

IEEE-USA POSITION STATEMENT

Dig Once

*Adopted by the IEEE-USA
Board of Directors, 23 June 2017*

IEEE-USA supports the concept of **Dig Once**¹ and its efficient implementation in federal and state/local policies, laws and regulations as an effective means to advance broadband deployment, expand Internet access, and help bridge the so-called “Digital Divide.” By extension, IEEE-USA supports multiple use of rights-of-way and the concept of shared infrastructure in all cases where these multiple uses are compatible, whether above ground (shared poles and wireless infrastructure) or below ground (shared conduits). However, IEEE-USA recognizes that **Dig Once** is not a universal solution in areas where terrain or other issues would make infrastructure siting or excavation difficult, or where alternative solutions, such as wireless installations, may be preferable.

IEEE-USA calls upon the Congress to pass appropriate legislation and the executive branch to adopt and fund strong **Dig Once** policies and practices that expand upon those currently outlined in Executive Order 13616 and the provisions of 23 CFR, Part 645, Subpart B, providing for the accommodation of utility facilities and private lines on federally-aided highway projects.

Specifically, federal legislation should require all federal agencies that fund significant infrastructure projects to work together to promote **Dig Once** policies and to coordinate their efforts. Similarly, IEEE-USA supports states’ and their local jurisdictions’ efforts to adopt and implement **Dig Once** policies and believes that greater coordination and collaboration between federal, state and local government stakeholders would be very beneficial in this regard.

Dig Once refers to policies that allow for and/or encourage deployment of conduit and fiber in transportation rights of way during other infrastructure improvement projects. This can include, for example, installing pipes under roadbeds that can house numerous internet cables. Rather than digging up the road each time a new company wants to install high-speed internet cables, the **Dig Once** infrastructure would permit companies access to their cables, allowing for upgrades and additions as needed. Done correctly, **Dig Once** policies can reduce the cost of deploying broadband by up to 90 percent, allowing for faster and cheaper deployment of better

internet capabilities. The potential for easier maintenance also complements the benefits of lower implementation costs

Despite widespread support, **Dig Once** has seen slow and incremental progress in the United States to date. A tremendous opportunity exists to leverage forthcoming necessary reinvestments in America's public infrastructure -- in a way that also promotes our national broadband goals and realizes broadband potential for supporting U.S. economic growth and entrepreneurship. Accordingly, IEEE-USA believes that it is an appropriate time for **Dig Once** recognition as a national policy priority.

This statement was developed by the IEEE-USA Government Relations Council, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of the nearly 200,000 engineering, computing and allied professionals who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE, or its other organizational units.

BACKGROUND

The original notion of **Dig Once** is to couple the addition of broadband and other critical shared infrastructure with existing infrastructure improvements that required either in-ground or above ground installation. This will facilitate reduced costs and disruption for consumers while increasing competition amongst Internet providers.

As recognized in the current U.S. National Broadband Plan, the largest cost element for deploying broadband is burying fiber optic cables and conduit underground.² The Federal Highway Administration has reported that 90 percent of the cost of deploying fiber in public rights of way along roadways is associated with digging up and repairing the road to install the buried fiber.³ This cost is especially high in difficult to reach rural and dense urban settings.

Dig Once policies lower the cost of broadband deployment by minimizing excavation and providing internet companies access to publicly owned rights-of-way, including the mandatory installation of conduit sufficient to meet projected future demand for fiber-optic cable during road construction projects. By lowering the cost of access to a shared infrastructure, **Dig Once** eliminates a barrier to entry; and competition and service options to customers should improve. By minimizing repeated excavations, **Dig Once** also reduces traffic disruptions and road deterioration; and minimizes the associated risks of utility outages and public safety situations arising from excavation work.⁴

The federal government has an important role to play -- not only with respect to implementing **Dig Once** policies in construction of federal road and highway infrastructures -- but also by working with state and local governments to help them implement best practices that address a host of key challenges and issues:

- Projects spanning different jurisdictions with different laws concerning build-out/construction
- **Dig Once** infrastructure requirements
- Role of private investment
- Calculation of fair-market values for rights of way
- Joint occupancy and usage guidelines
- Reestablishing assets disturbed by infrastructure installation
- Communication and coordination with all interested parties.

In the United States, **Dig Once** policies have even greater relevance at the state and local jurisdictional levels. Opportunities generally arise from requests for utility permits to install or conduct work on existing city and county facilities. Through **Dig Once** policies, cities and states can reduce their excavation costs and minimize disruption in public rights-of-way, while encouraging broadband deployment.

States can help promote **Dig Once** at the local/municipal level in various ways, including establishing monetary incentives, or conditioning state road construction (or other funding) grants on adoption/compliance with **Dig Once** laws.

¹ **Dig Once** can be defined generally as policies and/or practices that minimize the number and scale of excavations when installing telecommunications infrastructure in public rights-of-way (e.g. highways).

² The largest element of deployment costs is not the fiber itself, but the placement costs associated with burying the fiber in the ground (or attaching it to poles in an aerial build). These placement costs can, in certain cases, account for almost three-quarters of the total cost of fiber deployment,” *Connecting America, The National Broadband Plan*, Chapter 6, page 132 (17 March 2010). Accessible at: <https://www.fcc.gov/general/national-broadband-plan>

³ See, FHWA Office of Transportation Studies, Policy Brief: *Minimizing Excavation through Coordination*, (Oct. 2013). Accessible at: https://www.fhwa.dot.gov/policy/otps/policy_brief_dig_once.pdf

⁴ For a general discussion of **Dig Once** benefits, see: *Planning and Flexibility Are Key to Effectively Deploying Broadband Conduit through Federal Highway Projects*, U.S. General Accounting Office (GAO-12-687R) (27 June 2012). Accessible at: <http://www.gao.gov/assets/600/591928.pdf>