Recommendations of the Build America Investment Initiative Interagency Working Group

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Pursuant to Presidential Memorandum – Expanding Public-Private Collaboration on Infrastructure Development and Financing

I. INTRODUCTION

The federal government can play an important role in supporting, promoting, and expanding opportunities for public and private partners to work together on developing and financing infrastructure in a way that facilitates appropriate and competitive solutions that benefit the public interest. In light of these opportunities, on July 17, 2014, President Barack Obama launched the Build America Investment Initiative (BAII), a government-wide, interagency initiative designed to increase infrastructure investment and promote economic growth. The President directed the newly established Interagency Infrastructure Finance Working Group (WG), co-chaired by the Secretaries of the Treasury and Transportation, to deliver recommendations on how to promote awareness and understanding of innovative financing and increase effective public-private collaboration.

At the direction of the President, the following actions were taken to implement the 120-day initiative:

- On September 9, 2014, the Obama Administration hosted the Infrastructure Investment Summit at the Main Treasury Building. Over 100 leaders from industry, finance, philanthropy, and state and local governments convened with senior Administration officials to highlight the growth potential in the U.S. infrastructure market, build partnerships, and develop strategies for increasing investment in sectors such as transportation, water, telecommunications, and energy.

- The U.S. Department of Transportation (USDOT) established the Build America Transportation Investment Center (BATIC) to serve as a one-stop shop for state and local governments for information regarding the use of innovative financing and public-private partnerships (PPPs) to advance transportation infrastructure.

Section II describes the challenges and opportunities that we face in modernizing and maintaining our infrastructure networks. Section III presents executive actions that have been taken under the BAII and the recommendations of the WG. Section IV proposes an action plan for the next two years.

II. MODERNIZING OUR INFRASTRUCTURE: OPPORTUNITIES AND CHALLENGES

Reliable and efficient infrastructure is indispensable to a modern economy, and our nation needs to continually modernize and maintain our infrastructure to help ensure the United States remains a productive place for businesses to operate and grow. Yet public infrastructure expenditures as a share of the economy have declined in recent decades, both for capital investment and for operations and maintenance.[1]

The economic, social, and environmental costs of our sustained underinvestment are massive. U.S. businesses pay $27 billion in additional freight costs because of the poor conditions of roads

[1] Bosworth, Barry and Sveta Milusheva. "Innovations in U.S. Infrastructure Financing: An Evaluation," *The Brookings Institution and the Nomura Foundation Conference on the Global Economy after the Tohoku Earthquake*, 2011.

and other surface transportation infrastructure. The same poor road conditions contribute to drivers in the United States spending 5.5 billion hours annually in traffic, resulting in $120 billion in additional fuel costs and lost time, as well as the emission of additional heat-trapping greenhouse gases.[2] Due to continuing deterioration of water systems throughout the United States, each year there are approximately 240,000 water main breaks resulting in property damage, expensive service interruptions and repairs, and squandered water resources.[3]

A. Investing Intelligently Now

The effects of years of underinvestment in infrastructure will not be quickly undone in an era where public spending capacity is limited. We should therefore evaluate the economic returns when selecting our infrastructure investments and prioritize wisely. Additionally, we need to rethink how we pay for and manage non-federal public infrastructure assets, and should consider private investment where practical.

Public investment remains essential, and is an important part of the Administration's infrastructure plans. With respect to surface transportation, for example, the Administration proposes to increase investment over current levels through the GROW AMERICA Act, a $302 billion, four-year reauthorization package that will provide funding certainty to communities across the country; support millions of American jobs repairing and modernizing our roads, bridges, and transit systems; and help ensure that American businesses can compete effectively in the global economy.

While private investment is not a substitute for government spending on public infrastructure, we can more easily meet our nation's infrastructure needs by expanding the sources of investment and using those dollars, whether public or private, as effectively as possible. Further, expanding investment now can also help project sponsors take advantage of opportunities in the current economic environment characterized by low long-term interest rates.

Investing wisely also means making strategic choices that yield high economic and social benefits. The most important strategic opportunities include:

- **Increasing resilience**: New infrastructure investments present opportunities to increase the nation's climate preparedness and ecosystem resilience by incorporating projected future climate conditions into their placement and design. Federal policy can promote awareness of design measures that could result in increases to water supply, energy efficiency, greenhouse gas reduction, community livability/recreational assets, and wildlife habitat creation in urban and rural areas.

- **Reducing cyber risks**: Our nation's infrastructure is increasingly exposed to cyber risks. Information and communications technology are now integral to activities such as supplying drinking water and electricity, moving natural gas and oil, running transit systems, and controlling traffic. While these systems enhance efficiency, they also introduce new vulnerabilities that adversaries may seek to exploit. Any efforts to enhance public and

[2] National Economic Council and President's Council of Economic Advisors. *An Economic Analysis of Transportation Infrastructure Investment*. Washington, D.C.: The White House, 2014.
[3] American Society of Civil Engineers. *2013 Report Card for America's Infrastructure*, 2013.

private investment in infrastructure should take into account the opportunity to reduce vulnerabilities to cyber risks to the extent feasible to enhance the nation's economic and national security.

- **"Dig once"**: Coordinating underground infrastructure work and digging only once for road, water, broadband, electricity, and natural gas infrastructure investments and maintenance can achieve construction savings and minimize the traffic disruptions caused by road work. In 2012, the President signed an executive order encouraging "dig once" policies nationally and accelerating the deployment of broadband infrastructure on federal lands. In response, 12 agencies worked with USDOT to develop a set of "dig once" best practices for state and local governments that have been shared with nearly 300 communities across the country. The adoption of a "dig once" policy encourages broadband service providers to deploy fiber networks along roadways that are already under construction. Past "dig once" projects have shown that the fiber infrastructure adds as little as one percent to the overall roadway construction costs, while connecting new towns and neighborhoods to affordable internet connections.

- **Creating jobs**: Increasing infrastructure investment in the United States will promote job creation in both the short term, through additional construction spending, and long term, by expanding the economy's productive capacity. A recent analysis by the National Economic Council and the Council of Economic Advisors suggests that investment in transportation infrastructure would lead to strong job growth in the construction industry, as well as in manufacturing, retail trade, and professional and business services.[4] In an economy that is producing at less than full potential, infrastructure-related jobs represent a net increase in employment rather than a reallocation of labor across industries. Because most infrastructure-related jobs offer good wages to workers with a range of formal education and training, they give workers from diverse backgrounds a chance to make a decent living.[5]

- **Promoting strong labor standards, workforce development, and worker protections**: As state and local project sponsors design new partnerships and contracts, they should take the opportunity to advance "high-road" contracting practices that create good, middle-class jobs and benefit current and aspiring workers alike. Several cities and states have adopted similar practices and expanded on them by providing health benefits or paid sick days and participating in apprenticeship programs, among other strategies. Applying these practices to broader classes of infrastructure projects, particularly projects financed through public-private partnerships, will help more project sponsors use infrastructure investment to strengthen local economic opportunity. The prevailing wage provisions of the Davis-Bacon Act and the Service Contract Act, and the federal protections for incumbent workers in service contracts, provide effective and well-tested models for these protections. Federal agencies should identify and share best practices, for example, by including them in model contracts.

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[4] http://www.whitehouse.gov/sites/default/files/docs/economic_analysis_of_transportation_investments.pdf; *see also* http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/PERI_Infrastructure_Investments (an estimated 18,000 jobs are created directly and indirectly for every $1 billion invested in infrastructure).

[5] http://www.brookings.edu/blogs/the-avenue/posts/2014/06/23-wage-potential-infrastructure-jobs-kane-puentes.

B. Challenges Limiting PPP Activity

While other advanced economies, including Canada, Australia, and the United Kingdom, rely heavily on PPPs to secure private financing for infrastructure, the role of PPPs in the U.S. market is limited, though it is growing. Based on our research and engagement with stakeholders, significant private capital could be mobilized for non-federal public infrastructure investment, but few PPP projects are being executed. Among the key challenges to developing a broader PPP market are:

- **Inadequate levels of predevelopment funding**. A major challenge for project sponsors undertaking innovative infrastructure projects – whether innovative in terms of using emerging technologies or PPP financing – is the lack of funding for the early phases of infrastructure project development that precede actual construction. Although only accounting for a small percentage of overall costs, the predevelopment phase largely defines how projects will be paid for and built. Predevelopment analysis is particularly essential for PPPs, both to assess whether PPP funding can save money for taxpayers over the project lifecycle and because the quality of preparation can have a considerable effect on a PPP's terms and long-run profitability. The enormous excess demand for limited federal discretionary grants for predevelopment – for example, in 2014, USDOT received 200 applications requesting more than $300 million in funding for the $35 million available in TIGER planning grants – demonstrates that state and local governments view predevelopment costs as important. Notably, the Administration's GROW AMERICA Act would significantly increase the size of the TIGER program. But so long as predevelopment funds for PPP projects are scarce, many project sponsors will understandably tend to rely on existing models, proven technologies, and traditional methods of financing and procurement.

- **Lack of state and local government readiness.** Many states and local governments do not have sufficient legal flexibility within their existing procurement statutes and ordinances to accommodate the multi-phased, negotiated, project finance bidding required of PPPs. A lack of innovative financial expertise in many state agencies and legislatures, and limited coordination across states to share best practices and lessons learned about PPPs, are also impediments to a more robust PPP market in the United States. Political risk, including uncertainty about whether legislatures and key officials will ultimately undertake particular projects or rely on PPP funding, is another important obstacle. Private investment is negatively affected by the ability of sponsor officials to abandon plans for PPP funding mid-course while private investors are engaged in costly due diligence. Project sponsor commitment to PPP procurement and early engagement with constituents can alleviate these challenges.

- **The need to work across state, county, and city lines.** While large, multi-jurisdictional projects are often strong candidates for PPP funding, negotiating deals between private partners and multiple project sponsors introduces additional challenges. Having multiple project sponsors makes it more difficult to establish channels for joint decision-making, transfer risk in a way that satisfies all parties, and achieve buy-in from separate stakeholders across jurisdictions. In an important step forward, a number of regional infrastructure "exchanges" have recently arisen to facilitate regional collaboration in infrastructure planning and procurement, including the West Coast Infrastructure Exchange.[6] By serving a coordinating function and facilitating planning at a regional level, these exchanges can improve prioritization of infrastructure investments and allow governments to capture efficiencies by joint funding for similar projects across jurisdictions.

- **Unpredictable timing for project approvals and permitting**. Many federal requirements related to infrastructure projects were written in an era when such projects were almost exclusively developed and administered by public agencies. Compared to projects that are funded conventionally, PPP projects tend to be larger, more technically complex, and involve more complicated relationships between public agency sponsors and private developers taking on traditionally public sector roles (e.g., environmental compliance). Investors have said that they hesitate to engage with projects that have not yet gone through approval processes, creating a barrier to early entry. Increasing predictability by better defining typical project permitting times, developing more standardized approaches to complying with environmental requirements, and expediting environmental approvals could facilitate PPP delivery while meeting public policy goals.

- **Lack of standardization**. Investors consistently express the importance of achieving a steady flow of infrastructure investment opportunities and harmonizing procurement processes and documentation to facilitate the review of opportunities, reduce uncertainty about timelines, and streamline the negotiation process. The federal government can promote the development of the project pipeline by deepening the knowledge of state and local governments regarding PPPs, facilitating broad stakeholder outreach, and promoting best practices, including the development of "value for money" standards. The federal government can also provide direction on deal structure and design options that can reduce renegotiation risk (which can deter investor interest), align sponsor and investor interests, and achieve well-defined risk allocations that yield risk-return tradeoffs acceptable to both sponsors and investors.

- **Lack of a steady project pipeline**. Many prospective equity and debt investors have pointed to the need for a critical mass of deals to develop before they will commit substantial funds. Without equity investors, many deals may not be negotiated, making attracting equity investment more critical at this stage of market development. As debt financing is less costly than equity, development of the infrastructure debt market can help bring down the total financing cost of PPPs.

III. RECOMMENDATIONS

Through the WG process, work in individual agencies, and extensive stakeholder engagement, we have arrived at the recommendations discussed below. Our recommendations cover 13 priority areas: eight approaches to creating better conditions for investment across all public infrastructure sectors (and, in the case of data, private infrastructure as well) and

[6] The West Coast Infrastructure Exchange was announced in 2013 and includes California, Oregon, Washington and British Columbia. Three other regions are also considering such exchanges: (i) The Great Lakes Region is considering a Great Lakes Exchange; (ii) Maryland, Virginia and the District of Columbia are considering a Mid-Atlantic Infrastructure Exchange; and Colorado, New Mexico, Utah and Wyoming are considering a Mountain States infrastructure exchange.

recommendations for five specific infrastructure sectors (transportation, ports, water, energy, and broadband).

A. Functional Recommendations

1. Predevelopment Funding

State and local government project sponsors need expanded access to predevelopment funding for infrastructure projects. Economic impact analyses, regional planning, preliminary engineering assessments, and preliminary environmental impact assessments are all necessary to transform an idea into an infrastructure project. While the costs associated with predevelopment activities represent a relatively small portion (generally less than 10 percent) of the overall project cost, we have learned that the lack of funding for these activities is often a significant obstacle to development in public sector-dominated infrastructure areas due to fiscal constraints or risk aversion. As a result, many promising projects never get off the ground. By increasing the availability of predevelopment funding, important early stage project activities would be more likely to be completed, thereby potentially growing and improving the pipeline of projects.

Steps Taken to Date:

- The WG has identified numerous federal infrastructure programs, such as the Public Works Program and Economic Adjustment and Assistance Program at the U.S. Department of Commerce and the Community Development Block Grant Program at the U.S. Department of Housing and Urban Development (HUD) that can be used to support predevelopment funding. To further unlock program eligibility to support early stage project development, the President will issue a Memorandum defining predevelopment funding, instructing relevant agencies to issue guidance on their relevant grant programs, and ordering a coordinated outreach and technical assistance campaign to educate state and local governments on the benefits of predevelopment funding, especially for PPP projects.

Recommendations for Further Exploration:

- **Continue to explore pre-development funding opportunities within existing programs.**

- **Identify opportunities to connect projects that receive predevelopment funding with complementary federal resources in order to maximize those projects' chance of success**. Other resources include the BATIC, the U.S. Department of Agriculture's (USDA) Rural Opportunity Investment Initiative, and various federal infrastructure financing programs.

- **Explore whether and how to expand predevelopment funding support to cover associated costs** – like community engagement in planning processes – that can contribute to project success.

- Better understand the role that the **private sector can play in supporting predevelopment**, especially in the context of PPPs, including setting standards for predevelopment project assessment and "value for money" analysis. In addition, better understand the value that the philanthropic sector can bring to predevelopment, including convening stakeholders at the local level.

2. Permitting

Greater certainty in federal permitting and approval processes would help private-sector evaluation of PPP opportunities. Some private sector partners have noted that if they initially design and permit a project in a manner not conducive to a PPP, they tend not to consider altering the project to fit a PPP out of a fear that this will restart the permitting process and delay the project substantially. Increasing predictability and transparency of the permitting process could facilitate PPP delivery.

Steps Taken to Date:

- The Administration has taken steps to reduce the time it takes to complete the federal permitting and review process, including issuing two Presidential Memoranda, an Executive Order, and a detailed implementation plan, which an interagency team is already implementing. Federal agencies have also updated a handbook to better align Army Corps of Engineers regulatory reviews with the National Environment Policy Act process administered by USDOT.

Recommendations for Further Exploration:

- **Integrate PPPs into current Administration permitting reform efforts.** The Administration is currently implementing strategies to improve efficiency and predictability in the permitting process for infrastructure projects. We recommend leveraging that work to help focus efforts on ways to better integrate PPPs into these reforms, such as developing guidance to help standardize processes for early input into the environmental review and permitting process – including by investors.

3. Pension Funds and Institutional Investors

Pension funds and other large institutional investors have risk-return preferences and investment horizons that are often well-suited to infrastructure assets, and they represent a significant source of potential funding for domestic infrastructure projects. U.S. public pension funds tend to have lower allocations to infrastructure than their Canadian, Australian, and European counterparts, and even lower rates of direct investment in infrastructure projects. Current investment activity, both direct and through fund managers, tends to be concentrated in sectors that are privately-owned (e.g., energy, telecom) rather than publicly-owned (e.g., highways, water systems).

Steps Taken to Date:

- The California State Teachers' Retirement System (CalSTRS) announced at the Infrastructure Investment Summit in September that it plans to develop a multibillion-dollar global syndicate of public pension funds to invest in North American infrastructure, modeled off the platform created by IFM Investors, an Australia-based fund manager owned by 30 major Australian pension funds. By creating a platform to invest directly in infrastructure, CalSTRS and other pension funds participating in the syndicate will be able to avoid the management and profit-sharing fees charged by privately-managed funds.

- The Administration's FY 2015 Budget included reform of the Foreign Investment in Real Property Tax Act of 1980 to put foreign pension funds on equal taxation footing with U.S. pension funds with regards to investments in real property assets, including infrastructure.

Recommendations for Further Exploration:

- **Convene pension funds and other institutional investors to better understand the composition of current market activity.** We have heard repeatedly that institutional investors, including both foreign and domestic, are interested in increasing the share of their portfolios dedicated to U.S. infrastructure assets. Continued engagement will allow us to capitalize on and share the experience of investors already active in the market, and to better understand how their practices can be publicized and replicated by other investors.

4. Tax Considerations

A review of relevant tax rules would determine if there are inappropriate barriers to greater use of PPPs in financing public infrastructure in the United States, and whether opportunities for expanded use of tax-exempt debt for PPP financings should be pursued. The Internal Revenue Code and implementing federal regulations and guidance have been designed over the past 30 years to limit the ability of private businesses to benefit from tax-exempt financing. However, as the distinction between public and private projects has evolved, tax rules placing restrictions on the private sector's role in the financing, management, and operation of public infrastructure have not been adjusted.

During the Infrastructure Investment Summit and other discussions, market participants suggested that PPPs would benefit if certain tax rules were reconciled with the policy goal of attracting private capital into public infrastructure. These areas include, but are not limited to: restrictions on the use of private sector leases or concessions for public assets previously financed with tax-exempt bonds; limitations on the use of private sector operating and management agreements; uncertainty regarding the use of joint public-private ownership entities; and the absence of tax-exempt financing eligibility for social infrastructure PPPs.

Steps Taken to Date:

- The President's FY 2015 Budget included several provisions that would increase public and private sector collaboration in infrastructure. These provisions include: use of America Fast Forward Bonds for projects and programs that can be financed with qualified private activity bonds; an increase in the national limitation amount for qualified highway private activity bonds by $4 billion; and an elimination of the volume cap requirement for private activity bonds for water infrastructure.

Recommendations for Further Exploration:

- **Review existing tax provisions for inappropriate barriers to investment**, and consider specific proposals to better align federal tax policies with infrastructure finance policies. Such review should focus on updated and modernized regulatory tax guidance and legislative proposals to encourage greater use of PPPs in the development and financing of public infrastructure.

5. PPP Contract Standardization

Standardizing the approach to PPP contracts would improve the accessibility of these arrangements for both project sponsors and investors. Today, there is no nationally accepted model or framework for PPP contracts, requiring project sponsors and investors (and their lawyers) to craft highly customized contracts for each deal. USDOT has released a model contracts guide for highways and is working towards expanding the guide to support a broader range of provisions. While PPP transactions will always require some degree of asset-specific customization, a general template in providing a standardized approach to PPP contracts should reduce the cost and complexity of structuring a PPP transaction. Moreover, it may encourage the utilization of PPPs for smaller projects, whose sponsors and investors may otherwise be discouraged by the high costs of structuring a potential transaction.

Steps Taken to Date:

- In September, USDOT released a series of model contract provisions to support development of toll concession projects, which will be supplemented within the coming weeks.

Recommendations for Further Exploration:

- **Expand the BATIC's work related to model PPP contracts to develop additional guides** to cover other payment structures for other infrastructure modes such as transit projects.

- **Collaborate to develop parallel model PPP contracts for the water and wastewater sectors** using the newly formed **water investment center at EPA.**

- **Ensure that model contracts include protections for labor standards,** including the contracts developed through the financing centers created under the Build America Investment Initiative.

6. Successful Risk Sharing

Large and complex infrastructure projects may be strong candidates for public private partnerships because of the opportunity for significant cost efficiencies that can be achieved through a project's lifecycle when utilizing a PPP model. In order to realize these cost savings, however, each partner should assume those risks it can more cost-effectively manage, so that the risk-return tradeoffs are acceptable for both public sponsors and private investors. By assigning revenue and risks along the spectrum from pure user fees, where all the risk is borne by the private investor, to availability payments, where the government provides a fixed revenue stream to the investor, innovative incentive structures can increase the universe of acceptable financing options for investors and public sponsors. The federal government can help improve the effectiveness of risk sharing on infrastructure projects by disseminating information on alternative contract structures.

Steps Taken to Date:

- USDOT is developing documentation on model PPP contracts focused on highway toll concessions, including discussion of revenue and risk-sharing approaches that draw on international experience.

- USDOT has developed analytical tools for conducting risk assessments for highway toll PPPs.

Recommendations for Further Exploration:

- **Prepare a white paper, authored by Treasury,** on alternative contract incentive structures for revenue or profit and risk sharing that can help align incentives of public project sponsors and private investment partners.

- **Convene regional workshops to expand state and local government capacity around high-road PPP contracting,** building on our experience with the Infrastructure Investment Summit**.**

- Support regional collaboration through organizations such as the West Coast Infrastructure Exchange and state PPP offices.

7. Bundling

The scale of many individual infrastructure projects is too small for large institutional investors, creating a funding gap that disproportionately affects smaller, low income, and rural communities. Bundling individual projects may create projects that are more desirable to larger scale investors; however, legal and policy challenges need to be overcome.

An infrastructure fund that bundled small projects could be set up to attract institutional capital. Government agencies could serve as facilitators for such funds. For example, USDA has information on many infrastructure projects particularly in the area of electric and water utilities, telecommunications, and broadband. To assemble a fund, investors need a catalyst, such as a seed investment that provides key information on the characteristics of those assets. Across government, there are several such asset classes already on the books, making this an area ripe for additional evaluation and consideration.

Steps Taken to Date:

- USDA is seeking formal input from leading finance advisors on which assets and programs are best suited to public-private partnerships. USDA is working to better understand opportunities and barriers to third party investment.

Recommendation for Further Exploration:

- **Continue USDA's ongoing internal efforts on to explore public-private partnerships** and begin a broader dialogue with relevant agencies, including the Office of Management and Budget (OMB) and Treasury, on structuring of asset bundles and consequences of transferring these bundled assets. As part of the same process, USDA would explore the ability to make some data on its projects publicly available.

- **Highlight successes at the state level on bundling**, including work done by the Connecticut Green Bank and State of Hawaii on solar bundling. While there is no direct federal role in these bundling initiatives, federal policymakers can publicize them to promote their benefits more widely among other states.

- **Utilize the WG to highlight the value of continuing the work behind these bundling proposals** and be a convening body for interested agencies to share resources and research and coordinate efforts. USDA will also aim to **share lessons learned with other agencies** that have similar portfolios and goals. Interagency collaborations will include discussion to ensure that bundling efforts account for the needs of small and minority businesses.

8. Broadening Availability of Infrastructure Data

The absence of an infrastructure return benchmark or index reduces the investment community's ability to evaluate PPP projects. No broad benchmark or index exists to demonstrate historical performance of equity or non-tax-exempt debt investments in traditionally-public infrastructure or enable investors to benchmark the performance of a current investment to that of a broader set of infrastructure investments. The federal government could increase transparency within the infrastructure market and help sustain investor interest by facilitating the creation of an infrastructure benchmark. The development of such a benchmark would be based on past infrastructure investments at the sector level, and would likely require considerable research and design effort. Additionally, careful attention would be paid to not disclosing business-sensitive information.

Through a private sector initiative, a new global infrastructure index will be released soon. The creator of this new global index, IPD, a provider of real estate performance and risk data, anticipates that it will incorporate 150 investments made by U.S. and international funds; the investments will be about evenly split between those in and outside of Australia, include investments in the United States and cover approximately $50 billion in transaction value.

Recommendations for Further Exploration:

- The Administration and McGraw Hill Financial are in the initial stages of exploring a potential agreement whereby **USDA would allow McGraw Hill to access data on a select, non-confidential and small portion of USDA's multibillion-dollar portfolio** of water, energy, and telecommunications loans. This information, with data from other public and private sources, will enable McGraw Hill to create a pre-commercial prototype of an infrastructure information platform as a first step to build market standards such as infrastructure benchmarks, indices, and standardized documents.

- **Treasury may convene financial data providers and infrastructure market participants** to further explore the benefits and possibility of developing a U.S.-centric infrastructure return index on one or more sectors.

- **The Administration may work to replicate USDA's data transparency efforts** for infrastructure loans originated and serviced by other federal agencies.

B. Sector-Specific Recommendations

1. Transportation

State and local government agencies are the primary sponsors and decision makers regarding the financing and delivery of transportation infrastructure improvement projects in the United States. A robust public program of transportation infrastructure delivery continues to be of paramount importance.

In order to support overall increased investment in U.S. infrastructure, the federal government can provide hands-on expertise and project support; improve access to existing USDOT programs and resources; facilitate sharing of best practices and successful strategies, including those that support job creation and protections for labor standards, as well as numerous resources and guides to help project sponsors evaluate financing options including PPPs; and help reduce uncertainty and delays in working through permitting and approval processes.

Steps Taken to Date:

- The BATIC is providing a range of educational and technical assistance resources to support project sponsors who are considering PPPs and other forms of innovative finance. This includes new model contract provisions and features a number of tools and resources for project sponsors.

- One of the most significant jobs of the BATIC is to help individual project sponsors explore and develop a robust pipeline of projects. On September 9, Secretary Foxx sent a letter to governors, mayors, and metropolitan planning organization (MPO) directors asking for their ideas of projects that would benefit from USDOT attention. Their ideas, as well as creative feedback from other stakeholders, are allowing USDOT to work toward identifying a pipeline of projects that can benefit from the BATIC.

Recommendations for Further Exploration:

- **Develop model transaction contract guides and conduct outreach and training** activities and continue work on the PPP Toolkit, which includes analytical tools and guidance documents to assist in educating public sector policymakers, legislative and executive staff, and transportation professionals in the implementation of PPP projects.

- **Encourage the use of USDOT-developed PPP screening tools** through user incentive programs to foster early consideration of public-private partnership opportunities in the transportation planning process.

- Continue to support the **Administration's GROW AMERICA Act,** which proposes a number of relevant policy changes that require legislation.

- **Partner with the National Governor's Association and National Conference of State Legislators** to better assist states with no or limited PPP authority and seek to educate state executive and legislative branches.

- **USDOT is supporting increased private investment in transit projects.** USDOT has solicited projects for a pilot program to promote transit-oriented development and will be releasing *Guidance on Joint Development*. In addition, in the coming months, USDOT expects to offer further technical assistance to public transportation providers in communities seeking to align transit investments with affordable housing and local private development.

2. Ports

Our nation's ports are increasing investment in their own infrastructure. Larger ships will change the ports that shippers decide to use – which could lead to higher volumes of cargo at some of our ports, and lower volumes at others. Many port authorities are making investments to modernize their cargo handling equipment, or working with state and local agencies and the private sector to improve their connections to inland rail and road networks. More efficient port infrastructure can strengthen our economy. Landside port infrastructure is primarily funded at the state and local levels, and by the private sector. Some port authorities, particularly those for medium-sized and small ports, may not be able to attract private investment without some type of public funding. In addition, it is important to ensure that port authorities and private investors have access to and are fully informed about the availability of existing federal infrastructure programs.

Steps Taken to Date:

- Under the Maritime Administration's (MARAD) new StrongPorts program, USDOT is developing tools and initiatives helpful to port authorities that are pursuing modernization projects, including those interested in PPPs. StrongPorts initiatives include a Port Planning and Investment Toolkit that provides port authorities with a how-to guide for performing due diligence and developing an investment-grade project; a new "PortTalk" initiative aimed at helping ports to integrate their projects into state transportation department and MPO transportation infrastructure planning and funding processes; and direct technical assistance to ports interested in taking advantage of federal grant assistance. A recently-released guide provides an additional resource regarding financing for ports.

- The BATIC is also undertaking an exercise to further integrate planning for landside port infrastructure with other surface transportation programs and funding mechanisms.

- The BATIC exercise described above includes an effort to improve port access to existing federal programs by clarifying eligibility. USDOT hosted an interagency table-top exercise reviewing the eligibility of elements of port and related infrastructure for USDOT and other federal programs, and is currently working through a detailed examination of which port components may be eligible for those programs.

Recommendations for Further Exploration:

- **Explore the potential benefits of increasing MARAD's capacity to provide technical assistance through the StrongPorts team** that would help ports identify and secure appropriate funding resources; partner with key stakeholders; integrate port planning with that of the state and local planning and financing mechanisms; and help form PPPs, where appropriate, to meet their modernization and expansion needs of the future.

- Identify which U.S. port authorities are using a PPP approach to port investment; why these port authorities decided to use that approach; what the different options within PPPs these U.S. port authorities are using (e.g., ownership, who assumes the risk, duration of arrangement, etc.); what types of investments are financed in this manner; and how and why the ways that these U.S. port authorities use PPPs differ from other international authorities.

3. Resilient Water Infrastructure

Water infrastructure projects may be ripe for PPPs at the local level, as they offer a clear revenue stream from rate-payers, but there are few existing examples from which to build on due to a range of challenges. Today, private sector investment flows largely through municipal bonds. Public-private partnerships, however, have the potential to increase capital investment in water infrastructure, bring in new technologies, and improve services.

Using innovative, green approaches to modernize clean water infrastructure offers numerous benefits including avoiding financial losses from leaking pipes; reducing pollution from sewer overflows and wastewater discharges; protecting drinking water sources and public health, as well as our aquatic resources; and enhancing the resilience of municipal utilities.

Steps Taken to Date:

- The U.S. Environmental Protection Agency (EPA) and the state of Maryland are providing technical and regulatory support for developing and implementing the Prince George's County Urban Stormwater Retrofit Public-Private Partnership Demonstration Pilot.

- EPA, USDA, HUD, and U.S. Department of Health and Human Services are collaborating to provide financing and technical assistance for small and underserved rural communities.

Recommendations for Further Exploration:

- **Create a water investment center.** The center will serve as the focal point for federal innovative water infrastructure financing initiatives and research projects. The center may focus on one or more of the following activities, potentially in partnership with other agencies:

  - **Improve utilization of existing federal programs and encourage sustainable funding sources for municipal utility programs. Promote innovative financial tools.** Highlight best practices, offer technical assistance, and collaborate with states to promote innovative practices; facilitate peer-to-peer learning; and partner with interested states, municipalities, and private investors to encourage innovative financial practices to support additional water infrastructure investment and increased resilience.

  - Through collaboration across federal agencies, **support small community water systems through technical assistance and outreach to communities** (including tribes) who currently lack technical, managerial, or financial capacity.

  - **Build the analytical base for stormwater utilities by sponsoring research and analysis** to provide data for state and local officials seeking sustainable sources of funding.

  - **Use technical assistance to support water utilities in developing energy-saving programs.**

  - **Improve partnership with the USDA Rural Water Guaranteed Loan Program.**

- **Explore opportunities to encourage private investment in federally-built water infrastructure.** Federal water infrastructure provides multiple benefits including water supply, flood control, hydropower, navigation, and recreation. Leverage private investment to augment or optimize benefits from water infrastructure where there currently exists a federal interest. Coordinate with the new water investment center at EPA to explore innovative financial practices to accomplish this goal.

4. Energy

Reducing information barriers can accelerate investment in resilient energy infrastructure. Energy infrastructure faces threats of disruption from climate change, extreme weather, and cyber and physical attacks. Events such as Superstorm Sandy demonstrate how electricity disruptions cascade to dependent infrastructure systems like water and wastewater, transportation, IT, and communications.

Most energy infrastructure is privately owned and regulated at the state or local level, and regulators have been cautious about allowing investment in additional resilience. However, disruptions often have social costs beyond local and state boundaries. The federal government can reduce the likelihood and impact of these disruptions by providing the information and tools to understand and demonstrate the need for investment in resilient energy infrastructure.

Steps Taken to Date:

- The Department of Energy (DOE) has numerous current and proposed initiatives to improve energy data. The upcoming Quadrennial Energy Review will provide recommendations on federal actions related to energy transmission, storage, and distribution infrastructure, to include executive actions, resource requirements, and outlines of legislative proposals.

- DOE recently launched a Climate Resilience Partnership to engage government, regulators, and electricity utilities on regional resilience strategies.

Recommendations for Further Exploration:

- Establish an **Electricity Resilience Information Portal** at DOE to provide data, tools, and best practices to support investment in resilient electricity infrastructure. The Portal would provide access to the data and tools in the following recommendations.

- **Improve electricity sector data availability and data standardization.** Ensure that the relevant data are available from a single source in a single format.

- **Develop analytical tools to evaluate the potential impacts of climate change in assessments of electricity investments.**

- **Develop analytical tools to understand and quantify the value of investments in resilience** to facilitate the justification for resilience improvement expenditures. Create standard metrics to account for the benefits of resilience in electricity infrastructure investment decisions.

- **Establish a resiliency course to educate state and local stakeholders on best practices for robust decision-making related to new infrastructure.**

5. Broadband

Broadband deployment and adoption in underserved communities requires collaboration across multiple agencies and regulators, but coordination of objectives and resources has been challenging. Broadband technology is important to economic development, job creation, 21st century education, and global competitiveness. However, data show troubling gaps in availability, adoption, and technology options.

Due to cross-sector impacts, coordination is vital amongst the agencies whose missions: a) fund any type of infrastructure project, or b) rely on reductions in broadband adoption gaps. In addition, “dig-once” policies provide an opportunity to use infrastructure projects to benefit broadband deployment, and should be widely implemented with explicit mention of broadband as a permissible activity.

Steps Taken to Date:

- The Administration has made the largest investment in programs to improve broadband planning, access, and use in U.S. history through the Broadband Technology Opportunities Program (BTOP) and other American Recovery and Reinvestment Act programs. The Federal Infrastructure Permitting Dashboard illustrates the vision of a more coordinated approach to funding.

Recommendations for Further Exploration:

- Building on the lessons learned from BTOP, the **National Telecommunications and Information Administration** (**NTIA**) **could document best practices for broadband deployment and adoption, convene community broadband stakeholders at all levels, and provide technical assistance** to communities seeking to improve their broadband capacity and adoption.

- **Establish an Interagency "Federal Broadband Working Group" with NTIA serving as Chair.** The functions of this Working Group could include: (i) providing a summary of broadband funding options, (ii) coordinating dig-once policies, (iii) developing common broadband metrics, (iv) expanding the definition of "underserved" to include broadband availability and adoption measures, and (v) providing guidance to allow funding for broadband investment. The Executive Order establishing this Working Group could also direct departments and agencies to favor, subject to applicable law, funding requests that provide communities sufficient infrastructure to meet increased broadband capacity needs.

IV. ACTION PLAN

The WG should continue to meet regularly over the next two years in order to drive implementation of current actions and recommendations.

- The WG should focus on implementing executive actions as developed in these recommendations to maximize their impact.

- The WG should be a resource for developing infrastructure-related legislative proposals; for working with agencies to harmonize and rationalize federal infrastructure funding programs; and on regulatory reforms that are conducive to public private collaboration.

- The WG should continue to advance the underlying goals of the President's initiatives with the public sector by encouraging local, state, and tribal governments to work more closely with the private sector where in the public interest.

- The WG should provide quarterly updates to Principals on the status of its initiatives and recommendations; in addition, the WG should provide the President with an annual update on the same.

Alongside the implementation of current actions and recommendations, the WG – with Treasury as the lead – will commission a research report authored by independent, third-party experts that identifies a list of proposed public infrastructure projects in the United States that those experts believe would have the highest projected net economic impact on a national basis. Highlighting the economic benefits of infrastructure projects would provide valuable information to the public and federal, state, and local elected officials as they consider how these projects should proceed.