

## **2020 CSAC Challenge Award: San Mateo County Digital Inclusion Pilot**

**Overview:** San Mateo County formed a public-private coalition to bring home Internet access to unconnected students for online education in response to COVID-19.

**Challenge:** In San Mateo County, 4.7% of 93,246 public school students do not have Internet access at home. Many of these students are concentrated in lower socio-economic communities or neighborhoods, or rural areas with very limited digital infrastructure. East Palo Alto is home to 1,128 public school students, representing ten school districts, identified as having no Internet at home. The Ravenswood City School District, serving East Palo Alto, has 551 of 3,269 students, with no home Internet service. The La Honda Pescadero Unified School District, serving the rural coastal area of the county, has 97 students out of 306 with no Internet service. When COVID-19 surfaced, all school districts in the county shifted to at-home online education. Many of the “unconnected” students were not able to participate in online instruction, resulting in students dropping out or falling behind.

**Solution:** San Mateo County created a public-private coalition to bring Internet connectivity to unconnected students in three of the highest need school districts (Ravenswood, La Honda Pescadero, Redwood City Elementary). The county used GIS to identify and characterize “connectivity intervention” zones. Three solution options were created: 1) extend the San Mateo County public Wi-Fi network into the zones, 2) establish “drive up” Internet sites (Drive-Fi’s) using portable Internet connectivity towers until more permanent solutions are set up, and 3) subsidize Internet service from Internet service providers (Comcast, T-Mobile) in zones where existing infrastructure and coverage is available. The specific characteristics of each zone determined which solution model was deployed. To maximize awareness and adoption, the county partnered with school districts, cities, housing communities where these students live, and trusted community advocates (such as non-profits and libraries) to engage affected students and families and disseminate the information.

**Innovation:** San Mateo County employed a data informed approach. Home addresses of unconnected students, provided by the school districts, were used to create a countywide map

of “connectivity intervention” zones in GIS. The countywide locations of cellular towers, cable internet service availability zones, SMC Public Wi-Fi network nodes, county buildings, streetlight poles, building heights, the presence of trees, and other relevant information were overlaid in GIS to completely characterize the zones. This enabled the county to take a very surgical approach to designing a solution that was targeted, effective, and location relevant, down to the street level. The county also used innovative portable Internet towers. These towers are towed into a specific area and rapidly set up to provide service until more permanent options are deployed. Finally, the county established partnerships with private property owners (hospitals, housing communities, and others) to install connectivity nodes on their buildings. This allowed placement of SMC Public Wi-Fi nodes in impacted neighborhoods where it would not otherwise have been possible.

**Results:** The county’s Digital Inclusion GIS database, data intake platform, and supporting processes and capabilities are in place and are actively being used to support three school districts. The pilot program was launched in August 2020, and in the first week, county subsidized T-Mobile access points were distributed to 275 students. By November 2020, the county is expected to connect 972 out of 1,241 (78%) impacted students living within the boundaries of the three school districts using a combination of SMC Public Wi-Fi nodes, “Drive-Fi” sites, and subsidized service from Internet service providers.

**Replicability:** The county has established a repeatable digital inclusion “recipe” - IS database, data management platform, site analysis processes, connectivity solution portfolio, partner ecosystem, and community and school district engagement expertise and capabilities. The initial San Mateo pilot involved two suburban school districts and one rural school district, and since many counties have GIS capabilities (which is one of the key components of this system) the recipe can be replicated by many urban, suburban, and rural areas.

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