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## **AM Radio Listening**

by David Giovannoni  
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# AM RADIO LISTENING

An Annotated Graphical And Tabular Treatise  
Of The Current State Of The Audiences  
To Broadcast Stations On The AM Band

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With Historical Perspectives  
And Extrapolations For The Future

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Offering Observations Pertinent  
To The Implications Of This Knowledge  
For Public Radio Practitioners

David Giovannoni  
Audience Research Analysis  
6512 Sweetwater Drive  
Derwood, MD 20855

for

The Station Resource Group  
7116 Sycamore Avenue  
Takoma Park, MD 20912

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7116 Sycamore Avenue  
Takoma Park, MD 20912

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Joanne Church of the Radio Research Consortium for assembling historical audience data on a matched set of AM and FM stations;

Jack Mitchell for conducting, implementing, and sharing the research at Wisconsin Public Radio;

Larry Lichty for making the AM class system somewhat comprehensible, condoning shameless use of quotes from *American Broadcasting*, and his added random insights, and

Tom Thomas, Terry Clifford, and the Station Resource Group for their foresight and perseverance in realizing this study.

Except where noted, all audience estimates presented herein are based on Arbitron measurements, and have been generated for this study by Audience Research Analysis.

David Giovannoni  
Derwood, MD  
August, 1991



# FORWARD

Although many people think of public radio as an FM service, the Corporation for Public Broadcasting supports some 34 AM stations. Another half-dozen AM stations with like programming goals operate on a noncommercial basis close to CPB's minimum levels.

While many of public radio's AM stations are experiencing alarming audience declines, other public broadcasters are considering expanding their services through the acquisition of AM frequencies. Both current and prospective public radio AM operators are working with very little information about the current state of the AM band.

To inform these endeavors, The Station Resource Group has developed an up-to-date portrait of AM radio listening—with a particular focus on public radio's AM stations. With support from CPB's System Development Fund, and with the cooperation of National Public Radio and the Radio Research Consortium, this project is driven by such questions as the compatibility of AM public radio with its FM counterparts, the appropriate level of investment in programming for AM stations, and the feasibility of developing new AM public radio stations.

SRG commissioned David Giovannoni of Audience Research Analysis to prepare a comprehensive analysis of AM listening. While audience and listening data alone do not fully answer questions about public radio's AM future, they can provide critical guidance for decisions that must be made by individual stations and national policy-makers.

Among the research questions identified are:

- What is the state of AM radio listening today? How do AM listeners and listening compare to FM listeners and listening?
- Are these differences caused by the programming available on the two bands, or are they a function of the bands themselves?
- How is the audience for public radio's AM stations changing? How do these changes compare with public radio's FM stations?

The results of the study provide a privileged look at the context for AM broadcasting today. The report is rich in data, some confirming the conventional wisdom, much of it providing new insights.

**Looking Ahead.** Giovannoni's central message is much like an old adage of the restaurant business—food and service are important, but location is everything. His report makes it clear that in his judgment public radio's AM stations now occupy a less-than-desirable site.

One of the basic tenets taught in American business schools is the importance of knowing what business one is in. The classic case study is the railroad industry, which failed to grasp that it was in the transport business, not the train business, and found itself eclipsed by the automobile, long-haul trucking, and air travel.

Many public radio stations have come to understand that, first and foremost, they are in the broadcasting business, and are therefore subject to a variety of the business's conventions—particularly in the ways they define goals and measure success. A number of stations are also in the education, journalism, musicology, community development, and entertainment businesses, which also have their conventions.

In contrast, few stations would claim to be in the business of AM or FM transmission—these are merely the required tools. At its broadest level, this report helps us evaluate the suitability of a tool to its task. Giovannoni's findings suggest that most AM facilities are reaching the end of their useful life as a tool for the broadcasting business.

But the railroads also provide lessons about the durability of old tools. While today's rail business is but a shadow of its former self, it still plays important roles in urban mass transit, the highly travelled Northeast corridor, and in a few other special situations. Like the railroads, AM may have some important uses for years to come—albeit diminished from the glory days, limited to special circumstances, and most likely dependent upon major subsidies. These uses may well be for businesses other than what we think of as broadcasting, and may need to be planned and evaluated with new goals, expectations, and benchmarks.

This report should help public radio make better use of its always scarce resources by informing tough decisions about how best to use the AM stations now in operation, where long-standing efforts may need to be abandoned, and where new opportunities may still exist.

—Tom Thomas  
Terry Clifford

# INTRODUCTION

*On this campus pioneer research and experimentation in “wireless” led to successful transmissions of voice and music in 1917, and the beginning of broadcasting on a scheduled basis in 1919. Experimental station 9XM transmitted telegraphic signals from Science Hall until 1917, when...in that year, Professor Earle M. Terry and students built and operated a “wireless telephone” transmitter.... Thus, the University of Wisconsin station...has been in existence longer than any other.*

— *Historical Marker at Vilas Communication Hall  
Madison, Wisconsin*

Experiments in wireless telephony at pioneer stations are landmarks in the history of what has become public radio in America. But as important as they were in public radio’s development, they have about as much relevance today as the AM band on which they occurred.

The future of public radio—indeed, the future of all audio broadcasting as we now know it—is on FM and the technologies that will displace it. This is a natural function of one technology displacing another, as surely and as quickly as the automobile replaced the horse and buggy.

Forty years ago, AM was radio. Until 1978, AM claimed more than half of all hours spent with radio. Today, AM accounts for less than a quarter of all radio listening—most of which is to a handful of powerful stations in major markets. AM is passing away with the generations who grew up with it. Indeed, for those who grew up with FM, AM doesn’t exist; FM *is* radio.

As their audiences continue to dwindle, AM stations’ revenues, profits, and values continue their twenty-plus-year decay, and there is no hint of these trends reversing or even abating. At this rate, AM will become the first electronic technology to forfeit its status as a *mass* communication, *broadcast* medium.

This examination delves into AM listening data for commercial and public stations. It seeks to discover opportunities for existing public AM stations and for public radio on the AM band. It finds that opportunities may exist, but only if the AM operation is highly subsidized.

Unlike commercial stations for which revenues are tied to audience levels, about half of public radio's operating revenues are not audience driven but come instead from various subsidies. Public radio's ability to attract such subsidization may allow it, in select cases, to eke the last bit of life out of an AM property. But this opportunity is limited to a fixed and relatively short term. An investment in AM is not an investment that will pay dividends very far into the future.

**Outline And Scope.** This study presents the most recent data about listeners and listening to the AM band in general, and to public AM stations in particular. The most central "truths" are told by graphics. Text ties the graphics together and puts them into context.

It begins with an overview of the two broadcast bands in America. Although commercial AM and FM stations exist in relatively equal numbers, public radio is dominated by stations on the FM band. The public stations on the AM band are of two types—"stand-alones" and "dual licensees"—each with its own set of constraints and opportunities.

Great differences exist among the various types of AM facilities. Along with format and programming, an AM's power and class are the two most influential forces on audience and audience-derived revenues; they hold the key to viability for commercial and public broadcasters alike.

Audiences to public AM stations generally do not equal the audiences to commercial AM stations with the same class and power. Indeed—and this is a central finding—the exodus from public radio's AM stations greatly outpaces the AM band's decline. The principal cause: outdated programming strategies common among public radio's dual licensees.

AM's displacement by FM is documented, as are the effects of each band on listening patterns. The bands exert tyrannical forces on who will or who won't listen to programming on their stations. These forces can overwhelm the appeal of the programming itself.

This study concludes by presenting a structure with which public broadcasters can evaluate the economics of AM acquisition and operation. In some cases, a window of opportunity may be open for another few years; in others, the window has already slammed shut.

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# STATIONS

*I have in mind a plan of development which would make a radio a "household utility" in the same sense as the piano or phonograph. The idea is to bring music into the house by wireless.... A radio-telephone transmitter having a range of, say, 25 to 50 miles can be installed at a fixed point where instrumental or vocal music or both are produced. The receivers can be designed in the form of a simple "Radio Music Box" and arranged for several different wavelengths, which should be changeable with the throwing of a single switch or pressing of a single button.*

— David Sarnoff, 1915

Although there are virtually equal numbers of AM and FM stations in the commercial broadcast field, FM dominates noncommercial radio.

Adding the number of construction permits to the number of stations now on the air, there are today about 5,300 commercial stations authorized on each band. In comparison, public radio is dominated by stations on the FM band. Of the approximately 1,500 public FM stations currently on the air, about 1,480 operate in the reserved noncommercial portion of the FM band and another 40 operate above 92 FM.<sup>1</sup> In comparison, only 40 AM facilities are operated as public stations.

The table on the following page lists these AM stations along with selected membership, affiliation, ownership, and technical information.

**Two Types of Public AM Stations.** The 40 public AM stations are operated by two types of licensees. "Dual licensees" also hold an FM license; "stand-alones" do not. Over half (23) of the 40 public AM stations are operated by dual licensees. They account for well over 90 percent of public radio's national AM audience.

Dual licensees and stand-alones operate under very different programming circumstances. A licensee with both an AM and an FM station

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<sup>1</sup> Because many of these FM stations are owned by religious broadcasters or operated by and for students, most considerations of the "public radio system" are limited to 700 FM stations (and 40 AM stations). This study adheres to this convention.

## Public Radio's AM Stations

| <u>ST</u> | <u>CALLS</u> | <u>LIC</u> | <u>FREQ</u> | <u>KW</u> | <u>CPB</u> | <u>NPR</u> | <u>APR</u> |
|-----------|--------------|------------|-------------|-----------|------------|------------|------------|
| AK        | KBBI         |            | 890         | 10        | CSG        | Memb.      | Primary    |
| AK        | KBRW         |            | 680         | 10        | CSG        |            | Primary    |
| AK        | KCHU         |            | 770         | 1         | CSG        | Memb.      | Primary    |
| AK        | KDLG         |            | 670         | 10        | CSG        |            | Primary    |
| AK        | KIAL         |            | 1450        | .05       | Sole Svc.  |            | Repeater   |
| AK        | KIYU         |            | 910         | 5         | Sole Svc.  |            | Repeater   |
| AK        | KNSA         |            | 930         | 2.5       | Sole Svc.  |            |            |
| AK        | KOTZ         |            | 720         | 10        | CSG        | Memb.      | Primary    |
| AK        | KSDP         |            | 840         | 1         |            | Asso.      | Repeater   |
| AK        | KSKO         |            | 870         | 5         | CSG        |            | Primary    |
| AK        | KYUK         |            | 640         | 10        | CSG        | Memb.      | Primary    |
| AZ        | KAWC         |            | 1320        | 1         | CSG        | Memb.      |            |
| AZ        | KUAT         | Dual       | 1550        | 50        | CSG        | Memb.      | Co-Lic.    |
| FL        | WKGC         | Dual       | 1480        | .5        |            | Asso.      |            |
| HI        | KIPO         | Dual       | 1380        | 5         |            | Asso.      | Tertiary   |
| IA        | WOI          | Dual       | 640         | 5         | CSG        | Memb.      | Co-Lic.    |
| IA        | WSUI         | Dual       | 910         | 5         | CSG        | Memb.      | Co-Lic.    |
| IL        | WILL         | Dual       | 580         | 5         | CSG        | Memb.      | Co-Lic.    |
| IN        | WBAA         |            | 920         | 5         | CSG        | Memb.      | Primary    |
| KS        | KKSU         |            | 580         | 5         | CSG        | Memb.      |            |
| MI        | WKAR         | Dual       | 870         | 10        | CSG        | Memb.      | Co-Lic.    |
| MN        | KNOW         | Dual       | 1330        | 5         | CSG        | Memb.      | Secondary  |
| MN        | KUOM         |            | 770         | 5         | CSG        |            |            |
| ND        | KFJM         | Dual       | 1370        | 1         | CSG        | Memb.      | Co-Lic.    |
| NM        | KABR         |            | 1500        | 1         | Sole Svc.  |            |            |
| NY        | WEBR         | Dual       | 970         | 5         | CSG        |            | Co-Lic.    |
| NY        | WNYC         | Dual       | 820         | 2         | CSG        | Memb.      | Co-Lic.    |
| NY        | WXXI         | Dual       | 1370        | 5         | CSG        | Memb.      | Co-Lic.    |
| OH        | WOSU         | Dual       | 820         | 5         | CSG        | Memb.      | Co-Lic.    |
| OH        | WOUB         | Dual       | 1340        | .5        | CSG        | Memb.      | Co-Lic.    |
| OR        | KBPS         | Dual       | 1450        | 1         | CSG        | Memb.      | Co-Lic.    |
| OR        | KOAC         | Dual       | 550         | 5         | CSG        | Memb.      | Repeater   |
| OR        | KSJK         | Dual       | 1230        | 1         |            | Asso.      | Co-Lic.    |
| PR        | WEUC         | Dual       | 1420        | 1         |            |            |            |
| PR        | WIPR         | Dual       | 940         | 10        | CSG        |            |            |
| SD        | KUSD         | Dual       | 690         | 1         | CSG        | Memb.      | Co-Lic.    |
| WA        | KWSU         | Dual       | 1250        | 5         | CSG        | Memb.      | Primary    |
| WI        | WHA          | Dual       | 970         | 5         | CSG        | Memb.      | Co-Lic.    |
| WI        | WLBL         | Dual       | 930         | 5         |            | Asso.      | Repeater   |
| WV        | WVMR         |            | 1370        | 5         | Sole Svc.  |            |            |

has the option of using the two stations to complement and supplement one another, placing programs on the station to which they are best suited. Stand-alone AM stations have only a single station with which to take their best shot. As a result, licensees operating in the two different situations may come to quite different conclusions about the best programming strategy for their AM station.

**“Captive” Audiences.** Most stand-alone public AM stations (11 out of 17) are in small and isolated Alaska communities. Because they are often one of the few, if not the only, station(s) in town, their listeners are essentially “captive.” In contrast, the primary lessons presented in this report are shaped by the experience of AM stations in competitive situations, where listeners have numerous choices on both the AM and FM bands. Indeed, Arbitron, upon which this report relies for its listening data, does not measure listening in most of the communities served by the Alaska AM stations.

As a result, most of the findings presented here are unlikely to apply to the stand-alone Alaska stations, or to other AM stations that now operate or that may be established in similarly isolated communities.

This study applies most directly to public radio’s 23 dual licensees and its six stand-alone operations outside of Alaska. In addition, those considering expansion to AM will find much of interest here.

### Key Facts About Public Radio’s AM Stations

|                |                                   |
|----------------|-----------------------------------|
| 34 Stations    | Number Supported By CPB           |
| 12 Stations    | Number Supported By CPB In Alaska |
| \$22,800,000   | Nonfederal Financial Support      |
| 25,300 Persons | Average Quarter-Hour Audience     |
| 2.5 Percent    | Share of Public Radio Listening   |
| < 0.3 Percent  | Share of AM Radio Listening       |
| < .01 Percent  | Share of Radio Listening          |

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# CLASS AND POWER

PLEASE ORDER YOUR MINIONS OF SATAN TO LEAVE MY STATION ALONE. YOU CANNOT EXPECT THE ALMIGHTY TO ABIDE BY YOUR WAVELENGTH NONSENSE. WHEN I OFFER MY PRAYERS TO HIM I MUST FIT INTO HIS WAVE RECEPTION. OPEN THIS STATION AT ONCE.

— AIMEE SEMPLE MCPHERSON

— *Telegram to Secretary of Commerce Herbert Hoover*

AM evolved in social and media environments quite unlike those in which FM evolved. The regulatory responses to those shifting environments caused first the Department of Commerce, then the Federal Radio Commission, and finally the Federal Communications Commission to develop the class system of AM broadcasting that we still have today.

Without historical perspective, this hierarchy of AM stations seems bizarre—as outdated and arcane as the milieus that spawned it. But this system is extremely important to understand because the class and technical characteristics of an AM station are as important as its format in determining its viability.

The AM classification system regulates not only power and frequency, as with FM, but also hours of operation (day and night) and signal radiation patterns (accomplished through directional antenna arrays).<sup>2</sup> There are numerous exceptions within the system, but in its simplest form the system maintains four basic classes of AM stations.

**Class 1 (clear dominant) stations** cover the most extensive geographies. Each station was originally intended to have its frequency (essentially) to itself to avoid interference and to maximize its range. Today, all of the 25 class 1-A stations and all but one of the 34 class 1-B stations operate at 50,000 watts. Class 1-As operate around the clock at full power with non-directional arrays.<sup>3</sup>

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<sup>2</sup> For AM, antenna height is not correlated with signal propagation as it is in FM.

<sup>3</sup> The 1-N class of station is exclusive to Alaska. These 17 stations are allowed to operate on “clear channel” 1-A frequencies as their distance from the lower 48 states minimizes the potential for interference. Ten are public stations supported by the Corporation for Public Broadcasting.

# AM Stations by Class and Power

## FCC AM Engineering Database, Arbitron 1990 Nationwide

|                 | STATIONS |         | AQH PERSONS |         | AQH PERSONS |             |
|-----------------|----------|---------|-------------|---------|-------------|-------------|
|                 | NUMBER   | PERCENT | NUMBER      | PERCENT | PER STATION | PER STATION |
| All AM Stations | 4,870    | 100.0   | 7,463,800   | 100.0   | 1,513       | 1,513       |
| All Class 1A    | 25       | .5      | 1,252,600   | 16.8    | 50,104      | 50,104      |
| All Class 1B    | 34       | .7      | 859,600     | 11.5    | 25,282      | 25,282      |
| Class 2 @ 50 kW | 115      | 2.4     | 921,900     | 12.4    | 8,017       | 8,017       |
| Class 2 @ 10 kW | 243      | 5.0     | 342,600     | 4.6     | 1,410       | 1,410       |
| Class 2 @ 5 kW  | 248      | 5.1     | 195,800     | 2.6     | 790         | 790         |
| Class 2 @ 1 kW  | 618      | 12.7    | 272,200     | 3.6     | 440         | 440         |
| Class 2 @ 500 W | 351      | 7.2     | 88,000      | 1.2     | 251         | 251         |
| Class 3 @ 5 kW  | 1,078    | 22.1    | 2,455,300   | 32.9    | 2,278       | 2,278       |
| Class 3 @ 1 kW  | 840      | 17.2    | 341,400     | 4.6     | 406         | 406         |
| Class 3 @ 500 W | 278      | 5.7     | 62,600      | .8      | 225         | 225         |
| All Class 4     | 1,040    | 21.4    | 576,500     | 7.7     | 554         | 554         |

Read: Of the 5,300 authorized AM stations, 4,870 are currently broadcasting from within the continental 48 states. (The remainder broadcast from within Alaska, Hawaii, or Puerto Rico, or else hold construction permits.) Of these, 25 are Class 1A stations; although these represent only .5 percent of all stations, they account for 16.8 percent of all listening to the AM band. Class 1A stations average 50,104 average quarter-hour persons apiece throughout the broadcast week.

Class 2 (clear secondary) stations were also intended to serve extensive areas, but not as extensive as class 1s'. Of the 1,575 class 2s in operation today, 115 operate at 50,000 watts, 243 operate at 10,000 watts, 248 operate at 5,000 watts, and the rest operate at 1,000 watts or less. Stations in this class have a mixture of non-directional and directional arrays and night time operating restrictions, depending upon the location of the station and the proximity and direction of others on its frequency. Most 50,000 watt class 2s operate at night; most class 2s with less power do not.

Class 1 and class 2 stations share a set of frequencies that are not shared by other classes of stations in the United States.

Class 3 (regional) stations were intended to be regional in reach. They share a unique set of frequencies, and most use directional arrays to protect other class 3s. Half of the 2,200 class 3s operate at 5,000 watts during the day. Most power down at night, and many go off the air.

Class 4 (local) stations were created to serve highly localized areas on only six frequencies exclusive to this class. Most operate at their maximum allowed power of 500 or 1,000 watts. Because their signals do not propagate very far, class 4 stations operate day and night with non-directional arrays.

**The Power Of Power.** This analysis sorts all AM stations into 11 technical types based on class and power as of the Spring 1990 Arbitron sweep. The table on the opposite page summarizes the most pertinent information about each type of station.<sup>4</sup>

Although the 59 class 1 stations account for just over one percent of all AM stations, they generate well over one-quarter (28%) of all AM listening. The average class 1-A station serves 50,100 AQH<sup>5</sup> listeners across the broadcast week; the average class 1-B station serves 25,300

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<sup>4</sup> All audience estimates in this report are based on average quarter-hour (AQH) listening data as supplied by Arbitron and analyzed by Audience Research Analysis. Exceptions are noted.

<sup>5</sup> As used by Arbitron, AQH (average quarter-hour) audience is the number of persons listening during a 15-minute period as averaged across the broadcast week, Monday through Sunday 6:00 a.m. through 12:00 midnight. Cume audience is the total number of persons who listened for at least five minutes sometime during the week.

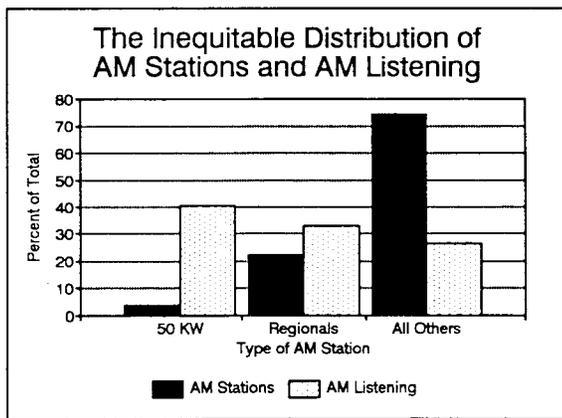
listeners. Compare these audience levels to the average of 1,500 AQH persons across all AM stations.

Class 2 stations at 50,000 watts account for another 12 percent of all AM listening. These 115 stations average 8,000 AQH listeners across the broadcast week.

Although the 174 50,000 watt AMs represent less than four percent of all AM stations, they account for 41 percent of all AM listening in America. They reach vast numbers of people because of their power and location in urban areas, nearly every person in the lower 48 states can receive more than one of these 50,000 watt AM stations. Most can receive at least one with a length of wire, a crystal, and a cat's whisker.

The 1,078 class 3 stations operating at 5,000 watts (regionals) comprise the largest single group in this analysis. Accounting for 22 percent of all AM stations, they generate 33 percent of all AM listening. They average 2,300 AQH listeners across the broadcast week.

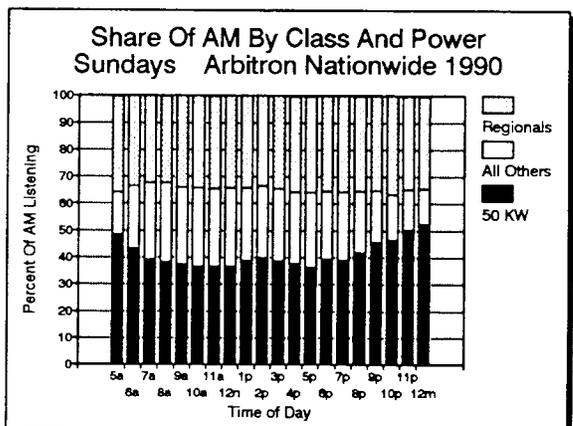
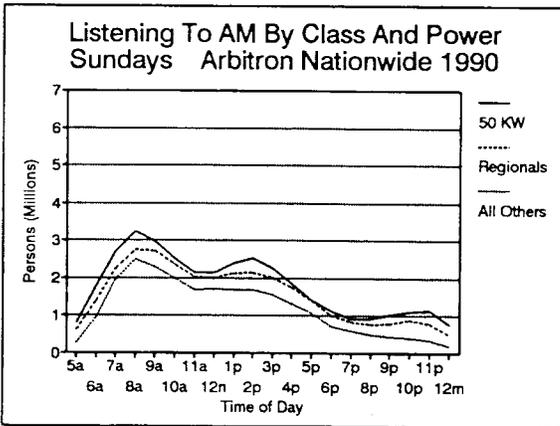
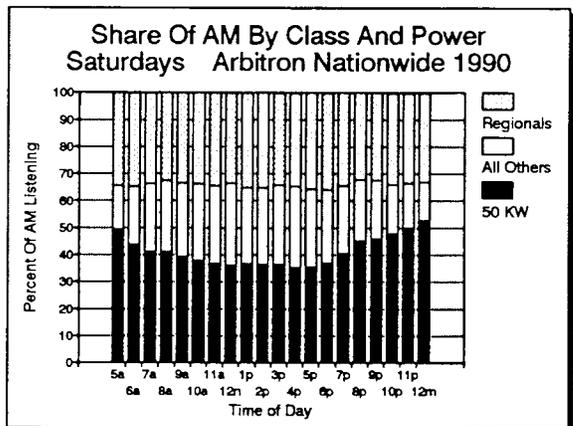
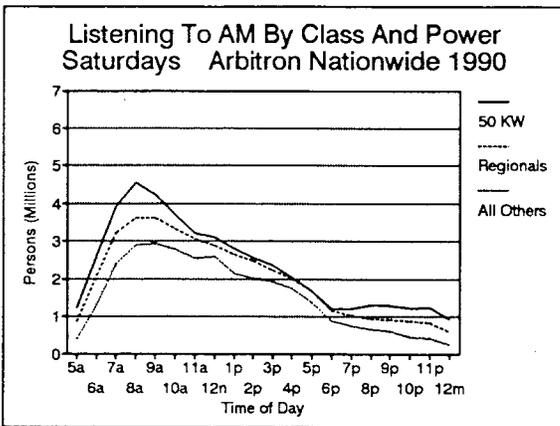
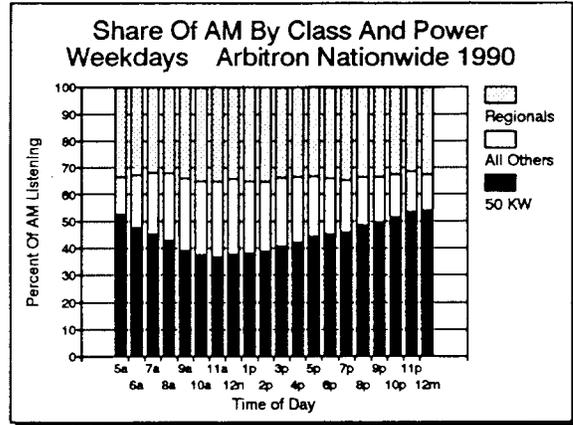
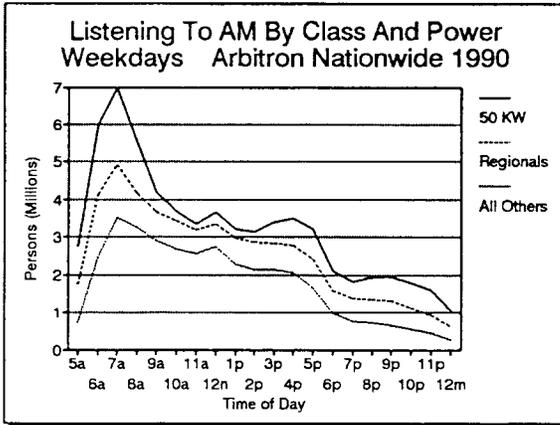
Together, the 50 kilowatt powerhouses and the five kilowatt regionals account for three-quarters (74%) of all AM listening, or 15 percent of all radio listening. The remaining 3,500-plus AM stations, with AQH audiences averaging between 1,400 and 230 persons per class/power group, account for only one-quarter of all AM listening, or five percent of all radio listening, in America.



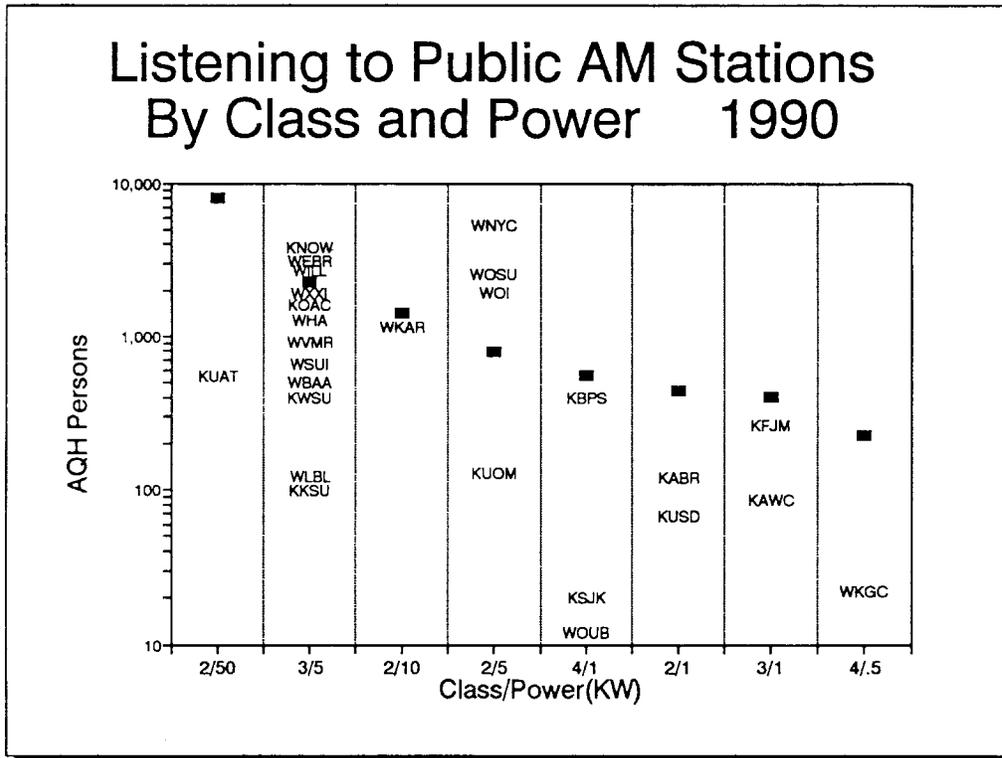
**Listening Patterns** The 50 kilowatt stations dominate AM radio use in every daypart across the week. These powerhouses are somewhat more dominant early morning and late evenings.

Morning dominance can be attributed to the preponderance of news programming on the 50 kilowatt stations, and the fact that many other stations are not on the air (or not on the air with full power) until sunrise or early morning. Similarly, evening dominance is attributable to the clear channel nature of 50 kilowatt stations: most stay on the air at night, unlike many other AM stations.

The graphs below show how much listening is done to each major type of AM station throughout the day and week (left column) and the share of AM listening contributed by each type of station (right column).



Even With Power, Most Public Radio AMs Don't Stack Up. The graph below shows how public AM stations compare in audience to the average commercial stations of their class and power (marked by black boxes in the graphic). Only a handful of public stations perform as well as the average station mark.<sup>6</sup>



This comparison doesn't control for market size, competitive situation, or other factors that influence levels of audience service. Further, a similar comparison of public radio's FM stations with audience benchmarks for commercial stations of comparable power and antenna height would also reveal a pattern of "underperformance."

But as data presented in subsequent sections will show, public radio's AM stations are in significant distress. The gap between public and commercial AM stations is growing, not shrinking.

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<sup>6</sup> Class and power categories are ranked by the size of the audience to the average commercial station. Class 1 stations are not shown as there are no Class 1-A or 1-B public stations.

# AM'S DISPLACEMENT

*The power of transmitting sets will gradually increase [because] there is no way to eliminate the effects of atmospheric disturbances...and because of the fact that from the program standpoint, it is economically better to concentrate talent at one point. All these factors point to the elimination of the present type of antenna which will disappear in the same manner as the overhead telegraph, telephone, electric light and trolley wires have disappeared in the last twenty years.*

— Edwin H. Armstrong, 1924

Listeners have been abandoning the “standard broadcast” AM band in favor of FM for well over 20 years. Technical displacement is the reason. By simply switching to FM, the consumer hears clean stereo, full fidelity, and no AM static.

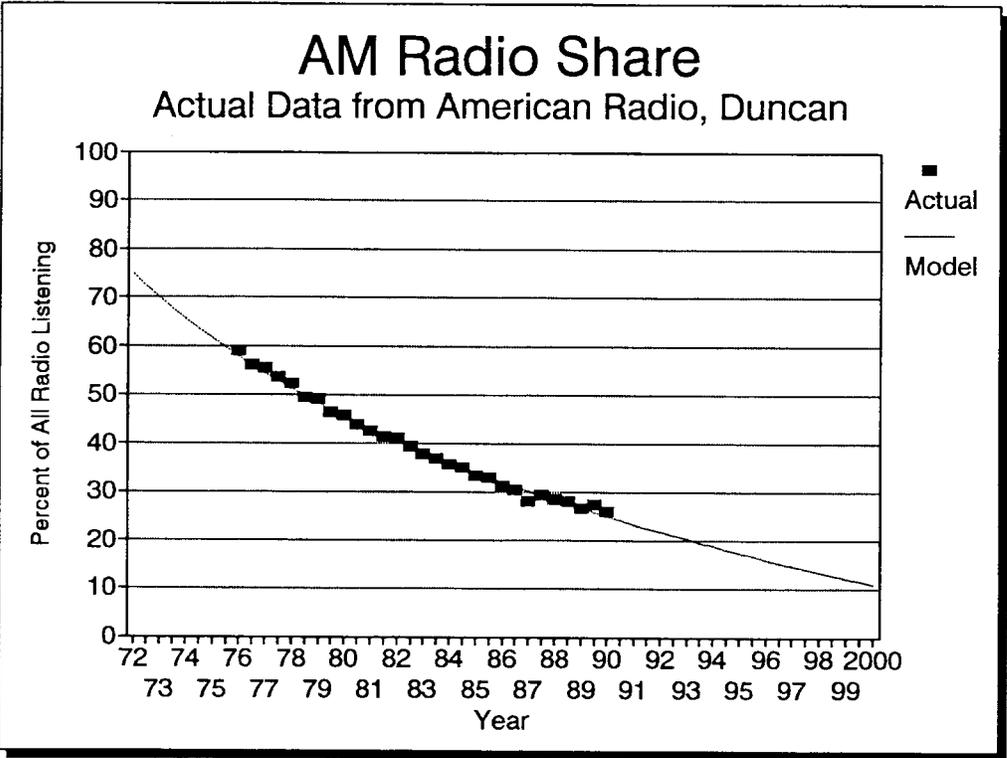
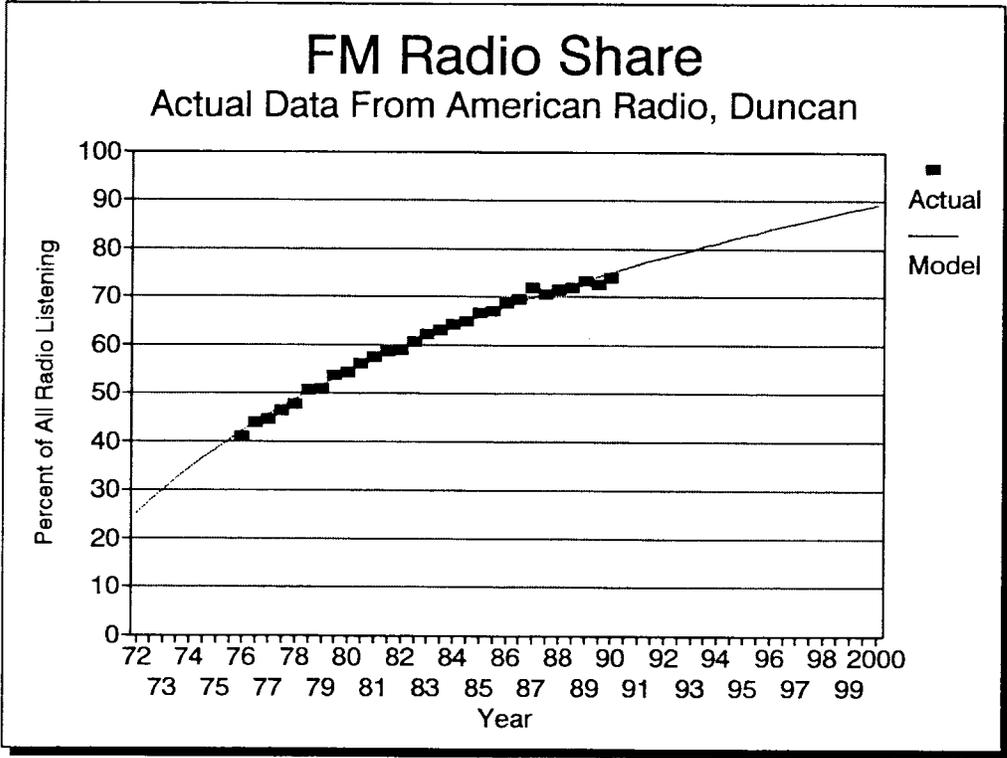
FM has been the audibly superior technology since its invention in 1933. It is now standard equipment on most radios in use. This hasn't always been the case. Although FM stations have existed since the 1940s, the expense of specialized receiving equipment made it a luxury for most Americans.<sup>7</sup> AM radio *was* radio through most of the 1960s. As late as 1966, fewer than half (48%) of all American homes had an FM receiver.

Spurred by transistor technology and innovative formats (themselves spurred by regulations that discouraged extensive simulcasting), FM came into its own in the 1970s. By 1975, FM receivers were in 93 percent of all homes, 30 percent of all automobiles had FM, and FM accounted for one-third of all radio listening.

AM stations dominated radio listening until 1978. That was the last year that more listening was done to AM than to FM. Since then, FM listening has been increasingly dominant.

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<sup>7</sup> In 1945, the FCC's decision to shift the frequency allocation of the broadcast FM band made about one-half of a million FM receivers obsolete overnight. This regulatory move also did much to retard FM's acceptance by the public.



In 1991, nearly four out of five hours that Americans spend with radio are spent tuned to the FM band.<sup>8</sup> The AM and FM share models graphed on the opposite page are purely technical extrapolations<sup>9</sup> of the AM and FM listening curves based on history; but they strongly suggest that by the year 2000, AM will account for only 10 percent of all radio listening—less than half of what it is today.

These models assume the introduction of no new over-the-air audio transmission technologies. When these technologies emerge, they will accelerate the abandonment of AM. Indeed, their introduction will mark the decline of listening to the FM band as well.

**Public AM Radio.** Public radio's AM stations are not exempt from the AM exodus. In fact, analysis of the AM stations held by dual licensees<sup>10</sup> shows that the audience to public AM stations is plummeting at an average rate of 10 percent per year.

The graphics on the next page illustrate the magnitude of this problem. Between 1986 and 1990, the national audience to all AM stations declined by 14 percent, while the combined audience for public radio's AM stations held by dual licensees declined by 30 percent. During the same period, the national audience to all FM stations grew by 10 percent, while the combined audience for the FM side of the dual operations increased 13 percent—in line with the growth rate for the system of CPB-supported stations.

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<sup>8</sup> James Duncan's *American Radio* publishes the industry's most quoted estimates of AM and FM share (the actual observations upon which the graphics on the opposite page are based.) Based on Arbitron's published listening estimates to commercial stations in metro areas, Duncan calculated AM's share at 26.1 percent in spring 1990. This method ignores listening outside of metro areas and public radio listening—a 2.9 share nationally, more than 97 percent of which is to FM. This analysis establishes these numbers from Arbitron's 1990 Nationwide study which, when public radio is included, identifies the band for 88.4 percent of all radio use. The result: AM's share of all (identified) listening is 23.7 percent—two and one-half percentage points lower than Duncan's estimate.

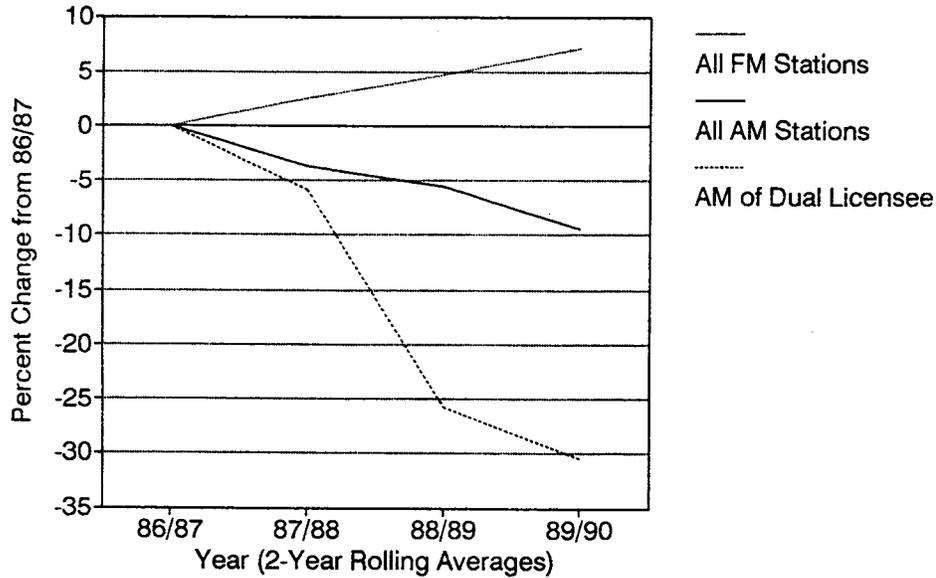
<sup>9</sup> The following formula expresses a model that closely fits Duncan's 29 observed values of AM radio share (R=.996):

$$AM\% = 100 \times \text{Log}(.21398 \times Y - 420.19)$$

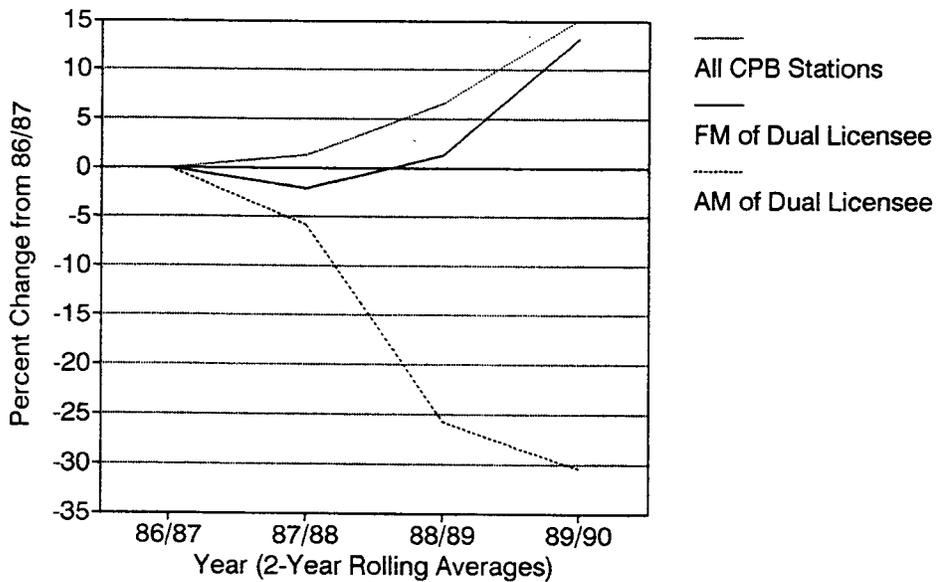
where Y = Year during a spring sweep, or Y = Year + .5 during a fall sweep.

<sup>10</sup> Based on 11 dual licensees for which Arbitron data are available from the Radio Research Consortium.

## Public Radio's AM Audience Erosion Far Exceeds AM Band Erosion

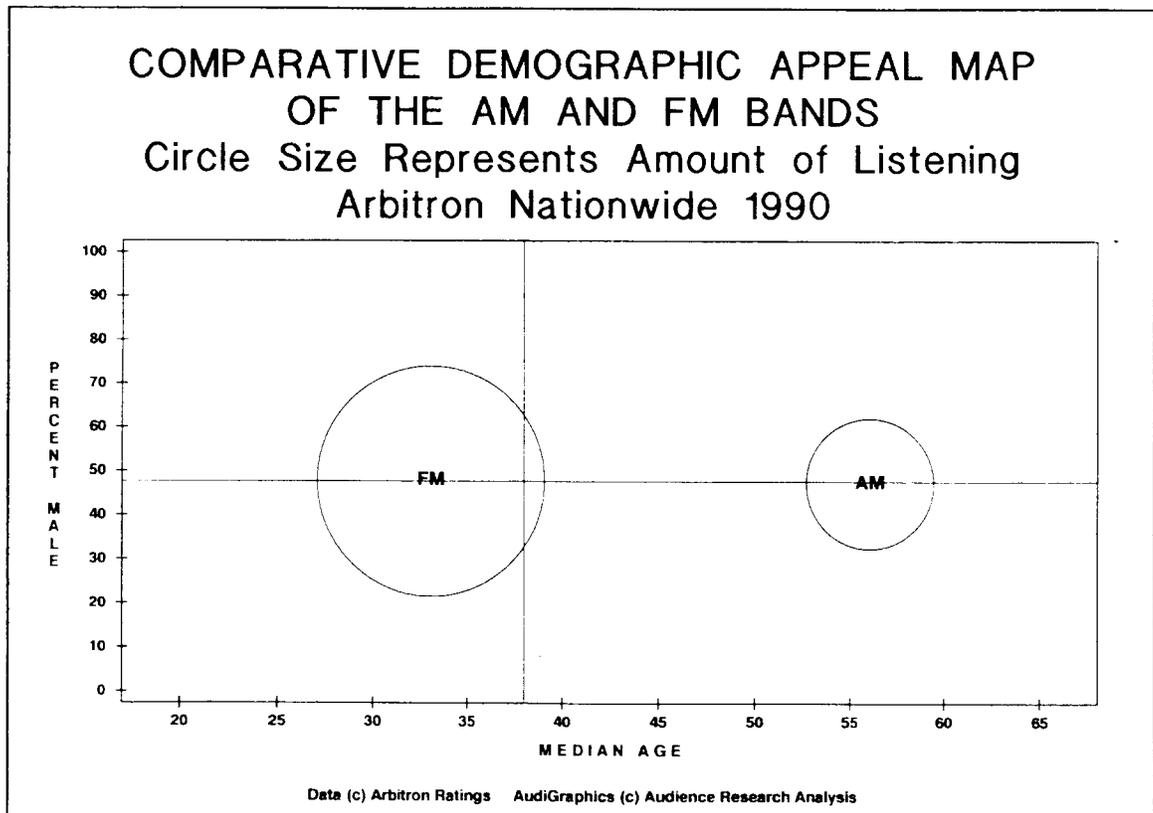


## Public Radio's AM Stations Lose While Its FM Stations Gain Audience

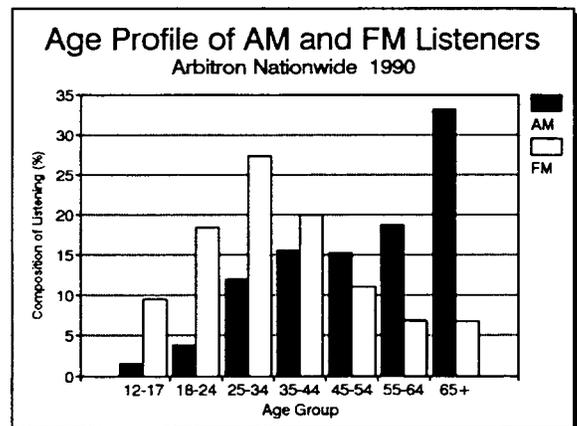


Not only are public radio's AM stations the victim of the AM band, they are clearly suffering the effects of another negative factor—inappropriate programming (discussed later in the report).

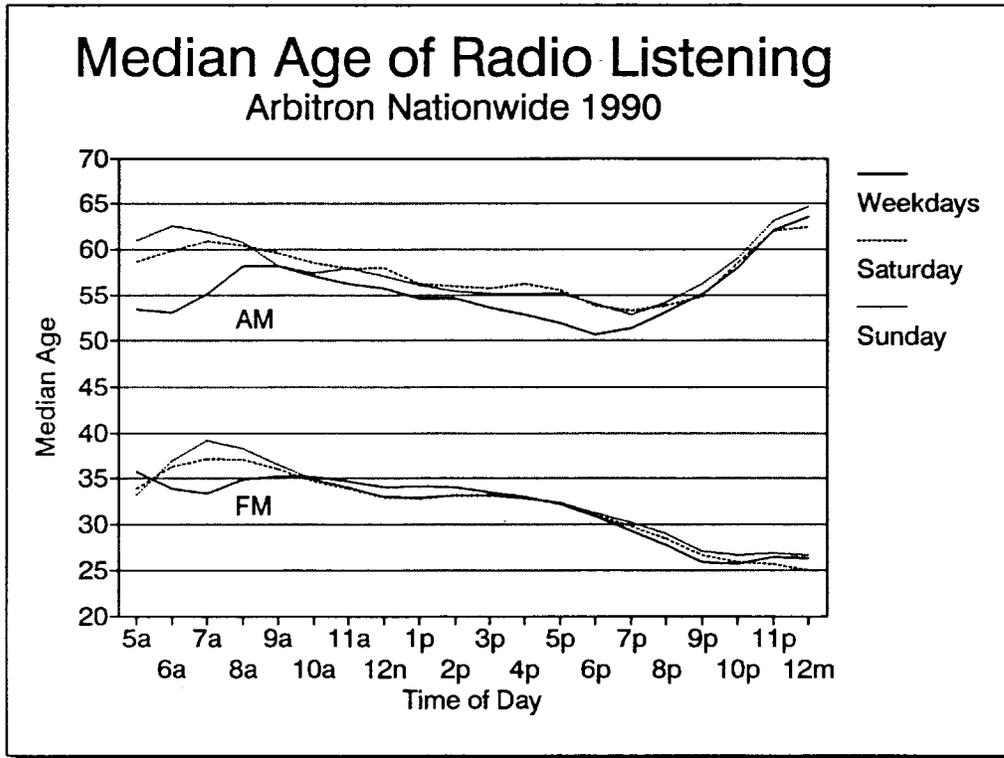
**The Remaining AM Audience.** The median age of AM listeners across all stations, all formats is 57 years old—a full generation older than FM's 33-year median age. (The comparative appeal of public AM and FM stations is discussed below, pp. 23-24.)



These medians hide the fact that one in three AM listeners is over 65 years of age. This group includes people now in their seventies, eighties, and nineties.

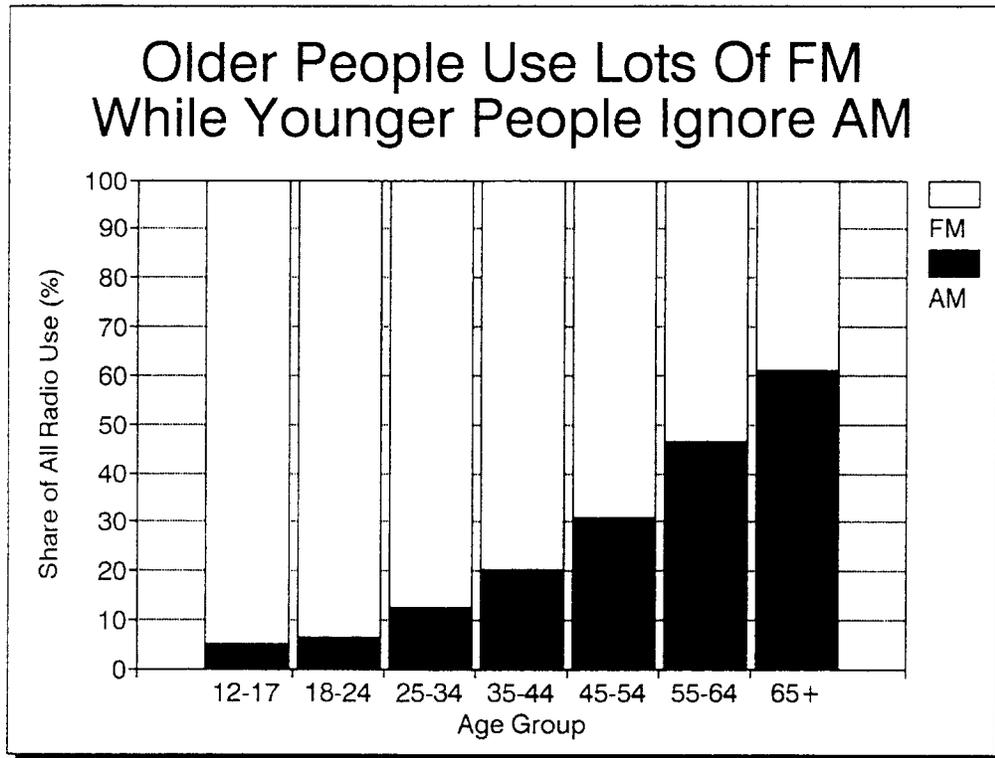


At no time during the day or week is AM's audience younger than FM's, as this graph demonstrates. AM serves its youngest audience late weekday afternoons; even then, more than half of its listeners are over 50 years old. At no time during the week does the median age of FM's listeners rise above 40; after 9:00 a.m. it is closer to 35, dipping down to 25 late evenings.



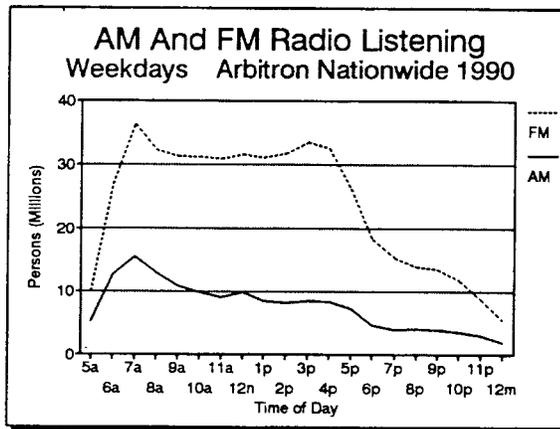
For most purposes, AM does not exist for persons under 24 years-of-age; they spend only one hour tuned to the band out of twenty tuned to radio. Indeed, only 12 percent of all radio listening by persons aged 25 to 34 is to AM, as is only 20 percent of that done by persons between 35 and 44 years-of-age.

Although younger people do not listen to AM, older people do listen to FM. FM claims two-thirds (69%) of the radio listening among persons 45 to 54 years-of-age, more than half (53%) of the listening by those 55 to 64 years-of-age, and well over one-third (39%) of the listening by AM's most loyal demographic—persons 65 and over.

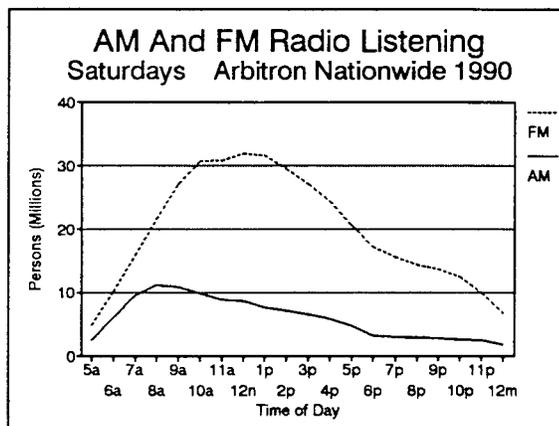


In short, despite the signs of life it still exhibits, the AM band is in certain decline. The life that's left in the band appears to be relatively short-lived.

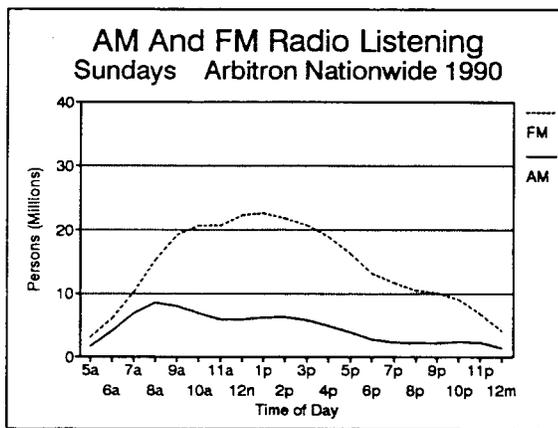
**Listening Patterns.** The most listening to AM is done between 5:30 a.m. and 10:00 a.m. weekdays, and between 7:00 a.m. and 10:00 a.m. Saturdays. At these times more than 10 million persons are listening to AM. FM listening doesn't drop below 10 million persons after 5:00 a.m. on weekdays, 6:00 a.m. on Saturdays, and 7:00 a.m. on Sundays—at least, not until late evenings.



Listening to the AM band strongly reflects the lifestyles of its older listeners. For instance, it lacks the midday listening—much of which is at work—seen in the FM curve; there is nearly as much listening to FM middays as there is during “drive times.” The “afternoon drive” surge once seen on AM has been retiring along with AM’s listeners over the years; afternoon drive now belongs to the FM generation. And on weekends, AM listening peaks four to five hours earlier than on FM—just as all radio listening does among persons over 55.



AM’s predominant formats also shape listening to the band, as the next section demonstrates.



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# FORMATS

*The Westinghouse Corporation opened Chicago's first radio station, KYW, on November 11, 1921.... The KYW program schedule for the 1921-22 season was "entirely Chicago Civic Opera. All performances, afternoon and evening, six days a week, were broadcast—and nothing else."*

— F. G. Fritz quoting Erik Barnouw

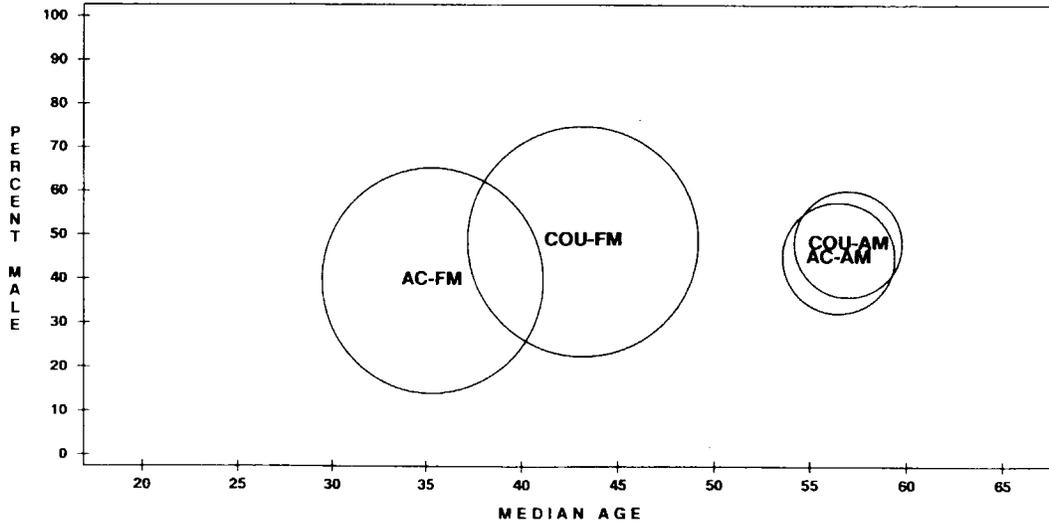
**The Tyranny of the Band.** Some observers have posited that AM's audience is shrinking because all of the "good" formats have migrated to FM, and that it's older because FM has all of the "young" formats. Not only does this argument put the buggy before the horse, but it ignores the fact that all of the major formats that exist on FM are also broadcast on AM (public radio included). Indeed, AM has the All News format all to itself.

Yet the effects of the AM band on listening and listeners is overwhelming. The audience for an AM format is significantly older than the audience for the same format on FM. This is because the AM band screens out younger listeners; they just aren't there to listen. For the same reason, putting a young format on AM significantly attenuates the size of its audience—the AM band simply doesn't exist for many younger persons.

The filtering effects that the AM band has on audiences are shown in the graphics on the following pages. Although only Country and Adult Contemporary are shown, AM's audience is older than FM's for every major format.

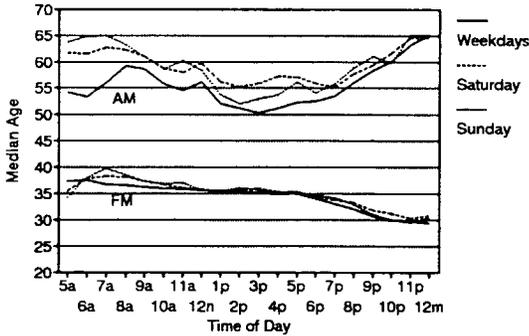
# COMPARATIVE DEMOGRAPHIC APPEAL MAP OF TWO FORMATS ON THE AM & FM BANDS

Circle Size Represents Amount of Listening  
Arbitron Nationwide 1990

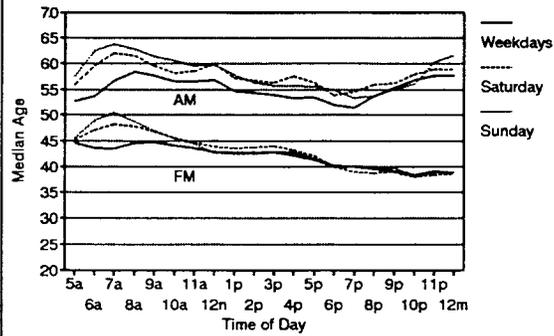


Data (c) Arbitron Ratings AudiGraphics (c) Audience Research Analysis

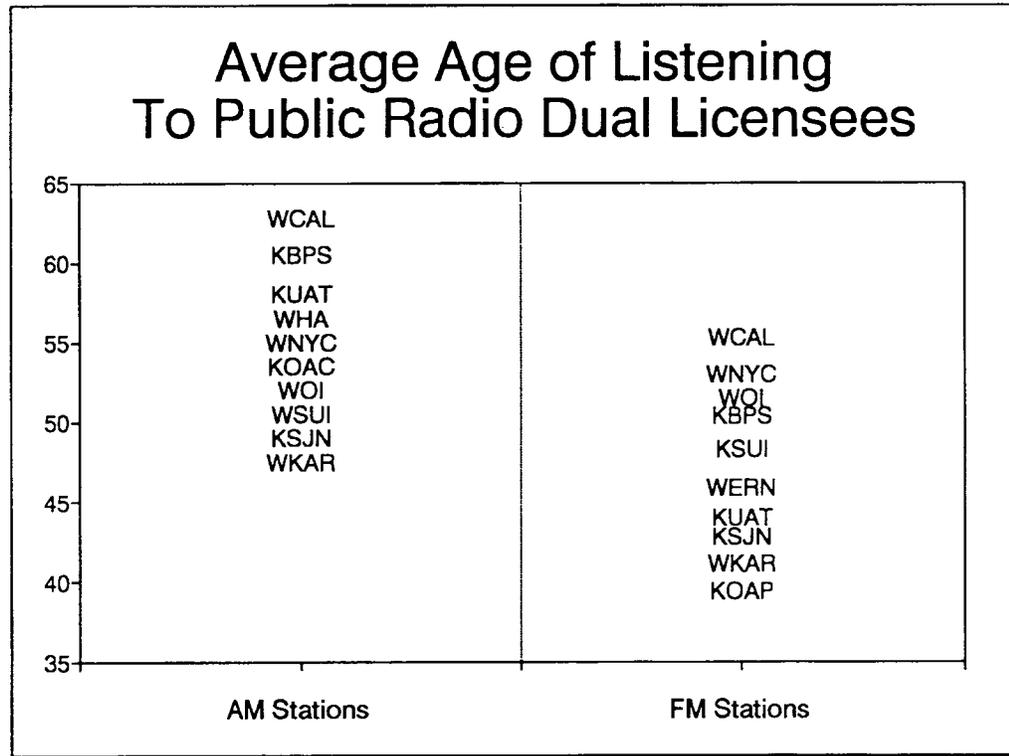
### Median Age of AC Listening Arbitron Nationwide 1990



### Median Age of Country Listening Arbitron Nationwide 1990



The AM band's filtering effects are quite operative in public radio, too. The graphic below compares the age disparities among dual licensees; the AM is older than the FM in every case. (These stations are part of the AUDIENCE 88 study, an analysis of public radio's listeners based on data gathered in 1986; age estimates are computed from this database.)

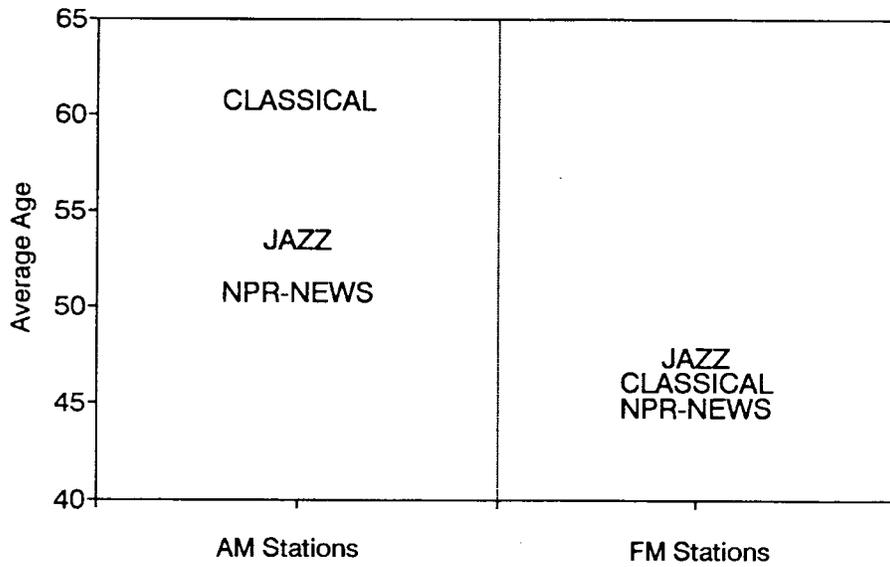


Of course, enormous variations can exist within formats. For instance, there are older and younger AC formats, Country formats, and so forth; many created as programmers adjusted the age appeal of their formats to better match the band. This is certainly part of the age disparity seen between audiences for the same format on AM and FM.

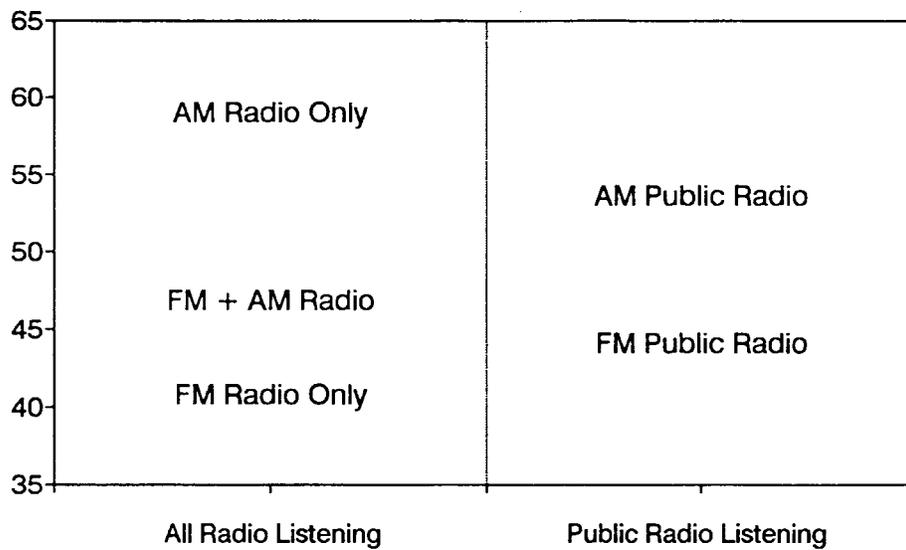
Yet pure examples of the tyranny of the band abound. Commercial simulcast operations inevitably serve older listeners on their AMs. And as the top graphic on the next page shows, the same national programming on public stations draws an older audience on AM than on FM.

Finally, AUDIENCE 88's sample suggests how public radio's listeners cross from band to band, as the bottom graphic on the next page shows. Those who listen only to FM radio are nearly 20 years younger than those who listen only to AM (left column); those who listen to both are in the middle. Listeners to public radio's AM stations are ten years older on average than listeners to public radio's FM stations (right column).

## How The Bands Affect Who Listens To Public Radio Programming



## Average Age of Public Radio Listeners By AM and FM Use



**Dominant AM Formats.** By far the most listened-to AM format is News/Talk; alone it generates 28 percent of all AM listening. All News stations generate another 9% of all AM listening. In short, All News and News/Talk formats account for well over one in three hours (37%) spent with AM radio.

Adult Contemporary, Country, and MOR/Big Band/Nostalgia each account for 11 to 12 percent of all AM listening.

Together, these four format groups account for three-quarters (72%) of all AM listening. They account for 82 percent of all AM listening by persons over 65 years old.

Of course, format preferences change with age—even on AM radio. The strongly ethnic Spanish/Latin and Urban Contemporary formats claim about one-third of all AM listening by persons under 24 years old. But put back into the context of *total* listening, these AM formats represent less than two percent of all radio listening by these younger listeners.

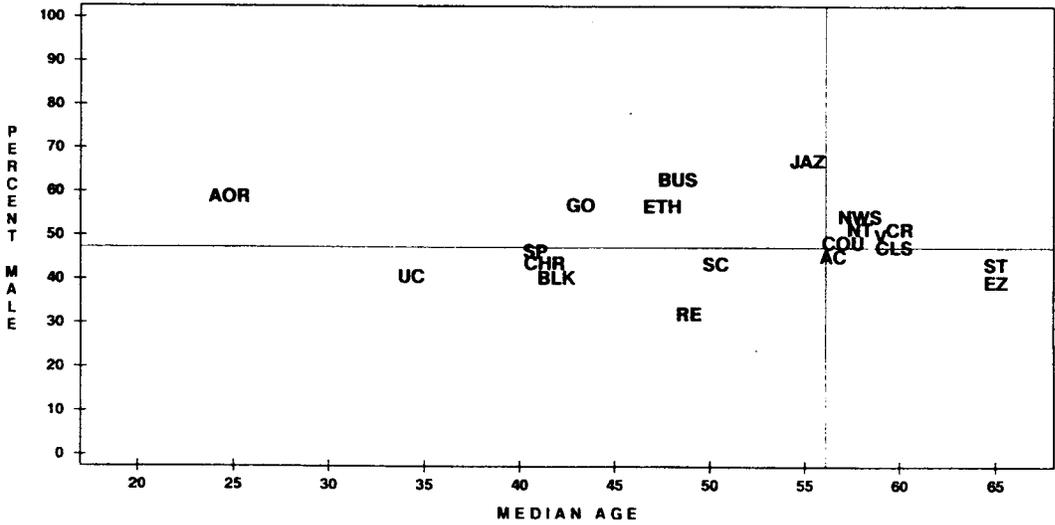
The following graphics map out the age and gender appeals of formats on the AM band (next page) and formats on the FM band (subsequent page). The cross hairs mark the age and gender of the band—all stations, all formats.

**Sorting Programming Onto The Appropriate Band.** Most public AM stations are run by a licensee that also operates an FM station. The tyranny of the band has much to say about what public radio programming belongs on which band.

FM dominates radio—especially public radio. FM and public radio grew up together. CPB and NPR were formed as people began to abandon the AM band *en masse*. Much of public radio's audience growth has been courtesy of FM's growth. The well-educated appeal of public radio's most prevalent programming is as identified and as congruent with the FM band as is any format.

Indeed, the generation gap that divides AM's listeners from FM's is central to understanding how best to program stations on the two bands. Dual licensees that have relegated "music" to their FM and "talk" to their AM are responding to the radio environment of the 1970s. The relatively young appeal of public radio's national news

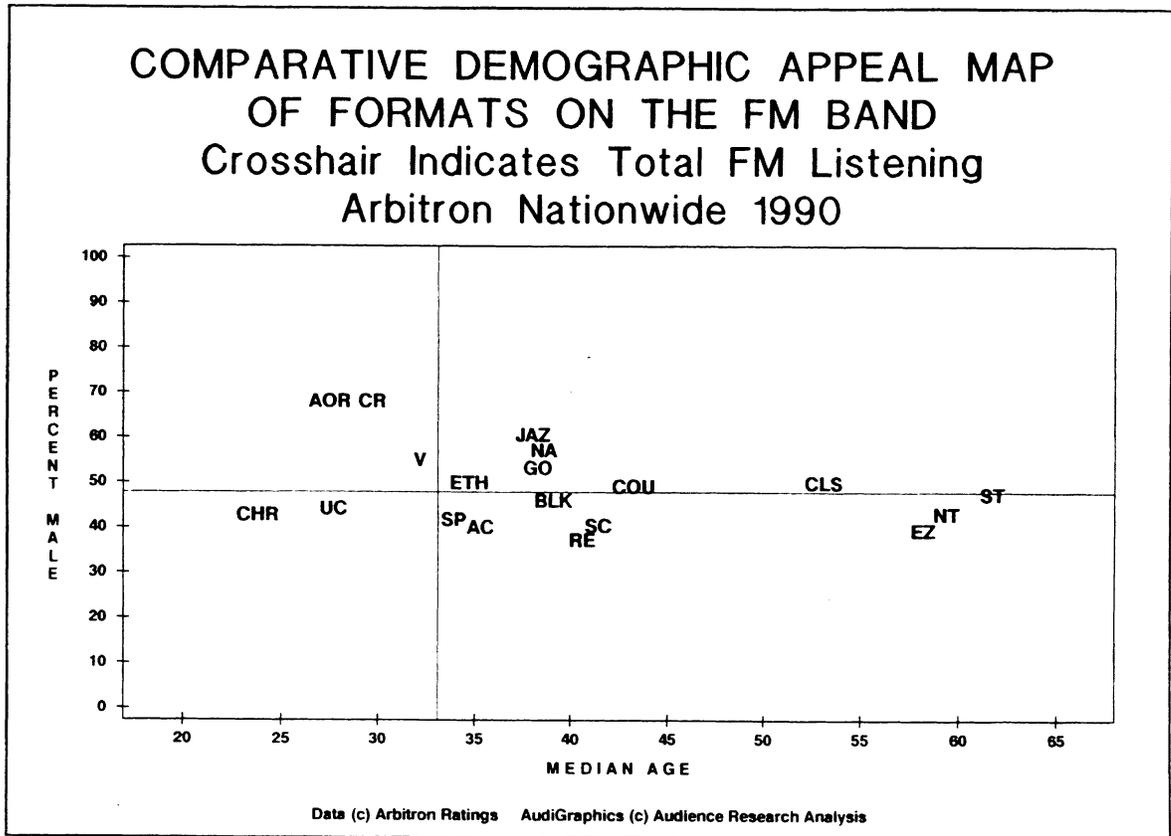
**COMPARATIVE DEMOGRAPHIC APPEAL MAP  
OF FORMATS ON THE AM BAND**  
Crosshair Indicates Total AM Listening  
Arbitron Nationwide 1990



Data (c) Arbitron Ratings    AudiGraphics (c) Audience Research Analysis

The Radio Information Center identified the formats for 5,599 stations—virtually the entire list of stations reported in Arbitron’s 1990 Nationwide study. Format listening was calculated from Nationwide by Audience Research Analysis. The formats are abbreviated as follows:

- |     |                                   |     |                                     |
|-----|-----------------------------------|-----|-------------------------------------|
| AC  | Adult Contemporary                | GO  | Golden Oldies                       |
| AOR | Album Oriented Rock               | JAZ | Jazz                                |
| BLK | Black/R&B/Soul                    | NWS | All News                            |
| BUS | Business News                     | NA  | New Age                             |
| COU | Country                           | NT  | News/Talk                           |
| CHR | CHR/Contemporary Hits/<br>Top 40  | RE  | Religious                           |
| CLS | Classical                         | SP  | Spanish/Latin                       |
| CR  | Classic Rock                      | SC  | Soft Contemporary                   |
| ETH | Ethnic                            | ST  | Standard/Big Band/<br>Nostalgia/MOR |
| EZ  | Easy Listening/Beautiful<br>Music | UC  | Urban Contemporary                  |
|     |                                   | V   | Variety                             |



programming shares a high affinity with the FM band.<sup>11</sup> Placing it on AM essentially makes it unavailable to many of its potential listeners. If any type of current public radio programming belongs on AM, it is opera. Opera's listeners are relatively old; most grew up listening to opera on AM; and many older listeners are less sensitive to the audible differences between the AM and FM broadcast technologies.

The following two pages present a case study of the AM/FM split in Madison, Wisconsin. WHA-AM and WERN-FM embodied the typical AM/FM programming split prevalent in public radio to this day—talk on AM, music on FM. If the lessons learned in Madison are any indication, most dual licensees are programming quite counter-productively. Maximizing public service requires sorting the programming onto the more appropriate band using a more sophisticated set of criteria than that offered by the “talk/music” split.

<sup>11</sup> Refer to AUDIENCE 88's *Programming* report for a discussion of appeal, affinity, and age differences among public radio program types. This analysis extends the concept of affinity to include the band.

## Case Study: Wisconsin Public Radio

**Background:** Wisconsin Public Radio controls two stations in Madison: WHA-AM and WERN-FM. In 1977, the programming on these two stations was split along “talk” and “music” lines, quite similar to the programming split so common among public radio’s dual licensees. Although this split served listeners well into the 1980s, four continuous years of audience decline on the FM and no growth on the AM caused Jack Mitchell, Director of Radio, to ask if it was time to again reorganize the two services.

In December 1989, after examining the AM and FM audiences in Madison with George Bailey, David Giovannoni summarized the findings and programming ramifications in a letter to Dr. Mitchell. Portions of this letter are reprinted here, with permission.

*Factor analysis of Arbitron listening data clearly shows that WPR is doing three major programming streams—Classical Music (excluding long form programs and opera), NPR/National News and Information, and Local Talk (in the spirit of the Educational Extension). Listener interest as expressed in the focus groups validate these three streams; in other words, listeners perceive each to be a different and coherent service. All are viewed positively.*

*Each stream makes a fine format. Ideally, WPR would have three stations with a single format on each. But as there are only two stations, and since all three formats are considered necessary, two of them must be squeezed onto a single station—a single band.*

*The data are clear about Local Talk continuing on AM. It is old and AM is old. And as you eloquently argued, the Classical Music announcer/record format belongs on FM. There are strong arguments for putting NPR/National News on FM rather than on AM.*

- *Although it was the right idea in the 1970s, the “Music On FM—Talk On AM” split has become dysfunctional. NPR/National news needs to be on FM, where its potential audience is.*
- *The combination of Local Talk with NPR/National “Talk” is no longer optimal. Through their listening patterns and their comments in focus groups, listeners have shown the presumed “voice appeal” to be inoperative. The appeal of NPR/National News is significantly younger than the Local Talk appeal. They are different programming streams.*

- *The FM band continues to gain listeners faster than the AM band continues to lose them; FM is the band with the greatest audience potential now and in the future. FM is where WPR must put its strongest programming if it is to stem its audience erosion and to prepare for the future.*
- *By having Morning Edition and other central parts of NPR/National News on AM, WPR is limiting the number of people now served by that programming; by keeping the program stream on AM, WPR is dooming its best programming to increasing under-performance with each passing day.*

*In short, more listeners will be served, and served better, by putting NPR/National News on the FM.*

*This move poses a few problems, most of which are readily surmountable. The most vexing is what to do with the AM. Of course, weekdays are where the opportunity must be seized, and where the last remaining potential of the AM station will be squeezed for the next decade. And don't lose sight of the importance of the 9:00 a.m. to 3:00 p.m. daypart on both Saturday and Sunday.*

*Programming options abound, such as putting talent with an "older" or more "educational" appeal onto the AM—even if they are about music, such as Karl Haas and Opera. Or you could run the station cheap by rebroadcasting "best of" interviews, lectures, or chapters. I encourage WPR to think anew.*

*Thinking anew means shuffling existing programs to their optimum positions and refining music presentations to fit the more highly targeted position of the FM station. Thinking anew requires a clear understanding that AM is dying, and dual licensees can no longer hope to keep it alive by sacrificing their best programming to it at the expense of the FM.*

**Significant changes were made in response to the research. WHA became the "Ideas" service and WERN became the "News and Classical" service.**

**At first the changes met with negative response. When *Morning Edition* displaced classical music on WERN, long-time listeners wrote irate letters to newspapers and established angry committees.**

**But since then, the changes have proven themselves and positive responses have been overwhelming. On-air fundraising is up. Arbitron estimates show WHA's audience has increased—a remarkable result given the continuing exodus from the band. The first sweep after the change WERN reversed its four year audience decline by more than doubling (+228%) its AQH audience; listening was up across all dayparts. As of this writing WERN serves a larger share of its market's radio listeners than any public radio station in America.**

If the past serves as prologue, there do not appear to be many listeners in public radio's AM future. Even if all dual licensees were to address the tyranny of the band and change their programming overnight, they would be hard pressed to stem the loss of AM listeners to FM and mortality.

In the effort to maintain dual services, many will strive to maximize listening to—and support of—their FMs in the hope of better subsidizing their AMs. And many will move toward minimizing the financial loss generated by the AM service by reducing its operating expenses.

Whether attempted by a dual licensee or a stand-alone, operating a station on the AM band entails balancing some fairly predictable economic forces.

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# ECONOMICS

*Commercial broadcasters are getting out of AM as fast as they can, and selling the stations at a loss to weird operations like foreign language or home shopping or religion. Others are simply mailing the license back to the FCC. The public radio logic would be familiar: If we don't operate an AM station, nobody else will.*

— George Bailey, 1989

Attracted by the depressed prices of AM properties or lured by the offer of free licenses, some public broadcasters are tempted to expand their operations to the AM band. AM is seen by some as a means of extending public radio's reach into unserved geographic areas, attracting new types of listeners, and even forming whole new networks.

In places such as rural Alaska, where there are few radio signals available, AM is likely to remain as viable as FM. But in areas where AM and FM signals compete, there is no indication whatsoever that the decline of the AM band can be halted, let alone reversed.

Still, isn't there some way that public radio can somehow exploit the AM band? In virtually every market, there's more listening to the AM band than to public radio. If an AM could be got cheap and run cheap, couldn't it contribute to public radio's service?

This question must be answered on a case-by-case basis. But in all instances the answer lies in this balance: what is the price of obtaining and operating an AM property, and is this less than the revenues and other benefits derived from its operation?

The following analysis suggests what economic variables public broadcasters might consider in deciding whether or not to expand into AM. For example, can the gift of a failing commercial AM license be turned into a viable public radio operation? Is the license an asset or a liability? And if an asset, what would a station be worth if money had to be paid for it?

What a station is worth depends on 1) how much revenue its operation can generate, 2) how much it costs to earn this revenue, and 3) how long revenues can be expected to exceed costs.

**Revenue.** Commercial stations work in a “bottom-up,” audience-driven economy in which revenues are generated in close proportion to the service they provide. The more people listen to a commercial service, the more attractive it is to advertisers, the more it can charge for time, and the greater its revenues.

Public radio’s revenues are derived only in part through a bottom-up, listener-sensitive economy. During the last decade it has increased its reliance on listener income and underwriting—both direct functions of audience size. According to CPB estimates, listener-sensitive income accounted for 18 percent of public radio revenues in 1980; in 1989, this source accounted for 33 percent. Tax-based income provided 69 percent of public radio’s revenues in 1980, compared to 49 percent in 1989.

Yet despite this shift in recent years, the bulk of public radio’s income still flows from the “top down.” Much of its income is derived through lump-sum allocations from tax-based sources, such as publicly-funded educational institutions, and federal, state, and local governments. Subsidization levels are rarely (and even then, loosely) listener-sensitive; they are realized principally by virtue of broadcasting the service, not by virtue of people actually listening to it.

In short, in a bottom-up economy, revenues are in lock step with audience size; in a top-down economy, they are not. Public radio has a foot in each economy. When evaluating the potential revenues to be derived from an AM property, the public broadcaster needs to assess both revenue streams.

What follows is a set of considerations for assessing the value of an AM property. It begins by estimating “bottom-up”, or listener-sensitive revenues.

**Estimating Bottom-Up Revenues.** Virtually all revenues in commercial radio are listener-sensitive. For every listener-hour of service provided by commercial radio, the industry receives about three and one-half cents (3.56¢) in advertising revenue.<sup>12</sup> Most of this income is from local time sales (2.73¢), but spot (.65¢) and network (.18¢) revenues are also significant.

Compare this to public radio, for which only half of all revenues are listener-sensitive. Public radio stations receive about two audience-sensitive cents for every listener-hour of service they provide.<sup>13</sup> A little over a penny (1.14¢) is from listener contributions; a little under a penny (.85¢) is from underwriters.

A broadcaster may prefer as a benchmark the listener-sensitive performance of a known public station. The sidebar on the next page shows how this is done.

Whatever numbers the public broadcaster uses, estimating the amount returned to the station per hour of listening is the first step toward projecting the station's potential listener-sensitive income.

The next step is to estimate the level of audience service that might be provided by this station. This is based on average quarter-hour audience.

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<sup>12</sup> The Radio Advertising Bureau estimated that commercial stations billed \$8.42 billion in 1989. This is the total income for the commercial radio industry. In Spring 1989, Arbitron estimated 36.04 million average persons using radio between 6:00 a.m. and 12:00 midnight; multiplying times 6,570, the number of hours in a year (18 hours per day times 365 days per year), yields an estimate of 237 billion listener-hours of radio consumed in 1989. Income per listener-hour is calculated by dividing \$8.42 billion by 237 billion listener-hours.

$$$.0356 \text{ per Listener Hour} = \frac{\$8,420,000,000}{\text{year}} \times \frac{\text{year}}{6,570 \text{ hours}} \times \frac{1}{36,039,600 \text{ listeners}}$$

<sup>13</sup> Based on 1989 CPB financial and Spring 1989 Arbitron Nationwide data for the system of CPB-Supported stations. Calculations as per models presented in *Programming Economic* by David Giovannoni, Thomas J. Thomas, Theresa R. Clifford, et al CPB, 1989.

$$\frac{\$I_c}{LH} = \$.0114 \text{ per Listener Hour} = \frac{\$59,647,000}{\text{year}} \times \frac{\text{year}}{6,570 \text{ hours}} \times \frac{1}{797,000 \text{ listeners}}$$

$$\frac{\$I_u}{LH} = \$.0085 \text{ per Listener Hour} = \frac{\$44,751,000}{\text{year}} \times \frac{\text{year}}{6,570 \text{ hours}} \times \frac{1}{797,000 \text{ listeners}}$$

As shown in the previous section, AQH audience is highly dependent on the class and power of the station. A broadcaster graced with a class 1-A clear channel will serve many more people than a broadcaster faced with a low power daytimer. Using these average AQH estimates, the top graphic on the following page estimates the listener-sensitive revenues that might be expected by commercial and public broadcasters operating an AM facility of any type.<sup>14</sup>

A “detail” chart is included (opposite, bottom) to highlight income expectations for lower powered stations—more apropos for public broadcasters. For example, a class 3 station operating at 5,000 watts might expect to generate close to \$300,000 in listener support and underwriting. In contrast, a class 3 station operating at 1,000 watts would be likely to generate about \$50,000 in listener sensitive revenue.

## Calculating Listener-Sensitive Incomes

What might the expected revenues per listener-hour be in any particular market? The performance of an existing public station may provide a better benchmark than a national average. A public broadcaster can calculate listener income per listener-hour ( $I_l$ ) and underwriting income per listener-hour ( $I_u$ ) for an existing station, as follows.

Determine annual consumption of the station in listener-hours (LH per year) by multiplying the station’s full-week average quarter-hour audience (L) times the number of hours on the air during a year between 6:00 a.m. and 12:00 midnight (H, often equal to 6,570 = 18 hours per day time 365 days per year). Then divide annual listener income ( $I_l$ ) or underwriting income ( $I_u$ ) by listener-hours per year.

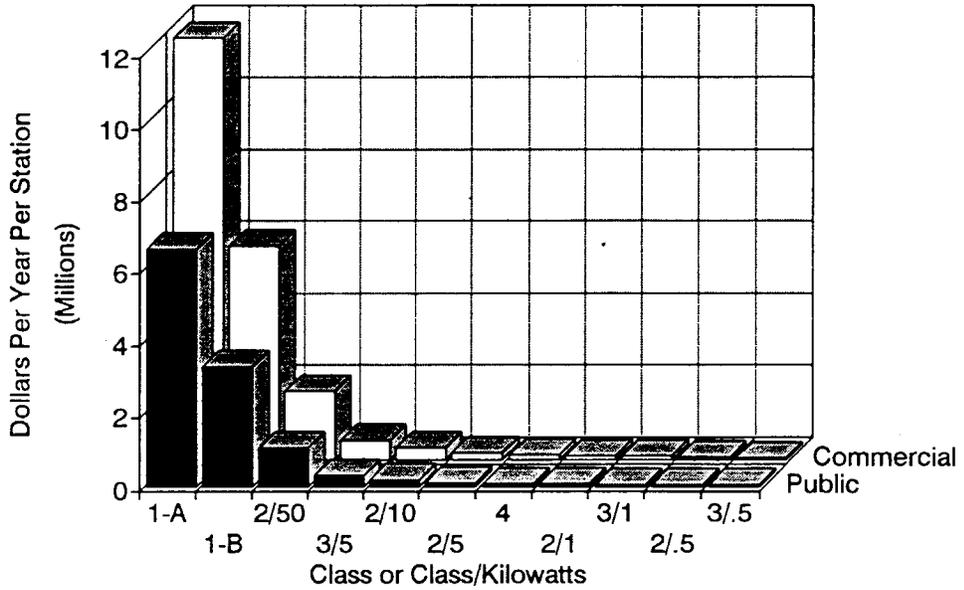
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<sup>14</sup> The formulae for estimating listener-sensitive income are simple variants on those seen before.

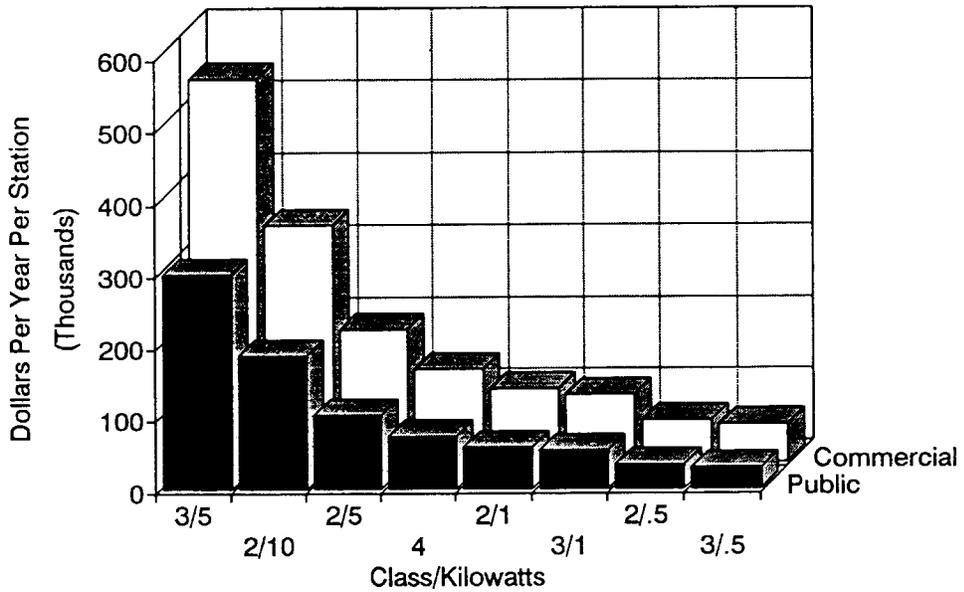
$$\frac{\$I_l}{\text{year}} = \frac{\$I_l}{\text{LH}} \times \frac{\text{days}}{\text{year}} \times \frac{\text{on-air hours}}{\text{day}} \times \text{listeners}$$

$$\frac{\$I_u}{\text{year}} = \frac{\$I_u}{\text{LH}} \times \frac{\text{days}}{\text{year}} \times \frac{\text{on-air hours}}{\text{day}} \times \text{listeners}$$

## Expected Listener-Based Income By AM Class and Power



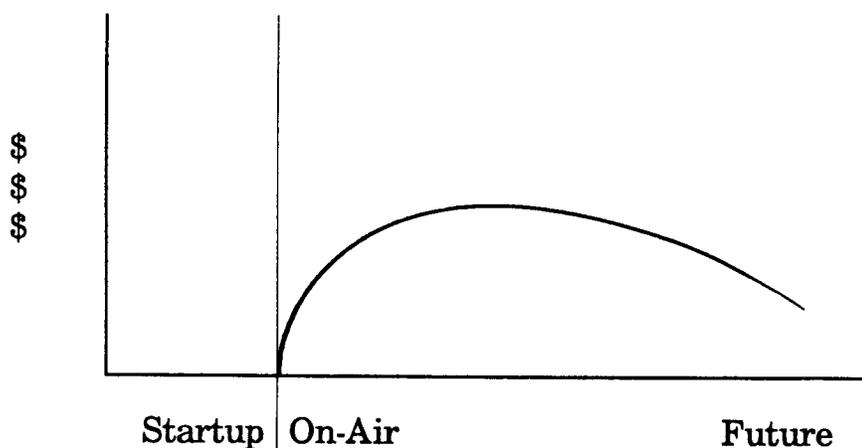
## Expected Listener-Based Income Detail - By AM Class and Power



Any new service will take time, perhaps years, to reach its full audience potential, and even longer to reach its full listener and underwriting support potentials. National or locally-derived “norms” are based on mature situations, and should be discounted during the first few years of operation. Given these considerations, the *shape* of the listener-sensitive revenue curve for a public radio AM station will probably be along the lines of that shown in Figure 1, whatever the *size* of the numbers.

FIGURE 1

Shape Of The Listener-Sensitive Income Curve  
For A Public Radio AM Station



Conceptually, the station begins with no listener-sensitive revenues because it begins with no listeners. The audience grows with time, eventually reaching its peak. Underwriting income may or may not lag audience size, depending on the station’s ability to raise it. Listener income certainly lags audience size by a year or two, as it takes time for the station to become personally important to its listeners.<sup>15</sup> After listener-sensitive revenues reach their zenith, they begin to decline as the exodus from the AM band becomes the dominant force affecting audience size.

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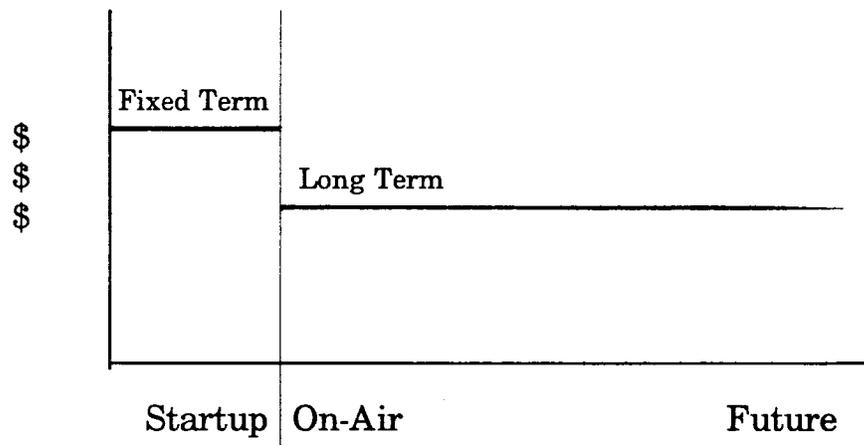
<sup>15</sup> Refer to “Audience Leads Membership” on page 26 of AUDIENCE 88’s *Membership* report, CPB, 1988.

**Adding Top-Down Revenues.** Estimates of top-down revenues, or subsidies for operating the broadcast service, are highly specific to the individual situation. To the extent that they can be estimated, they too can be worked into the viability projections.

Figure 2 shows the shape of two possible subsidization curves—one for a fixed-term subsidy (perhaps a startup grant), the other for a guaranteed long-term subsidy.

FIGURE 2

Shape Of The Subsidized Income Curve  
For A Public Radio AM Station

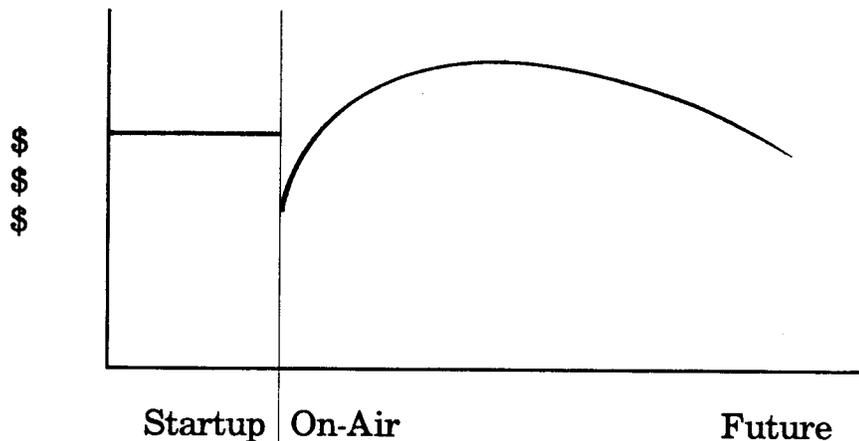


Of course, there are many variants on the possible shapes of these curves. To consider are: NTIA facilities grants; CSGs, NPPAGs, and other CPB grants; state funding for public broadcasting; government agencies or foundations that may underwrite a particular service on a continuing basis; and indirect support from parent institutions.

The listener-sensitive revenue curve is added to the subsidization curve to yield the revenue curve for a public radio station. Figure 3 on the next page demonstrates how two curves add.

FIGURE 3

Deriving The Total Revenue Curve  
For A Public Radio AM Station



**Estimating Expenses.** Given these estimates of the station's revenues, what is it going to cost to launch and maintain its operation? Will revenues exceed expenses, and if so, for how long?

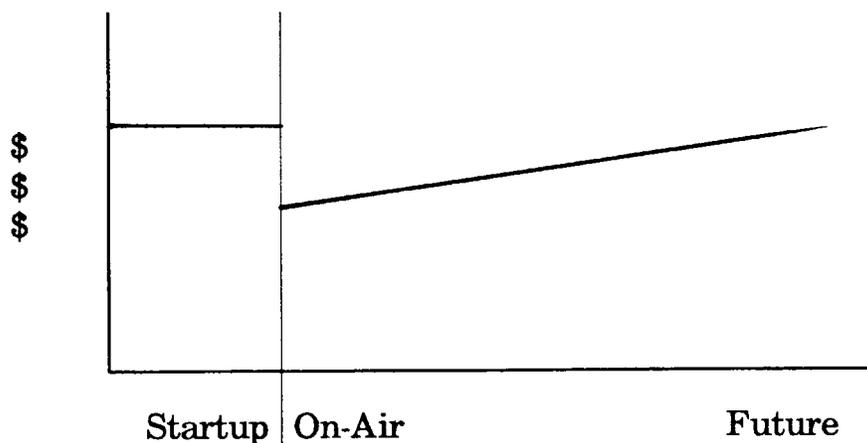
The cost of beginning any new broadcast service is not trivial. The license may need to be purchased and possibly financed. Facilities must be acquired and/or modified. Legal fees must be paid. Even if the station is a gift, there are always very real startup costs associated with management attention and staff time.

Once startup costs are paid and the station gears up for and begins operation, the well-known slate of operational expenses are incurred: staff, programming, rent, utilities, and so on. Over time operations tend to become more expensive due to salary increases, escalating programming costs, rent and utility hikes, and so forth. Although operational expenses can be cut with relatively drastic measures (such as firing staff or dropping major national programming), this analysis assumes that a station will go on the air with staff and programming that it will maintain through the years, and that operating costs will creep up over time.

Figure 4 shows how start-up and operational costs might combine to yield the total expense curve for a public radio station.

FIGURE 4

Deriving The Total Expense Curve  
For A Public Radio AM Station



Costs up front are high, but they decline rapidly as operations and operational costs commence. Ongoing costs increase with time, yielding a “u-shaped” expense curve. This example assumes no acquisition costs are financed; they must be added in if they exist.

**Surplus or Deficit.** When revenues exceed expenses, the station is operating in the black. In the commercial world this is called “profit;” in public radio it is usually termed “surplus.” A station generates a “deficit” when expenses exceed revenues.

Figure 5 shows how the revenue and expense curves can combine for a public station to yield a surplus or a deficit.

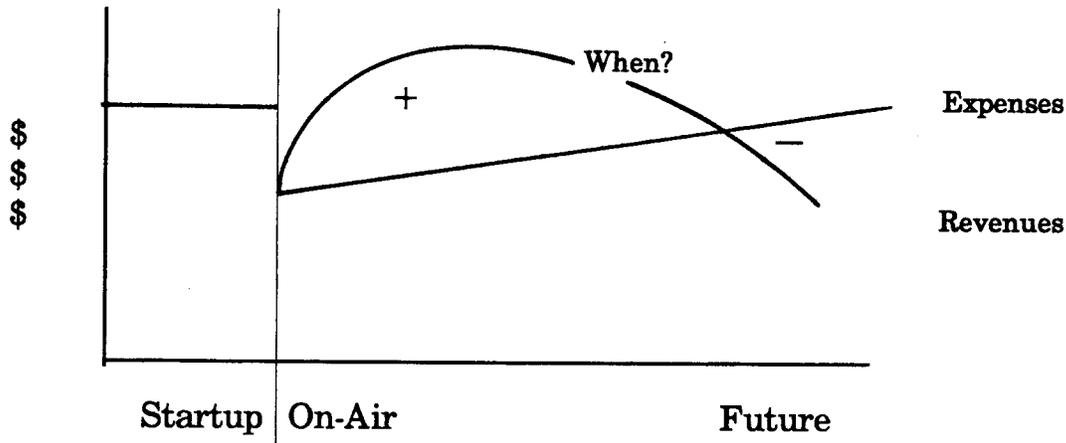
The graph assumes that all startup costs are covered by a fixed term grant, and that the station incurs no financing burden. The area between the two curves containing a plus sign is where revenues exceed expenses; the station is generating a surplus. The area containing a minus sign is where expenses exceed revenues; the station is generating a deficit.<sup>16</sup>

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<sup>16</sup> This analysis assumes the future salvage value of the AM license and facilities to be negligible. Those assuming otherwise should add these values into their calculations.

FIGURE 5

Deriving Surplus And Deficit  
For A Public Radio AM Station



Much will depend on who holds the station license, and what mission guides its operations. The economic equation for a public radio AM station will be strongly influenced by the program service the station presents, and the extent to which the importance of that programming—to the licensee, to various government entities, to foundations—can stimulate and justify to kinds of subsidies that will increasingly be needed to sustain the broadcast effort.

Acquisition and startup costs are fixed term and usually known up front. Most public broadcasters would not consider adding an AM station that they could not finance on their own, with grants, or with assurance that the station would return the investment.

By addressing the question in this way, some public broadcasters will determine that a particular AM property holds no future for them; even their most generous estimates would show that the station could not realize a surplus or break even in the immediate future. Expenses will increase and revenues will decrease. Given these forces, if an AM can't break even today, it's not likely to ever operate in the black. If there ever was a window of opportunity, it has since slammed shut.

Others will determine that an AM property may in fact be able to generate revenues that meet or exceed expenses—at least for a while. But again, the forces at work dictate that expenses are very likely to

ultimately exceed revenues. Here the key questions are of term. How long can the station remain self-supporting?<sup>17</sup> How long will this window of opportunity remain open?

Although these questions cannot be answered with precision, they will help managers decide whether or not to establish a new AM operation, and—every bit as critical—to determine how long they might expect to run it. An AM property offers a fixed term opportunity at best.

Taking over an AM station is like filling an empty poker table seat on a sinking river boat. The excitement of playing a winning hand is quickly overshadowed by a growing sense of urgency.

**Subsidies And The National Perspective.** This analysis has focused on decision-making at the local level. National policies are also informed by this study; however, they bring with them additional concerns.

The viability of a commercial AM is tightly linked with listening levels. Commercial AM owners are minimizing their costs as the audiences and the revenues they generate continue to decline. If a commercial AM can't turn a profit today, it probably never will.

Although a public station typically costs less to run than its commercial counterpart, the subsidies available to it are what may allow it to turn a failed commercial AM property into a viable public operation.

The source of the subsidy is irrelevant from the purely local perspective; a dollar from a Community Service Grant spends the same as a dollar from a local foundation. However, the source of the subsidy has significant national consequence. Indeed, unless expansion into the AM band generates more subsidies than it drains from existing sources, it may be detrimental to the public radio system as a whole.

The reason is simple. Even though AMs can be acquired inexpensively, their prospects for significant audience service are very limited. FM is today's radio band of choice. Virtual 100 percent AM penetration, more than six AM receivers per household, portable and personal AM receivers, and AM stereo have not rescued the band from technical and social

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<sup>17</sup> "Self-supporting" in this sense includes all forms of subsidization.

obsolescence. Can a surge of public radio programming onto the band hope to do better?

Siphoning resources from what is now primarily an FM service to bolster services on a dead-end band weakens the system's ability to serve listeners where they are now—and where they will be—listening.

On the other hand, a push to expand onto AM may be a worthy national policy if:

- It occurs without weakening the existing FM system (the “No Load” strategy). If, for example, an AM station were donated to a public broadcaster operating an FM station, and if the public broadcaster could operate the station on a self-sustaining basis, there would be an increase in service at no cost to the FM. From a national perspective, however, this dynamic occurs only if the AM station does not claim dollars from a common resource pool (such as CSG funds).
- It benefits the FM system by reducing some of the FM's costs (the “Economies of Scale” strategy). Adding an AM station to an FM operation will not, of course, make any of the FM station's costs go away. But a number of costs are unlikely to increase significantly. If such costs are appropriately allocated between the AM and FM operations, and if the AM can carry its own share, the FM operation comes out ahead. Indeed, it may even make sense to operate the AM station at a small loss, provided that any such loss is offset by equal or greater gains for the FM. From a national perspective, such economies would be seen in having a larger number of stations sharing such common cost items as national programming, interconnection, training, research, and representation.
- It increases the general subsidy pool in a proportion greater than its drain (the “Bigger Pie” strategy). In most radio markets of significant size, there is no spectrum space available to launch a new, noncommercial FM station. Operating an AM facility may provide some limited service to currently unserved or underserved audiences, which may stimulate and help sustain increases in public sector support for public radio.
- It provides the catalyst to amass enough local support to subsequently acquire or establish an FM (the “Saint Paul” strategy).

Some years ago, Minnesota Public Radio acquired an AM station in St. Paul. Over time, MPR developed a successful news operation on the station, and established it as the anchor for a state-wide network of news-oriented FM stations. Capitalizing on the momentum established by the AM news operation (and the anticipated proceeds from selling the AM property), MPR recently acquired an FM frequency, to which it has moved its news operation. From a national perspective, this approach is simply an interim step to a larger, stronger FM system.

- It delivers first public radio service to isolated communities (the “Captive Audience” strategy). As noted earlier, AM may remain a viable medium in highly isolated communities for some years to come. Because of the mountainous or expansive terrain often found in such communities, AM has certain coverage advantages over FM’s line-of-sight signal. Further, in some such communities, spectrum space on the FM band remains available should a switch in technologies be desirable at some point in the future. From a national perspective, new AM stations in such communities would advance the goal of achieving full national coverage.
- It fosters research and development of new programming services that will be implemented in a digital transmission environment (the “Media Lab” strategy). Looking beyond today’s radio environment dominated by FM, public broadcasters must begin anticipating digital audio transmission technologies. Many observers foresee a new environment with a plethora of delivery channels, leading away from *broadcast* programming services as we know them to highly specialized “ultra niche” or *narrowcast* services. With so little to lose, AM facilities may provide fertile development and testing grounds for new public service programming options.

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