressing many challenges in the government IT landscape. Among those challenges are constrained budgets, rapid technological advancements, and new government mandates. Like most federal departments, the DOT has sought to meet these challenges head on, and that requires a strong mission support infrastructure. Specifically, it is an information technology core that supports the DOT's strategic goals while keeping an eye on the improvement of operational efficiency and smarter resource management.

What challenges does the DOT CIO face? How is IT being used to advance the mission of DOT? What does the Federal IT Acquisition Reform Act (FITARA) mean to federal CIOs? Richard McKinney, chief information officer at the U.S. Department of Transportation, joined me on *The Business of Government Hour* to share his insights on these topics and more. The following is an edited excerpt of our discussion complemented with additional research.

If there is a single word to describe the mission of the U.S. Department of Transportation, what would it be?

Richard McKinney: If you had to boil it down to one word, it would be safety. It's about how to move people and things from Point A to Point B safely and securely. One of the best things about my job has been seeing the tremendous passion folks in this department have for its mission. From one side of the department to the other, there is a singular focus on the safety of the traveling public and traveling commerce. We do this with a department budget of around $80 billion and over 50,000 employees.

Since its inception in 1967, DOT has been responsible for ensuring a safe, efficient, accessible, and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people. The initiatives outlined in the Strategy continue to enhance this responsibility by driving performance excellence and service delivery through effective information technology (IT) governance and resource management.

Would you describe your role and key responsibilities as CIO at Transportation?

Richard McKinney: It was an honor to be hired by Secretary LaHood. It has been an honor to work for Secretary Foxx. The Office of Chief Information Officer (CIO) sits under the Office of the Secretary. It is a challenging job, but I am very comfortable meeting the challenge. I had been a CIO in the state and local space for some time. I left that role for the private sector, but I missed being in the CIO chair and having those challenges in front of me. When I was offered this position, I snapped at it. I really enjoy the job, the people I work with, the people I work for. I've got the greatest job on the planet.

The CIO serves as the principal advisor to the Secretary of Transportation on matters involving information and technology. The DOT CIO also has oversight responsibility over the entire Department of Transportation (DOT) IT portfolio

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of over $3 billion annually, the 6th largest in the federal government. Additionally, the CIO has operational responsibilities for the DOT Common Operating Environment consisting of local area networks, wide area networks, desktops and back-end services for all DOT modes except FAA. In my role as CIO, I also promote entrepreneurship, innovation, investment, and alliances to address transportation issues by creating technology solutions. OCIO is also implementing a holistic cybersecurity plan to strengthen DOT's security framework.

What issues or challenges concerned you when you became Department of Transportation CIO?

Richard McKinney: I am asked this question often, and I have given it much thought. From the first day, I was concerned about cybersecurity issues—the department's cybersecurity ranking and ability to meet Federal Information Security Management Act (FISMA) requirements. The department has reported a material weakness in its information security program, which increases the risks of cybercrime, system failures, and unreliable data. This was a serious concern and focus for me. It was my belief, which I expressed to then-Secretary LaHood, that this issue and my concern would lead me to uncover other issues.

Given my broad exposure to IT and government at the state and local levels, my hunch was the department had a federated IT environment. IT as a mission-support function is probably quite siloed and may lack the proper governance structure that would better serve the department.

I began my time having conversations with the CIOs within the department's various operating administrations. After a couple of these meetings, it became obvious that we needed to learn to do business with one another. We're going to learn how to discuss these issues and it's going to be a give-and-take. I'm not going to do dog-and-pony shows anymore, because that wasn't going to get us where we needed to go on security or governance. I invited them to re-imagine how we could build a proper governance process.

I've worked as a state and local CIO. I have also consulted for governments in this area. I have seen that federated environments are needlessly duplicative and it's that duplication, that unnecessary overlap, that is the beast that always gets fed first. It's what steals all of the money. My career in government started at the beginning of the movement from the old centralized single mainframe environment to

that movement of IT to the edge of the organization. This became what we now call the silos of government IT function, where the information technology infrastructure ended up being recreated in all of these different offices.

I was also CIO of the City of Nashville when I began to recognize the issues with both the old centralized model as well as the more recent decentralized approach. I began to wonder is there a more balanced approach: one that could figure out the common IT functions needed across the enterprise, or what part of the infrastructure is a utility of sorts that an enterprise could provide for the various business units, and then let the program offices focus on their missions and their programs. Program leaders didn't wake up one day and decide they wanted to own IT infrastructure. That leader wanted to have better control of the outcomes and sometimes that required that they procure and operate that IT solution. That time has passed. Let's figure out how we can find the balance between these two models; let the enterprise do 70 percent that is common to everybody as a utility, then let the IT folks in the businesses themselves just focus on the next generation of solutions. We have large investments in IT. If we spent that money more wisely, it would go further and we'd be much happier with the results.

What are you doing to take IT and apply it effectively to the mission of the department?

Richard McKinney: It is important to be clear: we don't do IT for the sake of just doing IT. We do IT to effect an outcome, which in the end is the mission of the U.S. Department of Transportation. The question I always keep front and center—how can we most effectively take IT and apply it to the mission of the department?

I work with very good component/modal CIOs, who have mission-specific IT needs. What I want to do is free up the component CIOs and their resources so they can focus as much of their resources on their programs, delivering on the mission of the department.

Eight months into my tenure, I realized that much hardware data was siloed. DOT possesses tremendous amounts of data. We've made significant amounts of data available to the public as part of the Open Government Initiative. I began to focus on how the department shares data internally. We have focused on how the department manages, stores, analyzes, and exchanges data to look for synergies. Society has become increasingly digital, and transportation

is right there. Cars, roads, and infrastructure interconnected—exchanging data and talking with each other. When people talk about big data, one can't help but recognize that the transportation sector is right in the middle of this trend. Recognizing this situation, I became the first federal CIO to hire a chief data officer, and it is his job to develop an enterprise data governance approach. Just like my discussion about IT infrastructure, it's about how we govern around data. It is important to standardize our data, so that it's interoperable and exchangeable across the enterprise. We're in the early stages, and we're doing the things that will benefit us down the road.

Would you tell us more about the department's data strategy? How are you taking data more seriously than ever before?

Richard McKinney: We've doubled down on our data strategy. We're looking to have even more data sets available and released for people to innovate with and build commercial applications around transportation trends. Data is crucial to DOT's mission. The department manages data as an asset to support activities related to ensuring safety, measuring regulatory compliance, and measuring the effectiveness of customer service. Our top priority is to make the U.S. transportation system the safest in the world. The department has always collected data to help execute its mission, but it is even more focused on transforming DOT into a data-driven and performance-based organization. This means that DOT stakeholders, both internally and externally, need to be able to access department data at any time, from any place, on any device. Data can empower users to make more informed decisions about all aspects of their safety in real time. Stakeholders and employees can make better decisions when equipped with accurate, timely, and easily accessible data.

In the spirit of doubling down, I also hired a chief data officer. Amazingly, much to my surprise DOT was the first cabinet agency to have a CDO. Honestly, I thought I was playing catch up. I also knew it made sense to prepare, given not only the massive amount of data that we had, but the exponential growth in data that I knew was coming. Now we see other departments and agencies establishing CDOs. It just underscores what CIOs are seeing regarding the breadth and depth of data. We have significant quantities of data now, but it pales in comparison to what is coming down the pipe. Therefore, we really need to think about data governance, data sharing, data standards, and data analysis. Managing the data is distinctly different than analyzing it. We really have to start thinking about analyzing the data. We have to think

about getting the analytical skills needed to make the data work for us, so we can draw insight from the volumes of data we have and exponential growth of data we anticipate.

Can you give us a glimpse into your leadership style and management approach?

Richard McKinney: I make no claim that my leadership style is the best, but I just try to treat people the way I want to be treated. As a leader, I try to be as good a listener as I am a talker. I try to put myself in their shoes, because what I'm asking them to do is to put themselves in my shoes. I always demonstrate willingness to listen, and listen closely to digest what it is that is being said and by whom.

I think a healthy discussion begins with being a good listener. This is how I interact with my customers and staff. From a staff standpoint, I clearly recognize that IT is a team sport and I seek to surround myself with good people. I foster a healthy environment that welcomes dialog, and when necessary, argument. I empower my employees to think and challenge me. I press my team all the time. My team is there to make me smarter. My job is to set a vision for the office, outline steps to achieve it, listen to my team, help them overcome their obstacles, and anticipate what's next.

What's your perspective on the Federal IT Acquisition Reform Act (FITARA)?

Richard McKinney: The law passed in December 2014. Prior to issuing guidance, the Office of Management and Budget conducted a series of meetings and dialogs with the various communities in the federal government—taking it from law to implementation. FITARA begins by increasing the responsibility, accountability, and authority of the chief information officer for each of the major federal agencies by providing them with budget authority over IT programs. In the past, most CIOs lacked the ability to manage their agency IT deployments, because they lacked any control over the fashion in which IT budgets were spent. CIOs need to be held accountable for the performance on efforts such as data center consolidation, IT investments, and shared services. To be held accountable, one must have the authority to succeed. As a CIO, I welcome the pressure, if you will, the expectation to perform. I feel lucky to have this job and honored to put it in the service of this department's vital mission. I wake up every day looking forward to being held accountable for all of the work my office performs, but I also recognize that I have to have matching authority in order to be able to deliver on that accountability.

What are the characteristics of the successful CIO of the future?

Richard McKinney: I think the successful CIO of the future is one who has a foot in the technical world and another in the business world. It is the CIO who enjoys the support and the trust of the business decision makers [mission leaders] themselves. To put a finer point, we don't do IT for IT sake. We do it to advance the department's mission—transportation safety. The successful CIOs must be well-versed on the technical side, but also be able to engage in discussions with the business or program leaders. It is about having a meaningful role in not only listening to the mission leaders, but also giving them advice. Let's face it: everything we do these days has an IT component.

What advice would you give someone who may be thinking of a career in public service?

Richard McKinney: I have so enjoyed my years in public service. I had an initial 20 year run in public service before going into the private sector. But there was a part of me that really missed public service. From my perspective, public service is a wonderful thing. As I travel, as I go through the country, and I used to think this when I was a CIO in Nashville, you know, you go home and you see your work. You see the things you're working on and you know you've made a difference in your community. It is a great honor. I take that responsibility very seriously and I'm very grateful. ◻

To learn more about U.S. Department of Transportation, go to www.transportation.gov/cio.

To hear *The Business of Government Hour* interview with Richard McKinney, go to the Center's website at www.businessofgovernment.org.

To download the show as a podcast on your computer or MP3 player, from the Center's website at www.businessofgovernment.org, right click on an audio segment, select Save Target As, and save the file.

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