
Infrastructure Finance





Overview

New York State must adapt its infrastructure to meet changing needs in a changing world. The State and region's infrastructure—including education, energy, healthcare, parks, telecommunications transportation, and water, —are essential for economic growth, job creation, and safeguarding and improving our quality of life. The State's infrastructure faces substantial challenges in helping New Yorkers adapt to climate change. We need to plan, finance, fund, and support a range of infrastructure solutions in order to make the State and its inhabitants resilient in the twenty-first century. This will be a continuous process, requiring ongoing evaluation and refinement, a relentless focus on implementing both short- and long-term solutions, and integration with the State's existing economic, environmental, and social infrastructure planning and development efforts.

Even before Super Storm Sandy, New York State's infrastructure exhibited three vulnerabilities:

- Tremendous need across a large, complex state
- Significant fiscal constraints
- A capital investment process that has not delivered the results New Yorkers need

To overcome these challenges the State should consider an improved, systemic approach to capital investment. We will need to rigorously evaluate and prioritize projects in accordance with a statewide and regional economic development strategy. We will need to find efficient and appropriate mechanisms for financing those projects, including leveraging private capital. We will need to think systematically, and perhaps creatively, about the multiple sources of revenue that will be needed to pay for the infrastructure we need to make the State more resilient. And, finally, we need an enabling environment for such investments in infrastructure.

The NYS 2100 Commission makes the

following four recommendations to identify, prioritize, finance, fund, and enable its infrastructure for the coming century:

- Adopt a common set of criteria for project selection and prioritization
- Establish an “infrastructure bank” to coordinate, allocate, and maximize investment
- Identify sources of revenue and cash flow
- Improve the enabling environment

Three Vulnerabilities

Tremendous Need

Delivering the infrastructure that is essential to the economic and physical security of New York State is a massive undertaking.

- New York State stretches nearly 500 miles across from Montauk to Buffalo, and 350 miles from the southern tip of Staten Island to Champlain.
- Its public K-12 schools teach more than 2 million children.
- More than [2] million students are enrolled at its universities, including [465,000] full-time and 1.1 million adult education students at the State University of New York and more than 450,000 at the City University of New York.
- Its 113,000 miles of roads are enough to circle the Earth four-and-one-half times.
- Its mass transit agencies serve [a third] of the nation's riders and [two-thirds] of its rail passengers
- Its airports and seaports serve as America's global gateway, carrying [] million international passengers and [\$] billion of imports and exports.
- [Energy fact]
- [Water fact]

The State has 19.5 million residents, a \$1.3 trillion economy, and faces a huge range of weather conditions—heat waves; heavy rains; snow, sleet, and ice; strong winds; and storm surges—that strain and stress its infrastructure. Despite significant investment and new programs to expedite project delivery, the State still must work with aging infrastructure and backlog of state-of-good-repair needs. And, as demonstrated by Hurricane Irene and Super Storm Sandy and as set forth earlier in this report, climate change will increase demands on our infrastructure.

Significant Fiscal Constraints

To deliver the infrastructure New Yorkers need, New York State invests heavily in its infrastructure. In the current fiscal year alone, the State's forty-six agencies and authorities will make nearly \$21 billion in capital investments, including maintenance to keep equipment in a state of good repair and construction of new facilities. Roughly half of this capital spending (\$9.7 billion in the current fiscal year) is part of the State budget, with the rest financed by public authorities. In the decade preceding 2011, on-budget capital spending nearly doubled. Since 2011, fiscal discipline has kept capital spending flat.

The money for capital investment comes from three sources: federal aid, State pay-as-you-go financing (i.e., revenue from taxes, tolls, fares, and fees), and borrowing (which must eventually be paid back). Prior to 2011, total outstanding State on-budget debt grew at a compounded annual growth rate of 18%, suggesting that the majority of the capital spending increase had been financed by debt, without commensurate increases in revenue. In the State's current capital plan, the percentage of capital expenditures financed by debt is projected to decrease by 8% from 2012 to 2017. Though New York State may receive additional funding from the federal government to help with the recovery from Super Storm Sandy, the current political and fiscal environment suggests that further federal aid will be limited. In addition, the

State has a cap on issuing State-supported debt, limited to 4% of State personal income, and is nearing that cap. If the State is to make the investments in infrastructure that the NYS 2100 Commission believes are necessary, we will have to do a better job of managing the resources we have and/or finding additional sources of revenue.

A Capital Investment Process That Has Not Delivered the Results New Yorkers Need

Historically, New York State has not had a comprehensive, unified, long-term process for evaluating and prioritizing capital projects. Capital resources have been allocated in silos without reference to statewide or regional needs, priorities, or ability to pay, and sometimes without rigorous evaluation of the impact of projects. Twenty-four State agencies, from the Department of Agriculture and Markets, to the Department of Transportation, to the Division of State Police, make capital investments as part of the State budget; an additional twenty-two public authorities, from the Central New York Regional Transportation Authority, to the Hudson River Park Trust, to the Metropolitan Transportation Authority, make capital investments outside of the State budget process.

Current State Initiatives

Recognizing the need for more efficient, effective, and extensive investment in infrastructure, Governor Cuomo launched the New York Works Task Force in May 2012, bringing together leading finance, labor, planning, and transportation professionals to coordinate a statewide infrastructure plan to more effectively and strategically allocate the State's capital investments. The New York Works Task Force's mission is focused on growing the economy, creating jobs, and improving all New Yorker's quality of life.

Since its launch, the New York Works Task Force has accelerated the delivery of a number of infrastructure projects, in part

by employing the design build contracting method that newly enacted legislation made available to State agencies for the first time. This work included:

- Improving 48 parks and historic sites;
- Inspecting and repairing more than 114 flood protection and coastal erosion projects;
- Repairing 2,000 miles of roads; and
- Improving more than 100 bridges, including finally building the new Tappan Zee Bridge.

The Task Force has also initiated a statewide process both to assess the current state of capital investment and to develop new tools to better coordinate capital planning and allocate resources statewide. The strategic response to Super Storm Sandy will be a key part of the statewide process. This statewide planning mechanism is intended to maximize the impact of New York State's infrastructure systems on the intertwined economic systems that depend on them. This planning mechanism makes recommendations for replacing, expanding, and improving critical infrastructure. The mechanism is multi-modal and cross-sectoral—covering energy, transport, communications, land use, water, sewer, etc.—and is being used to evaluate individual project proposals' ability to increase the utility and effectiveness of statewide and regional infrastructure systems. It evaluates projects using criteria developed by the New York Works Task Force and which the NYS 2100 Commission proposes refinements to below.

Proposed Solutions

Building on the initiatives already begun by the New York Works Task Force, the NYS 2100 Commission makes the following four recommendations to better prioritize, finance, fund, procure, and implement the State's infrastructure needs:

Adopt a common set of criteria for project selection and prioritization

- Establish an “infrastructure bank” to coordinate, allocate, and maximize investment
- Identify sources of revenue and cash flow
- Improve the enabling environment

The first two recommendations support the creation of a comprehensive and integrated decision making and investment approach. The third and fourth recommendations address the funding/financing gap by suggesting (i) ways of expanding the pool of possible project revenue sources and (ii) legislative actions that would establish a more visible pipeline of future priority projects, create clarity around how and when innovative project finance mechanisms should be used, and speed project implementation generally to attain benefits sooner.



1. Refine and Adopt a Common Set of Criteria for Project Selection and Prioritization

Infrastructure investment in New York State is often carried out using a “silo approach” which compromises efficient use of funds. Adopting a common set of criteria will enable the rigorous evaluation and prioritization of projects statewide in accordance with statewide and regional economic development strategies.

The Commission worked closely with members of the New York Works Task Force to refine the set of criteria that New York Works had recently developed to select and prioritize investments in infrastructure.¹

Based on this work, the Commission recommends that the State consider and apply the following four criteria when selecting and prioritizing infrastructure investments, including those identified in earlier sections of this report.

The criteria are

- **State of Good Repair.** Does the repair, renovation, or upgrade of this asset extend its useful life in a cost-effective way, either avoiding replacement or extending its depreciation schedule? A capital asset which is functioning as designed and in compliance with regulations and can be used with reasonable, average, or industry-standard ongoing operating expense. A remaining useful life that exceeds the repayment schedule of any project-specific debt.

State of Good Repair Examples

Department of Environmental Conservation engineers classify at least 24 dams as ““high”” and ““intermediate”” hazard structures, where failure poses serious threat to human life or significant property damage. After Hurricane Irene, safety inspections and engineering assessments reviewed downstream hazard conditions and assessed the dams’ hydraulic and structural capacity and overall condition. At one dam, hydraulic and deteriorated concrete deficiencies were identified. Repairs were made to ensure that the dam will continue to operate as designed, safeguarding lives, property, and the environment.

A town preserves and restores its natural dunes, making sure they are high, healthy, and vegetated. Coupled with sound development strategies, the dunes make inland communities much less vulnerable to storm surges.

- **Systems Focus.** Will the users of this asset increase their productivity, lower operating costs, and create more jobs? The economic and/or ecological system or network in which the specific asset or initiative plays a role is clearly improved, either operationally or financially. The proposed investment will improve the overall efficacy of the affected governmental or private sector function.

Systems Focus Examples

As northeastern refineries have been shuttered and the fuel industry increased reliance on just-in-time deliveries, New York Harbor became the critical node for the distribution of fuel to consumers from New Jersey all the way to Maine. Storm Sandy damaged oil terminals, filled the harbor with debris, and knocked out power to several refineries. Though other parts of the supply chain were quickly restored, the resulting bottleneck nearly idled the region and demonstrated the need for increasing the resiliency of the system.

A town invests in open space preservation of a wetland. This investment provides not only open space and recreation opportunities but also pollution and flood control and mitigation. The protected wetland means that the town will have lower future investment obligations in wastewater management.

- **Financial and Environmental Sustainability.** Does the proposal increase the State's sustainability by improving the environment, lowering ongoing costs, or avoiding future costs? Definition: The environment that New Yorkers share will be demonstratively improved, whether with cleaner water and air, increased health and welfare, improved efficiency/productivity, or reduced demand on the overall system. The asset will either lower operating costs or avoid future costs for the State and for users, or it will sufficiently increase the overall net income to the State to cover operating and debt service costs (net income can be both direct and indirect, and is a combination of taxes, tolls, fares, and fees).

Financial and Environmental Sustainability Examples

Increasing the energy efficiency of existing buildings can reduce operating expenses, provide a market investment return, create jobs, reduce greenhouse gas emissions, and preserve natural resources while improving our infrastructure. It is the most cost-effective way to reduce greenhouse gas emissions. Providing financing mechanisms to overcome the challenges of traditional asset-back financing would increase the implementation of energy retrofits.

Stormwater management has primarily been focused on collecting the runoff, rather than reducing its volume. Aging systems are unable to keep up with increasing flows, and the resulting overflows pollute our waterways. Charging property owners for cost of runoff from their properties and providing mechanisms and incentives for them to invest in reducing the runoff reduces pollution and cost-effectively reduces the need for expensive treatment facilities.

- **Maximize Return on Investment.** Does a fact-based evaluation performed to assist decision-makers indicate a positive cost/benefit ratio? Has the total cost of ownership over the asset's lifecycle been quantified and factored into the financial evaluation? Definition: The ratio of project return over project cost, measured broadly by the creation of direct and indirect jobs with good salaries and benefits in all sectors of the economy, including construction, manufacturing, leisure and hospitality, trade and transportation, technology, healthcare, education, and professional services. Project returns should also include social and environmental co-benefits generated by the project, avoided future costs, and the benefit of increased systems resilience. Project costs should be calculated on a full lifecycle basis.

Maximize Return on Investment Examples

Hudson River crossings to Manhattan are operating at full capacity. The Gateway Tunnel would help alleviate this bottleneck, providing not just increased commuter rail capacity but also establishing a critical link for high-speed rail in the Northeast Corridor. It would increase resilience, not just by providing an additional rail line but also by serving as a cross-Hudson connection for the power grid. The increased rail traffic would boost economic activity and also increase property values (e.g., studies have shown that home prices increase significantly as distance to transportation services decreases).

Using analysis of future flooding predicted under climate change scenarios, a town upgrades its road culverts to withstand much larger storm events. The new larger culverts have an up-front capital cost nearly double that of the standard-size culverts. However, calculated on a lifecycle basis, the new culverts will not need replacing in large rain events, causing costly washouts that negatively impact river habitat as well as damaging homes and businesses.



2. Establish an “infrastructure bank” to coordinate, allocate, and maximize investment in New York State’s infrastructure

Establishing a New York Works Infrastructure Bank (the “Bank”) would assist the State in making more efficient and effective use of public infrastructure funding, and address the current vulnerability of having insufficient funding to meet identified infrastructure needs. Though various aspects of the Bank described below have been implemented piecemeal elsewhere, this initiative would be groundbreaking in size and scope and in its systemic approach.

Among other things, the New York Works Infrastructure Bank should:

- Manage capital, including portions of the federal and State Hurricane Sandy recovery funds, to ensure the highest return on investment. This is an especially crucial task given our current capital constraints and will be achieved by applying the criteria recommended in Section 1.2 above to compare and prioritize potential investments across sectors in an unbiased manner, developing a multi-year capital plan and budget, and establishing a center for oversight of project implementation.
- Structure and negotiate opportunities for private sector investment, where appropriate, in a manner that ensures maximum public benefit (and as further discussed in Section 1.5 below).
- Finance projects approved through its benefit assessment process, whether by directing revenues to implementing agencies, pledging revenues to raise capital directly, or providing loans.

Initially, the Bank should focus on four critical sectors: Transportation, Energy, Environmental Protection, and Emergency Response. The Bank should have a broad mandate to both coordinate financing and directly finance the construction, reconstruction, rehabilitation, replacement, and expansion of infrastructure. The statewide infrastructure planning function begun by the New York Works Task Force should be further formalized by imbedding it in the Bank’s evaluation

process, ensuring that priority is given to projects that advance the overall health, welfare, resiliency, and competitiveness of New York State. The Bank would convene experts from each of the sectors (e.g., transportation, energy, etc.) and enable infrastructure planning on a broad scale across the State, with a regional, system-based approach (e.g., multi-modal, but also multi-type of infrastructure—energy, transport, communications, etc.) to make more effective strategic investments. This planning function would:

- Consider projects from multiple sources, including the NYS 2100 Commission, the Statewide 10-Year Capital Plan, and the Regional Economic Development Councils as well as non-governmental entities.
- Champion medium and long-term solutions, ensuring that they receive sustained attention and action even after the most recent event is gone from the public’s mind.
- Develop, gather, and disseminate information on potential vulnerabilities, potential solutions, pilot projects, best practices, and lessons learned so that decisions can be made and actions taken with the best possible information, and serve as a coordinator and knowledge-sharing hub for sub-system players.
- Coordinate work on regional infrastructure issues with neighboring states and provinces.

The Bank should be structured as follows:

- It should be incorporated as a public benefit corporation with an independent board, including the State Budget Director and the Deputy Secretary for Economic Development in an ex-officio capacity.
- A Financing Council composed of the Division of the Budget, the Bank, and the State’s major financing public authorities should be established to coordinate financing of large scale infrastructure projects vital to the

State’s economy.

- The Bank should have the power of eminent domain.
- The Bank would be staff with current State agency and authority infrastructure investment experts but have the ability to hire outside technical, legal and financial experts as necessary.

In order to maximize its effectiveness, the Bank should be able to make use of a number and range of potential sources of funds, including:

- Federal funds, including those allocated to the State for Sandy recovery
- Diverted or created revenue
- Proceeds from the sale of long-term debt with maturities as long as 49 years, up from the current limit of 30 years
- Credit enhancements from other State entities

Projects may be funded by user fees (where feasible), availability payments from the State or municipalities (with revenue generated by tax increment financing, special assessment districts, etc.), or any other lawful means. See Section 1.4 below for the Commission’s recommendations regarding revenue.

The Bank would also be able to deploy funds using a variety of mechanisms, including:

- Direct loans to projects, including long-term, senior notes, subordinated debt and short-term construction financing
- Loan guarantees to State, local, and private entities, limited to a % of the potential loss
- Grants for pre-development costs, if available and appropriate.

The Bank should also be able to co-finance with other public and private lenders and investors (e.g., a pension fund desiring to share in the cash flow from the project as opposed to interest income), have the ability to combine federal, State, local, and private funds to finance projects, and to use alternative project delivery methods (e.g., design-build-finance-operate-maintain contracts) where suitable. The minimum transaction size threshold should vary by region. Size and related requirements should be set so as to include distributed and natural infrastructure solutions when cost efficient.

The State should also consider, either as part of the Bank or an associated entity, establishment of a **New York Works** Exchange platform to spotlight and catalog specific projects and opportunities well suited for public private partnerships. The twin goals of the Exchange would be to engage the private sector in finding creative solutions to infrastructure challenges and to grow the market for private investment in infrastructure. The Exchange could be modeled in part or in whole on the recently launched West Coast Infrastructure Exchange.²

South Carolina Transportation Infrastructure Bank Case Study

South Carolina created the South Carolina Transportation Infrastructure Bank (SCTIB) as part of the pilot program established by the 1995 National Highway System Designation Act, and has since invested nearly \$2.8 billion, making it the most active state infrastructure bank. A one-time earmark of \$66 million from the State General Fund was provided to the SCTIB, which also has dedicated state revenues for bond repayments including the state gas tax and vehicle registration fees.

The SCTIB supports highway and bridge projects with costs in excess of \$100 million and transit projects of any size. Loans, in the form of bonds, as well as some grants are provided to projects, with preference given to projects that can demonstrate a local match.

Projects funded by the SCTIB include the Arthur Ravenel Jr. Bridge, the Conway By-Pass, and the Palmetto Parkway. Additionally, the SCTIB helped achieve a statewide initiative to accelerate the timeline of 200 transportation projects from 27 years to 7 years.



3. Identify Sources of Revenue and Cash Flow

As projects are identified, prioritized, and financed, it will be necessary to identify appropriate and adequate sources of revenue and cash flow to pay for them. The Commission recommends identifying the widest possible range of revenue sources. Potential sources are not limited to taxes: they also include federal grants, taxes, user fees, congestion charges, and vehicle miles traveled fees. Importantly, sources of funds are not limited to positive revenue-generating mechanisms. Savings from efficiency improvements and avoided losses have great potential to generate cash flow for infrastructure investment. Possible mechanisms for generating funds from avoided costs include:

- Programs, requirements, and incentives that encourage energy efficiency (such as on-bill payment and PACE), use of alternative transportation, and other actions that reduce costs as well as greenhouse gas emissions
- Pay-for-performance mechanisms, which have particular potential in the case of green infrastructure, that allow the State to pay for outcomes delivered by non-governmental entities at a price that could be less than what it would have been incurred by the state, or have other demonstrable co-benefits, as determinable by a value for money analysis. Enabling such

pay for performance mechanisms can allow the state to set expense targets for the delivery of infrastructure below what it could achieve based on its own estimates, and then compensate non-governmental entities that can deliver outcomes at lower costs. In Philadelphia, for example, the state is exploring use of distributed green infrastructure, including retrofitting commercial buildings and remediating vacant lands, to provide “greened acres” that reduce stormwater runoff and flooding.

- Tax increment financing and other methods of value capture use future gains to subsidize current improvements, which are projected to create the conditions for said gains.

City of Philadelphia Water Department

The City of Philadelphia Water Department (PWD) is promoting green infrastructure on private property through a combination of local regulations and incentive programs. In 2006, the City began leveraging private sector investments in green infrastructure by requiring all new development and redevelopment projects of a certain size to provide on-site management of the first inch of rainfall. PWD estimates that the stormwater regulation on new development and redevelopment projects could generate up to 5,500 greened acres over the next 25 years.

In 2010, PWD incentivized investment in green infrastructure by implementing a parcel-based Stormwater Management Service Charge. The service charge is based on the gross area and impervious area of the parcel, therefore corresponding to the amount of stormwater the property generates. Even properties that do not have sewer service are assessed the service charge because the properties contribute to overall stormwater runoff. This approach to user fees incentivizes private investment in green infrastructure and sustainable development practices.

PWD further incentivizes sustainable practices by offering credits towards stormwater charges to properties that employ Best Management Practices to manage the first inch of stormwater runoff. PWD partnered with the Philadelphia Development Corporation to create the Stormwater Management Incentives Program, which offers grants to stimulate investment in stormwater best management practices. Grants may be used for infrastructure including detention and retention basins, tree trenches, green roofs, porous pavements and rain gardens. Other City programs that incentivize green infrastructure include expedited permit review, free design assistance and low-interest loans to owners of properties with large impervious surfaces.

Fees collected through the Stormwater Management Service Charge will help pay for investments in green infrastructure on public land including rights-of-way and city owned properties. PWD will supplement funds with state and federal grants to incorporate green infrastructure designs across City agencies.

PWD's stormwater regulations and incentives are leveraging private investment in green infrastructure and promoting sustainability throughout the City of Philadelphia, further supporting the recently adopted Green City, Clean Waters Plan.



4. Improve the Enabling Environment

An enabling environment can facilitate the identification, financing, funding, and efficient use of the State's infrastructure. The State should evaluate and improve the overall policy and regulatory environment for infrastructure investment.

- **Enhance State Procurement Processes.** Benchmark State procurement processes (and those of its agencies) against best practices and revise processes accordingly.
- **Public Private Partnerships.** More extensive use of public private partnerships could have the benefit of shifting infrastructure investment risk to the private sector, freeing up short-term State funds, and lowering life-cycle costs.³
- PPP legislation should establish an independent PPP program office, within the Bank, to assist state and local agencies to plan, evaluate, structure, implement, and oversee project delivery options to maximize value for money.

Permitting

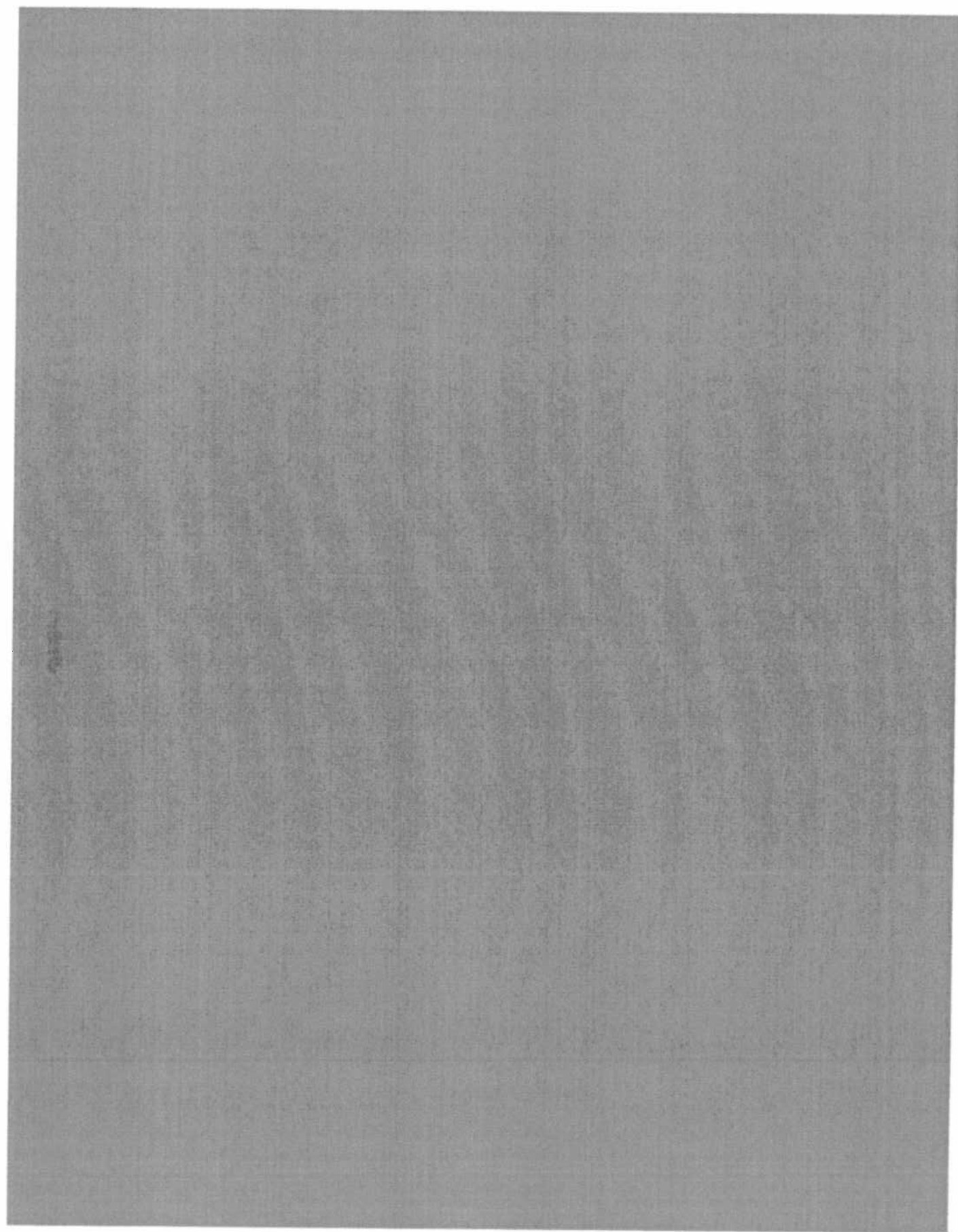
Finding ways to improve permitting process efficiency could reduce delays and costs. In post-disaster scenarios like Hurricane Sandy, permitting processes are often waived or expedited. We learn from these events to promote efficiencies in day-to-day permitting.

- **Tax Abatement.** Tax abatement can encourage business relocation or real estate development. At the local and state level, tax abatement can be used to encourage/assist communities to invest on resiliency projects. This approach could be useful for infrastructure projects that protect community assets from severe storm damage. The cost/benefit of forgoing tax revenues for a period of time in return for not having to pay for future damages may be compelling in some cases. Among other possibilities, the State should consider property tax abatements to avoid penalizing homeowners who make improvements to their homes to protect against future storms.

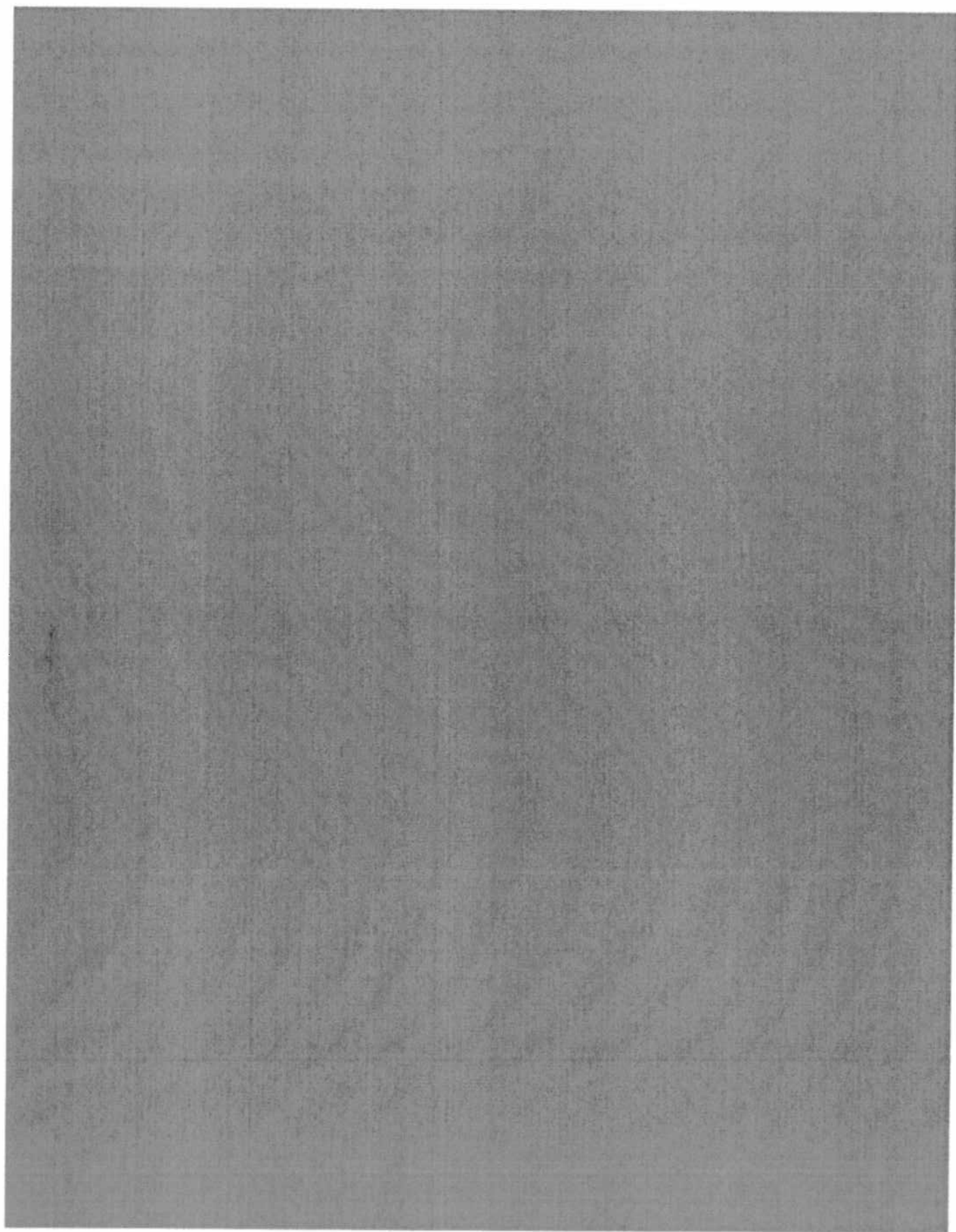
Expand Participant Pool in Financial Guaranty Protection

Lending capacity of commercial banks could be expanded if multi-line insurers were permitted to participate in financial guaranty protection increasing lending capacity of commercial banks and making more capital available for infrastructure projects. Please refer to the Insurance Section for further detail.

³ The New York Works Task Force is a group of leading finance, labor, planning and transportation professionals that are committed to developing a statewide infrastructure plan to effectively allocate investment and create jobs. It is part of the larger New York Works Agenda established by Governor Cuomo in 2010 to improve the economic competitiveness of New York State. West Coast Infrastructure Exchange. (n.d.). Retrieved December 3, 2012, from <http://www.westcoastixc.com> New York Works. (2012). New York Works Task Force. The September Report.



CONCLUSION



REFERENCES

Acronyms

| Acronym | Term | Section |
|------------|---|-----------|
| ACC Clause | Anti-Concurrent Causation Clause | Insurance |
| AMI | Advanced Metering Infrastructure | Energy |
| ARRA | American Recovery and Reinvestment Act of 2009 | Transport |
| ASCE | American Society of Civil Engineers | Finance |
| BRT | Bus rapid transit | Transport |
| CAT | Catastrophic Crop Insurance | Insurance |
| CBD | Central Business District | Transport |
| CHP | Combined Heat and Power | Energy |
| CIEMA | Comprehensive Insurance Emergency Measures Act | Insurance |
| CIRIS | Critical Infrastructure Response Information System | Finance |
| CNG | Compressed Natural Gas | Energy |
| CO2 | Carbon Dioxide | Energy |
| ConEd | Consolidated Edison Company of New York | Energy |
| CRO | Chief Risk Officer | Insurance |
| CUNY | City University of New York | Energy |
| DA | Distribution Automation | Energy |
| DB | Design Build | Finance |
| DBB | Design Bid Build | Finance |
| DBFOM | Design Build Finance Operate Maintain | Finance |
| DBOM | Design Build Operate Maintain | Finance |
| DEC | Department of Environmental Conservation | Land Use |
| DEIS | Draft Environmental Impact Statement | Land Use |
| DERM | Distributed Energy Resource Management | Energy |
| DFS | The Department of Financial Services | Insurance |
| DG | Distributed Generation | Energy |
| DHS | Department of Homeland Security | Energy |
| DMS | Distribution Management System | Energy |
| DOE | Department of Energy | Energy |

| Acronym | Term | Section |
|----------------|---|----------------|
| DOT | Department of Transportation | Energy |
| DR | Demand Response | Energy |
| D-SCADA | Distribution Supervisory Control And Data Acquisition | Energy |
| DTCR | Dynamic Thermal Circuit Rating | Energy |
| EA | Environmental Assessment | Transport |
| ECL | Environmental Conservation Law | Land Use |
| EIS | Environmental Impact Statement | Transport |
| EMS | Energy Management System | Energy |
| EPA | Environmental Protection Agency | Energy |
| EPRI | Electric Power Research Institute | Energy |
| ESA | East Side Access | Transport |
| EV | Electric Vehicle | Energy |
| FACTS | Flexible AC Transmission System | Energy |
| FONDEN | Fund for Natural Disasters | Insurance |
| GCT | Grand Central Terminal | Transport |
| GFDRR | Global Facility for Disaster Reduction and Recovery | Insurance |
| GIS | Geographic Information Systems | Finance |
| HAN | Home Area Networks | Energy |
| ICC | International Code Council | Land Use |
| IEOC | Insurance Emergency Operations Center | Insurance |
| IOU | Investor Owned Utility | Energy |
| IUT | Intelligent Universal Transformers | Energy |
| LDC | Local Distribution Company | Energy |
| LEN | Local Energy Network | Energy |
| LIPA | Long Island Power Authority | Energy |
| LIRR | Long Island Railroad | Transport |
| LNG | Liquefied Natural Gas | Energy |
| MCC | Mobile Command Center | Insurance |

| Acronym | Term | Section |
|----------------|---|----------------|
| MNR | Metro-North Railroad | Transport |
| MTA | Metropolitan Transportation Authority | Transport |
| MW | Megawatt | Energy |
| NAIC | National Association of Insurance Commissioners | Insurance |
| NAP | Non-Insured Assistance Program | Insurance |
| NEC | Northeast Corridor | Transport |
| NEPA | National Environmental Protection Act | Transport |
| NJT | New Jersey Transit | Transport |
| NOx | Nitrogen Oxides | Energy |
| NYCDOT | New York City Department of Transportation | Transport |
| NYCRR | New York Codes, Rules, and Regulations | Land Use |
| NYISO | New York Independent System Operator | Energy |
| NYMTC | New York Metropolitan Transportation Commission | Transport |
| NYPA | New York Power Authority | Energy |
| NYS | New York State | Energy |
| NYSDOT | New York State Department of Transportation | Transport |
| NYSERDA | New York State Energy Research and Development Authority | Energy |
| NYSTA | New York State Thruway Authority | Transport |
| OLTPS | New York City's Office of Long-Term Planning and Sustainability | Energy |
| OMS | Outage Management System | Energy |
| P3 | Public Private Partnership | Finance |
| PACE | Property-Assessed Clean Energy | Finance |
| PANYNJ | Port Authority of New York and New Jersey | Transport |
| PEV | Plug-in Electric Vehicle | Energy |
| PILOT | Payment in Lieu of Taxes | Finance |
| PM | Particulate Matter | Energy |
| PSC | Public Service Commission | Energy |
| PSEG | Public Service Electric and Gas | Energy |

| Acronym | Term | Section |
|----------------|--|----------------|
| PWD | Philadelphia Water Department | Finance |
| RGGI | Regional Greenhouse Gas Initiative | Energy |
| RMA | Risk Management Agency | Insurance |
| SBS | Select Bus Service | Transport |
| SEQR(A) | State Environmental Quality Review (Act) | Land Use |
| SIF | State Insurance Fund | Insurance |
| SOx | Sulfur Oxides | Energy |
| SUNY | State University of New York | Energy |
| TDR | Transfer of Development Rights | Land Use |
| TIF | Tax Increment Financing | Finance |
| TIFIA | Transportation Infrastructure Finance and Innovation Act | Finance |
| TZB | Tappan Zee Bridge | Transport |
| V2G | Vehicle to Grid | Energy |
| | | |

Glossary

| Term | Definition | Subcommittee |
|---------------------------------------|--|------------------------|
| Biodiesel | A form of diesel fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases | Energy |
| Biogas | also known as biomethane, swamp gas, landfill gas, or digester gas—is the gaseous product of anaerobic digestion (decomposition without oxygen) of organic matter. | Energy |
| Combined Heat and Power | Combined heat and power (CHP), also known as cogeneration, is the simultaneous production of electricity and heat from a single fuel source, such as: natural gas, biomass, biogas, coal, waste heat, or oil. | Energy |
| Cost recovery | Recoupment of the purchase price of a capital or qualified asset through depreciation over a prescribed period. | Energy |
| Demand Response | Changes in electric usage by demand-side resources from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized. | Energy |
| Design Build | Design-build is a project delivery method that combines two, usually separate services into a single contract. With design-build procurements, owners execute a single, fixed-fee contract for both architectural/engineering services and construction. The design-build entity may be a single firm, a consortium, joint venture or other organization assembled for a particular project. | Infrastructure Finance |
| Design Build Finance Operate Maintain | The design-build-finance-operate-maintain (DBFOM) approach, bundles together the responsibilities for designing, building, financing and operating and transfers the responsibilities to private sector partners. There is a great deal of variety in DBFOM arrangements in the United States, and especially the degree to which financial responsibilities are actually transferred to the private sector. One commonality that cuts across all DBFOM projects is that they are either partly or wholly financed by debt leveraging revenue streams dedicated to the project. Direct user fees (tolls) are the most common revenue source. | Infrastructure Finance |
| Design Build Operate Maintain | The design-build-operate-maintain (DBOM) model is an integrated partnership that combines the design and construction responsibilities of design-build procurements with operations and maintenance. These project components are procured from the private sector in a single contract with financing secured by the public sector. | Infrastructure Finance |
| Dynamic Thermal Circuit Rating | Provides transmission lines real time power carrying capability based on actual ambient conditions and line temperature | Energy |
| E-85 | ethanol 85%, gasoline 15% | Energy |
| Fuel Cell | A device that continuously changes the chemical energy of a fuel (as hydrogen) and an oxidant directly into electrical energy | Energy |
| Local Distribution Company | a distribution company that maintains the portion of the utility supply grid that is closest to the residential and small commercial consumer. | Energy |
| Microgrid | Modern, small-scale and localized versions of the centralized electricity system. | Energy |

| Term | Definition | Subcommittee |
|------------------------------------|--|------------------------|
| New York Works Task Force | The New York Works Task Force is a group of leading finance, labor, planning and transportation professionals that are committed to developing a statewide infrastructure plan to effectively allocate investment and create jobs. It is part of the larger New York Works Agenda established by Governor Cuomo in 2010 to improve the economic competitiveness of New York State. | Infrastructure Finance |
| Outage Management System | A computer system used by operators of electric distribution systems to assist in restoration of power during service disruptions. | Energy |
| Public Private Partnership | A Public-Private Partnership (PPP) is a contractual agreement between a public agency (federal, state or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility. | Infrastructure Finance |
| Public Service Commission | Regulates public utilities (gas, electric, telephone, water, and sewage disposal companies) | Energy |
| Regional Greenhouse Gas Initiative | Mandatory, market-based effort to reduce greenhouse gas emissions in the northeastern and mid-atlantic states via cap-and-trade. | Energy |
| Selective Undergrounding | Locating certain energy infrastructure underground based on feasibility and other criteria | Energy |
| Self-Help County | Self-Help County is a name for counties in California that have established a voter-approved sales tax to fund transportation projects. Localities across the nation have similar transportation sales tax programs. | Infrastructure Finance |
| Smart Grid | System that integrates modern communications to coordinate electricity generation and consumption within the electrical distribution network. | Energy |
| State Infrastructure Bank | State infrastructure banks are revolving infrastructure investment funds that are established and administered by states. The infrastructure banks can offer loans and credit assistance enhancement products to public and private sponsors of infrastructure projects. | Infrastructure Finance |
| Substation | A set of equipment reducing the high voltage of electrical power transmission to that suitable for supply to consumers | Energy |
| Switchgear | Any of several devices used for opening and closing electric circuits. | Energy |
| Value for Money Analysis | Value for Money is defined as the optimum combination of whole-of-life costs and quality (or fitness for purpose) of the good or service to meet the user's requirement. VfM is not the choice of goods and services based on the lowest cost bid. To undertake a well-managed procurement, it is necessary to consider upfront, and at the earliest stage of procurement, what the key drivers of VfM in the procurement process will be. | Infrastructure Finance |

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