

An Addendum

Digital Divide Within the SCAG Region

Depiction of the Existing Digital Access Within Six Counties of the Region and Across Selected Demographic Indicators in Each Zip Code



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Introduction

The main report of the Digital Divide in the SCAG Region did not contain two sets of zip codes. The first group included zip codes with population of less than 2000, for which U.S. Census provides information with relatively large margin of error.¹ The second group includes nine zip codes for P.O. Boxes within the SCAG region with population of more than 2000 for which Census provides information and since they are larger than 2000, the information can be broken down across a number of demographic characteristics.

Both of these groups are presented in this addendum and this report complements and completes what have been presented in the main report.

1. Households with No Computer or Internet Subscription in Zip Codes with Less than 2000 Population

There are all together 35 zip codes with less than 2000 population in the region. Breakdown of number of zip codes are:

- Imperial County 4 zip codes
- San Bernardino County 19 zip codes
- Riverside County 4 zip codes
- Orange County 3 zip codes
- Los Angeles County 5 zip codes

These population centers have one common feature, which is their small size. We therefore decided to only report numbers and percentages of households with No Computer or Internet Subscription. This information can be used as a good indicator of level of deprivation of household's access to digital services. We did not breakdown the information across any additional demographic characteristics because of the large margin of errors which could make the information inaccurate and even misleading.

1.1. Imperial County

We have four communities indicated by their zip codes with a population of less than 2000 in Imperial County for which we gathered the following information.

¹ It should be mentioned that for some zip codes with small population U.S. Census does not provide any demographic information. The same is true for hundreds of zip codes as P.O. Boxes. There are however, exceptions and the best way to find complete information is to check all the existing information and report what is available and can be used to provide meaningful information for showing the digital divide within the region.

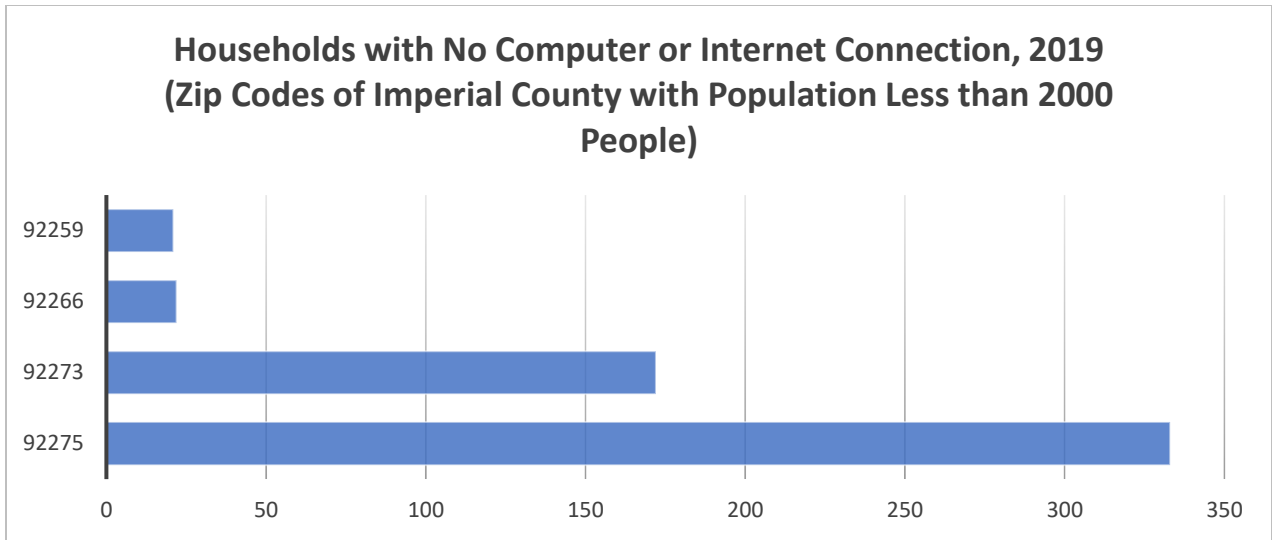


Figure 1: Households with No Computer or Internet Connection, 2019 (Zip Codes of Imperial County with Population Less than 2000 People)

Source: U.S. Census (2019) Source: B28003

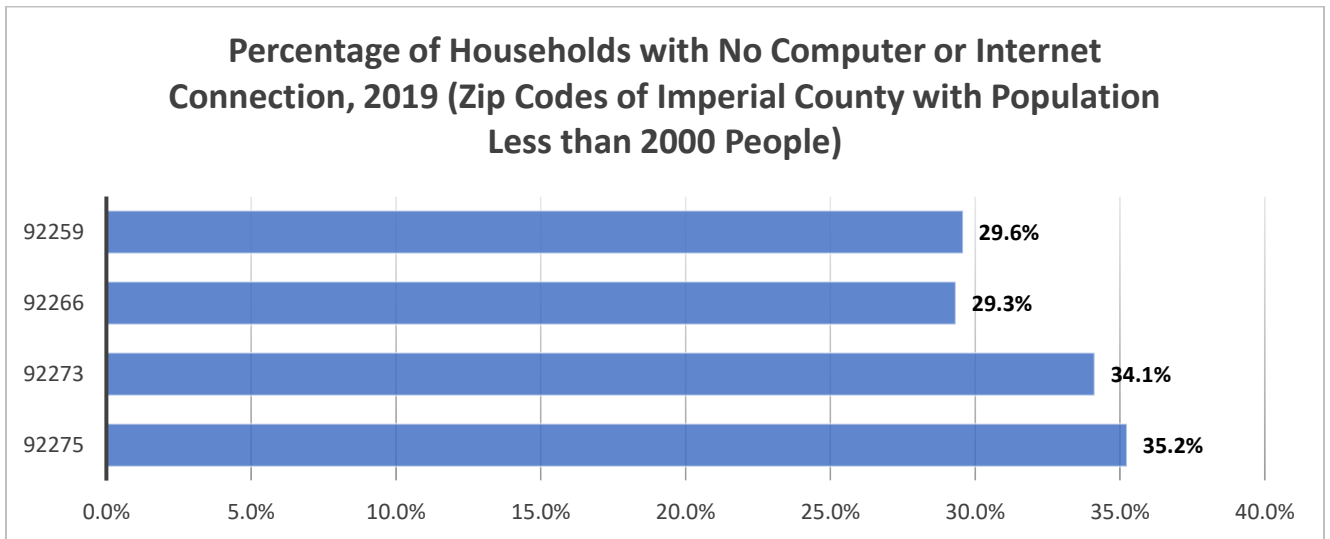


Figure 2: Percentage of Households with No Computer or Internet Connection, 2019 (Zip Codes of Imperial County with Population Less than 2000 People)

Source: U.S. Census (2019) B28003

1.2. San Bernardino County

San Bernardino County has the largest number of population centers with less than 2000 people. This could be a function of the geographic setting of the county and its population densities across the county. They are all together 19 zip codes for which we reported the basic information indicating the level of digital divide within these areas.

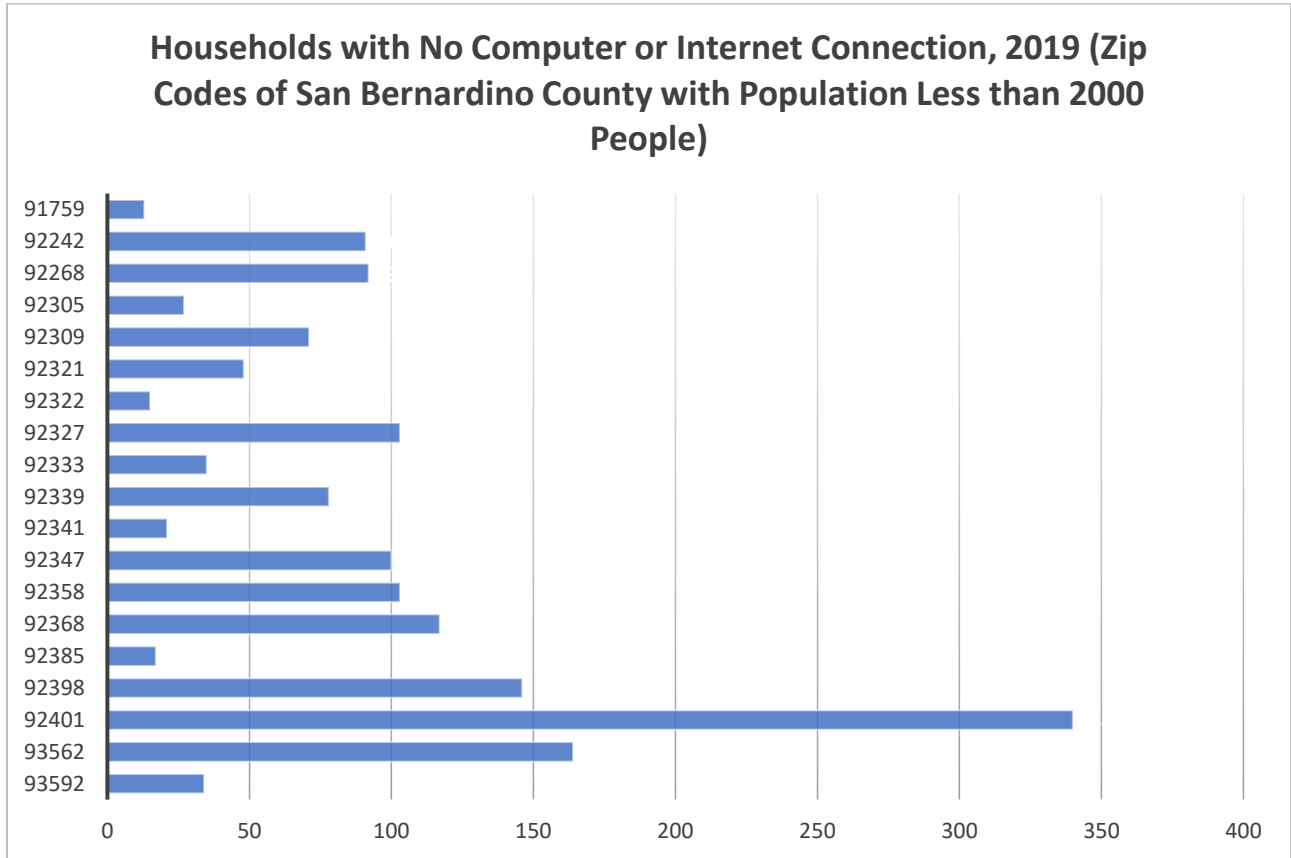


Figure 3: Households with No Computer or Internet Connection, 2019 (Zip Codes of San Bernardino County with Population Less than 2000 People)

Source: U.S. Census (2019) Source: B28003

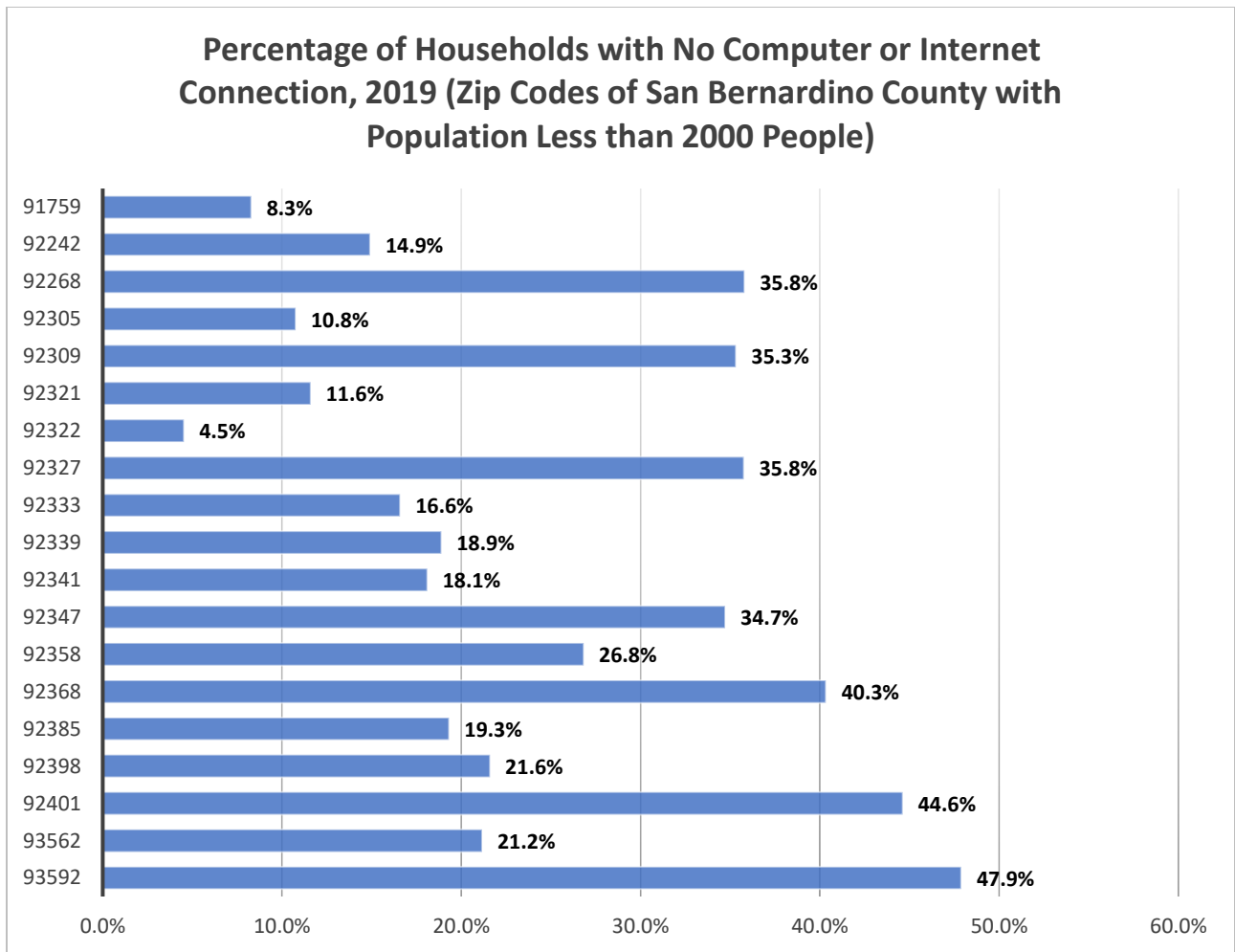


Figure 4: Percentage of Households with No Computer or Internet Connection, 2019 (Zip Codes of San Bernardino County with Population Less than 2000 People)

Source: U.S. Census (2019) B28003

1.3. Riverside County

There are four zip codes with population of less than 2000 for which we have information which can help us to measure the level of digital divide in a meaningful manner. The following two charts provide such information.

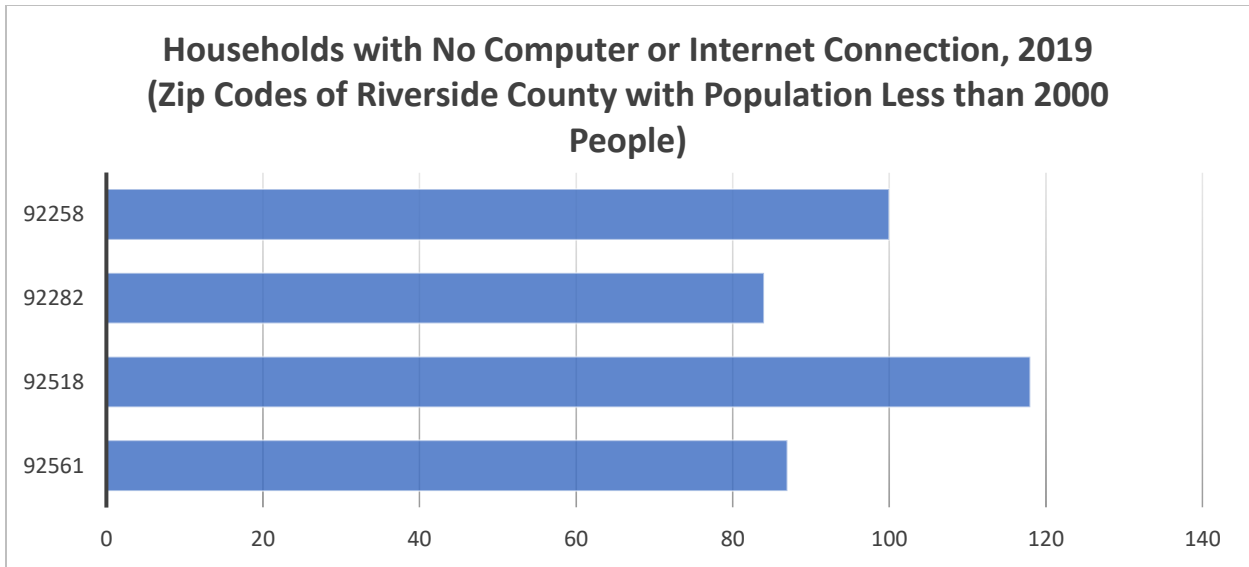


Figure 5: Households with No Computer or Internet Connection, 2019 (Zip Codes of Riverside County with Population Less than 2000 People)

Source: U.S. Census (2019) Source: B28003

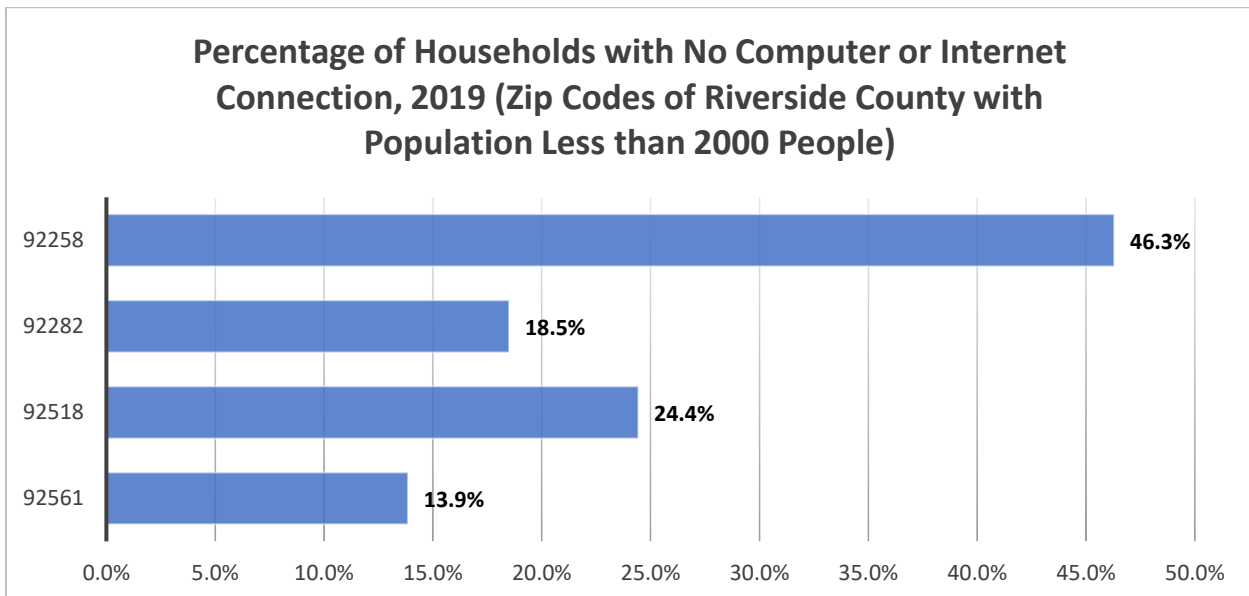


Figure 6: Percentage of Households with No Computer or Internet Connection, 2019 (Zip Codes of Riverside County with Population Less than 2000 People)

Source: U.S. Census (2019) B28003

1.4. Orange County

We have three communities indicated by their zip codes with a population of less than 2000 in Orange County for which we gathered the following information.

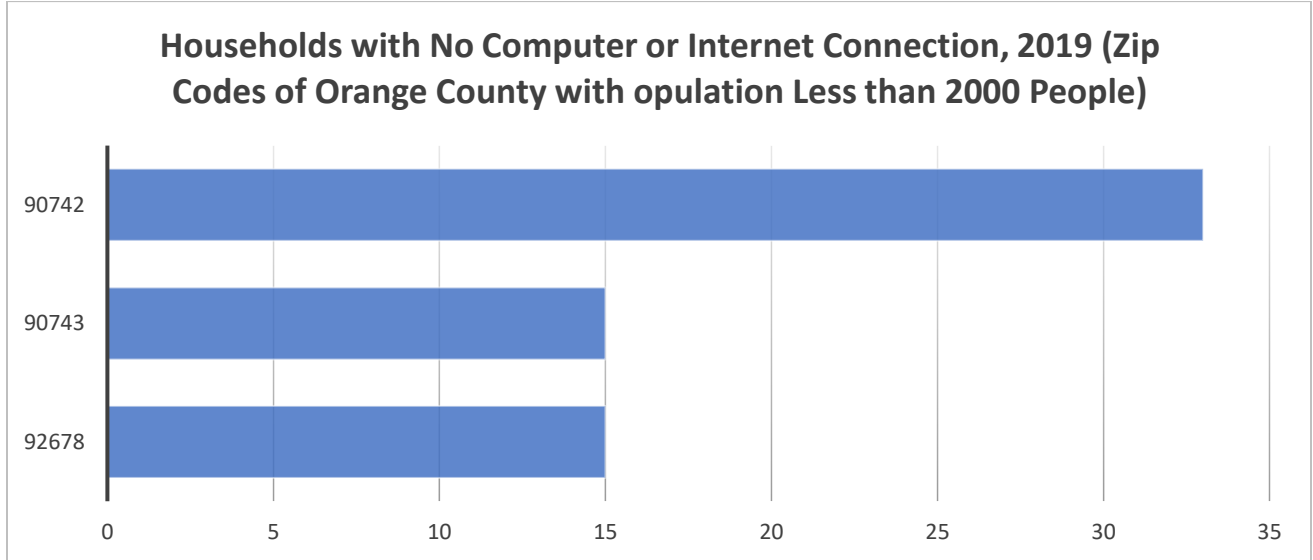


Figure 7: Households with No Computer or Internet Connection, 2019 (Zip Codes of Orange County with Population Less than 2000 People)

Source: U.S. Census (2019) Source: B28003

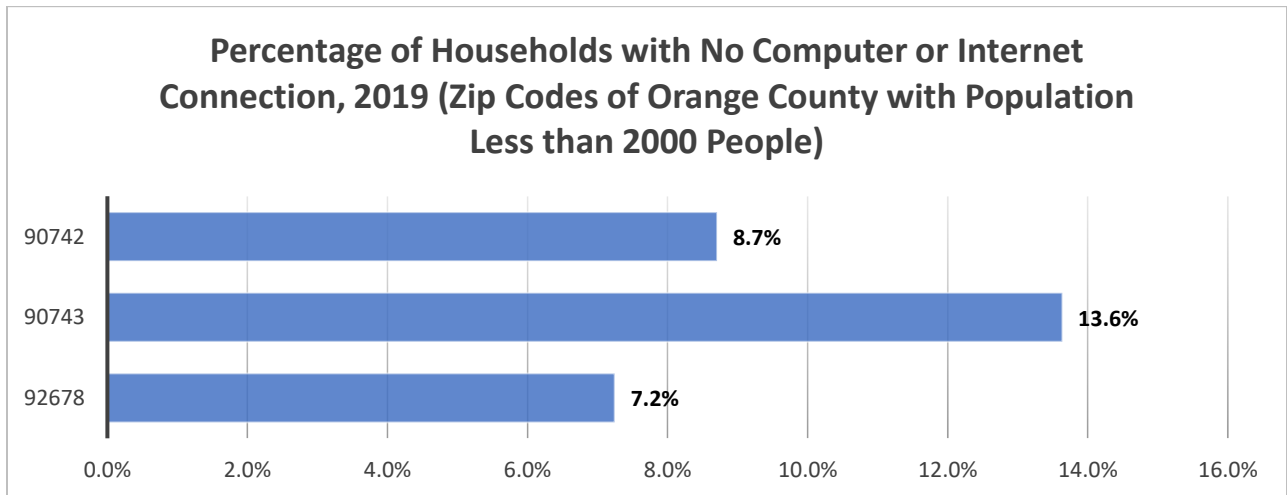


Figure 8: Percentage of Households with No Computer or Internet Connection, 2019 (Zip Codes of Orange County with Population Less than 2000 People)

Source: U.S. Census (2019) B28003

1.5. Los Angeles County

There are five zip codes with population of less than 2000, for which U.S. Census provides information, which can be used to present a meaningful depiction of digital divide in those communities. They are presented in the following two charts.

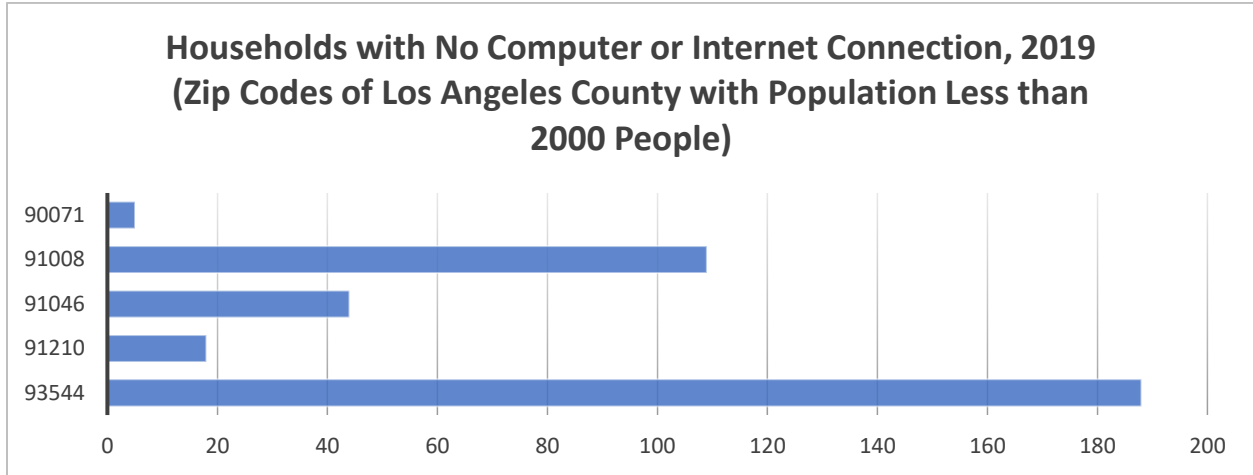


Figure 9: Households with No Computer or Internet Connection, 2019 (Zip Codes of Los Angeles County with Population Less than 2000 People)

Source: U.S. Census (2019) Source: B28003

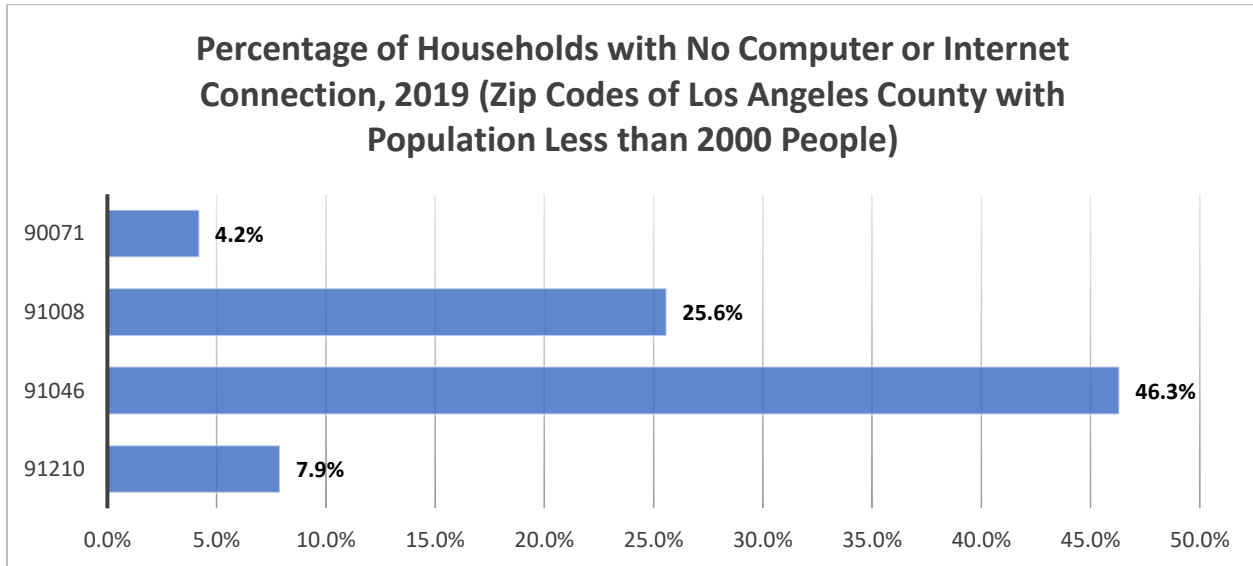


Figure 10: Percentage of Households with No Computer or Internet Connection, 2019 (Zip Codes of Los Angeles County with Population Less than 2000 People)

Source: U.S. Census (2019) B28003

Overall Conclusion from Looking into Digital Divide in Zip Codes with Small Population in the SCAG Region

Looking into these 35 zip codes help us to realize that digital divide prevails in overwhelming majority of these population centers. A significant number of them are in rural areas of Southern California and bear a disproportionate level of economic deprivation. The following points bring the highlights of the findings in this section of the addendum.

- In Imperial County all four zip codes suffer from a high rate of more than 29% and up to 35% of lack of computer or internet connection.
- In San Bernardino County, two zip codes have a percentage of less than 10% for households suffering from lack of computer or Internet connection. In nine of these communities, households without computer or Internet are more than 10% but less than 25%. In the remaining eight zip codes households without computer or Internet connection register a ratio of more than 25% and less than 48%. These numbers together indicate a tremendous level of digital divide in small communities within San Bernardino County.
- In Riverside County the rate of households without computer or Internet connection among the four communities are between 13.0% to 46.3%.
- In Orange County the rate of not having computer or Internet connection is between 7.2% to 13.6% among the three zip codes.
- In Los Angeles County altogether five zip codes are communities with less than 2000 population. The rate is between 4.2% to 46.3%.

2. Digital Divide in Communities Identified by P.O. Box zip Codes with More than 2000 Population

There are hundreds of zip codes in the SCAG regions which are identified as P.O. Boxes. There is not any demographic information available through American Community Surveys (ACS) conducted by U.S Census for the overwhelming majority of these zip codes. In many of such locations the survey questionnaires are not distributed and the information is not published or available. There are, however, by comparison few zip codes for which the surveys get distributed and the information is available. The total number of such P.O. Boxes with the SCAG region are 27 locations. Some 18 of such zip codes have population of less than 2000. We included these areas in our data collection and presentation of findings in the first section of this addendum. The remaining 9 zip codes have population of more than 2000 and we have gathered all the necessary information for these population centers and they are presented in different sections of this part of the report.

2.1. Households with No Computer or Internet Subscription in 2019 (5-years estimate) by P.O. Boxes of Various Counties

The following charts present the information for each zip code for the specific county.

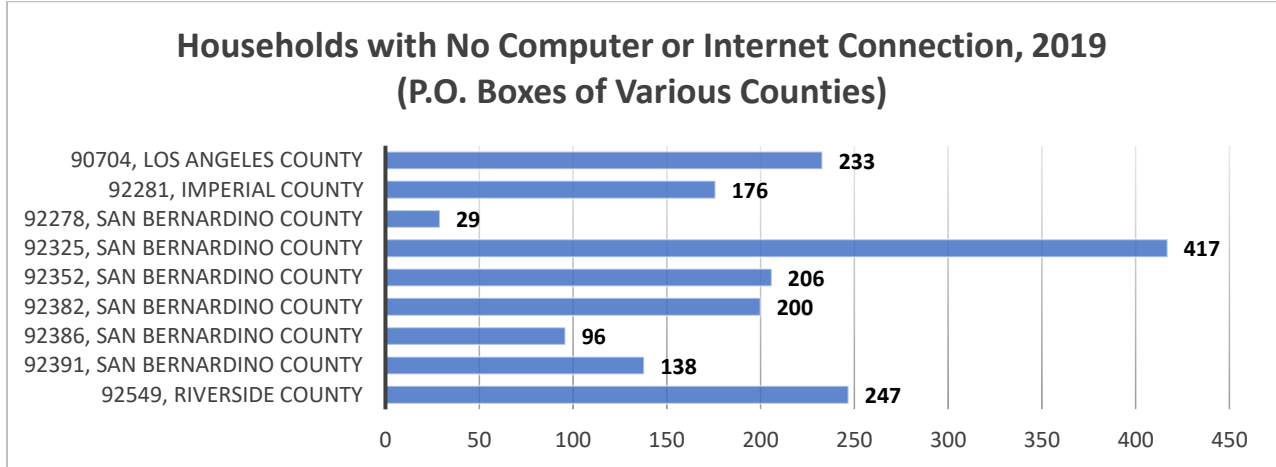


Figure 11: Households with No Computer or Internet Connection, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) Source: B28003

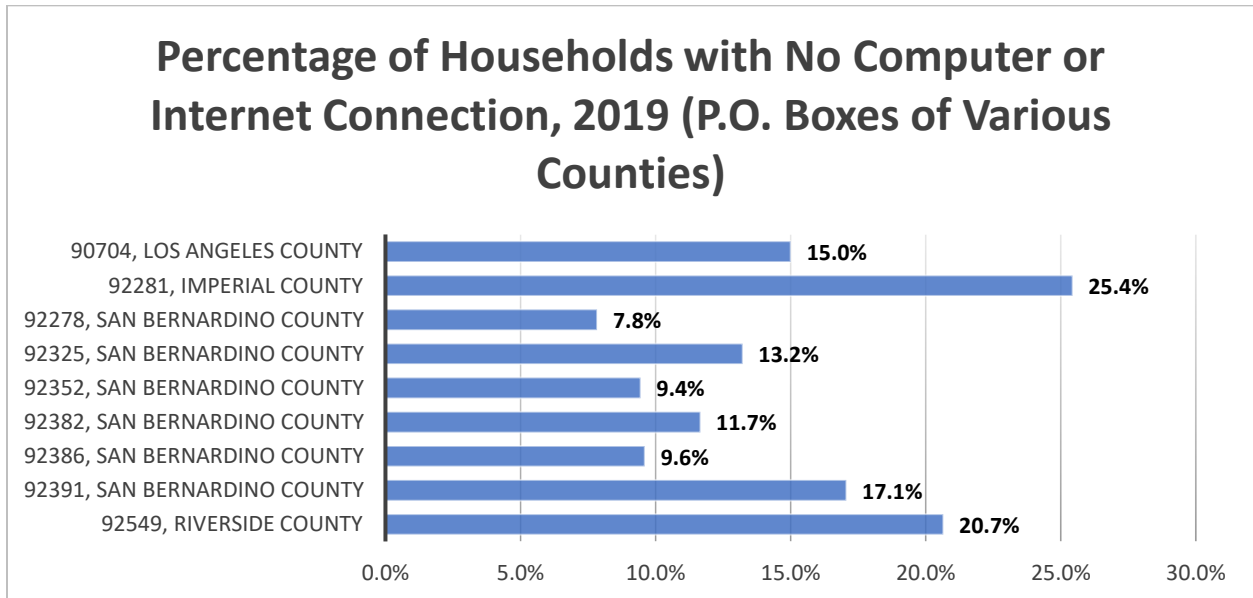


Figure 12: Percentage of Households with No Computer or Internet Connection, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) B28003

2.2. Percentage of Population with No Computer or Internet Subscription in 2019 (5-years estimate) by P.O. Boxes of Various Counties

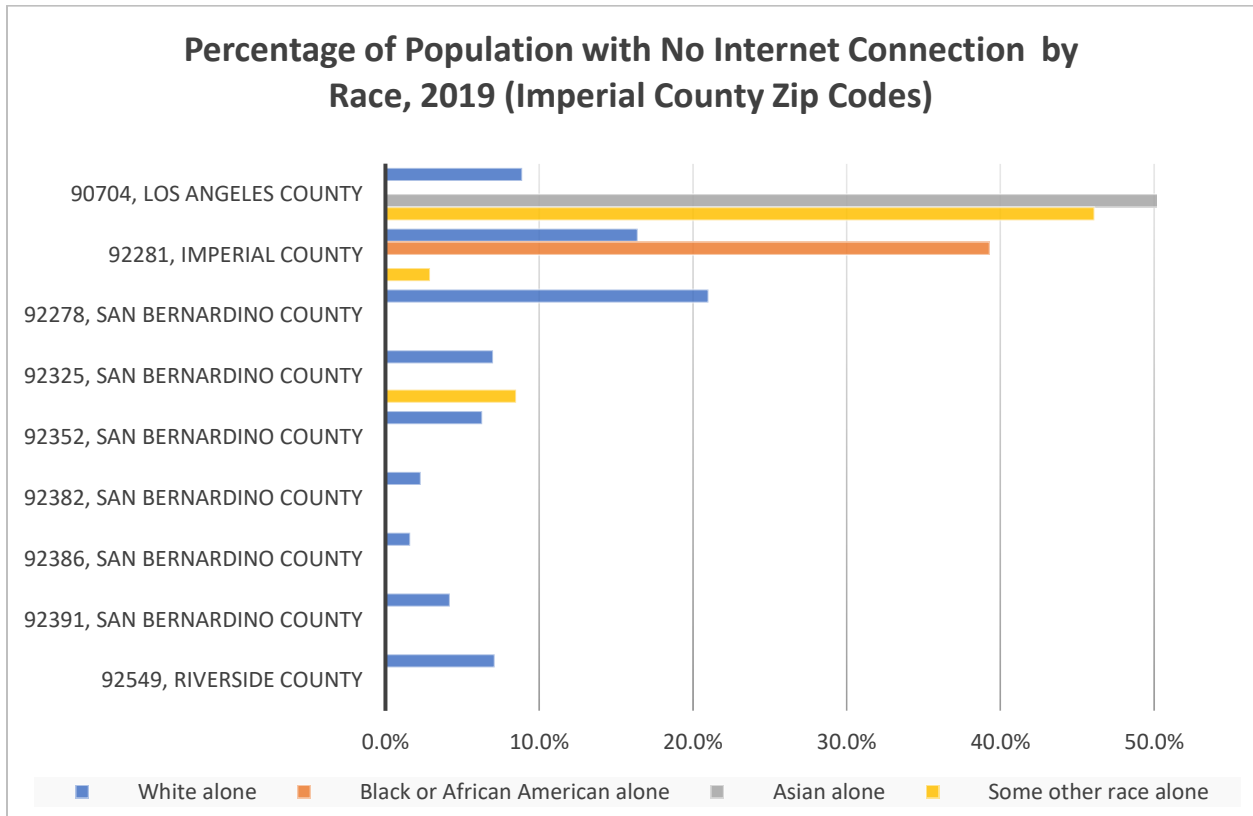


Figure 13: Percentage of Population with No Internet Connection by Race, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) S2802

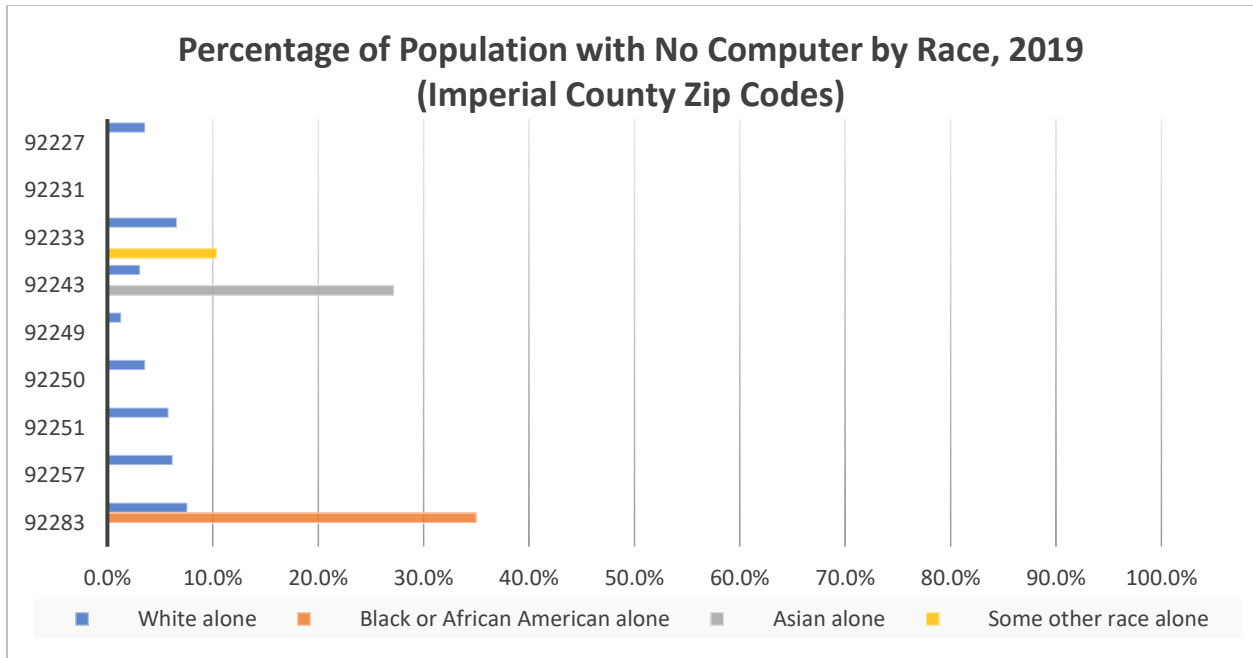


Figure 14: Percentage of Population with No Computer by Race, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) S2802

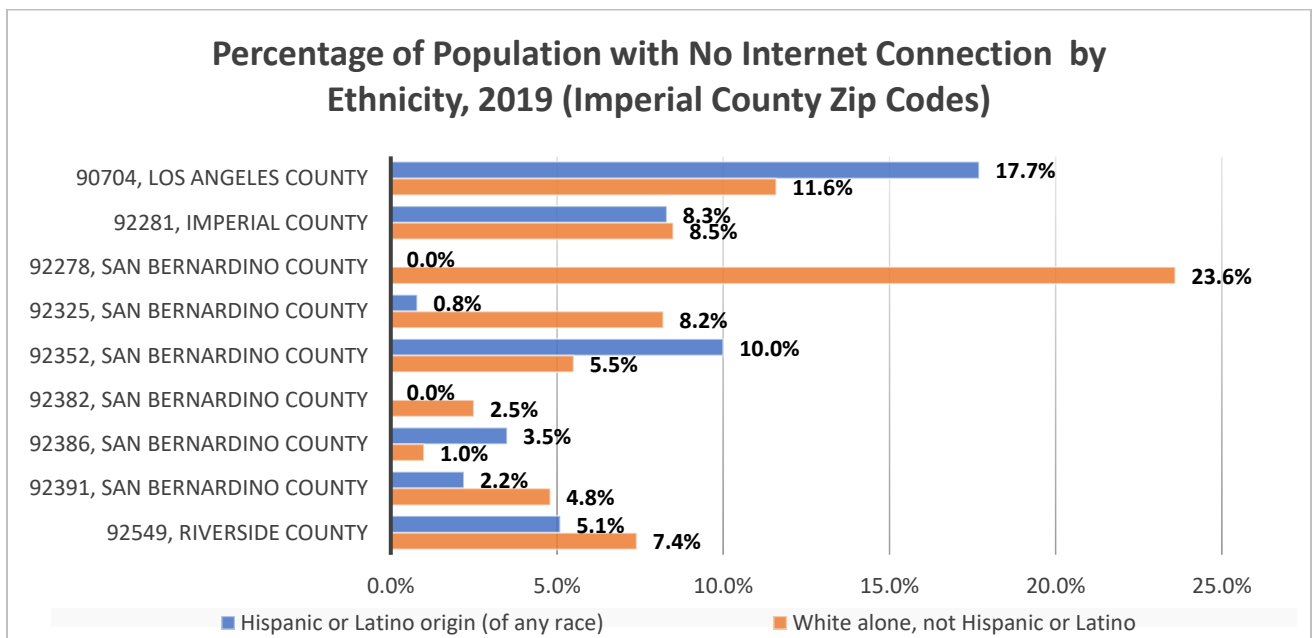


Figure 15: Percentage of Population with No Internet Connection by Ethnicity, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) S2802

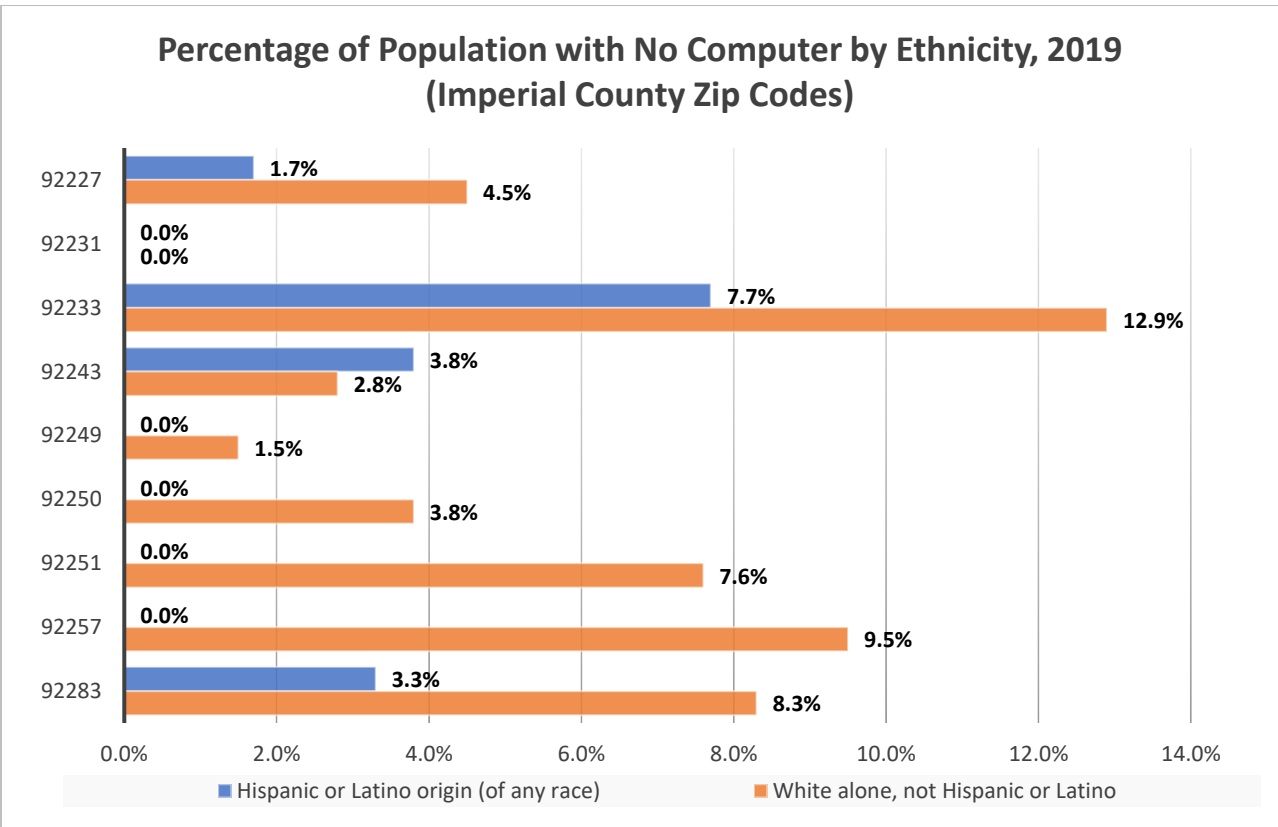


Figure 16: Percentage of Population with No Computer by Ethnicity, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) S2802

2.3. Percentage of Population Under 18 years old with No Computer or Internet Subscription in 2019 (5-years estimate) by P.O. Boxes of Various Counties

The following charts present the prevailing conditions in various P.O. Boxes zip codes with the region.

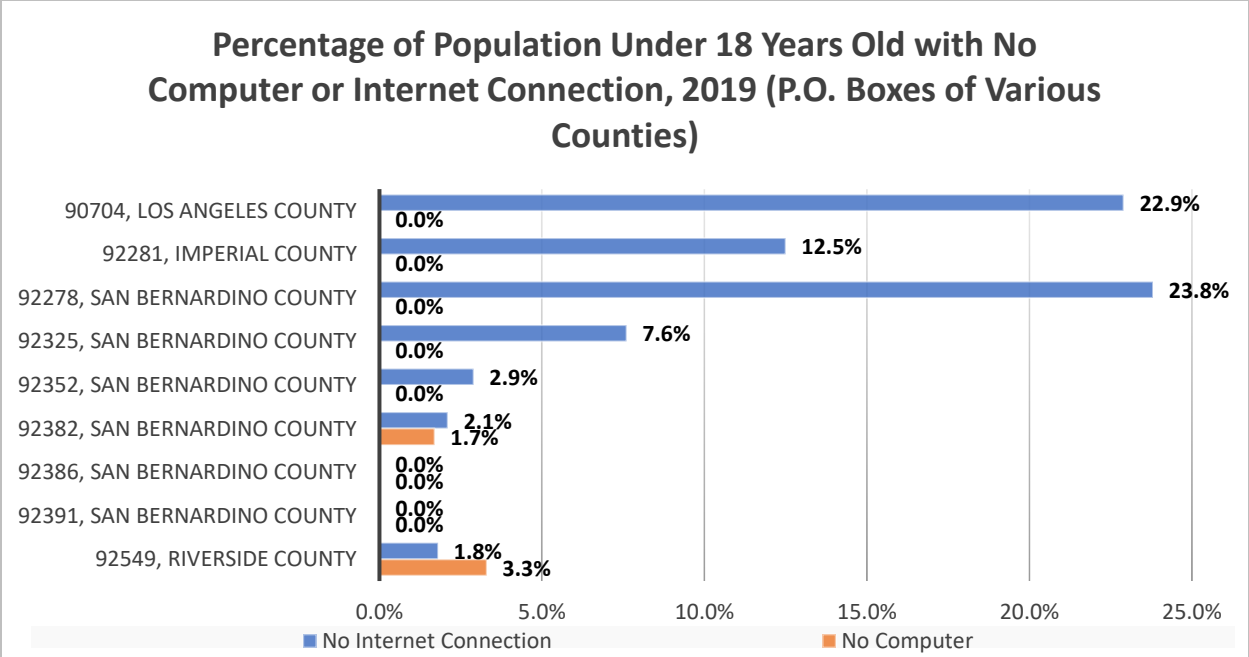


Figure 17: Percentage of Population Under 18 Years Old with No Computer or Internet Connection, 2019 (P.O. Boxes of Various Counties)

Source: U.S. Census (2019) S2802

2.4. Percentage of Households who cannot afford digital new normal in 2020 (5-years estimate), by P.O. Boxes of Various Counties

The following chart take a look at the affordability of having access to the Internet connection and devices at the rate of 5% of household income. The emerging pattern can be seen in chart. In every zip code the rate of lack of affordability is more than 40% and it goes as high as almost 70% of households in these areas.

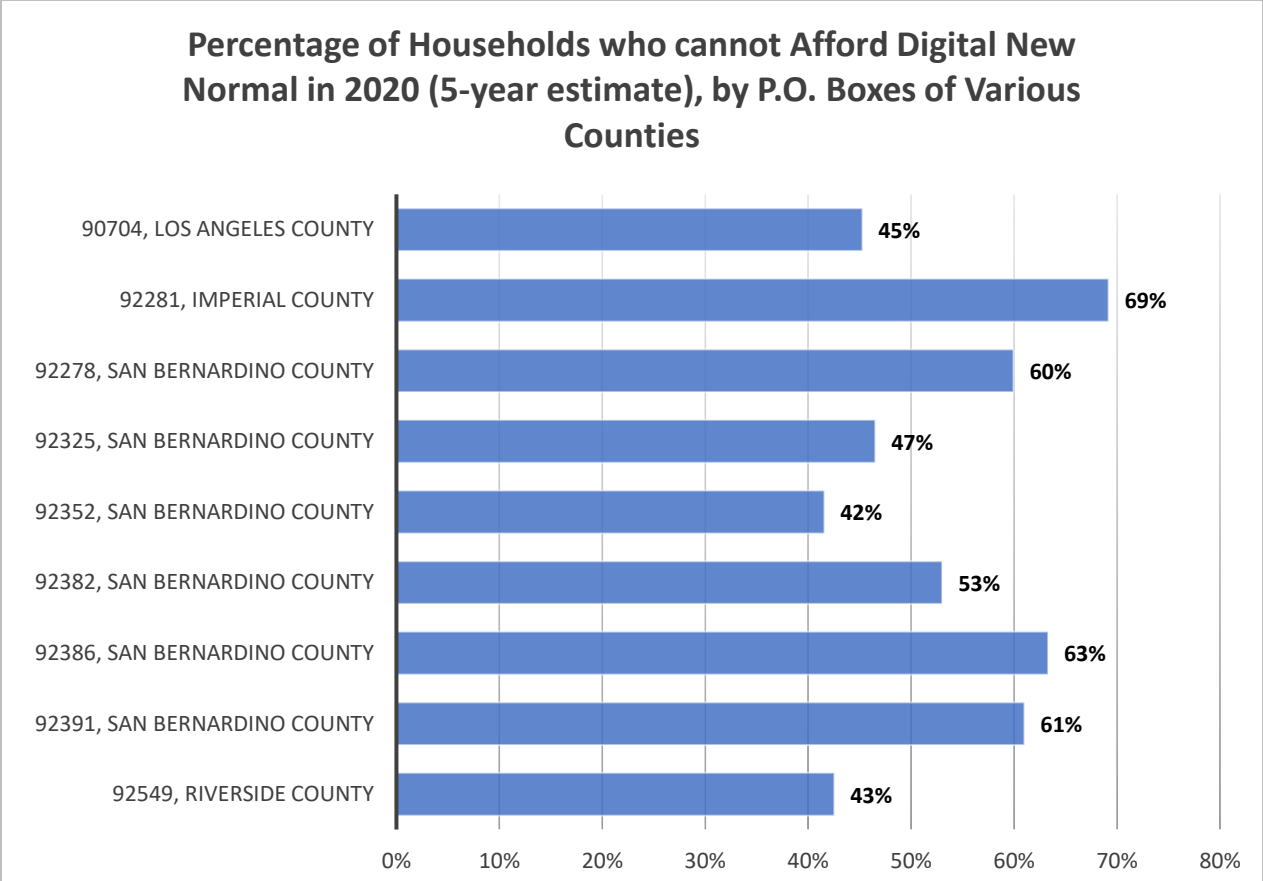


Figure 18: Percentage of Households who cannot Afford Digital New Normal in 2020 (5-year Estimate), by P.O. Boxes of Various Counties

Source: U.S. Census S1901 and Author’s calculation

Overall Conclusion from Looking into Digital Divide in P.O. Boxes Zip Codes with Population of More than 2000

- Lack of Affordability to have access to digital services are clearly evident. All zip codes have a lack of affordability of more than 40% of households.
- Lack of access to Internet connection is far greater than no having computer and it is very high in some zip codes for population of under 18 years of age.
- Racial and ethnic diversity in some of these zip codes are far less than the overall prevailing population structure within Southern California.
- Lack of population ethnic or racial diversity plays no apparent part in changing in the level of unmet needs of these communities for greater access to digital services.