



Digital Infrastructure: Built by Volunteers

By Michael Brennan

The next time you drive over a bridge, imagine if its maintenance depended on the efforts of a single volunteer. Its structure, safety, and general upkeep would hinge on this one person's availability to check the screws, examine the steel for signs of fatigue, and give the bridge a fresh coat of paint. Absurd, right? If we maintained our bridges, roads, and other physical infrastructure this way, we couldn't really rely on them. They would fail and endanger us regularly—and who knows how long adequate repairs might take?

It sounds crazy in the context of physical infrastructure, but many people don't know that this is how much of our critical digital infrastructure is maintained. The infrastructure we rely on every day to make sure our digital clocks are in sync or to protect our credit card information when we shop online is often maintained by a single volunteer. This means that often, just one person makes sure that the essential software code that powers so many

of the products and services we use every day runs smoothly.

This is because the same free software code is used for the critical components in many different kinds of software: No one person "owns" it. This enables innovation, because everyone can build off what has come before, and makes it possible for more technology to be created at a lower cost, because no one needs to start from scratch. But this free, public code—which we refer to as open source software—needs regular upkeep and maintenance, just as physical infrastructure does, and because it doesn't belong to any one person or party, it is no one person's job to maintain it. Without maintenance, we see the digital equivalent of a crumbling road or a collapsing bridge. Some people call this phenomenon a "tragedy of the commons."

How we rely on digital infrastructure—and what happens when we can't

In 2013, a critical security flaw was discovered in an obscure website called RubyGems, which manages some of the freely available code that



companies like Twitter, Hulu, and Airbnb rely on anytime they want to update their code. RubyGems enables everything from small design tweaks to managing e-commerce. The security flaw was first noticed during a normal workday, but it could not be

Small Business Exchange • Voice of Small, Emerging, Diversity-Owned Businesses Since 1984

[Click to read more](#)

Sub-Bid Requests

SMALL BUSINESS
EXCHANGE NORTHEAST
SBE OUTREACH SERVICES

With over 1.6 million businesses in our active database—the country's largest non-public diversity database—SBE sets the professional standard for diversity outreach across the nation. For three decades, we have served small businesses, prime contractors, and agencies—with proven results.

Advertisements
Placed in various Small Business Exchange Northeast digital publications each month, and at www.sbenortheast.com

Fax, Email, and Postal Solicitations
Targeted mailings sent to businesses chosen according to your criteria

Live Call Center Follow-Up
Telephone follow-up calls using a script of five questions that you define

Computer Generated Reports
Complete documentation that will fit right into your proposal, along with a list of interested firms to contact

Special Services
Custom design and development of services that you need for particular situations such as small business marketing, diversity goal completion, and agency capacity building

Call for more information: 800-800-8534

SKANSKA
SKANSKA KOCH INC.

IS SOLICITING BIDS FROM MWBE SUBCONTRACTORS AND SUPPLIERS CERTIFIED WITH THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY Rehabilitation of the 178th and 179th Street Ramps, Bus Ramps, and Bus Turnaround PANYNJ Contract No: 244.042 Bid Date: August 22, 2017

Subcontracting opportunities include but are not limited to asbestos removal, borings, concrete, demolition, electrical, engineering, fence and guardrails, hazardous materials haul and dispose, inspection and testing, landscaping, miscellaneous metals, pavement stripping, pile driving, plumbing, rigging, saw cutting, scaffolding, sign erection, structural steel erection and fabrication, trucking, and welding. Please see contract documents for further opportunities.

Interested firms please contact John Papagiannakis at Skanska Koch Inc., john.papagiannakis@skanska.com

SKANSKA **Kiewit** **Posillico**

SKANSKA KIEWIT POSILLICO JOINT VENTURE IS SOLICITING COST PROPOSALS FROM NEW YORK STATE CERTIFIED M/WBE AND SDVOB SUBCONTRACTORS/VENDORS FOR THE Long Island Railroad Expansion Project from Floral Park to Hicksville MTA LIRR Contract No. 6240 Bid Date: August 10, 2017

Description of project:
The LIRR Expansion Project from Floral Park to Hicksville is a strategic component in Governor Andrew Cuomo's comprehensive plan to transform New York's vital transportation infrastructure while improving the economy, environment, and future of Long Island. The Expansion is decades in the making. Residents and commuters along the Main Line corridor have long sought a mass transit solution to reduce congestion, improve safety and the environment, and provide an appealing alternative to driving, with minimal disruption to existing services and without residential property takings. The new plan includes construction of a 9.8 mile third track between the Floral Park and Hicksville stations, the elimination of 7 grade crossings to improve safety and reduce road traffic, and upgrades to infrastructure, stations, and parking along the route.

Subcontracting opportunities include, but are not limited to:
Civil Work, Professional Services, Mechanical Work, Architectural Work, Metals, Electrical Work, and Design Services.

If you are interested in bidding on this project, please contact: info@skanskakiewitposillico.com

Advertise in our digital EXTRA

weekly or whenever wherever you need to reach among agencies contractors diversity firms

NORTHEAST EVENTS FOR YOUR BUSINESS

2017

Regulatory Enforcement Fairness Roundtable
Monday, August 7, 2017, 1:30 pm–3:30 pm
Rivier University, The Learning Commons, 420 South Main Street, 2 Robinson Road, Nashua, NH
Main Sponsor(s): Small Business Administration
Contact: Kimberly Mace, kimberly.mace@sba.gov
Fee: Free; registration required

Join Nashua-area small business owners for a conversation with the acting Small Business Administration national ombudsman and assistant administrator for regulatory enforcement fairness, along with other regional and local SBA officials. Learn how the SBA's Office of the National Ombudsman and other federal partners can help your small business save time and money resolving complex regulatory compliance and enforcement issues. Provide real-time input on regulatory fairness issues impacting your small business, and discuss ways the federal government can help small businesses to grow and thrive. To RVSP, please pre-register at <https://nhroundtablesba.eventbrite.com>

Developing a Great Elevator Pitch
Tuesday, August 8, 2017, 6:00 pm–8:00 pm
Boston Public Library, 700 Boylston Street, Commonwealth Salon, Boston, MA
Main Sponsor(s): SCORE Boston
Contact: Laura Colcord, Kris Polito, 617-565-5591, workshops@scoreboston.org
Fee: Free; registration required

An elevator pitch is a brief speech, one minute or less, that outlines an idea you have for a product, service, or project. This workshop will cover the meaning of an elevator pitch, why it is important to your business, what you want to communicate about your business, defining who your audience is, promoting your value proposition, how you can generate a call to action, and what the short "commercial" looks like. The workshop will also include breakout time to allow participants the chance to create and present their own elevator pitches.

Meet the Lenders
Thursday, August 10, 2017, 9:30 am–12:30 pm
Kean University (Barnes and Noble in lobby), 1040 Morris Avenue at Green Lane, Room 306, park in rear of building, Union, NJ
Main Sponsor(s): Small Business Administration, New Jersey Small Business Development Center
Contact: NJSBDC 908-737-4220, Claudia Yarborough 973-645-3572, claudia.yarborough@sba.gov
Fee: Free; registration required

This program will provide small business owners with the opportunity to meet one-on-one with SBA's top lenders to discuss the availability of SBA guaranteed loans by their institutions. Find out firsthand what lenders look for in a winning loan proposal, how to increase your likelihood of getting a loan, and how to get through the loan application process. To make the best use of your time and to ensure that your loan proposal gets the highest possible consideration, we encourage you to prepare a business plan and bring many copies with you. To obtain the Business Plan Executive Summary Form, call the Kean NJSBDC at 908-737-4220 or visit www.sbdckean.com. You are also encouraged to bring a current credit report.

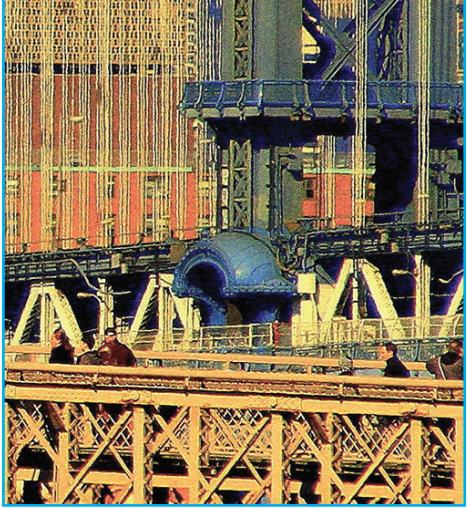
SMALL BUSINESS
EXCHANGE NORTHEAST
PUBLIC LEGAL NOTICES

With a database of over 1.6 million businesses, SBE assists agencies with public legal notices

Advertisements
Placed in various Small Business Exchange Northeast digital publications each month, and at www.sbenortheast.com

Special Follow-Up Services
Custom design and development of services that you need for particular situations such as small business marketing, diversity goal completion, and agency capacity building

Call for more information: 800-800-8534



CORPORATE OFFICE
795 Folsom Street, Floor 1
San Francisco, California 94107
sbe@sbeinc.com • www.sbeinc.com

Tel 800-800-8534
Fax 415-778-6255
www.sbenortheast.com

CORPORATE MAILING ADDRESS
5214F Diamond Heights Boulevard
PMB 711
San Francisco, California 94131