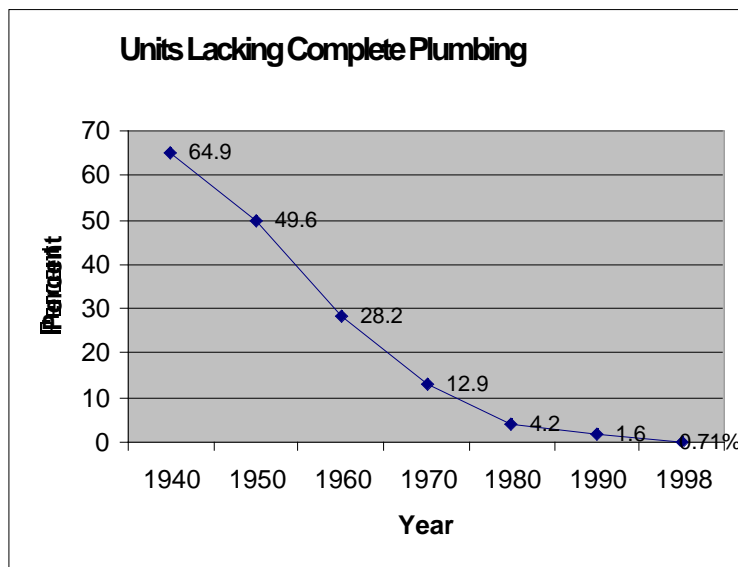


Virginia Housing Facts—Units Lacking Indoor Plumbing

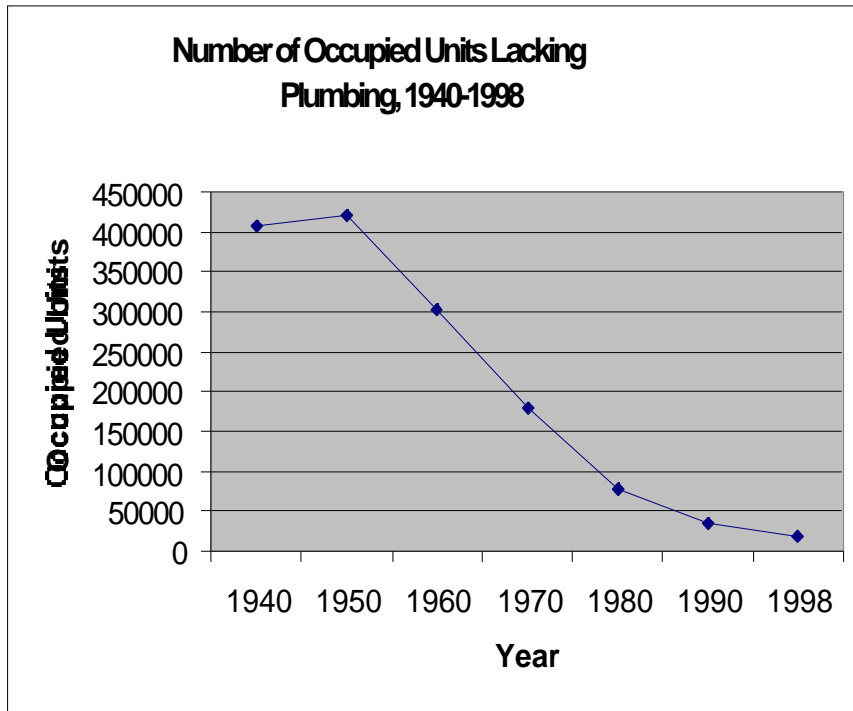
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The rural shack with a privy is perhaps the most poignant image of inadequate housing in Virginia. In the not too distant past, the privy and the hand-pump well were commonplace, while indoor plumbing was a luxury. In 1940 nearly two-thirds of the housing units in Virginia lacked indoor plumbing. Today indoor plumbing is not only commonplace, it is a necessity for community health. As shown in the chart below, the percentage of occupied units lacking indoor plumbing was down to 1.6% in 1990 and is estimated in this report to be less than 1%.



It might come as a surprise to many people in the state that units lacking indoor plumbing continue to be occupied, albeit the situation is increasingly rare even in rural Virginia. The number of occupied units without complete plumbing actually peaked in 1950, with about 419,000 units. After that, the number of such units dropped precipitously, averaging about 10,000 units per year up to 1980. At this pace, the problem would have been completely eliminated by 1990, but the replacement of these units has slowed as the number of remaining units fell below 50,000 during the 1980s.



Improved housing quality, increased income, and higher community expectations and regulations have combined to eliminate most of the problem through abandonment of these physically inadequate units. In addition, the Commonwealth has made a concerted effort to upgrade (rather than replace) some of these units through the Indoor Plumbing Program. During the 1990s this program upgraded approximately 2,600 occupied units that previously lacked indoor plumbing.

The number of occupied units lacking plumbing left in 1998 is estimated at 18,400 units (plus or minus 1,000 units). This represents 0.7% of all occupied housing units. (See Table 1.) Estimates of the number of occupied units lacking plumbing in 1998 in each Planning District Commission are provided in Table 2.

Table 1. Occupied Units Lacking Plumbing, Virginia, 1940-1998

	Year						
	1940	1950	1960	1970	1980	1990	1998
Percent	64.9	49.6	28.2	12.9	4.2	1.6	0.7
Number	407268	419248	302541	179392	78763	35788	18374

Table 2. Estimated Occupied Units Lacking Complete Plumbing, 1998

PDC	1990 #	1990%	1998 # estimate
Lenowisco	1905	5.5	918
Cumberland	1776	3.9	856
Mount Rogers	2285	3.3	1101
NRV	1256	2.2	605
Fifth	837	0.8	500
Central Shenandoah	2134	2.6	1028
Lord Fairfax	1760	2.9	848
NOVA	1736	0.3	974
Rappahannock.-Rapidan	1364	3.3	657
Thomas Jefferson	1694	2.8	964
Central VA.	1341	1.7	763
West Piedmont	2344	2.5	1129
Southside	2462	8.1	1186
Piedmont	1884	6.4	908
Richmond Regional	1845	0.7	1103
RADCO	1145	2	552
Northern Neck	1172	6.6	565
Middle Peninsula	1004	3.7	523
Crater	1362	1	656
Accomack-Northampton	1623	9.1	782
Hampton Roads	3083	0.6	1755
STATE	35408		18374

Estimation Method

The 1998 estimate of occupied units lacking plumbing was derived in the following manner. An attrition rate was estimated for 1989 to 1995 for the number of occupied units lacking plumbing from the American Housing Survey. This rate was annualized and adjusted to cover the period 1990-1998.

The AHS attrition rates were estimated for the South region, with separate rates calculated for central cities, suburbs, and areas outside Metropolitan Statistical Areas (annual rates of loss of .0463; .0595; and .0687 respectively). The state adjustment rate was a weighted average using 25% central city, 25% suburb, and 50% outside MSA. The estimated number of occupied units lacking plumbing was divided by the number of households in Virginia for 1998 estimated by the Bureau of the Census. The assumption that the attrition rate in Virginia would parallel the rates estimated by the AHS for central cities, suburbs and non-metro areas of the South Region would appear conservative given economic performance in the state and the state's program to upgrade such units.

Regional (PDC) estimates were prepared by applying the area specific attrition rates or weighted averages of these rates based on the metropolitan composition of the PDC. These initial PDC estimates were then multiplied by the ratio of the state estimate to the sum of the initial PDC estimates (18374/17169).

The estimated number of units improved by the state's Indoor Plumbing Program was obtained from Bill Ernst, Virginia Department of Housing and Community Development.