

To: Susan Burgess
From: Wendell Bartnick
Date: February 27, 2007
Re: Analyzing Radio Broadcast Power Levels in Major Cities in 1928

This memo summarizes data that resides in an accompanying spreadsheet which is inserted below. The memo analyzes data for the largest 56 U.S. cities (“large cities”) as well as the cities outside the top 56 (“smaller cities”) with at least one 1000 watt or greater broadcast stations (“high powered stations”). By coincidence, the number of small cities in this data set is also 56.

The data seems to indicate that generally the large cities have more stations and more powerful stations. However, generally the number and power-level of stations does not follow directly with population. Beyond the top 11 most populated cities, the stations and their powers are mixed throughout city populations without a clear trend toward highly populated cities getting more high powered stations.

First, all large cities combined had about the same number of high powered stations (59) as all smaller cities combined (58). Even the number of 5000 watt or greater broadcast stations was about the same in each set of cities. Therefore, it was just as likely that a powerful broadcast station existed in a large city as within a smaller city.

However, New York City and Chicago easily had the largest number of high powered stations, especially the really high powered stations, i.e. those above 2500 watts. So while the FCC may have given these two cities more high powered stations, taking these outliers out of the data set makes the argument even stronger that the FCC did not match the number and power of stations with city population.

Second, smaller cities’ power per capita was about 9 times higher than in large cities, .09 watts/person in smaller cities compared to .01 watts/person for large cities. In

fact, basically every smaller city had more power per capita than the average power per capita of the large cities. Even New York City and Chicago, which had the most high powered stations had power per capita near the average for large cities. A third interesting metric is that on average smaller cities had a total power level in their cities 50% more than large cities, approximately 2700 watts/smaller city as opposed to 1550 watts/large city. These results again indicate that the FCC did not automatically assign power levels commensurate with the population of the area.

Data Collection

Data was transcribed from the following two sources:

- Third Annual Report of Federal Radio Commission to Congress in 1929. Appendix G(1) – Assignments on Sept. 1, 1928. Available at <http://www.fcc.gov/fcc-bin/assemble?docno=291101> and a clearer version of Appendix G(1) available at http://www.eliillinois.org/00001_00/pdf/1081157/file10.pdf.
- Volume 1 of the 1930 U.S. census. This census data is the nearest to 1928 as the prior census was conducted in 1920. Available at <http://www.census.gov/prod/www/abs/decennial/1930.htm>

Description of Excel Worksheets

- Worksheet 1 – All Assigned Stations
 - Lists all assigned broadcast radio stations in the U.S. including their territories, including: state or territory, city, power, station call-letters, and the city's population in 1930.
- Worksheet 2 – 56 Most Populated U.S. cities
 - Lists the 56 largest U.S. cities, their populations, the distribution of stations powers, and related computations.
- Worksheet 3 – All Cities Less Populated than 56 Most Populated U.S. Cities with at least one assigned broadcast radio station broadcasting with at least 1000 watts.
 - Lists all cities smaller than 56 largest U.S. cities, their populations, the distribution of station powers, and related computations.
- Worksheet 4 – All Cities Smaller than 56 Largest U.S. Cities with No assigned broadcast radio stations broadcasting with at least 1000 watts.
 - Basically includes all the cities not included in Worksheets 2 or 3.
 - Lists those cities, their populations, the distribution of station powers, and related computations.
- Worksheet 5 – Assignments By City

- Includes all of the data from Worksheets 2-4.



1928_power_city_data.xls