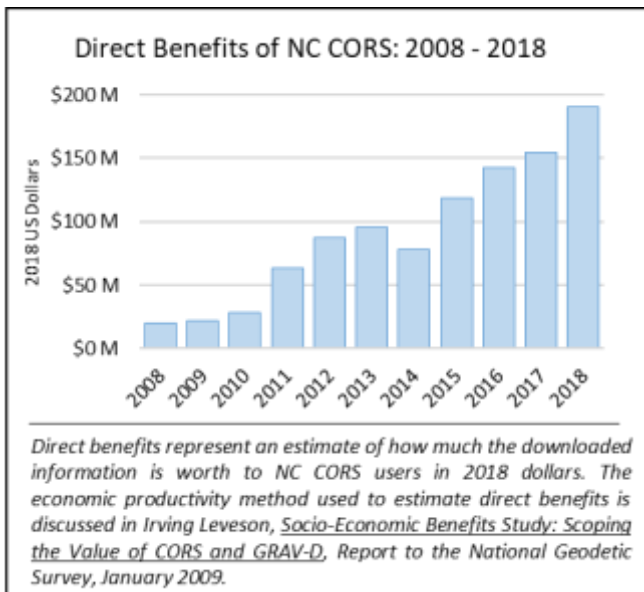


2018 ECONOMIC BENEFITS OF THE NC CORS NETWORK

North Carolina Geodetic Survey (NCGS) operates the state's network of Continuously Operating Reference Stations (CORS). NCGS collects, processes, and distributes data from these sites in support of high-accuracy three-dimensional positioning activities throughout the state. **In 2018, NC CORS data was used over 4 million times and generated efficiency gains worth over \$190 million.** This value includes only incremental cost savings and productivity gains to NC CORS users above those that would have existed without the NC CORS network.



The total value of the NC CORS Network to the state's economy includes not only the direct benefits to users in the state, but also contributions to productivity and innovation in the industries that support or utilize the services provided by NC CORS users. Including indirect and induced benefits and excluding benefits realized outside the state, the **NC CORS network provides an estimated \$360 million in annual benefits to North Carolina's economy**; over 550 times the annual cost of the program. Moreover, the economic activity supported by **NC CORS is estimated to generate more than \$3.5 million in annual state sales and income tax revenue, as well as \$900,000 in local sales tax**

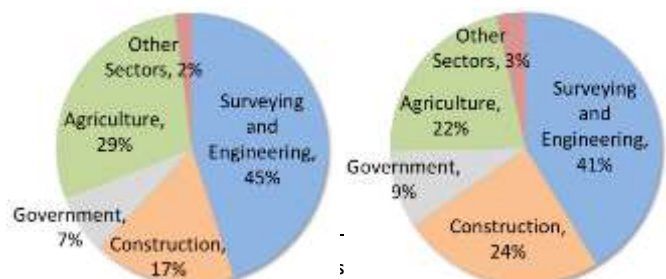
revenue. This is more than enough to fund the network's annual operating cost of \$625,000, which includes equipment and labor costs of \$535,000 and \$90,000, respectively, per year.

The NC CORS network is composed of Global Navigation Satellite System (GNSS) base station receivers spaced 20-40 miles apart across the state. Each receiver continuously records the GNSS data received through its permanently mounted antenna, which has a surveyed reference point to calculate the second-by-second positioning error caused by signal delays, satellite clock errors, and inaccurate orbit information. **NC CORS data allows spatial data users to increase the accuracy of field data from 10 meters to 2 centimeters.**



NC CORS data may be downloaded free of charge for post-processing applications such as mapping and land surveying. Real-time data for GNSS-guided machine operations such as precision agriculture, construction site grading, and real-time land surveying is offered via the NC Real-Time Network (NC RTN). NC RTN users pay \$500 for the first two user ports and \$250 for each additional port. **In 2018, 344 organizations requested access to the NC RTN; more than 4,300 users from over 1,500 organizations now use the network.**

Total NC Real-Time Network Users, 2018 New NC Real-Time Network Users, 2018



spending patterns. Tax revenue was estimated using data from the NC OSBM.