

**NOMINATION TO THE
FEDERAL MARITIME COMMISSION,
DEPARTMENT OF TRANSPORTATION,
AND THE DEPARTMENT OF COMMERCE**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED SEVENTEENTH CONGRESS

FIRST SESSION

OCTOBER 20, 2021

Printed for the use of the Committee on Commerce, Science, and Transportation



Available online: <http://www.govinfo.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

WASHINGTON : 2023

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SEVENTEENTH CONGRESS

FIRST SESSION

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CONTENTS

Hearing held on October 20, 2021	Page 1
Statement of Senator Cantwell	1
Statement of Senator Wicker	3
Statement of Senator Tester	77
Statement of Senator Fischer	79
Statement of Senator Hickenlooper	84
Statement of Senator Thune	85
Statement of Senator Rosen	88
Statement of Senator Sullivan	89
Statement of Senator Warnock	92
Statement of Senator Peters	93
Statement of Senator Blackburn	95

WITNESSES

Hon. Ben Cardin, former U.S. Senator from Maryland	4
Max M. Vekich, Nominee to be a Commissioner, Federal Maritime Commis- sion	5
Prepared statement	7
Biographical information	8
Christopher A. Coes, Nominee to be Assistant Secretary for Transportation Policy, Department of Transportation	17
Prepared statement	18
Biographical information	19
Laurie E. Locascio, Ph.D., Nominee to be Undersecretary of Commerce for Standards and Technology, Department of Commerce; and Director, Na- tional Institute of Standards and Technology	30
Prepared statement	31
Biographical information	32

APPENDIX

Hon. Chris Van Hollen, U.S. Senator from Maryland, prepared statement	99
Response to written questions submitted to Max M. Vekich by:	
Hon. Amy Klobuchar	99
Hon. Kyrsten Sinema	100
Hon. Roger Wicker	101
Hon. Mike Lee	104
Hon. Ron Johnson	106
Hon. Shelley Moore Capito	107
Hon. Rick Scott	107
Response to written questions submitted to Christopher A. Coes by:	
Hon. Maria Cantwell	108
Hon. Amy Klobuchar	110
Hon. Kyrsten Sinema	110
Hon. Roger Wicker	111
Hon. Roy Blunt	111
Hon. Mike Lee	112
Hon. Ron Johnson	114
Hon. Shelley Moore Capito	115
Hon. Rick Scott	116
Response to written questions submitted to Dr. Laurie E. Locascio by:	
Hon. Maria Cantwell	117
Hon. Amy Klobuchar	118
Hon. Kyrsten Sinema	119

IV

	Page
Response to written questions submitted to Dr. Laurie E. Locascio by—	
Continued	
Hon. John Hickenlooper	121
Hon. Raphael Warnock	121
Hon. Roger Wicker	122
Hon. Roy Blunt	125
Hon. Ron Johnson	125
Hon. Shelley Moore Capito	126
Hon. Rick Scott	127

**NOMINATION TO THE
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AND THE DEPARTMENT OF COMMERCE**

WEDNESDAY, OCTOBER 20, 2021

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:15, in room SR-253, Russell Senate Office Building, Hon. Maria Cantwell, Chair of the Committee, presiding.

Present: Senators Cantwell [presiding], Klobuchar, Blumenthal, Peters, Rosen, Hickenlooper, Warnock, Wicker, Thune, Fischer, Moran, Sullivan, and Blackburn.

**OPENING STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

The CHAIR. We will now turn to today's Commerce committee hearing to consider the nomination of three individuals that will play critical roles in the advancing of our Nation's core infrastructure and enhancing the resiliency of the supply chain.

I want to welcome the nominees and their families, so if they could come up to the dais and take a seat. First, we will consider the nomination of Dr. Laurie Locascio, who has been nominated to be the Deputy—to be the Department of Commerce Undersecretary of Standards and Technology, and who serves as the Director of the National Institute of Standards and Technology, or NIST.

Dr. Locascio, welcome to you and your family. Senator Cardin will be providing a formal introduction, but I would also like to add a few words. NIST portfolio of work is expansive in setting standards for weights and measures it helps to provide—it helps to provide—

[Laughter.]

The CHAIR. That is what happens when you get attendance. OK. Provide common understanding of how to measure time, weight, and to ensure the safety of consumer products. NIST also provides critical guidance to companies on how to ensure cybersecurity and is tasked with establishing new Government industries, semiconductor research initiatives. The impact that our weakened supply chain has had on the semiconductor industry has exposed the need to reestablish manufacturing of most advanced semiconductor products in the United States, so we cannot afford to be dependent on other countries to access to this critical technology.

The United States Innovation and Competitiveness Act, USICA, which I mentioned earlier, was passed in the Senate and included support for domestic semiconductor industry, and Dr. Locascio recently served as the Vice President of Research for the University of Maryland, where she was a professor and oversaw a \$1 billion interdisciplinary research organization with 30 years of service, including a division as the Chief in Biochemical Sciences. I look forward to learning more about your work and the things that we have to tackle at NIST as we move forward in a very, very competitive environment.

Next, we will consider the nomination of Max Vekich, who hails from the State of Washington to be the Commissioner of the Federal Maritime Commission. The Federal Maritime Commission is a critical, independent Federal agency that has the responsibility for ensuring that our ocean shipping and commerce remains fair and competitive. The importance of this Commission and the role that our nominee will fill is especially important in the light of overwhelming congestion at our ports.

Port congestion is causing challenges not only for U.S. exporters attempting to bring their products to market, but also to companies trying to get imported goods off the ships and into the U.S. economy. The perspective and experience that Mr. Vekich will bring to this position of Commissioner is needed in this moment. He has a unique career, first serving as a member of the Washington legislature, followed by a long career as a longshoreman in Grays Harbor and in Seattle. And welcome to you and your wife, Marcy.

We are glad you are here to take on this challenge. Mr. Vekich knows about port and shipping communities firsthand. He spent his life working in the maritime industry, knows the challenges faced by the maritime and intermodal transportation system, and I know he understands the importance of what a maritime economy is to the State of Washington's economy and knows how important it is to the Federal—to our national economy as well.

Finally, we have the consideration the nominee of Christopher Coes to be Assistant Secretary for Policy at the Department of Transportation. I am sorry, is it Mr. Coes or Coose? Mr. Coes, welcome to you and your family. The Assistant Secretary of Policy serves as a key role in the development implementation of the Department's surface transportation policy initiatives. The position will be critical in implementing provisions of the Infrastructure Investment and Jobs Act, particularly the new multimodal freight initiatives by—created by this committee, and, if confirmed, will also be important adviser and aviation policy, especially the review of airport infrastructure programs.

So, Mr. Coes currently serves as the Acting Assistant Secretary for Transportation Policy. Previously served as the Vice President for Land Use and Development at Smart Growth America, where he worked to build equitable and sustainable communities. In addition to his decade in this field, he will also bring a wealth of experience and transportation, community development and organizational development.

So thank you to all the nominees for your willingness to serve. I also want to thank Senator Cardin for being here, but I am going

to now call on the Ranking Member, Senator Wicker, for his opening statement.

**STATEMENT OF HON. ROGER WICKER,
U.S. SENATOR FROM MISSISSIPPI**

Senator WICKER. Thank you, Senator Cantwell, for holding this hearing to consider the nominations of Max Vekich to be Commissioner of the Federal Maritime Commission, Mr. Christopher Coes to be the Assistant Secretary for Transportation Policy at the Department of Transportation, and Dr. Laurie Locascio to be the Undersecretary of Commerce for Standards and Technology and Director of the National Institute of Standards and Technology.

Well over a year, the United States freight transportation system has been under unprecedented strain as ocean carriers, ports, truckers, railroads, and the transportation operators in between have struggled to move record volumes of freight. I want to applaud the transportation workers who have worked tirelessly throughout the pandemic to ensure that essential goods arrived safely and efficiently at their destination.

Although many of the solutions to freight congestion will come from the private sector, the Federal Maritime Commission is the key Federal agency tasked with responding to these challenges. The role of the Maritime Commission—Commissioner has become more important than ever as the agency now oversees vast and complex freight operations, including reviewing ocean carrier agreements filed with the agency and rate and operational practices by carriers, marine terminal operators, and other stakeholders. So, I look forward to hearing Mr. Vekich's thoughts on the appropriate role of the Federal Government in addressing freight congestion issues and how his experience would support the Maritime Commission's oversight of the shipping sector.

Mr. Coes has been serving as the Principal Deputy Assistant Secretary for Transportation Policy since January of this year, providing him with a valuable preview of the duties of Assistant Secretary. I hope Mr. Coes will share his views on how we can continue to improve our transportation system, including how the Federal Government can promote innovative safety technologies and ensure rural communities remain competitive. Dr. Locascio has noteworthy professional credentials as the President's nominee for Undersecretary of Commerce for Standards and Technology, and NIST Director.

I am delighted that our colleague and friend, Senator Cardin, is here to speak more about her. Dr. Locascio is currently the Vice President for Research at the University of Maryland, but previously she spent 31 years, it is hard to believe, serving in various leadership roles at NIST. The agency's vital work in measurement and standards development promote U.S. innovation and competitiveness. NIST has a well earned a reputation for scientific excellence and thorough collaboration with industry, stakeholders.

And I trust Dr. Locascio understands the critical need to uphold this reputation and prevent the agency from ever becoming politicized. I want to thank all the nominees for their willingness to serve and for their appearance before the Committee today, and

again to thank my colleague, Senator Cardin. Thank you, Madam Chair.

The CHAIR. Thank you, Senator Wicker. Again, welcome to Senator Cardin. Thank you for being here today and joining our committee. And we know you probably could speak a lot about the issues of all the nominees but thank you for being here for Dr. Locascio.

**STATEMENT OF HON. BEN CARDIN,
FORMER U.S. SENATOR FROM MARYLAND**

Senator CARDIN. Well, Madam Chair, Ranking Member Wicker, members of the Committee. I do want to thank all three of our nominees for their willingness to serve our country and thank them for putting up with our nomination process. So, we appreciate it very much in public service. It really is my honor, distinct pleasure to introduce Dr. Laurie Locascio, President Biden's nominee to serve as Undersecretary of Commerce for Standards and Technology. The Undersecretary also serves as Director of the National Institute of Standards and Technology, NIST, which is headquartered in Maryland and has a sound like campus in Boulder, Colorado.

I have visited NIST many times, and I am proud that such a prestigious institution, one of the Nation's oldest physical sciences labs, is located in my home state. Congress established the agency in 1901 to remove a major challenge to U.S. industrial competitiveness at the time, measurement infrastructure that lagged behind the capabilities of the United Kingdom, Germany and other economic rivals. Its mission is to promote American innovation and industrial competitiveness. I cannot think of anyone more superbly qualified to lead this than Dr. Locascio. Dr. Locascio is the Vice President for Research at the University of Maryland College Park and the University of Maryland, Baltimore. That is where I got to know her best, and I saw the positive results of her talents.

In this role, she oversees the University of Maryland's vibrant research and innovation enterprise, a combined \$1.1 billion in external research funding each year. She—her outstanding leadership has really made the work at the University of Maryland so critically important to our entire country. Dr. Locascio is responsible for the development of a large interdisciplinary research program technology, commercialization, innovation and economic development efforts, and strategic partnerships with industry, Federal, academic, and nonprofit collaborators.

In other words, she brings all stakeholders together, which is exactly the type of leadership that we need at NIST. She is a professor in Maryland's Department of Engineering and in the Department of Pharmacology at the University of Maryland School of Medicine.

Dr. Locascio received her bachelor's degree in chemistry from the James Madison University, a master's degree in bioengineering from the University of Utah, Ph.D. in toxicology from the University of Maryland, Baltimore. As a biomedical researcher, she has published more than 100 scientific papers, and she holds 12 patents. Dr. Locascio is a fellow of the American Chemical Society, American Institute for Medical and Biological Engineering, and the

National Academy of Inventors. Dr. Locascio previously worked at NIST, as you both have pointed out, most recently as the Acting Principal Deputy Director and Associate Director responsible for leading the internal scientific research and laboratory programs across NIST's two campuses.

So, she is eminently aware and qualified to lead this agency. She has a scientific, academic, and managerial experience to run this like an atomic clock, which incidentally is located at NIST. I can attest to Dr. Locascio's commitment to expanding the pipeline of diverse researchers at NIST, including those coming from HBCUs and minority serving institutions. This effort is critical to ensuring our future economic competitiveness as our Nation becomes more diverse. She is very well qualified to take on this responsibility.

I thank her for her willingness to serve in this public position, and I urge the Committee to report her nomination expeditiously so Dr. Locascio can get to work. Thank you, Madam Chair.

The CHAIR. Again, thank you, Senator Cardin, for being here. Certainly appreciate you taking time out to speak on behalf of this nominee. So thank you. We will now turn to our nominees for their opening statements. Again, thank you all for your willingness to serve. If you want to introduce anybody, family or friends that are here with you go ahead and do that, but you all have 5 minutes. And we will start with you, Mr. Vekich. And push a red button. Yes. Our buttons are——

**STATEMENT OF MAX M. VEKICH, NOMINEE TO BE A
COMMISSIONER, FEDERAL MARITIME COMMISSION**

Mr. VEKICH. Thank you. Chair Cantwell, Ranking Member Wick-er, and members of the Committee, good morning. Thank you for this opportunity to appear before you and testify in support of my nomination to serve as a Commissioner on the Federal Maritime Commission. I am honored to be considered for this position and humbled the president's trust in me. I am pleased to be joined by my wife, Marcee Stone-Vekich. The values of public service were instilled in me at an early age when my father and uncles, all who fought in World War II.

Throughout my life, I have sought ways to try and follow their example of service. To share a bit about me, I was raised in Aberdeen, Washington, a small rural seaport which on the West Coast has your reputation for being an industrious port. I inherited my father's love of ships and followed him to work on the docks as a longshoreman. I am proud that my son and daughter have chosen to make their livings as longshore workers in the Northwest Sea-port Alliance.

I am excited by the prospect of serving on the Federal Maritime Commission. This is an opportunity that will allow me to combine my 49 years of experience working in the maritime industry, my 8 years as State legislator, and my 15 years on the board of an international labor organization. I am confident these combined understandings provide me with a unique set of skills to consider the matters that come before the Commission. An overwhelmed supply chain with its consequent congestion, such as we see now, is an existential challenge to the national economy. My experience tells me

if a logistics problem is not addressed, is left unaddressed, is likely to grow exponentially.

I have accumulated five decades of hands-on experience working the waterfront, moving every sort of ocean cargo imaginable, imports and exports, containerized and bulk. I understand the value shipping brings to communities through the jobs it creates, the families it supports, and the revenues it generates. I recognize the important contribution that ocean link supply chains play in not only supporting American manufacturing and bringing goods to consumers, but also in providing the United States with an economic competitive advantage.

The FMC is a competition enforcement agency rather than a utility regulator, but it plays an important role as an advocate for an efficient supply chain. I know that port congestion is on everyone's mind. I applaud Chairman Maffei's VOCC audit program, an examination the Commission has undertaken to investigate certain carrier surcharges. I am intrigued by Commissioner Dye's thoughts about commercial solutions to the supply chain congestion and her work on Fact Finding 29. Container return and the availability of expert containers are other areas where work needs to be done.

The United States has so many excellent products to offer the world's markets. We should find ways to do everything we can to support our exporters. Throughout my career, I have been lucky enough to be associated with many export cargoes. I have helped export jeeps to China, soybean meal to the Philippines in Australia, corn to India, heavy equipment to Russia, wood products, potatoes and seafood to the Pacific Rim, to name just a few.

If I am confirmed, I would support any Commission initiative designed to facilitate exports or address issues that export shippers face within the Commission's jurisdiction. I want to do everything I can to support American exports and American jobs. The FMC is comprised of five independent and co-equal members. Each Commissioner brings their own skills and specialties to their duties.

If confirmed, I envision my role as being able to provide a first-hand perspective of what is really involved in moving ocean freight. I understand the culture of the Commission is one of cooperation and cordiality, and I have enjoyed similar dynamics in the Washington legislature. Some of the best work I would—I did would not have been possible without engagement and collaboration. I am a Senior Supercargo, normally working the night and hoot shifts and the deepwater ports of Washington State. On the waterfront, we like to say, we run to the work. That is how I will approach my work as a Commissioner if I am fortunate enough to be confirmed.

The FMC is frequently invoked in news stories reporting on supply chain problems, and I am still learning about parameters of the Commission's authorities in jurisdiction. I am an enthusiastic learner and will embrace the challenge of getting up to speed on what the agency can do to provide relief and improve cargo fluidity.

Chair Cantwell, Ranking Member Wicker, if given the privilege to serve on the Federal Maritime Commission, I promise to follow the statutory requirements of the law. I pledge to you that I will be fully responsive and engaged with any demand or request of this committee.

[The prepared statement and biographical information of Mr. Vekich follow:]

PREPARED STATEMENT OF MAX M. VEKICH, NOMINEE TO BE A COMMISSIONER,
FEDERAL MARITIME COMMISSION

Chair Cantwell, Ranking Member Wicker, and members of the committee, good morning.

Thank you for this opportunity to appear before you and testify in support of my nomination to serve as a Commissioner on the Federal Maritime Commission. I am honored to be considered for this position and humbled by the President's trust in me.

I am pleased to be joined by my wife, Marcee Stone-Vekich.

The values of public service were instilled in me at an early age. My father and uncles all fought in World War II. Their experiences showed me the need for individuals to contribute in ways that benefit the many. Throughout my life, I have sought ways to try and follow the example of rendering service that was set by those who raised me.

I am grateful to President Biden for nominating me to this position and appreciate his confidence, that if confirmed, I can make a contribution to the work of the Commission.

To share a bit about me, I was raised in Aberdeen, WA, a small rural seaport, which on the West Coast has a reputation for being an industrious port. I inherited my father's love of ships and followed him to work on the docks, as a longshoreman. It was a gift to work with people who really knew how to work hard and work smart. I learned a lot from that experience and those old hands. Furthermore, this job allowed me to put myself through college, earning an associate's and bachelor's degrees. I am proud that my son and daughter have chosen to make their livings as longshore workers in the Northwest Seaport Alliance (Seattle-Tacoma).

I am excited by the prospect of serving on the Federal Maritime Commission. This is an opportunity that will allow me to combine my 49 years of experience working in the maritime industry, my eight years as a Legislator in the Washington State House of Representatives, and my 15 years of executive work serving on the board of an international labor organization. I am confident that these combined understandings provide me with a particularly unique set of skills to consider matters that come before the Commission.

An overwhelmed supply chain with its consequent congestion, such as we see now, is an existential challenge to the national economy. My experience tells me if a logistics problem is left unaddressed, it is likely to grow exponentially.

I understand international trade and the shipping industry. I have accumulated five decades of "hands on" experience working the waterfront, moving every sort of ocean cargo imaginable—imports and exports, containerized, and bulk. I understand the value shipping brings to communities through the jobs it creates, the families it supports, and the revenues it generates. I recognize the important contribution that ocean-linked supply chains play in not only supporting American manufacturing and bringing goods to consumers, but also in providing the United States with an economic competitive advantage. I am anxious to contribute to keeping the supply chain and ocean shipping a vibrant, reliable international goods movement system.

The FMC is a competition enforcement agency, rather than a utility regulator, but it plays an important role as an advocate for an efficient supply chain. I know that port congestion is on everyone's mind. I applaud Chairman Maffei's VOCC Audit Program to assess compliance with FMC rules on detention and demurrage. I also applaud the examination the Commission has undertaken to investigate surcharges of certain carriers making certain the fees were instituted properly. I am intrigued by Commissioner Rebecca Dye's thoughts about commercial solutions to the supply chain congestion and hope, if I am fortunate enough to be confirmed, I will be able to complement her work on that issue. I am especially interested in Fact Finding 29. Container return and the availability of export containers would be other areas I believe I could contribute to making progress that would benefit users of the system. Sending empty containers across the Pacific has always concerned me. I know repositioning equipment is necessary, but the United States has so many excellent products to offer the world's markets, we should find ways to do everything we can to support our exporters. I believe strongly in supporting exports and throughout my career, I have been lucky enough to be associated with many export cargoes. I have helped export Jeeps to China, soybean meal to the Philippines and Australia, corn to India, heavy equipment to Russia, wood products, potatoes, and seafood to

the Pacific Rim to name just a few. If I am confirmed, I would support any Commission initiative designed to facilitate exports or address issues that export shippers face that are within the Commission's jurisdiction. I want to do everything I can to support American exports and American jobs.

The FMC has a small, but key, role requiring cruise ships have the funds to reimburse consumers when appropriate. Passenger protection is always a good idea. I am glad to report that on October 8, 2021, I worked on The Norwegian *ENCORE*, an NCL cruise ship returning from Alaska. Safety protocols, some of the same ones advocated for by Commissioner Sola in Fact Finding 30, were followed. I am pleased that cruise ships are again calling communities in Alaska that were particularly hard-hit during the pandemic.

The FMC is comprised of five independent and co-equal members. Each Commissioner brings their own skills and specialties to their duties. If confirmed, I envision my role as being able to provide a firsthand perspective of what is really involved in moving ocean freight. I also understand the culture of the Commission is one of cooperation and cordiality and I have enjoyed similar dynamics in the Washington Legislature. Some of the best work I did would not have been possible without engagement and collaboration.

I am a Senior Supercargo normally working the night and hoot shifts in the deep-water ports of Washington state. On the waterfront we like to say, "we run to the work." That is how I will approach my work as a Commissioner. The FMC is frequently invoked in news stories reporting on supply chain problems and I am still learning about parameters of the Commission's authorities and jurisdiction. I am an enthusiastic learner and will embrace the challenge of getting up to speed on what the agency can do to provide relief and improve cargo fluidity.

Chair Cantwell and Ranking Member Wicker, if given the privilege to serve on the Federal Maritime Commission, I promise to follow the statutory requirements of the law in an objective and unbiased manner. Furthermore, I pledge to you that I will be fully responsive and engaged with any demand or request of this committee as you perform your legislative and regulatory oversight of the FMC.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used):

Max Milan Vekich
Max Milan Vekich, Jr.
Maxie

2. Position to which nominated: Commissioner, Federal Maritime Commission.

3. Date of Nomination: June 24, 2021.

4. Address (List current place of residence and office addresses):

Residence: Information not released to the public.
Office: Information not provided.

5. Date and Place of Birth: May 22, 1954; Aberdeen, Washington.

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

Spouse: Marcella Stone-Vekich, Retired
Children: Peter Frost Vekich—40
Alexandra Upton Vekich—37
Claire Elizabeth Donehue (stepdaughter)—33

Note: Peter and Alexandra are my children with my first wife (Ivy Frost Vekich) who passed from cancer in 1995.

7. List all college and graduate degrees. Provide year and school attended.

Grays Harbor Community College, A.A. 1974
University of Puget Sound, B.A. Political Science 1976

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

2005 to present
ILWU Supercargo Management, PMA Management
Puget Sound and Coastal Ports
2004–2005

ILWU Marine Clerk, PMA
 Seattle, WA
 1983–2004
 A Registered Longshoreman, PMA
 Aberdeen, WA
 1983–1991
 Washington State Representative, State of Washington
 35th Legislative District
 1979–1983
 B Registered Longshoreman, PMA
 Aberdeen, WA
 1972–1979
 Casual Longshoreman, PMA
 Aberdeen, WA

9. Attach a copy of your résumé.
 See Attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years. None.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

2020 to present, 2013–2018
 Member, Labor Relations Committee
 International Longshore Warehouse Union (ILWU) Local 52
 Seattle, WA
 2018–2019
 President
 International Longshore Warehouse Union (ILWU) Local 52
 Seattle, WA
 2003–2018
 International Executive Board Member
 Elected for Five Terms to represent Puget Sound and Coastal Washington Area
 International Longshore Warehouse Union (ILWU)
 San Francisco, CA

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

None of the following organizations listed restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

U.S. Naval Institute	Current Member
Washington Arms Collectors	Life Member, 2021
Orders and Medals Society of America	Life Member, 2021
Catholic Relief Services	2020 to present
Seattle Area Longshore Pensioner Club	2019 to present
Grays Harbor College Foundation, Aberdeen, WA	2018 to present
University of Puget Sound Alumni Association	2016 to present
34th Legislative District Democrats, Seattle, WA	2008 to present
Northwest Historical Miniature Gaming Society	1990 to present
Grays Harbor Historical Seaport, Aberdeen, WA	1988 to present
Beta Theta Pi Fraternity	1974 to present
Croatian Fraternal Union	1972 to present

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt.

Yes, I have been a candidate for and have held public office. I have no reason to believe the campaign has any outstanding debt.

Position	Date	Office	Jurisdiction	Debt
Candidate	2009	Port of Seattle Commission	King County, WA	None
Candidate	1994	Washington State Representative	19th Legislative District	None
Candidate	1992	Washington State House of Representatives	19B Legislative District	None
Candidate	1990	Washington State House of Representatives	35th Legislative District	None
Public Office	1983–1991	Washington State House of Representatives (4) 2-year terms	35th Legislative District	None
Candidate	1980	Washington State Senate	19th Legislative District	None

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities.

None.

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past ten years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period.

ILWU Political Action Fund

- \$10 weekly donations from 2011 to 2021 (Donations never exceeded \$500/year).

Federal Contributions over \$500 Itemized

2021	Patty Murray (D) U.S. Senate, WA	\$1000.00
2020	Beth Doglio (D) WA–10th	\$ 550.00
2020	Joe Biden (D) President	\$5800.00
2019	Inslee for America (D), President	\$725.00
2018	Jason Ritterer for Congress, WA–8th	\$500.00
2018	Lisa Brown for Congress (D), WA–5th	\$500.00
2018	Maria Cantwell (D) U.S. Senate, WA	\$1250.00
2017	People for Patty Murray (D) U.S. Senate, WA	\$1050.00
2016	Udall for Us All (D) U.S. Senate, NM	\$1125.00
2016	Friends of Joe McDermott (D) WA–7th	\$700.00
2015	Denny Heck for Congress (D) WA–10th	\$550.00
2013	Begich for America (D) U.S. Senate, AK	\$500.00
2012	Obama for America (D) President	\$590.60
2012	Maria Cantwell (D) U.S. Senate, WA	\$2150.00

State and Local Contributions over \$500 Itemized

2020	Jay Inslee (D) Governor, WA	\$1,570.00
2020	Denny Heck (D) Lieutenant Governor, WA	\$ 550.00
2020	Dean Takko (D) State Senate—19th Legislative District	\$500.00
2019	Tom Quigg (NP) Port of Grays Harbor Commission	\$500.00
2018	Fred Felleman (NP) Port of Seattle (King County, WA)	\$500.00
2018	Shannon Braddock (D) State Senate—34th Legislative District	\$1,953.00
2017	Dow Constantine (NP) King County Executive, WA	\$733.00
2017	John Persak (NP) Port of Seattle (King County, WA)	\$600.00
2017	Lorena Gonzalez (NP) Seattle City Council Position 9	\$510.00
2017	Larry Brown (NP) Auburn City Council, WA	\$500.00
2016	Jay Inslee (D) Governor, WA	\$1,225.00
2016	Tina Podlodowski (D) Secretary of State, WA	\$525.00
2015	Joe McDermott (NP) King County Council District 8	\$500.00
2015	Shannon Braddock (NP) Seattle City Council District 1	\$1,260.00
2015	John Persak (NP) Seattle City Council District 8	\$500.00
2015	Leslie Harris (NP) Seattle School Board	\$600.00
2013	Peter Steinbreuck (NP) Mayor Seattle	\$700.00
2012	Randy Dorn (NP) WA Superintendent Public Instruction	\$550.00
2012	Jeff Davis (D) State Representative, WA—35th Legislative District	\$730.83
2012	Jay Inslee (D) Governor, WA	\$2929.00

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

1991	Orders and Medals Society of America (OMSA) Medal Best British Display Annual Convention
1991	Citation of Outstanding Service, Washington Dairy Farmers
1990	Honorary Citizen City of Tacoma, Washington
1990	Robert Gray Medal presented by WA State Historical Society for distinguished achievement in the field of Pacific NW History
1990	Washington Licensed Beverage Association Legislator of the Year
1989	Washington State Labor Council Legislator of The Year 1989
1986	WA Dairy Federation Legislator of the Year
1985	National Rifle Association Legislator of the Year
1980	MVP Last Aberdeen-Hoquiam Thanksgiving Alumni Game
1972–1974	Phi Theta Kappa Honor Society
1974	Twin Harbor Stevedore Safety Scholarship
1973	Grays Harbor College Student Body President Scholarship
1973	ILWU Ladies Auxiliary #2 Scholarship
1973	Norman Holmes GHC Memorial Scholarship
1972	Grays Harbor College Choker Football full ride scholarship

17. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Publications:

Op-ed: “Sonics Arena deal doesn’t do enough to protect jobs”, *Westside Seattle*, September 18, 2012:

<https://www.westsideseattle.com/ballard-news-tribune/2012/09/18/op-ed-sonics-arena-deal-doesnt-do-enough-protect-jobs>

Resolution: “Renaming Maury Island”, *Democratic Party of the 34th Legislative District Homepage*, November 9, 2020 (Co-authored with Marcee Stone-Vekich)
<https://34dems.org/proposed-renaming-maury-island/>

Letters:

<https://www.ilwu.org/wp-content/uploads/2020/12/DispatcherDEC2020lores.pdf>

Speeches:

My political activity offered many opportunities to make numerous speeches, etc., many which may not be otherwise documented. The most accurate and representative sample of my speeches are cited below but there may be others that follow a similar context.

Max Vekich Port of Seattle Candidate Address to Highland Park Candidates’ Forum, September 24, 2009 https://www.youtube.com/watch?v=p9wx_B2RVg0

Max Vekich Port of Seattle Candidate Speech, Blue Festival, Seattle, WA, 10/06/2009 https://www.youtube.com/watch?v=rCl9uOf_W-Y

Max Vekich Port of Seattle Candidate at Young Voters League Candidate Forum 2009 at Seattle Vocational Institute October 19, 2009 (3:42–5:14)
<https://www.youtube.com/watch?v=pWwkOmrtRjg>

Speech Lady Washington 25th Birthday July 3, 2013. Grays Harbor Historical Seaport, Aberdeen, WA.

Part 1

https://photos.google.com/share/AFIOipMZtLggaTmur5V-yapbMc2ZHMIEYpIKY65qNlbem21iuErYBPiwWemhbffpyjFP_g/photo/AFIQipOv-ls0ckkiJO_7zcWuLc6gFDduagG66jh4gM7v?key=RGVIZlVzb1FyR3hpNTFgdLRJeEJIRmtlS0dpZDNn

Part 2

https://photos.google.com/share/AFIOipMZtLggaTmur5V-yapbMc2ZHMIEYpIKY65qNlbem21iuErYBPiwWemhbffpyjFP_g/photo/AFI0ipPnnWXdCC-m_RFjuxOt9hrNvpGLful4S5lDPv5?kev=RGVIZlVzb1FyR3hpNTFgdLRJeEJIRmtlS0dpZDNn

Endorsements:

Senator Maria Cantwell Endorsing Max Vekich, September 29, 2009, Private Fundraiser <https://www.youtube.com/watch?v=u0fbppw7DU>

Representative Jay Inslee (WA-JO) Endorsing Max Vekich, October 5, 2009 <https://www.youtube.com/watch?v=UBf401NOW8c>

Interviews (Quotes):

<https://www.foss.com/press-releases/foss-maritime-honored-for-safety-performance/>

<https://westseattleblog.com/2016/06/air-pollution-annoyance-noise-truck-traffic-other-concerns-aired-at-second-hearing-for-terminal-5-review/>

<https://westseattleblog.com/2015/01/arctic-drilling-support-fleet-at-west-seattles-terminal-5-after-impassioned-debate-port-commission-says-yes/>

<https://www.seattlepi.com/seattlenews/slideshow/.King-County-Council-approves-Sodo-arena-46760.php>—Photo

18. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an “alias” or “handle” you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

- Facebook
 - facebook.com/max.vekich
 - facebook.com/Max4OurPort
- Pinterest
 - @maxvekich
- LinkedIn
 - Dormant, unknown profile

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

Subcommittee on Employer-Employee Relations, Committee on Education and the Work Force, U.S. House of Representatives, “Emerging Trends in Employment and Labor Law: Labor Management Relations in a Global Economy”, October 2, 2002.

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

I possess forty-nine years of experience moving maritime cargo through ports and into the supply chain. I worked my way up the ladder from being a “Casual Longshoreman” loading lumber on the CALMAR to a “Senior Supercargo” loading vessels like the M/V BENJAMIN FRANKLIN, the largest container ship to ever call the U.S. West Coast. The knowledge and insight I have gained over the course of my professional life makes me uniquely qualified to serve in a regulatory capacity of the shipping industry. Over the course of nearly five decades, I have worked with shipping lines, terminal operators, labor unions, and governmental bodies to include the U.S. Customs and Border Protection, the U.S. Coast Guard, the U.S. Department of Agriculture, the U.S. Army Corps of Engineers, port authorities, local first responders, and many more.

As I was contemplating retirement from the ILWU, I realized my experiences could be of use to our country. I have always felt a call to public service and offered my services to President Biden. I am humbled by his nomination to serve on the Federal Maritime Commission.

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

Every leader, myself included, is fully accountable to ensure that his or her organization is managed in a way that promotes transparent stewardship, to include external controls and audits. In the private sector, I have served on the Executive Board of a 60,000-member international union for fifteen years working with professional staff, including lawyers, accountants, research and fiscal analysts in addition to office, clerical and media personnel. Six of those years I served as a Trustee of

the Board and was engaged with the officers in budgets and expenditures, performance, audits, investigations, and legal affairs.

I did not conduct audits, but reviewed audit reports and made recommendations to the Board on audit findings. I reviewed budgets and expenditures of the Union and made recommendations to the Board on fiscal matters. I also worked with the twelve union locals within my area and advised them when requested or necessary on matters requiring my stewardship.

I have worked with marine terminal managers conducting many different operations simultaneously. I have worked with various stakeholders to focus on the needs of the supply chain from wood product manufacturers to agricultural exporters, from timber companies to dairy farmers.

Lastly, I will draw on my own public sector experience. I have chaired quite a variety of state legislative committees staffed by non-partisan attorneys, analysts (research and fiscal) and clerks. I also had oversight responsibilities over state agencies' programs and their efficacy.

22. What do you believe to be the top three challenges facing the department/agency, and why?

The top three challenges and issues facing the shipping industry are: 1) consolidation of carriers and how that affects shippers and other constituencies; 2) better handling trade increases and cargo "surges"; and 3) the empty container conundrum caused by refusal to provide empty containers for exports out of the United States.

The liner shipping business has changed a lot since I first started working as a longshoreman. Through mergers, consolidations, and bankruptcies, there are far fewer shipping companies today than there were in the 1960s. It is a legitimate question to ask if "bigger is always better". With fewer and much larger carriers, what is the consequence to shippers and the American economy? Furthermore, are regulations sufficient to keep the big guys honest? Many businesses do not like regulation—unless it is of their competitor. I see regulation as a necessity to keep the playing fields level. The maritime industry is a vital artery of our economy. All shippers need access to the services carriers provide. Recent events have brought attention to challenges exporters face in securing containers for their goods and space aboard ships, as well as the high costs for transporting commodities. This has been an especially frustrating problem for our agricultural producers. All the above are issues related to market forces. The FMC touches each, but the tools it possesses to address them are limited.

The United States is currently experiencing a cargo surge that is unprecedented. Choke points in the system must be identified and eliminated. This is an "all hands-on deck" moment and the Commission has a role to play in addressing immediate responses to alleviate congestion as well as how to improve the system to mitigate future shocks. The concept of working terminals 24/7 would squeeze more capacity out of facilities without necessarily having to physically expand a port. The Commission should inventory its tools and resources to evaluate if this is enough or are additional approaches necessary. If confirmed, my experience on the waterfront will be a source of information for how the Commission might do its part to meet these current challenges.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

My arrangements are fully described in Part 3 of my Public Financial Disclosure Report.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain. No.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Commission's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the ethics agreement I have entered into with the Commission's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or

acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Commission's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the ethics agreement I have entered into with the Commission's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Commission's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the ethics agreement I have entered into with the Commission's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

I have participated as an ILWU Representative on Pacific Northwest Waterway Association (PNWA) visits to Washington, D.C. The purpose of these trips was to provide information to Pacific Northwest lawmakers interested in hearing from all stakeholders regarding Western water policy. I have also partnered with supply chain entities to advocate for transportation infrastructure and improvement. I attended these as a rank-and-file ILWU member. Over the years, policymakers have also informally sought my advice or opinion on various matters.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group? If yes:

- a. Provide the name of agency, association, committee, or group;
- b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
- c. Describe the citation, disciplinary action, complaint, or personnel action;
- d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

No.

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain. No.

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain. No.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain. No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain. No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees? Yes.

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistleblowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

MAX VEKICH

EXPERIENCE

MAY 2004–PRESENT

SUPERCARGO, PACIFIC MARITIME ASSOCIATION (PMA)

Senior Supercargo, Puget Sound Area (ILWU), control vessel cargo movement. Management position within the Pacific Coast Clerks Agreement, ILWU-PMA. Frontline logistics manager of cargo throughput in the supply chain. Team with employers to increase productivity. Created training program for entry level marine clerks. Initiated leadership training for Union marine clerks covered under the collective bargaining agreement.

2003-2018

ILWU INTERNATIONAL EXECUTIVE BOARD, PUGET SOUND REPRESENTATIVE.

Elected to five terms by the rank and file.

LONGSHORE LEGISLATIVE COMMITTEE appointed in 2002. Chair from 2008-Present.

ILWU International Convention Delegate 1997, 2000, 2003, 2006, 2009, 2012, 2015, 2018.

2012 International Convention – Amended the Ten Guiding Principles of the ILWU to ensure LGBTQ rights within the Union.

JANUARY 1983-JAN 1991

WASHINGTON STATE HOUSE OF REPRESENTATIVES. Four Terms.

Commerce & Labor Committee Chair

Trade & Economic Development Committee Chair

Agriculture Committee Chair

State Government Committee Vice Chair

- Authored groundbreaking legislation re: farmworker protections by establishing unemployment eligibility; and keeping schoolkids out of the fields on school nights. (HB2222)
- Secured state share of funding for the Corps of Engineers Grays Harbor Navigation Channel Deeper Draft Project. The first state contribution to a federal navigation project in Washington State.
- Initiated the Lady Washington (1985)
- Founder of the Heritage Caucus (1989)
- Awarded Washington State Historical Society's Robert Gray Medal

GOVERNMENTAL APPOINTMENTS

- Washington State Maritime Bicentennial 1792-1992, Commissioner (1992), appointed by Governor Booth Gardner (Democrat)
- Governor's Industrial Safety Board, Board Member (1981-1983), appointed by Governor John Spellman (Republican)

October 1979 to Present

UNION LONGSHOREMAN

Registered with ILWU Local 24, in Aberdeen WA, October 1979. Elected President of ILWU Local 24 (2000-2004).

Promoted to Marine Clerk in 2004 and certified as Supercargo in 2005 with ILWU Local 52, and elected President of ILWU Local 52 (2018).

EDUCATION

MAY 1976

BACHELOR OF ARTS, UNIVERSITY OF PUGET SOUND

Political Science major, Internship Democratic House Majority Leader, WA State Legislature.

MAY 1974

ASSOCIATE OF ARTS, GRAYS HARBOR COMMUNITY COLLEGE

ASB President, PHI THETA KAPPA

AFFILIATIONS

BETA THETA PI FRATERNITY

US NAVAL INSTITUTE

WASHINGTON ARMS COLLECTORS, LIFE MEMBER

CROATIAN FRATERNAL UNION

OMSA, LIFE MEMBER

SKILLS

Leadership. Many leadership roles in different arenas. Leader by example.

Great sense of history. You cannot tell where you are going if you do not know where you have been.

Problem solving. Experience on the docks taught me how to get difficult people to work together.

Belief in our democratic government. We have a government we need to support and invest in.

ACTIVITIES

Democratic Party Activist; Precinct Committee Officer at age 18. Member Washington State Democratic Central Committee 8 years. Delegate 1976 and 1984 Democratic National Conventions.

Social/Labor Activist

Participant 1987 Anti-Apartheid in South Africa March, Hyde Park London, UK

Participant 2006, European Port Privatization Protest. Strasbourg, France

Participant WTO protest Seattle WA 1999. Featured in Pro Trade Seattle Times AD.

Supporter University of Washington, Harry Bridges Chair of Labor Studies.

Lead fight to preserve Industrial lands in the Port of Seattle, Save SODO 2012.

Organized ILWU team to re-elect President Obama 2012, Las Vegas

NRA Legislator of the Year 1985

DLC Convention 1991 WA State Delegation Chair, Cleveland. OH

On my job I have endeavored to be a good will ambassador to seafarers and ships officers. Current US policies confine many foreign crew members to their vessels which is discriminatory and wrong. The experience of sharing a bowl of Ramen with a Chinese Bosun, working on a rusty bulk loader, prepared on his worn hotplate is priceless.

Max Vekich
ILWU - 2

The CHAIR. Thank you, Mr. Vekich. Thank you for—I just have to say, since we have served together in the Washington Legislature, very proud moment for us, for the State of Washington to have you here. For me, I feel like your statement hit the mark about what our Washington economy is about.

And I would say that maybe we should get a list of all the products that you have moved for members of this committee because our ports move so many of them, but that was a good list. Mr. Coes, thank you very much. Look forward to your opening—your statement.

**STATEMENT OF CHRISTOPHER A. COES, NOMINEE TO BE
ASSISTANT SECRETARY FOR TRANSPORTATION POLICY,
DEPARTMENT OF TRANSPORTATION**

Mr. COES. Chairman Cantwell, Ranking Member Wicker, members of this committee, I am humbled and honored to appear before you today as the nominee for Assistant Secretary for Transportation Policy for the U.S. Department of Transportation. I want to thank the President and Secretary Buttigieg for their trust in nominating me for this role. It is indeed a privilege of a lifetime. I would like to also take this opportunity to thank my amazing wife who is here today, and my mother, family, and many friends who are watching online. But I also would like to acknowledge the prayers, the aspirations, and sacrifices that those that came before me who paved the way for me to sit in front of you today.

I have been a transportation, safety and economic development advocate since my youth. Growing up in Thomasville, a small rural community in Southwest Georgia, I saw firsthand and experienced the benefits of smart transportation investments and the impacts of decades of disinvestment on the economic, the health, and the social mobility of individuals and communities. For example, while waiting at a red light, my mother was hit by a speeding drunk driver. She was disabled and no longer pursued her own ambitions.

Without any alternatives, I spent much of my youth as a caretaker for my mother and my aging great grandmother who relied on me walking or biking to do every day errands, at times on unpaved roads or while dodging car traffic. My experience is not unique. Many communities, rural and urban lack basic infrastructure or affordable and safe access to everyday destinations.

Fortunately, my community and its surrounding rural areas banded together to bring broadband to thousands of residents and businesses. I leveraged these investments to enhance my own education and took advantage of new opportunities, including working here in Congress as an intern to Congressman Sanford Bishop and also as a part of the Congressional Black Caucus Foundation internship program. See, this is a great example of how smart infrastructure investments can ensure not only rural communities like mine no longer have digital dirt roads but can change lives.

I have dedicated my career to advancing policies and public-private partnerships to ensure that all Americans, particularly those in rural communities and small towns like Thomasville, have the ability to live, work, and play in healthy, vibrant, and equitable communities. Since January 20, I have served as the Principal Deputy Assistant Secretary for Transportation Policy. In these last

few months, I have worked with some of the most dedicated and professional public servants at the Department to manage the Office of the Assistant Secretary for Transportation Policy.

Together, we are advising the Secretary on surface transportation reauthorization, leading many of the Department's multimodal initiatives to improve safety, to advance transportation equity, to address climate change, and foster innovation for the future. Prior to joining the Biden-Harris Administration, I served as Campaign Adviser and Deputy Director for Transportation for America, Founding Executive Director of LOCUS, and as Vice President at Smart Growth America.

While at Smart Growth America, I and my colleagues developed market data research on the impact of transportation and land use investments on local and regional economic, climate, and social equity performance. I have worked with—closely with Federal agencies, including U.S. DOT, to support local community efforts to advance smart and equitable transportation investments, MP3s, such as the National Opportunities Zones Academy, U.S. DOT's Transit-Oriented Development Technical Assistance, and LadderSTEP Pilot Cities Programs.

I also had the privilege to work with this committee in Congress in a bipartisan manner to ensure local communities had access to funding and financing tools to rebuild their rail infrastructure, promote road safety, and encourage greater private investment to build transit or in development and rural main streets. Building on these efforts will be critical to ensuring housing and particularly transportation options are available to average Americans and businesses.

President Biden and Secretary Buttigieg have made combating COVID-19, creating high quality American jobs, fixing our crumbling infrastructure, reconnecting long divided communities, combating climate change as our Administration's top priorities. If confirmed, it would be an honor to continue this work with Congress on these efforts.

Chair Cantwell, Ranking Member Wicker, and the members of this committee, thank you again for this opportunity to be here, and I will be pleased to answer any questions you may have. Thank you.

[The prepared statement and biographical information of Mr. Coes follow:]

PREPARED STATEMENT OF CHRISTOPHER A. COES, NOMINEE TO BE ASSISTANT SECRETARY FOR TRANSPORTATION POLICY, U.S. DEPARTMENT OF TRANSPORTATION

Chair Cantwell, Ranking Member Wicker and Members of the Committee, I am humbled and honored to appear before you today as the nominee for Assistant Secretary for Transportation Policy for the U.S. Department of Transportation.

I want to thank the President and Secretary Buttigieg for their trust in nominating me for this role. It's a privilege of a lifetime.

I would like to take this opportunity to thank my amazing wife, Candice, who is here today and my mother, family and friends who are watching online. I would also like to acknowledge the prayers, aspirations and sacrifices of those that came before me who paved the way for me to sit in front you today.

I have been a transportation safety and economic development advocate since my youth. Growing up in Thomasville, a small rural community in southwest Georgia, I saw firsthand and experienced the benefits of smart infrastructure investments and the impacts of decades of disinvestment on the economic, health and social mobility of individuals and communities.

For example, while waiting at a red light, my mother was hit by a speeding drunk driver. She was disabled and no longer able to pursue her own ambitions. Without any alternatives, I spent much of my youth as caretaker for my mother and great-grandmother, who relied on me walking or biking to do every day errands, at times on unpaved roads or while dodging car traffic. My experience is not unique. Many communities, rural and urban, lack basic infrastructure or affordable and safe access to every day destinations.

Fortunately, my community and its surrounding rural areas, banded together to bring broadband to thousands of residents and businesses. I leveraged these investments to enhance my own education and took advantage of new opportunities, including working here in Congress as an intern with Congressman Sanford Bishop as part of the Congressional Black Caucus Foundation Internship Program.

This is a great example of how smart infrastructure investments can not only ensure rural communities, like mine, no longer have digital dirt roads, but can change lives.

I have dedicated my career to advancing policies and public private partnerships to ensure that all Americans, particularly those in rural and small-town communities like Thomasville, have had the ability to live, work and play in healthy, vibrant and equitable communities.

Since January 20, 2021, I have served as the Principal Deputy Assistant Secretary for Transportation Policy. In the last few months, I have worked with some of the most dedicated and professional public servants at the Department to manage the Office of Assistant Secretary for Transportation policy.

Together, we are advising the Secretary on surface transportation reauthorization and leading many of the Department's multimodal initiatives to improve safety, advance transportation equity, address climate change and foster innovation.

Prior to joining the Biden-Harris Administration, I served as a Senior Campaign Advisor and Deputy Director for Transportation for America, founding Executive Director for LOCUS, and Vice President at Smart Growth America.

While at Smart Growth America, I worked to develop market data research on the impact of transportation and land use investments on local and regional economic, climate and social equity performance.

I worked closely with Federal agencies, including U.S. DOT, to support local communities' efforts to advance smart and equitable transportation investments and public-private partnerships, such as the National Opportunity Zones Academy, USDOT's Transit-Oriented Development Technical Assistance and LadderSTEP Pilot Cities programs.

I also had the privilege to work with this Committee and Congress in a bipartisan manner to ensure local communities had access to funding and financing tools to rebuild their rail infrastructure, promote road safety and encourage greater private investment to build transit-oriented development (TOD). This type of development is critical to ensuring housing and transportation options are affordable to the average American.

President Biden and Secretary Buttigieg have made combating COVID-19, creating high-quality American jobs, fixing our crumbling roads, bridges and rail infrastructure, reconnecting long divided communities and combating climate change as this Administration's top priorities. If confirmed, it would be an honor to continue to work with Congress on these efforts.

Chair Cantwell, Ranking Member Wicker, and Members of the Committee, thank you again for the opportunity to be here. I would be pleased to answer any questions you may have.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used): Christopher A. Coes.
2. Position to which nominated: Assistant Secretary for Transportation Policy.
3. Date of Nomination: April 22, 2021.
4. Address (List current place of residence and office addresses):
 Residence: Information not released to the public.
 Office: 1200 New Jersey Ave, SE, Washington, DC 20590.
5. Date and Place of Birth: August 22, 1983 and Thomasville, GA.
6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

Candice D. Cooks, Manager for Lending Compliance and Underwriting, BankFund Staff Federal Credit Union, Washington, DC (Spouse)

7. List all college and graduate degrees. Provide year and school attended.

St. John's University, Bachelor of Arts, Government and Politics 2001–2005
 St. John's University, Master of Arts, 2005–2006

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated. *Managerial and non-managerial jobs related to position are highlighted in gray below:*

US Department of Transportation
 Principal Deputy Assistant Secretary for Transportation Policy
 Washington, DC
 January 2021 to present

George Washington University
 Professor
 Washington, DC
 January 2020 to present
 Brookings Institution, (non-paid, volunteer position)
 Nonresident Senior Fellow—Metropolitan Policy Program
 Washington, DC
 September 2020–January 2021

Smart Growth America
Vice President, Land Use and Development
 August 2018–January 2021
Vice President, Real Estate, Policy and External Affairs
 September 2016–2018

(Other SGA-related positions)
 TOD Finance and Advisors, Inc. (a SGA subsidiary)
 President & COO and Member of Board of Directors
 Washington, DC
 September 2016–January 2021
 LOCUS (a program of Smart Growth America)
 Executive Director
 November 2010–January 2021
 Washington, DC

M+R Strategic Services
 Consultant June 2009–Nov 2010
 Senior Associate May 2008–May 2009
 Washington, DC

(Other M+R related positions)
 Senior Campaign Advisor (in consulting capacity) July 2010–December 2010
Deputy Director (in consulting capacity) May 2008–June 2010
 Transportation for America
 Washington, DC

DCCC
 Research Analyst
 Washington, DC
 Mar 2007–May 2008
 Lois Murphy for Congress
 County Organizer
 Chester County, PA
 July–Nov 2006
 Parliamentarians for Global Action
 International Law Research Assistant
 New York, NY
 Jan–June 2006
 St. John's University
 Research Assistant
 New York, NY
 Aug 2005–June 2006
 Congressional Black Caucus Foundation, Inc.
 Congressional Intern for Rep. Sanford Bishop (GA–03)
 Washington, DC
 May–Aug 2005

9. Attach a copy of your résumé. See attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years. N/A.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

- TOD Finance and Advisors, Inc (SGA-owned corporation) President & COO and Board of Directors, May 2016–January 2021
- Up for Growth, Board of Directors, 2020–2021
- AAREP, Board of Directors, 2016–2021; Treasurer, 2017–April 2021

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization. (For this question, you do not have to list your religious affiliation or membership in a religious house of worship or institution.). Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

- Real Estate Executive Council, Member, Chair of Partnership and Advocacy May 2017–February 2021
- Urban Land Institute Member (2010 to present), member of TOD Product Council (2015–2021)
- The Gathering Spot, Member (in Washington, D.C.) (2020 to present)

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt. No.

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities.

- Stacey Abrams for Governor, Volunteer, Albany, GA, November 2018
- Andrew Gillum for Governor, Volunteer, Tallahassee, FL, November 2018

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$200 or more for the past ten years.

Federal Elections

- Biden for President, \$550, 2020.
- While I made very limited contributions to individual political contributions over \$200 over the past 10 years, the aggregate amount of my contributions to certain entities has exceeded \$200 during individual campaign cycles. Those contributions are listed below by date.

Committee Name	Report Year	Type	Employer	Date	Amount
ACTBLUE	2018	INDIVIDUAL	SGA	9/22/2018 0:00	100
ACTBLUE	2018	INDIVIDUAL	SGA	9/10/2018 0:00	50
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	7/1/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	2/29/2020 0:00	100
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	7/22/2020 0:00	25
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	7/22/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	6/18/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	6/3/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	7/22/2020 0:00	25
ACTBLUE	2020	INDIVIDUAL	SGA	7/1/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	7/22/2020 0:00	100
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	8/22/2020 0:00	100

Committee Name	Report Year	Type	Employer	Date	Amount
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	10/7/2020 0:00	25
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	9/22/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	10/7/2020 0:00	50
ACTBLUE	2020	INDIVIDUAL	SGA	10/7/2020 0:00	25
BIDEN FOR PRESIDENT	2020	INDIVIDUAL	SGA	10/22/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	10/22/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	11/9/2020 0:00	33.34
ACTBLUE	2020	INDIVIDUAL	SGA	11/9/2020 0:00	33.33
ACTBLUE	2020	INDIVIDUAL	SGA	11/9/2020 0:00	33.33
ACTBLUE	2020	INDIVIDUAL	SGA	11/3/2020 0:00	2.5
ACTBLUE	2020	INDIVIDUAL	SGA	11/3/2020 0:00	2.5
ACTBLUE	2020	INDIVIDUAL	SGA	9/22/2020 0:00	100
ACTBLUE	2020	INDIVIDUAL	SGA	11/28/2020 0:00	35
ACTBLUE	2020	INDIVIDUAL	SGA	12/9/2020 0:00	33.33
ACTBLUE	2020	INDIVIDUAL	SGA	12/9/2020 0:00	33.34
ACTBLUE	2020	INDIVIDUAL	SGA	12/9/2020 0:00	33.33
ACTBLUE	2020	INDIVIDUAL	SGA	8/22/2020 0:00	100
ACTBLUE	2021	INDIVIDUAL	SGA	1/9/2021 0:00	33.33
ACTBLUE	2021	INDIVIDUAL	SGA	1/9/2021 0:00	33.34
ACTBLUE	2021	INDIVIDUAL	SGA	1/9/2021 0:00	33.33

State Elections: Stacey Abrams for Governor, \$400, 2018

NOTE: The entries listed here are the result of electronic searches (e.g., FEC.gov) and reflect the best of my recollection. Should any additional contributions be identified, I will promptly let the Committee know.

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

- Phi Sigma Alpha Honor Society
- Elks Lounge Public Speaking Scholarship
- Xerox Award
- St. Vincent de Paul Service Scholarship
- Omicron Delta Kappa Society
- President's Society
- Ronald McNair Scholar and Graduate Scholarship
- AAREP DC Emerging Leader Award 2015–2016

17. Please list each book, article, column, Internet blog posting, or other publication you have authored, individually or with others. Include a link to each publication when possible. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Publication/Organization/Topic	Date	Source
AARP Livable Lesson: Equitable Development	2021	https://www.aarp.org/livable-communities/livable-in-action/info-2021/video-christopher-coes-equity.html
NAIOP Pittsburgh and Philadelphia	2021	Nothing written, but was recorded. Recording unavailable at this time.
The Great Real Estate Reset	2020	https://www.brookings.edu/essay/the-great-real-estate-reset-a-data-driven-initiative-to-remake-how-and-what-we-build/
Day One Project: Leverage TOD Loan program to accelerate Recovery	2020	https://www.dayoneproject.org/post/leverage-transit-oriented-development-loan-programs-to-accelerate-equitable-economic-recovery#:~:text=Christopher%20Coes%20is%20the%20Vice,to%20build%20equitable%2C%20sustainable%20communities.
The National Opportunity Zones Ranking Report	2018	https://smartgrowthamerica.org/sprawl-or-smart-growth-the-future-of-opportunity-zones
Example of OZ PPT	2019	https://www.nhmrealtors.com/wp-content/uploads/2019/12/COES-New-Haven-Middlesex-OZ-Presentation-Slides.pdf
Interview at the DNC w/the Hill	2016	https://smartgrowthamerica.org/locus-director-christopher-coes-talks-walkable-development-at-democratic-national-convention/
AARP Webinar: Future of Equitable, Walkable Neighborhoods	2018	https://www.aarp.org/livable-communities/livable-in-action/info-2019/the-future-of-equitable-walkable-neighborhoods-webinar.html
Next Stop: Making Transit Oriented Development Work		https://www.youtube.com/watch?v=U5MyuWSu9T8
NAR: Planning for OZ investments	2019	https://www.nar.realtor/videos/planning-for-opportunity-zones-investments-2019-realtors-legislative-meetings
McAllen Tx OZ Summit (NAR)	2019	https://www.facebook.com/watch/?v=417153565837638

Publication/Organization/Topic	Date	Source
Gateway Cities Innovation Awards Summit	2019	https://massinc.org/2019/12/04/christopher-coes-four-crazy-ideas-to-catalyze-tod/
Mitigating Displacement from Transportation Investments” session at 2016 Transportation & Communities Summit. Transformational Transit Summit 2016	2016	https://www.youtube.com/watch?v=khRC—aRNYw
Making TOD work for Rhode Island—Growth Smart RI	2018	https://connecthamptonroads.com/events/transformational-transit-summit/
The Promise and Peril of Opportunity Zones	2019	https://www.youtube.com/watch?v=U5MyuWSu9T8&t=7s
NJ Governor’s Conference—Opportunity Zones Panel	2018–2019	No written or recorded speech. https://re-nj.com/developers-state-officials-face-dual-task-with-opportunity-zone-projects/
NAR Opportunity Panel Series	2018–2019	Spoke to State and regional NAR affiliates on Opportunity Zones and Smart Infrastructure—Texas, Connecticut, Massachusetts, Chicago

NOTE: The items identified for the most up-to-date list of publications and speeches—to the best of my ability. If additional publications or speeches are identified following the submission of this questionnaire, I will promptly let the Committee know.

18. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an “alias” or “handle” you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

- Facebook <https://www.facebook.com/christophercoes> (active)
- Twitter <https://twitter.com/ChristopherCoes> (active)
- Instagram [instagram.com/ccoes202](https://www.instagram.com/ccoes202) (active)
- Pinterest @ccoesl935 (active)
- Snapchat metagen912 (deleted)
- LinkedIn <https://www.linkedin.com/in/christopher-coes/>

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

1. Testimony to Senate, EPW, 2017
<https://www.epw.senate.gov/public/cache/files/c/6/c64ff7c0-096d9c-4b71-8e03-a8c20037dafd/0C1E091FA8DE4595ADE33D7CFD6278FF.christopher-coes-testimony-07.12.17.pdf>
2. Testimony to House, Budget, 2019
https://budget.house.gov/sites/democrats.budget.house.gov/files/documents/Coes_Testimony_0.pdf
3. Organizational Letter to House Budget on State of the Highway Trust Fund. *Surface Transportation Finance and the Highway Trust Fund*, February, 2012

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

For approximately fifteen years, I have dedicated my career to ensuring all Americans can live, work, and play in healthy, vibrant and equitable communities. I have served as the Principal Deputy Assistant Secretary for Transportation Policy since January 2021. In my Principal Deputy Assistant Secretary position I perform many of the chief responsibilities and duties of the Assistant Secretary for Transportation policy, including advising the Secretary on reauthorization proposals, managing the Department’s INFRA and RAISE discretionary grant programs, and managing many of the Department’s multimodal initiatives to improve safety, equity and access to the Department’s Federal resources for disadvantaged and rural communities.

Prior to joining the Biden-Harris Administration, I served as a Senior Campaign Advisor and Deputy Director for the Transportation for America (the largest transportation reform coalition), founding Executive Director for LOCUS (a national coalition of responsible real estate developers and investors), and Vice President for Land Use and Development at Smart Growth America. While at Smart Growth America, I advised cities and the private sector on sustainable transportation policy and equitable economic development, including serving as an advisor to USDOT’s LadderSTEP Pilot Cities and FTA’s Transit Oriented Development Technical Assistance programs. If confirmed, I will continue to leverage this valuable experience in my role at the Department of Transportation.

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

For the last four months, I have had the privilege to serve as the Acting Assistant Secretary in my role as the Principal Deputy Assistant Secretary for Transportation Policy. In this role, I have worked closely with the Office of the Under-Secretary and the Department's budget and management teams to ensure effective stewardship of budget and personnel management is occurring. If confirmed, I will continue to work closely with the Under Secretary for Transportation, and the management and budget staff to ensure effective budget stewardship and excellence.

22. What do you believe to be the top three challenges facing the department/agency, and why?

- (1) Safety is the number one priority at the Department. Whether in rural, suburban or urban communities, the Department must be committed to reducing the growing number of transportation-related crashes and fatalities, particularly in disadvantage and rural communities. Additionally, the Department must continue its leadership in ensuring safe, affordable, and reliable movement of people and goods to combat the COVID-19 public health crisis and help spark an equitable and robust economic recovery that secures America's economic future.
- (2) Addressing the growing decline in transportation affordability. Over the last decade, American middle to low-income household's annual transportation costs have been on the rise. The Administration recognizes that improving affordable access to economic opportunity, services, and healthcare through an integrated and fiscally responsible plan while providing greater investments in local and regional mobility solutions is key to improving the quality of life and economic competitiveness.
- (3) The Administration has made equity and climate key priorities. For both, transportation will play a significant role in advancing equity, climate, and mitigation outcomes. It will be important to target Federal resources to disadvantaged communities, including Tribal and rural, to ensure these communities have the capacity to address the disparities of the past as well meet the opportunities and challenges of the 21st century, particularly in the clean energy economy. If confirmed, I will continue to work with Congress on surface reauthorization legislation while supporting the President and Secretary's efforts to pursue the enactment of the American Jobs Plan. The enactment of this Plan will help to reconnect thriving communities and ensure Federal transportation investments not only reduce greenhouse gas emissions and air pollution but also produce the good paying jobs of the future here in the United States.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

I do not have any financial arrangements, deferred compensation agreements, or other continued dealings with my former employer. I rolled my former employer-sponsored John Hancock retirement account into an IRA as of May 2, 2021.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain. No.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

While working for SGA, I occasionally met with Members of Congress and congressional staff, wrote and provided testimony to Congress, and served as a subject matter expert on matters related to brownfields, community development, equitable and walkable communities, climate and mitigation, surface transportation reauthorization, safety, public transportation, transit-oriented development, public private partnerships and innovative financing, including DOT Federal credit assistance programs.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group? No.

If yes:

- a. Provide the name of agency, association, committee, or group;
- b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
- c. Describe the citation, disciplinary action, complaint, or personnel action;
- d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain. No.

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain. No.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain. No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain. No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination. None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees, and that your department/agency endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority? Yes.

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.

Christopher A. Coes

EXECUTIVE SUMMARY

Senior executive with 13+ years of proven leadership, advocacy and fundraising experience. Nationally recognized leader in leveraging public policy, the private sector and community assets to build equitable, sustainable multi-modal communities. Subject matter expert and advocate for equitable land use and development, transportation reform, environment with a history of getting results through coalition building. Author of series of reports and publications, including a 2020 report on the impact of converging trends (climate, racial injustice, COVID-19 and economic recovery) on the built environment and a 2018 national opportunity zone report to help investors and local policymakers identify and deliver positive economic, environmental, and social returns.

WORK EXPERIENCE

Brookings Institution, Washington, DC

September 2020 – Present

Nonresident Senior Fellow - Metropolitan Policy Program

- Co-authored and co-launched the Great Real Estate Reset report and initiative which (1) documents how the broader real estate industry and public policy are failing to fully address the intersectionality of persistent segregation by race and income, pent-up demand for more attainable housing, destabilized regional housing markets fueled by climate change and outdated infrastructure, and market disruptions in office and retail; and (2) develop an industry and public policy playbook to articulate specific, actionable ideas for policy and practice reform.

George Washington University, Washington, DC

Professor, School of Business

January 2020 – Present

- Teach Walkable Urban Development, Strategy and Place Management classes to undergraduate and graduate students.

Smart Growth America, Washington, DC

Vice President, Land Use and Development

August 2018 – Present

- Lead and manage SGA's work on equitable land use, zoning, transit-oriented development and public-private partnerships including 8 employees, five programs and +\$1.5M annual budget.
- Serve as a member of executive management and assist the CEO/President with management of organizational operations, including serving as acting CEO in their absence and engaging with Board of Directors to provide periodic updates and obtain project and initiative approvals.
- Serve as organization's thought leader and advocate to Congress, Federal agencies, State and local governments, and philanthropic organizations on equitable and sustainable land use and development policy including testifying before US House Budget committee on the importance of Federal investment in smart transportation and infrastructure to create communities of opportunity prepared for the 21st Century.
- Serve as technical assistance provider for AARP Livable Communities TA Program and Center for Disease Control (CDC) Active People, Healthy Nation Initiative on issues ranging from attainable and workforce housing development, transit-oriented development, transportation policy, development tax policy, transportation funding initiatives, Opportunity Zones, federal programmatic expertise, including BUILD/TIGER, New Starts, TIFIA, RRIF, HOME, CDBG, and HUD 220 and 231 and Complete Streets.
- Convened and moderated a bi-weekly COVID-19 Response and Economic Recovery Roundtables for a national public-private cohort to coordinate best practices COVID-19 responses and challenges, including Black and Brown small businesses, mobility, road conversations for retail and broadband access.
- Developed and secured the inclusion of policy priorities that support equitable transit-oriented development, climate friendly land use and transportation planning, value capture, mobility and green infrastructure in the House surface transportation bill - Moving Forward Act (H.R. 2) including Equitable TOD & Mobility Act

(H.R. 7074) and Incentivizing Value Capture for Greener Transportation Act (H.R. 5641).

- Crafted and garnered bipartisan congressional support for legislative language to reform and improve US DOT and the Build America Bureau's implementation of RRIF and TIFIA transit-oriented development financing including the bipartisan introduction TOD Advancement of 2019 (S.B.2805).
- Crafted and garnered bipartisan support for tax incentives to promote private investment in public infrastructure and affordable housing including the bipartisan introduction of the REHAB Act (H.R. 6175).
- Co-authored the LOCUS National Opportunity Zone Ranking report which identifies Opportunity Zones best positioned to bring positive social, environmental, and economic returns while also making policy recommendations to ensure that development results in more walkable places that are healthy, prosperous, equitable and resilient.
- Managed the development of the LOCUS Opportunity Zone Navigator and Equitable Investment Atlas which provides interactive mapping tools that allows users to gain a better understanding of the economic, environmental, social vulnerability, demographic, housing, and infrastructure characteristics of each Opportunity Zone.
- Co-founded and leads for-profit consulting firm with nationally recognized expertise in walkable urban real estate development and innovative financing. Services provided includes: real estate advisory services, NEPA, deal match-making, TIFIA and RRIF TOD Financing, land development, government relations, strategic engagement, infrastructure financing, and anti-displacement strategies.

Vice President for Real Estate Policy and External Affairs

Sept. 2016 – September 2018

- Worked with CEO/President to translate the organization's vision into a national advocacy strategy with clear objectives and benchmarks, including overseeing its federal affairs operation and its environment, climate and real estate programs including LOCUS: Responsible Real Estate Developers and Investors and the National Brownfield Coalition with an annual budget of \$900,000, staff of five employees and 3 consultants.
- Co-created and co-led First and Main, a national coalition of local elected officials from small and mid-sized American towns and cities dedicated to protecting and improving a range of federal government programs that support local economic and community development.
- Served as program advisor to the US DOT's LadderSTEP and FTA's Transit-Oriented Development Technical Assistance Initiative that provided technical assistance to cities and convene public and private stakeholders to advance game-changing community revitalization and economic projects related to transportation projects.
- Led the development of a proprietary social equity analysis and community engagement model and national technical assistance program to equip communities with tools, skills and knowledge to develop sustainable strategies that balance the demand for great walkable urban places with the need for jobs, housing, open space, diverse business opportunities, and transportation that is attainable and accessible to all.
- Crafted and implemented successful advocacy national campaign that resulted in new funding for transit-oriented development, brownfield cleanup and new local infrastructure and active transportation financing in the recent federal transportation (FAST Act) and brownfield reauthorization legislation (BUILD Act).
- Served as technical expert for Members of Congress and their staff, including testifying before US Senate EPW committee on the importance of public and private collaboration to accelerate investment in infrastructure, equitable redevelopment and attainable housing near public transportation.

Founding Director, LOCUS

November 2010 – Present

- Oversee and coordinate coalition's activities which has expanded the coalition national steering committee from 8 founder (non-paid) members to twenty-four (paid) members and its developer advocate list from 800 members to over 21,000 members; and increased its annual budget from \$100,000 to \$800,000 within five years.
- Led the coalition's advocacy and policy work that has successfully resulted in an increase of direct funding and financing to smart growth real estate projects, streamlining federal, state, and local regulations to better support walkable, sustainable development; reforming housing and tax programs to eliminate waste and provide greater housing and transportation options for all Americans, and defending programs that support urban community revitalization, transit-oriented development, and affordable housing opportunities.
- Created the annual LOCUS Federal Financing Toolkit, which provides an overview and analysis of over 90

federal financing programs designed to help real estate developers and investors as well as local elected officials, achieve their respective economic development goals.

- Created national program designed to connect local elected officials and communities with real estate developers and investors to create more models of walkable, sustainable developments on the ground. This program has facilitated over \$1 billion in smart growth deals.
- Garnered bipartisan political support from key stakeholders such as national corporations, government agencies, and policy organizations, including launching "Conservatives for Smart Growth" – a national network of pro-smart growth conservatives in 2013.
- Led coalition's advocacy effort that successfully achieved pro-transit-oriented development and smart growth real estate provisions in the MAP-21 including supporting a major increase in the TIFIA program from \$120 million in 2012 to \$1.7 billion for the next two years that could be used for public transportation construction, inclusion of transit-oriented development financing language and the creation of a \$20 million TOD planning grant program.
- Secured TOD credit enhancement language in H.R. 7, American Energy and Infrastructure Jobs Act in 2011
- Served as an industry and technical expert on smart growth, real estate and equitable development, including serving as a frequent speaker at the Atlantic, National Association of Realtors, National Housing Conference, New Partners for Smart Growth, and Urban Land Institute conferences

Transportation for America, Washington, DC

Senior Campaign Advisor (Consultant)

July 2010 – December 2010

- Served as chief advisor to T4America Campaign and senior staff on overall campaign and legislative strategy.
- Advised and guided the campaign's major policy statements and national constituency outreach strategies, including co-managing T4America's policy working groups to create SAFETEA-LU reauthorization policy priorities
- Represented T4America before Congress, the Administration, and other industry associations and organizations.

Deputy Director (Consultant)

May 2008 – June 2010

- Managed and supervised coalition's day-to-day operations with an annual budget over \$2 million and staff of 20.
- Co-designed and implemented T4America's national campaign plan and major policy initiatives.
- Devised and implemented the congressional caucus outreach plan targeting the CBC, CHC, and Blue Dogs.
- Wrote policy and political memos, congressional testimony, press statements and speeches on key campaign priorities.

M+R Strategic Services, Washington, DC

Consultant, Government Affairs + Campaigns

May 2009 – December 2010

- Designed and implemented strategic and legislative campaign plans for major issue advocacy organizations, such as Save Darfur, SEIU, AmericaSpeaks, and T4America.
- Built and worked with diverse coalitions and groups to promote clients' public policy and political agendas.
- Lobbied key members of Congress and congressional staff to launch a new pilot program to study the linkage between training and quality of service among K-12 food service workers; and assisted in legislative language development, which was successfully included in the House FY11 Agriculture Appropriations Bill.
- Developed and implemented clients' grassroots field programs, including managing Pew Food Safety field program in 5 states -NV, OH, NH, MT, and NC which resulted the in final passage of the Food Safety Act of 2010

Senior Associate, Government Affairs

May 2008 – June 2009

- Managed corporate relationships with multiple large national, progressive non-profit clients.
- Managed government relations' functions for a variety of clients including monitoring, analyzing and reporting on issues – climate, energy, transportation, and labor, authoring and editing legislative correspondence, strategy memos, and congressional testimony.
- Organized Hill meetings, small and large-scale lobby days, congressional briefings, and receptions to promote client's core issues.

EDUCATION & TRAINING

St. John's University, Queens, New York
M.A., Government & Politics May 2006
Minor: International Relations; Certificate in Public Administration

St. John's University, Queens, New York
B.A., Government & Politics May 2005
Honors: McNair Scholar (2004-2005); President's Society (2004-2005); Pi Sigma Alpha Honor Society (2005); Wrote McNair Thesis: "A Comparative Study of Crisis Management in the Post 9/11 American Foreign Policy"

PROFESSIONAL AFFILIATIONS & HONORS

Urban Land Institute, TOD Product Council, Member	August 2017 – Present
Urban Land Institute, Member	December 2011 – Present
Real Estate Executive Council, Co-Chair, Partnership & Advocacy	May 2016 – Present
African American Real Estate Professionals, Board of Directors & Treasurer	December 2014 - Present
National Multifamily Housing Council Racial Equity Taskforce, Member	August 2020 – Present
Emerging Leader Award, AAREP DC, Washington, DC	November 2014

The CHAIR. Thank you, Mr. Coes. And again, thank you for your willingness to serve and will definitely have some questions for you related to our congestion challenges. Dr. Locascio, welcome. Thank you very much.

**STATEMENT OF LAURIE E. LOCASCIO, Ph.D.,
NOMINEE TO BE UNDERSECRETARY OF COMMERCE FOR
STANDARDS AND TECHNOLOGY, DEPARTMENT OF
COMMERCE; AND DIRECTOR, NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY**

Ms. LOCASCIO. Thank you. Chair Cantwell, Ranking Member Wicker, distinguished members of the Committee, it is my great honor to appear before you today as Nominee for the Director of National Institute of Standards and Technology, NIST, and the Undersecretary of Commerce for Standards and Technology. And I really want to thank Senator Cardin for his remarks. Before I begin, I am proud to introduce my three sons, Peyton, Paul, and Patrick, who took time off to be here with me today. My sons are all hardworking individuals employed in industries that have been incredibly demanding during the pandemic, and I am glad they could join me.

I am excited about the possibility of returning to NIST and humbled to be nominated to lead it. In my long tenure there, I saw the entirety of the organization. I understand its unique mission and its unrelenting focus on excellence. NIST helps U.S. industries compete and supports the great innovation economy for which America is known. I recognize the great responsibility of leading one of the world's premier scientific agencies when the power of science to change the world has never been so necessary and apparent.

Our understanding and treatment of disease during this pandemic progressed with the speed that had no historical precedent. This is because our ability to understand the science of biology and the engineering behind biomanufacturing has intensified and accelerated in recent years. And science and engineering accelerate when we develop better tools and processes to make more sensitive and reliable measurements. NIST contributes to this progress with advanced measurement science and tools that push the boundaries of scientific discovery in areas like bioscience and quantum computing and AI.

Ensuring NIST's continued pursuit of scientific and technical excellence will be a priority for me, if confirmed. The NIST mission is vital. I know that the work done by this agency is central to global competitiveness for both existing and emerging industries. Much in the way that the famed Bell Labs was the innovation engine for the telecom industry in the last century, the NIST labs have a longstanding reputation as the innovation engine for key industries in the U.S. And NIST's relentless pursuit of the best measurement science is the basis of U.S. innovation.

NIST measurements and standards are trusted worldwide and underpin our commercial trade. And furthermore, NIST focuses on the health of all of our industries, contributes to quality of life in the U.S. that is unparalleled. From my background, you can see that I have experience as a researcher and inventor, a leader in

standards and overseeing large scientific organizations. If confirmed, I will also lead manufacturing programs that are critical to the Nation's success.

Manufacturing is a priority for me that draws upon my roots. I grew up in a small town in the foothills of the Appalachian Mountains in the region covered by Western Maryland, West Virginia, and Pennsylvania. And my dad was a physicist in West Virginia, and my mom worked for a pediatrician in Maryland. My town had a thriving manufacturing base that was decimated in the 1980s, leaving its population struggling for jobs.

As a result, the town dwindled in size and has struggled to recover, and we must bring manufacturing back to places like my hometown all over America. The NIST Manufacturing Extension Partnership, MEP, and Manufacturing USA programs work in coordination with every state in the U.S. to help make that happen. If I am confirmed, I will work with this committee to support a thriving manufacturing base in all areas of this country.

In this worldwide distributed economy, there is no reason why some parts of America should be left behind. I worked at NIST for three decades, and it provided me with a rich environment in which to learn and grow and excel, and NIST supported me when being a female leader in science was not well accepted. I have used that experience to build inclusive organizational cultures and to promote diversity in science and scientific leadership, knowing that success and innovation depends on our ability to engage everyone in creating solutions.

The employees at NIST who help that organization meet its broad and unique mission, work with integrity, independence, and innovation. These are dedicated public servants who have an impact on our economy that ripples across the U.S. and the world.

If confirmed, it would be my great honor to work with them, this committee, and stakeholders to lead that agency. Thank you, and I look forward to answering your questions.

[The prepared statement and biographical information of Ms. Locascio follow:]

PREPARED STATEMENT OF LAURIE E. LOCASCIO, PH.D., NOMINEE FOR UNDER SECRETARY OF COMMERCE FOR STANDARDS AND TECHNOLOGY, DIRECTOR OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Chair Cantwell, Ranking Member Wicker, Distinguished Members of the Committee, it is my great honor to appear before you today as nominee for Director of the National Institute of Standards and Technology (NIST) and Undersecretary of Commerce for Standards and Technology.

Before I begin, I am proud to introduce my three sons—Payton, Paul, and Patrick—who took time off work to be with me here today. My sons are all wonderful, hardworking individuals employed in industries that have been incredibly demanding during the pandemic—cybersecurity, food and beverage service, and behavioral health counseling.

I am excited about the possibility of returning to NIST and humbled to be nominated to lead it. In my long tenure there I saw the entirety of the organization. I understand its unique mission and its unrelenting focus on excellence. NIST helps U.S. industries compete and supports the great innovation economy for which America is known.

I recognize the great responsibility of leading one of the world's premier scientific agencies when the power of science to change the world has never been so necessary and apparent. Our understanding and treatment of disease during this pandemic progressed with a speed that had no historical precedent. This is because our ability to understand the science of biology and the engineering behind biomanufacturing

has intensified and accelerated in recent years. Science and engineering accelerate when we develop better tools and processes to make more sensitive and reliable measurements. NIST contributes to this progress with advanced measurement science and tools that push the boundaries of scientific discovery in areas like bio-science, quantum computing, and AI. Ensuring NIST's continued pursuit of scientific and technical excellence will be a priority for me if confirmed.

The NIST mission is vital: I know that the work done by this agency is central to global competitiveness for both existing and emerging industries. Much in the way that the famed Bell Labs was the innovation engine for the telecom industry in the last century, the NIST Labs have a longstanding reputation as the innovation engine for key industries in the U.S.

NIST's relentless pursuit of the best measurement science is the basis of U.S. innovation. NIST measurements and standards are trusted worldwide and underpin our commercial trade. Furthermore, NIST's focus on the health of all our industries contributes to a quality of life in the U.S. that is unparalleled.

From my background, you can see that I have experience as a researcher, an inventor, a leader in standards, and overseeing large scientific organizations. If confirmed, I will also lead manufacturing programs that are critical to the Nation's success. Manufacturing is a priority for me that draws from my roots. I grew up in a small town in the foothills of the Appalachian Mountains in the region covered by western Maryland, West Virginia and Pennsylvania. My dad was a physicist in West Virginia, and my mom worked for a pediatrician in Maryland. My town had a thriving manufacturing base that was decimated in the 1980s, leaving its population struggling for jobs. As a result, the town dwindled in size and has struggled to recover. We must bring manufacturing back to places like my hometown all over America. The NIST Manufacturing Extension Partnership (MEP) and Manufacturing USA programs work in coordination with every state in the U.S. to help make that happen. If I am confirmed, I will work with this committee to support a thriving manufacturing base in all areas of the country. In this worldwide distributed economy, there is no reason why some parts of America should be left behind.

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The employees at NIST who help the organization meet its broad and unique mission work with integrity, independence, and innovation. These are dedicated public servants who have an impact on our economy that ripples across the U.S. and the world. Maintaining the caliber and increasing the diversity of that superb workforce is vital to NIST's future. If confirmed, it would be an honor to work with them, this Committee, and stakeholders to lead the agency.

Thank you for inviting me here today, and I look forward to answering your questions.

A. BIOGRAPHICAL INFORMATION

1. Name (Include any former names or nicknames used):
Laurie Ellen Locascio; former name used: Laurie Ellen Brown.
2. Position to which nominated: Undersecretary of Commerce for Standards and Technology.
3. Date of Nomination: July 20, 2021.
4. Address (List current place of residence and office addresses):

Residence: Information not released to the public.
Office: University of Maryland, 2133 Lee Building, College Park, MD 20742.
5. Date and Place of Birth: November 21, 1961; Cumberland, MD.
6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).
Spouse: N/A
7. List all college and graduate degrees. Provide year and school attended.
Ph.D. TOXICOLOGY, May 1999, University of Maryland at Baltimore, *summa cum laude*
M.Sc. BIOENGINEERING, June 1986, University of Utah, *cum laude*
B.Sc. CHEMISTRY, May 1983, James Madison University, *magna cum laude*

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

Vice President for Research, University of Maryland
 Acting Principal Deputy Director to the NIST Director and Acting Associate Director for Laboratory Programs, NIST
 Director, Material Measurement Laboratory, NIST
 Division Chief, Biochemical Science Division, NIST
 Group Leader, NIST
 Contractor, University of Maryland

9. Attach a copy of your résumé.

Attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years.

Lawrence Livermore National Laboratory Physical and Life Sciences Directorate External Review Committee: Member and Chair

Life Sciences Advisory Board, Maryland Department of Commerce: Member

National Science and Technology Council, Subcommittee on the Material Genome Initiative (Co-Chair, led and implemented first National Strategy, 2013–2015)

National Science and Technology Council Subcommittee on Biological Defense Research and Development (2012)

Georgia Tech Research Corporation: Board of Trustees Georgia Tech Applied Research Corporation: Board of Trustees University of Maryland Enterprise Corporation: President

M Square Research Park Inc.: President

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

Precision Nano Assembly LLC (Co-Founder)—2021, in process of dissolving company

University of Maryland Enterprise Corporation (Chairperson and President)—2017 to present

M Square Research Park Inc. (Chairperson and President)—2017 to present

University of Maryland College Park Foundation Board of Trustees (Ex Officio Member)—2017 to present

Georgia Tech Research Corporation Board of Trustees—2020–2021

Georgia Tech Applied Research Corporation Board of Trustees—2020–2021

LGC Inc. Science Advisory Board (Chair)—stepped down on July 19, 2021

Association of Public and Land Grant Universities. Council on Research Executive Committee—2019 to present

Chemical and Biological Microsystems Society (Founding Director)—2008–2011

World Materials Research Institutes Forum (President)—2016–2017

American Chemical Society, Analytical Division (Chair)—2006–2008

U.S. Pharmacopoeia Council of Experts Nominating Committee—2009

ASTM International Board of Directors—2016

Global Biological Standards Institute Scientific Advisory Council—2014–2017

Analytical Chemistry (journal) Editorial Advisory Board—2003–2005

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization. (For this question, you do not have to list your religious affiliation or membership in a religious house of worship or institution.). Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

National Academy of Inventors: Fellow and Member—2020

American Institute for Medical and Biological Engineering: Fellow and Member
American Chemical Society: Fellow and Member—2016 to present

Council on Competitiveness, Technology Leadership and Strategy Initiative (TLSI), Working Group I-Developing and Deploying at Scale Disruptive Technologies: Member and co-chair—2019 to present

Association of Public and Land Grant Universities, Council on Research: Executive Committee Member—2019 to present

Association of American Universities, Senior Research Officers' Steering Committee: Member—2021

Sigma Xi: Member—2009–2010, 2021

Social

Opus Yoga Studio

Yoga Bliss Yoga Studio

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt. No.

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities. None.

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$200 or more for the past ten years. None.

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

National Academy of Inventors: Fellow

American Institute for Medical and Biological Engineering: Fellow

American Chemical Society: Fellow

NIST Gallery of Distinguished Scientists

Washington Academy of Sciences Award, Distinguished Career in Sciences Engineering Sciences, 2017

American Chemical Society National Award: Earle B. Barnes Award for Leadership in Chemical Research Management sponsored by the Dow Chemical Company Foundation, 2017

NIST Safety Award for leadership, 2016

Analytical Scientist—The Power List Top 50 Influential Women, 2016

ANSI Meritorious Service Award, 2014

Sigma Xi Distinguished Lectureship, 2009–2010

American Chemical Society Division of Analytical Chemistry Arthur F. Findeis Award, 2008

ASTM Distinguished Service Award, June 2006

U.S. Department of Commerce Silver Medal Award, November 2006

NIST Technical Achievement Award, October 2006

U.S. Department of Commerce Bronze Medal Award, November 1991

NIST Applied Research Award, 1993

National Tour Speaker for the Society of Applied Spectroscopy, 1993–1994

Certificate of Recognition, Department of Commerce, NBS, September 1990

Certificate of Recognition, Department of Commerce, NIST, September 1989

Certificate of Recognition, Department of Commerce, NIST, September 1987

17. Please list each book, article, column, Internet blog posting, or other publication you have authored, individually or with others. Include a link to each publication when possible. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

(archival journals)

1. Locascio, L. E.; Janata, J. "Integrated Systems for Potentiometric Stripping Determinations" *Anal. Chim. Acta* **1987**, *194*, 99–107.
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(opinion piece)

Why Science Depends on Diversity, *The Analytical Scientist* January 25, 2017, https://theanalyticalscientist.com/business-education/why-science-depends-on-diversity?login_type=logout&cHash=f57015f5c25cbc8fbec00f8437da75d6

(publicly available videos)

- BioTalk with Rich Bendis, https://tunein.com/podcasts/Business-Economics-Podcasts/BioTalk-with-Rich-Bendis-p1023388/?topicId=163377203&utm_source=Publicate&utm_medium=e-mail&utm_content=listen-to-biotalk-with-rich-bendis-on-tuncin&utm_campaign=21061I+-+EMAIL
- Enterprising Women of Commerce <https://www.youtube.com/watch?v=CVN2MTtWYJQ>
- A Quantum Revolution: A Fireside Chat with Nobel Prize Winner Bill Phillips <https://mqa.umd.edu/>

- UMB Town Hall Mulls Restarting Research, <https://www.umb.edu/news/archived-news/may-2020/town-hall-mulls-restarting-research-at-umb.php>
- DMD—Thank you, Faculty, <https://umd.edu/research>
- UMB Research Virtual Town Hall, <https://www.youtube.com/watch?v=tLORPmHvOOQ>
- Leadership Responds to Research Questions, https://www.umar.land.edu/news/archived-news/april-2020/move-to-severe-research-restrictions-prompts_questions.php
- 2014 Biomanufacturing Technology Summit: Morning Session Introduction, <https://vimeo.com/98489542>
- Innovate Maryland 2021. <https://president.umd.edu/inauguration/innovate-manland>

PATENTS

1. Controlled vesicle self-assembly in continuous two phase flow microfluidic channels
Patent number: 9198645
2. Microfluidic apparatus to control liposome formation
Patent number: 8715591
3. Magnetic connectors for microfluidic applications
Patent number: 8337783
4. Fabrication method of topographically modulated microstructures using pattern homogenization with UV light
Patent number: 8236480
5. Method and device for generating diffusive gradients in a microfluidic chamber
Patent number: 8216526
6. Fluidic temperature gradient focusing
Patent number: 7029561
7. Surface charge modification within preformed polymer microchannels with multiple applications including modulating electroosmotic flow and creating microarrays
Patent number: 6982028
8. Method for microfluidic flow manipulation
Patent number: 6907895
9. Polyelectrolyte derivatization of microfluidic devices
Patent number: 6860980
10. Chemical modification of substrates by photo-ablation under different local atmospheres and chemical environments for the fabrication of microstructures
Patent number: 6703189
11. Liposome immunoanalysis by flow injection assay
Patent number: 5389523
18. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an “alias” or “handle” you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

Facebook (active): <https://www.facebook.com/profile.php?id=1532527769>

Twitter (active): <https://twitter.com/lelocascio?lang=en>

Instagram (active): <https://www.instagram.com/lelocascio/?hl=en>

LinkedIn (active): <https://www.linkedin.com/in/laurie-locascio-37a9la9/>

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

June 28, 2017: House Committee on Science, Space and Technology https://www.youtube.com/watch?v=vgpijQHdGbk&fbclid=IwAR3WyxIX-on-lLipAt97JNnKAhERI-CRQ17yZdkPWwVk1OjI_Ako20J0mUk

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

What in my background or employment experience affirmatively qualifies me for appointment to the position to which I have been nominated?

Vice President for Research (VPR) at a highly ranked tier one research university.

For the past four years, I have been responsible for *Leadership, Management, and Strategy* for the billion-dollar+, vibrant research enterprise at the University of Maryland (College Park and Baltimore campuses), and the *first* VPR responsible for managing the two campuses. In this role since 2017, some of the activities that I am responsible for include:

- Leading strategy for research at the University of Maryland as a core member of the President's cabinet;
- Leading the ramp-down and restart of all research activities during the COVID-19 pandemic at both campuses;
- Uniting two campuses under one research administration and for the first time; combining research portfolios to catapult University of Maryland in the rankings of U.S. research universities to #14 research university in the country and #8 among public universities;
- Responsibly managing the flow and oversight of all funds coming into the university through grants, contracts and cooperative agreements (>\$600M on the College Park campus alone);
- Serving as Institutional Official overseeing research compliance activities including human subjects use in research animal care and use, and conflict of interest (at College Park);
- Developing robust innovation, economic development and entrepreneurship activities (at College Park);
- Launching and managing the University of Maryland University-Affiliated Research Center (UARC), the Applied Research Lab for Intelligence and Security, as a trusted partner for the Department of Defense serving the intelligence community in areas that include countering malign influence/disinformation campaigns and supply chain disruption;
- Working with the U.S. Congressional delegation to promote research and provide input on new science and regulatory policy;
- Developing and growing partnerships with Federal agencies around the core strengths for the two campuses; and
- Spearheading a new approach to business and corporate relationships and partnerships for the advancement of research.

These activities demonstrate the following experience and qualifications: increasing the public's awareness of the organization; increasing the research and innovation rankings of the organization; advocacy and leadership in diverse areas of research (quantum, space science, countering malign influence, climate science, etc); fiscal responsibility; management of compliance efforts including foreign influence; leadership of secure facilities conducting classified research; professionalized approaches to business engagement, including improvement of technical transfer mechanisms.

Leadership positions at NIST, a premier Federal science agency.

In my 31-year career at NIST, I held various positions including Acting Principal Deputy Director and Associate Director for Laboratory Programs (ADLP); Director of the Material Measurement Laboratory; Division Chief of Biochemical Science Division; Group Leader and Bench Scientist. As ADLP, I was responsible for *Leadership, Management, and Strategy* for NIST's seven Laboratory Directorates providing strategic direction and operational guidance for NIST's scientific and technical mission focused laboratory programs. As MML Director, I was responsible for NIST's largest scientific Laboratory at that time with ~1000 staff members (permanent and non permanent) in eight different locations around the U.S. (Gaithersburg and Rockville MD, Boulder CO, Charleston SC, Palo Alto CA, Long Island NY, Chicago, IL, Honolulu, HI) performing research and developing standards in the fields of chemical science, bioscience, and materials science and engineering. In these two roles, some of the activities that I was responsible for included:

- Led strategic planning for the NIST labs that included prioritization of four NIST strategic focus areas that are still in place today: AI, Quantum Information Sciences, Bioscience, and Internet of Things
- Managed the financial health of a vibrant organization with a \$170 M budget

- Established and managed effective cross-organizational programs increasing visibility and impact in areas of National importance that include: Materials Genome Initiative, synthetic biology, additive manufacturing and biomanufacturing
- Developed and enacted a plan for a total realignment of the MML organizational structure consistent with new mission and strategy
- Conceptualized and built the new Office of Data and Informatics to put MML at the forefront of the data revolution and compliance with Federal requirements for open data
- Selected, hired and mentored new laboratory management, including Division Chiefs and Office Directors, assembling a team with talent, vision, and a desire to collaborate
- Provided strategic vision and direction, planned and selected priorities and areas for growth, and developed first strategic plan for MML, to provide exciting scientific, technical and operational goals to inspire and engage staff
- Developed plan for recruiting, retaining and hiring for technical and operational excellence with initial focus and success in developing partnerships with top tier universities to function as pipelines for a diverse and rich talent pool in areas of strategic importance
- Developed and guided new partnership with Stanford University for research in synthetic biology and genomics to help maintain U.S. industrial and academic leadership in the biotechnology/biomanufacturing sector
- Developed and guided new partnership with University of Chicago, Northwestern and Argonne National Labs to conduct research to support NIST's visible and central role in the President's Materials Genome Initiative
- Oversaw the laboratory-wide performance system working with Laboratory leadership team to manage our staff for success
- Infused and supported a vital, healthy safety culture in MML with increased staff awareness, engagement and empowerment; develop innovative solutions (Hazard Review Database and iPad app) to effectively manage the Laboratory safety program
- Managed, improved, and modernized the NIST-wide service programs in data and reference materials to create an accessible and sustainable enterprise
- Actively participated as a member of the NIST senior leadership team developing lasting relationships for collaboration and transparency
- Represented NIST on various high-level committees including the following (to represent the breadth of activities): NSTC Subcommittee on the Material Genome Initiative (Co-Chair, led and implemented first National Strategy); NSTC Subcommittee on Biological Defense Research and Development; Global Biological Standards Institute Scientific Advisory Council; World Materials Research Institutes Forum; Committee on Science, American Chemical Society; ISO/TC229 Nanotechnologies, Environmental Health and Safety (International Convener, led development of consensus based standards); Organization for Economic Cooperation and Development Working Party on Manufactured Nanomaterials.

These activities demonstrated the following experience and qualifications: focus on organizational excellence; building diverse and inclusive culture resulting in increased staff engagement and higher productivity; strategic visioning, planning and effective implementation; developing public-private partnerships to maximize impact; global leadership in standards development; national leadership in priority areas for the Federal government; collaboration with other agencies.

Leadership of international standards organizations.

I held two leadership positions within the ISO Nanotechnology standards committee (Technical Committee 229, Nanotechnologies, Environmental Health and Safety-U.S. Chair and Lead U.S. Delegate/International Convener); participated in a working group to recommend the formation of a new committee in ISO focusing on biotechnology (Technical Committee 276); held a position on the ASTM Board of Directors; chaired an ASTM committee to develop the first standards for the collection of suspected biological agents in the aftermath of the anthrax attacks in Washington DC; and participated in the Organization for Economic Cooperation and Development to recommend best practices for manufactured nanomaterials.

These activities demonstrated the following: the negotiation of international standards to promote U.S. interests supported by strong and persuasive technical argument; the power of bringing together industry, Federal leaders and academics

to build a case to support U.S. industrial competitiveness; the importance of working with international partners to ensure that truth in science is the dominant factor in the international standards process; the importance of unifying the Federal response to a crisis.

The qualities that I have demonstrated include: persuasive and principled negotiation; national and international standards leadership; international cooperation.

Participation and Leadership of OSTP subcommittee.

As co-chair of the National Science and Technology Council Materials Genome Initiative Subcommittee, I was responsible for leading a multiagency committee to actualize the President's vision for the Materials Genome Initiative. I led the development of the first national strategy for this initiative with the overarching goal of drastically reducing the time from discovery to manufacturing of new materials. This fundamental materials science initiative was and still is critical to all U.S. industries—from transportation (space, automotive) to advanced electronics (semiconductors, quantum) to biotechnology (artificial organs, synthetic skin). In the committee, we also aligned Federal budgets and programs to support its development across U.S. sectors.

I also participated in the NSTC Subcommittee on Biological Defense Research and Development as the NIST representative addressing the global threat of biological warfare.

These activities demonstrate the following experience and qualifications: uniting Federal agencies under one vision and strategy; developing robust strategies to promote U.S. industrial advantages.

Participation in Council on Competitiveness.

The Council on Competitiveness is a non-partisan coalition of leaders from industry, academia and the national labs whose purpose is to advance policies to 'jump-start productivity and grow America's economy.' Over the past few years, I participated in the development of a report entitled "Competing in the Next Economy" which provides recommendations for ensuring U.S. competitive advantage. My role was as one of the co-chairs for the Technology Leadership & Strategy Initiative, which developed priority recommendations regarding innovation policies (strategic technologies, grand challenges) for inclusion in this report.

This experience was critical for my understanding of issues related to global competitiveness and international trade policy and critical investment, and also demonstrated the power of bringing together 50 Chief Technology Officers from multiple sectors to brainstorm on solutions for global innovation and, in particular, our current competition with China.

Why do I wish to serve in the position as NIST Director and Undersecretary of Commerce for Standards and Technology?

First, I believe that NIST is a gem in the Federal scientific realm that punches far above its weight due to its pursuit of excellence in everything it does. I believe the NIST mission is vital: I know that the work done by this relatively small agency is central to global competitiveness. NIST scientists, engineers, and administrators work across the continuum from basic to applied scientific research. Their research has spawned new industries like quantum science and applied AI, and has elevated and cultivated advanced manufacturing in the U.S. NIST develops standards that underpin American success in international trade and support U.S. industries, including small and mid-sized companies. There is a sense of pride that NIST researchers and administrators have in knowing that the rigor of the science done there, grounds important decisions in truth. It would be an extraordinary honor to be trusted with the leadership of this leading scientific agency and to take it forward at this time when the power of science to change the world has never been so necessary and apparent. It is also a critical time in U.S. competitiveness where the strategies that we pursue and promote in all areas that are central to the NIST mission (research, manufacturing, and standards) will help solidify our future position in the global competition with China—an aggressive competitor in these areas.

Second, I believe in the power of public service. By being a public servant, you are given incredibly rich opportunities to solve some of society's greatest challenges. Public service empowers you to have very broad impact and contribute to creating and maintaining a quality of life in the U.S. that is unparalleled.

Third, I feel strongly that it is my duty to give back to a great organization with the talent, education, and experience that I have gained from being part of that organization. I was employed at NIST for 31 years, and it provided me with an incredible environment in which to learn, grow and excel. NIST supported me and nurtured my career at a time when being a woman and a leader in science was not well accepted. I have used that experience to build inclusive organizational cultures

and to promote diversity and equity in science and scientific leadership knowing that success depends on everyone.

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

At NIST, excellence is a core value. This is often described as technical excellence, but while I was at NIST, we embraced a more wholistic value of organizational excellence. NIST must be a responsible steward of the taxpayer dollars with which it is entrusted. This includes operating transparently, incorporating proper financial controls and oversight, and conducting critical internal reviews of the personnel and processes. My role, as leader, is to ensure that these controls are in place and to actively manage those employees who are unable to perform effectively.

I encourage and empower employees to innovate in the business realm to improve administrative and business processes. Inefficiencies waste time and add administrative burden to those whom we expect to excel in technical and operational areas. My expectation is that NIST will function in the most efficient and effective way possible, and I will manage under that guiding principle.

I have experience in managing several large organizations effectively in this manner. At the University of Maryland, I am responsible for managing Federal grants and contracts flowing into, around, and through the university as subcontracts. At the College Park campus alone, awards in FY21 are anticipated to exceed \$650M; and double that when including the Baltimore campus. I also manage all other areas of research compliance including human subjects research, institutional animal care and use, conflict of interest, and foreign influence.

At NIST, as Director of the Material Measurement Laboratory, I managed an operating budget of ~\$170M spread across seven units with 1000 staff members in eight different locations. As Division Chief, I managed an operating budget of approximately \$20M across four units with 100 staff members in two different locations. I also managed other aspects of research compliance in my areas including research safety.

In all cases, I managed my financial resources responsibly, efficiently and effectively. In all cases, I was able to grow resources significantly while in the leadership role.

22. What do you believe to be the top three challenges facing the department/agency, and why?

I would respectfully suggest four key challenges that face NIST going forward:

Challenge #1: To successfully carry out NIST's responsibilities on behalf of the Department of Commerce to maintain U.S. leadership in critical industries and American manufacturing: the CHIPS for America Act and Advanced Manufacturing programs (Manufacturing USA and Manufacturing Extension Partnership).

NIST is positioned to play a central role in important initiatives to advance the U.S. economy and increase our global competitiveness. The CHIPS for America Act calls on NIST to "carry out a program of research and development investment to accelerate the design, development and manufacturability of next generation microelectronics." NIST experts have carried out a program of research, development and standards working closely with the semiconductor industry since the early days of microelectronics. This field was born in the U.S. and, as a Nation, we have been dominant players from the beginning. The rise of other players in this market have weakened our position in the past decades, and as this technology is integral to industries from defense to transportation, we are at a vulnerable point in history.

This act is a larger call to NIST to help cement the Nation's future position as a global leader in advanced electronics. This high-priority initiative has far-reaching implications and it will be critical for NIST to perform this work for maximum success, including translation to industry practices. NIST is absolutely driven by its mission to ensure national competitiveness and will be a conscientious, trusted, and unbiased leader for this effort. The challenge is in carrying out this duty so that the U.S. is positioned for the next decades to remain dominant in this domain while ensuring both the security of the global supply chain and the development of American supply chains, which are necessary for current and future semiconductor electronics. NIST is a trusted partner with industry and will make use of new and existing strong public-private partnerships and coalitions to build an all-hands-on-deck response to the CHIPS for America Act.

Challenge #2: To develop and implement a strategic approach to international standards to support the Nation's drive to increase innovation and competitiveness agenda.

NIST is the premier national metrology institute in the world and, as such, develops measurement standards (volume, mass, length etc.) that are used to ensure the quality and reliability of products, goods and services that are sold by U.S. companies across the globe. Among its peers around the world, NIST is the premier national metrology institute. Every employee at NIST understands that excellence in the research, measurements and products that we provide are key to the success of the Nation's current and future industries.

In the U.S., documentary standards are developed by organizations outside of NIST that include ASTM, IEEE, and others. NIST uses the expertise it has amassed through careful measurement science and interaction with industry to participate in and lead many national and international documentary standards committees that are managed by these independent entities and ANSI. Under the National Technology Transfer and Advancement Act, NIST is responsible for coordinating federal, state and local documentary standards activities so that the U.S. develops an effective portfolio of documentary standards to address industry's most pressing needs.

International documentary standards can be used to present trade barriers to other countries if they are developed in such a way that the standard methods require or prohibit the use of a technology or approach that one particular country has adopted in its own industrial practices. I have witnessed countries trying to force the use of their own technologies by incorporation into standards to the detriment of other countries, ultimately with the goal of impeding trade. When that happens, it is critical that the leader of the international standards committee stays abreast of any issues that could arise that could force out other technologies or approaches, or that are biased against good science. Strong technical and ethical leadership is required to manage international standards committees.

NIST has proven to be effective in safeguarding an approach to standards that is based on the best science in the world. In the current environment, this NIST role is even more essential as China aggressively works to gain positions of leadership in international standards committees that could tip the scales toward standards that favor Chinese technologies.

Leveraging NIST's established credibility, we must respond to the threat from China with a strategy for international standards that will keep the U.S. at the leading edge of industries of the future.

Challenge #3: To build a welcoming and inclusive environment within the agency that others want to emulate.

Many research publications show that a diverse and inclusive team is more creative, more innovative in research. From personal experience, I have found that a diverse group can produce the most interesting and creative solutions provided that all voices at the table respect and listen to each other. It is important for the leader to set those expectations in order to build a community that is not only diverse, but also welcoming, inclusive, and respectful.

We can create policies to ensure that equity and justice is first and foremost. We can create incentives to attract, promote and retain our diverse staff, faculty members and students. But until we create a culture that welcomes all, where all voices are heard, and where we are united in our desire to work toward solving the national problem of inequity, we will not succeed. It takes strong leadership to tell that story, to address issues of social injustice, to speak openly, passionately and compassionately, and to engage everyone in the solution. A workplace that is known for its culture of inclusion will be the most coveted place to be. It will be an attracting force and will lead to success for everyone.

Throughout my career at NIST, I worked to develop a pipeline to create a diverse workforce. And I have promoted the success of that diverse workforce, encouraging and supporting women and people of color to aspire to leadership positions within the organization and externally. I consider it my duty to ensure that future leaders do not all look and think the same. Our different opinions, expressed and considered openly, are what make teams great, helping both individual and organizations to excel.

Like most scientific agencies, NIST does not have the most diverse workforce due to the limited pool of diverse applicants in the STEM fields. At NIST, I developed or managed several programs focused on creating a diverse pipeline and giving those who visited NIST a welcoming view into its incredibly impactful world of science. The agency must continue to be innovative in its approaches to attract a diverse talent pool and serve as a positive force that encourages young people to consider scientific and engineering fields.

Challenge #4: To improve the research infrastructure so that NIST is well positioned to support the Nation's most critical industries.

Like much of the scientific infrastructure in the U.S., the NIST facilities require significant upgrades and modifications due to their age. Most of the scientific and technical buildings on the NIST campuses are 50 years old or more with infrastructure that was designed for the equipment and applications of that era NIST will play an important role in supporting the most exciting, cutting-edge industries of the future: quantum information science, artificial intelligence, biotechnology, advanced semiconductor research, advanced communications, and climate and environmental research. In fact, it was the pioneering work of NIST researchers that led to today's new quantum industry that we are now seeing, with companies and countries building capabilities and assets to capitalize on the coming quantum revolution. NIST researchers have proven that they can excel in the responsibilities given to them to lead in the critical areas of our future economy. However, there is a significant need to upgrade and update their 1960s-era infrastructure in order to meet their mission to drive the Nation forward in key technology areas.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

Federal pension (FERS) from service at NIST.

University of Maryland Retirement Accounts:

- Fidelity Freedom Index 2025 Fund Institutional Premium Class
- T Rowe Price Retirement Trust 2030 Trust B

Eleven NIST-owned patents (no revenue generated at the current time)

- Patent number: 9198645
- Patent number: 8715591
- Patent number: 8337783
- Patent number: 8236480
- Patent number: 8216526
- Patent number: 7029561
- Patent number: 6982028
- Patent number: 6907895
- Patent number: 6860980
- Patent number: 6703189
- Patent number: 5389523

Formation of company, Precision NanoAssembly, Inc.: Precision NanoAssembly planned to license technologies from NIST (2 patents) and build instrumentation for manufacturing in the U.S. Because of conflicts with the position for which I am being considered, a new company—PrecNA LLC—was recently formed to license the NIST patents and act on the original business plan that was developed for Precision NanoAssembly Inc. The CEO of PrecNA LLC is a former colleague who recently retired from NIST. I am not associated with PrecNA LLC. The original company, Precision NanoAssembly Inc, is now being dissolved to remove conflicts associated with possible personal financial gain from the licensing of this technology by NIST to Precision NanoAssembly. I have not received any compensation from Precision NanoAssembly.

Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain. No.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

Precision NanoAssembly Inc is a company that I formed in partnership with other co inventors to develop technology for biomanufacturing nanotherapeutics. The company planned to license the technologies from NIST (2 patents) and build instrumentation for manufacturing in the U.S. Because of conflicts with the position for which I am being considered a new company—PrecNA LLC—was recently formed to license the NIST patents and act on the original business plan that was developed for Precision NanoAssembly Inc. The CEO of PrecNA LLC is a former colleague who recently retired from NIST. I am not, nor have I ever been, associated

with PrecNA LLC. The original company, Precision NanoAssembly Inc, is now being dissolved to remove conflicts associated with possible personal financial gain from the licensing of this technology by NIST to Precision NanoAssembly.

NIST has several strategic partnerships with the University of Maryland through the Joint Quantum Institute, Center for Quantum Information and Computer Science, and the Institute of Bioscience and Biotechnology Research, as well as other smaller research relationships. For the required 2 years, I would recuse myself from making decisions that impact NIST or other Department of Commerce funding to the University of Maryland.

I have two outside paid consulting agreements with Lawrence Livermore National Laboratory and LGC, Inc. I understand that in my role as NIST director, I would have to sever those paid consulting agreements. I have already stepped down from my role at LGC Inc., and have informed Lawrence Livermore National Laboratory that I will step down following completion of the final report from our latest review (October 1, 2021).

I currently hold several positions on boards that I would agree to step down from due to potential conflicts of interest. These include: University of Maryland Enterprise Corporation, M Square Research Park Inc., University of Maryland College Park Foundation Board of Trustees, Georgia Tech Research Corporation Board of Trustees, Maryland Department of Commerce Life Sciences Advisory Board.

Other appointments that I hold with associations or honor societies will be continued.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

Precision Nano Assembly Inc is a company that I formed in partnership with other co-inventors to develop technology for biomanufacturing nanotherapeutics. The company planned to license the technologies from NIST (2 patents) and build instrumentation for manufacturing in the U.S. Because of conflicts with the position for which I am being considered, a new company—PrecNA LLC—was recently formed to license the NIST patents and act on the original business plan that was developed for Precision NanoAssembly Inc. The CEO of PrecNA LLC is a former colleague who recently retired from NIST. I am not, nor have I ever been, associated with PrecNA LLC. The original company, Precision Nano Assembly Inc, is now being dissolved to remove conflicts associated with possible personal financial gain from the licensing of this technology by NIST to Precision NanoAssembly.

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Other appointments that I hold with associations or honor societies will be continued.

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest. None.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

In the past 4 years in my role as Vice President for Research at the University of Maryland, I have advocated for University of Maryland priorities on these dates:

- February 7, 2018, Members of the Maryland delegation: Research on the Hill event—University of Maryland research and policy forum on Innovative and Objective Approaches to Bias-Free Policing

- March 5, 2018, Congressional office: Visit to IonQ, a UMD quantum spinoff, to discuss quantum priorities and quantum startups
- April 12, 2018, Members of the Maryland Congressional delegation: Advocating for quantum science and technology, and funding to build out the University Affiliated Research Center, the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence
- April 2, 2019, Members of Maryland Congressional delegation: Advocating for University of Maryland priorities including quantum
- May 23, 2019, Congressional office: Foreign influence in higher education and University of Maryland's response
- June 12, 2019, Congressional office: Advocating for quantum science and technology, and funding to build out the University Affiliated Research Center, the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence, and foreign influence in higher education
- Jun 19, 2020, Members of Maryland delegation: Terps on the Hill event—Inviting and celebrating Maryland alumni
- Nov 14, 2019, Members of the Maryland delegation: Advocating for quantum science and technology, and funding to build out the University Affiliated Research Center, the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence
- Jan 14, 2020, Congressional staff: Foreign influence in higher education
- January 31, 2020, Staff of the Senate Appropriations Subcommittee on Defense (Majority Member) and several other Congressional offices: Advocating for the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence
- February 7, 2020, Staff from the House Appropriations Committee, Subcommittee on Defense: Advocating for the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence
- Mar 23–24, 2021, Staff from Maryland Congressional delegation offices: Advocating for the Applied Research Lab for Intelligence and Security, which serves the intelligence community focusing on issues including countering malign influence
- Apr 9, 2021: Congressional office: Briefing on status of the Applied Research Lab for Intelligence and Security
- May 6, 2021: Staff from the Maryland Congressional delegation: Quantum briefing
- August 9, 2021: Senate office: Discussion of my NIST nomination and the role of international standards in competitiveness
- September 17, 2021: Senate office: Discussion of my NIST nomination and the importance of promoting DEI in science and technology

In the past 4 years in my role as a representative of higher education through affiliation with the Association of Public and Land Grant Universities, I have advocated on these dates:

- Feb 18, 2021, Staff from Senate Armed Services Committee: higher education priorities, including the Endless Frontiers Act.
- Feb 18, 2021, Senator Schumer and staff: higher education priorities including the Endless Frontiers Act.
- Feb 18, 2021, Congressional office: higher education priorities including the Endless Frontiers Act.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group? No.

If yes:

- a. Provide the name of agency, association, committee, or group;

- b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
 - c. Describe the citation, disciplinary action, complaint, or personnel action;
 - d. Provide the results of the citation, disciplinary action, complaint, or personnel action. N/A.
2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain. No.
 3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain. No.
 4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain. No.
 5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain. No.
 6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination. N/A.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees, and that your department/agency endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority? Yes.
2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures? Yes.
3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? Yes.
4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? Yes.



Laurie E. Locascio, Ph.D.

Address: [REDACTED]

Cell Phone: [REDACTED]

SUMMARY

Senior executive with a known track record of visionary scientific leadership and staff empowerment. Strategic thinker with a people-first attitude to build an environment for open, collaborative, and creative science inclusive of multiple disciplines, backgrounds, cultures and strengths. Strong managerial experience, high scientific stature, and excellent communication skills. Acknowledged leader who inspires confidence and engagement internally and externally through critical relationships and partnerships that maximize the impact of the organization.

PROFESSIONAL SUPERVISORY EXPERIENCE

2017-present: VICE PRESIDENT FOR RESEARCH
 PROFESSOR, BIOENGINEERING, CLARK SCHOOL OF ENGINEERING (UMD)
 PROFESSOR SECONDARY APPOINTMENT, PHARMACOLOGY, SCHOOL OF
 MEDICINE (UMB)
 University of Maryland
 Supervisors: President Darryll Pines, University of Maryland College Park (UMD);
 President Bruce Jarrell, University of Maryland Baltimore (UMB)

Leadership, Management, Strategy: for the billion-dollar+, expansive and vibrant research enterprise at the University of Maryland (UMD+UMB), and the first Vice President for Research responsible for managing the two campuses. In this role since 2017, responsible for:

- Leading strategy for research at the University of Maryland as a core member of the President's cabinet;
- Leading the ramp down and restart of all research activities under COVID19 pandemic at both campuses;
- United College Park and Baltimore campuses under one research administration for the first time; combined research portfolios under the NSF Higher Education Research and Development survey of institutions to catapult University of Maryland in the rankings of U.S. research universities to #14 research university in the country and #8 among publics;
- Developed strategy and helping to grow the University of Maryland research portfolio by ~15% in 2.5 y;
- Managing the flow and oversight of all funds coming into the university through grants, contracts and cooperative agreements;
- Developing approaches to capture and amplify the impact of Maryland research;

- Overseeing compliance activities including human subjects use in research, animal care and use, and conflict of interest (at UMD);
- Developing robust innovation, economic development, and entrepreneurship activities (at UMD);
- Launching and managing the Applied Research Lab for Intelligence and Security (a University-Affiliated Research Center (UARC)), as a trusted partner for the Department of Defense serving the intelligence community; supporting growth of the center from \$2M to \$40M entity in 3 y (*clearance through DOD*);
- Working with the U.S. Congressional delegation to promote research interests for Maryland and to provide input on new science and regulatory policy;
- Developing and growing partnerships with federal agencies around the core strengths for the two campuses; and
- Spearheading a new approach to business and corporate relationships and partnerships for the advancement of research.

2017: ACTING PRINCIPAL DEPUTY to the NIST DIRECTOR and ASSOCIATE DIRECTOR FOR LABORATORY PROGRAMS
National Institute of Standards and Technology, Gaithersburg, MD
Supervisor: Dr. Kent Rochford, kbrochford@gmail.com (currently CEO, SPIE-international society for optics and photonics)

Leadership, Management, Strategy: for NIST's 7 Laboratory Directorates. As Associate Director for Laboratory Programs, provided strategic direction and operational guidance for NIST's scientific and technical mission-focused laboratory programs and served as principal deputy to the Under Secretary of Commerce for Standards and Technology and NIST director, among other duties.

2012-2016: DIRECTOR
Material Measurement Laboratory (MML), National Institute of Standards and Technology, Gaithersburg, MD
www.nist.gov/mml
Supervisor: Dr. Willie May, willie.may@morgan.edu (currently Vice President for Research, Morgan State University)

Leadership, Management, Strategy: for NIST's largest scientific Laboratory with ~1000 staff members (permanent and non-permanent) in 8 different locations around the U.S. (Gaithersburg MD, Rockville MD, Boulder CO, Charleston SC, Palo Alto CA, Long Island NY, Chicago, IL, Honolulu, HI) performing research and developing standards in the fields of chemical science, bioscience, and materials science and engineering. From 2012-2016:

- Managed the financial health of a vibrant organization with a \$170 M budget
- Established and managed effective cross-organizational programs increasing visibility and impact in areas of National importance that include: Materials Genome Initiative, synthetic biology, additive manufacturing, biomanufacturing
- Developed and enacted plan for total realignment of MML organizational structure consistent with new mission and strategy
- Conceptualized and built the new Office of Data and Informatics to put MML at the

forefront of the data revolution

- Selected, hired and mentored new Laboratory management, including Division Chiefs and Office Directors, assembling a team with talent, vision, and a desire to collaborate
- Provided strategic vision and direction, planned and selected priorities and areas for growth, and developed first strategic plan for MML, to provide exciting scientific, technical and operational goals to inspire and engage staff
- Developed plan for recruiting, retaining and hiring for technical and operational excellence with initial focus and success in: developed partnerships with top tier universities to function as pipelines for a diverse and rich talent pool in areas of strategic importance
- Developed and guided new partnership with Stanford University for research in synthetic biology and genomics to help maintain U.S. industrial and academic leadership in the biotechnology/biomanufacturing sector
- Developed and guided new partnership with University of Chicago, Northwestern and Argonne National Labs to conduct research to support NIST's visible and central role in the President's Materials Genome Initiative
- Oversaw the Laboratory-wide performance system working with Laboratory leadership team to manage our staff for success
- Infused and supported a vital, healthy safety culture in MML with increased staff awareness, engagement and empowerment; develop innovative solutions (Hazard Review Database and iPad app) to effectively manage the Laboratory safety program
- Managed, improved, and modernized the NIST-wide service programs in data and reference materials to make into an accessible and sustainable enterprise
- Actively participated as a member of the NIST Senior leadership team developing lasting relationships for collaboration and transparency
- Represented NIST on various high-level committees including the following (to represent the breadth of activities): NSTC Subcommittee on the Material Genome Initiative (Co-Chair, led and implemented first National Strategy, 2013-2015); NSTC Subcommittee on Biological Defense Research and Development (2012-2017); Global Biological Standards Institute Scientific Advisory Council (2015-2017); World Materials Research Institutes Forum (Member and Chair, 2014-2017); Committee on Science, American Chemical Society (2012-2014); ISO/TC229 Nanotechnologies, Environmental Health and Safety (International Convener, led development of consensus based standards, 2011-2013); Organization for Economic Cooperation and Development Working Party on Manufactured Nanomaterials (2010- 2012).

2005-2011:

DIVISION CHIEF

Biochemical Science Division, Chemical Science and Technology Laboratory, National Institute of Standards and Technology, Gaithersburg, MD.

Supervisor: Dr. Willie E. May, willie.may@morgan.edu (currently Vice President for Research, Morgan State University)

Leadership, Management, Strategy, Accomplishments: for NIST's only bioscience division with ~125 staff members in 2 locations (Gaithersburg, MD and Rockville MD) performing research and developing standards in the bioscience field serving the healthcare,

environment, and manufacturing sectors. From 2005 to 2011:

- Managed the financial health of an organization with a \$20 M budget
- Grew the Division budget by 40% in 6 years and established strong programs in genomics, proteomics, cell analysis, and biomanufacturing
- Recreated the partnership with the University of Maryland at IBBR with a renewed commitment to build a world-class institution; established best in the world facilities for structural analysis of biotherapeutics
- Rebuilt morale and reenergized the division with new focus and strong direction
- Developed and enacted plan for realignment of Division structure with new management team that came together to drive division to new level of productivity and success
- Empowered staff, built renewed confidence, created environment of scientific excellence, removed barriers to collaboration, and rewarded positive actions and performance
- Established a strong safety program and built sustained safety culture
- Provided strategic vision and direction, planned and selected priorities and areas for growth, and developed first strategic plan for the Bioscience Division
- Developed plan for recruiting, retaining, hiring for scientific and operational excellence
- Oversaw the Division-wide performance system working with Division leadership team with a renewed commitment to manage our staff for success
- Represented NIST on various high-level committees including the following (to represent the breadth of activities): ISO/TC229 Nanotechnologies, Working Group on Environmental Health and Safety (U.S. Working Group Chair, led development of consensus based standards. 2007-2011); NSF Division of Chemistry Committee of Visitors (2009-2010); American Chemical Society, Division of Analytical Chemistry (Chair, led and implemented first strategic plan, 2006-2008); U.S. Pharmacopoeia Council of Experts Nominating Committee (2009); Bioanalytical Working Group, Consultative Committee for Amount of Substance (CCQM, 2008-2011); National Science Advisory Board for Biosecurity (2006); Biological Decontamination Standards Working Group (2006); DHS Sampling Standard Task Group on developing national standard for collecting suspicious powders (Chair, led development of consensus based standards, 2005-2006); Louisiana Science, Technology, Engineering and Mathematics (LA-STEM) Research Scholars Program, to increase diversity in the STEM disciplines (2005-2006); Chair, MicroTAS 2008 Conference, San Diego, CA (2008).

2002-2005: GROUP LEADER and RESEARCH BIOMEDICAL ENGINEER Microanalytical Metrology Group, Analytical Chemistry Division, National Institute of Standards and Technology, Gaithersburg, MD.
Supervisor: Dr. Stephen Wise (retired)

Leadership, Management, Accomplishments: for group of 13 staff members, postdoctoral researchers, guest researchers and graduate students performing research in microfluidics, including biological and bioanalytical applications of microfluidic systems. From 2002-2005:

- Established group with primary focus in microfluidics hiring a talented, diverse, and multidisciplinary team

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- Built international technical reputation of the group as a leader in microfluidics
 - Managed the financial health of a group with a \$1.5 M budget
 - Provided technical vision, direction and strategy for the group resulting in innovative research, publications, and patents
 - Provided project management and conducted group performance evaluations managing staff for productivity, inclusion and engagement
 - Attracted financial support to build program: PI for external grants (DARPA, NIH, NIH); PI for three 5-year internal research grants
 - Developed relationships with industry; PI or co-PI on multiple CRADAs
 - Developed key collaborations with academic laboratories involving supervision of visiting students and guest researchers from universities including Stanford University, University of Michigan, University of Maryland, Cornell University, University of North Carolina, Northwestern University, Arizona State University to invigorate research
 - Established collaborations with 3 NIH laboratories to guide us toward the development of technologies to solve important medical problems
 - Mentored many postdoctoral fellows and students at the graduate, undergraduate and high school level developing the next generation of scientists and enriching research
 - Represented NIST research on various technical committees including the following (to represent the breadth of activities): Chair, Gordon Research Conference on the Physics and Chemistry of Microfluidics, Big Sky, MT, Oxford, England (2005); Vice-Chair, Gordon Research Conference on the Physics and Chemistry of Microfluidics, Big Sky, MT, August, 2003; Track Chair-MicroTechnologies, LabAutomation (2005); Organizing Committee Member, Micro Total Analysis Systems, Boston, MA, October (2005); Board Member, SIGMA XI, NIST chapter, (2003-2006); Organizing Committee Member, 5th Workshop on Biosensors and Biological Techniques in Environmental Analysis, Ithaca, NY (2002); DARPA Review Panel, Bio:Info:Micro Program (2002); NSF Panel- The Challenges of Chemical and Biological Sensing (2002).

1986-2002: GROUP LEADER (1993-1995) and RESEARCH BIOMEDICAL ENGINEER (1986-2002) Molecular Spectroscopy & Microfluidic Methods Group, Analytical Chemistry Division, National Institute of Standards and Technology, Gaithersburg, MD. Supervisor: Dr. Willie E. May, willie.may@morgan.edu (currently Vice President for Research, Morgan State University)

Leadership, Management, Accomplishments: for group of 10 staff members, postdoctoral researchers, guest researchers and graduate students performing research in microfluidics, biosensors, flow injection analysis, immunoassays, capillary electrophoresis, and supercritical fluid extraction. From 1993-1995:

- Managed the financial health of a group with a \$1 M budget
 - Provided project management and conducted group performance evaluations
 - Implemented a new team approach to promote collaboration, multidisciplinary science
 - Established system for annual project review for staff alignment and focus bringing the team to a new level of collaboration and concrete outputs, publications and standards
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EDUCATION

Ph.D. TOXICOLOGY, May 1999
University of Maryland at Baltimore, *summa cum laude*

M. Sc. BIOENGINEERING, June 1986
With medical school and engineering curriculum
University of Utah, *cum laude*

B. Sc. CHEMISTRY, May 1983
With minors in mathematics and biochemistry
James Madison University, *magna cum laude*

TECHNOLOGY TRANSFER

At NIST

- 11 patents awarded with several previously licensed (complete list attached)
- Multiple CRADA partnerships with important industry for technology transfer and fundamental research
- MOUs established including: NASA, NFL, GE, Under Armour, Stanford University
- Technical representative for SBIR proposals granted for chemical sensors/microfluidics
- Internship at NIH clinical laboratories to validate and promulgate NIST-invented technology

At UMD

- Management and oversight of all technology transfer, innovation and entrepreneurship activities
- MOUs established including: Facebook, Lockheed Martin, MITRE, Northrup Grumman, IonQ
- Supported development of Mid-Atlantic Quantum Alliance- regional consortium of universities, companies, and federal agencies in quantum space
- Supported establishment of the Quantum Startup Foundry as a resource to build and support quantum startups in the District/Maryland/Virginia area

TECHNICAL STATURE, PUBLICATIONS: H index=38

Representative publications:

- Plant, A.L.; Locascio, L.E.; May, W.E.; Gallagher, P.D. Improved reproducibility by assuring confidence in measurements in biomedical research, *Nature Methods*, **2014**, *11*(9), 895-898.
- Atencia, J.; Morrow, J.; Locascio, L.E. The Microfluidic Palette: A Diffusive Gradient Generator with Spatio-Temporal Control, *Lab Chip* **2009**, *9*(18), 2707-14.
- Jones, B. J.; Hayes, M.; Locascio, L.E. "Radical Activated Cleavage: A Rapid Inorganic Alternative for Fragmentation of Peptides and Proteins" *Anal. Chem.* **2007**, *79*(4): 1327-1332.
- Forry, S.P.; Reyes, D.R.; Gaitan, M.; Locascio, L.E. Dielectrophoretic Immobilization of Cells within Microfluidic Microenvironments" *Langmuir* **2006**, *22*(13), 5770-5775.
- Brazhnik, K.P.; Vreeland, W.N.; Hutchison, J.B.; Kishore, R.; Wells, J.; Helmerson, K.; Locascio, L.E. "Directed Growth of Pure Phosphatidylcholine Nanotubes in Microfluidic Channels" *Langmuir* **2005**, *21*(23), 10814-17.
- Jahn, A., Vreeland, W.N., Gaitan, M., Locascio, L.E. "Controlled Vesicle Self-Assembly in Microfluidic Channels with Hydrodynamic Focusing" *J. Am. Chem. Soc.* **2004**, *126*(9), 2674-2675.
- Kulin S., Kishore R., Helmerson K., Locascio, L. "Optical manipulation and fusion of liposomes as microreactors" *Langmuir* **2003**, *19*(20), 8206-821.
- Ross, D.; Locascio, L.E. "Microfluidic Temperature Gradient Focusing" *Anal. Chem.* **2002**, *74*(11), 2556-2564.

TECHNICAL STATURE, TALKS:

Representative talks:

- “From Basic Discovery to Intellectual Property”, American Association for the Advancement of Science. February 2016 (Invited).
- “Translating Discovery to the Bioeconomy”, American Institute for Medical and Biological Engineering, National Academy of Sciences, March 2015 (Invited Keynote).
- “Standards in the Life Sciences: NIST Supporting Science in the NCI”, Meeting of the NCI Board of Scientific Advisors, March 2015 (Invited).
- “The Materials Genome Initiative: Materials Discovery Through Manufacturing”, 143rd TMS Annual Meeting and Exhibition, San Diego, CA, February 2014 (Invited Keynote).
- “NIST’s Role in Supporting the Biotechnology Industry”, Biomanufacturing Technology Summit, Institute for Bioscience and Biotechnology Research, Rockville, MD, June 2014 (Invited).
- “Standards in the Life Sciences: A NIST Perspective”, Global Biological Standards Institute, Washington DC, June 2014 (Invited).
- “Understanding the material in the context of the complex integrated system when considering materials safety”, World Materials Research Institutes Forum Symposium on Materials Meets Life, Switzerland, May 2013 (Invited Keynote).
- “The Materials Genome Initiative: Catalyzing a New Paradigm in Materials Research”, 8th Pacific Rim International Congress on Advanced Materials and Processing (PRICM-8) Waikoloa, Hawaii, August, 2013 (Invited Plenary).

RECENT HONORS

Fellow of the National Academy of Inventors

Fellow of the American Chemical Society

Fellow of the American Institute for Medical and Biological Engineering

ACS Earle B. Barnes Award for Leadership in Chemical Research Management

LEADERSHIP PHILOSOPHY Promote excellence and innovation* Create a collegial, collaborative, inclusive, respectful, and safe workplace for all * Value a strong work ethic * Empower others * Think creatively * Take smart risks * Be strategic

ADDENDUM**AWARDS**

- Fellow of the National Academy of Inventors, 2020.
- NIST Gallery of Distinguished Scientists, 2018.
- Washington Academy of Sciences Award, Distinguished Career in Sciences-Engineering Sciences, 2017.
- ACS National Award: Earle B. Barnes Award for Leadership in Chemical Research Management sponsored by the Dow Chemical Company Foundation, 2017.
- NIST Safety Award for leadership, 2016.
- Analytical Scientist-The Power List Top 50 Influential Women, 2016.
- Fellow of the American Institute for Medical and Biological Engineering, 2016-present.
- ANSI Meritorious Service Award, 2014.
- Fellow of the American Chemical Society, 2011-present.
- Sigma Xi Distinguished Lectureship, 2009-2010.
- American Chemical Society Division of Analytical Chemistry Arthur F. Findeis Award, 2008.
- ASTM Distinguished Service Award, June 2006.
- U.S. Department of Commerce Silver Medal Award, November, 2006.
- NIST Technical Achievement Award, October, 2006.
- U.S. Department of Commerce Bronze Medal Award, November 1991.
- NIST Applied Research Award, 1993.
- National Tour Speaker for the Society of Applied Spectroscopy, 1993-1994.
- Certificate of Recognition, Department of Commerce, NBS, September, 1990.
- Certificate of Recognition, Department of Commerce, NIST, September, 1989.
- Certificate of Recognition, Department of Commerce, NIST, September, 1987.

LIST OF HIGH-LEVEL ACTIVITIES

- MEMBER AND CO-CHAIR, Council on Competitiveness, Technology Leadership and Strategy Initiative (TSLI), Working Group 1-Developing and Deploying at Scale Disruptive Technologies, 2019-present
- EXECUTIVE COMMITTEE MEMBER, Association of Public and Land Grant Universities, Council on Research, 2019-present
- MEMBER AND CHAIR, LGC Inc. External Advisory Board, 2019-2021
- MEMBER AND CHAIR, Lawrence Livermore National Laboratory Physical and Life Sciences Directorate External Review Committee, 2018-2021
- MEMBER, Life Sciences Advisory Board, Maryland Department of Commerce, 2017-2021 (official appointment 2020)
- CHAIR, Life Sciences Advisory Board Working Group 4 on Workforce development, 2018-2019
- MEMBER, National Academies Panel on Review of Extramural Basic Research at the Army Research Laboratories, 2019
- COMMITTEE MEMBER, National Science and Technology Council, Fast Track Action Committee on

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- Biosafety and Security, 2016
- MEMBER, ASTM International Board of Directors, 2016
 - CO-CHAIR, Subcommittee on the Materials Genome Initiative, National Science and Technology Council, 2012-2104, COMMITTEE MEMBER 2012-2017
 - COMMITTEE MEMBER, Subcommittee on Biological Defense Research and Development, National Science and Technology Council, 2012-2017
 - COMMITTEE MEMBER, Global Biological Standards Institute Scientific Advisory Council, 2014-2017
 - PRESIDENT, World Materials Research Institutes Forum, 2016-2017
 - COMMITTEE MEMBER, Institute for Bioscience and Biotechnology Research Steering Committee, 2014-2017
 - COMMITTEE MEMBER, Hollings Marine Laboratory Executive Board, 2012-2017.
 - CHAIR, CCQM adhoc Steering Committee on Microbial Measurements to Ensure Food Quality and Safety, 2011-2012
 - ADJUNCT FACULTY, University of Maryland Department of Chemistry and Biochemistry, 2010-2017
 - MEMBER, Organization for Economic Cooperation and Development, Working Party on Manufactured Nanomaterials, SG7, 2010-2012
 - COMMITTEE MEMBER, NSF Division of Chemistry, Committee of Visitors, 2009-2010
 - COMMITTEE MEMBER, Committee of Distinguished Advisors, University of Maryland, Department of Chemistry and Biochemistry, 2009-2013
 - MEMBER, Subcommittee on Standards, National Science and Technology Council, 2008- 2011
 - BOARD MEMBER, Chemical and Biological Microsystems Society, 2008-2012
 - CHAIR, MicroTAS 2008 Conference, San Diego, CA, 2008
 - CHAIR, American Chemical Society, Division of Analytical Chemistry, 2006-2008
 - MEMBER, Multidisciplinary Program Planning Group, American Chemical Society, 2008-2011
 - MEMBER, U.S. Pharmacopoeia Council of Experts Nominating Committee, 2009
 - CHAIR, ISO/TC229 Nanotechnologies U.S. TAG Working Group 3 on Environmental Health and Safety, 2007-2011
 - MEMBER, Ex-officio, National Science Advisory Board for Biosecurity, 2006
 - MEMBER, Biological Decontamination Standards Working Group, 2006
 - EDITORIAL BOARD MEMBER, Annual Reviews of Analytical Chemistry, 2006-2010
 - MEMBER, Bioanalytical Working Group, Consultative Committee for Amount of Substance (CCQM), 2008-present
 - CHAIR-ELECT, American Chemical Society, Division of Analytical Chemistry, 2005-2006
 - EDITORIAL ADVISORY BOARD MEMBER, *Analytical Chemistry* (journal), 2003-2005
 - MEMBER, Standards Working Group on Prescreening Technologies, Department of Homeland Security, 2005-2006
 - CHAIR, Sampling Standard Task Group on developing national standard for collecting suspicious powders, DHS, 2005-2006
 - ADVISORY BOARD MEMBER, Louisiana Science, Technology, Engineering and Mathematics (LA-STEM) Research Scholars Program, to increase diversity in the STEM disciplines, 2005-2006
 - CHAIR, Gordon Research Conference on the Physics and Chemistry of Microfluidics, Big Sky, MT, Oxford, England, August, 2005
 - VICE-CHAIR, Gordon Research Conference on the Physics and Chemistry of Microfluidics, Big Sky, MT, August, 2003

PUBLICATIONS

H-index 38

116 scientific publications

(archival journals)

1. Locascio, L. E.; Janata, J. "Integrated Systems for Potentiometric Stripping Determinations" *Anal. Chim. Acta* **1987**, *194*, 99-107.
2. Locascio-Brown, L.; Plant, A. L.; Durst, R. A. "Use of Liposomes in Flow Injection Systems" *Anal. Chem.* **1988**, *60*, 792-797.
3. Plant, A. L.; Locascio-Brown, L.; Brizgys, M. V.; Durst, R. A. "Liposome-Enhanced Flow Injection Immunoanalysis" *Bio/Tech* **1988**, *6*, 266-269.
4. Locascio-Brown, L.; Plant, A. L.; Durst, R. A. "Liposome-Based Flow Injection Immunoassay System, Accuracy in Trace Analysis-Accomplishments, Goals, Challenges" *J. Res. NIST* **1988**, *93*(6), 663-665.
5. Durst, R.A.; Locascio-Brown, L.; Plant, A.L.; Brizgys, M.V. "Liposome Enhanced Flow Injection Immunoanalysis" *Clin. Chem.* **1988**, *34*, 1700-1701.
6. Plant, A. L.; Brizgys, M. V.; Locascio-Brown, L.; Durst, R. A. "Generic Liposome Reagents for Immunoassays" *Anal. Biochem.* **1989**, *176*, 420-428.
7. Locascio-Brown, L.; Brizgys, M. V.; Plant, A. L.; Durst, R. A. "Radiometric and Fluorometric Determination of Aminosilanes and Protein Covalently Bound to Thermally Pretreated Glass Surfaces" *Anal. Chim. Acta* **1990**, *228*, 107-116.
8. Locascio-Brown, L.; Plant, A. L.; Durst, R. A. "Liposome Flow Injection Immunoanalysis: Implications for Sensitivity, Dynamic Range, and Antibody Regeneration" *Anal. Chem.* **1990**, *62*(23), 2587-2593.
9. Plant, A.; Locascio-Brown, L.; Choquette, S.J.; Durst, R.A. "Interaction of Liposomes with Solid-Phase Antibodies" *J. Cell. Biochem. Suppl. 14 Pat B* **1990**, 366.
10. Plant, A. L.; Locascio-Brown, L.; Durst, R. A. "Immobilization of Binding Proteins on Monoporous Supports: Comparison of Protein Loading, Activity and Stability" *Appl. Biochem. Biotech.* **1991**, *30*, 83-98.
11. Yap, W. T.; Locascio-Brown, L.; Plant, A. L.; Choquette, S. J.; Horvath, W.; Durst, R. A. "Liposome Flow Injection Immunoassay: Theoretical Analyses of Competitive Immunoreactions Involving Univalent and Multivalent Ligands" *Anal. Chem.* **1991**, *63*(18), 2007-2011.
12. Choquette, S. J.; Locascio-Brown, L.; Durst, R. A. "Planar Waveguide Immunosensor with Fluorescent Liposome Amplification" *Anal. Chem.* **1992**, *64*(1), 55-60.
13. Locascio-Brown, L.; Chesler, R.; Kroll, M.; Plant, A. L.; Durst, R. A. "Determination of Theophylline in Serum by Liposome-Based Flow Injection Immunoassay" *Clin. Chem.* **1993**, *39*, 386-391.
14. Locascio-Brown, L.; Choquette, S. J.; "Immunosensing in FIA Using Liposome Amplification for the Measurement of Estrogens" *Talanta* **1993**, *40* (12), 1899-1904.
15. Choquette, S.J.; Locascio-Brown, L. "Thermal Detection of Enzyme Labelled Antigen-Antibody Complexes Using Fiber Optic Interferometry" *Sensors and Actuators B* **1994**, *22*, 89-96.

16. Locascio-Brown, L.; Martynova, L.; Christensen, R.G.; Horvai, G. "Flow Injection Immunoassay using Solid Phase Entrapment" *Anal. Chem.* **1996**, 68(9), 1665-1670.
17. Roberts, M.R.; MacCrehan, W.A.; Locascio-Brown, L. "Behavior of Liposomes in Capillary Electrophoresis" *Anal. Chem.* **1996**, 68(19), 3434-3440.
18. Martynova, L.; Locascio, L.E.; Gaitan, M.; Kramer, G.W.; Christensen, R.G.; MacCrehan, W.A. "Fabrication of Plastic Microfluid Channels by Imprinting Methods" *Anal. Chem.* **1997**, 69 (23), 4783-4789.
19. Locascio, L.E.; Perso, C.E.; Lee, C.S. "Measurement of Electroosmotic Flow in Plastic Imprinted Microfluid Devices and the Effect of Protein Adsorption on Flow Rate" *J. Chromatography A* **1999**, 857, 275-284.
20. Branham, M.L.; MacCrehan, W.A.; Locascio, L.E. "Chemical Mapping of Imprinted Plastic Microchannel Surfaces using Group Specific Fluorescent Probes, *J. Capillary Electrophor. Microchip Technol.* **1999**, 6 (1/2), 43-50.
21. Xu, J.; Locascio, L.; Gaitan, M.; Lee, C., "Room Temperature Imprinting Method for Plastic Microchannel Fabrication" *Anal. Chem.* **2000**, 72, 1930-1933.
22. Rasmussen, A.; Gaitan, M.; Locascio, L.E.; Zaghoul, M. "Fabrication Techniques to Realize CMOS-compatible Microfluidic Microchannels" *J. MEMS* **2000**, 10: (2), 286-297.
23. Barker, S.L.R.; Tarlov, M. J.; Canavan, H.; Hickman, J.J.; Locascio, L.E. "Plastic Microfluidic Devices Modified with Polyelectrolyte Multilayers" *Anal. Chem.* **2000**, 72(20), 4899-4903.
24. Barker, S.L.R.; Ross, D.; Tarlov, M.; Locascio, L.E. "Control of Flow Direction in Microfluid Devices with Polyelectrolyte Multilayers" *Anal. Chem.* **2000**, 72(24), 5925-5929.
25. Johnson, T.J.; Waddell, E.A.; Kramer, G.W.; Locascio, L.E. "Chemical Mapping of Hot Embossed and UV Laser Ablated Microchannels in Poly(Methyl Methacrylate) Using Carboxylate Specific Fluorescent Probes" *Appl. Surf. Science.* **2001**, 181 (1-2), 149-159.
26. Ross, D.; Johnson, T.J.; Locascio, L.E. "Imaging of Electro-Osmotic Flow in Plastic Microchannels" *Anal. Chem.* **2001**, 73(11), 2509-2515.
27. Esch, M.B.; Locascio, L.E.; Tarlov, M.J.; Baumner, A.; Durst, R.A. "Detection of Viable *Cryptosporidium parvum* using DNA Probes and Liposomes in a Microfluidic Chip" *Anal. Chem.* **2001**, 73(13), 2952-2958.
28. Jiang, Y.; Wang, P-C; Locascio, L.E.; Lee, C.S. "Integrated Plastic Microfluidic Devices with ESI-MS for High Throughput Drug Screening and Residue Analysis" *Anal. Chem.* **2001**, 73(9), 2048-2053.
29. Gao, J.; Xu, J.; Locascio, L.E.; Lee, C.S. "Integrated Microfluidic System Enabling Protein Digestion, Peptide Separation, and Protein Identification" *Anal. Chem.* **2001**, 73(11), 2648-2655.
30. Ross, D.; Gaitan, M.; Locascio, L.E. "Temperature Measurement in Microfluidic Systems Using a Temperature-Dependent Fluorescent Dye" *Anal. Chem.* **2001**, 73(17), 4117-4123.
31. Johnson, T.J.; Ross, D.; Gaitan, M.; Locascio, L.E. "Laser Modification of Preformed Polymer Microchannels: Application To Reduce Band Broadening around Turns Subject to Electrokinetic Flow" *Anal. Chem.* **2001**, 73(15), 3656-3661.

32. Becker, H.; Locascio, L.E. "Polymer Microfluidic Devices: A Review" *Talanta* **2002**, 56, 267-287.
33. Locascio, L.E.; Hong, J.; Gaitan, M. "Liposomes as Signal Amplification Reagents for Assays in Microfluid Channels" *Electrophoresis* **2002**, 23(5), 799-804.
34. Johnson, T.J.; Ross, D.; Locascio L.E. "Rapid Microfluidic Mixer" *Anal. Chem.* **2002**, 74 (1), 45–51.
35. Pugmire, D.L.; Waddell, E.A.; Haasch, R.; Tarlov, M.J.; Locascio, L.E. "Surface Characterization of Laser Ablated Polymers Used for Microfluidics" *Anal. Chem.* **2002**, 74, 871-878.
36. Henry, A.C.; Waddell, E.; Shreiner, R.; Locascio, L.E. "Control of Electroosmotic Flow in Laser Ablated and Chemically Modified Hot Imprinted Polymer Microchannels" *Electrophoresis* **2002**, 23(5), 791-798.
37. Ross, D.; Locascio, L.E. "Microfluidic Temperature Gradient Focusing" *Anal. Chem.* **2002**, 74(11), 2556- 2564.
38. Waddell, E.A.; Locascio, L.E.; Kramer, G.W. "UV Laser Micromachining of Polymers for Microfluidic Applications" *JALA* **2002**, 7 (1), 63-67.
39. Johnson, T.J.; Locascio, L.E. "Characterization and Optimization of Slanted Well Designs for Microfluidic Mixing under Electroosmotic Flow" *Lab Chip* **2002**, 2(3), 135-140.
40. Ross, D. J.; Locascio, L. E. "Effect of Caged Fluorescent Dye on the Electroosmotic Mobility in Microchannels" *Anal. Chem.* **2003**, 75(5), 1218-1220.
41. Kulin S., Kishore R., Helmersen K., Locascio, L. "Optical manipulation and fusion of liposomes as microreactors" *Langmuir* **2003**, 19(20), 8206-821.
42. Ross, D.J.; Ivory, C.F.; Locascio, L.E.; Van Cott, K.E. "Peak Compression and Resolution for Electrophoretic Separations in Diverging Microchannels" *Electrophoresis* **2004** 25(21-22), 3694-3704.
43. Vreeland W.N., Locascio L.E. "Using bioinspired thermally triggered liposomes for high-efficiency mixing and reagent delivery in microfluidic devices" *Anal. Chem.* **2003**, 75 (24), 6906-6911.
44. Jahn, A., Vreeland, W.N., Gaitan, M., Locascio, L.E. "Controlled Vesicle Self-Assembly in Microfluidic Channels with Hydrodynamic Focusing" *J. Am. Chem. Soc.* **2004**, 126(9), 2674-2675.
45. Evju, J. K. ; Howell, P. B.; Locascio, L. E.; Tarlov, M. J ; Hickman, J. J. "Atmospheric Pressure Microplasma for Modifying Sealed Microfluidic Devices" *Appl. Phys. Lett.* **2004**, 84 (10), 1668-1670.
46. Reyes, D.R.; Perruccio, E.; Becerra, S.P.; Locascio, L.E.; Gaitan, M. "Patterning Neuronal (Retinal) Cells on Micropatterned Polyelectrolyte Multilayers", *Langmuir* **2004**, 20(20), 8805-8811.
47. Gaitan M, Locascio L.E. "Embedded Microheating Elements in Polymeric Micro Channels for Temperature Control and Fluid Flow Sensing" *J Res NIST* **2004**, 109 (3), 335-344.
48. Forry, S.P.; Murray, J.R.; Heien, M.L.A.V.; Locascio, L.E.; Wightman, R.M. "Probing Electric Fields inside Microfluidic Channels during Electroosmotic Flow with Fast Scan Cyclic Voltammetry" *Anal. Chem.* **2004**, 76(17), 4945-4950.
49. Locascio, L.E. "Microfluidic Mixing" *Analytical and Bioanalytical Chemistry* **2004**, 379(3), 325-327.
50. Xiao, Y.; Telford, W.G.; Ball, J.C., Locascio, L.E.; Barker, P.E. "Semiconductor nanocrystal conjugates, FISH and pH" *Nature Methods* **2005**, 2(10), 723.

51. Brazhnik, K.P.; Vreeland, W.N.; Hutchison, J.B.; Kishore, R.; Wells, J.; Helmerson, K.; Locascio, L.E. "Directed Growth of Pure Phosphatidylcholine Nanotubes in Microfluidic Channels" *Langmuir* **2005**, *21*(23), 10814-10817.
52. Forry, S.P.; Reyes, D.R.; Gaitan, M.; Locascio, L.E. Dielectrophoretic Immobilization of Cells within Microfluidic Microenvironments" *Langmuir* **2006**, *22*(13), 5770-5775.
53. Shah, J.J.; Geist, J.; Locascio, L.E.; Rao, M.V.; Gaitan, M.; Vreeland, W.N. "Capillarity Induced Solvent- Actuated Bonding of Polymeric Microfluidic Devices" *Anal. Chem.* **2006**, *78* (10); 3348-3353.
54. Krishnamoorthy, S.; Feng, J.; Henry, A.C.; Locascio, L.E.; Hickman, J.; Sundaram, S. "Simulation and Experimental Characterization of Electroosmotic Flow in Surface Modified Channels" *Microfluidics and Nanofluidics* **2006**, *2* (4), 345-355.
55. Jones, B. J.; Hayes, M.; Locascio, L.E. "Radical Activated Cleavage: A Rapid Inorganic Alternative for Fragmentation of Peptides and Proteins" *Anal. Chem.* **2007**, *79*(4); 1327-1332.
56. Forry, S.P.; Reyes, D.; Gaitan, M.; Locascio, L.E. "Dielectrophoretic immobilization of cells within microfluidic microenvironments", *J. Am. Chem. Soc.* **2006**, *128* (42), 13678 -13679.
57. Shah, J.J.; Geist, J.; Locascio, L.E.; Rao, M.V.; Gaitan, M.; Vreeland, W.N. "Surface modification of poly(methyl methacrylate) for improved adsorption of wall coating polymers for microchip electrophoresis" *Electrophoresis* **2006**, *27*(19), 3788-3796.
58. Kamande, M.W.; Ross, D.J.; Locascio, L.E.; Lowry, M.; Warner, I.M. Simultaneous Concentration and "Separation of Coumarins Using a Molecular Micelle in Micellar Affinity Gradient Focusing" *Anal. Chem.* **2007**, *79* (5), 1791 -1796.
59. Jahn, A.; Vreeland, W.N.; Locascio, L.E.; Gaitan M. "Tailoring Liposome Size, Size Distribution, and Encapsulation Efficiency Using Microfluidic Facilitated Hydrodynamic Focusing" *Langmuir* **2007**, *23* (11), 6289 -6293.
60. Jofre, A.; Hutchison, J.B.; Kishore, R.; Locascio, L.E.; Helmerson, K. "Amphiphilic block copolymer nanotubes and vesicles stabilized by photopolymerization" *J. Phys. Chem. B* **2007**, *111*(19); 5162-5166.
61. Atencia, J.; Barnes, S.; Douglas, J.; Meacham, M.; Locascio, L.E. "Using pattern homogenization of binary masks to fabricate microfluidic structures with 3D topography" *Lab Chip* **2007**, *7*(11), 1567-1573.
62. Hong, J.; Vreeland, W.N.; Locascio, L.E.; Gaitan, M.; Raghavan, S. "Liposome-Templated Supramolecular Assembly of Responsive Alginate Gels" Submitted, *Langmuir* **2008**, *24*(8), 4092-4096.
63. Munson, M.; Meacham, J. M.; Locascio, L.E.; Ross, D.J. "Counterflow Rejection of Adsorbing Proteins for Characterization of Biomolecular Interactions by Temperature Gradient Focusing" *Anal. Chem.* **2008** *1*, 172-178.
64. Jahn, A.; Reiner, J.; Vreeland, W.; Devoe, D.; Locascio, L.E.; Gaitan, M. Preparation of Nanoparticles by Continuous Flow Microfluidics" *Langmuir* **2007**, *23*(11), 6289-6293.
65. Locascio, L.E.; Harper, B.; Robinson, M. "Standard practice for bulk sample collection and swab sample collection of visible powders suspected of being biological agents from nonporous surfaces: Collaborative study" *J. AOAC Int'l* **2007**, *90* (1), 299-333.

66. Munson, M.S.; Meacham, J.M.; Ross, D.; Locascio, L.E. Development of Aptamer-Based Affinity Assays Using Temperature Gradient Focusing: Minimization of the Limit of Detection *Electrophoresis* **2008**, *29*(16), 3456-65.
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 69. Atencia, J.; Morrow, J.; Locascio, L.E. The Microfluidic Palette: A Diffusive Gradient Generator with Spatio-Temporal Control, *Lab Chip* **2009**, *9*(18), 2707-14.
 70. Atencia, J.; Cooksey, G.A.; Jahn, A.; Zook, J.; Vreeland, W.N.; Locascio, L.E. Magnetic Connectors for Microfluidic Chips, *Lab Chip* **2010**, *10*(2), 246-9.
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(opinion piece)

Why Science Depends on Diversity, *The Analytical Scientist* January 25, 2017
 {<https://theanalyticalscientist.com/business-education/why-science-depends-on-diversity?logintype=logout&cHash=f57015f5c25cbc8fbc00f8437da75d6>}.

PATENTS

1. Controlled vesicle self-assembly in continuous two phase flow microfluidic channels
Patent number: 9198645
2. Microfluidic apparatus to control liposome formation
Patent number: 8715591
3. Magnetic connectors for microfluidic applications
Patent number: 8337783
4. Fabrication method of topographically modulated microstructures using pattern homogenization with UV light
Patent number: 8236480
5. Method and device for generating diffusive gradients in a microfluidic chamber
Patent number: 8216526
6. Fluidic temperature gradient focusing
Patent number: 7029561
7. Surface charge modification within preformed polymer microchannels with multiple applications including modulating electroosmotic flow and creating microarrays
Patent number: 6982028
8. Method for microfluidic flow manipulation
Patent number: 6907895
9. Polyelectrolyte derivatization of microfluidic devices
Patent number: 6860980
10. Chemical modification of substrates by photo-ablation under different local atmospheres and chemical environments for the fabrication of microstructures
Patent number: 6703189
11. Liposome immunoanalysis by flow injection assay
Patent number: 5389523

PRESENTATIONS

101 scientific lectures – national and international

1. "Liposome-Based Flow Injection Immunoassay System", Symposium on Accuracy in Trace Analysis, Gaithersburg, MD, October, 1987.
2. "The Use of Liposomes in Continuous Immunoanalysis", American Association for the Advancement of Medical Instrumentation, Washington, DC, May, 1988.
3. "Analytical Applications of Immobilized Antibody in Liposome-Enhanced Flow Injection Immunoassays", Rocky Mountain Conference on Analytical Chemistry, Denver, CO, July, 1989.
4. "Flow Injection Immunoassay Using Liposomes in Automated Analysis" Oak Ridge Conference, Tampa, FL, April 1990.
5. "Clinical Analysis of Theophylline in Serum Using FIA," Technical University of Munich, Munich,

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- Germany, June, 1991, (Invited).
6. "Clinical Analysis of Theophylline in Serum Using FIIA," Technical University of Budapest, Hungary, Budapest, Hungary, June, 1991, (Invited).
 7. "Theophylline Determined by Flow Injection Immunoassay," American Association of Clinical Chemistry, Washington, DC, July 1991.
 8. "Flow Injection Immunoassay Using Liposomes in Automated Analysis" Pacific Northwest Laboratories, Richland, WA, February, 1992, (Invited).
 9. "Using Components of the Immune System to Improve the Performance of Analytical Chemistry Methods" James Madison University, Harrisonburg, VA, April, 1992, (Invited).
 10. "Assessing Breast Cancer Risk: Measuring Trace Levels of Hormones by Flow Injection Immunoassay," NIST/NCI QA Micronutrient Analysis Workshop, Gaithersburg, MD, November, 1992.
 11. "Immunosensing in FIA Using Liposome Amplification: Measurement of Estrogens for Early Assessment of Breast Cancer," Winter Conference on Flow Injection Analysis, Marathon, FL, January, 1993, (Invited).
 12. "Integrated Flow Immunoanalysis Systems and Sensor Research at NIST," Presentation to the Department of Defense, Aberdeen Proving Ground, MD, January, 1993.
 13. "Measurement of Estrogens by Flow Injection Immunoassay," Paracelsian, Inc., Ithaca, NY, March, 1993, (Invited).
 14. "Simultaneous Measurement of Multiple Hormone Metabolites using Flow Injection Immunoassay for Assessment of Breast Cancer", Federation of Analytical Chemistry and Spectroscopy Societies, 20th Annual Meeting, Detroit, MI, October 1993.
 15. "Novel Immunoassays for Measurement of Hormone Metabolites to Assess Cancer Risk", 1994 Society of Applied Spectroscopy Speaker Tour, Butler University, Indianapolis, Indiana, April 1994, (Invited).
 16. "Novel Immunoassays for Measurement of Hormone Metabolites to Assess Cancer Risk", 1994 Society of Applied Spectroscopy Speaker Tour, University of British Columbia, Vancouver, BC, April 1994, (Invited).
 17. "Novel Immunoassays for Measurement of Hormone Metabolites to Assess Cancer Risk", 1994 Society of Applied Spectroscopy Speaker Tour, Second Biennial Summer Meeting of the Snake River Section of the SAS, Gregson, MO, June 1994, (Invited).
 18. "Novel Immunoassay Based Technology for Assessing Breast Cancer Risk", National Organization of Black Chemists and Chemical Engineers, Atlantic City, NJ, April 1994, (Invited).
 19. "Continuous Flow Assays for Clinical Analytes", Mayo Clinic, Rochester, MN, January 1995, (Invited).
 20. "The Use of Liposomes As Analytical Reagents in Continuous Flow Systems", University of Massachusetts, Amherst, MA, February 15, 1996, (Invited).
 21. "Continuous Flow Assays for Clinical Analytes", University of Maryland at Baltimore, Baltimore, MD, March 29, 1996.
 22. "Plastic Microfluid Devices Prepared by Imprinting Techniques", 19th International Symposium on Capillary Chromatography and Electrophoresis, Wintergreen, VA, May 18, 1997.
 23. "Fabrication and Use of Plastic Microfluid Devices: The New Fluid Circuit Technology", Analytical Chemistry Division Seminar, NIST, Gaithersburg, MD, July 31, 1997.
 24. "Plastic Microfluid Systems Fabricated by Imprinting Methods", Frederick Conference on Capillary Electrophoresis, October 21, 1997.
 25. "Fabricating Plastic Microfluid Systems for Clinical Measurements", Dow Chemical Company, Midland, MI, April 30, 1998, (Invited).
 26. "Fabricating Plastic Microfluid Systems for Clinical Measurements", Oak Ridge Conference on Clinical

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- Chemistry, Raleigh, NC, April 23, 1998.
27. "Plastic Microfluid Devices for Clinical Applications", University of Maryland College Park, College Park, MD, September 25, 1998.
 28. "Plastic Microfluid Devices for Clinical Applications", FACSS, Austin, TX, October 12, 1998, (Invited).
 29. "Plastic Microfluid Devices for Clinical Applications", Micro-TAS, Banff, Alberta, Canada, October 15, 1998.
 30. "Plastic Microfluid Devices for Clinical Applications", Pennsylvania State University, University Park, PA, October 28, 1998, (Invited).
 31. "Integration of MicroReactive Elements in Plastic MicroFluid Systems", University of Maryland, College Park, Maryland, December 3, 1999, (Invited).
 32. "Fabrication of Plastic Microfluid Systems", Washington Chromatography Discussion Group, Gaithersburg, MD, May 20, 1999, (Invited).
 33. "Integration of MicroReactive Elements in Plastic MicroFluid Systems", University of South Florida, April 7, 2000, (Invited).
 34. "Integrated Silicon Microheating Elements using Silicon-on-Plastic Drop-In Functionality", MicroTAS 2000, May 16, 2000.
 35. "Fabrication and Characterization of Plastic Lab-on-a-Chip Devices", CSTL Colloquium, NIST, Boulder, August 18, 2000, (Invited).
 36. "Control and Modulation of Biochemical Reactions in Plastic Microfluid Devices", FACSS 2000, Nashville, TN, September 25, 2000 (Invited).
 37. "Applications of Analytical Nanotechnology", DIR-AG Metting, Downer's Grove, IL, October 5, 2000 (Invited).
 38. "Fabrication and Characterization of Plastic Microfluid Devices", Electrochemical Society Meeting, Phoenix, AZ, October 24, 2000.
 39. "BioMicrofluidic Devices: New Technologies for Probing Biological Systems", Center for Advanced Research in Biotechnology, North Potomac, MD, February 12, 20001. (Invited).
 40. "Characterization of Plastic Microfluid Systems and Their Application in Biotechnology", University of Maryland Department of Chemistry and Biochemistry, March 11, 2001 (Invited).
 41. "Applications of Surface Modification Through Direct Write Patterning", Gordon Conference on Microfluidics, Oxford, England, August 2, 2001 (Invited).
 42. "Patterning Plastic Microchannels to Modulate Flow", MEMS Alliance Special Topics Workshop on Microfluidics and RF MEMS, Johns Hopkins Applied Physics Lab, MD, November 16, 2001 (Invited).
 43. "Patterning Plastic Microchannels to Modulate Flow" Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, New Orleans, LA, March 25, 2002. (Invited)
 44. "A Cell-based Microfluidic Sensor to Predict Biofilm Deflocculation Events in Wastewater Treatment Plants" Fifth Workshop on Biosensors and Biological Techniques in Environmental Analysis Cornell University, Ithaca, NY, June 4, 2002. (Invited)
 45. "Flow Control in Plastic Microfluidic Systems: Modulating Surfaces by Direct Write MicroPatterning", University of North Carolina Department of Chemistry Seminar Series, Chapel Hill, NC, April 29, 2002 (Invited).
 46. "Flow Control in Plastic Microfluidic Systems: Modulating Surfaces by Direct Write MicroPatterning", GlaxoSmithKline Seminar Series, Research Triangle Park, NC, April 30, 2002, (Invited).
 47. "Microfluidic Passive Mixing Structures" 201st Electrochemical Society Meeting, Philadelphia, PA, May 14, 2002. (Invited).
 48. "Manipulating Nanoscale Reactions in Polymer Microfluidic Systems", Virginia Polytechnic and State

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- University, October 4, 2002 (Invited).
49. "Manipulating Nanoscale Reactions in Polymer Microfluidic Systems", Florida State University, October 11, 2002 (Invited).
 50. "Microfluidic Temperature Gradient Focusing," 26th International Symposium on Capillary Chromatography & Electrophoresis," Las Vegas, NV, May 22, 2003 (Invited).
 51. "Applications of Liposomes in Microfluidic Systems", ACS National Meeting, New York, NY, September 9, 2003 (Invited).
 52. "Nature's Packaging: Using Bio-Inspired Liposomes for Rapid High-Efficiency Mixing in Microfluidic Systems", FACSS Conference, Fort Lauderdale, FL, October 23, 2003, (Invited).
 53. "Nature's Packaging: Using Bio-Inspired Liposomes for Rapid High-Efficiency Mixing in Microfluidic Systems", University of Michigan, Chemistry Department Seminar, October 30, 2003, (Invited).
 54. "Using Liposomes for High-Efficiency Mixing in Microfluidic Systems", LabAutomation 2004, February 5, 2004, (Invited).
 55. "New methods for chemical separation and nanoparticle formation using microfluidic systems", University of Maryland at Baltimore, Mechanical Engineering Department Seminar, October 14, 2004, (Invited).
 56. "Performing Reactions and Separations in Nanoliter Samples: A NIST Microfluidics Approach", Applied Biosystems, CA, October 19, 2004, Foster City, CA (Invited).
 57. "Microfluidic-Assisted Lipid Nanotube Formation and Manipulation with Light," Malmo, Sweden, September 25, 2004.
 58. "Controlled Liposome Self Assembly in Microfluidic Systems", Pittsburgh Conference, Orange County Convention Center, Orlando, FL, February 28, 2005 (Invited).
 59. "Microfluidic Platform for Forensic Applications," Pittsburgh Conference, Orange County Convention Center, Orlando, FL, March 12-17, 2006 (Invited).
 60. "Development of a National Standard for Sampling Suspicious Powders," Defense Security Innovation, Quebec, Canada, November 15-18, 2005 (Invited).
 61. "Cells and Model Cell Systems in Microfluidics," 6th International Symposium on Microchemistry and Microsystems (ISMM2006), Hakone, Japan, June 7-8, 2006 (Invited).
 62. "Development of a U.S. National Standard for Sampling Suspicious Powders," Second National Conference on Environmental Sampling and Detection for Bio-Threat Agents, Brooklyn, NY, October 25-27, 2006, (Invited).
 63. "Understanding Cellular Behavior Using Microfluidics", Hollings Marine Laboratory, February 2, 2007 (Invited).
 64. "Understanding Cellular Behavior Using Microfluidics", South Carolina Bioengineering Alliance, Medical University of South Carolina, Charleston, SC, February 3, 2007 (Invited).
 65. "Research and Metrology in the NIST Biochemical Science Division", National Institute of Metrology (NIM), Beijing, China, June 11, 2007 (Invited).
 66. "Revision of ASTM E2458: Standards for Sample Collection of Suspected Biological Agents", The 3rd National Conference on Environmental Sampling and Detection for Bio-Threat Agents, Las Vegas, NV, December 1-3, 2008 (Invited).
 67. "Award Lecture: Microfluidics as a tool to enable research and discovery in the life sciences", The 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008 (Invited).
 68. "Microfluidics as a tool to enable research and discovery in the life sciences", 2008-2009 Bergveld Lecture, University of Twente, Enschede, The Netherlands, January 16, 2009 (Invited).
 69. "Cellular Biometrology," CCQM Plenary, BIPM, Paris, France, April 2009 (Invited).

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- L.E. "NIST Biochemical Science Division," University of Maryland at Baltimore, Baltimore, MD, July 2010.
70. "Microfluidics as a tool to enable research and discovery in the life sciences", Johns Hopkins University, Baltimore, MD, September 2010 (Invited).
 71. "NIST Biochemical Science Division: Programs, Interactions, and Outlook," Bioreliance, Inc., Rockville, MD, April 28, 2010 (Invited).
 72. "U.S. Strategy for Nanotechnology Standards in the Environmental, Health and Safety Area", Maastricht, The Netherlands, May, 18, 2010.
 73. "Environmental, Health and Safety Standards, International Standards Report," Maastricht, The Netherlands, May 17, 2010.
 74. "NIST Biomarker Reference Laboratory, EDNR Steering Committee Meeting, Rockville, MD, August, 2010.
 75. "How Standards are Developed and Used and the Role of NIST", Biospecimen Quality Assessment & Standards Development Workshop, Rockville, MD, October 21, 2010 (Invited).
 76. "U.S. Strategy for Nanotechnology Standards in the Environmental, Health and Safety Area", Kuala Lumpur, December 6, 2010.
 77. "NIST Biochemical Science Division: Programs, Interactions, and Outlook," NRC Canada, Montreal, Canada, November 30, 2011 (Invited).
 78. "Summarizing the Nanostandards World," FDA, Rockville, MD, February 10, 2011 (Invited).
 79. "Microfluidics as a Tool to Enable Research and Discovery in the Life Sciences," Indiana University of Pennsylvania, Indiana, PA, April 19, 2011 (Invited).
 80. "Joint NIST-University of Maryland Program in Biomolecular Structure, Function, and Metrology," University of Maryland Clark School Board of Visitors, IBBR, Rockville, MD, May 2, 2011 (Invited).
 81. "Summarizing the Nanostandards World," IEEE Nano 2011, August 16, 2011 (Invited).
 82. "U.S. Strategy for Nanotechnology Standards in the Environmental, Health and Safety Area", St. Petersburg, Russia, May 16, 2011.
 83. "NIST, the Material Measurement Laboratory, and the Biosciences", INMETRO, Rio de Janeiro, Brazil, May 29, 2012 (Invited).
 84. "Goal Setting for the Young Scientist", Boulder, CO, June 16, 2012 (Invited).
 85. "Understanding the simple material in the context of the complex integrated system when considering materials safety". World Materials Research Institutes Forum Symposium on Materials Meets Life, May, 2013 (Invited).
 86. "The Materials Genome Initiative: Catalyzing a New Paradigm in Materials Research", 8th Pacific Rim International Congress on Advanced Materials and Processing (PRICM-8) Waikoloa, Hawaii, August 4-9, 2013 (Invited Plenary).
 87. "The Scientific Legacy of Dolphus E. Milligan", The Milligan Symposium, Gaithersburg, MD, March 2014.
 88. "The Materials Genome Initiative: Materials Discovery Through Manufacturing", 143rd TMS Annual Meeting and Exhibition, San Diego, CA, February 18, 2014 (Invited Keynote).
 89. "NIST's Role in Supporting the Biotechnology Industry", Biomanufacturing Technology Summit, Institute for Bioscience and Biotechnology Research, Rockville, MD, June 13, 2014 (Invited).
 90. "Innovating within NIST to Support the Marketplace", NIST, Gaithersburg, MD, March 6, 2014 (Invited).
 91. "Standards in the Life Sciences: A NIST Perspective", Global Biological Standards Institute, Washington DC, June 25, 2014 (Invited).
 92. "Ensuring Confidence in Precision Medicine", APMP 2015, Beijing, China, November 4, 2015

- (Invited).
93. "From Basic Discovery to Intellectual Property and Beyond: from a federal laboratory's perspective", AAAS, Washington DC, February 12, 2016 (Invited).
 94. "Biomufacturing in the NIST Material Measurement Laboratory", Genentech, San Francisco, CA, March 11, 2016 (Invited).
 95. "Measurements and Standards for Precision Medicine", Protein and Peptide Therapeutics and Diagnostics: Research and Quality Assurance International Workshop, Chengdu, China, June 1, 2016 (Invited).
 96. "How to Promote Staff Engagement", Visiting Committee on Advanced Technology, NIST, Gaithersburg, MD, February 3, 2016.
 97. "Chemical Sciences at NIST", National Academies Board on Chemical Sciences and Technology, Washington DC, March 3, 2016 (Invited).
 98. "Activities of the CCQM", Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, April 26, 2016 (Invited).
 99. "James Madison University Chemistry Roundtable: Perspectives on a Career in the Chemical/Biosciences", Harrisonburg, VA, October 28, 2016 (Invited).
 100. "Why Standards for Microbiome Measurements?", NIH/NIST Joint Workshop on Standards for Microbiome Measurements, Gaithersburg, MD, August 8, 2016 (Invited).
 101. "Innovation in the US and Academic Ecosystem: Is the US Ready for What Comes Next?", 1st Meeting of the Swedish Chemical Society, Lund, Sweden, June 17, 2017, (Invited).
 102. +Numerous presentations on UMD research

GRADUATE STUDENTS AND POSTDOCS

MENTORSHIP

32 graduate students/postdoctoral fellows including 17 female and/or other underrepresented minority in STEM

Graduate Students (co-mentored in collaboration with major professor at listed institution)

1. Perso, C.E, University of Michigan*
2. Xu, J., University of Maryland
3. Barker, S.L.R., Virginia Tech*
4. Esch, M.B., Cornell University*
5. Jiang, Y., University of Maryland
6. Gao, J., University of Maryland
7. Hong, J., Duke University, University of Maryland*
8. Evju, J. K., George Washington University
9. Howell, P. B., Jr.
10. Brazhnik, K.P., University of Maryland*
11. Kamande, M.W, Louisiana State University*
12. Crivat, G, Louisiana State University*
13. DePaoli, S., Louisiana State University*
14. Lacerda, S, Louisiana State University*
15. Holbrook, D., Virginia Tech
16. Maragh, S., Johns Hopkins University*

Post Docs

17. Branham, M.L., University of Florida*
18. Johnson, T.J., University of Washington

-
19. Waddell, E.A., Louisiana State University*
 20. Ross, D., California Institute of Technology
 21. Henry, A.C., Louisiana State University*
 22. Vreeland W.N., Northwestern University
 23. Reyes, D.R., University of Puerto Rico*
 24. Forry, S.P., University of North Carolina
 25. Ball, J.C., University of Tennessee
 26. Jones, B., Arizona State University*
 27. Atencia, J., University of Navarra*
 28. Munson, M., University of Washington
 29. Kralj, J.G., MIT
 30. Stavis, S., Cornell University
 31. Zook, J.M., Penn State/University of Memphis
 32. Strychalski, E., Cornell University*

*Female and/or other underrepresented minority in STEM

The CHAIR. Thank you, Dr. Locascio, and I am going to start with you. Senator Wicker and I worked on legislation directing NIST to grow the regional alliance and multi-stakeholder partnership stimulation ramps. We are looking at this shortage that we have in the cyber work force. And however, the program was not in the president's budget request. If confirmed, will you commit to helping us address the over 400,000 person gap in cybersecurity workforce and reviewing programs like ramps?

Ms. LOCASCIO. Thank you for that question, Senator. It is clearly important and NIST does a lot of great work in cybersecurity and has programs to develop the next generation of cybersecurity experts. My son, in fact, one of my sons was also retrained as a cybersecurity expert here today. So, yes, absolutely. I would agree. I would be—it would be a pleasure of mine to work with this committee to try to address that very important gap for this country.

The CHAIR. And obviously, our committee is having lots of hearings about privacy and data security. What role do you think NIST can play in better helping us define standards that would help in getting people to understand what we should be doing to better protect individuals' data?

Ms. LOCASCIO. Thank you for that question, Senator. NIST has recently developed the privacy framework modeled after what they had done with the cybersecurity framework, and that effort, of course, was done as NIST always works in partnership with industry and other agencies in the community to come up with the right approach that can be readily and easily adopted. And if confirmed, I would be happy to continue along that course to make sure that the U.S. has the appropriate means by which to protect our security.

The CHAIR. Thank you. Thank you. Mr. Coes, there is probably not a subject area of infrastructure that doesn't matter to the State of Washington right now. Aviation for sure. And obviously moving forward on the bipartisan infrastructure bill, which includes many investments in air transportation. But I also wanted to draw your attention to a program that we have authorized there as it relates to fixing culverts and things that impact our streams. What can you tell us about getting, once this legislation is passed, getting that culvert removal, replacement, and restoration program implemented quickly?

Mr. COES. Thank you for that question, Senator. And again, thank you for your leadership on the success of getting that program included in the bill. If passed, I can tell you right now that the Department is working tediously to begin the implementation process of that program as well as the success of the other provisions within the bill. If confirmed, I would look forward to working with your staff to make sure that program is a success.

The CHAIR. Thank you. Mr. Vekich, you mentioned your children being longshoremen as well. Obviously, it is not lost on many of us that we have a longshoreman gap, that we need more people to join the ranks. What is it that you can tell us about what we need to do to get more people in the workforce for the maritime sector?

[Technical problems.]

Mr. VEKICH. I have contributed two children, and now a daughter in law is training today to enter the workforce of the union as

well. We have to talk about the need for more people in the maritime industry. We have to push this through to the education system, through vocational schools, mainly word of mouth, but these are great jobs. My generation is almost gone. We were the big demographic on the waterfront labor force. But we need their replacement, we need our children to step up. We need to recruit in all the communities who have needs for employment. And we need to do a better job of recruiting into the education system. Community college in our state are a really valuable and really powerful tools for reemployment and vocational training. Better utilization of those, I think, would be a big help.

In Des Moines to Washington, they have a maritime high school that they are starting up. I mean, I would say it is great, but also I say, it is about time. So we are paying for the sins of lack of preparation in making the supply chain resilient and redundant. And it is part of the infrastructure, and I think that is how we ought to approach training and retraining.

The CHAIR. Thank you. And then to President Biden's request to work 24 hours through the process. I mean, obviously don't we have a current shortage right now that—in the workforce?

Mr. VEKICH. Despite the current shortage—and I don't know where you are going to find a million truck drivers. That is not my lane. But I tell you, my people that I have worked with, they are willing to work 24/7 if given the opportunity. The Port of L.A. Long Beach, cargo is up 30 percent from last year. That is with a pandemic, and that is with port congestion. And, you know, if port congestions on the West Coast, that is the end of one—end of the supply chain. There are problems all the way through the supply chain.

But I believe, the 24/7 thing, longshoremen love to hear that. Marine corps love to hear that. We love the concept. But we have always been aware that if the customers don't want to move the cargo at night, and if they don't want to have trucks driving and warehouses open, it is not going to be realistic. So if those things can be put into place and maybe President Biden's proposal will accomplish that, and that is a positive thing because Chair Cantwell, Ranking Member Wicker, we have got to move cargo. That is what we got to do.

And when I was a longshoreman and first came to the docks, the whole point was keep that cargo hook moving. That is what I was taught, and I think it still applies today. You have to move cargo and keep it moving. When cargo is sitting still, that is a problem.

The CHAIR. Thank you. Senator Wicker.

Senator WICKER. Mr. Vekich, why would customers not want to move cargo at night?

Mr. VEKICH. Well, some of the shipping companies—some of the carriers don't want to pay the money. And it is a cost issue, I think—

Senator WICKER. It is a carrier rather than the manufacturer of the product or the recipient of the product?

Mr. VEKICH. You know, when I worked in Mills, we were happy to get spare parts, we were happy to get new machinery, and I think whenever it came through, we would be happy to get it. But I think manufacturers need that, need the infrastructure, need the

machinery, they need whatever we can get. And we got to—we have an obligation, I believe, and I believe this since I was a State legislator, to do what we can for American jobs.

Senator WICKER. Let me ask you, there is a debate among people in your professions, some Commissioners believe that the Maritime Commission needs more statutory authority. Others note that the FMC has all the authority it needs. In questions for the Committee, you say FMC's tools are limited. Do you believe—so it seems that maybe you come down on the side that the Maritime Commission needs more authority to oversee the ocean shipping industry adequately. Do the Commissioners have all the authority they need? And if not, what authorities should be granted to them?

Mr. VEKICH. I am glad you asked that, Senator. But and as a former legislator, I was so tempted to weigh into that, but I don't think it's appropriate for me to take sides in that fight at this point in time when I am not confirmed. And after I am confirmed, maybe I would have a better feel. And because I haven't learned everything I need to know about what the agency does and what their powers are. I have studied to this point in time. And do I think they need more? You know, I would be much more comfortable if I had a better grasp—

Senator WICKER. I think it would be alright—since you seek to be confirmed, I think it would be alright to share with us your thoughts about this. I am going to be asking for advice on what legislation we might enact.

Mr. VEKICH. Well, I would be happy—I think all the Commissioners have a great set of skills and experience. And I would be happy to, once confirmed, to weigh into that. But I think that is really—as a former legislator, I know I was very jealous of legislative prerogatives, and I frankly think that is congressional prerogative. And I am offering myself to do a job and to work as directed.

Senator WICKER. OK, I understand that you are reluctant to answer that question. What do you think about data sharing technologies and port automation? How much of a solution would that be to the current crisis?

Mr. VEKICH. Well, I have seen automation be portrayed as the great be all, end all and the salvation of everything, but I think the problem with moving cargo is you still got to move it one container at a time. And it is not rocket science, it is physics. You just got to move those car—those containers. So the idea that there is a technological fix, I don't—I am not convinced. We still need the bodies, we need the workers to move the cargo. Now, as far as sharing information, notifying truck drivers of their appointment times, appointment slots and all that, anything we can do to make those truck drivers have a more realistic chance of making it into the terminal and getting out of the terminal in a speedy time, I think is a positive thing. And I think tech has a role there and I have seen it used there.

Senator WICKER. So data sharing, yes. And automation is really not that big of a help on the port. Is that your testimony?

Mr. VEKICH. I think it works. Yes and no. There are some systems I have seen, automation systems that work well, and there are some that don't work very well at all. And so where I know

there is a problem with the system, it would be, I can't say it works in every case.

Senator WICKER. You mentioned the Commissioner Rebecca Dye's thoughts on commercial solutions in your testimony. What—could you be more specific about your impressions of those recommendations from Commissioner Dye?

Mr. VEKICH. Well, I think in Fact Finding 29, where she talks about having the containers—the drivers and the containers come back to the terminal of origin and drop their chassis there, and, or pick up a load there at the same time, so it prevents a double move, I think that is one of her first findings in Fact Finding 29, first recommendations. Makes a lot of sense to me. And the idea that notice when terminals are closed, the drivers, that makes a lot of sense to me. If they are not going to keep them open 24/7, we should at least let everyone know when they are open, because I as—I have dealt with truck drivers one on one and it seems—I hate to turn them away.

Senator WICKER. Retaliation, attorney fees, representational complaints, have any thoughts about her recommendations in that regard?

Mr. VEKICH. I am sorry, Senator, I am not quite following you there.

Senator WICKER. Well, she made recommendations concerning clarifying policy regarding retaliation, attorney fees, and representational complaints. Perhaps you can submit answers to the record on those questions.

Mr. VEKICH. Thank you. I would be happy to.

Senator WICKER. OK. Thank you, sir.

The CHAIR. Senator Tester.

**STATEMENT OF HON. JON TESTER,
U.S. SENATOR FROM MONTANA**

Senator TESTER. Thank you, Madam Chair. Thank you all for putting yourselves up for confirmation. Appreciate you being here. I am going to ask you tough—I mean, a complicated question, Mr. Vekich, but hopefully you can answer it very quickly. You have touched on it with the other questioners, and that is you can't turn the nightly news on at night and not see a bunch of ships out in the middle of the ocean ready to be unloaded. I am a farmer in my real life, and quite frankly, the containers are going back empty, which is a waste of energy and resources. Can you give me three things that we need to do today that would make a difference? Or is this not a situation is going to be solvable in the next year or two or three?

Mr. VEKICH. Well, I think we are making progress, Senator, and I think there are things that can happen.

Senator TESTER. Talk to me, what are the three?

Mr. VEKICH. Well, I think number one, we can be serious about enforcement, FMC powers now have enforcement on demurrage and detaining—and detention. Don't reinforce people's or carriers not moving cargo. Demurrage is rent, basically. And so that is not right. Let's not—I have a visceral reaction about shipping empty containers across the ocean.

Senator TESTER. Me too.

Mr. VEKICH. I mean, and I am a super cargo, so I get to see these ships half full of empty containers. Frankly, Senator it is driving me nuts. And I question it. I take it up the supply chain. I read the command chain. And I am supposed to be in charge. But there is this whole parallel organization of these management guys that are younger and don't know—quite have the same experience. And I am frustrated, so I—at every level I try to talk about, let's find export cargoes, let's use it. I have attended forums with exporters, and I want to continue to do that. And I think their message is good—

Senator TESTER. I have got you. You are acting like a legislator on me. Don't filibuster me, OK, man. Give me the third one because I got two other questions for the other guys too. Go ahead.

Mr. VEKICH. Well, you know, infrastructure would help, but I think it is too long coming. Let's better use—let's better use what we got right now. Better use our chassis, get the quick return on containers. And you know, we have got to use what we got. Let's use our labor force and let's put them to work. When these terminal operators say they don't want to put people to work, well they are the ones who ordered labor. Longshore workers don't just show up at the docks and say, here we are, we are going to work now and load ships. They have to be ordered by management, by companies.

Senator TESTER. OK. So, I hope you can do something about this because I think it is a big problem.

Mr. VEKICH. I hope so, too.

Senator TESTER. Alright. And so that is good. Mr. Coes, you talked about priorities for rural America, and I come from rural America. My nearest neighbors a mile away. Three quarters of a mile away. So when you are developing grants for programs, how do you develop these programs when in many parts of rural America, we are seeing declining population? So how do you develop those programs? What are you going to use for metrics in those programs to determine what programs are going to be important to invest money in through the grants?

Mr. COES. Thank you for that question, Senator. There are, to use the three ways that we approach that. First or foremost, as we saw in the bipartisan infrastructure bill, a number of the discretionary grant programs that the Department would manage how clear set aside for rural communities. Second, one of the things that my colleagues within the Office of Policy are doing right now and will be doing over the next several months as anticipation of the infrastructure bill passage is recognizing that rural communities need the technical assistance to actually apply to these loans.

As you mentioned, many communities that have declining population oftentimes don't have the resources to hire consultants, to put together applications. That is the effort that I am really focusing on right now. How do we build capacity for rural communities? Third, right now, as—in the current Administration, we are aggressively standing up the roots program. As you know, the infrastructure bill that is pending actually authorized that.

We are looking to expand that to be a one stop shop for communities to actually apply to a variety of resources, but also to be thinking about the future. So, those are just some examples of that

we are taking. And if confirmed, we would love to work your staff to make sure that is a success.

Senator TESTER. Thank you. Ms. Locascio. First of all, thank you for—what three decades of service in NIST, is that what you said? You don't look it, OK. So the question is, is in your testimony, you said the power of science to change the world. And we come from similar generations, and I agree with that. Unfortunately, now I hear a different set of statements being made about science and that there is real science denial out there among a large part of the population. If you are confirmed this position, what can you do to elevate science to where it was in the 60s and 70s?

Ms. LOCASCIO. Well, thank you for that question, Senator. It is a really important question. And you know, the National Institute of Standards and Technologies, it is all about trust, building trust with the community, building trust with the industry, building trust with other agencies, building trust with everybody in partnership. And I really believe that an agency like NIST, with the way that they approach their work with incredible integrity and building trust in everything that they do can be a very strong voice at this time when there is doubt that science is ruling.

Senator TESTER. I am over time, but tell me how you get that message out from NIST?

Ms. LOCASCIO. There are several ways to get that message out from NIST, and one way is that NIST, through its programs, are really in every community in the country. We are in every State, through the MEP program and in the Manufacturing USA program, but also the work that they do is in such close partnership and so important across all regions of the United States.

So the standards that we develop to support manufacturing and the work that we do to develop cyber security framework and privacy framework. You know, these are ways and now the work that we are doing in trustworthy AI, they are really ways to rebuild trust and community around scientific integrity.

Senator TESTER. Thank you. Thank all three of you. Thank you, Madam Chair. I apologize for going over.

The CHAIR. Thank you. Senator Fischer.

STATEMENT OF HON. DEB FISCHER, U.S. SENATOR FROM NEBRASKA

Senator FISCHER. Thank you, Madam Chairman. Mr. Coes, as you may know, the Infrastructure Investment and Jobs Act included a provision in the bill that would provide livestock haulers with an additional 150 air miles on the destination of the hull. This was supported by myself and Senator Tester. In fact, it was in the Committee markup that we passed here in Commerce committee and then made it into the bill.

Senator Buttigieg—I am sorry, Secretary Buttigieg or Mayor Pete, Secretary Buttigieg put it well when he said during his nomination hearing that, “sometimes our policies cannot tell the difference between live animals and other cargo.” Do you agree and will you work with me to provide livestock haulers with regulatory flexibility?

Mr. COES. Thank you for the question, Senator, and in the words of my Secretary, yes, I will. If confirmed, we will continue to work with your staff to move that forward.

Senator FISCHER. Thank you. Also, our country is experiencing extreme freight backlog. We just heard that expressed by Senator Tester and I have heard from many Nebraskans about the continued toll that this is taking on their businesses. I know the Administration has released a fact sheet that notes ports and certain carriers are moving to 24/7 operations. If confirmed, what other efforts will you take to help address that freight backlog. For example, has the Administration considered any additional hours of service flexibilities, such as those implemented by FMCSA?

Mr. COES. Thank you, Senator, for that question. And again, I want to reiterate it is the Department's number one priority to address this issue in concert with our Federal sister agencies. In addition, we are looking at other measures. As you mentioned, my colleagues at Motor Carrier Safety Administration are looking into hours of service.

We are also working with a number of State DOTs to figure out how to increase the number of commercial driver's license, as well as other activities. Again, if confirmed, I would love to continue to work with your staff to move this issue forward.

Senator FISCHER. I would really like to work with you on that as well. You know, we look at the shortage in truck drivers. This isn't new. It has been going on for years and it is getting worse every year. And we are seeing the—really the explosion of a policy that has, I think, contributed to the cause of a shortage. I introduced a few years ago a bill that would have had a pilot program in place for younger drivers to be able to get into the field.

We continue to look at ways that we can let the public know that these younger drivers are on the road right now. You know, they could drive from San Diego up to San Francisco, but they can't cross state lines. They can drive from the panhandle of Nebraska to Omaha, but they can't cross the bridge into Iowa. So, I think it is an education as well. Do you have any thoughts on how we could help with that?

Mr. COES. Well, first I would say thank you for your leadership. I know that legislation very well. There was a portion of that was included in the bipartisan infrastructure bill. I will commit, if confirmed, working with my colleagues at the Motor Carriers about that advisory committee. But also, I can tell you right now the Department is deeply developing strategies on how we can increase and diversify our workforce not only within the trucking industry, but particularly across the transportation industry.

This is an entire system failure that we need to increase, particularly as we see these technologies start coming down like AVs. We have to train, and we have to get people into the job market as soon as possible.

Senator FISCHER. Thank you very much. Dr. Locascio, I am interested in talking more with you on technology and competition. Last year, I led a bill to advance U.S. policy on the Internet of Things and emerging technologies, and that became law. The DIGIT Act seeks to ensure that the United States remains competitive on the development and the deployment of IoT. The law directs the Sec-

retary of Commerce to convene a public-private working group in order to promote this endeavor. And as I understand, the Commerce Department has given NIST to a key role in standing up DIGIT's working group. If confirmed as the Undersecretary, would you prioritize NIST's role in implementing the DIGIT Act's working group structures?

Ms. LOCASCIO. Thank you for that question, Senator. Obviously, IoT is such an important technology right now, all the Internet of things and linking everything that we do together. There are so many important parts of that, including the security and safety and the reliability of those devices. And so absolutely, I would be happy and look forward to partnering with you on that.

Senator FISCHER. How would you—you mentioned the security and being able to have the connectivity be a secure structure. How would you approach that with stakeholders, with private businesses? What would be—briefly, what would be the Government's role in trying to work with those busy businesses so that there is buy in from all stakeholders?

Ms. LOCASCIO. Well, thank you for that question, Senator. I am not currently in NIST, of course, but if I am confirmed, I understand that they do have work already ongoing in cybersecurity of Internet of Things. And they will—if I am confirmed, I would continue to prioritize that because it this, the connectedness really is also—could be a vulnerability. And so we need to make sure we have security built in.

Senator FISCHER. Thank you very much. Thank you, Madam Chair.

The CHAIR. Thank you, Senator Fischer. We do have a vote underway, so I am not sure if the members are joining us, so I am just going to call out a few names here. If Senator Rosen is available or Senator Hickenlooper. If not, Senator Blackburn. While we are waiting to see if we have any other members who are either coming or joining us remotely, I wanted to go back to the NIST question on cybersecurity.

In the Executive Order, Improving the Nation's Cybersecurity that the President offered, it included directions for NIST to help form a consumer and software device security program. If confirmed, will you work with vendors, consumers, and international partners on these standards and best practices? And how do you think the best way to achieve that is?

Ms. LOCASCIO. Thank you for that question, Senator. And there are a lot of tasks outlined in that particular Executive Order that are important for NIST. And as I understand it, NIST is really already producing and delivering on the goals of that particular Executive Order. If I am confirmed, it is critical that we do—we are able to move forward in all of these areas related to the security of our cyber infrastructure and our cyber supply chain and all—and the hardware also involved in our supply chain. So yes, if I am confirmed, I would look forward to working on this important problem.

The CHAIR. Well, we have—this, along with the workforce issue—we feel we have to upgrade the digital hygiene in America and certainly we feel like NIST plays a critical role in that. And we just need to figure out how we can continue to create a standard environment. And certainly we on this side are going to be

looking at ways to implement stronger laws, but we certainly need NIST to play a stronger role as we continue to evolve in an information age.

So thank you for that. Mr. Coes, I wanted to go back to aviation for a second. One of the things that we haven't—well, we have made some progress on Next Gen, but we need to make more. How do you suggest we move forward to modernize the air transportation system from a technology perspective?

Mr. COES. Thank you, Senator, for that question. One of the things I would say is that over the last two Administrations, we have made significant progress on Next Gen. Much of the system itself is in place. What we see in terms of next is recognizing that we do need to provide greater resources for private sector to equip Next Gen on their equipment. Also updating our flight controllers. And I know my colleagues at FAA are thinking through that. So if confirmed, I would definitely commit to working with my colleagues at FAA to make sure we are working with Congress in a bipartisan manner to make sure we have the resources both for the private sector and in the Government to make sure Next Gen is a success.

The CHAIR. OK. And what do you think, where we are, where we have been—I feel like we have been talking about this for so long as a country. Where do you put this as it relates to the larger discussions we are having on climate change and on efficiency and on competitiveness and security?

Mr. COES. Oh great question, Senator. And as I stated in my opening remarks, one of the top priorities is fostering innovation for the future. And as I have pointed out before, now is the time for making sure we are working closely with the private sector, that we can adopt these technologies to improve efficiencies to help reduce emissions, but more importantly, making sure America is a global competitor in not only aviation but in our entire transportation system.

The CHAIR. Thank you. Well, I think I will—I think what we are going to have to do, unless we have other members who are willing to ask questions or indications. Senator Fisher, do you have a follow on? Yes, go ahead. Thank you.

Senator FISCHER. Thank you, Madam Chair, for the opportunity to continue the discussion. Dr. Locascio, in a Commerce Department speaker series a few years ago, you said that you felt your biggest strength was your vision. And when it comes to building on our Nation's technological and scientific capabilities, can you outline key parts of what your unique vision would be as NIST director?

Ms. LOCASCIO. Thank you for that question, Senator. You know, it is such a critical time to have a thriving and robust agency like NIST. In this—in this time of global competitiveness, where we have a very strong and aggressive competitor, we need to really be playing the game with everything at the table. And NIST as an incredible agency that needs to move forward with strength.

And my vision for NIST is that it would have strong intramural laboratory programs and very strong and thriving extramural programs like MEP and Manufacturing USA, because NIST really works across this continuum from basic research in areas like

quantum computing to applied research like materials science that help our manufacturers every day, to the development of standards and AI and communications technologies, and all the way through to manufacturing. And that is a beautiful continuum that is necessary to support the health of our Nation at this time when we are in such an important competition with China.

Senator FISCHER. Thank you.

Ms. LOCASCIO. Thank you.

Senator FISCHER. And Mr. Vekich, much of your career has been spent in the ocean carrier industry. And if confirmed, your role will be to balance the needs of both ocean carriers as well as shippers. How would your previous experience in the private sector impact your approach to the work you would do on the FMC?

Mr. VEKICH. Thank you, Senator, for that question. You know, you develop relationships over the years, and you develop feelings about impressions of various cultures, various companies have their own. And I have definite thoughts about the willingness of some of these companies to pay for what they need and provide the right equipment and do the right thing in the work force, and in fact, in their own self-interest.

And I have seen a lot of the companies pursue their self-interest and what I thought was appropriately. And I have seen others be totally, you know, oblivious. So, I have that understanding that it may not be for the best in the supply chain interest of what individual companies do. Sometimes it is penny wise and a pound foolish, and I am always frustrated by the lack of investment into every aspect. But you know, everyone likes new and shiny and things that work, but in the waterfront is spend a lot of second-hand stuff, a lot of substandard things and false economies. And so in the effort of the FMC, I think those are questions I would be asking about.

And in especially when it comes to making sure we are regulating fees and surcharges and like the audits that are going on now, I think we need to ask questions, have a better knowledge of the supply chain, a better knowledge of the ocean carriers and their business practices, and I think that will help us make sure that one size of regulations are appropriate for all like they are supposed to be, but that they are effective, and that the American exporter and importer benefit from those regulations and helps the efficiency of the supply chain, which is an FMC task, as I understand it.

Senator FISCHER. Thank you. Also, we discussed earlier about the containers going back empty. And I would ask, will you commit to ensuring that our agricultural exporters have fair access to those shipping routes and to make sure that we don't continue to see containers with exports of American goods and products going back empty instead of being filled with those products?

Mr. VEKICH. Thank you for that question, Senator. In my previous life, I chaired the Agriculture committee in the House of Representatives in the State of Washington. Although at the time it was offered to me, I don't think they were doing me a favor, but I learned so much. And I sure—that experience gave me such an appreciation of American agriculture, and so much for that I actually worked for the dairy industry after I was out of office. And so

those are great people, great American jobs, and they do a heck of a lot. It seems the least we can do is make sure they have a can to put their products in.

Senator FISCHER. Thank you.

Mr. VEKICH. Thank you.

Senator FISCHER. Thank you, Madam Chair.

The CHAIR. Thank you. Senator Hickenlooper.

**STATEMENT OF HON. JOHN HICKENLOOPER,
U.S. SENATOR FROM COLORADO**

Senator HICKENLOOPER. Yes, thank you, Madam Secretary. And I am in a phantom tollbooth. I apologize for not being that person. Dr. Locascio, I wanted to follow up on our conversation regarding this work around cybersecurity, artificial intelligence, wireless spectrum. As you know, Colorado is the proud home to the NIST campus up in Boulder, which is really doing some of the most remarkable work. And this is obviously, as we discussed, developing voluntary artificial intelligence risk management framework that will ensure that AI systems are trustworthy, reliable, and safe. I think the first public workshop I think is this week. Anyway, should be—the framework should be completed by 2023. Can you discuss just a little bit of some of the potential challenges NIST may confront in developing the AI risk management framework?

Ms. LOCASCIO. Well, thank you for that question, Senator, and thank you for meeting me earlier in the week. So moving forward, NIST has been asked and tasked to develop a framework for trust in AI. And it is really a critical time that we do this as a country because AI is ubiquitous. It is really in everything that we do these days. It is in our—everywhere, from biotech to banking, to of course, our autonomous vehicles.

And really, the industry can't progress forward anymore unless we develop trust in AI that the consumers can know that when they are using something that has AI built into it, that they can trust that, and they can believe that that is functioning properly. And so of course, there are several components to trust in AI. There is—it needs to be unbiased and secure and explainable. And so working very closely with industrial partners.

As you said, there is a workshop going on today at NIST, as I understand it. And this will really bring together the community, all the experts. NIST has deep expertise in AI and AI research, but bringing together all the other experts in the United States to really come and think about how do we build a framework that we can ensure trust in this very important technology for the future?

Senator HICKENLOOPER. Absolutely. I think, you know, the one of the things you made clear when we talked, but also in your introductory statement today really emphasized the importance of standards in all facets of science, especially in these applications that are so crucial today, and that if anything, this should be bipartisan.

I hope I have talked to Republican members of this committee and pushed them to make sure we get you approved with unanimous consent just because I think you are exactly the kind of person who has—you have spent your whole life in this type of standards based evaluations and deliberations, and they are going to be

so key to allowing the United States to fight back against the large investments being made by the Chinese Government.

Let me ask you another question. We did discuss, and you have already discussed in some detail cybersecurity, and AI, and privacy. As we have discussed these frameworks, all the work that NIST does are deliberative, and they guide U.S. companies with best practices. If you are confirmed, how will you promote NIST frameworks to international partners? Again, I don't want to keep harping on this, but the competition against the Chinese Government is foremost in many people's thoughts. So how would you promote NIST framework to international partners?

Ms. LOCASCIO. Well, thank you for that question, Senator. And if I could just spend a second talking about the importance of standards, which you brought up and I didn't really speak about it. The importance of the United States having strong representation on international standards committees is crucial. And we know that China has a very aggressive strategy. As you have mentioned several times, they have sort of laid down the gauntlet saying that they want to lead in international standards with their standards 2035 strategy.

And the reason why is because they want to own these important industries like AI, communication technologies, quantum. They want to own that, and so therefore they want to be leaders on these international standards bodies. I think important—it is critical moving forward that we also have a strategy to protect these emerging industries, which are also obviously very critical for the United States, including AI and quantum and other emerging sectors of this economy.

So, I would like to just address that, that having a strong strategy at NIST and how we are going to work with our industry and develop the best possible technical standards that can promote our own industries is critical moving forward. How would we promote standards on the international scene? Well, we usually do that by working in partnership through these international standards bodies.

And when NIST can provide—NIST and the U.S. can provide very strong sound, scientific and technical arguments, and that standard wins the day, then it is adopted on the international scale. Thank you for that question.

Senator HICKENLOOPER. Thank you very much. I will yield back the time, I do want to mention one more question about our National Cyber Security Center in Colorado Springs, but I will file that for the record, and you can answer that separately. Again, thank you so much. I yield back to Madam Chair.

The CHAIR. Thank you, Senator Hickenlooper. Senator Thune, are you ready for—

**STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

Senator THUNE. Yes. Thank you, Madam Chair, and thank you to all of you for being here. I do want to because I understand the question has already been asked by Senator Fischer of Nebraska, associate myself with her remarks regarding flexibility for the trucking industry in this country to deal with the port challenge.

You know, we are facing this unprecedented supply chain crisis and we have got a lot of Americans who are encountering already empty store shelves, long wait times, rising costs and we have got the holiday season approaching.

In my state, agricultural producers are also feeling the crunch, with capacity for their goods being hampered by a combination of surging demand for containerized shipping and a massive backlog at our Nation's ports, particularly L.A. Long Beach. This inefficiency has downstream effects on commodity prices, hurting farmers and ranchers across the country, including in South Dakota. In addition to investments in capacity, our Nation's ports are desperately in need of two things.

One is modernization, and the other one is transparency. The fact that a move to 24/7 operations at L.A. Long Beach, which is a standard practice in much of the rest of the world, merits a Presidential announcement is baffling, especially with dozens of ships anchored off the coast waiting to be unloaded. Failure to invest in terminal automation and port efficiency initiatives such as data sharing compounds the problems we are facing today and puts United States below the global average in vessel wait times.

A resolution of this crisis is imperative, and I look forward to—I know you have already spoken to some—on some level to this issue, but I would like to earlier get comments from all of you on that issue. Mr. Vekich, as this committee begins crafting an FMC reauthorization, there has been substantial discussion regarding the assessment of detention and demurrage fees on shippers by ocean carriers and marine terminal operators who often allege such charges are made in error. Concern with these charges has only been exacerbated by the supply chain crisis.

The FMC's fact finding investigation number 29 recommended that more information be required to accompany detention and demurrage charges similar to the Surface Transportation Board. If confirmed, will you commit to working with your fellow Commissioners to address this recommendation and improve the transparency of detention and demurrage charges?

Mr. VEKICH. Thank you for that question, Senator. And frankly, helping and reinforcing the efforts to better oversee the supply chain and sharing my face, efforts on audits, especially on demurrage and detentions, are one of the reasons I think I want to do this and help regulation, and provide reinforcement and encouragement to continue to keep fairness and keep this supply chain—do what we can to alleviate supply chain congestion. Supply chain—the port congestion, frankly, was one of the reasons I thought I should apply for the job. And I have hands on experience, and I want to do what I can to help move cargo.

Senator THUNE. Mr. Coes, if confirmed, how would you work to address these supply chain challenges, particularly at our Nation's ports?

Mr. COES. Thank you again, Senator, for that question. There are two approaches. There is a short term and long term. Through my office, we will be working with our other modal leadership, one to continue to address the hours of service to provide additional flexibilities. Right now, the Department is working with a number of State DOTs to figure out how we increase commercial driver's li-

cense permits because we need more drivers. Third, we are already, as you may be aware, made significant investments, particularly through the infra program, to support port infrastructure. But this is not enough.

This is going to be a whole of Government and a whole of country approach. One of the things I also recognize in my work prior to joining the Administration in the private sector is that it is one thing to try to get the cargos, but you also need the workers to get there. And this is one of the reasons why we are emphatically endorsing the passage of the infrastructure package because it is going to bring significant resources to make sure workers can get there, whether it is through public transportation or other mobile means. And so with those, does are the approaches I would like to take if confirmed, but again, we would love to continue to work with your staff. You have been a leader on this issue moving forward.

Senator THUNE. Thank you. And I will just say I think we need a Marshall plan on the ports right now. I mean, it should be a whole of Government. Everybody should be looking in and not just looking, but coming up solutions to help address it. We got a half a minute left. Let me just, Dr. Locascio, I introduced the Quantum Network Infrastructure and Workforce Development Act with Senator Hassan, which was included in the United States Innovation Competitiveness Act.

Among other things, the bill seeks to build on the expertise of NSF, NIST, and the DOE to improve existing research and quantum networking and encryption, and better prepare students and workers for this emerging sector. If confirmed, how would you work to promote U.S. competitiveness and development—in the development standardization of innovative technologies?

Ms. LOCASCIO. Thank you for that question, Senator. And NIST has been in the quantum game for a long time and all of their basic research has really contributed, in partnership with several universities, including the one where I am now at University of Maryland and University of Colorado has really put the United States at the forefront of the quantum revolution that we are experiencing now. And so it is critical that, you know, as we look forward to what quantum can do, quantum computing and quantum information systems and quantum communications in general are really these leapfrog technologies that push us into new boundaries of measurement and computing that we haven't experienced before.

And this can allow us to do great things with complex problems like climate science and biotechnology. I would work with you to make sure we have robust internal laboratory programs partnering with universities all over the country, but also making sure that the manufacturing of these great innovation technologies—innovative technologies is done here and we don't lose that to another country like we lost a lot of our manufacturing in the United States.

Senator THUNE. Thank you. Thank you, Madam Chair.

The CHAIR. Thank you, Senator Thune. I am going to call on Senator Rosen, followed by—unless Senator Blackburn shows up, Senator Sullivan. So, I am going to run and vote because I haven't done that yet. And but turn it over to Senator Rosen and will call

on Senator Sullivan unless Senator Blackburn shows up. Thank you, Senator Rosen.

**STATEMENT OF HON. JACKY ROSEN,
U.S. SENATOR FROM NEVADA**

Senator ROSEN. Thank you, Chairman Cantwell and Ranking Member Wicker. I really appreciate the nominations hearing and thank you to all the nominees for your service, for your commitment. I want to talk a little bit about highways in Nevada and think of the lack of highways or the congestion of our highways, because members of this committee frequently hear me talk about the importance of expanding Interstate 11, which is the number one highway infrastructure project for the Nevada and Arizona delegations.

Nevada has a booming population and in fact, one of the fastest growing states in America, and we need new highway infrastructure to meet the increased demand. Such investments must include Interstate 11 that connects Nevada and Arizona, running from the U.S.-Mexico border, through Phoenix, through Las Vegas, all the way up to Reno and Northern Nevada. Senate passed bipartisan infrastructure—we passed a bipartisan Infrastructure Investment and Jobs Act, which I was proud to help write as a member of the G22.

And so that is maybe a step toward that reality. We are looking forward to continue the Administration's support for this project. But in addition, Interstate 15 in Southern Nevada is the only highway connecting Southern California to the Las Vegas Valley. It is the main route for transportation and goods and tourism. The same goes for I-80 in Northern Nevada, the main route from California, Northern California for transportation for goods and tourists. This lack of access is severely impacting our economy in every single way.

So, Mr. Coes, will you commit to work with me to address the congestion issues along Interstate 15 and Interstate 80 for the benefit of Nevada's economy and tourism industry?

Mr. COES. Thank you for the question, Senator. And first, I want to say thank you for your leadership on this issue. Yes, if confirmed, I commit to working with you and your staff to make sure this is a success.

Senator ROSEN. Thank you. I am going to again talk to Mr. Coes. I have asked many of the DOT nominees to come before this committee, including Secretary Buttigieg, for their commitment to move forward on I-11, and I would love to get yours as well. Will you commit to working with me or our Nevada delegation, me, Senator Cortez Masto, and of course, Senator Sinema and Kelly in Arizona to fund, develop, and construct expansion of I-11, connecting our state's economy, bringing more visitors, and more goods? It is going to create jobs. It is good for all of us.

Mr. COES. Senator, thank you again for that question. And yes, if confirmed, I will commit to working with you and the entire delegation on making that happen.

Senator ROSEN. Thank you. I appreciate that. Of course, we are going to build all this. There is a lot of emerging transportation technology. And so Nevada is proud to be on the cutting edge of

innovative transportation technologies. In fact, that includes hosting the only statewide FAA authorized drone test site to participate in several autonomous vehicle and smart transportation pilot projects.

And we are home to the Hyperloop One testbed. So again, Mr. Coes, can you talk about how you plan to use your position as Assistant Secretary for Transportation Policy, if confirmed, to encourage creativity and innovation in our transportation sector for all this technology that we are talking about?

Mr. COES. Thank you, Senator, for that question. I will say in the current role of a Principal Deputy Assistant Secretary, I work with a number of colleagues along with the Office of Research and Technology to support the NETT Council. We are currently having discussions about how we can strengthen the NETT council.

Also, as you are aware, there is a reauthorization of the NETT Council as part of the bipartisan infrastructure bill. Again, we will love to continue to work with your staff and the rest of the Committee to make sure that we are fostering innovation that reduces efficiencies, allow us to win the competitive advantage on these emerging technologies.

Senator ROSEN. And of course, we are going to hopefully build the freeways of the future. We are going to have our drones, autonomous cars. Who knows what is on the horizon? But we need to have people to do the work. And so how would you use your role to attract traditionally underrepresented groups such as women and people of color to the transportation technology sector? How can DOT partner with agencies to promote and create training opportunities to build the pipeline for people to fill these jobs and build the future?

Mr. COES. Again, Senator, thank you for that specific question. In my current role, I work with all of modal leadership on a range of multimodal initiatives, and workforce development training is one of the top ones we are focusing on.

In addition, as I mentioned with Senator Fischer, there are a number of tools that are embedded in the bipartisan infrastructure bill that you supported, that will allow us to partner with academic institutions, as well as other organizations to build a pipeline, particularly with labor unions when it comes to create apprenticeships and the like.

And again, if confirmed, I will continue to work with your staff, as well with the rest of the Committee, to figure out how we can build the infrastructure pipeline and workforce first pipeline to support the infrastructure of the future.

Senator ROSEN. Wonderful. I say my time is up. I look forward to working with all the nominees in your different capacities. Thank you.

**STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA**

Senator SULLIVAN. Well, I appreciate the witnesses here. I am going to call on myself for the next round of questioning without the Chairman here. Let me follow up on Senator Thune's discussions, and I know it is an issue that we all care about on ports. And in particular, I need a commitment from all of you. If con-

firmed, again, go on up to the great State of Alaska to see our infrastructure, but particularly the port of Alaska. Can I get that from everybody?

Mr. COES. Yes.

Senator SULLIVAN. And I am not even requiring it like in February when it is 30 below.

[Laughter.]

Senator SULLIVAN. You can come in the summer. Go fishing too if you like to fish.

Mr. VEKICH. Would be happy to Senator, especially on a Seattle cruise ship to Southeast Alaska.

Senator SULLIVAN. There we go. Good. Commitment to come to Alaska.

Ms. LOCASCIO. Absolutely. Thank you, Senator.

Senator SULLIVAN. Alright, so we have what is called the Port of Anchorage, Port of Alaska. It is one of the DOD 18 strategic ports. This port and the Port of Tacoma, the Chair has a strong interest in both the Port of Tacoma, as you can imagine, but also the Port of Alaska, she has talked about that a lot, both of us—this is a bipartisan issue, but it needs some significant investment, both on the DOT side, DOD side. It is also 90 percent of all supplies and food that come to Alaska come through this port.

So, can I get a commitment from each of you, particularly you, Mr. Vekich, and Mr. Coes, to work with me and the Chair because I know she cares about this, on both the Tacoma port and the Anchorage port, because in the DOD study that was done on the 18 strategic ports, Tacoma and Anchorage were the ones that actually came in kind of with the worst grade.

And if we ever need them—well, we do need them for our military, but also for commerce. It is really critical that these—our ports get Federal attention. I have talked to the Secretary of Transportation about this and MARAD and the Maritime Commission is certainly aware as well. Can I get your commitment to work with me and this committee on these important ports?

Mr. VEKICH. Senator Sullivan, absolutely happy to work with you, and I have firsthand experience working in Tacoma and on those facilities that send cargo to Alaska. They are vital. I haven't had the pleasure to be in Anchorage yet, but it is on my to do list and I look forward to visiting that and seeing the facilities there. But yes, it is important we connect those dots and strengthen them. That is a vital—it is a vital channel of goods movement. But firsthand knowledge, I am happy to invest my time and effort into working with you on that.

Senator SULLIVAN. Good. And we will get you literally to the port to see it. And it is connected to the Port of Tacoma. As you can imagine, a lot of the economic activity is very interconnected between our two states, as the Chair certainly knows. Mr. Coes?

Mr. COES. Senator, again, first, thank you for that question. Second, thank you for the conversation we had where you brought this up, and again, as I reiterated then, I will reiterate now, the Secretary believes it is important for us to improve our port infrastructure, which is why we were advocating for additional dollars in the bipartisan infrastructure bill. You have our commitment to work

with you and the rest of the community to make sure that we follow through on that.

Senator SULLIVAN. Good. Madam Chair, I am talking about the Port of Tacoma and the Port of Anchorage as priorities for this committee. So, I don't want to speak for you, but I think it is safe to say you are fairly—

The CHAIR. Very important—yes—

Senator SULLIVAN. invested as well. Mr. Coes, let me turn next to aviation safety. We have talked about that. You may have seen the big FAA plan that just came out. I applauded the Administrator and his team for working on that. But can I get your commitment? This is the aviation safety plan for Alaska. Unfortunately, we have way too many airplane crashes, given how many people fly, given how big our state is, and given how rough the terrain is and how difficult the weather can be.

But can I get your commitment to work with me and the FAA in this committee, because I think people care about you even if they are not from Alaska? We shouldn't have crash rates and mortality rates, you know, twice the national average. A lot of that is because a lack of infrastructure. We have airports. Over 200 communities in my state that are not connected by roads, so we need airports, and we don't have the infrastructure that every single other airport in the lower 48 gets. We just don't get it. People say, well, it is expensive. I am like, well, damn it, they are Americans too.

And if they got it in another State, they should have it in my State, especially if you don't have a road to the community and people are dying. So, I need your strong commitment to help us with regard to the implementation of that really good first step. The FAA put a lot of effort into it. I know DOT was involved as well. National Transportation Safety Board, too. Can I get your commitment to work with me in this committee and the FAA on that important issue?

Mr. COES. Senator, it is important for me to say that the number one priority for the Department is safety. And in my current—my role, if confirmed, as Assistant Secretary of Transportation, is a major refresh with that policy. If confirmed, I will definitely work with my colleagues at FAA and Administrator Dickerson to make sure we are following through on that promise. And I definitely love to work with your staff to figure out how we can make sure that aviation, regardless of where it is in the country, is safe.

Senator SULLIVAN. Regardless of where you live. It shouldn't matter where you live, right?

Mr. COES. Correct.

Senator SULLIVAN. You are an American, you should get the ability to have the infrastructure for safety that every other American gets in the lower 48, correct?

Mr. COES. That is how we stay a competitor—a global competitor in the country.

Senator SULLIVAN. That is how we save lives. That is even more important than that.

Mr. COES. Exactly.

Senator SULLIVAN. OK, great. Thank you. Thank you, Madam Chair. I will have more questions for the record.

The CHAIR. Thank you, Senator Sullivan.
Senator Warnock.

**STATEMENT OF HON. RAPHAEL WARNOCK,
U.S. SENATOR FROM GEORGIA**

Senator WARNOCK. Thank you so much, Chair Cantwell. Before I jump into my questions, as a point of pride for my state, I want to note that it is great to see the number of Georgians nominated to lead the Department of Transportation during this transformational and critical time in our country. We just voted to advance the nomination of Mr. Bose, who grew up in the Atlanta region, to lead the Federal Railroad Administration. And now it is great again to see you, Mr. Coes of Thomasville, Georgia, I have spent some time at Thomasville, great folks there, to be Assistant—nominated now to be Assistant Secretary for Transportation Policy. It was great to see you not long ago with Secretary Buttigieg at the Transit Equity Roundtable.

Georgia is home to one of the most advanced and diverse economies in the nation, and it has been a real pleasure to move around the state, see what is happening all across our state. Plants like Kia Motors in West Point, Georgia, where they are producing everyday vehicles and I think the most popular SUV in the country. Semiconductors are critical input in many of the goods that are being manufactured in places like Kia and other places all across our state. So when this factory had shut down twice, losing a total of 2 weeks of production due to global semiconductor shortage, it didn't just harm the workers in West Point, Georgia, it harmed their families, local suppliers, and the entire community.

Another major company in Georgia technology sector is NCR, which produces ATMs, cash registers, and other point of sale systems critical technology for small businesses and consumers. They are also experiencing significant delays due to the shortage in semiconductors. I know that NIST has been tasked with working with industry partners to identify supply chain challenges.

Dr. Locascio, will you commit to working with my office to investigate the needs of Georgia businesses in the semiconductor supply chain?

Ms. LOCASCIO. Thank you for that question, Senator. And yes, I can't imagine a more pressing problem right now in the country than what we are experiencing with our shortages in our supply chains in numerous areas. We have all felt that through the pandemic, and the semiconductor electronics industry has been most obvious, impacting automobiles and computers and home appliances and National Security. And so absolutely, this is something I would be—look forward to working with you on.

Senator WARNOCK. Everything from automobiles to home appliances to National Security. So can you say more about how you will prioritize semiconductor research at NIST to promote chips manufacturing and supply chain resiliency right here in the United States?

Ms. LOCASCIO. Thank you for that question, Senator. Clearly, the supply chain disruptions and dislocations that we are seeing in this country right now with semiconductors are because we don't manufacture enough here. And I think we only manufacture about 12

percent of the global supply, and we consume about 30 percent. So we really do have to first and foremost think about boosting manufacturing in the United States around semiconductor electronics.

And that is sort of the long term issue of solving that manufacturing deficit. The internal laboratory programs at NIST, they have had long standing programs related to semiconductor electronics, working very closely in partnership with the industry as it had grown through the United States and really continued to do research at National Institute of Standards and Technologies to support the industry as it exists now today, pushing forward new measurement science, new capabilities, new technologies, always—and new standards, but always, always in partnership and close partnership and trusted partnership with industry. And I would prioritize that, if I am confirmed.

Senator WARNOCK. Thank you so much. I think it is absolutely critical that this committee continues to monitor the situation and that we ensure that we have adequate supply of chips and other supplies that are so critical to the Georgia economy, the American economy, and as you point out, National Security. Thank you so much, Madam Chair.

The CHAIR. Thank you, Senator Warnock. Is Senator Blackburn available? If not, Senator Peters.

**STATEMENT OF HON. GARY PETERS,
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Thank you, Madam Chair, for recognition, and to each of our nominees say, congratulations. Mr. Vekich, I have heard from numerous small businesses, especially those businesses involved in the auto industry, that the substantial congestion that we are currently seeing in our Nation's ports is contributing, as I know you are well aware as we spoke of earlier, to delays and problems for them in their supply chain, which of course ripples, as we have heard from previous Senators as well, throughout the broader economy.

I chair the Commerce Committee, Surface Transportation, Maritime Freight, and Port Subcommittee, and I am certainly eager to look into ways that we can strengthen these supply chains and address the issues that we are seeing at our ports and build greater resiliency. And I certainly believe that part of the solution to this ongoing congestion and supply chain disruption is to make better use of the ports in the Great Lakes, which can play a significant role in easing the congestion and improve more efficient movement of freight.

However, in order to achieve these goals, we need to ensure that all seaports have equitable access to Federal resources and all ports are held to the same standards. And that is why I am committed to working with our smaller seaports as they work to balance security concerns and evolving threats with our port business operations and the need to move freight. I strongly support efforts to increase funding for MARAD's Ports Infrastructure Development Program.

These grants can be used to support needed infrastructure improvements, as you know. And I, along with Chair Cantwell, led a letter to Senate and House leadership last month, urging them to

include \$2.5 billion in reconciliation for this critically important program. My question for you is, what are your thoughts on equitable resource distribution for ports. And perhaps more broadly, do you agree that we must prioritize investment in our ports infrastructure if we truly want to alleviate some of the congestion issues that we are seeing?

Mr. VEKICH. Thank you, Senator, for that question. It probably is more a question of national survival if we are going to be a leading economical power in the world that we—our ports are absolutely vital to that end. And to circle back to your underutilized rural ports, I am from one of those underutilized rural ports. And I think finally, one of the solutions to the massive influx of shipping from the Pacific Rim is more use of some of those lesser ports.

The smaller ports, they are getting busier, they are being sought out by companies and cargo is being put there. But they don't all have the capability of handling containers. They don't have the capacity of handling large ships. And I am sometimes frustrated that we have gotten too big for our britches when it comes from the international trade that idea of building great big ships is great, but when you have—when the capacity is not in real deep berths in smaller rural areas, in smaller rural parts, then perhaps that is not the right way to go for a future that is going to benefit all.

But I would absolutely commit to working with you on the development of all of our ports and rural ports, especially. They are an untapped, underutilized resource. And too often they are not being mentioned as one of the answers to the supply congestion problem. And I am—I was happy to discuss this with you earlier and I would be happy to work with you further on this down the road.

Senator PETERS. I appreciate that, and we are talking about smaller ports, but sometimes a fairly decent sized ports in the Great Lakes, as well as always throughout our history, has been a significant artery for transport up the St. Lawrence Seaway into the Great Lakes, and you are immediately into the heartland of the country as well with those waterways.

So, we look forward to working with you and appreciate your commitment here today. Mr. Coes, my next question is to you, and it relates to autonomous vehicles, something that I have focused a great deal of efforts on and appreciated the Chair's support of our efforts to look at utilizing this technology in the future. Probably one of the most critical benefits from this technology is lifesaving.

We lose nearly 40,000 people on our highways every year, and we know a lot of the advanced technology related to autonomous vehicles or before we get the full autonomy, the safety features that are incorporated, can prevent probably nearly most of those accidents when you consider well over 90 percent are human error. So it is significant that we continue to invest in this technology, plus the from a competitive standpoint. We know our competitors in China in particular, in other Asian areas and Europeans are all investing substantial resources.

And I certainly want to make sure that the United States continues to lead in autonomous vehicles, that we make those vehicles in the United States with American workers, and it is an American technology that leads the world. So my question to you is, if confirmed, will you commit to working with this committee as well as

my office to inform our efforts as we work on legislation related to autonomous vehicles?

And will you also commit to use your position to help us retain leadership in this critical area? Give me your thoughts about the future for our autonomous vehicles.

Mr. COES. Thank you, Senator, for that question. I would like to say prior to joining the Administration, I know my organization worked very closely with your staff when it comes to autonomous vehicles. I will say that as an Administration again, our Department believes safety is our number one priority. But autonomous vehicles also an opportunity—gives the opportunity to actually address that directly. And I definitely would commit, if confirmed, to work with your staff, continue to make sure that autonomous vehicles are done in a safe manner.

In addition, one of the things that I think our office is also potentially looking into to, and I think we will love to work with your staff, is how do we make sure that not only is the U.S. a global leader in autonomous vehicles, but do we have the workforce to actually do that? And that is one of the questions that I know your staff has been interested in. I know you have been as well. Will love to work with your staff to make that possible.

Senator PETERS. Well, thank you. I have appreciated your past work, and I look forward to your future work on this critical issue. Thank you so much.

The CHAIR. Thank you. Senator Blackburn.

**STATEMENT OF HON. MARSHA BLACKBURN,
U.S. SENATOR FROM TENNESSEE**

Senator BLACKBURN. Thank you, Madam Chairman, and thank you all for being patient with us this morning. I want to return to the supply chain issue. Mr. Vekich, let me talk with you for just a few moments on this because I think in the position that you are nominated for, it is critical that you be an advocate for our U.S. exporters. We have got a lot of Ag production in Tennessee.

We have a lot of aftermarket auto parts in Tennessee, and much of this ends up going into export. And they really do depend on equitable and efficient treatment at the port so that they can remain competitive. And I am from Tennessee. The Port of Memphis is vitally important for us. So as you look at the nomination that is there for you, should the FMC's involvement include vigorous enforcement against ocean carrier conduct that increases cost and inefficiencies for the supply chain, and for these individuals who are exporting and depending on this supply chain?

Mr. VEKICH. Yes, thank you for that question. Senator. I am told the FMC is not a rate setting organization. What it does do is have a robust monitoring of anti-competitive behavior. And to that level, there is a one level, one rule, one standard for all. And I think that's that is the statutory obligation.

And how as we move forward, I think vigorous enforcement of that may vary over time with certain periods of time. And this is a time when we need that vigorous enforcement to make sure there is not anti-competition effort going on, to see if there are unfair surcharges to our American exporters especially, to see and to police fleets, the industry like it is the job of the FMC to do.

Senator BLACKBURN. Let me ask you about another issue. You know, the Memphis supply chain innovation team. This is something that the FMC created in 2018. And one of the problems that they have flagged is the shortage of chassis and not having the chassis that are needed. This is an issue. So talk to me a little bit about what your experience is with the chassis issue and what should be next steps there to deal with this shortage because this is something that is an inefficiency in the system.

Mr. VEKICH. Thank you, Senator. I have been anticipating this conversation and this question, and I am so happy I have a chance to now share my angst over the chassis issue. In my real life, there never were enough chassis on the terminals I worked on, on the ships I was working on. There never were the right size chassis. There never were the right line chassis. There is so many different problems and it all boils down to how we use them.

Are we—for the best use of the resource, the tools? And I really appreciate the work the Memphis group has done that you are under—I believe it is under your tutelage, and I know Commissioner Dye, who has had some involvement as well. And I think we need to pursue and dive deeper into that issue.

Senator BLACKBURN. Yes. If you were confirmed, I look forward to getting you to Memphis so that we can work on, because that is the issue. Ms. Locascio, I have got a question for you about NIST and what their role should be in standard setting bodies. When we talk about competition with China, whether it is great power competition, whether it is commercial competition, their Belt and Road Initiative, one of the things that we continue to hear from innovators is the need for us to lead in these standard setting body. So how can NIST use that role to help the U.S. lead in not only research, but development and commercialization of new technologies?

Ms. LOCASCIO. Thank you for that question, Senator. And it is an important strategy in trying to combat what China is currently doing in their very aggressive strategy through China's standards 2035, but also, as you mentioned through the Belt and Road Initiative, where they are essentially forcing people to adopt their standards if they are in—providing funding for infrastructure in their country.

And so, you know, moving forward, if I am confirmed, I believe that NIST should also adopt a very important national strategy or strategy to have all of the right people at the table to be able to assume leadership roles in areas that are of clear importance to the United States and our economy moving forward.

Senator BLACKBURN. Thank you. I will look forward to further conversations on that. Thank you, Madam Chairman.

The CHAIR. Thank you, Senator Blackburn. I think that is all the members that we know of, unless there is somebody online that would still like to ask a question. If not, I would like to just ask the nominees—this is a standard question we ask of all nominees. Mr. Vekich, Mr. Coes, Dr. Locascio, if confirmed, will you pledge to work collaboratively with this committee, provide thorough and timely responses to our requests for information as we put together and address important policy issues, and appear before the Committee when requested?

Mr. VEKICH. I pledged to do so.

Mr. COES. Yes.

Ms. LOCASCIO. Yes, absolutely.

The CHAIR. OK, thank you for that commitment. Senators will have 72 hours to submit questions for the record to the Committee. Witnesses will have a week to respond. That concludes our hearing today. Thank you all for your willingness to serve and answering our questions. This hearing is adjourned.

[Whereupon, at 12:01 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF HON. CHRIS VAN HOLLEN, U.S. SENATOR FROM MARYLAND

I am proud to support the nomination of Dr. Laurie Locascio to serve as the next Director of NIST: the National Institute of Standards and Technology. Dr. Locascio is an exceptional choice for this role—not only because she hails from my great State of Maryland, is a graduate of the University of Maryland, Baltimore, and has been a leader in the University of Maryland's research endeavors since 2017—but also because she brings years of experience working at all levels of the agency and possesses the character, skills, vision, and knowledge to serve with distinction at NIST's helm.

For the past four years, Dr. Locascio has held the position of Vice President for Research at the University of Maryland, College Park and the University of Maryland, Baltimore, where she has managed UMD's vibrant research and innovation programs on both campuses. But before taking on this role, she spent three decades at NIST—starting out as a research staffer and rising to become Acting Principal Deputy Director and Associate Director for Laboratory Programs. Among her many achievements at NIST, Dr. Locascio directed the Material Measurement Laboratory, one of NIST's largest laboratories which spans eight different locations around the United States, boasts over 1,000 research staff, and operates a \$175 million annual budget. Her track record proves she brings the experience and knowledge required of the next Director of NIST.

If confirmed, Dr. Locascio will be placed in charge of NIST at a pivotal moment for the agency. The work that happens at NIST has touched almost every aspect of American life for decades, and I've long been proud to have NIST headquartered in my home state of Maryland. But the agency's efforts have taken on an added measure of urgency in recent years as we work to sharpen America's competitive edge in the arenas of research and technology. It's for that very reason that President Biden has expressed his vision for strengthening NIST by proposing a 45 percent expansion of the agency's budget that would help strengthen manufacturing programs at NIST—including initiatives focused on supply chain security and boost the agency's research programs in quantum science, artificial intelligence, climate research, biotechnology, and more.

When I met with Dr. Locascio over the summer, she expressed her enthusiasm for leading NIST at this exciting moment in the agency's history, and she emphasized her commitment to restoring U.S. leadership in international standards, investing in quantum technology, and using the tools at NIST to strengthen our supply chains—including the semiconductor chip supply chain, which is a top priority for this government. That conversation made clear what I already knew to be true: Dr. Locascio brings a clear vision and a lifetime of experience to this role. I have full confidence that she will guide NIST towards continued success—and I urge this committee to advance her nomination.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
MAX M. VEKICH

Port Infrastructure. The Port of Duluth supports industries from agriculture to manufacturing—it's the largest and busiest port on the Great Lakes with 900 vessels and an average of 35 million short tons of cargo per year. And in 2017, a new intermodal terminal opened for Canadian National Railway and Duluth Cargo Connect to improve the flow of freight in and out of the Midwest.

Question 1. Can you speak to how investments in multi-modal port infrastructure can help reduce delays and congestion in the shipment of goods?

Answer. I am grateful for your recognition, and the recognition of all your colleagues of the need for infrastructure investment, especially infrastructure that helps move freight.

A single container in international transit moves from one mode to another. Simplifying the process for the purposes of an example, getting a container from origin to destination requires trucking, ocean carriage, and trucking or rail again. On its journey, the container will travel on or through highways, local roads, marine terminals, equipment cargo yards, rail lines, rail yards, and even navigable inland waterways.

All these are elements of the ocean-linked freight delivery system and are essential to commerce. Costs of construction and maintenance for these components are expensive. Costs of not having these are devastating. Most of our supply links are down narrow ribbons of road, rail, or water. Keeping them uncongested and fluid is the key to supporting commerce. Staging, stacking, siding, straightening are verbs that keep the ports better at handling cargo. The goal must be to keep cargo moving. To do that, you need the right infrastructure and constant investment in the system across all modes related to goods movement.

Question 2. Can you also speak to the importance of viable ports in supporting rural communities?

Answer. This question hits home. I am from a small timber town on the Olympic Peninsula. The town's pulp and paper mills, and sawmills have closed. The local port had been a major exporter of wood products. Changes in forestland management, environmental protections, and changing global markets led to economic decline. Community stakeholders recognized the critical need to revitalize the port. Local business and labor leaders worked together to find a new customer for the port. After years of economic distress, cargo from the Midwest was flowing again through the

Port of Grays Harbor thanks to connecting a soybean cooperative located in the Heartland to our community. This rejuvenated the short line railway, increased the longshore workforce, and led to the construction of grain elevators. Now there is 24-hour shore to ship loading at the Port of Grays Harbor. Since 2003, 23 million tons of Nebraska produced soybean meal has been exported to the Pacific Rim from the Port of Grays Harbor.

In the Pacific Northwest, there are ports supporting rural communities in Bellingham, WA, Kalama, WA, Port Angeles, WA, Astoria, OR, Coos Bay, OR, and Lewiston, ID to name just a few. This region has the most concentration of small rural ports on the West Coast. All these communities have been sustained by their rural ports. Where ports did not remain viable, like Raymond, WA, Port Ludlow, WA, and Rainier, OR, communities ceased to thrive.

As a former State Representative and Chair of the Washington State House Agriculture Committee, I saw how communities suffered when their links to markets were severed during the days of rail abandonment. Many agricultural areas never recovered from losing rail service.

Duluth is a great example of supporting rural communities. The Great Lakes were North America's highways before highways were invented. Despite Duluth being so far inland, it attracts "Lakers" and "Salties". This is because waterborne transportation is always the best way to transport bulk cargoes. There is no question that Duluth's location has brought both jobs and commerce to the Iron Range.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. KYRSTEN SINEMA TO
MAX M. VEKICH

Port Congestion. My constituents are experiencing the effects of supply chain difficulties, especially when products are delayed and consumers see increased prices. I am encouraged by reports that the Ports of Los Angeles and Long Beach, California have begun operating continuously to address congestion issues, notably the dozens of ships waiting to dock and off-load their cargo.

Question 1. If confirmed, how will you address port congestion in your role as a Commissioner of the Federal Maritime Commission?

Answer. If confirmed, I would continue the work of the Commission to keep cargo moving by supporting Chairman Maffei's Vessel-Operating Common Carrier Audit Program efforts. Further, I would also explore how I might be able to support Commissioner Dye's Fact Finding 29 efforts to relieve Port Congestion. I will apply my experience in cargo movement to the Commission's efforts and initiatives. I especially want to support efforts to use existing equipment and facilities effectively.

Question 2. How will remedial actions taken at maritime ports help goods flow more quickly over rail and by truck to states such as Arizona that do not have maritime ports of entry?

Answer. Thank you for recognizing the tremendous effort that has gone on in the Ports of Los Angeles and Long Beach.

Arizona benefits from its proximity to those two ports, and though Arizona is landlocked, the Southern California maritime industry sees it as an important portion of their market. The key to serving that market well is keeping the cargo moving. The workforce is willing to work 24/7 and as you note, the two port authorities are inviting round the clock operations. All parties involved in moving ocean cargo should embrace this opportunity to move more cargo over more hours.

Providing financial incentives to truck drivers could make a difference in attracting more people to the profession. We have a shortage of truck drivers and once a container is offloaded, it is more often than not being handed off to a truck. We need enough truck drivers, with reliable access to chassis to be able to realize maximum advantage of extended gate hours.

Question 3. When do you expect Arizonans to start seeing supply chain improvements in terms of lower prices and increased inventories when they purchase everyday goods that have been shipped overseas to the United States?

Answer. Estimates for how long supply chain congestion will last have consistently shifted over the past 18 months. At this moment, the consensus seems to be that it will not be until sometime in 2022 before we see a return to conditions in shipping and goods movement that each of us would consider more normal. None of what we are now experiencing is new to anyone who works at ports or is in the business of moving international ocean freight.

Infrastructure Investment and Jobs Act (IIJA). My bipartisan Infrastructure Investment and Jobs Act invests 16.6 billion dollars over five years in our Nation's seaports, coastal infrastructure, and waterways, among other infrastructure priorities.

Question. How will the IIJA's investments revitalize America's port infrastructure? Will the legislation's investments help prevent future port congestion issues by enabling ports to build larger docks and purchase additional equipment to offload containers?

Answer. I appreciate your determination to improve seaport infrastructure. I am hopeful lessons will be learned from the cargo surge especially on the West Coast, where there is a desperate need for more resiliency. Investment in our Nation's seaports is smart, timely and overdue.

Even with the port congestion crisis, productivity is up 30 percent over last year in the Ports of Los Angeles and Long Beach.

As a nominee to serve in an Executive Branch agency, it would not be appropriate for me to offer a formal position on legislation that is pending before the Congress. Broadly speaking though, I certainly support the overall objective of investing in America's infrastructure generally, and in programs and projects that promote the more efficient movement of freight of all kinds.

An important thing to remember about ocean cargo is that it is dependent upon many different modes of transportation travelling over and through many different kinds of conveyances. Investing in a bridge that crosses the Mississippi River means that ocean cargo moving over the Memphis railhead can flow fluidly. While our ports and port related intermodal connectors need investment, infrastructure investment does not need to take place at a port to benefit cargo velocity. Additionally, given how many states an ocean container travels through before arriving at its destination, better coordination between regions and states on goods movement is a goal we should all share.

Without offering an endorsement of any bill before the Congress, I can say our transportation workers are giving their all to make cargo move under unprecedented conditions. We should invest in our infrastructure to not only make their jobs easier, but for the benefit of all Americans. Proposals such as your legislation go a long way toward reaching that goal.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
MAX M. VEKICH

Question 1. Over the past twenty years, marine terminal companies in regions of the U.S. have filed collaboration agreements with the FMC to allow port terminals to jointly explore and develop technology initiatives that can enhance port efficiencies, and the Commission has endorsed those agreements. Do you agree with the ongoing approach to allow for collaboration on innovative technologies?

Answer. I believe American ports need to realize their fullest potential. I know there are many under-utilized ports, that could help port congestion and would ben-

efit from exploring technology initiatives and development. I agree with continuing this approach for port terminals to collaborate on innovative technologies that provide American jobs and American commerce. Moreover, I believe more needs to be done to boost exports, and that the FMC has started that process, which I would like to see evolve and pursued.

Question 2. In response to a question in your committee questionnaire about the top three challenges facing the FMC, you said one of the top challenges was carrier consolidation. You went on to say, “Furthermore, are regulations sufficient to keep the big guys honest?” Could you explain what you mean by that comment? Are you suggesting there is action stronger than regulations that the FMC should take against carriers, and if so, what would that action be?

Answer. The role of the FMC role is to preserve competition between ocean carriers, protect the integrity of the marketplace, and guard against any monopolistic trends and practices.

The quote about “keep the big guys honest” was a reference to the late Senator Warren Magnuson’s comments about monopolistic behavior. I was not suggesting that existing regulations are insufficient, or that new regulations are necessary, rather I was trying to make the point that making certain sufficient oversight is being exercised to protect the integrity of the marketplace is vital. Robust monitoring and enforcement by FMC is crucial to its mission.

Question 3. As you heard during the hearing, the freight congestion crisis is a major concern. If confirmed, what actions would you take on your first day as Commissioner to address this crisis?

Answer. I would start by seeking meetings with each of the other four Commissioners to understand their views on congestion and where the consensus is among them about agency priorities for addressing congestion.

Additionally, I would seek meetings with the key career staff at the Federal Maritime Commission. Both to begin learning in more detail about the agency bureaus and offices, but also to learn specifics about actions the FMC has taken in response to events of the last 18-months and what further actions might be pending. There are some specific areas that I would like the opportunity to gather more information, which include the Commission’s complaint processes, further details about the VOCC Audit Program, the Commission’s enforcement processes and functions, and Fact Finding 29 and the direction Commissioner Dye is moving with this effort.

Finally, I would begin my search for my Counsel. Each Commissioner has an advisor, and I would seek the advice of senior staff about what qualities, experience, and knowledge a Counsel should possess.

Question 4. The current Commissioners have taken a “divide and conquer” approach to FMC’s portfolio, with each Commissioner focusing on a different topic. If confirmed, what topic, within the FMC’s jurisdiction, do you plan to devote your attention to while at the FMC?

Answer. If confirmed as the newest Commissioner, one aspect of my role will be getting up to speed on all issues before the FMC as soon as I can.

An immediate contribution I can make is to serve as resource for other Commissioners and professional staff for information on how the waterfront works and how ocean cargo actually moves from an operational perspective.

I am interested in ongoing work at the Commission related to addressing COVID-19 related impacts to the supply chain, changing behavior on detention and demurrage and other fees, and enforcement actions overall. I would look to support these initiatives and to offer any assistance that would be of help to Commissioners who are working on these issues.

One area of interest to me, and would complement other ongoing efforts, is to examine the potential rural and underutilized ports present for adding capacity to the ocean-linked supply chain or for facilitating exports.

Question 5. I want to follow up on our discussion during the hearing. In response to my question about whether the FMC has the authority it needs or if it needs more authority to address the freight congestion crisis, you said, “I don’t think it’s appropriate for me to take sides” on whether the FMC needs more authority or not. Further, you said, “I would be happy to, once confirmed, weigh into that.” How should the Senate Commerce Committee consider your nomination if we are not able to know your perspective on FMC authority until after you are confirmed? I found your response particularly puzzling given your willingness to provide recommendations on increasing the workforce, your concerns about port automation, and your willingness to ask questions at the FMC about fees, surcharges, and ocean carrier practices.

Answer. Thank you for the opportunity to address this question.

I am aware that the Commission does not possess expansive authorities and certainly nothing near the power that many in the trade community believe it might have or wish it did. I know the Commission does not have the authority to set rates. It does not possess emergency powers to intervene in the marketplace. The Commission cannot dictate where equipment should flow or what specific shippers should be served by ocean carriers.

I have heard and read comments by Chairman Maffei articulating that the Commission's authorities should be modernized to reflect changes in the industry and allow the agency to exercise its oversight functions more effectively. Broadly speaking, I have no objection to that goal, but would want to learn more about the specifics of what the Chairman has in mind before committing to supporting any particular proposal.

I have also heard and read comments by Commissioner Dye indicating the Commission has sufficient authorities to address issues related to detention and demurrage as well as other fees and surcharges.

The positions of Chairman Maffei and Commissioner Dye are not mutually exclusive. Becoming more intimately familiar with the exact authorities of the Commission will be top of my priorities if confirmed. The Commission must have the authorities necessary to protect the integrity of the marketplace, but on balance, the shipping public has been well served by access to reliable and historically consistent, stable rates to move cargo by ocean. While there is a call for the Commission to be given new authorities in response to supply chain congestion and high rates for ocean carrier services, a cautious and reasoned approach is always a wise course to follow. As a former legislator, I respect the prerogative of the Legislative Branch to determine the authorities and jurisdiction of an Executive Branch agency and will defer to the priorities set by policymakers.

Question 6. On different occasions during the hearing, you talked about policies for workforce development and recruitment as well as policies regarding infrastructure. While I understand that your responses were in response to Senators' questions, what authority do you believe the FMC has over workforce development or infrastructure policy at ports?

Answer. The Commission has no direct jurisdiction over workforce or infrastructure.

The Commission does play an important and key role as an advocate for an efficient ocean-linked supply chain and in recent years has taken on a useful role by convening parties involved in moving cargo to address operational challenges and identify solutions that can be pursued by the private sector.

My experience is on the waterfront, handling cargo and making it move off the docks and into American commerce. If confirmed, I can translate this experience into identifying issues related to the need to recruit and train sufficient numbers of workers to replace the generation of longshoremen who are rapidly reaching retirement age. Similarly, I can suggest where there are improvements to industrial infrastructure that can aid in moving cargo or gaining more efficiencies to the system overall.

Individual Commissioners can speak to issues related to the supply chain and international trade, but I understand the limitations of the office. I am under no illusion that if confirmed I will have the ability or authority to set in motion any initiative that will result in policy or regulation mandating construction of projects, the hiring of workers, or workplace regulations.

Question 7. During the hearing, I asked you for your thoughts on Commissioner Dye's interim recommendations as part of Fact Finding 29. Her recommendations included three changes to statute related to addressing shipper concerns about retaliation if they file complaints with the FMC, authorizing the FMC to seek double reparations for unlawful detention and demurrage practices, and authorizing the FMC to order refund relief in enforcement proceedings. Now that you have had the opportunity to read Commissioner Dye's recommendations, what are your thoughts on the issue?

Answer. Thank you for an opportunity to provide a more complete response.

Commissioner Dye's interim recommendations add teeth to FMC enforcement tools and would remove some barriers for private parties to seek relief at the FMC.

I understand her proposals enjoy the support of her colleagues and the Commission is moving forward to adopt her recommendations that do not require legislative change.

I certainly support the objectives of what she has recommended.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MIKE LEE TO
MAX M. VEKICH

Question 1. If confirmed, what will be your key priorities?

Answer. If I am fortunate enough to be confirmed my priorities will be:

- Bring my “hands on” experience of moving cargo to the Commission.
- Support in any way I can Chairman Maffei’s and Commissioner Dye’s efforts to reduce port congestion through activities such as the Vessel-Operating Common Carrier Audit Program and Fact Finding 29. I would gladly take on any task asked of me toward the achieving their desired policy outcomes.
- Support Exports.
- Finding ways to support rural and underutilized ports as assets that can be used to move international containerized trade and serve as additional capacity during times of cargo surge or supply chain disruption.

Question 2. Conducting cost-benefit analyses for proposed regulations has been a practice undertaken by agencies under both Democrat and Republican Administrations.

- Please explain your views on the use of cost-benefit analysis when considering proposed regulations. Should all FMC regulations be considered with a cost-benefit analysis?
- If regulatory costs outweigh the benefits, should that be a determining factor that prevents FMC from moving forward with a proposed regulation?

Answer. I believe that cost-benefit analysis is an important consideration whenever an Executive Branch agency considers new regulations, and in particular, those that seek to regulate commercial conduct. The results of that analysis, and public input on that analysis, should be fully considered before adjusting or finalizing proposed regulations. FMC must also abide by the direction of Congress to do its work with a minimum of government intervention and regulatory costs.

Question 3. When considering regulatory proposal, should FMC prioritize policies that allow market participants to freely compete with FMC regulatory action or is the market more successful when the FMC actively guides the market through regulatory action?

Answer. The marketplace for container shipping has been highly deregulated for decades. Notwithstanding events of the past approximately 18 months, shippers have had access to reliable ocean shipping services at rates that have essentially been relatively low and consistently stable for more than 20 years. The Federal Maritime Commission has the responsibility for ensuring the integrity of the marketplace and that it is free of collusive and anticompetitive behavior by shipping lines. In response to dramatic rate increases since summer of last year, some are calling for a return of at least some regulation of the industry. It is warranted to examine if the regulatory regime the Commission administers needs to be adjusted. Nevertheless, the debate must recognize the benefits users of ocean transportation have enjoyed from conditions where the Commission is protecting the integrity of the marketplace as opposed to guiding the marketplace to a certain outcome. Further, the FMC must also abide by the purposes established by Congress within the statutory framework for the agency.

Question 4. I would like to learn more about your views on the use of the FMC’s rulemaking power:

- Should the FMC promulgate rules if the rulemaking power is not expressly granted by Congress?
- Can the FMC use its rulemaking power to circumvent legal precedents with which it disagrees?
- Can the rules passed by the FMC insulate market incumbents from competition?

Answer. The FMC’s authority to issue rules derives from the statutory framework and authority established by Congress. In other words, the FMC’s rulemaking power and approach must be guided by the boundaries set by Congress. The FMC also has the ability to set precedent through Commission decisions on individual cases. While I understand that it is possible for the Commission to override a past Commission precedent with a notice and comment rulemaking, that is not a frequent occurrence. Finally, the rules issued by the FMC must be guided by the purposes set by Congress in 46 U.S.C. 40101 for the agency’s operation.

Question 5. What do you consider to be the main cause(s) of the current supply chain crisis and congestion at our U.S. ports?

Answer. There are many causes for current port congestion and degradation of the ocean-linked supply chain.

The system that moves cargo internationally is truly global and highly interconnected. Problems in Asia or Europe manifest themselves in the United States and vice versa. Shippers—those who contract with ocean carriers to move cargo—everywhere in the world are contending with the same frustrations as American shippers.

One key cause for current conditions is simply the historic and overwhelming volumes that have been moving via ocean carriage since approximately July 2020. The press releases issued by any major container port in the United States have reported month after month of record cargo volumes transiting their gateways. This has simply overwhelmed a domestic landside cargo delivery system that does not have excessive extra capacity to handle surges or disruptions.

Other contributing factors include lack of sufficient numbers of truck drivers, intermodal chassis, and intermodal rail capacity. There is insufficient space at warehouses to accept cargo at the volumes it is flowing, and that sector is facing manpower shortages. If cargo cannot move, it backs up, most noticeably at ports and railyards. Marine terminals and inland railyards are at beyond their operational capacity, which impacts the ability of ports to work ships, which in turn causes delays to ship schedules. Our attention might be turned to video of ships waiting at anchor to call the Nation's ports, but ports are where problems with the domestic freight delivery system manifest themselves rather than the cause for the congestion itself.

Question 6. Given that the longshoremen have demonstrated for years that they can effectively collectively bargain, what factors are contributing to their labor shortages?

Answer. The record volumes of container volumes that have transited American ports that handle containers. This could not have been done without port workers, which include but are not limited to longshore labor, reporting for duty consistently over the duration of the pandemic. The biggest issue facing longshore labor is that many workers are approaching retirement age. It will be important to make certain that sufficient numbers of new workers are being recruited, trained, and brought into the workforce.

Question 7. What is your view on the use of technology to automate our Nation's ports? Has the lack of its adoption at U.S. ports had any effects on costs and efficiency? Should U.S. ports have the option to automate their ports and accept automated ships?

Answer. Technology has a place on marine terminals and in the supply chain and can create added capacity throughout the freight delivery system. Information and data sharing is one area where there is an emerging consensus improvement to America's domestic freight delivery system can be achieved. I understand that Chairman Maffei and other Commissioners at the Federal Maritime Commission are interested in what strides can be made in increasing information and data sharing among parties involved in moving containerized ocean cargo. The Commission's agreement authority could be a useful tool for those who wish to collaborate to make progress in this area.

Question 8. What is your view on FMC regulation of ocean freight rates? Should the FMC actively regulate freight rates or is it more appropriate for markets to determine rates?

Answer. The marketplace model for determining the price to ship a container has largely worked well over an extended period of time in that it has yielded rates that have been essentially stable. Given the historically high rates being charged to ship containers, it is understandable why some are advocating for the Commission to have the authority to intervene in the marketplace. This would be a dramatic change to how American shippers are charged to purchase ocean cargo transportation services. Careful consideration would need to be given to such a dramatic change to a business model that has benefitted shippers for decades.

Question 9. What is your view on FMC regulation of ocean carrier contract provisions? Should the FMC actively regulate ocean carrier contract provisions? Is government regulation or contract negotiation preferred for the determination of contract provisions?

Answer. As I understand the authorities of the Commission, the agency does not regulate service contracts. Service contracts are individual agreements between a shipper and an ocean carrier or an ocean transportation intermediary. Given that something in the order of 700,000 plus service contracts and service contract amendments are filed at the Commission each year, reviewing each individually would require personnel and resources that the agency simply does not possess. I believe the Commission is examining ways to make better use of the information contained in

these filings to further their understanding of market trends and to engage in oversight that might lead to enforcement actions. If confirmed, I plan on learning more about the specific proposals being considered.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RON JOHNSON TO
MAX M. VEKICH

Question 1. According to the International Longshoremen's Association, there are 65,000 longshoremen in the U.S. You stated during the hearing that there is a shortage of longshoremen and many are facing retirement age. Many businesses are concerned they will lose workers if there is a vaccine mandate.

- What percentage of longshoremen have received the COVID-19 vaccine?
- How would a vaccine mandate impact the availability of longshoremen and the congestion at the ports?

Answer. I am not in a position to know how many longshoremen nationally, or even on the West Coast, have been vaccinated against COVID-19. The Ports of Seattle and Tacoma have made vaccines available to all port workers who want to receive the vaccine. Anecdotally, the majority of people who I work with on the docks sought the shot.

Depending on the success of vaccinating the workforce at any given port will dictate how many workers are available to work vessels and move cargo. It is possible that there might be a shortage of available workers if a significant number of port workers have not been vaccinated.

Question 2. Do you believe there should be exemptions to vaccine mandates for individuals that can demonstrate natural immunity from a prior-COVID infection?

Answer. As someone who works in an environment where accidents can, and do, easily cause serious bodily harm and even be fatal, I am always concerned about maintaining a safe workplace and limiting risks. I have a "safety first" mindset and I do not apologize for that. Nonetheless, I am not a safety expert nor am I a public health official. It is difficult for me to opine on the merits of vaccine mandate exemptions for individuals who can demonstrate natural immunity to COVID.

Philosophically, I am not opposed to such an exemption, or any other vaccine exemption granted for religious or medical reasons, as long as the safety of the workplace is maintained.

Question 3. Aside from the labor shortage, what do you believe are the additional barriers to relieving congestion at the ports?

Answer. There are many barriers to relieving congestion at ports and throughout the domestic freight delivery system. Limited hours that marine terminals are open to discharge cargo is one factor. Clogged railyards, especially in the Midwest, cause back-ups of cargo at the ports. A lack of truck drivers and intermodal chassis are also key contributors to congestion. Chassis are in such short supply; it is even a challenge to find available ones to use to train new truck drivers. If a truck driver cannot be trained to move intermodal containers, it is difficult to make progress in addressing the driver shortage, which is an excellent example of the interconnectedness of the issues that are undermining the ability to get cargo off ships, out of terminals and into the flow of commerce. A shortage of space in warehouses and distribution centers is also a problem, if cargo has nowhere to go it will sit at a marine terminal.

Question 4. Please provide specific ways to address congestion at the ports. Do you believe ports should operate 24 hours a day, 7 days a week?

Answer. Though our ports are congested, and our domestic freight delivery system is overwhelmed with the historic volumes of ocean freight American consumers and companies are importing, it is important to note that cargo is moving. The system is not working optimally, but it is working. Everyone involved in moving ocean freight, whether labor or management, is doing the best they can under challenging circumstances. I am not certain I can remember another time in my 50-year career where I have seen more unity of purpose than I have over the past 18 months. Maintaining that commitment to keep cargo moving is one of the most important priorities we can set for, at the very least, managing through the current situation.

Having ports and marine terminals operate "24/7" could be a productive step toward relieving congestion but it is not one that can be taken in isolation. To realize the potential gains from having gates open around the clock there need to be truck drivers to haul containers and warehouses and distribution centers open to accept shipments.

Finding ways to make intermodal equipment, especially chassis, more available would be an invaluable step in the right direction. I know that the Commission gen-

erally, and Commissioner Dye specifically, is working to find ways to improve the container return process. I support any effort that results in making more equipment available.

Even if cargo cannot be offloaded from a ship and sent to its final destination, getting containers off marine terminals would be another positive development. I know in Seattle, the port has opened two unused marine terminals to store cargo. This is inefficient in terms of how cargo should move, but it is a positive step in that it creates room on terminals that are servicing ships to offload containers and keep boxes moving. I believe other ports throughout the Nation are looking for similar near port container storage options.

There are ports that can handle container ships where there is capacity for vessels to call and cargo to be worked. For example, some container ship traffic has returned to Portland, Oregon as vessel operators and shippers seek alternates to traditional gateways for containerized trade that have become congested. Work would need to be done to make certain sufficient capabilities to move cargo from these ports to destination or railheads exist but making use of underutilized ports could be beneficial.

Attracting people to work as truck drivers and warehouse workers should also be a priority. Both these sectors are facing personnel shortages which serves as a contributing cause to supply chain inefficiency.

The causes for port congestion are many, they are complicated, they are interconnected, and they feed off one another.

Question 5. Does the U.S. have sufficient dredge capacity to deepen and widen U.S. ports?

Answer. As I appreciate the jurisdiction of the Federal Maritime Commission, dredging is an issue that is the responsibility of the Army Corps of Engineers.

Question 6. If confirmed as Commissioner, will you commit to reviewing regulations that slow or prevent the deepening and widening of U.S. ports?

Answer. Though other agencies have responsibility for dredging and ports, the Commission does have an interest in advocating for infrastructure that contributes to an efficient supply chain system. Port facilities capable of handling the vessels that operate in international trade is an important part of that system. If confirmed, and if I identify issues related to dredging that are undermining the performance of the supply chain, I will call attention to those conditions.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
MAX M. VEKICH

Question. On June 16th, I wrote a letter to Federal Maritime Commission (FMC) Chairman Maffei regarding the ongoing shipping crisis. I appreciate Chairman Maffei's expeditious and thorough response to my letter and the FMC's commitment to doing whatever it can—within their jurisdiction—to address the issue. In Chairman Maffei's response, he noted that securing intermodal equipment over the past year has been a challenge for shippers, especially American exports. In your testimony, you also mention the return and availability of containers. If confirmed, what steps would you take as Commissioner to making progress on this issue?

Answer. The key to moving cargo, which is the key to working our way out of the port congestion problem, is to best use existing equipment and resources. Shippers, both exporters and importers, need containers and chassis. Progress on issues like container return and chassis return would make a meaningful contribution toward improving cargo flow and starting to address some of the problems causing supply chain congestion. I applaud Chairman Maffei's commitment to the FMC doing all within its power to contribute to improved equipment availability. If confirmed, I would do anything requested of me by the Chairman to support this objective. Commissioner Dye's work leading Fact Finding 29 has yielded interim recommendations that are practical and implementable. I would be interested in any further or future recommendations she might make that would help improve equipment flow and would be happy to support her efforts in any way I can.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICK SCOTT TO
MAX M. VEKICH

Question 1. How would you use your position to solve the current port congestion and supply chain bottlenecks?

Answer. It is important to note that the Federal Maritime Commission has limited statutory authorities and jurisdiction to intervene in the marketplace. Many of

the actions people would like the Commission to take, such as stepping in to cap rates being set by supply and demand, are beyond the power of the agency.

Nevertheless, the Commission can play an important role in contributing to efforts to address port congestion and supply chain inefficiency. Because of its role, the Commission has direct relations with all the parties involved in moving an ocean container. It has the ability to call attention to issues and to convene leaders who can offer private sector improvements to operational challenges.

Furthermore, the Commission can use the authorities it does have to make a difference. For example, through Fact Finding 29, the Commission is addressing detention and demurrage fees and making certain that such charges serve the purpose of incentivizing the movement of cargo and the return of intermodal equipment as opposed to another revenue stream for ocean carriers. Another Commission effort toward that goal is the Vessel-Operating Common Carrier Audit Program established at the direction of Chairman Maffei this past summer. This undertaking is assessing the nine top carriers by market share calling the United States for their compliance with the Commission's Interpretive Rule on Detention and Demurrage. Similarly, the Commission's Bureau of Enforcement launched an investigation in August 2020 into the timing and legal sufficiency of certain announced or initiated fees and surcharges by eight different ocean carriers.

The Commission can play a role in making improvements to the container return process and equipment availability. I understand Commissioner Dye is working on these efforts and if confirmed, I would offer her whatever support I could. Similarly, the Commission can play a role in efforts to improve information and data sharing, both by bringing attention to the need for progress in this area and through its agreement process. This is another policy objective I would support and would be pleased to offer my assistance and efforts on if confirmed.

Question 2. How would you use your position to foster a free market-based system for determining carrier rates and combating anticompetitive practices?

Answer. The key responsibility of the Federal Maritime Commission is to ensure that the marketplace for liner ocean services is free of collusive and anticompetitive behavior. The Commission engages in continuous and close monitoring of the marketplace and the behavior of shipping lines to make certain shippers are not unfairly disadvantaged.

If confirmed, I will carry out my duties as prescribed by the authorities Congress grants the Federal Maritime Commission.

It is important to enforce the law and make certain that all actors in the marketplace are competing on an even playing field. I will do everything within my authority as a Commissioner to realize that outcome.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
CHRISTOPHER A. COES

National Culvert Removal, Replacement, and Restoration Grant Program.

The Infrastructure Investment and Jobs Act includes a number of new programs that will take time and resources to establish. One key program is the bipartisan National Culvert Removal, Replacement, and Restoration Grant Program. This program would fund \$1 billion dollars in competitive grants to address culverts that are blocking fish migration. In the Pacific Northwest, these funds will be crucial to addressing salmon migration and help us make real progress on endangered salmon recovery.

Question. If confirmed, how will you work to ensure the National Culvert Removal, Replacement, and Restoration Grant program is implemented quickly?

Answer. The National Culvert Removal, Replacement, and Restoration Grant Program included in the Infrastructure Investment and Jobs Act (IIJA) would provide funding for the Department of Transportation (DOT) to create a new program aimed at removing, replacing or restoring culverts, which will enable the recovery of salmon passage and habitats. DOT is already laying the groundwork to stand up this program quickly once the IIJA is passed and signed into law. In anticipation of IIJA's enactment, DOT is planning and identifying the resources required to implement the National Culvert Removal, Replacement and Restoration Grant Program. DOT will make this program a priority and seek to accomplish the important steps necessary to get it up and running as quickly as possible, including seeking out collaborative opportunities with the other relevant Federal agencies. If confirmed, I look forward to keeping you and your team apprised of developments and making this program a success.

Purpose. The FAST Act required Department of Transportation (DOT) to finalize the multimodal freight network within one year of the passage of the FAST Act, or December 2016. The Department is nearly five years late completing this requirement. This question is intended to increase pressure within DOT to finalize the network.

National Multimodal Freight Network. The FAST Act required the Department of Transportation to publish a National Multimodal Freight Network by December 2016. The Surface Transportation Investment Act of 2021 (S.2016), which was included in the Infrastructure Investment and Jobs Act, provided significant additional resources dedicated to freight projects. The National Multimodal Freight Network will be critical for ensuring that these funds are prioritized to best enhance the efficient and timely movement of freight across our country.

Question. When can we expect the Department to finalize the National Multimodal Freight Network?

Answer. Safe, reliable, and efficient freight transportation boosts exports, enhances commerce, and powers economic growth. Our robust national multimodal freight system consists of millions of miles of highways, railways, inland waterways and pipelines, as well as hundreds of ports, airports, border crossing, and intermodal facilities. This system is experiencing significant congestion related to increased consumer demand and highlights the need for identifying critical freight assets and infrastructure.

DOT released the National Freight Strategic Plan (NFSP) in 2020, which includes a vision and strategic goals to inform infrastructure planning, coordinate investments, and improve the safety and efficiency of the entire freight system. Following the completion of the NFSP, DOT has turned its attention to finalizing the National Multimodal Freight Network (NMFN). We have also noted that section 21103 of the IIJA legislation passed by the Senate and currently under consideration in the House would modify the statutory requirements for finalizing the NMFN, including by providing States an opportunity to submit additional proposed designations, which must then be reviewed and accepted by DOT. If confirmed, I look forward to keeping you and your team apprised of our progress as we implement these additional requirements and work to finalize the NMFN.

Offshore Oil Pipelines. Washington's \$30 billion-dollar maritime economy supports over 146,000 jobs from fisheries, trade, tourism and recreation—but it could all be devastated in an instant by an oil spill. Earlier this month California faced that exact scenario—a pipeline off the Southern California Coast leaked over 125,000 gallons of crude oil.

While the investigation is still ongoing, reports have indicated the pipeline was likely struck by an anchor and damaged months—possibly even a year—prior to the leak. Current safety regulations only require inspections for offshore oil pipelines in high consequence once every two years. Given the current congestion our ports are facing and the potential for similar incidents, this sporadic oversight is concerning.

Question. Will you commit to reviewing this and other regulations in light of this California spill to ensure that DOT's pipeline safety enforcement program is truly keeping our shores and our economy safe?

Answer. The Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) is committed to continuous improvement of its safety oversight program, which includes training, inspection, enforcement, and guidance, among other activities. As part of its investigation into the Beta Offshore (a subsidiary of Amplify Energy Corp.) release, if confirmed, I will work with PHMSA to look for opportunities to apply lessons learned and review regulations. PHMSA regulations require pipeline operators to provide continuous surveillance of pipeline facilities and internally inspect pipelines in high consequence areas as frequently as necessary to address identified threats. PHMSA will also continue to work with state and Federal partners to ensure coordination and cooperation in ongoing inspection and enforcement programs within the scope of our authority.

Aviation Manufacturing Jobs Protection Program. The Department of Transportation's (DOT) first round of Aviation Manufacturing Jobs Protection program (AMJP) awards totaling \$482 million to 313 aerospace supply chain companies, with \$41 million in awards to 32 Washington state companies, will be critical to supporting aerospace jobs. I understand there are at least 191 additional applicants for the second round of AMJP. Applicants from 41 states plus Puerto Rico have applied for AMJP funds. This continued and broad interest in the program demonstrates the value of a second round, and could suggest that additional rounds of awards could be administered to eligible supply chain companies who have expe-

rienced difficulty applying for the program or those who have yet to file their applications for consideration.

Question. With over approximately \$2.2 billion in remaining funds available out of \$3 billion in total appropriations for the AMJP program, can you please explain the Department's plans for making additional awards and spending these remaining funds to support the aerospace supply chain? How will the Department work with additional applicants to ensure robust participation in the program moving forward?

Answer. DOT conducted extensive public outreach about the AMJP program, including a public website, press releases, social media postings, and mass-distribution e-mails to more than 14,000 representatives of potentially eligible businesses. DOT also hosted two public webinars and continued to make the recordings of those webinars publicly available and promoted the program through trade associations and DOT's Office of Small and Disadvantaged Business Utilization (OSDBU). DOT was very pleased to announce initial awards to 315 businesses in 37 states plus Puerto Rico, totaling more than \$482 million. Of those 315 eligible businesses, 60 percent have fewer than 100 employees, and 80 percent have fewer than 250 employees.

Due to statutory provisions governing the administration of the AMJP program, DOT originally planned to conduct only a single round of applications. When DOT became aware that some businesses might have decided not to apply because of a misunderstanding about the Employee Retention Tax Credit (ERTC), DOT reopened the application process and received another 191 applications—roughly half the number in the initial round. DOT is in the final stages of evaluating those second-round applications and plans to announce the additional recipients soon. The Department looks forward to keeping you and your team apprised of its AMJP-related efforts.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
CHRISTOPHER A. COES

Investing in Public Transit. Investments in public transit systems are critical to getting people back to work. We worked hard to secure a \$929 million U.S. Federal Transit Administration (FTA) grant for the Southwest Light Rail—a 14.5-mile, 16 station extension of the METRO Green Line connecting Minneapolis to Eden Prairie, the largest in Minnesota state's history.

Question. In your testimony, you highlighted your work on USDOT's Transit-Oriented Development Technical Assistance to help local communities apply for transit funding. If confirmed, how do plan to continue to help small and local communities leverage Federal transit funds?

Answer. I have had the privilege to work with this Committee and Congress in a bipartisan manner to ensure local communities have access to funding and financing tools to rebuild their rail infrastructure, promote road safety and encourage greater private investment to build transit-oriented development (TOD). This type of development is critical to ensuring housing and transportation options are affordable to the average American.

The Biden-Harris Administration's goals on equity are part of building a transportation system that works for all Americans. That means ensuring that in discretionary grant programs, all communities, especially those that have historically been left behind or suffered from underinvestment, have a fair shot. This Administration has put a priority on ensuring that its discretionary programs, consider equity when making project selections. For example, the Federal Transit Administration (FTA) announced the availability of approximately \$10 million in competitive grant funds through a Notice of Funding Opportunity (NOFO) for TOD planning. If confirmed, I am committed to supporting comprehensive planning and capacity building efforts that help connect communities, improve access to public transportation and affordable housing, and support President Biden's call to combat climate change, advance environmental justice, and promote equitable delivery of benefits to underserved communities.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. KYRSTEN SINEMA TO
CHRISTOPHER A. COES

Infrastructure Investment and Jobs Act (IIJA). The bipartisan Infrastructure Investment and Jobs Act provides a significant investment of \$550 billion additional dollars over five years in America's transportation infrastructure. The Department

of Transportation (DOT) will oversee the distribution of many the funds authorized by the IIJA, should be it become law.

Question 1. If confirmed, how will you in your role as assistant secretary for transportation policy ensure these funds are expended in a fair and efficient manner according to Congressional intent?

Answer. The bipartisan Infrastructure Investment and Jobs Act (IIJA) is a once-in-a-generation investment in our infrastructure. The legislation includes around \$550 billion in new Federal investment in America's roads and bridges, water infrastructure, resilience, internet, and more. The IIJA will grow the economy, enhance our competitiveness, create good jobs, and make our economy more sustainable, resilient, and just. If confirmed as Assistant Secretary for Transportation Policy, I would have significant responsibility for the overall policy direction and coordination of the Department's implementation efforts to ensure that IIJA is completed in accordance with the Administration's priorities and congressional mandates and intent. I will provide regular updates to the Secretary, to our external partners, and to Congress in coordination with the Office of Governmental Affairs. I am committed to ensuring IIJA funds are expended in a fair and efficient manner according to Congressional intent.

Question 2. Should the IIJA become law, how would its investments revitalize America's transportation infrastructure?

Answer. As mentioned above, the bipartisan Infrastructure Investment and Jobs Act (IIJA) is a once-in-a-generation investment in our infrastructure. The legislation includes around \$550 billion in new Federal investment in America's roads and bridges, water infrastructure, resilience, internet, and more. The IIJA will grow the economy, enhance our competitiveness, create good jobs, and make our economy more sustainable, resilient, and just. In particular, the IIJA includes:

- The largest Federal investment in public transit ever.
- The largest Federal investment in passenger rail since the creation of Amtrak.
- The single largest dedicated bridge investment since the construction of the interstate highway system.
- The largest investment in clean energy transmission and EV infrastructure in history.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROGER WICKER TO
CHRISTOPHER A. COES

Question. The Office of Transportation Policy plays an important role at the Department of Transportation in reviewing new regulations and setting policy for benefit-cost analysis of proposed infrastructure projects. Would you commit to giving sufficient consideration to the burdens imposed by new regulations? Would you commit to giving sufficient consideration to the economic benefits of discretionary grants for infrastructure in smaller cities and rural areas across the entire United States?

Answer. I agree that it is important to consider the burdens that might be imposed by a regulatory action. Under the Department's recently updated procedures on rulemaking, such actions undertaken by DOT and its Operating Administrations are required to include an assessment of the potential benefits, costs, and other important impacts of the regulatory action, as well as any significant distributional impacts, in accordance with the requirements of Executive Order 12866 and OMB Circular A-4.

As you note, the Office of Transportation Policy at DOT is also responsible for setting policy for benefit-cost analyses of proposed infrastructure projects under our discretionary grant programs. While the context and specific solutions may be very different in certain areas, we believe that all Americans want a transportation system that is safe, efficient, and enhances their quality of life and access to economic opportunity, and our guidance on quantifying the benefits of transportation investments reflects those values. In our experience, we have found that projects aimed at addressing the real infrastructure challenges faced by rural America are often some of the strongest candidates when considering their expected benefits and costs.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROY BLUNT TO
CHRISTOPHER A. COES

Question. Mr. Coes, I'd like to raise with you an important project that I have long supported and recently received a Port Infrastructure Development Program (PIDP) grant through the Maritime Administration (MARAD). In October of last year, the

Kansas City Port Authority received a \$10 million PIDP grant for the Missouri River Terminal Project. The grant will be used to provide regional access to the marine river network, rail, and highway transportation network. This project includes advanced project planning and redevelopment activities of the Missouri River Terminal site such as preventative flooding maintenance, environmental remediation efforts, site design, land acquisition, and limited pavement and rail access development. Since one year has passed since the original award announcement, can you provide a status update on this project and how soon will MARAD will finalize a grant agreement with the Kansas City Port Authority? Given the length of time that has transpired, the applicant has accrued costs associated with the project. What flexibilities are there for reimbursement of certain costs for the project prior to the grant agreement being finalized? If confirmed, will you commit to work with me and the Port on finalizing this grant agreement as quickly as possible?

Answer. If confirmed, I commit to working with you, MARAD, and the Port Authority of Kansas City to finalize the grant agreement as expeditiously as possible so that the grantee can begin work on the project. In October 2020, the Port Authority of Kansas City received a \$9,880,000 Port Infrastructure Development Program (PIDP) grant for the Missouri River Terminal Intermodal Facility project. MARAD staff and Port Authority representatives have been working diligently since awards were announced last October.

The program's Notice of Funding Opportunity (NOFO) identified the flexibilities for reimbursement of costs incurred prior to a grant agreement being finalized. In general, costs need to comply with the Federal requirements in the NOFO (for example, the provisions in 2 CFR part 200, Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards) and be identified in advance and be accounted for in the final grant agreement. Port Authority and MARAD staff are working to address this as part of the grant agreement development process.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MIKE LEE TO
CHRISTOPHER A. COES

Question 1. If confirmed, what will be your key priorities?

Answer. President Biden and Secretary Buttigieg have highlighted key priorities, including combating COVID-19, creating high-quality American jobs, fixing our crumbling infrastructure, promoting safety for all Americans, reconnecting long divided communities, and combating climate change. If confirmed, it would be an honor to continue to work with Congress on these efforts.

Question 2. Conducting cost-benefit analyses for proposed regulations has been a practice undertaken by agencies under both Democrat and Republican Administrations.

- Please explain your views on the use of cost-benefit analysis when considering proposed regulations. Should all DOT regulations be considered with a cost-benefit analysis?
- If regulatory costs outweigh the benefits, should that be a determining factor that prevents DOT from moving forward with a proposed regulation?

Answer. Under the Department's recently updated procedures on rulemaking, regulatory actions undertaken by DOT and its Operating Administrations are required to include an assessment of the potential benefits, costs, and other important impacts of the action, as well as any significant distributional impacts, in accordance with the requirements of Executive Order 12866 and OMB Circular A-4. When metrics and outcomes in the public interest have been identified, the economic analysis should characterize any identified impacts. If quantification is not possible, impacts should be described qualitatively. Under Executive Orders 12866 and 13563, to the extent permitted by law, DOT and other agencies must only propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs, recognizing that some benefits and costs are difficult to quantify.

Question 3. When considering regulatory proposal, should DOT prioritize policies that allow market participants to freely compete with DOT regulatory action or is the market more successful when the DOT actively guides the market through regulatory action?

Answer. DOT's top priority is safety, and we strive to provide a regulatory framework with enforceable, performance-based requirements that allow flexibility and competition in achieving the desired safety outcomes. In conducting rulemaking activities, DOT adheres to the principles articulated in the President's Executive Order on "Promoting Competition in the American Economy," issued on July 9,

2021. In that Executive Order, the President set forth the Administration's policy for a fair, open and competitive marketplace. The Executive Order also directs the Secretary to take actions to protect consumers and improve competition, as appropriate and consistent with applicable law. If confirmed, I commit to supporting this effort.

Question 4. I would like to learn more about your views on the use of the DOT's rulemaking power:

- Should the DOT promulgate rules if the rulemaking power is not expressly granted by Congress?

Answer. DOT prescribes rules in accordance with the procedural requirements of the Administrative Procedure Act and the Department's statutory authorities.

- Can the DOT use its rulemaking power to circumvent legal precedents with which it disagrees?

Answer. DOT will not initiate a rulemaking action for which there is insufficient legal basis.

- Can the rules passed by the DOT insulate market incumbents from competition?

Answer. DOT issues regulations to ensure the United States transportation system is the safest in the world and addresses other urgent challenges facing the Nation, including the coronavirus disease 2019 (COVID-19) pandemic, job creation, equity, and climate change. We strive to provide a regulatory framework with enforceable, performance-based requirements that allow flexibility and competition in achieving the desired safety outcomes. In conducting rulemaking activities, DOT adheres to the principles articulated in the President's Executive Order on "Promoting Competition in the American Economy," issued on July 9, 2021.

Question 5 and 6. Has the Federal government overextended itself in funding infrastructure projects? Should we expand or reduce the scope of the Federal government in funding infrastructure projects?

What is the appropriate role of the states, and what is the appropriate role of the Federal government regarding infrastructure projects?

Answer. This Administration is committed to addressing the infrastructure needs of all communities, and we know that our Nation's challenges will take an all-of-government approach. DOT's current grant and Federal aid programs are not able to provide the sufficient funds to address our Nation's infrastructure backlog. Many states are also facing budgetary constraints that prevent them from funding essential infrastructure projects. This has been reflected in the strong demand that the Department continues to receive from applicants to each of our discretionary grant programs for transportation infrastructure.

It is also why DOT is already laying the groundwork to support the new funding levels contained in the IIJA that will allow DOT to successfully partner with state, local, and Tribal governments across the Nation and pool sufficient resources to plan, design, and construct the needed infrastructure to create jobs, help communities, and support our economy.

In anticipation of IIJA's enactment, DOT is planning and identifying the resources required to implement IIJA and provide technical assistance and guidance to state, local, and Federal governments who each have important and necessary roles in solving our Nation's infrastructure challenge.

Question 7. How would you describe the current financial state of the Highway Trust Fund? Can we continue to afford spending more out of the Highway Trust Fund than we are taking in?

Answer. In October, the Department reported to Congress that the Highway Account of the Highway Trust Fund probably will not need an additional transfer from general revenues until summer 2022 at current spending rates and estimated tax receipt levels. There has also been a slowdown in spending in the Mass Transit Account. While a continued slowdown in spending due to a slowdown in construction in colder states is expected over the next few months, without additional funding, the Trust Fund will continue to head towards insolvency starting in March 2022. This introduces unnecessary uncertainty into local, state, and regional planning and we need to do better to help us recover. We need to find a path towards a more sustainable, resilient transportation system—and the funding to make that possible. If confirmed, I look forward to working with the Committee and Congress to address our long-standing Highway Trust Fund challenges.

Question 8. Do you support the raising of the Federal gas tax or other tax increases in order to fund the Highway Trust Fund shortfall?

Answer. Since 2008, we have seen an ongoing and growing imbalance between Highway Trust Fund spending and receipts. We need to find a path towards a more

sustainable, resilient transportation system—and the funding to make that possible. The Biden-Harris administration has also made clear that it will not raise taxes for individuals making less than \$400,000.

I look forward to working with the Committee and the Congress to address our long-standing funding challenges.

Question 9. The CDC's COVID-19 mask mandate currently requires masks to be worn on public transportation conveyances and on the premises of transportation hubs, including airports and on airplanes. The CDC has also said that vaccinated individuals do not need to wear masks in public. Is the CDC's requirement that vaccinated individuals must continue to wear masks in airports and on public transportation consistent with the agency's own policy and research?

Answer. DOT has, and will continue to, rely on the science and public health determinations made by interagency partners and experts in infectious disease. The Department will continue to support CDC, TSA, and other interagency partners in applying the public transportation mask mandate, which remains in effect, and sharing resources and messaging with stakeholders across all forms of transportation on the benefits and need for vaccination throughout the community.

Question 10. If confirmed, would you advocate or support a Federal requirement that Americans must be vaccinated for COVID-19 as a prerequisite for interstate travel, transportation, or movement?

Answer. If confirmed, I commit to continue to support DOT's Federal partners as well as health officials at all levels of government to encourage vaccinations and safe travel to the extent that is practicable and within the power of the Federal government. Examples include the public transportation mask mandate and the President's recent announcements to safely resume global travel with vaccination and testing requirements for international travelers entering the U.S.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RON JOHNSON TO
CHRISTOPHER A. COES

Question 1. There are over 3.5 million truck drivers in the U.S. and 1.1 million truck drivers are needed in the next decade. Reports indicate that the extended hours at the west coast ports are largely unutilized due to the shortage of drivers. Reports also indicate that less than 50 percent of truck drivers are vaccinated.

- Do you believe that President Biden's vaccine mandate will result in the loss of critical transportation workers like truck drivers?
- Do you believe there should be exemptions to vaccine mandates for individuals that can demonstrate natural immunity from a prior-COVID infection?
- Do you believe a vaccine mandate will worsen the labor shortage in the transportation sector?

Answer. The Administration is fully committed to ensuring our Nation's transportation networks are safe and fully able to meet the needs of the American people. A robust, well-trained, dependable transportation workforce pipeline is critical to delivering on this commitment. We need to keep these networks moving, and believe vaccinations are a critical measure to maintaining network continuity and protecting the health and safety of their vital transportation workers. It is our hope that transportation workers, and for that matter all Americans, regardless of past vaccination or COVID-19 infection status, follow recommendations and requirements to get vaccinations—which remain the most effective tool in combatting COVID-19—so that U.S. transportation and other sectors can avoid any labor shortage impacts.

Question 2. If confirmed as Assistant Secretary, will you commit to reviewing regulations that slow or prevent innovation and development in the transportation sector?

Answer. Mobility has transformed dramatically over the last 20 years and we need to anticipate and adapt to these advancements. Well intended rules written over a generation ago may necessitate different approaches today. It's on the Department, working with our stakeholders, to understand new innovations and to potentially shape programs and regulatory frameworks appropriately. Ultimately, the Department's policies must keep pace with innovation and we need to be mindful of the implications—on safety and security, the environment, racial equity, workforce and global competitiveness—as we shape these areas. If confirmed, I commit to reviewing regulations that slow or prevent deployment of innovations within the transportation sector.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
CHRISTOPHER A. COES

Statement: Thank you for sharing your heartbreaking story about your mother, but she raised a selfless and dutiful son. Should you be confirmed, I look forward to working with you on curbing the impacts of drunk driving.

Question 1. The Senate has already done its work in passing the Infrastructure Investment and Jobs Act (IIJA). This bipartisan legislation will address our Nation's core infrastructure needs and will make significant investments across the nation, especially in West Virginia. In the legislation, close to \$1.2 trillion will be allocated to core infrastructure projects, with a significant portion of that funding going to the Department of Transportation. I appreciate you mentioning the importance of both urban and rural infrastructure investment, especially for broadband investment.

- How do you plan on prioritizing both the needs of the current programs at the Department while also standing up these new programs?
- If confirmed, do you commit to ensuring urban and rural infrastructure investments are given equal focus?

Answer. Thank you Senator for your kind words about my mother—family means everything to me. If confirmed, I look forward to working you and your staff on this issue.

With regards to your question, I understand that rural communities and small towns have unique needs, including resource challenges and extensive unmet maintenance. I also know that infrastructure investments in rural America are key to supporting economic growth and to ensuring that residents have access to jobs, education, and essential basic services like health care. This Administration has placed a high priority on addressing our Nation's historic underinvestment in infrastructure as demonstrated by the President's priorities, in both urban and rural areas.

I am also looking for ways to streamline our grant application processes, both to enable the Department to more efficiently run the suite of new and existing programs, but more importantly to make the process of applying for DOT discretionary grants less of a burden for our state and local partners. I am well aware of the challenges that smaller or rural local governments face in assembling grant applications that convey their needs, and I want to find the simplest ways for them to do so while ensuring that we have the information we need to make the best decisions on allocating our taxpayer dollars to meet their transportation needs.

In anticipation of IIJA enactment, DOT currently is planning and identifying the resources required to implement IIJA and provide technical assistance and guidance to communities, particularly our small towns, rural counties, Tribes, and other disadvantage communities. If confirmed, I will commit to ensuring that the Department appropriately balances the needs of both urban and rural communities, including in our discretionary grant and credit assistance programs.

Question 2. You understand firsthand the challenges and unmet transportation needs that rural communities face. Communities like yours in Georgia—and like many in my home state of West Virginia. You have outlined potential solution to improve transportation access and connectivity, such as Transit-Oriented Development and other multi-modal initiatives.

- How will you ensure that these initiatives, and others that you have described, are not overly prescriptive so that rural communities would have the flexibility to pursue solutions they feel will best address their unique transportation needs—such as roadway construction and expansion and bridge projects?
- Are you committed to ensuring that the policies and initiatives of the Department do not disadvantage rural communities by restricting the solutions they can deploy to address their unique transportation needs?

Answer. I agree that rural communities have different needs from urban ones, and our programs will reflect that. If confirmed, I will ensure that our programs help rural communities make their roads safer, revitalize their main streets, improve their accessibility to opportunity, and meet their future transportation and mobility needs. The fact is that despite regional transit authorities stretching every dollar, rural communities often still lack access to public transportation and affordable transportation options on evenings and weekends to everyday destinations and cash-strapped towns struggle to maintain their roads. Both urban and rural transportation projects need to be supported so regional equity can truly be addressed. In order to support this, DOT is taking a look at flexibilities that could be adopted long term.

I am absolutely committed to ensuring that rural communities will not be disadvantaged by the policies and initiatives of the Department. Our rural strategy will ensure that all relevant grant and finance programs incorporate rural considerations so that rural communities can access the funding and financing they need to address their unique transportation needs.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICK SCOTT TO
CHRISTOPHER A. COES

Question 1. How would you address the fact that the Highway Trust Fund (HTF) is going insolvent, and do you believe we need to increase the Federal gas tax?

Answer. The Biden-Harris administration has made clear that it will not raise taxes for individuals making less than \$400,000. In a bipartisan agreement, IIJA included pay-fors that upholds the Administration's commitment and would keep the Highway Trust Fund solvent at expected spending levels until approximately 2026. If confirmed, I look forward to working with the Committee and Congress, in a bipartisan manner, as we work together to ensure sustainable and reliable revenues to support a cleaner, more environmentally sustainable and equitable transportation future.

Question 2. How would you use your position to solve the current port congestion and supply chain crisis?

Answer. The Biden-Harris Administration recognizes the impact of port congestion and supply chain issues on the U.S. economy and is focused on bringing the resources of the Federal government to bear in finding and implementing solutions in both the near term and long term. The President launched the Supply Chain Disruptions Task Force in June, including the Department of Transportation, which included a focus on transportation and logistics bottlenecks to the U.S. economic recovery. After meeting with local government leaders and companies to diagnose the problems and identify solutions, Port Envoy John Porcari was appointed in August to help drive coordination between the many private firms who control the transportation and logistics supply chain. The DOT team is working closely with the task force and Envoy Porcari to ensure our supply chains meet historic demand as the economy recovers under President Biden.

In October, the Administration convened business leaders, port leaders, and union leaders to discuss the challenges at ports across the country and actions each partner can take to address the delays and congestion across the transportation supply chain. The President met with the leadership from the Ports of Los Angeles and Long Beach and the International Longshore and Warehouse Union (ILWU) to discuss the actions they are each taking to address these challenges in Southern California. These leaders announced a series of public and private commitments to move more goods faster, and strengthen the resiliency of our supply chains, by moving towards 24/7 operations at the Ports of Los Angeles and Long Beach. The companies committing to act include Walmart, UPS, FedEx, Samsung, and Home Depot.

These announcements build on previous actions by the Department to address supply chain challenges, including supporting states in issuing more commercial drivers' licenses (CDLs); supporting the swift flow of goods and assistance during the recovery from the pandemic; and offering grants to strengthen multimodal supply chains and support rail connections.

I am committed to working with the DOT team and the Administration to build on these efforts. The Department is conducting an assessment of the Nation's freight and logistics sector in response to President Biden's Executive Order 14017: "America's Supply Chains," which will provide specific recommendations to address our supply chain challenges. In developing this report, DOT has been engaged with stakeholders across the spectrum, and we received a robust response to our recent Request for Information on this topic. The supply chain assessment is expected to be completed by early next year, and I look forward to working with the Committee and Congress on actions we can take together to improve the resilience of America's supply chains. Finally, the passage of IIJA would provide historic investments—including \$17 billion in our Nation's ports, and billions more for our freight systems—that my office would work to coordinate and implement effectively.

Question 3. Some in the Biden Administration believe that the supply chain crisis our Nation is currently facing is a "high class problem". Do you believe that is accurate?

Answer. As our economy has strongly recovered coming out of the pandemic, our supply chains have been stretched by unprecedented levels of consumer demand. Some of these global supply chain issues have been decades in the making, and both households and business across the entire country are feeling the effects today. We

are working closely within DOT, across the Administration in the supply chain disruption task force, and with Port Envoy Porcari to address supply chain challenges—and have made progress, for example, with the announcement of moving toward 24/7 operations at the Ports of Los Angeles and Long Beach in October. Going forward, the IIJA legislation would provide significant investment to modernize our transportation infrastructure and improve the resiliency of the system, while addressing major freight bottlenecks. I look forward to working with the Committee and Congress on addressing these supply chain challenges and helping to ensure our freight systems remain safe and efficient.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
DR. LAURIE E. LOCASCIO

Supply Chain. The nation is experiencing considerable supply chain disruptions, including shortages in semiconductors. PACCAR, a truck manufacturer based in Bellevue, Washington, reported 9,000 unfinished trucks parked in lots waiting for semiconductors to be available. This is just the tip of the iceberg in the auto industry—it is estimated that there will be a production shortfall of almost 8 million vehicles by the end of this year. The United States Innovation and Competition Act (“USICA”) would appropriate funds towards the CHIPS for America Fund, directing \$39 billion to the Department of Commerce to help alleviate long-term issues with the semiconductor supply chain and \$11 billion specifically to NIST for research that will strengthen the U.S. semiconductor ecosystem. USICA would also increase funding for the NIST Manufacturing Extension Partnership, which, among other responsibilities, helps small manufacturers understand and manage supply chain risks.

Question. What steps will you take as NIST Director to help protect the Nation’s supply chains and to ensure that CHIPS for America appropriations, and other funds dedicated to supply chain resiliency, are efficiently executed, well spent, based on national need, and free of political interference?

Answer. The microchip shortage is an urgent concern across many sectors, and legislation like the CHIPS Act and USICA reflects the need to address this issue in a serious manner. If confirmed, I commit to meeting with leaders from across the semiconductor industry, representative trade groups and associations, and leaders from impacted industries including the automotive industry in Washington State, to hear firsthand about the challenges and threats they are facing, and to engage them in a dialog about the best possible solutions to meet the demands of the U.S. economy and national security. To solve these problems, we must work together in partnership—government and industry—for the benefit of the Nation.

If confirmed, my top priority will be to put into place the *people, processes and partnerships* necessary to implement the strategic efforts outlined in the CHIPS Act and USICA. I commit to working to establish robust programs that incentivize competitive U.S. semiconductor manufacturing and contribute to U.S. economic security through a domestic supply chain with measurable deliverables and timelines. I will work to grow the internal laboratory programs to meet the needs of the semiconductor community, building on the strengths of a longstanding research program in semiconductor electronics and in partnership with experts in industry, academia and other Federal agencies. And I commit to support the NIST MEP program to work closely with the states to assess regional and national supply chains to address national shortages that we see across many sectors that are important to each state. If confirmed, and if this funding is appropriated by Congress and entrusted to NIST, I will ensure that the process for managing these dollars will be managed with the highest level of integrity, transparency, and accountability.

Diversity, Equity, and Inclusion. In March, NIST published the results of an internal survey on diversity and inclusion. The survey produced some troubling conclusions. More women than men reported being interrupted in meetings, not receiving credit for their ideas, and, “[B]elieve they have to work harder, wait longer for promotion and opportunities for leadership.” Other surveys have shown that women and minorities are less likely to be promoted than their peers. Your résumé demonstrates a commitment to nurturing diversity and diversifying the STEM community.

Question. As NIST Director, how will you ensure that NIST recruits and maintains a welcoming environment for women and underrepresented minorities?

Answer. Diversity, equity, and inclusion in STEM are topics that I am very passionate about, and I have been an advocate for a diverse workforce and diversifica-

tion of leadership for my entire career. I understand the importance and responsibility of being a good role model for others and take that role very seriously.

My approach to this topic has always included:

- setting expectations of a respectful and inclusive workplace as the organizational leader;
- putting equitable processes in place so that all employees feel that they have the opportunity to be their best at work;
- engaging everyone in helping to develop an inclusive culture through compassionate and open dialog;
- actively mentoring and supporting women and underrepresented minorities;
- intentionally recruiting and creating pipelines by partnering with women and minority-based STEM organizations as well as universities that have strong STEM minority development programs; and
- educating the workforce about the benefits of diversity.

If confirmed, I will use my past experiences, and invite others to the table so that I can learn from them, so that together we can build solutions. The organization that does this right is the place that people will want to be a part of now and in the future. My goal is that NIST will be that place.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
DR. LAURIE E. LOCASCIO

Research on Algorithms at NIST. As you know, artificial intelligence and algorithms are everywhere. They decide which apartments we're allowed to rent, which jobs we get interviews for, and which food items go on sale at our local grocery store.

Question 1. In your testimony, you discussed NIST's role in developing standards that are trusted worldwide. If confirmed, how will you lead NIST in developing standards to ensure artificial intelligence technologies are transparent and accountable to consumers?

Answer. NIST activities in the field of AI are very important to the future of AI technology development and deployment. In order to achieve broader adoption and acceptance of AI in all sectors from banking to transportation to medicine, we need to have confidence that the AI systems are secure, explainable, and unbiased. NIST is developing an Artificial Intelligence Risk Management Framework with stakeholders from across the world and has fundamental and applied AI research programs. My understanding is that NIST staff, through this work, is dedicated toward cultivating trust in AI. This trust will ensure we can realize the full potential of AI, and I look forward to working with you to strengthen NIST's role in this area.

Additionally, I understand that discussions are already underway with the EU and other like-minded government counterparts to promote global cooperation in AI. If confirmed, I commit to supporting the Secretary of Commerce in engagements with our counterparts in these discussions. I will also ensure that NIST's AI experts are at the table meeting with their technical counterparts in standards bodies and in bilateral and multilateral meetings to address the issues of transparency and accountability to consumers.

Question 2. Algorithms are powered by data—often massive amounts of data. In your view, what is the relationship between algorithms and data privacy?

Answer. In order to promote the development of reliable and trustworthy AI, there must be access to reliable data upon which to train the algorithms. Of utmost importance in accessing that data, is protecting the privacy of those whose data is being used.

In January 2020, NIST released the NIST Privacy Framework and is actively working with stakeholders to promote its voluntary adoption. If confirmed, I will work with this committee and with NIST's ongoing activities to continue to promote its adoption and to assess whether there are gaps that need to be filled to address the committee's concerns.

Speaking to my own background, I have extensive experience in managing privacy of individuals' data as I manage the human subjects protections program at the University of Maryland. There are robust checks and balances that are put into place that are required by law in order to ensure that we protect the privacy of human subjects involved in research.

Voluntary Voting System Guidelines. In February, the Election Assistance Commission (EAC) approved updated guidelines for voting systems known as the Voluntary Voting System Guidelines (VVSG) 2.0. The National Institute of Science

and Technology (NIST) is charged with providing support to the EAC in developing the VVSG, producing testing methodologies in accordance with the VVSG, and with accrediting laboratories to test voting systems. The current guidelines (VVSG 1.0) were approved nearly 16 years ago, so it is critical that all components of VVSG 2.0 are finalized quickly and that voting system manufacturers can begin submitting new equipment for testing.

Question. If you are confirmed, do you commit to ensuring NIST provides the resources necessary to make VVSG 2.0 operational as soon as possible and to fully support the EAC in accordance with NIST's responsibilities?

Answer. At this point in time, when many have lost their trust in U.S. elections, it is critical that we are able to instill confidence in the integrity of our voting systems. It is not an overstatement to say that democracy is at stake, and the American people must believe that they can trust that their votes are counted and recorded accurately. If confirmed, I commit to working with this committee and with the EAC to identify and address its cybersecurity priorities for election systems. This will include that NIST has the resources needed to make VVSG 2.0 operational and to support the EAC in accordance with NIST's clear responsibilities.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. KYRSTEN SINEMA TO
DR. LAURIE E. LOCASCIO

Semiconductors. A global semiconductor shortage has affected the supply of many goods that American families and businesses rely on. The U.S. Innovation and Competition Act (USICA) builds on my CHIPS for America Act by allocating over \$50 billion in investments for our domestic semiconductor industry. The National Institute of Standards and Technology will likely have a role in distributing these funds through an incentive program for domestic semiconductor manufacturers.

Question 1. If USICA becomes law and you are confirmed, how will you ensure NIST makes prudent investments in the semiconductor industry that ensure our Federal dollars provide maximum benefit for domestic manufacturing?

Answer. The microchip shortage is an urgent concern across many sectors, and legislation like the CHIPS Act and USICA reflects the need to address this issue in a serious manner. If confirmed, I commit to meeting with leaders from across the semiconductor industry, as well as representative trade groups and associations, and leaders from impacted industries to hear firsthand about the challenges and threats they are facing, and to engage them in a dialog about the best possible solutions to meet the demands of the U.S. economy and national security. To solve these problems, we must work together in partnership—government and industry—for the benefit of the Nation.

If confirmed my top priority will be put into place the people, processes and partnerships necessary to implement the strategic efforts outlined in the CHIPS Act. I commit to working to establish robust programs that incentivize competitive U.S. semiconductor manufacturing and contribute to U.S. economic security through a domestic supply chain with measurable deliverables and timelines. If confirmed, and if this funding is entrusted to NIST, I will ensure that the process for managing these dollars will be managed with the highest level of integrity, transparency, and accountability.

Question 2. How will these investments make our Nation less dependent on other countries for new semiconductor chips?

Answer. Investments to increase U.S. manufacturing and production, including packaging, of semiconductor chips to a level that is commensurate with U.S. demand (~30 percent of global demand) will decrease reliance on other countries for supply and decrease vulnerabilities in our supply chain for key sectors of the economy. Additionally, investments in cutting edge semiconductor research through the National Semiconductor Technology Center should increase our ability to innovate past current technologies and provide the bridge to manufacturing for next generation electronics in this country. These are both part of a long-term strategy which is necessary given the state of semiconductor manufacturing in the world today with the U.S.'s global position shrinking significantly in the last 30 years.

If confirmed, my position at NIST will be focused on planning and implementation of the programs established by the CHIPS Act, if funded.

Additionally, I will do what I can to support the Secretary of Commerce in her efforts to address short term supply chain issues through outreach to foreign governments and foreign semiconductor companies.

Manufacturing. NIST operates the Manufacturing USA program to bring together academics, manufacturers of various sizes, and state and local partners to col-

laborate on manufacturing research. In addition, NIST's Hollings Manufacturing Extension Partnership provides consultations to small-and medium-sized manufacturers through state-based centers.

Question. What actions will you take to ensure Arizona small business continue to have access to these NIST programs?

Answer. The Manufacturing USA Program and its network of 16 institutes, supported by NIST, the Department of Defense, and the Department of Energy, are a critical part of America's overall goal to bring manufacturing back and strengthen U.S. competitiveness and innovation. Nearly 2,000 companies, universities, and non-profit organizations from across the U.S. participate in these institutes which serve as innovation hubs for manufacturing, providing real value to U.S. industry. These hubs will position the U.S. to compete globally in existing and emerging critical technologies. These hubs benefit the public by outreach to local K-12 students and teachers, stimulating workforce development in new technical fields, and providing for improved job opportunities.

Another important component in the U.S. efforts to bring back manufacturing is the NIST MEP program. I believe the MEP, working in every state in close partnership with local and regional assets, is critical to building a more healthy and vibrant manufacturing base across all of the U.S. If confirmed, I commit to support the MEP program and its extension in Arizona in partnership with the Arizona Commerce Authority. If confirmed, I would look forward to working with you in the continued growth and acceleration of manufacturing for the Nation.

Cybersecurity. The National Institute of Standards and Technology (NIST) plays an important role in developing cybersecurity and privacy standards, best practices, and technology to protect Federal government and private sector networks. Over the past year, several new laws, the President's Executive Order 14028 "Improving the Nation's Cybersecurity", and new policies have tasked NIST with carrying out numerous cybersecurity-related requirements and with increasing collaboration with public and private sector entities.

Question. What challenges does NIST face in meeting these new requirements? Are there other cybersecurity best practices, standards or technology that NIST wish it could pursue if it had the appropriate resources?

Answer. In May 2021, the President's Executive Order on Improving the Nation's Cybersecurity (EO 14028), issued in response to the SolarWinds hack, charges multiple agencies—including NIST—with enhancing the security of the software supply chain. In July 2021, the President's National Security Memorandum on Improving Cybersecurity for Critical Infrastructure Control Systems, issued in response to the Colonial Pipeline attack, directs DHS to work with the Department of Commerce (and NIST as the Department's lead on cybersecurity) in developing cybersecurity performance goals. And in August 2021, at the White House Cybersecurity Summit, it was announced that NIST will collaborate with industry and other partners to develop a new framework to improve the security and integrity of the technology supply chain.

In my experience, NIST prioritizes its efforts effectively in order to meet critical deadlines. NIST is also an incredibly collaborative organization with private and public sector stakeholders and works effectively through partnership. That said, these are critically important and highly visible tasks that NIST has been assigned. The challenge NIST faces is it must manage these assignments while continuing to perform cutting edge cybersecurity research that can lead to future standards and guidelines. Cybersecurity is a high priority for NIST and we must not get behind. If confirmed, I will work with the committee and the Department of Commerce to ensure NIST's cybersecurity efforts are adequately resourced to help address the Nation's critical cybersecurity needs.

Cyberspace Workforce. The FY 2021 National Defense Authorization Act (P.L. 116-283, Section 9402) enhanced NIST's ability to "identify and develop standards and guidelines for improving the cybersecurity workforce for an agency as part of the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework (NIST Special Publication 800-181), or successor framework." Originally, the NICE program was created as part of the Obama Administration's Cyberspace Policy Review (2009) and Comprehensive National Cybersecurity Initiative.

Question 1. What are some of NIST's short-and long-term priorities in carrying out this responsibility and what are its plans in taking on the central lead to coordinate the efforts and outcomes for numerous educators and agencies with their own independent cyber education initiatives? What role will the new Office of the National Cyber Director play in these efforts?

Answer. The NDAA tasks NIST with identifying career pathways for cyber security positions in the public and private sectors, establishing cooperative agreements between the National Initiative for Cybersecurity Education (NICE) and regional alliances, initiating national cybersecurity challenges, and carrying out programs to award competitive prizes, among other assignments. If I am confirmed as the next NIST Director, I would prioritize cybersecurity workforce development and support the use of all possible tools for attracting talent and building a robust cybersecurity pipeline. If confirmed, I would also support the development of cooperative agreements between NICE and regional alliances to develop training and assessment of the cybersecurity workforce around the Nation. I look forward to working with the committee on this important goal.

Question 2. In your testimony, you mentioned having a family member take part in a reskilling program to become a cybersecurity expert. Are there any lessons you witnessed from this that would help inform reskilling efforts within NIST to ensure it has the skilled workforce it needs for the future?

Answer. My son worked for several years in another field and was attracted into the cybersecurity workforce by the promise of potential career growth, flexibility, mobility, opportunity for remote work, and a stable high-paying job to support his young family. His initial retraining was a 6-month online program and not through a 4-year university. On the job, he now has opportunities for further retraining. From this experience, I see that it is important to have incredibly robust outreach activities to show people what is available, what the future opportunities are for growth, and how to retrain and upskill without a 4-year educational commitment. During the pandemic, we have lost millions of people from the workforce. I believe that cybersecurity jobs could be an attractor to pull some of these people back into the workforce.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN HICKENLOOPER TO
DR. LAURIE E. LOCASCIO

Cyberattacks. Cyberattacks continue to impact small businesses, hospital networks, and other critical infrastructure throughout the Nation. As Governor of Colorado, I helped establish *The National Cybersecurity Center* in Colorado Springs as an organization dedicated to cyber innovation and awareness that serves both public and private organizations and individuals through training, education, and research. *If confirmed, I would like to invite you to the NCC to see the great work underway there.* At the Federal level, NIST plays an important role in cybersecurity by defining standards and best practices for organizations to build effective cyber defenses and mitigation plans.

Question. How do clear definitions and standards produced by NIST help us measure and track cyber-related incidents so we can develop effective policies and protections? How can market solutions, such as cyber insurance, align incentives and remove barriers to help businesses of all sizes successfully adopt NIST's cybersecurity guidance?

Answer. Thank you for the invitation to visit the National Cybersecurity Center (NCC) in Colorado Springs. If confirmed, I would be delighted to visit. It sounds like a wonderful model to shore up cybersecurity for public and private entities in your state. I would look forward to seeing how NIST might engage with the NCC.

Guidance, standards, and definitions produced by NIST in collaboration with public and private stakeholders can help to build an understanding and agreement of the appropriate metrics by which to gauge the effectiveness of our national cybersecurity efforts. In order to remove barriers to adoption of the Framework, NIST should continue to develop partnerships with potential stakeholders, conduct educational outreach, and work through the MEP program to reach small and medium sized manufacturers. A comprehensive approach to increasing adoption could include potential market solutions to incentivize adoption and increase awareness even further.

If confirmed, I would prioritize NIST's cybersecurity programs and look forward to working with you and the committee on these issues.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RAPHAEL WARNOCK TO
DR. LAURIE E. LOCASCIO

Regional Supply Chain. As one of his first acts in office, President Biden gave an executive order for a 100-day review of all American supply chains, including identifying risks for material sourcing, reviewing transportation needs, and assess-

ing workforce skill matching. I was happy for NIST to be a part of the Biden Administration's supply chain review. However, the needs and challenges facing a small business manufacturer in Valdosta or Rome, Georgia are simply not the same as one in California, Indiana, or New York.

Question. Dr. Locascio, do you believe that NIST should conduct a supply chain review that addresses regional supply chain differences in the country and provides localized findings and recommendations?

Answer. The NIST MEP program and the Manufacturing USA program worked closely with the states during the pandemic to assess regional supply chain issues and it is my understanding that this information was passed back through the national network to assist manufacturers in locating parts and services across the national landscape. It is clear that we need an understanding of local, regional, and statewide supply chain issues to address the national shortages that we see across many sectors that are important to each state. To compete in this global economy and to ensure our quality of life, we must engage all states and regions in the U.S.

Cybersecurity. Every day, Georgians rely on digital and online networks for school, work, and health, to just name a few applications. However, security gaps in these networks can make it easier for bad actors to exploit vulnerabilities and cause long-lasting damage in our communities, including by accessing personal data and attacking critical infrastructure. I've heard from Georgia's Manufacturing Extension Partnership, based out of Georgia Tech, that smaller manufacturers across the state struggle to implement cybersecurity best practices because they lack the resources of larger corporations.

Question 1. Dr. Locascio, if confirmed, would you commit to prioritizing cybersecurity issues at NIST, including through increased local and regional outreach by Manufacturing Extension Partnerships?

Answer. The NIST Manufacturing Extension Partnership can be a powerful mechanism by which to promote cybersecurity efforts within small and medium sized manufacturers. The MEP can work to help those with fewer resources become familiar with the NIST Cybersecurity Framework, and can also assist those manufacturers with its implementation. NIST can also work to ensure that its cybersecurity resources are produced in formats that are more practical and actionable for small businesses. If confirmed, I will commit to prioritizing cybersecurity issues at NIST, including outreach to Georgia manufacturers through the GaMEP in partnership with Georgia Tech.

Question 2. What steps would you take to encourage industry to implement NIST's cybersecurity framework?

Answer. In order to remove barriers to adoption of the Cybersecurity Framework, NIST should continue to develop partnerships with potential stakeholders, conduct educational outreach, and work through the MEP program to reach small and medium sized manufacturers. If confirmed, I would prioritize NIST's cybersecurity programs and look forward to working with you and the committee to discuss further incentivization to increase adoption of the Framework.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
DR. LAURIE E. LOCASCIO

Question 1. The Cryptographic Module Validation Program (CMVP) is a joint effort between the National Institute of Standards and Technology and the Canadian Centre for Cyber Security, a branch of the Communications Security Establishment. The goal of the CMVP is to promote the use of validated cryptographic modules and provide Federal agencies with a security metric to use in procuring equipment containing validated cryptographic modules. According to NIST, CMVP is "experiencing a significant backlog in the validation process." If confirmed, what steps do you plan to take to streamline the Cryptographic Module Validation Program (CMVP) process to ensure the government can benefit from the most current version of products and services to stay ahead of the evolving cyber threat?

Answer. I am aware of the Cryptographic Module Validation Program and understand its importance in helping to assess the security of encryption products purchased by the Federal government. This is a critical component in the overall cyber defense strategy to reduce our exposure to existing and future cyber threats. If confirmed, I will review the program to identify the necessary resources to improve the security, efficiency, and timeliness in such validation.

Question 2. Based on your vast experience with NIST, what types of initiatives do you believe could improve the efficiency and timeliness of CMVP validation, including training programs, improving communication with vendors through automa-

tion and standardization of messages at each stage of validation, digitizing and streamlining documentation that vendors are required to complete, and identifying overlapping of compliance frameworks?

Answer. It will be important to do a quick comprehensive assessment of the program to identify the root cause of the backlog. If confirmed, I look forward to working with you, industry, and other Federal agencies to review the program, as well as efforts undertaken by other organizations and international partners to ensure harmonization.

Question 3. Will you commit to addressing the dilemma caused by the need for frequent updates and patches to stay ahead of cyber-attacks and the existing CMVP validation process that may not permit rapid implementation of these updates while maintaining a validated status?

Answer. If confirmed, I commit to addressing this dilemma in order to increase the overall security of our system.

Question 4. As I'm sure you are aware, NIST facilities are now 60–70 years old and suffering from a large back log of maintenance needs. 58 percent of facilities are in poor to critical condition per Department of Commerce standards, with older labs unable to support controlled environments required for advanced research. Currently, the backlog of deferred maintenance has reached \$834.5 million. Moving forward, how do you plan to address this immediate and continually growing issue?

Answer. When I was last at NIST, the institute's infrastructure was in dire need of resources and refurbishment. Unfortunately, this remains true today. While at NIST, I worked with a large team on the development of an Integrated Master Plan for Facility Renovations to prioritize the renovation and building of state-of-the-art facilities for research in Gaithersburg and Boulder. If confirmed, I will make it a priority to work closely with Congress and NIST leadership to prioritize and obtain the resources to make sustained progress on NIST's critical infrastructure projects. Facility renovations will be important for enabling NIST to perform more cutting-edge research in key emerging science and technology domains like quantum, biotechnology and next generation communications.

Question 5. Congress has directed NIST to work with both private and public sectors to develop an Artificial Intelligence Risk Management Framework to assist design, deployment, use, and evaluation of AI technologies. The purpose of this voluntary framework is to help the community incorporate characteristics of trustworthiness into these systems and technologies. In your view, how important are these activities to the future of AI technology development and deployment in the U.S.? Additionally, how would you recommend NIST work with its European and other government counterparts to promote global cooperation around trustworthy AI standards?

Answer. These activities are very important to the future of AI technology and deployment in the U.S. In order to have broader adoption and acceptance of AI in all sectors from banking to transportation to medicine, we need to have confidence that the AI algorithms are secure, unbiased, and explainable. My understanding of NIST's work on the development of the Artificial Intelligence Risk Management Framework with stakeholders from across the U.S., as well as its fundamental and applied AI research programs, is that they are dedicated toward cultivating trust in AI. This trust will ensure we can realize the full potential of this emerging technology, and I look forward to working with you to strengthen NIST's role in this area.

I understand that discussions are already underway with the EU and other like-minded government counterparts to promote global cooperation in AI. If confirmed, I commit to supporting the Secretary of Commerce to engage our counterparts in these discussions. I will also ensure that NIST's AI experts are at the table meeting with their technical counterparts in standards bodies and in bilateral and multilateral meetings to address these issues.

Question 6. NIST plays a vital role in the coordinated U.S. government approach to being the world leader in quantum technology through university collaborations such as JILA, the Joint Quantum Institute (JQI) and the Joint Center for Quantum Information and Computer Science (QuICS), as well as activities to enable and grow the quantum industry through the Quantum Economic Development Consortium. What is your vision for the continued growth of their activities, and collaborations with both U.S. and allied international stakeholders?

Answer. Quantum is a critical emerging technology space that the U.S. must own as dominance in this area will lead to great economic strength and national security advantage. NIST and its partners have been global leaders for more than a decade and a half in quantum science and technology. NIST has a long history of not only conducting world class quantum research but also supporting industry efforts in

quantum information science. The three institutes you mentioned are key examples of NIST's investment in this area and its' strong collaborations with academia in developing the workforce for important industries of the future, as I have witnessed firsthand in my role at the University of Maryland.

If confirmed, I will continue to support strong research and key collaborations with industry and academia in quantum science and technology, with the goal of enhancing and maintaining U.S. leadership and competitiveness in this critical technology area. I would look forward to partnering with other agencies, including NSF, to continue to promote the advancement of quantum in the U.S.

Question 7. The Facial Recognition Vendor Test (FRVT) program is among NIST's initiatives to provide biometrics vendors the opportunity to test their technologies and further NIST's efforts to conduct research to improve and benchmark the accuracy, efficacy, and anti-bias capability of biometric identification systems. A robust testing infrastructure is required to keep pace with the rapid development and deployment of such systems in the field. For example, testing cloud-based systems or human recognition algorithms in addition to facial recognition algorithms may require additional investments. How would you ensure that NIST has the capacity, in light of resource constraints, to comprehensively test and develop standards for biometric identification systems through programs including FRVT? How would you suggest NIST work with the private sector and other Federal agencies to align its testing programs with their needs?

Answer. In the area of biometrics, NIST has been working with public and private sectors since the 1960s. Biometric technologies provide a means to establish or verify the identity of humans based upon one or more physical or behavioral characteristics. NIST responds to government and market requirements for biometric standards, including facial recognition technologies, by collaborating with other Federal agencies, law enforcement, industry, and academic partners to: research measurement, evaluation, and interoperability to advance the use of biometric technologies including face, fingerprint, iris, voice, and multi-modal techniques; develop common models and metrics for identity management, critical standards, and interoperability of electronic identities; support the timely development of scientifically valid, fit-for-purpose standards; and develop the required conformance testing architectures and testing tools to test implementations of selected standards.

We have seen a considerable rise in facial recognition technologies and other key biometrics in both the public and private sector. NIST plays an important role in developing biometric standards, including through research on different biometric technologies and common metrics for testing. If confirmed, I look forward to seeing how NIST's role can be strengthened to ensure the responsible development and use of technology. If confirmed, I will work to ensure that NIST will continue to seek out strong collaborations with other agencies and private sector partners in the area of biometrics.

Question 8. R&D plays a critical role in promoting American leadership in technology, innovation, and standardization. It is imperative that the U.S. maintain its leadership, and a strong U.S. patent system that rewards and protects investments in R&D is a necessary component of a thriving innovation ecosystem. In your experience leading a university technology transfer program, what difference has the role of licensing, technology transfer, collaboration agreements, and the U.S. patent system played in encouraging innovation and investments?

Answer. U.S. universities receive funding from the Federal government to do research, to innovate, and to discover. Then they take those discoveries into market for the benefit of the U.S. through patenting, licensing, and spinning off companies based on the IP developed—most often supported by Federal grants. Both the inventor and the university can profit from these tech transfer activities, and the university is assigned with the duty of managing any potential conflicts of interest that arise. Four years ago, the University of Maryland spun out a company from its quantum research program. IonQ is the first pure-play quantum computing company to go public in the U.S. When it was announced that it would go public in early 2021, it was valued at \$2 billion. This is a great success story out of innovation that started at a university with sustained public research funding.

The U.S. needs to have a continued focus on policies that allow for universities and other institutions to patent and license their technologies. Entrepreneurs and innovators at universities and other institutions should be able to profit from their inventions to incentivize the transfer of technology for economic benefit. Supporting tech transfer through Federal grants would be extraordinarily helpful to universities all over the U.S. Doing tech transfer right is a costly enterprise and universities have a lot of competing financial priorities that impinge on patent/licensing budgets as well as resources for our entrepreneurs.

I also believe that we should provide more flexibilities for inventors in the Federal government to spin off companies and profit from their inventions. Without greater flexibilities and incentive programs, we will continue to miss out on the potential economic benefit associated with the inventions made by our Federal workforce.

If confirmed, I would look forward to working with the committee in these areas.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROY BLUNT TO
DR. LAURIE E. LOCASCIO

Question 1. Ms. Locascio: One of NIST's key roles is to assist the Nation's talented manufacturing industry so we remain the world leader when it comes to competitiveness and innovation. One way NIST serves this role is by administering Manufacturing USA, a program that Senator Brown and I helped to establish back in 2014, and which we worked to expand through the United States Innovation and Competition Act of 2021. I have been proud to lead the way in support of advanced manufacturing initiatives like Manufacturing USA at the Federal level, to help leverage the talent of our innovative private sector and world-class educational institutions—institutions like Ozarks Technical Community College, which is currently building a new state of the art education facility to help harness the talent of Missouri's workforce and bring prosperity and progress in advanced manufacturing not only to southwest Missouri, but the whole nation. Ms. Locascio, in your opinion, how important is Manufacturing USA in strengthening U.S. competitiveness and innovation, including with respect to technology, supply chain issues, and workforce development? Further, how important is U.S. leadership in advanced manufacturing, in terms of our economic well-being and national security?

Answer. The Manufacturing USA Program and its network of 16 institutes, supported by NIST, the Department of Defense, and the Department of Energy, are a critical part of America's overall goal to bring manufacturing back and strengthen U.S. competitiveness and innovation. Nearly 2,000 companies, universities, and non-profit organizations from across the U.S. participate in these institutes which serve as innovation hubs for manufacturing, providing real value to U.S. industry. These hubs will position the U.S. to compete globally in existing and emerging critical technologies. These hubs benefit the public by outreach to local K–12 students and teachers, stimulating workforce development in new technical fields, and providing for improved job opportunities. If confirmed, I would look forward to supporting you in the continued growth and acceleration of this important program for the Nation.

Throughout the pandemic, the U.S. has become increasingly aware of fragile vulnerabilities and dislocations in our supply chain that have had clear economic impact and potential national security impact. Many of the supply chain disruptions have been caused by the offshoring of major manufacturing in the U.S. over the course of the last several decades. The loss of manufacturing base in this country has also decimated many towns and cities all over America impacting the quality of life for so many. It is critical for economic security, national security, and quality of life, that we bring back a strong manufacturing base to the U.S. If confirmed, I will work with this committee through NIST programs—Manufacturing USA, MEP, and the NIST labs—to help accomplish this goal.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RON JOHNSON TO
DR. LAURIE E. LOCASCIO

Question 1. I hear from just about every manufacturer I meet with that they cannot find enough skilled workers.

- Do you believe the current U.S. policies and institutions prepare workers for the jobs required by manufacturers?
- If not, what do you believe would correct the skills mismatch and worker shortage described by U.S. manufacturers?

Answer. I believe we can do more to prepare workers for jobs required by manufacturers. The NIST MEP program and Manufacturing USA institutes can be part of this solution working in partnership with every state in the country engaging with local industries, universities, community colleges and trade schools. If confirmed, I will work with this committee to prioritize workforce development for manufacturing in the U.S.

Question 2. What will you do, if confirmed as Director of NIST, to support and encourage pathways to the trades that do not require college degrees?

Answer. If I am confirmed as the next NIST Director, I would prioritize workforce development for manufacturing in every state by working through the NIST MEP

and Manufacturing USA programs. These programs already engage closely with regional stakeholders and, if appropriately resourced, can assess the workforce needs and promote workforce development through local and regional entities. The national network can also serve to share best practices and programs that can become national training programs.

Question 3. The Biden Administration supports tariffs and expanding Buy American provisions. Do you believe protectionist policies create resilient and competitive businesses and industries?

Answer. I believe that our current issues related to global competitiveness will be best addressed through well-constructed multifaceted solutions grounded in data. If I am confirmed, I will work with this committee to ensure NIST's policy solutions are grounded in data.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
DR. LAURIE E. LOCASCIO

Question 1. I share your passion for supporting female leadership and encouraging more participation of women in STEM, especially amongst our young women and girls. As the first female Senator from West Virginia, I have worked to inspire other young women to pursue leadership positions and instill confidence in themselves.

- If confirmed, will you work with me on this issue?
- Would you also be willing to visit West Virginia, again, and do an event focused on encouraging young women into STEM?

Answer. As you mentioned, this is a subject that I have been extremely passionate about throughout my career. I would truly look forward to working with you on this issue. I would be happy to visit West Virginia to speak with young women about pursuing STEM fields. Thank you for this invitation. It would be a pleasure.

Question 2. Growing up in a small Appalachian town, I am sure you are familiar with the struggles and obstacles facing rural academic institutions and their having access to Federal research support. Thankfully this Committee, and the full Senate, passed the United States Innovation and Competition Act (USICA) which takes a number of steps to build research and education capacity in more rural states. Could you speak to the importance of a more balanced geographic distribution of Federal research funding?

Answer. I truly believe that all areas of the U.S. must have better access to research funding so that every state and every person can have the ability to participate in our innovation economy. The U.S. has a wealth of talent and capacity in every state. It will be important to take advantage of all our strengths and drive innovation beyond Silicon Valley, Boston, and New York. NIST has a strong foundation of rigorous and open competition for resources and funds work across the country. If confirmed, I will work to ensure that NIST continues the efforts and works to create new opportunities for underserved communities. In this worldwide distributed economy with a strong competitor, we just cannot afford to leave anyone behind.

Question 3. Thank you for mentioning the importance of the Manufacturing Extension Partnership (MEP) Program in your testimony. In West Virginia, the WVU Industrial Extension—West Virginia's representative of NIST's MEP National Network—has been doing exceptional work across the state. These partnerships are critical to bridge small and medium companies with economic development partners, industry focused agencies, and third-party providers. If confirmed, do you commit to support the MEP Program?

Answer. In FY 2020, the MEP National Network interacted with 27,574 manufacturers, leading to \$13.0 billion in new and retained sales, \$2.7 billion in cost savings, \$4.9 billion in new client investments, and helping to create and retain 105,748 U.S. manufacturing jobs. I believe the MEP, working in every state in close partnership with local and regional assets, is critical to building a more healthy and vibrant manufacturing base all across the U.S. If confirmed, I commit to support the MEP program and its extensions in West Virginia and beyond.

Question 4. This Congress I, along with my Senate colleague Senator Peters, re-introduced the Composite Standards Act. This legislation would establish a design data clearinghouse to disseminate existing guidelines and standards for using composite materials in infrastructure projects. This would support the work being done in universities across the country, but especially at WVU as a member of the NSF's Center for the Integration of Composite into Infrastructure (CICI). Could you speak

to the importance of incorporating composite technology into rebuilding our Nation's roads and bridges?

Answer. NIST has a robust research programs in materials design and testing and also in building, infrastructure and community resilience. It is critical that we design new infrastructure and shore up existing infrastructure using state-of-the-art materials and approaches. If confirmed, I would look forward to discussing this important issue and the accompanying legislation with you.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICK SCOTT TO
DR. LAURIE E. LOCASCIO

Question 1. This past June, the Surfside community and the entire State of Florida experienced a tremendous loss when Champlain Towers South tragically and unexpectedly collapsed, taking innocent lives and devastating hundreds of families. In your position, how will you ensure NIST properly investigates this in a timely manner to learn what happened and do what is needed to prevent another tragedy?

Answer. The collapse of Champlain Towers South was a tragedy that has had devastating impacts. It is my understanding that NIST, working under the authority of the National Construction Safety Team Act, sent a team of experts to Surfside to launch a full technical investigation working in close partnership with the State of Florida, the local community, and other Federal partners. As it has done in the past, NIST will conduct a thorough and complete investigation to determine technical cause. From the results of that investigation and analysis, NIST may recommend changes that will lead to improved building safety for Surfside, the state of Florida and across the U.S. If confirmed, I ensure you that NIST will work diligently to complete this work in partnership with the State. It is critical that this be done in a timely manner to prevent, wherever possible, another tragedy from occurring.

Question 2. What would you do to combat Communist China's growing aggression to influence standards setting organizations?

Answer. Standards have become a key battleground in the global competition for technology leadership. Backed by the People's Republic of China (PRC), Chinese companies have greatly increased their participation in international standards development organizations (SDOs). Although participation is not an indicator of influence when it comes to technical standard outcomes, it does appear this part of a broader effort by the PRC to influence critical and emerging technology areas. In particular, the PRC is aggressively seeking leadership roles in strategic areas such as advanced communications (5G, 6G, and beyond) and artificial intelligence (AI).

I know from my own experience in the international standards arena while previously with NIST, that increased participation in standards development is something we must take seriously. Engagement in documentary standards development is a critical element of the NIST mission where NIST works to ensure the U.S. approach to international standards development is based on the principles of transparency; openness; impartiality, and consensus. If confirmed, I look forward to working with Congress in developing aggressive strategies to strengthen the U.S. Standards system in ways that (1) promote robust U.S. participation in international standards development organizations; and (2) increase U.S. R&D coordination and cooperation with likeminded partners and allies.