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# SUSAN B. ANTHONY DOLLAR COIN ACT OF 1978

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## HEARING

BEFORE THE

## COMMITTEE ON

## BANKING, HOUSING, AND URBAN AFFAIRS

## UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

ON

S. 3036

TO AMEND THE COINAGE ACT OF 1965 TO CHANGE THE SIZE,  
WEIGHT, AND DESIGN ON THE ONE-DOLLAR COIN, AND  
FOR OTHER PURPOSES

JULY 17, 1978

Printed for the use of the Committee on Banking, Housing,  
and Urban Affairs



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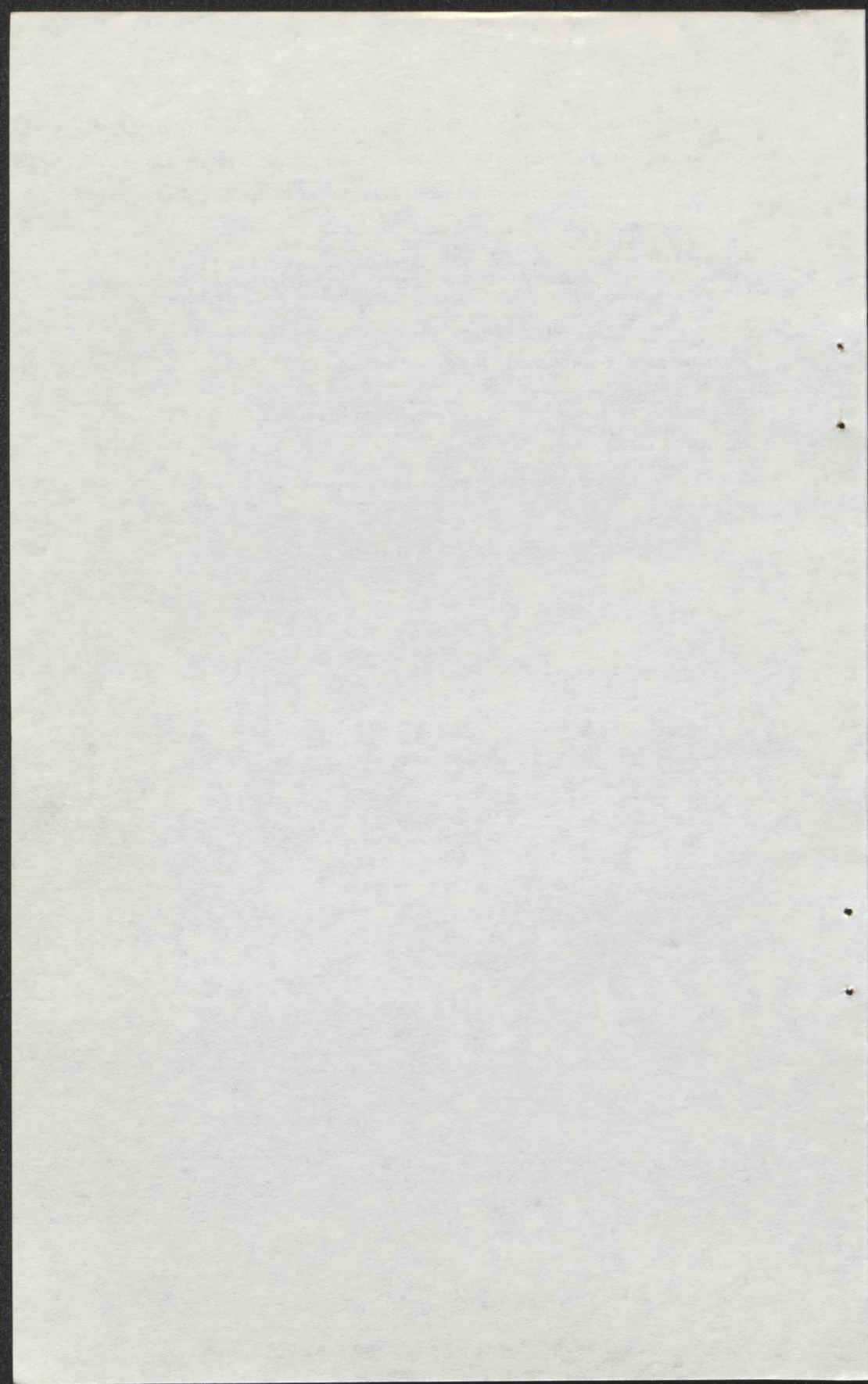
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## SUSAN B. ANTHONY DOLLAR COIN ACT OF 1978

MONDAY, JULY 17, 1978

U.S. SENATE,  
COMMITTEE ON BANKING, HOUSING,  
AND URBAN AFFAIRS,  
*Washington, D.C.*

The committee met at 10:10 a.m. in room 5302, Dirksen Senate Office Building, William Proxmire (chairman of the committee) presiding.

Present: Senators Proxmire, Sparkman, and Lugar.

### OPENING STATEMENT OF CHAIRMAN PROXMIRE

The CHAIRMAN. The committee will come to order. I'll make my remarks very brief because we have a lot to get through this morning.

If enacted into law, the legislation before us would mark the very first time that an actual American woman has ever appeared on this Nation's circulating coinage. The administration's suggested return to the more traditional liberty design—which was phased out on our circulating coins by 1948—is just not relevant in this day and age. Although the Secretary of the Treasury has the statutory authority to determine whatever design is appropriate for a new coin, the final decision will be left to the Congress.

The committee has received a great deal of mail in support of the Susan B. Anthony Dollar Coin Act, as well as suggestions for other candidates. The overwhelming response from people all over the country has been that an actual American woman's portrait should grace this coin.

Some of my colleagues from the House of Representatives are here to discuss the proposed legislation. Congresswoman Mary Rose Oakar, who sits on the House Coinage Subcommittee, and Congresswoman Patricia Schroeder introduced the Anthony Coin bill in the House. This legislation has the support of the Congresswomen's Political Caucus, I might add, as well as the endorsement of many of the major women's organizations throughout the country. All agree that the argument in favor of the Anthony design is sound. It was the 19th amendment to the U.S. Constitution—known as the Anthony amendment—which gave women the right to vote—that fundamental act of political life without which all other rights appear meaningless.

S. 3036 is identical to the administration's legislative proposal except for the design change. Simply put, the bill would reduce the size and weight of the present dollar coin and make it a more useful denomination in our coinage system. Moreover, the coin would offer substantial cost savings to the Government.



In order for any new coin to become a viable part of our coinage system, it will require the cooperation of financial institutions—retail merchants—the automatic merchandising industry, et cetera—in short, any business which handles coins. The committee is happy to hear from some representatives of these industries this morning, as well as administration officials, Dr. Alan J. Goldman, Assistant Director for Technology at the Mint, is also here to answer any questions which the committee might have regarding the coin's technical properties.

Our first witness will be Congressman Jim Leach, who is the ranking minority member on the House Subcommittee on Historical Preservation and Coinage. Welcome, Congressman Leach.

Mr. Leach has an interesting suggestion on the coin this morning, a new one. Innovation is always welcome in this committee. We are happy to have you. Go right ahead, Mr. Leach.

### **STATEMENT OF JIM LEACH, U.S. HOUSE OF REPRESENTATIVES**

Mr. LEACH. Thank you, Mr. Chairman and Mr. Sparkman.

Mr. Chairman, as the ranking minority member of the Historic Preservation and Coinage Subcommittee of the House Banking Committee, I appreciate this opportunity to testify on the dollar coin legislation.

There will be little disagreement about going ahead with the Treasury proposal for a new dollar coin if it can be demonstrated that striking this coin will not add to the ravages of inflation which its need so tragically reflects.

In this respect, the striking of a new coin can produce long-term production economies for the Treasury if the new coin is used widely as a matter of personal preference. Where the Congress can be most effective in stimulating public acceptance of this coin is in our choice of design for it. Unfortunately, the matter of design has become controversial because the mint has recommended that symbolically we depict liberty on the face of the coin—and has suggested that because liberty is female, this pays adequate tribute to American women. Women's organizations ask why, with so many real men on our coins, it is too much to suggest we honor a real woman. There is no answer to that. Although all contemporary coins bear the likeness of former Presidents, we have in the past honored one non-President, Benjamin Franklin, and, in the days when commemorative coins were minted, a number of others who never served in the Presidency.

Administrative witnesses have testified before the House subcommittee that it is imperative for precedent to be followed. Unfortunately, precedent and Presidents have been all male. Unfortunately also, Treasury has attempted to preempt congressional prerogative by going to the expense of designing a new liberty head and asserting that any alternative design will result in months of delay before a coin can be struck.

I am neither convinced by Treasury logic nor sympathetic to Treasury pressure. Years of effort to have a woman honored on our currency have suddenly been redirected toward this coin, and it is clear that if this is going to be a popular coin it should pay appropriate honor to the women of our country and the contributions they have made to American culture.



Rather than striking a symbolic liberty head, I would prefer to see us honor actual fighters for liberty. The name of Susan B. Anthony has been suggested by many and I believe she is deserving. However, others have been recommended and the dilemma is how to make an appropriate choice.

I have introduced a bill, H.R. 12872, which I believe presents a fair solution and properly honors all American women. H.R. 12872 would have the new \$1 coin bear the joint profiles of Susan B. Anthony and Harriet Ross Tubman. I have selected these two individuals—one white, one black—because they were contemporaries who sought recognition of women's political rights and human rights for all people in complementary efforts.

Susan B. Anthony was born in 1820 and is best known for her lifetime effort to secure women's suffrage which resulted in enactment of the 19th amendment—the “Anthony amendment”—in 1920, 100 years after her birth, 14 years after her death.

Less well known, perhaps, but equally meritorious were her efforts to abolish slavery, her campaign for the right of women to control their own property and to have guardianship of their children in case of divorce.

Harriet Ross Tubman was born a slave. The exact date of her birth is not certain, but it is believed she too was born in 1820. At the age of 25, she fled from her master and worked in the underground railroad assisting others to escape. In the next 10 years she established a national reputation and by 1860 Miss Tubman appeared across the Nation not only at antislavery meetings, but in pursuit of women's rights. During the Civil War she served the Union as a cook, nurse, laundress, soldier, spy, and scout.

Despite her many honors and tributes, including a medal from Queen Victoria of England, she died in poverty at the age of 93 in 1913.

Mr. Chairman, there are numerous precedents for superimposing the profiles of two individuals on one side of commemorative coins, although not circulating coins. For example, the 1900 Lafayette dollar contains the profiles of General Lafayette and President Washington; the 1925 Stone Mountain half dollar honors Robert E. Lee and “Stonewall” Jackson; and the 1926 sesquicentennial half dollar superimposes President Washington on President Coolidge.

The coin authorized by H.R. 12872 provides that the profile of Harriet Tubman be superimposed on the profile of Susan B. Anthony with the word “liberty” appearing alongside. On the obverse side, the unfurled flag of the United States would appear with the motto “In God We Trust” prescribed as well.

Mr. Chairman, I can think of no two women who have shown greater courage in their united, heroic struggles for human liberty than Susan B. Anthony and Harriet Ross Tubman. I am convinced a coin portraying these two great women would honor all American women and that nothing could more appropriately be struck on the obverse side of the coin than the American flag. The lifetime dedication of these two pioneering spirits gives the flag the meaning it has today.

The CHAIRMAN. Thank you very much, Mr. Leach.

As I say, it's an innovative notion, although, as you point out, it's not unprecedented with respect to commemorative coins.



That raises one question that I understand was raised in the House. This is not to be a commemorative coin. In fact, the uniqueness of a circulating coin with two images on it would be such that it might make it hard to circulate; that is, people would hold on to it. I understand commemorative coins are made for collectors and are not part of our coinage system. One of the great concerns we have for the new dollar coin anyway is that it's going to have a hard, tough time, as you know, winning circulation for various reasons. It's new. It's different. We have never had a dollar coin before of this size that's really been designed to circulate practically. What's your answer to all that?

Mr. LEACH. The issue is one of acceptability, that is, how best to design a widely accepted coin. Whether or not it's viewed as a commemorative to be stored in one's pocket or dresser depends in large measure on the number of coins struck. In this regard, Treasury has been very forthcoming in making it clear they are going to strike a large number. Actually, I'm not sure many Americans really know the difference between commemorative and circulating coins. We haven't had a commemorative since the 1950's, so I doubt there would be confusion in that regard. That might be an academic consideration but not a practical one.

The CHAIRMAN. How about the fact that we have never had a circulating coin with a real live woman on it and we do have circulating coins with President Lincoln and President Roosevelt and so forth. Some people might argue that it takes two women to equal one man if you have two women on it instead of just one woman. I'm serious about that. I think this is kind of a comedown. I would think both of these people are distinguished great Americans and I would think that it might be a better idea to have a coin for each. The way we're going with inflation, we'll have a \$5 coin within a few years and maybe that would be the time for Ms. Tubman.

Mr. LEACH. You have a point, but again, I'm not sure whether it is more an academic point than a substantive one. The remarkable thing about the history of the women's movement is that the principle of sisterhood is stressed repeatedly. Furthermore, Anthony and Tubman collectively symbolize the diverse elements of that movement as well as the similar elements. I think realistically the possibilities of the next coin having Harriet Tubman are not very high and the difficulties of having the black movement honored are quite extreme. However, I think this combination of two distinguished Americans is a combination that would sit very, very well with the American public.

The CHAIRMAN. Senator Sparkman.

Senator SPARKMAN. Is this the size that it is supposed to be? Why this size rather than the size of the ordinary dollar?

Mr. LEACH. Senator Sparkman, my testimony touches only on the matter of design. Treasury witnesses will likely comment on the size.

The CHAIRMAN. I might say, Senator Sparkman, one of the problems is that almost nobody will accept the present dollar coin because it is too big and too heavy. I couldn't understand why my hands were dirty all the time and why my pockets were pretty heavy. I'm pretty dumb. It took me a long time to catch on and I figured it was because I was carrying these dollars around.

Senator SPARKMAN. Well, I have never been borne down by them.

The CHAIRMAN. Well, you're a strong man, stronger than I am.



Senator SPARKMAN. It's not that. I just haven't had half dollars. I would be glad to carry them around. I mean the half dollar size.

Mr. CHAIRMAN, I believe you raised the question as to two women being on one coin.

The CHAIRMAN. That's right.

Senator SPARKMAN. That's joint there?

The CHAIRMAN. No. He's proposing it. Other witnesses want one image. We have different opinions as to who they ought to have Mr. Leach in the only one who suggests two, the only witness this morning at least.

Do you have any other questions?

Senator SPARKMAN. No.

The CHAIRMAN. Thank you very much, Mr. Leach. We appreciate your testimony.

Our next witnesses will appear as a panel if they would; two distinguished Members of the House of Representatives and the president of the National Organization of Women: Hon. Mary Rose Oakar, U.S. House of Representatives; Hon. Patricia Schroeder, U.S. House of Representatives; and Ms. Eleanor Smeal, president, National Organization of Women.

Ms. Oakar, go right ahead.

#### STATEMENT OF MARY ROSE OAKAR, U.S. HOUSE OF REPRESENTATIVES

Ms. OAKAR. Thank you very much, Mr. Chairman, for allowing me to testify.

I, first of all, want to begin by saying it's a pleasure to be back before your committee. I had the distinct pleasure of appearing when you so wisely selected one of the Assistant Secretaries of HUD.

Mr. Chairman, I want to commend you and the other members of the Banking Committee who have cosponsored the legislation to place Susan B. Anthony's portrait on the new dollar coin. In introducing S. 3036 here in the Senate you have led the effort to place for the first time the portrait of a woman who actually lived on our circulating coinage.

As you know, I am also a member of the Banking Committee on the House side and I, along with Representative Schroeder, have introduced a similar bill, H.R. 12728 in the House and I would like to mention just extemporaneously the fact that we feel that we have a wide cross section of support for this bill. We have more than 50 cosponsors, 13 of whom happen to be on the Banking Committee, three of whom are subcommittee chairmen; and I would like to place in the record, with your permission, a letter that I received from the chairman of the Banking Committee, Henry Reuss, indicating support for the bill.

The CHAIRMAN. We are happy to have it. Without objection, that will be printed at this point in the record.

[Letter follows:]



CONGRESS OF THE UNITED STATES,  
HOUSE OF REPRESENTATIVES,  
*Washington, D.C., May 31, 1978.*

HON. MARY ROSE OAKAR,  
*Cannon House Office Building,  
Washington, D.C.*

DEAR MARY ROSE: Thank you for your good letter of May 26, about Susan B. Anthony. As you know, I think this would be a most appropriate emblem for our new coinage, and I'm hoping that the Fauntroy Subcommittee will come up with something along these lines.

Sincerely,

HENRY S. REUSS,  
*Member of Congress.*

MS. OAKAR. I would also like to mention we have 12 Members of the 18 on the House side who have cosponsored the bill, including members of both parties, all races, et cetera, and I just would like to submit my whole copy of my entire statement for the record, Mr. Chairman, and I just want to synthesize it if I can, so I don't take more time than is necessary from the committee.

[Complete statement follows:]

STATEMENT OF REPRESENTATIVE MARY ROSE OAKAR

Mr. Chairman, I want to commend you for all your efforts on behalf of this legislation to place Susan B. Anthony's portrait on the new dollar coin. In introducing S. 3036 here in the Senate, you have led the effort of place, for the first time, the portrait of a woman who actually lived, on our circulating coinage. I have introduced a similar bill, H.R. 12728 in the House, which has more than 50 co-sponsors including 13 members of the House Banking, Finance and Urban Affairs Committee.

The proposed dollar coin is smaller than our present Eisenhower dollar. The Department of Treasury states that this smaller dollar coin will offer cost savings by replacing some of the demand for one dollar bills. One dollar bills have an average lifetime of 18 months, and cost about 1.5 cents to produce. The proposed dollar coin would cost approximately three cents to produce, but would have an average lifetime of 15 years. The introduction of the smaller dollar coin into our circulating coinage system should prove to be a very practical and "money-saving" move on the part of the federal government.

However, Mr. Chairman, the Administration has proposed that the new coin be issued with a so-called contemporary version of the liberty head design on the obverse side. This was very disappointing to many Americans including the Congresswoman's Caucus, who had written to the Secretary of the Treasury, requesting that the Department propose the portrait of Susan B. Anthony.

As you are well aware Mr. Chairman, this bill has the full support of a wide spectrum of women's organizations including the League of Women Voters, the National Organization of Women, the National Women's Political Caucus, and the Daughters of the American Revolution, Women's Lobby, Inc., as well as chapters of the American Association of University Women, the National Council of Catholic Women, and the National Federation of Business and Professional Women's Clubs.

Having an actual woman portrayed on a coin is not a unique concept. As early as 1837, a woman appeared on the circulating coinage in Great Britain, and as early as 1835. Spain circulated coinage with the profile of Isabel. In 1892 the Netherlands circulated coins with the portrait of Wilhelmina. Thus, I would suggest that the concept of a portrait of a woman on circulating coinage in the Western world is not new. In fact we are one of the very few countries which have never had a woman portrayed on a circulating coin.

Why Susan B. Anthony? Today we have the unique opportunity to recognize and honor all women of our great country by placing the portrait of a woman on this coin, whose illustrious career spanned the 19th Century, and who, perhaps more than any other woman, changed our lives through her single minded devotion to the principle that all Americans must participate in a Democracy. She realized more completely than anyone else that in order for the women of America



to truly participate as American citizens, they had to be given the right to vote. In 1848, she laid the groundwork for the passage of the 19th Amendment, that, more than 70 years later, gave women this right. In the years before the Civil War, she was one of the key organizers of a series of state and national women's conventions on this issue. In addition, from 1854 on, she organized county-by-county canvasses in which she and others went from door-to-door obtaining signatures on petitions to the legislature demanding women's suffrage. Described by one friend as the "Napoleon of the women's rights movement," she was undaunted by the strong and sometimes bitter opposition she faced in her efforts.

Along with her work in the suffrage movement, she was one of the principal organizers of the abolitionist movement and campaigned extensively for black suffrage. During the Civil War she organized the women's Loyal National League which secured hundreds of thousands of signatures on petitions calling for emancipation of American blacks. However, when the 14th Amendment failed to enfranchise women, she redoubled her efforts to work for women's suffrage. She worked not only for an amendment to the federal Constitution, but organized efforts at the state level.

She and Elizabeth Stanton founded the National Women's-Suffrage Association in 1869. The first real success of the movement was the granting of the right to vote to women by the Wyoming Territorial government in 1870. But for the most part, Ms. Anthony and those who worked with her watched state legislatures and the Congress reject, time after time, the granting of women the right to vote. It is largely due to Ms. Anthony's efforts that her group merged with the American Women's Suffrage Association in 1890 and the groundwork was laid for the ultimate successful campaign for the passage of the 19th Amendment. Throughout her life, Ms. Anthony's motto was "Failure is Impossible."

Susan B. Anthony retained her unswerving dedication to the women's suffrage movement, and her leadership role therein, until her death in 1906 at the age of 86. Unfortunately, she never lived to see the fruition of her valiant efforts.

Ratification of the 19th amendment, giving women the right to vote, did not take place until 1920, more than 15 years later. Therefore, as we reflect on her motto, "Failure is Impossible," it is as applicable today to those of us continuing her cause for human rights, as it was to her. Ms. Anthony's pursuit of our Democratic right to vote truly being a right of everyone, regardless of sex, is perhaps the most fundamental step in our women's movement and our country's quest for equality and human rights. It is a step that still merits a tremendous debt of gratitude on the part of men and women today because this woman, with such undaunting courage, lived her life for this single-minded purpose that is so basic to the very fibre of our democratic system.

That is why this tribute to Ms. Anthony, on our proposed dollar coin, is indeed a belated expression of our gratitude to her.

The portrait of the fictional "Miss Liberty" has been found on American coins from the 18th Century to the 1960s. However, our forefathers did not resort to fictional men on our coins. In the 20th Century, outstanding American men were justly honored by placing their portraits on our circulating coinage. First, came the copper penny in 1909 that featured Abraham Lincoln. Since then, our circulating coinage shows Thomas Jefferson on the nickel, George Washington on the 25 cent piece, Franklin Roosevelt on the dime, and Benjamin Franklin and John F. Kennedy on the 50 cent piece.

Without exception all of our circulating coins now honor Americans—not abstractions—individual men who have earned their place in our Nation's history. Is there any reason why we cannot honor an actual woman? Must we retain a mythological figure?

It has been said that all women can identify with the mythological portrayal of Miss Liberty, but I would like to respond by saying that there is one issue with which I am sure that the rainbow of American women in our Country of every race, creed and philosophy can mutually identify—it is the right to express ourselves at the ballot box—the democratic right to vote. Truly Susan B. Anthony, who is principally responsible for enabling women to exercise this democratic right, represents American women far better than the ill-conceived Miss Liberty design offered to us by the U.S. Treasury. Susan B. Anthony in a very real sense is Miss Liberty and, once more, she is an American who helped all Americans achieve the liberty and freedom we now enjoy.

The proposal to place Susan B. Anthony on the new dollar coin has generated controversy and opposition. That is not surprising. Susan Anthony generated controversy and faced opposition all her life. This fact did not deter her from



her noble cause or her attitude about eventual victory. We welcome the opportunity now to speak up for her. It would be a very special honor to have this woman's portrait placed on the new dollar coin. By doing so, we honor all Americans who cherish their democracy and their liberty—which has as its fundamental concept, the right to vote.

I want to emphasize, Mr. Chairman, that Susan B. Anthony is our finest example in American history of a woman who truly worked for all women—for blacks, whites, Orientals, Hispanics, Native Americans—as our strongest voice at a time when much of the world wanted her and other vocal women—silenced.

Just down the street, at our Smithsonian's History and Technology Museum, is a picture of Susan B. Anthony and these words that indicate her resolve. Susan B. Anthony said, "There will never be another season of silence until all women are as free as men on this green earth."

Susan B. Anthony did not stand silent and I will not stand silent today. Susan did not speak for herself alone. She spoke on behalf of all women—with no restrictions as to color or wealth or social status or nationality. That is why it is time we offer a fitting tribute to all women—by paying a tribute to this tireless suffragette on our proposed new dollar coin. Truly we will honor all Americans by honoring Susan B. Anthony.

Ms. OAKAR. I would like to mention the broad cross section of support that we have from women's organizations and that is not always easy to get, but we are very happy that the National Organization of Women, of which my dear friend Ms. Smeal will testify on their behalf; the League of Women Voters, the National Women's Political Caucus, the Daughters of the American Revolution, the Women's Lobby, Inc., have endorsed the legislation unanimously.

The CHAIRMAN. Let me just interrupt at that point. That's a very interesting combination, the broadest spectrum that I've ever heard endorsing anything. You have the Daughters of the American Revolution, the National Organization of Women, the League of Women Voters—

Ms. OAKAR. National Women's Political Caucus, we have chapters of the American Association of University Women, the National Council of Catholic Women, the National Federation of Business and Professional Women's Clubs.

The CHAIRMAN. And they have all endorsed the notion of having Susan Anthony alone?

Ms. OAKAR. Yes; absolutely, and if I could just say extemporaneously why, Mr. Chairman, rather than go into specifics about Susan B. Anthony, it seems to me at least, and I suppose to them, that more than any other woman in our history perhaps she universally represents something that we all feel very strongly about as participants in American democracy, and that the right to vote; and although this was not granted until 1920 and unfortunately Susan Anthony did not live to see that actuality, we know that she gave her life's blood in a courageous manner for the effort and she died 14 years before the passage, and so we also realize that she, more than anyone else, is that kind of universal individual that all women can identify with without any controversy.

So if we are to have the first woman—we hope there will be a series of many women—but we ought to have one we feel very strongly that it ought to be the person who most representatively gave us the right to vote.

I do want to mention the fact that we are somewhat behind in terms of portraying women on coins. We know that as far back as the 17th



century in European countries women were portrayed on coins and we are frankly one of the few countries in the world that does not have a woman portrayed on a coin, on any of its coinage.

We also feel that all of the coins, all of the American coins for general circulation have been individual men. Not all of them have been Presidents. It is not necessarily a precedent that we are setting because we know that Benjamin Franklin, and rightly so, has been portrayed.

So that this is the extent of my testimony, Mr. Chairman, and the fact that she's our finest example in American history of a woman who truly worked for all women, for blacks, whites, Orientals, Hispanics, native Americans, and she was our strongest voices at a time when the world in many ways wanted women's voices silenced, and she was controversial, no question about that, and we feel that we as women are delighted to be able to take up her cause today just as she took up our cause you might say so many years ago.

So I would like to just stop there, Mr. Chairman. Just one quick thing, though, in response to my esteemed colleague. Whom he and I sit on the same subcommittee and have worked on other pieces of legislation and have agreed, but you mentioned, Mr. Chairman, that someone might say does it take two women for one man, et cetera, and I would like to refer and just pick up on that.

There was a lot of controversy, as you probably remember, when Time magazine portrayed women of the year as opposed to man of the year, as they do in reference to men, and there were a number of letters written to the editor. I would just like to read one. It's very, very brief and it said they portrayed 12 women as women of the year and this gentleman wrote a letter to the editor and said, "Do 12 women of the year mean it takes 12 women to equal one man, or one man can create more problems than 12 women?" And there are other letter like that and we feel solidarity in uniting our efforts toward having Susan B. Anthony portrayed on the coin. Black women feel this way and white women and Members of the House, so there's no disparagement in terms of our support for Susan B. Anthony. Thank you.

The CHAIRMAN. Thank you very much.

Congresswoman Schroeder.

#### STATEMENT OF PATRICIA SCHROEDER, U.S. HOUSE OF REPRESENTATIVES

Ms. SCHROEDER. Thank you, Mr. Chairman.

I want to thank the committee for listening to our testimony and to commend Chairman Proxmire in particular for introducing the Susan B. Anthony coin bill which I've cosponsored with Representative Oaker on the House side.

Representative Oaker has stated the chief arguments for the bill. I won't repeat them. The main plea I want to make is to turn the tables for a moment and ask you to pretend you were us. Pretend there had never been a male President and after 200 years your Nation had decided to put a man on the coin. Real buffalo and real birds had already appeared on coins. Many countries don't put on real birds. They put on double-headed eagles. We put on real eagles and real buffalo. You've finally rated a coin after 202 years. Someone suggests, "Well, listen,



fellows, we're going to put Uncle Sam on a coin because he symbolizes the American male." But you object, "Wait a minute. Aren't there some men besides Uncle Sam who have done something? Uncle Sam is nice, but he's a symbol and we don't really relate to him." And he says, "Maybe you could have King Neptune or Father Time. We will find someone, but we want to have a mythological male. We don't want to get into picking one of you boys."

So if you think about that, you see how very important it is to have a real woman. Let's assume that Benjamin Franklin is finally selected. Then it's decided that George Washington Carver should appear alongside, just to cover as many bases as possible. If you turn the tables like this, you see how important it is to feature one real woman on a coin.

A very strong consensus exists to select Susan B. Anthony. The women in this country couldn't even vote until this century. Susan B. Anthony devoted her entire life to seeing that all women some day would have the right to vote and she never saw it happen. I think we should commemorate her. She was a person who had a dream but never saw it materialize.

Many women—including Helen Keller, and Amelia Earhart, could appear on the coin, as could many men. But Rep. Oakar made an excellent point: does it take two women to equal Benjamin Franklin, because that's, in essence, what the Treasury proposal suggests. I don't think it does. I think Susan B. Anthony stands on her own merits. There is broad support for her. Other people may deserve to appear on a coin later, but I would certainly hope you move forward with our proposal. I thank you for the honor to come and testify on it.

The CHAIRMAN. Mrs. Schroeder, as I understand it, the reason you emphasize the importance of not having a mythological woman is because the Treasury has recommended Miss Liberty.

Ms. SCHROEDER. That's correct.

The CHAIRMAN. Not a person, but Miss Liberty.

Ms. SCHROEDER. I don't run around with stars in my hair holding up lights, and I don't think most women do. I think Miss Liberty is a nice symbol, but I doubt that you relate too much as a man to Uncle Sam or King Neptune, even though that they are male images. You probably relate much more to any historical male whose biography you could have read. I don't know Miss Liberty's biography. She's a stone and I'm a person and I don't relate to stones too well.

The CHAIRMAN. You know, as time passes, I relate more and more to Father Time.

Ms. SCHROEDER. I may have blundered.

[Complete statement follows:]

#### STATEMENT OF REPRESENTATIVE PATRICIA SCHROEDER

Mr. Chairman, I appreciate the opportunity to testify today on the Susan B. Anthony coin.

I want to commend you, Mr. Chairman, for introducing the Susan B. Anthony Coin Act in place of the Administration's dollar coin proposal featuring the face of Miss Liberty. I agree with you that if a coin is to commemorate American women, then it should honor a real honest-to-goodness woman. The choice of a mythical figure such as "Miss Liberty" is as appropriate to symbolize American woman-kind as Uncle Sam and Father Time are appropriate to represent American mankind.



There are many American women who are worthy of being commemorated on an American circulating coin—Amelia Earhart, Helen Keller, Eleanor Roosevelt, Harriet Tubman, and Susan B. Anthony, to name a few. I find it hard to believe that a buffalo made it on a circulating coin before any of these great American women. The Administration has indicated that choosing any design other than the Liberty or Presidential design would invite unnecessary controversy, i.e., “a can of worms.” I think, however, that choosing the mythical figure “Miss Liberty” instead of one of these great American women solely to avoid controversy is a disgrace.

I have cosponsored Representative Mary Rose Oakar’s bill to place Susan B. Anthony on the proposed dollar coin. Miss Anthony has made a contribution which affects American women of all races, creeds, and socio-economic backgrounds—the right to vote. Although universal suffrage didn’t become law until 1920, 14 years after Miss Anthony’s death, her efforts and determination were largely responsible for the passage of the 19th Amendment.

The Oakar-Schroeder bill is supported by the League of Women Voters, the National Organization of Women (NOW), and the Daughters of the American Revolution (DAR). That’s quite a spectrum.

I urge the committee to commemorate the American woman’s contributions, determination, and spirit by placing Susan B. Anthony on the proposed dollar coin.

The CHAIRMAN. Ms. Smeal.

### STATEMENT OF ELEANOR C. SMEAL, PRESIDENT, NATIONAL ORGANIZATION OF WOMEN

Ms. SMEAL. My name is Eleanor Cutri Smeal. I am president of the National Organization for Women, Inc.

On behalf of NOW, the largest feminist organization in the United States, with members and chapters throughout the Nation, I am testifying in support of S. 3036, the Susan B. Anthony Dollar Coin Act of 1978.

We understand the administration has proposed legislation which provides for the minting of a dollar coin and that this coin will commemorate a woman. We understand, too, that in seeking a compromise, the administration has proposed to honor the mythical “Miss Liberty.” This would be a grievous error and could only be interpreted as a statement by the United States that there is no American woman worthy of such recognition.

In introducing the Susan B. Anthony Dollar Coin Act of 1978, Congresswomen Oakar and Schroeder in the House and Senator Proxmire in the Senate have sought to correct his error of the administration. We applaud their leadership in this very symbolic effort. Clearly, the only logical and appropriate choice is Susan B. Anthony.

Almost all of our circulating coins honor real Americans. To date, the Americans honored on our coins have been men. The decision to honor a woman is certainly timely, if not overdue. The representation of liberty in the figure of a woman was an early artist’s romanticized concept which first appeared on minor coins in 1793. Surely the administration does not mean to suggest that women have done nothing of note since then.

Many great women have had a significant impact on our history. Susan B. Anthony is representative of the great women who have made significant contributions to secure the ideals for which our country



stands. She dedicated her life to obtaining full citizenship for women. Her outstanding efforts have contributed to the expanding opportunities and participation of women in our society.

To honor a mythical and romanticized image of women embodied in "Miss Liberty" rather than a real woman such as Susan B. Anthony could only be interpreted at the least as ambivalence toward the expanding roles of women, and at the most as outright hostility to the recognition of women's rights.

The United States has traditionally honored on its coins those who served in political office. It is time that we recognize the contributions of others who gave their lives for freedom and equality. Susan B. Anthony was an active participant in the great social change movements of her time. She expended her life's energy in the fight for the causes of freedom, justice, and equality. It is important that we recognize and pay suitable tribute to her work.

Mr. Chairman, members of the committee, the National Organization for Women strongly endorses the Susan B. Anthony dollar coin and urges your support and favorable action on S. 3036.

May I just say that I would like to underscore the Congresswomen's testimony. I would like to thank Senator Proxmire for introducing the companion bill to theirs to commemorate Susan B. Anthony, and I could say very strongly that we need a real role model of females of this country. Susan B. Anthony was not only a leader for women's rights, but she was a leader for justice and democracy. Her writings are an inspiration. They are comparable to Thomas Jefferson's. They make one understand fully what this country is all about. Her motto was failure is impossible, her feelings that females were not only full Americans and full adult citizens but that they should be recognized with all the rights of that citizenship were not only relevant in the 19th century but are equally relevant today.

I, as a leader of a constituent group of American women and men concerned with women's rights today, would like to underscore the need for Susan B. Anthony on a major coin that is being circulated.

As far as having a dual coin, I feel that it would really be not fair to either blacks or women. In fact, I think it would show that it would be a token gesture because we realize that there will be other coins and other stamps and the black movement and black Americans deserve to have a coin commemorating a black American but we all deserve to have more than one. So I hope that this will be just one in a long series of commemorating real people who have stood for the cause of justice for all as Susan B. Anthony has.

Ms. SCHROEDER. Repatriation for 202 years.

The CHAIRMAN. Well, I want to thank all three of you for your testimony.

As you may know from my actions, I of course wholeheartedly agree with what you have done. I might say Marion Mayer, to my left here, deserves the principal credit on the committee as the staff member who has really taken the initiative and worked tremendously hard and deserves a whole lot of credit. You followed through with great wisdom and effectiveness in the House, as indicated by your cosponsors and by the broad support you have received from so many different organizations.



Do you want to add something, Ms. Oakar?

MS. OAKAR. Mr. Chairman, I would like to add my commendation of Marion also. She has been tremendously helpful in assisting us, keeping us posted as to what is happening on the Senate side, and has really been a joy to work with. I know members of my staff feel very, very strongly about Marion's impact on it and I want to just commend her for the record.

I also would just like to quickly mention that Miss Liberty has been portrayed on coins from the 18th century to the 1960's. We have had her on many, many American coins and I think that has to be said also, and the fact that the Treasury by its own poll shows that Susan B. Anthony is leading far away in the constituents and impact from across the country in terms of people's desire to have Susan B. Anthony portrayed on the coin, we feel strongly that it would in fact circulate very, very well and actively for an awful long time.

[The following letters were ordered inserted in the record at this point:]





MRS. GEORGE UPHAM BAYLIES  
PRESIDENT GENERAL  
NATIONAL SOCIETY DAUGHTERS OF THE AMERICAN REVOLUTION  
ADMINISTRATION BUILDING, 1776 D STREET, N. W.  
WASHINGTON, D. C. 20008

June 23, 1978

678 JUN 27 AM 8:31

The Honorable William Proxmire  
Chairman, Banking Committee  
United States Senate  
Washington, D. C. 20510

Dear Senator Proxmire:

We appreciate your invitation which gives us the opportunity to submit our views on who should appear on the proposed smaller silver dollar.

On behalf of the National Society, it is a pleasure to recommend that the likeness of Susan B. Anthony be used. She was a pioneer worker for women's rights and the work she accomplished as a suffragette makes her a good choice. She labored with unselfish devotion for the emancipation of women. She worked for 50 years for the rights for women, especially for the voting privilege, not from any personal grievance, but through a deep sense of the injustice against her sex. Her slogan then was: Principle, not policy; justice, not favor; men, their rights and nothing more; women, their rights and nothing less.

Although the 19th amendment to the Constitution was passed after her death, it became known as the Susan B. Anthony Amendment in recognition of her steadfast belief in granting women the franchise.

As a women's organization of more than 209,000 members, we naturally recognize the fine work she did.

Susan B. Anthony joined the DAR in 1898 as a life member through the service of Daniel Read. He was the first man to step forward when the minister of his church asked for volunteers after the Battle of Concord. The National Society is very proud of the fact that this illustrious woman was a member. In past years, we proposed that she was a great enough woman to merit a niche in the Hall of Fame in New York and this was attained in 1950.

Mr. Chairman, I respectfully request that this letter be made a part of the hearing when your Committee considers this issue.

Sincerely,

*George U. Baylies*  
Mrs. George U. Baylies  
President General, NSDAR

JUN 29 1978



League of Women Voters of the United States

1730 M St., NW, Washington, D. C. 20036 (202) 296-1770



May 2, 1978

1978 MAY -4 PM 5:17

The Honorable William Proxmire  
Chairman  
Senate Committee on Banking, Housing  
and Urban Affairs  
U.S. Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

This is to inform you that the League of Women Voters of the United States wholeheartedly supports your efforts to memorialize Susan B. Anthony on the new one dollar coin piece.

We, too, think that it is time, indeed past time, to honor an American woman on the U.S. currency. We believe that the honor should go to a real woman who has contributed significantly to the history of this country, as did Ms. Anthony.

Again, the League fully supports placing a likeness of Susan B. Anthony on the one dollar coin.

Sincerely,

*Ruth C. Clusen*  
Ruth C. Clusen  
President

MAY 5 1978

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Senator William Proxmire  
Chairman  
United States Senate  
Committee on Banking, Housing and Urban Affairs  
Washington, D.C. 20510

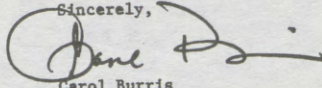
Dear Senator Proxmire:

We would like to commend your support of the Susan B. Anthony Dollar Coin Act. We are very grateful for your staunch support of Susan's inclusion on a national coin.

It is very courageous of you to stand fast to the Administration in their quest for "Miss Liberty" as an alternative to someone who is a real heroine to American women.

If there is anything we can do to help in this effort, please let us know. Many thanks.

Sincerely,



Carol Burris  
President

CB:sm

1978 JUN 13 AM 9:43

June 5, 1978

JUN 14 1978



The CHAIRMAN. I want to thank you very, very much for your excellent presentation.

Our next panel will be Ms. Stella B. Hackel, Director of the Bureau of the Mint; accompanied by Dr. Alan J. Goldman, Assistant Director for Technology of the Bureau of the Mint.

Ms. Hackel, go right ahead.

**STATEMENT OF STELLA B. HACKEL, DIRECTOR, BUREAU OF THE MINT; ACCOMPANIED BY DR. ALAN J. GOLDMAN, ASSISTANT DIRECTOR FOR TECHNOLOGY**

Ms. HACKEL. Thank you, Senator Proxmire.

Appearing with me today is Dr. Alan Goldman, our Assistant Director for Technology.

I appreciate very much the opportunity to appear before this distinguished committee in support of legislation which would authorize the issuance of a smaller dollar to replace the current very large dollar coin. As you noted in your letter to Mr. Blumenthal, Senator, when you announced the hearing, the bill before you, S. 3036, is the same as the administration's bill with one notable exception, that it would mandate that the likeness of Susan B. Anthony appear on the new coin. Nonetheless, the thrust of both bills is the same—to improve our coinage system by authorizing a useful coin for our commerce and trade.

The current cupronickel clad dollar was first authorized by Congress in 1970 to replace the old 90-percent silver dollar which had not been minted since 1934. It has essentially the same size and it has a diameter of 1½ inches and weighs nearly 23 grams.

Since 1971 when the mint first started minting the clad dollar coin, it has become increasingly clear that there's a lack of public demand, that the coin is too bulky, too heavy, too cumbersome for the American public to accept. Even the minimal demand for the dollar coin can be mainly attributed to its usage in gaming machines rather than as a medium of exchange.

The limited usefulness of the current dollar coin has been of considerable concern to the Department for several years. It has become increasingly clear that, primarily due to its cumbersome size and weight, the current dollar coin cannot effectively serve as a medium of exchange. Our views have been reaffirmed by a study conducted by the Research Triangle Institute. The study concluded that a conveniently sized smaller dollar coin would significantly broaden—

The CHAIRMAN. How long is that study?

Ms. HACKEL. It was a very extensive study.

The CHAIRMAN. Will you make it available to the committee?

Ms. HACKEL. Absolutely. We would be delighted to.

The CHAIRMAN. Is there a summary of it that we could print in the record?

Ms. HACKEL. Yes, and we will make it available for the record.

The CHAIRMAN. All right, and we will print that in the record.

[Complete statement of Ms. Hackel and the material referred to above follow:]



## STATEMENT OF STELLA B. HACKEL, DIRECTOR OF THE MINT

I appreciate the opportunity to appear before you, Mr. Chairman in support of legislation which would authorize the issuance of a smaller dollar in replacement of the current dollar coin. As you noted in your letter to Secretary Blumenthal announcing the hearing, the bill before you, S. 3036, is the same as the Administration's proposal with one notable difference. Instead of the Liberty head design proposed by the Administration, S. 3036 would require the Secretary to place a likeness of Susan B. Anthony on the new coin. Nonetheless, the thrust of both proposals is the same—to improve our coinage system by authorizing a useful coin for our commerce and trade.

## NEED FOR THE NEW COIN

The current cupronickel clad dollar was first authorized by Congress in the Act of December 31, 1970, in replacement for the standard silver dollar. That statute repealed the Department's authority to mint and issue the standard 90 percent silver dollar, last struck in 1934, and authorized in its stead a base metal dollar coin having essentially the same size. Thus, the current dollar has a diameter of 1.5 inches and weighs nearly 23 grams.

Since 1971, when the Mint began issuing the clad dollar coin, it has not become a useful part of our coinage system. Because of the lack of public demand the dollar coin has represented less than 1 percent of the Mint's annual production each year. Even this minimal demand for the dollar coin can be primarily attributed to its usage in gaming machines rather than its usefulness as a medium of exchange.

The limited usefulness of the current dollar coin has been of considerable concern to the Department for several years. It has become increasingly clear that, primarily due to its cumbersome size and weight, the current dollar coin cannot effectively serve as a medium of exchange. Our views have been reaffirmed by a study conducted by the Research Triangle Institute, completed in 1976, which concluded that a conveniently-sized dollar coin would significantly broaden the capabilities of consumer cash transactions. Subsequent to the completion of that study, the previous Administration submitted to Congress a report on the "State of the United States Coinage", which, among other recommendations, urged the Congress to authorize the replacement of the dollar coin with a smaller size coin.

The smaller dollar coin, which would be authorized by the pending bill, would be sized between the quarter and half-dollar, with a diameter of just over one inch and a weight of 8.1 grams. Such a smaller, more conveniently-sized coin would be far more acceptable to the general public and would ultimately gain widespread usage.

Our recommendation to issue a small dollar coin is part of Treasury's long-range planning of the Nation's coinage and currency system. Other than the smaller dollar, we do not believe that any changes in our coinage system are necessary at this time. Thus, contrary to the previous Administration's recommendation to the Congress, the Department's view is now that the one cent coin can and should remain a useful part of our coinage system in the years ahead. Similarly, the Department has no intention at this time to eliminate the half-dollar coins from our coinage system. Rather than seeking statutory repeal of the authority to mint the half-dollar coin, we deem it sufficient to limit production to meet consumer demand.

It is my understanding that, with respect to Federal Reserve notes, the Department plans to produce the volume of one-dollar notes needed by the Nation's commerce and trade. Of course, it is our hope that, with the introduction of the new dollar coin, the demand for notes will gradually decrease and that more notes will be displaced by the dollar coin. Lastly, while public acceptance of the two-dollar Federal Reserve notes has been rather disappointing so far, we are confident that with increased promotional efforts and cooperation by commercial banks and retail firms that denomination will gain increased acceptance.

## TECHNICAL CONSIDERATIONS

*Size, Weight and Edge Configuration.*—In determining the appropriate physical size of a new coin, the Mint has considered several factors, including handling convenience and the potential for counterfeiting or slugging. The recommended weight of 8.1 grams is the lowest possible weight for convenient handling by the



general public, while at the same time, being sufficiently heavy to be readily distinguishable from the quarter. The quarter weighs 5.67 grams; thus, the proposed coin would be 43 percent heavier than the quarter.

I should point out, Mr. Chairman, that in the Administration's proposal the weight for the new dollar is specified as 8.5 grams. However, after submission of our proposal to Congress, we were advised by the coin sorting equipment manufacturers that a dollar coin with a slightly lower weight would facilitate high speed coin sorting. Since coin sorting machines are used by all major retailers and banks, we feel this is a legitimate consideration; thus, we now recommend that the weight be changed in the proposed bill from 8.5 grams to 8.1 grams.

For the purposes of high utilization in automatic merchandising devices, it is essential that the size of the coin preclude the use of readily available low value foreign coins of identical size to slug the equipment. A diameter of 1.043 inches in size (26.5 millimeters) best meets this requirement and has been endorsed by the major manufacturers of automatic coin handling equipment.

The new dollar would be distinguishable from the quarter by touch as well as by sight. The design proposed would have an eleven-sided inner border on both sides of the coin within the outer circular configuration. This design element would provide a means for tactile recognition by the visually handicapped. At the same time, to prevent counterfeiting, the coin would have a reeded edge as do all other higher value U.S. coins.

*Composition.*—Except for the two minor denominations, the cent and the nickel, all circulating U.S. coins are made of a cupronickel alloy bonded on both sides to a pure copper core. This composition has many advantages, including superior surface wear and appearance, and relative low cost to produce. Overall it is approximately 90 percent copper, and can be economically fabricated into coinage strip for high relief coins. Also, the unique electrical properties and density of this cupronickel laminate ("sandwich") make it very difficult to counterfeit or slug.

Many materials—including several copper alloys, titanium, and other clad combinations—were tested to determine the most suitable composition for the new coin. The results of the studies indicate that the best overall material is a 75 percent copper/25 percent nickel alloy clad on a 100 percent copper core.

Further, to prevent the slugging of the new coin by reducing the diameter of the current half-dollar, the thickness of the cupronickel outer layers would be increased. The clad layers would constitute 50 percent of the total thickness of the coin as compared to one-third in our current cupronickel clad on copper coins.

Except for the thickness of the cupronickel cladding for the new smaller dollar coin, this laminate is the same material now being used in all of our coin denominations other than the five cent and one cent coins.

#### ECONOMIC CONSIDERATIONS

*Cost Savings.*—If the proposed dollar coin is accepted by the general public, it could result in considerable savings both for our Government and the economy as a whole. The current \$1 coin costs about 8 cents each to produce as compared to the cost for the new coin which will be 3 cents each. This is a savings of greater than 60 percent per coin compared to the existing coin. Based on the budgeted production for Fiscal Year 1978 the new coin would save \$4.5 million per year. With increased production generated by successful circulation, the savings would multiply.

The increase in demand for one dollar notes will soon necessitate additional facilities for the Bureau of Engraving and Printing. The one dollar note now represents 60 percent of currency production. A practical \$1 coin which circulates would primarily displace \$1 notes and 25 cent coins. To the extent that it displaces \$1 notes, the required facility expansion for the Bureau of Engraving and Printing, which would cost an estimated \$100 million, could be deferred for decades.

One dollar notes wear out in circulation and must be replaced in approximately 18 months at a cost of 1.8 cents each. Since each coin will last at least 15 years, the coin has, at a minimum, a tenfold service life advantage. Considering the cost of the coin compared to the note, each coin would save over 80 percent of the production costs for the notes displaced.



Significant cost savings would also result for the Federal Reserve System. As Governor Philip E. Coldwell of the Federal Reserve Board testified before the House Subcommittee on Historical Preservation and Coinage on the small dollar proposal in May of this year:

"The Federal Reserve spent \$48 million for the printing of the new currency in fiscal year 1977. Of that \$48 million, \$28 million was spent to print nearly 2 billion one dollar notes. Thus, if all these dollar notes were replaced by coins, the Federal Reserve would realize savings of \$28 million in printing costs.

"Most new one dollar notes are used to replace worn out notes. On the average, a new dollar note only lasts for 18 months before it is worn out and destroyed. On the other hand, the new dollar coin is expected to last for 15 years or more, a greater life expectancy by a factor of ten. Thus, while it costs \$28 million annually to maintain a circulation pool of 2.4 billion one dollar notes, replacing each note every 18 months, it would only cost \$5 million annually to maintain the same size pool of dollar coins—a savings to the Government of \$23 million each year. If coins only replaced half the dollar notes, the savings in production costs would still amount to \$11 million.

"\* \* \* the Federal Reserve would also realize savings in lower handling costs for the coin, compared to the costs of handling notes. Our staff estimates the cost for processing 1,000 new coins at \$0.51 compared to \$2.19 for processing 1,000 notes, including destruction costs. Thus, if dollar coins replaced half the dollar notes, and if each coin were processed one time per year, the Federal Reserve would have an additional \$2 million, annually, in currency processing costs."

*Inflationary Impact.*—In examining the potential economic impact of the proposal, the Department has also considered whether issuance of the new dollar coin would have any inflationary effect. Federal Reserve Governor Coldwell in response to a question before the House Subcommittee, stated that he did not think the new coin would present any inflationary problems. The Department agrees with that assessment. We suggest that the increased use of higher value coins in this and other developed countries is the consequence rather than the cause of the general inflationary trend. As the purchasing power of the lowest denomination note declines, the highest value coin becomes a far more necessary component of a Nation's coinage and currency system.

Also, while the new coin would enable the automated merchandising industry to offer a whole range of items not now available in vending machines, the pricing structure would still be governed by market forces. It thus seems reasonable to assume that any automatically vended item priced excessively high would be rejected by the consumer.

#### DISTRIBUTION OF COINS

*Production.*—At such time as the legislation is approved by the Congress, the Mint would immediately start the contracting process for the necessary coinage strip. This would take approximately three months; at that point, we would start the actual production of the coins. Were the recommended design adopted, approximately two months would be required for the Mint to complete the fabrication of dies and the procurement of the production tooling necessary for the new coin, during which time the coinage strip would also be procured.

Our plan is to undertake production at an accelerated rate, producing 500 million pieces of the new coin in six months prior to their release to the public. Such a large inventory of coins prior to initial distribution would assure an equitable and adequate supply of coins throughout the Nation.

*Circulating efforts.*—A task force composed of Treasury and Federal Reserve officials is examining the various ways which would stimulate general acceptance of the new coin. The objective of the task force is to develop recommendations for the effective circulation of the new coin which would, in turn, result in a corresponding reduction in the volume of Federal Reserve notes needed for circulation. In this effort, the Department will certainly need the cooperation of large retail firms, commercial banks, and the general public.

The task force is studying those banks and retail industries which handle significant quantities of coins and currency to identify the advantages of using the new coin. A leading fast food merchandiser estimates that two to three seconds can be saved per retail transaction if the coin is used instead of the dollar note.



Studies indicate that the greatest difficulty in effectively circulating the new coin will be the required change in habits of retail clerks and bank tellers. An educational program aimed at retailers and banks will be required to overcome this important source of anticipated resistance to the new coin. The support of major retailers and banks will be crucial in this effort.

Only after clear success has been achieved in circulating the new coin could programmed reduction of one dollar bill production be considered.

*Design.*—This takes us to design of the proposed coin, which, Mr. Chairman, has been the center of considerable public attention during the past several months. The Administration has recommended a modern stylized female Liberty head design for the new coin. This historical design appeared on the first U.S. coin minted in 1793 and appeared in various forms on almost all the denominations of our coins through modern times. The female Liberty head is symbolic of and honors all women rather than any particular individuals. It is accompanied by a Phrygian cap, which has been a symbol of freedom for over the past 2,500 years and has repeatedly appeared on our coins.

We believe that it would be most appropriate that the historic Liberty head design once again return to an American coin. However, we fully recognize that many distinguished American men and women have made substantial contributions to our country which are worthy of recognition. Susan B. Anthony, whose likeness would be placed on the new coin under S. 3036 is certainly among them. As a matter of fact, there have been over a 100 different candidates suggested by the general public to the Department for the new coin design, and a number of bills have been introduced in Congress to mandate the portrait of such outstanding Americans as Harriet Tubman, Abigail Adams, Georgia Gray and Elizabeth Pole for the new coin. With your permission, Mr. Chairman, I would like to submit lists of suggested candidates for the record.

If the Congress desires to select a different design for the coin, be it Susan B. Anthony or any other that of course is its prerogative. While we continue to believe that the Liberty design should be depicted on the coin, the Treasury Department will defer that decision to the Congress. Essential, in our view, is that the new dollar coin be authorized without undue delay so that we may proceed expeditiously with the production and issuance of the new coin.

This concludes my statement, Mr. Chairman. I will be pleased to answer any questions you may have.



Research Triangle Institute  
Center for Development and Resource Planning  
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RTI Project 26U-1133

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A COMPREHENSIVE REVIEW OF U.S. COINAGE SYSTEM  
REQUIREMENTS TO 1990

SUMMARY

Prepared for  
U.S. Department of the Treasury  
Bureau of the Mint  
Washington, D.C. 20220  
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The opinions, findings, and conclusions expressed in this document are those of Research Triangle Institute and do not necessarily represent official positions or policies of the U.S. Department of the Treasury.



## PREFACE

This report was prepared by Research Triangle Institute (RTI) to document the results of a study entitled, "A Comprehensive Review of U.S. Coinage System Requirements to 1990," conducted for the Bureau of the Mint under Contract Number TM75-1059. The research is intended to improve the information available to the Bureau of the Mint for its continuing planning efforts. The purpose of the study was to review and recommend changes in Mint facilities and in coin forecasting, production planning, and distribution systems--both for the present U.S. coins and for alternatives. The impacts of various alternatives on public and private interests were also assessed to develop a recommended coinage system to 1990.

This document is a summary of A Comprehensive Review of U.S. Coinage System Requirements to 1990, the final report of the research conducted by Research Triangle Institute which is presented in two volumes:

Volume I, Current Denomination and Alloys

Volume II, Coinage System Alternatives

Volume I focuses upon Phase I of the research: the U.S. coinage system requirements; assuming the present coin denominations, alloys, and configurations remain unchanged through 1990. It contains an assessment of alternative forecast methodologies and presents reliable techniques for projecting long-term and short-term coin requirements. In addition the capacity and capabilities of the U.S. Mint production, distribution, and inventory system are analyzed, and mathematical models for simplifying the aggregate planning and production scheduling functions are presented, along with initial implementation results.

Volume II contains the analysis and findings of the Phase II research which focused upon the impacts of alternatives to the present U.S. coin system. The results are presented for: (1) extensive surveys of public and private interests, (2) analysis of metallurgical and economic characteristics of alternative coinage materials, and (3) estimates of the cost and performance impacts of alternative coin denominations, materials, and configurations. As a culmination of the Phase II research, recommendations for changes in the U.S. coinage system to 1990 are presented.



## ACKNOWLEDGMENTS

Valuable, thorough, and constant professional guidance was provided throughout the course of the study by the project manager for the Department of the Treasury, Mr. John M. Buck. The cooperation and assistance of Mrs. Mary T. Brooks, Director of the Mint, and Mr. Frank H. MacDonald, Deputy Director of the Mint, have also been vital to the success of this project.

The members of the Mint Study Advisory Group made valuable contributions to the overall design of the study and also aided in reviewing and revising the report. Individually, the members also generously provided their time and expertise during the analysis phase of the study. A Coinage Study Panel, consisting of representatives of primary coinage manufacturing, distribution, and user groups, provided valuable assistance in defining alternatives and evaluation criteria.

The following consultants to RTI provided expert assistance during the study: Dr. Hans H. Stadelmaier, in the survey of metallurgical properties of candidate materials, and Dr. John A. Bailey in the assessment of the technological impacts of candidate materials.

At Research Triangle Institute, David H. Stuart had responsibility for overall management of the study and also served as the Principal Investigator. The remainder of the study analysis team consisted of Mr. Philip C. Cooley, Mr. Raymond L. Collins, Ms. M. Anne Hill, and Mr. Stephen A. Johnston. The following persons at RTI also provided valuable assistance in the study design, data collection, and report preparation activities: Ms. Vivian Adkins, Ms. Juanita Daber, Ms. Polly Jackson, Ms. Hazel Jolley, Mr. Barrett Joyner, Ms. Janet Ries, and Ms. Cindy Whitaker.



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## INTRODUCTION AND SUMMARY OF CONCLUSIONS

The Bureau of the Mint manufactures, stores, and distributes the six denominations of U.S. coins to the Federal Reserve System. Unanticipated coin demand and volatile raw material prices in recent years have raised questions concerning the adequacy of the Mint's manufacturing capacity, and the high costs of providing coinage for commerce in the future.

As part of its continuing planning efforts, the Bureau of the Mint contracted Research Triangle Institute (Contract Number TM 75-1059) in May 1975 to conduct a comprehensive analysis of U.S. coinage requirements to 1990. The purpose of the study was to review and recommend changes in Mint facilities and in coin forecasting, production planning, and distribution systems--both for the present U.S. coins and for possible alternatives.

The impacts of various alternatives on public and private interests were assessed to develop coinage system recommendations to 1990.

A. Objectives

The specific objectives of the research were to:

- . Develop reliable forecasting methodologies for projecting long-term and short-term coin requirements;
- . Assess the capacity and capabilities of the U.S. Mint's production, distribution, and inventory systems;
- . Evaluate the future availability, projected price, and metallurgical characteristics of alternative coinage materials;



- . Estimate the cost and performance impacts of alternative coin denominations, materials, and configuration;
- . Select the alternative representing the set of coin denominations, configurations, and materials which is the best compromise coinage system; and
- . Recommend facility, operational, and management changes for implementing the recommended coinage system.

#### B. Approach

The research was conducted in two phases. Phase I focused upon the U.S. coinage system requirements; assuming the present coin denomination, alloys, and configurations remained unchanged through 1990. The Phase II research dealt with the impacts of alternatives to the present U.S. coinage system on public and private sector interests. A wide range of tasks was performed to fulfill the project objectives. The RTI research team:

- . Reviewed and evaluated present forecasting methods for their accuracy, timeliness, and efficiency of computation. The economic, demographic, and temporal factors underlying the demand for coins were analyzed to formulate improved forecasting models and to generate long-term and short-term projections of coin demand.
- . Gathered data through site visits and existing Mint reports to assess Mint capacity and capabilities. Mathematical models were designed and used to develop recommendations for an optimum coinage production, delivery, and inventory system.
- . Reviewed recent economic and engineering literature and data to assess the supply, demand, and metallurgical characteristics of alternative coinage materials.



- Evaluated the relative merits of alternative materials on the basis of results of coin production experiments performed by the Bureau of the Mint.
- Conducted more than 800 personal, telephone, and mail interviews with representatives of key public and private groups. The responses were used to ascertain the preferences of those groups of coin users and to estimate the cost impacts of coinage changes.
- Requested representatives of primary interest groups to identify relevant criteria for evaluating alternatives to the present coinage system, and to rank them in order of their importance.
- Compared the costs and impacts of each alternative to identify the most advantageous coinage system, and outlined recommendations for implementing changes.

C. Summary of Primary Conclusions and Recommendations

CHANGE IN THE PRESENT U.S. COINAGE SYSTEM IS INEVITABLE. Producing all the coins that would be required by 1990 would call for unacceptable resource and cost burdens relative to the benefits gained. The problems with existing coinage are:

- a. The disproportionate requirement for one-cent coins, which are becoming increasingly costly to manufacture and circulate, and less useful in commerce;
- b. The failure of half-dollar and one dollar coins to circulate readily.

RTI RECOMMENDS THAT CENT PRODUCTION BE TERMINATED BY 1980. This option is both less costly and generally more acceptable to user groups than any of the alternative solutions to the penny dilemma which RTI examined. Discontinuing production of the cent coin will be less costly than increasing



Mint capacity to meet an artificially high demand due to attrition caused by the cent's declining purchasing power. Ceasing cent production in the near future will permit the Mint to reduce its operating costs, as well as to avoid the expense of constructing new capacity. Deferring the decision to halt penny production will necessitate a costly expansion of manufacturing capacity to be followed -- when the decision is finally made -- by a large-scale and more disruptive cutback than would occur now.

RTI RECOMMENDS THAT THE GOVERNMENT REDUCE THE SIZE OF THE DOLLAR COIN AND ELIMINATE THE HALF-DOLLAR COIN. The half-dollar circulates very little; the dollar does not circulate at all. This lack of circulation is largely due to the cumbersome size of the two coins. Since room exists for only one usable coin sized larger than a quarter, RTI recommends that the dollar, rather than the half-dollar, be chosen as the denomination for this additional coin. A conveniently-sized dollar coin would significantly broaden the capabilities of consumers for cash transactions, especially with machines. Members of the automatic merchandising industry have expressed a strong interest in a smaller dollar, indicating their willingness to adapt their machinery to its use. There was no such interest expressed in a small half-dollar, for which there is already a handy substitute -- two quarters.

These primary conclusions and recommendations are based on the following findings.

#### Findings for Phase I: Analysis of the Current Coinage System

##### FORECASTS OF COIN REQUIREMENTS TO 1990

- . Total annual coin requirements are projected at 41 billion coins by 1990.
- . Cent demand is projected to reach 37 billion coins by 1990-- 90 percent of the total coin requirement.



- The share of cents produced as replacements for those lost by attrition will increase from 68 percent of the production in 1973 to over 80 percent of the production in 1990.
- Cents may provide an economical source of copper for limited industrial consumption by 1990 if copper prices exceed \$1.50 per pound.

#### MANUFACTURING REQUIREMENTS

- Coin requirements will exceed present manufacturing capacity by 1980 and will be more than double present capacity by 1990.
- A linear programming model which RTI developed will simplify the allocation of production.

#### FUTURE COSTS OF THE COPPER CENT

- By 1982 the manufacturing cost of copper cents will exceed their face value.
- Hidden expenses for processing, handling, and storing cents raise the cost of cent coins to the public.
- The total cost for each penny manufactured in 1975 was .86¢ and is projected to increase to 1.84¢ per coin by 1990.
- By 1990 the cost of each net addition to the stock of cent coins in circulation will be more than 10¢; only two pennies out of ten manufactured will serve to increase the actual number of cents in circulation.



## THE HALF-DOLLAR AND ONE DOLLAR COINS

- Present commercial utilization is poor for half-dollar and nonexistent for dollar coins due to their cumbersome size and the ready availability of convenient substitutes.

## Findings for Phase II: Coinage System Alternatives

### IMPACTS OF ELIMINATING THE CENT

- Elimination of the cent would reduce coin manufacturing requirements by more than 60 percent.
- If the cent is eliminated, current mint capacity will be sufficient to the 21st century.
- The majority of public and private organizations surveyed oppose eliminating the cent. Approximately 90 percent of the State Departments of Revenue and 80 percent of the retail firms and commercial banks surveyed oppose elimination of the cent, because it is believed necessary for commercial transactions.
- The most commonly perceived impact of eliminating the cent coin is that it will be inflationary.

### ALTERNATIVES TO ELIMINATING THE CENT

- An aluminum cent or a two cent coin are primary alternatives to eliminating the copper penny.
- Cost savings and protection from copper hoarding are the primary advantages to the Department of the Treasury of changing the composition of the cent to aluminum.



- . The addition of a two cent coin to the present denominations will reduce the requirements for one cent coins.

#### THE ONE DOLLAR COIN

- . A dollar coin made of the same material but slightly larger than the quarter would be most successful in automatic merchandising.
- . Survey respondents in business and banking exhibited little enthusiasm for the smaller dollar.
- . Initial success of the new dollar coin in circulation will depend heavily on the extent of commitment by the automatic merchandising industry.
- . A circulating dollar coin may provide a cost saving to the public.





## PHASE I: CURRENT DENOMINATIONS AND ALLOYS

The Phase I research, assuming the current denominations and alloys remain unchanged to 1990, included an assessment of alternative forecast methodologies and development of techniques for projecting long-term and short-term coin requirements. In addition the capacity and capabilities of the U.S. Mint production, distribution, and inventory system were analyzed; and mathematical models for simplifying the aggregate planning and production scheduling functions were developed and implemented to determine cost effective changes.

### A. Coin Forecasts to 1990

Long-range and short-range forecasts of coinage requirements are critical elements for effective planning and administration of Mint operations. The long-range forecasts are necessary to plan for timely capacity expansion, aggregate production changes, and budgeting; short-range forecasts are necessary for production scheduling, inventory, and distribution decisions.

Recognizing the importance of forecasts to the administration of the coinage system, RTI reviewed the forecasting methods used by the U.S. Mint and Federal Reserve and by the responsible agencies of other major countries. The alternative methods were evaluated with respect to their accuracy, reliability, timeliness, and efficiency of computation. Various specifications of forecasting models and alternative approaches to forecasting were developed to improve the existing systems and to generate forecasts of the long- and short-range demand for coins.



#### Data Base

The coin data selected as the analysis base for long-term projections were the data for total net payout, by denomination, for each year from FY 1954 through FY 1975. Historical data on the actual demand for coins to satisfy transaction, numismatic, speculative, and replacement needs were not available, so the net payout of coins by Federal Reserve Banks was substituted in the analysis as the best available proxy for coinage demand.<sup>1/</sup> Net payout accurately reflects the demand for coins by commercial banks and their customers during those periods before a coin shortage exists or after recovery from a shortage, but it is a biased estimator of demand during periods of coin shortages.

In the long-run, however, even with this shortcoming the net payout of Federal Reserve Banks is an acceptable proxy for coin demand. Historically, unintentional coin shortages have occurred relatively infrequently and the short-term aberrations were generally corrected. Thus long-term trends in demand are preserved in the net payout data.

#### Demand Components

Total annual coin requirements consist of the number of coins, by denomination, which should be added to the circulating pool each year in order to completely satisfy the multiple purposes of coins. Components of annual demand are transactions demand, numismatic demand, speculative demand, and replacement demand.

The annual transactions demand is the additional number of coins required annually to facilitate commercial transactions. This demand increases as retail business activity expands, as additional cash registers and vending machines are installed, as population growth expands the personal inventory of coins for individual transactions, and as the proportion of transactions involving coins increases.

Total retail sales were examined as a variable which partially reflects annual commercial transactions activity. Annual data are available for total U.S. retail sales, and also for annual estimates of U.S. population and for total sales through automatic merchandising. However, no

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<sup>1/</sup>Net payout data were calculated from U.S. Bureau of the Mint form 9000 as total payments by Federal Reserve Banks to member banks and others minus total receipts from member banks and others.



definitive measure of the annual levels of person-to-person transactions involving coins was found. Various proxy measures, such as the consumer price index, total personal income, per capita personal income, and others were analyzed with mixed results.

Numismatic demand consists of the number of coins withdrawn from circulation annually due to their perceived value to coin collectors. Uniqueness, relative scarcity, and face value of coins contribute to numismatic demand, and although this component of total demand was not examined directly, it was analyzed indirectly through its effect on total coin demand.

The present or anticipated value of the metals in a coin creates a speculative demand which may lead to hoarding. When the expected returns from selling the metals in a coin for its best alternative use exceeds the cost (and concurrent risks) of collecting and processing the coin, such coins will be withdrawn from circulation for speculative purposes. This phenomenon occurred with the withdrawal of silver based coins during the mid 1960's and is believed to have occurred with cents when the price of copper rose rapidly during 1973.

Speculative demand is confounded with numismatic demand, because speculative demand creates a relative scarcity of specific coins which in turn increases the numismatic demand for those coins. Speculative demand, when it occurs, may be a dominant component of total demand. Thus, the likelihood of its occurrence must be considered in any long-range forecast used for strategic planning by the Bureau of the Mint.

Replacement demand is the residual demand for coins to replace those withdrawn from circulation for other than speculative or numismatic reasons. Commonly perceived factors associated with replacement demand are coins being lost, thrown away, or accumulated in boxes and jars and never retrieved. It is a residual demand in that withdrawals not otherwise identified fall into the category of replacement demand.

#### Association Between Coin Demand and Economic Activity

The association between coin net payout and selected measures of economic activity and population were analyzed for the FY 1954 - FY 1975



time period for each denomination except the dollar. The coefficients of correlation between coin demand and several economic variables, shown in Table 1, demonstrate the high degree of association existing between measures of the level of economic activity, cent demand, and time. Correlations with eight other measures of economic activity, including indexes of manufacturing production, consumers goods production, wholesale prices, and Treasury bill yields, produced coefficients ranging between .785 and .990.

Table 1

Coefficients of Correlation Between Cent Net Payout,  
Selected Measures of Economic Activity, and Time:  
Quarterly Data, FY 1954 - FY 1975 1/

	CNP	GNP	PCPE	RS	CPI	T <sup>2/</sup>
Cent Net Payout (CNP)	1.000	.877	.877	.935	.910	.874
Gross National Product (GNP)		1.000	.997	.957	.916	.985
Per Capita Consumption Expenditures (PCPE)			1.000	.964	.927	.978
Total Retail Sales (RS)				1.000	.981	.945
Consumer Price Index (CPI)					1.000	.917
Time (T)						1.000

1/ The correlation coefficient is a statistical measure of the degree of association between two variables. Its value ranges from 0, when no association exists, to 1, when a perfect correspondence exists between the values of two variables.

2/ Time is an index of successive quarters of fiscal years. T=0 for July-September, 1954.

The correlation coefficients showed strong associations between the measures of economic activity and cent demand, but relatively weak associations between those variables and the requirements for other coin denominations. The coefficients for cents ranged from .829 for its association with the interest rate on 3-month Treasury bills to .935 for its association with total retail sales for the corresponding quarter of



the year. For the other denominations, the highest correlations were exhibited between nickels and time (.404) and between half-dollars and real gross national product (.698). However, none of the correlation coefficients for the association between denominations other than cents and the measures of economic activity was higher than .7.<sup>1/</sup>

Multiple regression analysis was utilized to determine the mathematical equation which best described the association existing between coin net payout and the measures of economic activity or time. Since the demand for cents is expected to constitute the major component of future coinage requirements as long as the existing coinage system remains unchanged, the regression analysis focused on cent demand.

The annual net payout for cents for FY 1954 through FY 1975 was regressed against measures of economic activity described above. Each regression equation was statistically significant and explained more than 70 percent of the total variation in net payout. However, two relationships were of particular interest. These were:

$$(a) \text{ CNP} = -2,756 + .0202 [\text{RS}]$$

$$(b) \text{ CNP} = -7,475 + 107.22 [\text{CPI}]$$

where,

CNP = annual cent net payout

RS = U.S. total retail sales, in millions of dollars

CPI = consumer price index, all items, 1967 = 100.

Equations a and b explained, respectively, 95 percent and 97 percent of the total variation in cent net payout from FY 1954 through FY 1975.

The variables of interest and the degree to which they explained the variation among years in cent net payout were total dollar value of retail sales, with  $R^2 = .95$ , and the consumer price index, with  $R^2 = .97$ .

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<sup>1/</sup>The relatively low correlation coefficients for denominations other than cents were partially attributable to the effects of other factors on coin demand; primarily the effects of the silver withdrawal program and the introduction of cupronickel clad coinage during the mid 1960's.



Significantly, a measure of price levels or the rate of inflation was a better predictor of cent demand than any other measure of economic activity analyzed. This may be interpreted as confirming that the demand for cents is derived from other factors in addition to their utility in commercial transactions. That is, when the purchase power of the cent declines, artificial demand is generated by its nuisance quality which induces casual or deliberate cent consumption; i.e., persons lose, throw away, or store cents without concern for their financial loss.

If retail sales and the consumer price index continue to increase at their historical growth rates, and their relationships to cent payout remain unchanged, the future cent requirements will be those shown in Table 2. Projections of the two economic series yield similar estimates of requirements for 1980 (16 to 17 billion coins) but diverge rapidly in subsequent years due to the greater estimated growth rate for total retail sales.

Table 2  
Alternative Projections of Cent Requirements  
(millions of coins)

Year	Forecast Series	
	Retail Sales <sup>1/</sup>	CPI <sup>2/</sup>
1980	17,048	16,170
1985	30,463	24,155
1990	52,969	34,770

<sup>1/</sup> Assumes 10.9% annual growth rate in total retail sales.

<sup>2/</sup> Assumes 6% annual growth rate in the consumer price index.

Projections of future requirements for coins, based on levels of economic or commercial activities that are considered to be determinants of the coin requirements, are inherently more satisfactory than projecting coin requirements based upon time alone. However, future levels of economic activity are not known, so coin projections based on economic



variables are subject to an additional source of error. The projections of coin demand would depend upon the reliability of the estimate of the value of an economic variable as well as the accuracy of the model specification.

#### Trend Projections

After consideration of a broad spectrum of econometric and trend models, the trend extrapolation approach was adopted as the basis for long term coin forecasts. Particularly important factors in RTI's selection of the trend projection approach were:

- 1) The statistical fits of econometric models were not superior to those of trend models,
- 2) Uncertainty about future economic conditions,
- 3) Uncertainty about the specification of the "correct" econometric model.

A trend is a proxy for the combined influences of the underlying factors which affect demand. The trend analysis conducted during this study consisted of a regression analysis of the levels of coin net payout over time. The value of such analysis is multifold. First, many processes are well-behaved over time; second, future values of time are always known with certainty--as contrasted with economic variables whose future values are unknown; third, time serves well as a proxy variable for the individual or combined influences of other variables. This was shown in Table 1 by the correlation coefficients between time and quarterly measures of economic activity.

Regression equations were calculated for several alternative specifications of the relationship between time and coin net payout from FY 1954 through FY 1975. Figure 1 illustrates the relationship between actual net payout of cents during the period and quadratic and exponential trend equations which best fit the net payout data. The quadratic and exponential equations and a cubic equation not shown described the historical demand almost equally as well statistically; accounting for 96, 96, and 95 percent of the variation in annual net payout respectively.

Regression analysis of trends for each of the other denominations produced interesting results. For nickels, dimes, and quarters, the linear trend equation was superior to the equation in which time was specified as either of the higher degree polynomials. For nickels, the linear, quadratic, and exponential equations explained 87, 78, and 68 percent of the variation in annual net payout. Similarly, the linear, quadratic, and exponential trend equations for dimes explained 90, 86, and 86 percent



Figure 1 Actual and Estimated Annual Net Payout of Pennies:  
FY 1954 - FY 1975

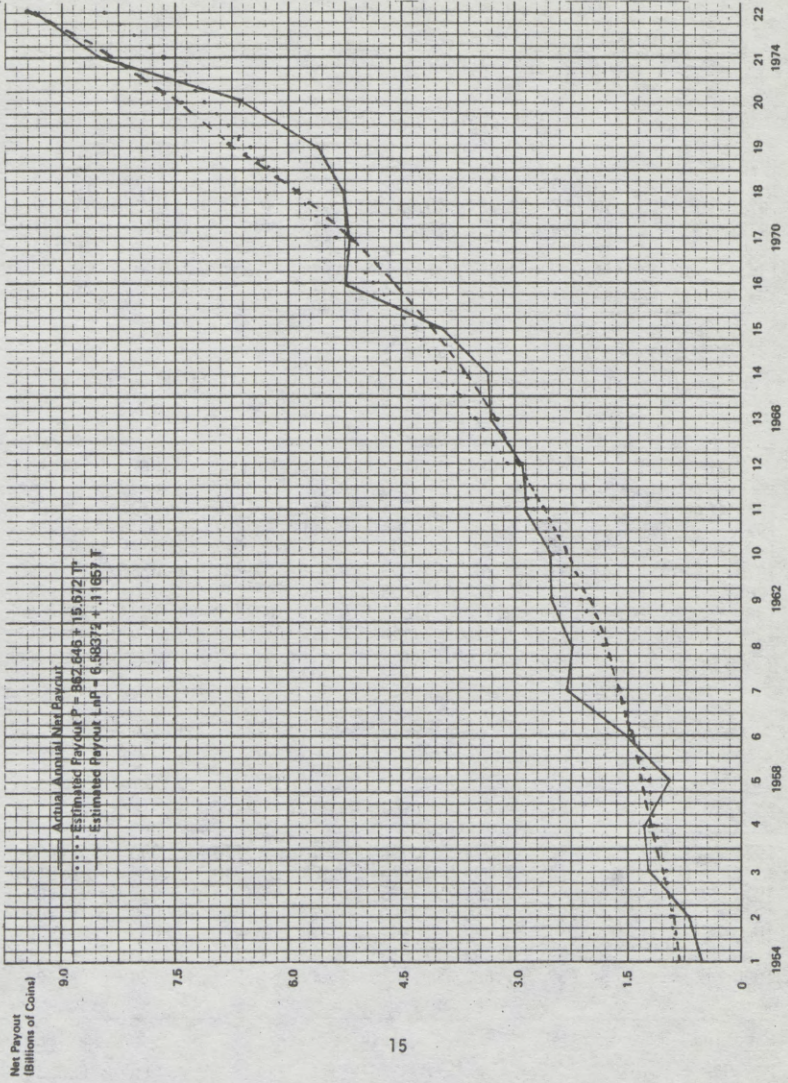




Table 3

Baseline Projections of Annual Coin Requirements by Denomination  
(in billions of coins)

Year	Cent	Nickel	Dime	Quarter	Half	Dollar	Total
1975 (Actual)	9.422	.549	.785	.484	.176	.050	11.466
1977	9.889	0.700	0.954	0.589	0.217	0.068	12.417
1978	10.657	0.727	0.991	0.615	0.227	0.072	13.289
1979	11.456	0.753	1.029	0.640	0.237	0.076	14.191
1980	12.287	0.780	1.066	0.666	0.248	0.080	15.127
1985	16.910	0.912	1.254	0.795	0.298	0.100	20.269
1990	22.317	1.045	1.442	0.923	0.349	0.120	26.196

Table 4

Intermediate Projections of Annual Coin Requirements by Denomination  
(in billions of coins)

Year	Cent	Nickel	Dime	Quarter	Half	Dollar	Total
1975 (Actual)	9.422	.549	.785	.484	.176	.050	11.466
1977	11.427	0.700	0.954	0.589	0.217	0.068	13.955
1978	12.706	0.727	0.991	0.615	0.227	0.072	15.338
1979	14.091	0.753	1.029	0.640	0.237	0.076	16.826
1980	15.587	0.780	1.066	0.666	0.248	0.080	18.427
1985	24.877	0.912	1.254	0.795	0.298	0.100	28.236
1990	37.576	1.045	1.442	0.923	0.349	0.120	41.455

Table 5

Ceiling Projections of Annual Coin Requirements by Denomination  
(in billions of coins)

Year	Cent	Nickel	Dime	Quarter	Half	Dollar	Total
1975 (Actual)	9.422	.549	.785	.484	.176	.050	11.466
1977	11.874	0.809	1.210	0.826	0.248	0.068	15.035
1978	13.342	0.863	1.326	0.932	0.268	0.072	16.803
1979	14.992	0.919	1.453	1.053	0.289	0.076	18.782
1980	16.847	0.978	1.593	1.189	0.311	0.080	20.998
1985	30.179	1.302	2.518	2.182	0.432	0.100	36.713
1990	54.063	1.682	3.981	4.006	0.573	0.120	64.425

Baseline

$$\begin{aligned}
 P &= 862 + 15.672T^2 \\
 N &= 61.9 + 26.6T \\
 D &= 55.0 + 37.45T \\
 Q &= -29.7 + 25.75T \\
 H &= -25.3 + 10.1T \\
 \$ &= -28 + 4T
 \end{aligned}$$

Intermediate

$$\begin{aligned}
 P &= 1612 + 0.71T^3 \\
 N &= 61.9 + 26.6T \\
 D &= 55.0 + 37.45T \\
 Q &= -29.7 + 25.75T \\
 H &= -25.3 + 10.1T \\
 \$ &= -28 + 4T
 \end{aligned}$$

Maximum

$$\begin{aligned}
 \text{Ln}P &= 6.5837 + .1166T \\
 N &= 175.8 + 1.1T^2 \\
 \text{Ln}D &= 4.9 + .0916T \\
 \text{Ln}Q &= 3.8 + 1215T \\
 H &= 12.2 + .41T^2 \\
 \$ &= -28 + 4T
 \end{aligned}$$



of the variation in net payout. Equations for quarter demand yielded similar results.<sup>1/</sup>

The values listed in Tables 3 through 5 encompass the range of coin demand projections generated by the alternative trend equations. They constitute the baseline, intermediate, and ceiling projections of annual coin requirements to 1990.

The baseline projection, shown in Table 3, is the most conservative estimate of the future trend in coin requirement, setting a lower limit on projected coin demand to the year 1990. Although demand is forecast to increase annually, the underlying assumption for the baseline forecast is that the rate of growth will decline gradually. In the context of facility planning, Mint production capacity should always exceed the baseline projection of coin requirements.

The trend equations for each denomination except cents is assumed to be linear for the baseline projections, while a quadratic equation reflects the projected trend for cents. Accordingly, total coin requirements are projected to increase from 11.5 billion coins in 1975 to 26.2 billion coins in 1990 of which 85 percent are projected to be cents.

The intermediate projection of annual coin requirements by denomination shown in Table 4 differs from the baseline projection in that the trend for cent requirement is estimated by a cubic equation rather than a quadratic. Based on the intermediate projection, cent requirements are estimated to increase by 300 percent from 1975 to 1990, when they would constitute 91 percent of the 41.5 billion total coin requirement.

The ceiling projection shown in Table 5 provides the maximum reasonable estimate of coin requirements based upon trend. The ceiling projection shows an increase in total coin requirements from 11.4 billion coins in 1975 to 64.4 billion in 1990, of which 54.1 billion coins are cents. Based on the regression equation statistics, the ceiling projection equations for coin requirements produced only a marginal decline in statistical significance from those of the baseline trend equations.

<sup>1/</sup>Data for nickels, dimes, quarters, and half dollars were adjusted to compensate for the effects of the silver withdrawal - cupronickel introduction period. Conversely, cent data were analyzed both excluding and including data for the 1974-1975 cent shortage period; and projections were based on data including the period, because the differences were relatively insignificant and exclusion was not fully justifiable.



This marginal difference was not sufficient to rule out the ceiling estimates as viable projections of the trend in coin requirements to 1990.

The primary assumption underlying the ceiling projections of coin requirements is that the annual demand will increase at a constant rate over time: 11.7 percent per year for cents, 9.2 percent per year for dimes, and 12.2 percent per year for quarters. With these growth rates, the annual cent demand will increase by 474 percent from 1975 to 1990.

The intermediate projections of coin requirements are recommended as the basis for facility planning purposes, because it is a compromise between the two extreme trend projections whose estimator equations possess statistics of similar excellence. It is not recommended on the basis of greater economic rationalization or superior statistical excellence. Facility planning based on the ceiling projections would dictate an accelerated rate of capacity expansion which would have the greatest likelihood of producing excess capacity. This is costly, because it dictates premature capital expenditures for plant and equipment. Planning based on the baseline projections would minimize the likelihood of planning for excessive production capacity. However, it maximizes the likelihood of underestimating actual coin requirements, producing coin shortages and inefficient utilization of resources due to the unavailability of necessary capacity. The recent experiences of the Mint have entailed operating in this planning environment.<sup>1/</sup>

The trend models described above must be used cautiously. Trend models of different mathematical form may fit the historical data equally well when a limited number of data points are analyzed, but the models can lead to rapidly diverging forecasts of future demand, as the baseline and ceiling projections of cent requirements illustrate. Thus the trend models lose validity as the planning horizon is extended into the future, because the combinations of factors or relationships which underlie the demand for coins in the future may change from those which influence the

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<sup>1/</sup>The projections of coin demand for 1985 which were made in 1962 and the projections for 1980 which were made in 1967 were both reached by 1975.



demand in the past. Nevertheless, the demand for cents was highly correlated with predictive variables such as time, consumer price index, total retail sales, and other measures of economic activity; so trend was the primary basis for the forecasts to 1990 since its future values are known.

#### Other Forecast Considerations

Future requirements for nickels, dimes, and quarters will depend primarily on the number of annual cash transactions in commercial activity. Requirements for half dollar and dollar coins will be primarily dependent upon numismatic demand; cent requirements will be dictated by annual cent attrition caused by the unique function of this denomination in commercial transactions and the public's perception of its utility.

Compared to cent demand, future requirements for all other coin denominations are relatively predictable. However, uncertain future cent requirements will constitute no less than two-thirds of annual coin demand. Two factors add to the uncertainty about future cent requirements; the future attrition rate of the stock of coin in circulation, and the possibility that the price of copper will rise to a level which will induce cent hoarding for its copper content.

Coins are collected, defaced or mutilated, melted down, stored in long-term inventory, incidentally or intentionally set aside in jars and boxes, and otherwise withdrawn from the stock of coin in circulation. Estimates of the rate of withdrawal from the circulating pool were calculated from the age distribution of coins in Sears Roebuck Company cash registers in November, 1973.<sup>1/</sup> By descending order of loss rates, the annual attrition to the circulating pool was calculated by RTI as follows:

<u>Denomination</u>	<u>Annual Attrition Rate</u>
Half Dollar	22.7%
Cents	13.0
Nickel	7.1
Dime	0
Quarter	0

<sup>1/</sup> One Cent Coinage: A Summary of the 1973 - 1974 Treasury - Federal Reserve Committee Studies, Department of the Treasury, October 1974, pp. 13-17.



Attrition estimates were not calculated for the dollar coin due to limited data, but the 22.7 percent attrition rate for half dollars accounted for the total annual requirements for that denomination. If that trend continues, the stock of half dollars in circulation will remain constant.

The 13.0 percent attrition rate of the cent has serious implications for future cent requirements, due to the absolute size of the circulating pool and the evidence of an increasing attrition rate. Cent attrition was estimated at 4.8 percent annually in 1963. The increasing attrition rate is symptomatic of the decreasing value of cents for commercial transactions. However, treatment of the cent is substantially different from that of the half dollar due to the difference in value. Businesses incur little cost in maintaining a liberal inventory of cents for completing cash exchanges. Because of their low value, the consumer has little incentive to carry around cent coins placing the burden of distribution on the retailer.

Assuming the attrition rate for cent coins continues to increase at a .5 percent rate per year, 21 percent of the circulating stock will be withdrawn annually by 1990. If the net payout follows the intermediate projection for cents, the circulating pool will increase from the 35 billion level at the end of 1973 to 116 billion in 1990. Significantly, the latter requirements of over 35 billion cents per year would add 6.5 billion cents to the circulating pool and contribute around 30 billion to replace annual attrition. If the attrition rate increases at a greater or lesser rate than projected, the annual cent requirements will increase or decrease accordingly.

The projected cent requirements increase significantly if copper prices rise to a level which induces cent hoarding, or the U.S. supply of industrial copper is artificially restricted. In either case, cent coins become an alternative source of copper for limited industrial use,

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<sup>1</sup>/ "Coin in Circulation," George R. Morrison, Consultant to the Office of Planning and Program Evaluation, Office of the Secretary of the Treasury, June, 1967.



leading to withdrawal of cents from circulation. Then the effective demand for copper cents is unbounded and net payout would be limited only by the Mint's capacity to produce and distribute cents. A shortage of freely circulating cents will become inevitable unless industrial and speculative cent hoarding is negated by effective economic or legislative deterrents.

Electrolytic copper, currently selling for approximately \$0.75 per pound, rose from an average price of \$0.60 per pound in 1973 to \$1.41 per pound in 1974 due to record usage levels, worldwide inflation, anticipated labor strikes, and other production difficulties. If copper price follows the long-term trend, it will average \$1.50 per pound by 1990 and the value of the metal in a cent will exceed its face value. However, given the volatility in copper prices, the 1990 price of copper could reach as high as \$2.40 per pound temporarily.

#### Short-Term Coin Requirements

Over a two-year planning horizon, the Mint's objective is to balance the utilization of production resources to meet the requirements for coins in a timely and efficient manner. With reliable forecasts of monthly and annual coin requirements by denomination for each Federal Reserve Bank and Branch, annual production rates and distribution assignments for each Mint can be established to minimize the total cost of coin production and distribution. Alternative forecasting methodologies were evaluated to develop projections of coin requirements to meet the needs for short-term production planning and recommendations for implementing a forecast system.

Through this evaluation, RTI found that for short-term projections of coin requirements trend models produced the most reliable estimates. The quarterly net payout data for each denomination were analyzed with respect to corresponding values for time, nondurable goods sales, the Consumer Price Index, and other potential estimators of short-term coin requirements. A regression analysis of the data from FY 1954 through FY 1975, excluding the silver withdrawal and cupronickel introduction



period, was performed and the results compared with those obtained from several exponential smoothing models. For each denomination except the half dollar, the regression forecast was superior.

The forecast should be in error by 20 percent of the actual value for cents and 30 percent of the actual value for nickels, dimes, and quarters, less than 35 percent of the time. Further improvement in the forecast for cents may be gained by adjusting for the serial correlation in demand evidenced over the 22 year period.

The total requirements will range from 2.3 billion to 3.8 billion coins per quarter through 1977. The estimates contained in Table 6 constitute the most reliable and timely projections of quarterly coin requirements through calendar year 1977 which the study team was able to develop. They are based upon the analysis of alternative short-term forecast methodologies, and an evaluation of alternative mathematical specifications of predictive models.

Table 6  
Forecasts of Quarterly Coin Requirements, by Denomination  
(in millions of coins)

Calendar Quarter	Cent		Nickel	Dime	Quarter	Half- Dollar	Dollar	Total
	(MIN)	(MAX)						
1976.2	2,100	2,106	220	371	256	49	15	3,017
1976.3	2,140	2,332	162	218	112	51	15	2,890
1976.4	2,324	2,645	201	292	260	52	15	3,465
1977.1	1,785	2,168	20	56	- 6	40	15	2,293
1977.2	2,285	2,734	222	382	266	52	15	3,672
1977.3	2,360	2,784	164	230	123	54	15	3,370
1977.4	2,470	2,921	203	304	270	54	15	3,767



Table 7  
Projected Dates for Attaining Coin Requirement Levels

Annual Coin Requirements (billion coins)	Earliest Date <u>1/</u>	Most Likely Date <u>2/</u>	Latest Date <u>3/</u>
18.7	1979	1980	1984
22	1981	1983	1987
25	1982	1984	1989
30	1984	1986	1990+
35	1985	1988	1990+
40	1986	1990	--

1/ From the baseline projection of coin requirements.

2/ From the intermediate projection of coin requirements.

3/ From the ceiling projection of coin requirements.

Table 8  
Production Capacity Requirements to the Year 1990  
 (in billions of coins)

Year	Estimated Coin Requirements <sup>1/</sup>	Additional Requirements <sup>2/</sup>	Total Capacity Requirements
1977	13.1	1.3	14.4
1978	15.3	1.5	16.8
1979	16.8	1.7	18.5
1980	18.4	1.9	20.3
1981	20.1	2.0	22.1
1982	22.0	2.2	24.2
1983	23.9	2.4	26.3
1984	26.0	2.6	28.6
1985	28.2	3.1	31.1
1986	30.6	3.13	33.7
1987	33.1	3.6	36.4
1988	35.7	3.9	35.3
1989	38.5	4.1	42.4
1990	41.5		45.6

1/ From intermediate projection of coin requirements.

2/ Ten percent of estimated coin requirements; allowance for inventory accumulation.



## B. Manufacturing Requirements

An analysis of coin manufacturing requirements was conducted to:

- evaluate whether the current and planned manufacturing facilities are adequate to produce the coins required to 1990,
- recommend the scope and timing of any necessary system changes,
- develop and implement production, distribution, and inventory models to analyze the impacts of varying combinations of resources, sequencing, and timing of operations in order to develop aggregate planning recommendations.

### Present and Planned Capacity

The total Mint coin production capacity for existing plus planned installations of equipment is 18.75 billion coins per year; with Philadelphia and Denver capable of producing 8.7 and 8.5 billion coins respectively, and the West Point Bullion Depository producing 1.5 billion cents from blanks manufactured elsewhere. This capacity at Philadelphia and Denver is contingent upon the mix of coins produced, and the capacity estimates assume both Mints produce a proportional mix of coins.

Corresponding to the baseline, intermediate, and ceiling projections of coin requirements, the projected dates by which incremental levels of coin requirements will occur are presented in Table 7. While the ranges of dates illustrate the uncertainty inherent in projecting requirements for extended future time periods, they clearly demonstrate the inevitability that coin requirements will surpass the currently available Mint capacity of 18.75 billion coins per year.

The total coin production capacity required to meet annual coin demand is shown in Table 8. The annual coin requirements were calculated from the intermediate trend projections of coin requirements by denomination to 1990. Capacity in excess of the projected coin requirements must be planned, due to the cyclical and random variations from the trend in



coin requirements; a portion of these variations should be accommodated by inventory accumulation and depletion and the remainder through changes in annual or quarterly production rates. Thus, when demand is below the long-term trend, inventory should be accumulated to reduce the magnitude of the production rate increase necessary in subsequent years when demand exceeds anticipated requirements. An additional capacity equal to 10 percent of the projected coin requirements should be sufficient to provide an economic balance between inventory accumulation and production rate changes.

As Table 8 illustrates, the overall production capacity required will exceed existing capacity by 1980, will double between 1980 and 1988, and will exceed 40 billion coins per year by 1990 (capacity to produce 170 coins per capita annually in 1990).

#### Denomination Mix and Service Level Strategies

Within the domain of the present coinage system, three basic expansion options are open to the Bureau of the Mint. (Volume II of the report addresses the impacts of changes in coin denominations, configurations, or material compositions.) These options are:

- a. Embark on an accelerated program to expand Mint production capacity in order to satisfy all coin requirements until costs become prohibitive; then change the coinage system.
- b. Redefine the components of coin demand which will be satisfied by the Mint and expand production capacity to satisfy the reduced demand. Allow the market to compensate for cent shortages.
- c. Plan to eliminate the cent or change its material composition within five years to reduce or eliminate the necessary additions to capacity.

The three alternative Mint strategies may be adopted independently or sequentially, but the sequence is irreversible. For example the Mint may expand capacity to meet cent requirements to the year 1980; stabilize production at that level until 1985 and allow businesses and consumers



to accommodate any cent shortages through pricing or packaging changes or rounding off transactions; and then eliminate the cent when that option becomes more acceptable to the public.<sup>1/</sup>

#### Production of Total Cent Requirements

If the Bureau of the Mint remains committed to providing the total annual requirements for copper cents to 1990, additional production capacity must be programmed immediately to become operational by 1980, and large increments in additional capacity must be programmed to become operational at a maximum of five year intervals thereafter.<sup>2/</sup>

Figure 4 illustrates the geographic service areas of the existing Mint facilities in 1990. By 1990 the existing Denver Mint would only be able to meet the coin requirements of the west north central and mountain states, and Philadelphia and West Point could service only the northeast and mid-atlantic states. The pacific states, requiring 6.1 billion coins and the east north central, south atlantic, and east south central regions, requiring an additional 20.8 billion coins, could not be serviced by the existing facilities.

This study adopted the assumption that if a new Mint were required, it would be constructed in Denver because: Denver is a rational location for a mint to economically service the western part of the U.S.; prior

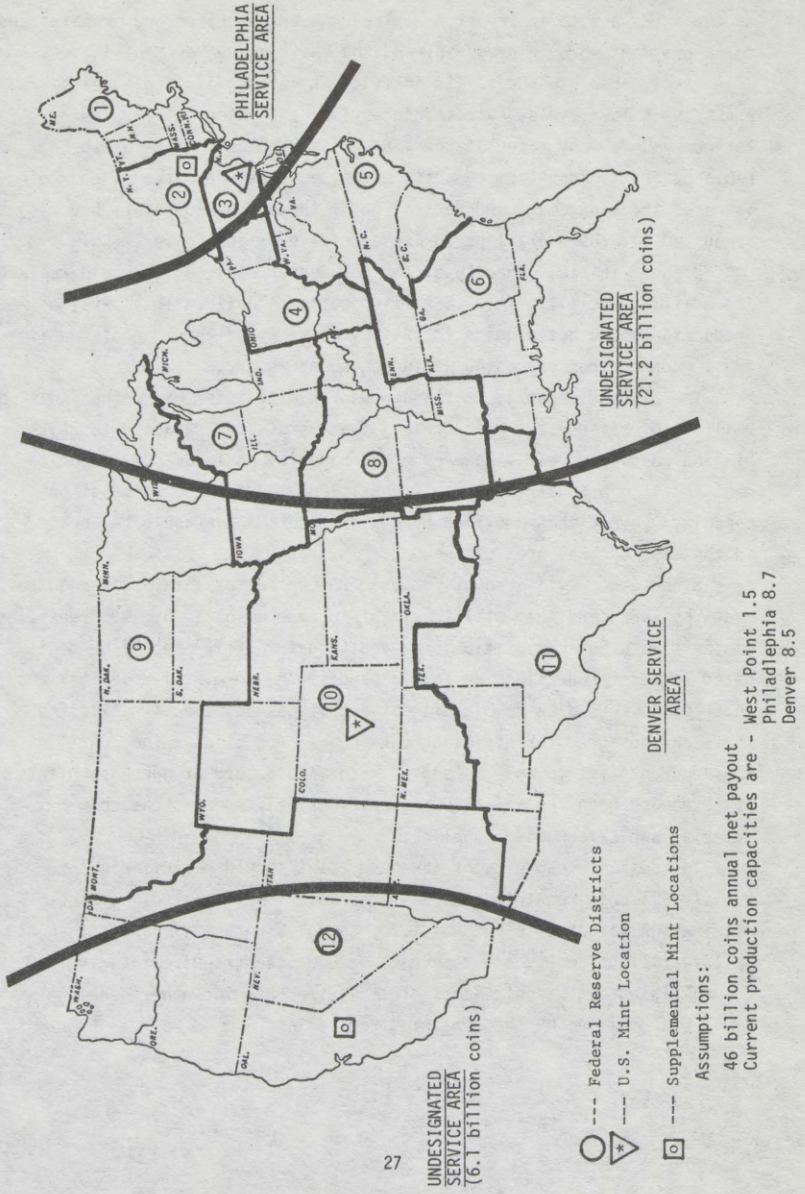
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<sup>1/</sup>Responses to the RTI survey of potentially affected groups indicated 80 percent of the retail firms and commercial banks, 90 percent of the State Departments of Revenue, and 37 percent of the automatic merchandising firms and transportation system operators opposed elimination of the cent. See M. Anne Hill, Analysis of User Responses to Candidate Changes in the U.S. Coinage System, Research Triangle Institute Memorandum RM-26U-1133-5.

<sup>2/</sup>The copper cent must be replaced by a less expensive material before copper prices exceed \$1.50 per pound or production requirements thereafter become unlimited. Replacement with an alternative material may significantly affect demand projections, especially during the initial period as copper cents are withdrawn from circulation.



FIGURE 2. Potential Service Areas of the Existing Mint Facilities in 1990





to the study a site in Denver had already been purchased and preparations for a new mint were in progress; and the existing Denver Mint is effectively obsolete due to its inefficient layout, limited access, excessive noise levels, extreme congestion, and potential structural fatigue. Under any circumstances the existing Denver Mint must be replaced or its long-term capacity curtailed substantially. The excellence of the management and dedication of the production staff have accounted for the overall performance to date of the Denver Mint.

Planned initial capacity of the new Denver Mint, which would replace the existing facility, is 10.5 billion coins annually. This level of production would be adequate to satisfy system-wide requirements until 1981, when further expansion would become necessary.

The planned capacity of the new Denver Mint after expansion is 16 billion coins per year, which raises the system-wide capacity to 26.2 billion coins per year. However, that capacity would be sufficient to meet total coin requirements only until 1984. Additional production capacity, beyond that provided by a new Denver Mint, should be located in the east central area of the U.S.

Since cents will account for over 85 percent of total coin requirements by 1985, and they will inevitably become obsolete by 1995 regardless of their material composition, the additional facility should be dedicated to cent production and should be designed to minimize capital costs; that is, it should be devoid of the security associated with existing mints and designed for efficient continuous production. The cent Mint would purchase strip and the decision to manufacture or purchase blanks would depend upon the relative economies associated with the coin material and alternative supplies.

The designed capacity of the penny mint should be sufficient to satisfy all coin requirements until the cent is eliminated. If the elimination target date becomes 1990, then its potential capacity should be 19.4 billion cents, or 52 percent of U.S. cent requirements in 1990. The remaining cent requirements plus requirements for other denominations would be met by the remaining facilities.



The irony of the above strategy is that by postponing a decision to eliminate or only partially meet requirements for the cent, the Bureau of the Mint will make a large investment in plant, equipment, and personnel which will be lost if the cent is eliminated. For example, a utilitarian penny mint, capable of producing 19 billion cents, would cost \$100 million in 1985 (\$40 million for the facility + \$20 million for equipment, and a 6 percent per year inflation rate) and would require 500 persons to operate it. To then liquidate the facility in 1990 could entail a loss of \$75 million for plant and equipment (90 percent of the unamortized value) plus termination pay for employees and the ensuing effects from their unemployment.

Alternatively, the Mint can produce less than the total requirements; stimulating a reduction in the rate of withdrawals from circulation by induced shortages. The latter strategy is undesirable, because modest deliberate shortages may induce more severe unintentional shortages due to coin hoarding and inventory accumulation.

#### The Cent Dilemma

Assuming no changes in the denominations, configurations, or material compositions of the present U.S. coinage system, the Bureau of the Mint is rapidly approaching a dilemma brought about by the projected growth of cent demand and the projected increases in costs to the Mint, and ultimately to the public, of manufacturing and distributing cents for use in commercial transactions.

The wide range in projections of annual cent requirements by 1990 underscores the uncertainty associated with the nature and magnitude of the potential influences creating a demand for cents. Projections by Research Triangle Institute forecast a range in the annual requirements for cents by 1990 of from 22 to 54 billion coins, with a most likely estimate of 37 billion cents. Comparatively, total coin requirements for 1990 are estimated at between 26 and 64 billion coins. However, estimated cent requirements become unbounded if copper prices rise to a level which induces cent hoarding, because cent coins become an alternative source of copper for limited industrial use.



Significantly, the cent coin, which possesses minimal purchase power and has commercial value only as a unit of account, will dominate total coin requirements by 1990. The value of a cent, which became the lowest denomination in the U.S. in 1857 when the half-cent was eliminated, has declined substantially over time. A nickel today will purchase less than a cent could purchase in 1917, and by 1990 a dime will have less purchasing power than the cent did in 1917.<sup>1/</sup>

The companion aspect of the cent dilemma is that, simultaneous with the accelerating cent requirements, the costs to the Mint associated with cent production and distribution are also projected to increase. Table 9 illustrates the increases projected for cent manufacturing costs to 1990. Between 1980 and 1985 the Mint will enter the era of producing copper cents in a situation of negative seignorage. By 1990, the value of the metal (95 percent copper, 5 percent zinc) contained in a cent will regularly exceed the face value of the coin. Assuming a collection and processing cost of 10 percent of the material value, manufacturers will find an economic source of copper in the cent coin by 1990, and the copper cent will be obsolete as a monetary unit.<sup>1/</sup> The specific dates for these occurrences are uncertain due to the effects of production economies, inflation, and short-term price fluctuations but their likelihood within 5 years of the above dates appears almost certain.

Given the most likely projection of cent demand and estimated cost increases, the Mint will incur a negative seignorage of \$67.4 million to produce the estimated 25 billion cents required in 1985 and a deficit of \$177 million to produce the 38 billion cents required in 1990. However, the cost to the public of net additions to the circulating pool will be even more substantial. The additional costs associated with processing cents through the Federal Reserve system and other distribution stages before they are utilized in commercial transactions will add another \$300 million cost to the public. Also, three-fourths of the net payout will constitute replacement for the attrition from circulation and only one-fourth will add to the circulating pool.

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<sup>1/</sup>Stephen A. Johnston and Hans Stadelmaier, Evaluation of Candidate Materials, Alloys, and Cladding Combinations for United States Coinage, Research Triangle Institute Memorandum RM-26U-1133-2.



Table 9

Actual and Projected Mint Costs to Manufacture Cent Coins  
(in dollar per 100 coins)

Cost Category	Year			
	1975	1980	1985	1990
Metal <sup>1/</sup>	.464	.723	.967	1.090
Strip Fabrication <sup>2/</sup>	.130	.158	.192	.234
Coinage and Shipping <sup>2/</sup>	.076	.092	.112	.137
TOTAL	.670	.973	1.271	1.461

<sup>1/</sup>Estimated trend in copper prices: 1975 = \$.64 per lb. (valued at average purchase price of Mint inventory),  
1980 = \$1.00 per lb.,  
1985 = \$1.25 per lb.,  
1990 = \$1.50 per lb.

Copper is subject to wide variability in short-term prices.

<sup>2/</sup>Strip fabrications coining and shipping costs estimated based on four percent annual increases in 1975 actual costs.



The crux of the cent dilemma is that, if the coin demand and economic conditions fulfill expectations, by 1990 the Bureau of the Mint will have to expand production capacity by over 125 percent to produce cent coins that will be withdrawn from circulation rapidly and may cost the public \$0.10 each for those added to the circulating pool. At that point, a decision to cease manufacturing cents would require closing and liquidation of three-fourths of the Mint's production capacity as well as termination or transfer of many employees.

#### Aggregate Production Planning

Aggregate production planning is the process of developing a production and distribution plan for one year in advance and a tentative plan for the subsequent year. The plans are aggregate, because they focus upon the major segments of the production process rather than with detailed schedules of activities. For the Bureau of the Mint, the aggregate plan is designed to balance the utilization of manufacturing resources to meet the annual requirements for coins in an efficient manner.

Aggregate production planning is based on (1) projections of quarterly coin requirements by denomination for the following year, (2) anticipated beginning inventory levels for the period, and (3) target inventory levels for the end of the annual period. With this information the Bureau of the Mint determines quarterly production rates and distribution assignments for each Mint, and the management at each facility translates those requirements into detailed production schedules.

Effective aggregate production planning requires the balancing of costs, material and process requirements, and Mint capabilities. In general the coin manufacturing system entails processing three types of material through three primary manufacturing operations at three different mint facilities to produce six denominations of coins for 37 Federal Reserve Banks and Branches.

A linear programming model was designed to minimize the total costs associated with these activities. This model generates production and distribution assignments. Utilization of the model will enable the



Bureau of the Mint to quickly assess the economies and impacts of additions to process capacity, alternative production policies, or changes in operating or distribution costs. The recommendations regarding the use of MINT, a linear programming model for aggregate planning, include the following:

1. MINT should be used to measure the costs and impacts of any additions or reductions in manufacturing resources, any changes in production schedules, any changes in equipment efficiencies, or any changes in manufacturing or distribution costs.
2. Constraints on equipment capacities should be relaxed and the model run with the coin requirements projected for each of the next three years. The results could be used to plan equipment and facility acquisitions during that time period.
3. The staff at each Mint should develop target or goal coefficients to use in the model. The target coefficients, including manufacturing and labor costs, would be used in simulation runs. Differences or variances in target and present costs should be explained. (An innovative cost monitoring system could be derived from this). Use of target costs in a sense permits Mint staffs to "bid" for the assignment of production to the Mints.

#### Operations Planning

PROSIM, a production simulation model, will enable the Mint to quantify different combinations of production and inventory scheduling decision policies. PROSIM produces estimates of cost incurred by different coin production policies, mint to bank transshipment policies, and the seasonal demand for coins. There are currently four components of cost included in the model: coin manufacturing cost, equipment changeover cost, shipping cost from Mint to Federal Reserve Bank, and storage cost. In addition, there is a labor component in the model. The model accounts



for differences in production stages (blanking, annealing, and stamping), differences in operating characteristics of production equipment, coin denomination, and mint location. The unit of time used in the model is a month, but the model is flexible enough to further generalize on the unit of time assumption.

PROSIM provides a method to quickly and efficiently assess the costs and performance characteristics of any Mint coin production schedule. It will:

1. determine monthly inventory levels and denote the frequency and severity of stockouts;
2. determine if adjustments need to be made to production schedules to accommodate seasonal demand effects;
3. determine which Federal Reserve "swing" banks best equalize inventory levels;
4. provide cost estimates for alternative production schedules;
5. provide a quantitative measure of swing bank assignments, and
6. determine the feasibility of a production schedule.

The model has no prescriptive features; that is, no "optimal" decisions are defined. Instead inventory levels, labor requirements and costs are calculated as a consequence of user supplied decisions as a way of evaluating the feasibility of these decisions.

Before PROSIM is capable of assisting management in discriminating among relatively similar production strategies, the production cost parameters and interrelationships within the model must be further refined. However, even in the present crude state of the simulation model, operational planning policies may be evaluated.





## PHASE II: COINAGE SYSTEM ALTERNATIVES

Through the Phase I analysis of the coinage system, RTI concluded that change in the present U.S. coinage system is inevitable. Producing all the coins that would be required by 1990 would call for unacceptable resource and cost burdens relative to the benefits gained. The problems with existing coinage are:

- a. The disproportionate requirement for one-cent coins, which are becoming increasingly costly to manufacture and circulate, and less useful in commerce;
- b. The failure of half-dollar and one dollar coins to circulate readily.

The Phase II research, which focused upon the impacts of alternative solutions to these two problems included extensive surveys of public and private interests, analysis of metallurgical and economic characteristics of alternative coinage materials, and estimates of the cost and performance impacts of alternative coin denominations, materials, and configurations. As a culmination of this research, recommendations for changes in the U.S. coinage system to 1990 were developed.

### A. Commercial Efficiency

As a step in narrowing the choices for the most acceptable set of coin denominations, the "commercial efficiency" for the primary alternative sets of coin denominations was analyzed. The commercial efficiency of a coinage system is the extent to which it facilitates commercial transactions. It depends upon the number and variety of coin denominations, the configuration of the individual coins, their acceptability to coin users, and their availability. The analysis focus was on two aspects of commercial efficiency: the "exchange" efficiency; that is, the denominations themselves and the manner in which they facilitate transactions; and the



preferences of the selected groups of coin users elicited through the survey.

#### Exchange Efficiency

RTI used two methods to measure the exchange efficiency of a coinage system. They were to calculate the minimum number of coins required to facilitate transactions at each price between one cent and one dollar, and to calculate the minimum number of coins required to give change from the next highest denomination at each price between one cent and one dollar.<sup>1/</sup> Also, the coinage systems in use throughout the world were reviewed to ascertain which increments in the values of denominations are most frequently used.

Each alternative set was assigned a production efficiency rating based on the relative number of coins required for commercial transactions by the set in question when compared with the number of coins required with the present set of denominations. The resulting denomination sets exhibiting the greatest efficiency are presented in Table 10. The last denomination set shown is that currently used in the U.S.

Table 10

Production Efficiency Rating	Candidate Denomination Sets						
	Denominations						
46	-	-	5¢	10¢	25¢	50¢	\$1.00
78	1¢	2¢	5¢	10¢	25¢	50¢	\$1.00
91	-	2¢	5¢	10¢	25¢	50¢	\$1.00
92	1¢	2¢	5¢	10¢	25¢	-	\$1.00
92	1¢	2¢	5¢	10¢	25¢	-	-
100	1¢	-	5¢	10¢	24¢	50¢	\$1.00

#### Preference Surveys

The groups of coin users surveyed in RTI's market research effort included:

Retail sales business firms - particularly those that use automated coin handling and processing equipment.

<sup>1/</sup> Implicit in these calculations was the assumption that all transactions utilizing coins occur within this range with equal frequency.



Commercial banks - use various types of equipment related to counting or sorting coins, and also constitute a critical link in the coinage delivery system.

Automatic merchandising firms - constitute the unique industry of businesses relying upon person to machine transactions, the majority of which involve the use of coinage.

Manufacturers of coin processing equipment - produce equipment that is designed within close tolerances to identify and process denominations of U.S. coins in a specific manner. Any changes in coin denominations or configurations may significantly impact the industry.

Transportations systems operators - handle large volumes of coins collected as transit fares. Fares are often collected automatically, and the collected fares are processed mechanically.

State Departments of Revenue - are responsible for the administration of state sales taxes, and are aware of potential impacts in sales tax collection that would result from coinage changes.

These groups of users were surveyed to determine their attitudes toward and perceived impact of the candidate alternatives to the coinage system. Questions were asked regarding the respondent's opinion of eliminating the cent, and of introducing a two cent coin. Similarly, respondents were asked their preferences for the size, shape, and material for a two cent coin and a one dollar coin. Respondents also estimated costs that their firms would incur if changes in the coinage system were implemented.<sup>1/</sup> These responses are highlighted in Tables 11 through 16.

The candidate alternatives to the present U.S. coinage system will have varying impacts across these target groups of coin users. These impacts are a function of the current or potential utility or disutility of the alternative in question to each individual group.

In terms of exchange efficiency, the present set of coin denominations, excluding the cent coin, generates the lowest total coin requirements and reduces the number of denominations required. However, elimination of the cent is generally unacceptable to most user groups since the cent coin serves primarily as a unit of account. Those groups that utilize this unit of account are particularly opposed to its elimination.

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<sup>1/</sup>These responses were used in part to estimate the cost impacts of each of the candidate alternatives.



Table 11

Response to the Elimination of the Penny by Group

Group	Percent Response	
	Favorable	Unfavorable
Retail Firms	13.1	81.0
Commercial Banks	17.4	79.7
Automatic Merchandising	40.7	38.9
Manufacturers of Coin Equipment	43.8	37.6
Transportation Systems Operators	55.0	35.0
State Departments of Revenue	2.6	89.4

Table 12

Response to the Introduction of a Two-Cent Coin by Group

Group	Percent Response	
	Favorable	Unfavorable
Retail Firms	23.9	65.7
Commercial Banks	21.0	70.7
Automatic Merchandising	11.1	70.4
Manufacturers of Coin Equipment	12.5	68.8
Transportation Systems Operators	20.0	55.0
State Departments of Revenue	39.5	15.8



Table 13

Should the Two-Cent Coin Replace an Existing Denomination or  
Should it be an Additional Denomination?  
Responses by Group

Group	Percent Response	
	Should Replace An Existing Denomination	Should be An Additional Denomination
Retail Firms	25.0	71.2
Commercial Banks	33.5	62.9
Automatic Merchandising	35.2	53.9
Manufacturers of Coin Equipment	18.8	50.0
Transportation Systems Operators	55.0	40.0

Table 14

Preferred Diameter of a \$1.00 Coin

Group	Percent Response	
	Present Diameter	Diameter Between the 25¢ & 50¢ Coins
Retail Firms	57.6	27.7
Commercial Banks	43.7	29.3
Automatic Merchandising	31.5	48.1
Manufacturers of Coin Equipment	25.0	56.2
Transportation Systems Operators	50.0	40.8



Table 15

Preferred Thickness for A \$1.00 Coin by Group

Group	Percent Response	
	Prefer Present Thickness	Prefer Thickness Between 25¢ and Present \$1.00 Coin
Retail Firms	60.3	20.1
Commercial Banks	41.3	23.4
Automatic Merchandising	37.0	29.6
Manufacturers of Coin Equipment	25.5	18.8
Transportation Systems Operators	55.0	30.0

Table 16

Preferred Weight for a \$1.00 Coin by Group

Group	Percent Response	
	Prefer Present Weighth	Prefer Weight Similar to 25¢ Coin
Retail Firms	55.4	25.0
Commercial Banks	38.3	34.1
Automatic Merchandising	35.2	42.6
Transportation Systems Operators	45.0	40.0



The state sales tax administrators are almost unanimously opposed, because it would require procedural, structural, and legislative changes in sales taxes and their administration. Retail businesses are opposed because it would require rounding the values of transactions and/or restructuring of accounting systems, product pricing, and packaging practices.

Although handling, processing, and storage of cent coins is a costly nuisance to commercial banks, they too are opposed to its elimination due to the accounting and procedural changes that would be needed.

The firms in the automatic merchandising industry were the only surveyed group not strongly opposed to elimination of the cent. The cent is not accepted in most vending machines. It is treated as a slug, except in the vending of a few products such as penny gum.

Finally, the largest single group of coin users, the consumers, was not surveyed. Their composite attitude toward elimination of the cent is not known. The cent attrition rate provides evidence that an increasing number of consumers view the cent as a nuisance coin. That is, the effort necessary to return the cents in their possession to circulation outweighs the commercial value gained in transactions. However, the overall attitudes of consumers toward eliminating the cent will likely depend upon the actual or perceived adjustments of product prices and the policies that are implemented for rounding transactions.

The second most efficient set of coin denominations in terms of exchange efficiency is the present mix of denominations with an additional two cent coin. This set theoretically requires a greater number of coins and two more denominations than the most efficient combination. However, to its advantage, this combination theoretically requires only 78 percent of the total coins necessary with the present system; and all transactions can be facilitated without rounding. The implementation of this system would reduce the number of cent coins required, and would provide a less abrupt transition in the event of the elimination of the cent.

Significantly, approximately 70 percent of the retail businesses, commercial banks, and automatic merchandising service firms surveyed opposed the introduction of a two cent coin. Their objections were based on the



additional complexity of a coinage system which includes an additional minor denomination, and the additional costs associated with processing, handling, and storing an additional denomination. Only 16 percent of the state sales tax administrators expressed disfavor with a two cent coin since it would not adversely affect the administration or collection of sales taxes. If a two cent coin were introduced, the majority of the respondents indicated that it should be round, brass, and between the sizes of the current cent and the nickel.

Whether the half dollar and/or the one dollar coins should be eliminated or changed in size is a distinctly different issue than the situation of the lower coin denominations. Essentially, the half dollar and dollar coins are not used in commercial transactions because they have readily available, superior substitutes--two quarters for the half dollar and a dollar note for the dollar coin.

The responses of the target groups with respect to the half dollar and dollar coins were somewhat contradictory. Approximately half the responding retail firms and commercial banks acknowledged that the present dollar was not useful for commercial transactions and should be eliminated, yet their selection of ideal mixes of denominations for 1980 and 1990 demonstrated the potential utility of higher denominations for coins in the future. Paradoxically when these respondents were asked to describe their preferred configuration for the one dollar coin, many selected the current configuration. They exhibited reluctance to change the configuration to a more convenient size which would circulate more easily.

Clearly the commercial advantages of a conveniently-sized one dollar coin would accrue to the automatic merchandising industry. Should such a coin gain widespread public acceptance, those firms engaged in coin handling, processing, and storage would have additional costs to accommodate the coin without fully benefitting from its advantages. This imbalance among the industries in the potential benefits received relative to potential costs incurred explains the differences in attitudes toward the alternatives for the one dollar coin.

In general, the retail sales, banking, and automatic merchandising industry respondents expressed their desire to maintain the status quo



with respect to the U.S. coinage system. The advantages of changes in the denominations, size, or material compositions of U.S. coins were perceived to be outweighed by the inconvenience or expense of accommodating the candidate changes. While the long-term economies and associated commercial advantages of the candidate alternatives were not clearly recognized by the business firms, the immediate cost and administrative impacts were obvious. Thus, even with its inefficiencies and shortcomings recognized, the businesses surveyed preferred the existing U.S. coinage mix to the candidate alternatives.

#### B. Alternative Materials

RTI investigated the feasibility and efficiency of utilizing alternative materials to produce current or proposed denominations of coins. The primary candidate materials were then analyzed and evaluated according to their availability to 1990, anticipated market prices, the availability of commercial suppliers, and Mint capabilities to produce sufficient coinage strip.<sup>1/</sup>

After investigating a wide range of metals, alloys, and nonmetallic materials, RTI concurred with previous Mint findings that aluminum is the best alternative material for the one cent coin. Aluminum and brass would be viable alternatives for a two cent coin. Other materials that were rejected due to their economic or manufacturing characteristics included copper and copper clad on steel.

The primary candidate materials for the one dollar coin included brass, nickel, cupronickel, cupronickel clad on nickel, and cupronickel clad on copper. The alternative materials for the one dollar coin were compared in terms of their economic characteristics, their public acceptability, the security that they would provide against counterfeiting, and their compatibility with current discrimination technology.

The difference in slugging protection provided by these alternative materials is marginal. Since a coin made of gold or some other intrinsically-high-value material is not feasible, the selected material will be

<sup>1/</sup> Manufacturing and wear characteristics of materials were evaluated on the basis of results from experimentation conducted by the Bureau of the Mint. See Alternative Materials for One Cent Coinage, Department of the Treasury, December 1970, and A New Smaller Dollar Coin: Technical Considerations, Department of the Treasury, August 1976.



generally available. Consequently, discrimination in vending mechanisms should rest not only on a material test, but also on parameters specific to the configuration of the coin. Of the candidate materials, cupronickel clad on copper has the advantage of current use and familiarity and is consequently recommended for a more conveniently-sized one dollar coin.

### C. Discrimination Characteristics of Coinage System Alternatives

Discrimination characteristics describe the degree to which a particular coin denomination may be identified, selected, and appropriately responded to as distinct from other coin denominations, foreign coins, and slugs. People and machines are the two general groups of coin discriminators. Humans discriminate between coins of different denominations by using their senses of touch and vision. This can be facilitated by a coin's distinctiveness of color, weight, diameter, thickness, shape, and surface or edge characteristics. Surface or edge characteristics are determined by such factors as the engraving of the coin or whether the edge of the coin is reeded or smooth.

Machine discriminators can be mechanical, electronic, based on an eddy current (or magnetic field), or rely on combinations of these means. Bases for coin discrimination by these methods are the size (diameter and thickness), material, and weight of a particular coin. The material of a coin is important in that it determines the acceptance factor of the coin -- the manner in which the coin is affected by a magnetic field. The material also somewhat determines the security of a coin -- that is, the ease with which the coin may be duplicated as a slug by counterfeiters.

This evaluation considered the importance to coin users of various discrimination characteristics. The preferences of groups of coin users recorded through the RTI survey, and the compatibility of alternatives with existing coin processing equipment were examined in order to select the most preferable discrimination characteristics for the alternatives to the present U.S. coinage system. Discriminations characteristics of foreign coins were surveyed to insure the distinction between U.S. and foreign coins.



Discrimination is obviously important to coin users in general; it is necessary to be able to distinguish between two coins of different denomination in order to insure proper transactions. The nature of this discrimination may vary with the use of the coin as well as the individual using it. Distinct engraving and configuration may be more important to the visually-impaired who would use coins in everyday purchases, while the qualities of the coin's material may be more important to the manufacturer of coin mechanisms.

In order to appropriately evaluate the discrimination characteristics of the alternatives, it was necessary to consider the various groups of individuals who discriminate coins differently.

The candidate combinations of the low denominations which are the selected alternatives to the current U.S. coinage system include: the present set, which contains the cent and nickel; a set with the nickel as the lowest denomination (eliminate the cent); and a set which contains the cent, a two cent coin, and the nickel (add a two cent coin to the present set). The one cent coin is also a candidate for a change in composition. If an aluminum or brass two cent coin is introduced to decrease cent requirements, it should be easily distinguishable from the cent and the nickel. Based on the preferences of coin users, the compatibility with existing equipment, and distinction from foreign coins, RTI recommends that the size of a two cent coin, if introduced, should be 20.13 mm in diameter and 1.77 mm in thickness. Based on these parameters, and also to maximize compatibility with existing coinage, it is recommended that any two cent coin be round, have a smooth edge, and have distinct engraving that would allow ease of discrimination by touch. If a high degree of relief is not feasible, then a center hole will be necessary.

A more conveniently-sized one dollar coin, should be minted of cupro-nickel clad over copper. If it is reduced to close to the size of a quarter, the coin must also have distinctive characteristics to be easily identified visually, by touch, and mechanically. Also, unless the small dollar possesses additional unique characteristics, it could be counterfeited by a cutdown half dollar or by other accessible slugs. It is



therefore imperative that the coin have highly distinctive discrimination characteristics.

The diameter of the quarter is 24.26 mm, and the diameter of the half dollar is 30.61 mm. A "conveniently-sized" one dollar coin should obviously be smaller than the half dollar, since the half dollar circulates poorly and it should be larger than the quarter to facilitate discrimination.<sup>1/</sup>

Several parameters relevant to the determination of the size of the one dollar coin were considered and evaluated: its distinction from world coinage; the preferences for size determined through the survey of the target groups of coin users; and compatibility with existing equipment.

The recommended size for the one dollar coin is 26.5 mm in diameter, and 2.03 mm thick. It is also recommended that the one dollar coin be round, and possess some additional configuration characteristics that would not only insure discrimination from a cut-down half dollar in vending mechanisms, but would allow greater tactile discrimination for the visually impaired.

#### D. Manufacturing Requirements for the Primary Coinage Alternatives

RTI developed alternative forecasts of the requirements for coins to 1990 for each of the primary coinage alternatives. The forecasts of coinage requirements were then translated into requirements for manufacturing resources in order to examine the impact of the alternatives on the production, distribution, and inventory systems.

#### Methodology for Forecasting Alternative Coin Requirements

The annual requirement for coins to 1990 for each alternative was estimated as the total production necessary to provide a stock of coin in circulation equivalent to the stock estimated for the present set of coin denominations.

The stock of coins in circulation in any year is equal to the stock for the previous year plus additions minus any attrition. Only

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<sup>1/</sup>A reduction in size was considered for both the half dollar and one dollar coins, however, there is not a sufficient span of convenient sizes to allow the introduction of coins of two distinct sizes that could be easily discriminated.



transactions demand adds to the stock of coins in circulation. Numismatic and speculative demand, and indirect hoarding are factors that reduce the quantity of coins in circulation. The net effect of the withdrawals is the annual attrition from the circulation stock of coins.

The intermediate trend projection of net payout and an attrition rate that increased by one-half percent per year were used in the calculations to estimate the stock of cent coins in circulation to 1990.<sup>1/</sup> Thirty-five billion cents in 1973 was estimated to be the base stock for the calculations. Table 17 presents the computations for the annual estimates for the stock for the present cent. Based on the assumptions, stated above, this stock increases from 35.0 billion in 1973 to 116.1 billion in 1990. These estimates provide the foundation for the projections of coins required with the candidate alternatives.

#### Comparison of the Coin Requirements Projections for the Candidate Alternatives to the Copper Cent

A comparison of the forecasts of coin requirements to 1990 for the present set of coin denominations and for the three primary options is shown in Table 18.

Assuming no changes in coin denominations or alloys (i.e., maintaining the copper cent), cent requirements are projected to increase from 12.7 billion cents in 1978 to 37.6 billion coins in 1990; and total coin requirements will increase by 90 percent.

Replacement of the present cent with an aluminum coin will precipitate the accelerated withdrawal of copper cents. This means that 28.6 billion more aluminum cents must be manufactured during the first six years than would be required with the present cent.

The RTI projections assumed a six year withdrawal period for copper cents and an attrition rate for aluminum cents equivalent to that estimated

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<sup>1/</sup>Samples from two previous studies indicated cent attrition rates of 4.8 percent and 13.0 percent in 1962 and 1973, respectively - a three-fourth percent increase in the attrition rate annually. A more conservative increase of one-half percent per year increase was adopted for this study.



Table 17

Projection of the Circulating Stock of Cent Coins<sup>1/</sup>

Year	Annual Net Payout	Attrition Rate <sup>2/</sup>	Stock of Cents <sup>2/3/</sup>
1973	6.665	.125	35.0
1974	8.595	.130	37.9
1975	9.422	.135	40.9
1976	8.4	.140	42.4
1977	11.4	.145	46.0
1978	12.7	.150	49.9
1979	14.1	.155	54.1
1980	15.6	.160	58.5
1981	17.2	.165	63.2
1982	18.9	.170	69.2
1983	20.8	.175	73.4
1984	22.8	.180	78.9
1985	24.9	.185	84.6
1986	27.1	.190	90.5
1987	29.5	.195	86.6
1988	32.1	.200	102.9
1989	34.7	.205	109.4
1990	37.6	.210	116.1

<sup>1/</sup>1973-1975 are actual figures; 1976 is 1976-1 actual, 1976.2-1976.4 are "MAX" Quarterly Cent Projections; and 1977-1990 are projected by "intermediate" level equation  $C = 1612 + 0.71 T^3$  (1954=1).

<sup>2/</sup> $Stock_t = (Stock_{t-1} + Net\ Payout_t) \times (1 - Attrition\ Rate_t)$ , where  $t$  = year.

<sup>3/</sup>Assuming the attrition rate increases by .5 percent per year.

SOURCE: David H. Stuart, et. al., A Comprehensive Review of U.S. Coinage Requirements to the Year 1990, Phase I: Current Denominations and Alloys, Table 2-9, p. 2-34; Table 1-2, p. 1-11; and Table 2-5, p. 2-24.



Table 18  
Projected Annual Coin Requirements  
 (Billions of Coins)

Year	Present Mix		Alternative 1: Aluminum Cent		Alternative 2: 2 Cent Introduction			Alternative 3: Cent Eliminated	
	Cent	Total	Cent	Total	Cent	2 Cent	Total	Cent	Total
1978	12.7	15.3	18.1	20.7	4.0	6.5	13.1	6.0	10.3
1979	14.1	16.8	18.0	20.7	4.0	7.2	13.9	0	4.5
1980	15.6	18.4	18.3	21.1	4.0	6.6	13.4	0	4.6
1981	17.2	20.1	25.0	27.9	4.0	7.4	14.3	0	4.8
1982	18.9	21.9	22.8	25.8	4.0	8.0	15.0	0	5.0
1983	20.8	24.0	25.7	28.9	4.0	8.7	15.9	0	5.2
1984	22.8	26.1	22.8	26.1	4.0	9.6	16.9	0	5.4
1985	24.9	28.3	24.9	28.3	4.0	10.4	17.8	0	5.6
1986	27.1	30.6	27.1	30.6	4.0	11.2	18.7	0	5.7
1987	29.5	33.1	29.5	33.1	4.0	12.1	19.7	0	5.9
1988	32.1	35.8	32.1	35.8	4.0	13.0	20.7	0	6.1
1989	34.7	38.5	34.7	38.5	6.4	12.5	22.7	0	6.1
1990	37.6	41.5	37.6	41.5	7.5	13.0	24.4	0	6.3
TOTAL	308.0	350.4	336.5	378.9	57.9	126.2	226.5	6.0	75.5



for the copper cent. Both assumptions lead to conservative projections of aluminum cents. If copper cents are withdrawn more rapidly or if the attrition rate for aluminum cents is greater than estimated, which is possible due to the increased public perception of worthlessness associated with an aluminum cent, the annual requirements for aluminum cents will exceed the projections.

Introduction of a two cent coin in 1978 to cocirculate with the present cent coin would reduce the future total coin requirements. This reduction is due to the incomplete substitution effect of two cent coins for cents in circulation, and assumes that cent coins will continue to be manufactured at a rate of 4 billion per year through 1988. With a two cent coin, the annual requirements will be reduced by 5 billion coins per year by 1980, by 10.5 billion coins per year by 1985, and by 17.1 billion coins per year by 1990. In effect, introducing a two cent coin results in a six year deferral in the annual level of total coin requirements.

The final primary option is the elimination of the cent denomination. As Table 18 illustrates, the main assumption for implementation of this option is that total cent requirements would be met in 1977, approximately one-half the normal cent requirements for 1978 would be manufactured, and no cent coins would be manufactured thereafter. If the cent denomination is eliminated, the total annual coin requirements by 1990 will be approximately 6.3 billion coins--one-half the current requirements for the present U.S. coinage system. The net reduction in total coin requirements will not equal the cent requirements projected for the present system. Elimination of the cent will induce additional demands for nickels and dimes for use in commercial transactions, but this additional demand will be insignificant in comparison with the cent production which is eliminated.

#### Production Requirements With a More-Conveniently-Sized One Dollar Coin

The transition to a conveniently-sized one dollar coin will have a minor impact relative to the effect on production requirements of any of primary alternatives to the copper cent. The alternative one dollar



coin would be sized between the current quarter and half dollar. Consequently, the production requirements for the new coin would most likely fall within the range of the projections for the quarter and the half dollar coins, rather than be equivalent to the projected requirements for the current one dollar coin.

#### Comparison of Manufacturing Requirements for the One Cent Alternatives

Each of the candidate alternatives to the copper cent will affect manufacturing resource requirements differently. Changing the cent material to aluminum will eliminate the need for seven 4,000-pound annealing furnaces, but will create an immediate demand for thirty additional stamping presses. The space occupied by the seven unneeded furnaces might eventually be used for stamping presses. However, dismantling and removing the furnaces would be an unwieldy and time-consuming undertaking; and a new facility would be required by 1981 to house additional blanking and stamping presses that might be constructed earlier to allow more efficient production.

On the other hand, postponement of the construction might be a less costly option. By 1990, the requirements for aluminum cents will create a demand for 13 blanking presses and 189 stamping presses more than will be available at that time. The implementation of this alternative will create excess demand for production resources. Satisfying that demand economically will depend to a great extent upon the timing of facility construction and capacity additions.

With the introduction of an aluminum two cent coin, four 4,000-pound annealing furnaces will be surplus. The blanking press capacity available in 1990 will be sufficient to manufacture the one and two cent coins, but there will be an excess demand for 83 additional stamping presses at that time. The number of stamping presses required would exceed the number available in 1980. The manner in which the Mint chose to add capacity for this option, as well, would determine the total costs for capacity and facility expansions.



With the elimination of the cent, all coin requirements could be produced at either the Denver or the Philadelphia Mint. The capacity of either Mint is sufficient to produce the projected coin requirements to 1995 when five additional stamping presses would be required.

However, the Philadelphia Mint is the preferable site due to the age and congestion of the Denver Mint and the limited capabilities at the West Point Bullion Depository.

Table 19 contains data for the present capacity of the Philadelphia Mint. There are three types of stamping presses, each with different capacities. Table 20 presents the equipment requirements to produce the remaining coin denominations if the cent is eliminated. These requirements are based on the intermediate (or most likely) projections of all denominations with a doubling of nickel and dime demand. The Philadelphia Mint can provide the capacity necessary to manufacture all coins through 1990. By 1995, only stamping capacity is exceeded, and the Mint should purchase five additional stamping presses with capabilities similar to the currently used Bliss type.

#### Resource Requirements with the One Dollar Coin

The introduction of a more-conveniently-sized one dollar coin will have a very slight impact on manufacturing resource requirements relative to that impact of the cent alternatives. The total coin requirements with the addition of a conveniently sized one dollar coin will total only 2.3 billion during the entire 13-year period, or an average of 130 million annually after the initial startup production. If the production requirements for the new coin are halfway between those of the current quarter and half dollar, the additional manufacturing requirements will be a maximum of three blanking presses, 0.2 annealing furnaces and two stamping presses during the period of production to 1990. If the introduction of this coin was coupled with the elimination of the cent, the capacity at the Philadelphia Mint would still be sufficient to produce all coin requirements to 1995 when eight (rather than five) additional stamping presses would be required.



Table 19  
Present Capacity at the Philadelphia Mint

Blanking Press	Annealing Furnace	Stamping Press		
		Bliss	Columbia	Standard
Total Available 13	5.75	55.0	12.0	3.0

Table 20  
Equipment Requirements to Produce All Coins to 1995  
With the Elimination of the Cent

Year	Blanking Press	Annealing Furnace	Stamping Press		
			Bliss	Columbia	Standard
1980	6	3.4	45.0	-	-
1985	6	4.2	53.4	-	-
1990	8	4.7	55.0	2.2	-
1995	9	5.3	60.3	12.0	3.0



E. Impacts and Costs Associated with Implementing the Candidate Alternatives to the Present Coinage Set

Two types of direct costs are compared for each option. The transition costs are the initial one-time or unique costs which are associated with a conversion from the present system to an alternative system. These are considered to be the costs incurred from 1978 through 1980 and are compared in Table 21. The long-term costs are those which would be mainly incurred after the transition. A comparative analysis of those costs to 1990 is presented in Table 22.

These costs include the manufacturing and distribution costs to the Mint, and the capital investments required for Mint capacity expansion; the costs to the banking system and retail firms for processing coins, modifying equipment and altering business practices in the event of any change. The costs anticipated for the automatic merchandising industry to handle an aluminum one or two cent coin are also included. The rounding cost incurred with eliminating the cent is not a direct cost to the coinage system, and is consequently not included in the total cost for that option.

The transition costs summarized in Table 21 and the discounted direct total costs to 1990 shown in Table 22 strongly favor elimination of the cent as the least costly of the one cent alternative. Obviously, elimination of the cent is least costly because no capital expenditures are required and manufacturing and distribution requirements are reduced.

The transition costs for elimination of the cent are approximately one-third the level of those associated with the aluminum cent, the closest alternative. The present value of the long-term direct costs of cent elimination, \$582 million, is approximately 25 percent of that for the aluminum cent or the two cent options. The costs for those two alternatives are similar, at \$2.5 billion, and are approximately 60 percent of the level for the present cent.

Impacts of Maintaining the Copper Cent

Assuming no changes in the present U.S. coinage set, the Bureau of the Mint is rapidly approaching a dilemma brought about by the growing demand for cents and the increasing costs to the Mint (and ultimately to



Table 21

Comparison of Costs Incurred by Affected Groups for One  
Cent Alternatives: Net Present Value of  
Total Costs from 1978 Through 1980 <sup>1/</sup>  
(Million Dollars)

Category of Costs	Present Cent	Aluminum Cent	2 Cent Introduction	Cent Elimination
<u>Treasury</u>				
Manufacturing and Distribution Costs	389	145	163	129
Capital Costs	72	94	3	
<u>Federal Reserve and Commercial Banks</u>				
Coin Processing	41	71	103 <sup>2/</sup>	17
<u>Retail Firms</u>				
Coin Processing	171	188	296 <sup>2/</sup>	40
<u>Automatic Merchandisers</u>				
Coin Processing		34	50	
<u>Consumers</u>				1,026 <sup>1/</sup>
TOTAL	673	532	615	186

<sup>1/</sup> Costs due to potential loss from rounding not included in total since it may be considered a transfer from consumers to retail firms.

<sup>2/</sup> Includes costs for equipment modification or replacement.



Table 22

Comparison of Costs Incurred by Affected Groups for One  
Cent Alternatives: Net Present Value of  
Total Costs from 1978 Through 1990 <sup>1/</sup>  
(Million Dollars)

Category of Costs	Present Cent	Aluminum Cent	2 Cent Introduction	Cent Elimination
<u>Treasury</u>				
Manufacturing and Distribution Costs	3,524	880	855	403
Capital Cost	130	163	66	
<u>Federal Reserve and Commercial Banks</u>				
Coin Processing	300	438	347 <sup>3/</sup>	61
<u>Retail Firms</u>				
Coin Processing	1,099	1,130	1,218 <sup>3/</sup>	118
<u>Automatic Merchandisers</u>				
Coin Processing		32	47	
<u>Consumers</u>				1,026 <sup>2/</sup>
<b>TOTAL</b>	<b>4,053</b>	<b>2,643</b>	<b>2,533</b>	<b>582</b>

<sup>1/</sup> Net present value discounted at 5 percent to 1990.

<sup>2/</sup> Cost to consumers due to potential losses from rounding of transaction was excluded from the total since it may be considered a transfer from consumers to retail firms.

<sup>3/</sup> Includes costs for equipment modification or replacement.



the public) of manufacturing and distributing cents for use in commercial transactions.

RTI forecasts show a range of 22 to 54 billion coins for the annual cent requirements by 1990, with a most likely estimate of 38 billion cents. Simultaneous with the accelerating cent requirements, the costs to the Mint associated with cent production and distribution are also expected to increase. Between 1980 and 1985, the Mint will enter an era when the cost copper cent production exceeds its face value of the cents produced. In 1985 a \$67 million deficit is projected for the estimated production of 25 billion cents, and a \$177 million deficit projected for the 38 billion cent production estimated for 1990.

The cost of cents to the public will be more substantial than manufacturing costs alone. The additional costs associated with the processing of cents incurred by Federal Reserve Banks and branches, commercial banks and retail firms prior to the utilization of these cents in commercial transactions significantly increases the public cost. These costs represent the operating (rather than capital) costs incurred by banks and retail firms for receiving, sorting, counting, wrapping, storing in vaults and distributing cent coins. These costs are based on the number of coins handled by banks and firms each year, defined as multiple of annual net payout. Exhibit 2 illustrates these total costs to the public for each cent manufactured; they increase from \$0.86 per 100 cents manufactured in 1975 to a projected \$1.84 per 100 cents manufactured in 1990.<sup>1/</sup>

During this fifteen year period, the percentage of net payout that simply constitutes replacements for attrition will increase. By 1990, less than 20 percent of net payout will add to the circulating pool. Exhibit 2 illustrates the total cost for cents that are additions to this pool. These costs increase from \$2.69 per 100 cents in 1975 to \$10.25 per 100 cents in 1990.<sup>2/</sup> Therefore the total cost to the public of adding each one cent coin to the circulating pool will exceed its face value by nine cents.

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<sup>1/</sup>These costs include Mint manufacturing costs and circulation costs to Federal Reserve banks, commercial banks, and retail firms. These total costs are divided by net payout to calculate a unit cost.

<sup>2/</sup>These costs differ from the first costs in that they are the unit costs for each cent added to circulation. To derive them, the total manufacturing and circulation cost was divided by only that percentage of net payout constituting a net addition to the circulating pool.



Impacts of Changing the Composition of the Cent to Aluminum

Satisfying the demand for aluminum cents as projected by RTI will require increased Mint capacity and corresponding capital investments. This change would create an immediate need for 27 additional stamping presses at an estimated total purchase and installation cost of \$3 million. By 1981, a new Mint facility must be operational, requiring a capital investment of \$90 million. The capacity of this proposed addition would be exceeded by 1986 when another facility would be necessary. The estimated cost of that facility, built to provide the additional capacity required to 1990, is \$85 million.

An aluminum cent will have one third the weight and one third the cost to the Mint of the present copper cent. The manufacturing process requirements differ substantially between the copper and aluminum cents. No annealing is required for aluminum coin blanks, and while the blanking press requirements are equivalent for copper and aluminum cents, approximately five percent greater stamping press capacity is required for aluminum due to the estimated reduction in die life. The total manufacturing cost for an aluminum cent is approximately one-third that of the copper cent.

The introduction of an aluminum cent coin will also affect the Federal Reserve system, commercial banks, retail firms, and automatic merchandising firms, primarily as a function of the difference in weight between copper and aluminum cents. Several larger banks including Federal Reserve banks or branches, which handle large numbers of cent coins, now weigh them for verification and counting. During a transition period, as copper cents cocirculate with aluminum cents, this method of processing cent coins will be obsoleted. Counting cent coins will necessarily be performed by alternative, and consequently more expensive method. The processing cost for the Federal Reserve banks and commercial banks is somewhat higher than that of the copper cent, due to the diseconomies of initiating an alternative cent handling procedure. The total cost for processing aluminum cents is projected at \$85.5 million



in 1978 increasing to \$322.3 million by 1990. The total costs for processing aluminum cents over this 13-year period are 11 percent greater than the comparable costs for processing copper cents. However, these higher processing costs only marginally offset the gains in the Mint's manufacturing costs.

Another group of coin users, the automatic merchandisers, would be affected by a change in the composition of the cent to aluminum. Many of the vending machines used for automatic merchandising now automatically reject copper cents. This rejection is accomplished by the weight of the cent pushing aside a cradle in the coin acceptance mechanism. The lighter weight aluminum cent coin could not activate this automatic rejection: the consumer would have to release the coin manually by depressing the coin return button or lever. If other coins were deposited into the machine while an aluminum cent rested in the cradle, they could build up, possibly resulting in a jamming of the mechanism. Costs associated with vending machines jams are estimated to be \$17.0 million annually during the first two years after the introduction of the aluminum cent.

#### Impacts of Introducing a Two Cent Coin

The two cent denomination was selected as the most acceptable additional minor coin on the basis of its potential efficiency in exchange. However, survey research indicated that a two cent coin would not be readily accepted as a substitute for the cent coin, so this alternative is premised upon a forced substitution through restricted production of one cent coins.

Restricted production of the cent and introduction of the two cent coin may defer expansions of mint capacity beyond those scheduled for the present coin system. Only the stamping press capacity is exceeded by 1990 when 96 additional presses would be required, representing a 68 percent increase over the present stamping capacity. However, those requirements would be partially offset by the elimination of annealing requirements if the two cent coin were aluminum.

The costs for minting and distributing a brass two cent coin are three times higher than those of the aluminum coin, primarily due



to the higher metal cost. Based on this differential in manufacturing costs, RTI recommends that a two cent coin, if introduced, be minted of aluminum. The addition of a two cent coin to the currently-minted denominations will reduce the requirements of one cent coins and the costs associated with their handling. However, the introduction of this additional denomination will require modification or replacement of coin sorting and other coin processing equipment currently used by retail firms and banks. In addition, modifications of the coin acceptor/rejector mechanisms in most of the standard vending machines will be necessary to insure that the coin is accepted as valid, or automatically rejected. Furthermore, the increased complexities of handling and accounting for an additional minor coin denomination may cause public resistance to its use.

Costs would be incurred by Federal Reserve Banks, commercial banks, and retail firms to maintain an adequate supply of both one and two cent coins. Although there will be fewer coins, the higher cost of circulating the two cent coins will translate into only marginal coin processing savings over the present system. This reflects the greater expense of handling a larger coin as well as the complexity of handling an additional denomination.

With the addition of a new coin denomination, modification or replacement of coin processing equipment will be a major cost element. Any business utilizing automatic coin processing equipment will have a limited number of options: to process the new coin manually, to modify existing equipment to handle the coin, or to purchase new equipment designed to process the coin.

Various questions were asked through the survey of the selected groups of coin users to ascertain the numbers and types of coin processing equipment utilized, and the estimated costs of modifying or replacing that equipment in the event of the introduction of a two cent coin. Based on the data provided by the respondents, RTI computed cost impacts of \$125 million for the retail merchandising industry and \$53 million for the commercial banking industry. Similar modification and replacement costs were estimated for Federal Reserve Banks and branches at \$0.5 million.<sup>1/</sup>

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<sup>1/</sup> Based on an estimated 400 coin counting, sorting, and wrapping machines.



### Impacts of Eliminating the Cent Coin

Discontinuing cent production would reduce the manufacturing requirements of the Bureau of the Mint by more than 60 percent. The number of coins manufactured could decline from 13 billion in 1977 to 10.3 billion in 1978 to 4.5 billion in 1979. Total capacity requirements would not exceed 6.3 billion coins annually through 1990. The capacity at the Philadelphia Mint would be ample to produce the total coin requirements through 1990 and would encounter stamping capacity constraints only by 1995.

The direct short-term financial impacts on the Bureau of the Mint of terminating cent production will amount to an estimated gain in seigniorage (the difference between manufacturing costs and the face value of the coin produced) of \$357 million, due to the increased requirements for nickels and dimes. However, the associated economic effects are substantial. The immediate impacts include:

- a. Removal of Mint operations and a reduction in force of 480 persons in Denver and 54 persons in West Point.
- b. A cutback of 4,500 shipments of coins, coin strip, and scrap annually; creating losses in revenue of over \$2 million to the trucking industry.
- c. A reduction in purchases of 100 million pounds of coin strip by the Mint; producing a loss in direct revenues of \$14 million to the strip manufacturers.

The net societal effects of the above impacts are impossible to measure. Rapid termination of 75 percent of Mint production will displace human and capital resources and eliminate a market for products and services for the private sector. The net effects will depend upon the success of the displaced employees in obtaining alternative employment, on the Government's ability to salvage the excess plant and equipment, and on the private vendors' success at finding alternative markets for their products.

The primary advantage to the Government of implementing this strategy is that immediate resolution of the cent dilemma will be less costly



than increasing Mint capacity to meet an artificial demand caused by the cent's minimal purchasing power. Eventually, an alternative action must be taken, and the minimum displacement of personnel and resources will occur if that action is taken soon rather than later.

There will be some additional coin processing costs to Federal Reserve Banks, commercial banks, and retail firms to handle additional nickels and dimes in circulation. Nonetheless, in 1990, these costs would be only one-tenth those estimated for processing the copper cent.

Potentially the greatest costs resulting from the elimination of the cent would be incurred by the consumer in the rounding of retail transactions. If transactions were rounded up and down with equal frequency, no net gain or loss would result. If the merchant gained an average of 0.5¢ per transaction, the loss to the public would be in excess of \$1 billion. This loss represents only one-half percent of the total value of cash transactions conducted in the U.S. in 1974. However, it comprises a much greater percent of lower valued transactions: 0.5¢ represents an increase ranging from 0.5 percent on a \$1 item to 2 percent on a 25¢ item.

The overall impact on consumers due to rounding cannot be estimated precisely, because it will consist of the net effect of retail pricing strategies and consumer purchasing strategies. Merchants may price products to take advantage of rounding gains only for uniform repetitive transactions; for example, pricing an admissions ticket or pricing hamburgers and soft drinks at fast food stores. When transactions generally involve varied multiple items, such as in discount or grocery stores, pricing gains will be minimal.

The consumer generally selects the combination of goods to be purchased. Thus, if rounding occurred to his disadvantage the consumer could add an additional item to his purchase, such as a 2¢ mint, or discard an item in order to produce rounding in his favor.

Finally, from a marketing perspective the competitive nature of the retail sales industry will continue to be the dominant influence on pricing strategies, and strategies capitalizing on rounding will be effective only in isolated segments of the industry.

On the basis of the factors listed above, the potential loss to consumers due to rounding is estimated at the maximum of \$1 billion,



but is realistically anticipated to be less.

#### Impacts of Introducing a Smaller One Dollar Coin

The impacts of introducing a more conveniently sized one dollar coin are not of the same type or magnitude as the impacts that would be precipitated by implementing any of the cent alternatives. They are also less easily quantified. The demand for the dollar coin, and the resulting production and manufacturing requirements are less reliably projected than those for the cent options: the manner in which the coin will circulate is not as predictable and will depend upon the response of the automatic merchandising industry. If the industry's current enthusiasm for the introduction of the smaller coin translates into an expanded vending market that accepts the new coin for purchases, the coin may be widely accepted within a relatively short period of time. The extent of this acceptance and the length of time involved in transition will almost wholly be the responsibility of the automatic merchandising industry.

The incremental costs to the U.S. Mint for producing a conveniently sized one dollar coin will be minimal. The costs to other sectors will only be marginally greater. Commercial banks and retail firms were requested through the survey of coin users to estimate the personnel and equipment costs that would be incurred in accommodating a change to a more conveniently sized one dollar coin. Based on these cost estimates, personnel costs of \$3 million for commercial banks, and \$13 million for retail firms may be incurred.

The costs to modify coin processing equipment will probably be similar to those estimated earlier for the introduction of a two cent coin. These costs were \$125 million for retail firms, \$53 million for commercial banks, and \$0.5 million for the Federal Reserve Banks and branches.

The present one dollar and half dollar coins do not circulate readily. They are at least anachronisms, and continuing to mint them will serve no useful purpose other than satisfying numismatic demand. A change in size would at least allow the potential for ready circulation. Changing the sizes of both coins would not facilitate discrimination



since the quarter, half dollar and dollar coins could not be easily distinguished by their sizes. Therefore, the one dollar coin was selected as the most feasible candidate for a change in size. This change will effectively obsolete half dollar coins and the Department of the Treasury should terminate its production subsequent to the introduction of the small dollar coin.

The one dollar coin may reduce the future requirements for one dollar notes. However, this coin should not be introduced as a substitute for the note; it is not a convenient substitute in all situations, and the public may justifiably oppose this strategy. After the coin is introduced, there may be a time lag before the coins are popularly accepted as numismatic demand is satisfied, and vending and coin processing machines are adapted for the new coin. If the one dollar coin does circulate freely, intentional substitution for one dollar notes may begin.

The illusion that the introduction of this coin will imply a corresponding price increase in products sold through automatic merchandising is not based on sound economic reasoning. The one dollar coin will serve to expand the market for vended products and will make some purchases more convenient. For example, a one dollar coin could be used rather than three quarters in purchasing a \$.75 package of cigarettes. However, the existence of the additional coin alone would not induce a price increase in the product.

#### Impacts of Alternative Cent Strategies

Both negative and positive impacts resulting from the implementation of any of the three alternative strategies for alleviating the cent dilemma and introducing a smaller one dollar coin are summarized here.

#### Alternative 1: Change the Material Composition of the Cent Coin to Aluminum

##### POSITIVE IMPACTS

- . Protected seigniorage
- . Shipping and handling weight reduced



NEGATIVE IMPACTS

- . Increased production requirements as aluminum cents replace hoarded copper cents
- . Cent coins cannot be counted by weight while aluminum cents cocirculate with copper cents
- . Light weight coin may jam vending machines
- . Popular perception of lightweight coins as a valueless "nuisance" may increase cent attrition rate, requiring even greater production of cents and consequently expanded Mint capacity

Alternative 2: Addition of a Two Cent Coin

POSITIVE IMPACTS

- . Reduced coin production: lower Mint capacity and storage requirements
- . Gain in seigniorage
- . Provides transition to elimination of the cent with less rounding impact

NEGATIVE IMPACTS

- . Not compatible with existing coin processing equipment - requiring modification or replacement of equipment in the field
- . Increase potential for clerical error with handling of additional coin in retail transactions
- . Additional complexity of coinage system to general public
- . Lightweight coin may jam vending machines

Alternative 3: Elimination of the Cent

POSITIVE IMPACTS

- . Reduced Mint production costs
- . Reduced costs of shipping, storage, handling cost to Federal Reserve Banks, commercial banks, and retail merchandising firms



- . Free funds tied up in cent inventories for commercial banks and retail firms
- . Cost savings passed-on to consumers

#### NEGATIVE IMPACTS

- . Loss of cent seigniorage
- . Immediate reduction in force of more than 530 persons
- . \$2 million annual loss in revenue to trucking industry
- . \$14 million annual loss in revenue to strip manufacturers
- . Inflationary impact from rounding of transactions
- . Retraining on rounding for personnel for handling cash transactions
- . Would effect accounting system based on \$0.05 for cash transactions, \$0.01 for check and credit transactions
- . Decreased pricing flexibility
- . Sales tax legislation required

#### Impacts of Introducing a Smaller One Dollar Coin

The types of impacts anticipated with the introduction of a smaller one dollar coin are as follows:

#### POSITIVE IMPACTS

- . One dollar coin will result in cost savings to government if consumers substitute coins for bills
  - bill costs 1.2¢ and has an average life of 18 months
  - coin may cost 3.0 to 4.0¢ but has average life of 15 years
- . Reduction in manufacturing costs for Treasury
- . Conveniently sized one dollar coin will expand the market commercial opportunities of the vending industry.
- . One dollar coin will no longer be a commercial oddity.



## NEGATIVE IMPACTS

- . Costs will be incurred in adapting to a new sized coin.
- . If coin fails to circulate, there will be a cost to those firms that invested in adapting equipment
- . Although present half dollar and dollar coins do not circulate, some consumers may react negatively to their elimination

Significant problems and benefits are associated with each of the primary coinage options. The increasingly disproportionate requirement for copper pennies, which are becoming more costly to manufacture and circulate and less useful in commerce, is creating an economic dilemma. The public and private sector organizations surveyed oppose the alternative cent strategies, but the expressed resistance does not mitigate the need for change.

On the basis of overall economic advantage, RTI recommends termination of cent production by 1980. Weighing the effects of all factors, the Government may elect to follow another strategy. In any case, a decision point is imminent. If a decision for change is deferred, planning for Mint manufacturing capacity expansion to meet requirements beyond 1980 must be accelerated.

Decisions regarding the dollar coin may be treated independently because they will not substantially affect manufacturing requirements. Because they are cumbersome, half dollar and dollar coins do not circulate and are not useful in commerce. A circulating dollar coin could provide a cost saving to the public and could enable greater flexibility in commerce. On this basis, RTI recommends replacing the present dollar coin with a smaller one. Elimination of the half dollar is recommended, because it could not be sized between the quarter and a small dollar and be easily discriminated from them.



Ms. HACKEL. The study concluded that a smaller coin would significantly broaden the capabilities of consumer cash transactions in the United States.

On December 31, 1976, the previous administration submitted a report to Congress urging Congress to consider authorizing a new smaller one dollar coin. The coin to be authorized by the proposed bill would be sized between the quarter and the half dollar. It would weigh one-third of four quarters. Such a smaller, more conveniently sized coin would gain wide acceptance by the American people and we would find it a very useful denomination in our coinage system. Our recommendation to issue the smaller size coin is part of Treasury's long-range plan for the currency and coinage system of the Nation. Other than the smaller dollar, we do not anticipate at this time that any additional changes in the coinage system would be necessary, not at this time surely. Therefore, the present administration has parted from the views of the former administration which had proposed that Congress consider the elimination of the 1-cent coin. This administration feels that the 1-cent coin can be and should be a useful part of our coinage system. Also, rather than seeking statutory repeal of the authority to mint the half-dollar coin, this administration feels that it is sufficient to limit production to meet demand and as best we can determine that demand is primarily for gaming and numismatic purposes.

It is my understanding that, with respect to Federal Reserve notes, the Department plans to produce the volume of \$1 notes to meet the needs of the Nation's commerce and trade. It's our expectation that were the smaller \$1 coin to be approved and gain wide circulation that the \$1 note would be displaced to some extent at least. It is true that the acceptance of the \$2 Federal Reserve note has been disappointing. On the other hand, Treasury feels that with wide promotional efforts and the cooperation of the major retailers and banks it will gain acceptability especially used in conjunction with the smaller \$1 coin.

In reference to technical considerations, in determining the appropriate size of the coin, the mint took into consideration several factors, including convenience in handling and the potential for counterfeiting or slugging. The recommended weight of 8.1 grams is the lowest possible weight for convenient handling by the public, while at the same time being heavy enough to be readily distinguishable from the quarter. The quarter weighs 5.67 grams. Therefore, the new dollar would be about 43-percent heavier than the quarter.

I should point out, Mr. Chairman and Senator Sparkman, that the weight specified in the proposed bill is 8.5 grams. However, after we submitted the bill to Congress, some of the leading coin equipment manufacturers contacted us and advised that a slightly lower weight would facilitate high speed coin handling. Therefore, we feel this is a legitimate consideration and we now recommend that the figure of 8.5 be amended to 8.1 grams. That would be in section II, line 9.

For purposes of high utilization in automatic merchandising devices, it is essential that the size of the coin preclude the use of readily available low value foreign coins of identical size to slug the equipment. The diameter of 1.043 inches in size, or 26.5 millimeters, best meets these purposes and has been endorsed by leading banking and automatic coin handling equipment manufacturers.



The new dollar would be distinguishable from the quarter by touch as well as by sight. The design proposed would have an 11-sided inner border on both sides of the coin within the outer circular configuration. This design element would provide a means for tactile recognition by the visually handicapped and, at the same time to prevent counterfeiting, the coin would have a reeded edge as do all other higher value U.S. coins.

Except for the two minor denomination, the cent and the nickel, all the rest of the coins are made of a cupronickel alloy bonded on both sides to a pure copper core. This particular laminate has the advantage of superior wear and appearance and relative low cost to produce. Overall it is approximately 90 percent copper and can be easily fabricated into coinage strip and its unique electrical properties and density make it very difficult to counterfeit or slug.

We tested many other materials and the results of the studies indicate clearly that the best material is the material we propose.

Further, to prevent the slugging of the new coin by reducing the diameter of the current half dollar, we are changing the thickness as compared to other U.S. coins, the cupronickel cladding which is 75 percent copper and 25 percent nickel, will constitute one-half the total thickness of the coin rather than one-third, as in the current U.S. higher denomination coins.

In reference to economic considerations, if the proposed dollar coin is accepted by the general public, it could result in considerable savings both for the U.S. Government and the taxpayer of course, and also for the economy generally. The current \$1 coin costs about 8 cents each to produce as compared to the cost for the new coin which will be 3 cents each, and based on the projected budgeted production for fiscal year 1978 the new coin would save \$4.5 million per year on that alone. If the coin gains wide acceptability, of course the savings would multiply.

At the present time there's an increasing demand for the \$1 note and if the smaller \$1 coin is available to displace at least 20 percent of the \$1 notes, the projected \$100 million expansion of the Bureau of Engraving and Printing which would otherwise be necessary could be deferred indefinitely. The \$1 note now represents 60 percent of currency production; 80 percent of those are replacement notes. One dollar notes have a service life of about 18 months in circulation as compared to 15 years for a coin and the \$1 notes cost nearly 2 cents as compared to the coin which will cost 3 cents.

Governor Philip Coldwell, of the Federal Reserve Board, testified before the House Subcommittee on Historical Preservation and Coinage as follows, and I quote—

The CHAIRMAN. Are you getting into the inflation aspect now?

Ms. HACKEL. We're getting into the savings and then we'll get to the inflation?

The CHAIRMAN. Before you finish the savings, I don't see anything in your statement giving an estimate—maybe you don't want to give one—an estimate of what the overall savings are likely to be in your judgment on an annual basis. Can you give us that, say 5 years out?

Ms. HACKEL. It's impossible. It depends on the circulation.

The CHAIRMAN. I'm asking you to make reasonable assumptions and give us your best guess.



MS. HACKEL. If we can displace, as Governor Coldwell testified, one-half at least of the \$1 notes within the next 5 to 10 years, the Federal Reserve would save about \$11 million and we would be saving 80 percent of the production costs of all the notes displaced. We can give you more exact figures if you would like it, but it surely will depend on whether or not the coin is accepted.

THE CHAIRMAN. That would add up to \$100 million, more or less?

MS. HACKEL. It would save \$100 million in the Bureau of Engraving and Printing plant alone.

THE CHAIRMAN. And that's a net saving? The saving would be offset by the cost of this coin? The cost of the coin is included? A net saving of \$100 million?

MS. HACKEL. We'll give you more specifics on that if you would like, Senator, for the record.

THE CHAIRMAN. Fine.

[The following table was received for the record:]

*Cost savings estimated by the Federal Reserve Board and Treasury Department*

Percent displacement of dollar notes:	Annual savings in production costs (millions)
0	\$4½
20	12
50	19
100	31

The Federal Reserve would also realize savings in lower handling costs for the coin. If dollar coins replaced half the dollar notes, and if each coin was processed one time per year, the Federal Reserve would save an additional \$2 million annually. In addition, displacement of \$1 notes by the small dollar coin would permit the Treasury Department to defer indefinitely a facility expansion for the Bureau of Engraving and Printing, which would cost an estimated \$100 million.

MS. HACKEL. As Governor Coldwell testified,

The Federal Reserve spent \$48 million for the printing of the new currency in fiscal year 1977. Of that \$48 million, \$28 million was spent to print nearly 2 billion \$1 notes. Thus, if all these dollar notes were replaced by coins, the Federal Reserve would realize savings of \$28 million in printing costs.

And if coins only replace half the dollar notes, it would be a savings of \$11 million.

Also he goes on to say,

If dollar coins replaced half the dollar notes, and if each coin were processed one time per year, the Federal Reserve would save an additional \$2 million annually in currency processing costs.

There are substantial cost savings to be realized with the smaller dollar coin, assuming it gains acceptance by the general public.

In reference to inflationary impact, we have conducted a study in the Department of the Treasury, the Office of Financial Analysis, which indicates that we can see no potential inflationary impact of the new dollar coin. We agree with the assessment made by Governor Coldwell in his testimony where he stated in response to a question that he didn't think the new coin would present inflationary problems.

We suggest that the increased use of higher value coins in this and other developed countries is the result of inflation rather than the cause of inflation. As the purchasing power of the lowest denomination note declines, the highest value coin becomes a far more necessary component of a nation's coinage and currency system.



Also, while the new coin would enable the automatic vending machine industry to offer more items of higher value to the public, the pricing structure would still be governed by market forces. It seems reasonable to assume that any automatically vended item priced excessively high would be rejected by the consumer.

With reference to distribution of coins, at such time as the legislation is approved, the mint would immediately start the contracting process for the necessary coinage strip and this would take approximately 3 months. It would take approximately 2 months for the fabrication of dies necessary and to procure the production tooling, during which time the coinage strip would also be procured.

So if you approve this legislation and the President signs this bill, we can start production, assuming the recommended design is approved, 3 months thereafter, and our plans are to undertake production at an accelerated rate to produce 500 million coins in 6 months, so there would be a sufficient supply when we initiate distribution of the coins to insure adequate and fair supply of coins throughout the Nation.

In reference to circulating efforts, a task force composed of Treasury and Federal Reserve officials are meeting to determine various methods of stimulating acceptance of the coin. There's no question but that we will need the full and complete support of the major retailers, commercial banks, and the general public. The task force is studying those banks and retail industries which handle a significant amount of currency and coins to determine the advantages of the new coin and also to identify potential areas of resistance. To have it widely accepted there will be an educational program required and we will need the cooperation of the major retailers and banks.

Only after clear success has been achieved in circulating the new coin could programmed reduction of \$1 bill production be considered.

In reference to the design, the design on the proposed coin has been the subject of considerable public attention during the past several months. The Treasury Department has recommended on the obverse side a spirited soaring eagle. On the reverse side, the Treasury Department has recommended a modern stylized female Liberty head. This sort of Liberty head appeared on the first U.S. coin in 1739 and has appeared in various forms on nearly all denominations of coins since that time. The female Liberty head is symbolic of and honors all women rather than any particular individual, and it is accompanied by the Phrygian cap which has been a symbol of freedom for over 2,500 years.

We believe that it would be most appropriate that the historic Liberty head design once again return to an American coin. However, we fully recognize that there are many outstanding American men and women who have made substantial contributions to our country who are worthy of recognition and Susan B. Anthony, whose likeness would be placed on the new coin under Senate bill 3036, is certainly one of them.



As a matter of fact, there have been over 100 different candidates suggested to the Treasury Department by the general public and several bills have been introduced in Congress to honor such outstanding Americans as Georgia Gray, Abigail Adams, Harriet Tubman. With your permission, Mr. Chairman, I would like to introduce into the record our list of suggested candidates.

The CHAIRMAN. We'll be happy to have that.

Ms. HACKEL. Thank you.

[The information referred to follows:]

SUMMARY OF SMALL DOLLAR DESIGN MAIL RECEIVED BY BUREAU OF THE MINT JANUARY 1-JUNE 30, 1978

	General	Congressional	Total
Total letters.....	310	60	037
Included in above:			
Approve small dollar coin.....	18	6	24
Disapprove small dollar coin.....	18	26	44

SUGGESTIONS FOR DESIGN

	General		Congressional		Total approved	Total disapproved
	Approve	Disapprove	Approve	Disapprove		
Susan B. Anthony.....	50	2	3		53	2
Liberty head.....	39	10	1	1	40	11
Eleanor Roosevelt.....	21	2	1		22	2

Other Suggestions	General	Congressional	Total
Betsy Ross.....	16	1	17
Helen Keller.....	15	3	18
Elvis Presley.....	7		7
Jane Adams.....	6		6
Maggie Walker.....	6	1	7
Amelia Earhart.....	5		5
Clara Barton.....	5		5
Pioneer-type woman.....	4		4
Harriet Tubman.....	4		4
Neille Tayloe Ross.....	4		4
Pocahontas.....	3	1	4
Molly Pitcher.....	3		3
American Indian.....	3		3
Harriet Beecher Stowe.....	3		3
Elizabeth Cady Stanton.....	2		2
Grandma Moses.....	2		2
Abigail Adams.....	2	1	3
Mary McLeod Bethune.....	2	1	3
Typical man and woman.....	2		2
Harry S. Truman.....	2		2
Statue of Liberty.....	2		2
Florence Nightingale.....	2		2
Dolley Madison.....	1	2	3
Martha Washington.....	1	1	2
Sacajawea.....	1	1	2
Dorothea Lynde Dix.....	1		1
"Uncle Sam".....	1	1	2



## SINGLE SUGGESTIONS

## GENERAL

The Blessed Mother  
 Shirley Temple Black  
 Annie Oakley  
 General Douglas MacArthur  
 Elizabeth Blackwell  
 Thomas Jefferson  
 Jackie Kennedy Onassis  
 Rose Kennedy  
 First Woman Astronaut  
 Lucy Stanton  
 Golda Meir  
 Ethel Barrymore  
 Helen Hayes  
 Madame Shuman-Heink  
 Betty Crocker  
 Kitty LeRoy  
 Klondike Kate  
 Kitty "Madame Bulldog" O'Leary  
 Dorothy Andrews Elston  
 Katherine L. Bates  
 Roslyn Carter  
 Pat Nixon  
 Jane Pittman  
 Elizabeth Pole  
 Isabella Baumfree (Sojourner)  
 Elke Sommers  
 Jill Kinmont  
 Emily Dickerson

Margaret Fuller  
 Zoran Neale Hurston  
 Abraham Lincoln  
 Typical Mother  
 Little Girl  
 Marie Curie  
 Saint Anthony  
 Thomas Paine  
 Rev. Kathryn Kuhlman  
 Ruth (in Bible)  
 Face of a Famous Veteran  
 Typical American Family  
 Tomb of the Unknown Soldier  
 Typical Housewife  
 Four Faces of Common People  
 Landing on the Moon  
 Sun Rising  
 Miscellaneous, 13

## CONGRESSIONAL

Martin Luther King, Jr.  
 Queen Isabella  
 Sarah Josepha Hale  
 Eisenhower  
 Map of United States  
 A Fishing Vessel  
 Morgan Dollar Design  
 Miscellaneous, 2

Total Names, 82

SUMMARY OF RECOMMENDATIONS FOR NEW DOLLAR DESIGN RECEIVED BY THE OFFICE OF PUBLIC AFFAIRS,  
 DEPARTMENT OF THE TREASURY, AS OF JULY 7, 1978

Content analysis	Raw count	Percent of total received to date (8,200)
Susan B. Anthony <sup>1</sup> .....	2,598	32
Helen Keller <sup>1</sup> .....	1,275	16
Betsy Ross.....	844	10
Eleanor Roosevelt <sup>1</sup> .....	798	10
Miss Liberty <sup>1</sup> .....	327	4
Harriet Tubman.....	200	2
Pioneer women.....	185	2
Amelia Earhart.....	141	

<sup>1</sup> Mentioned in May 7 Parade article.

There is a minimum of 100 different specific design suggestions. Aside from those mentioned above, none received more than 2 percent of the total received to date.

The four alternatives mentioned in the Parade article received a total of 4,998 suggestions (61 percent). Votes cast for alternatives not mentioned in the article total 3,202 (31 percent).

We are still receiving some letters, but not enough to change the percentages substantially.

As of July 7, the Unit had acknowledged all incoming letters with a postcard. Total number of postcards mailed as of the 7th was 4,589. Note: Number of postcards mailed reflects letters received (minus those with insufficient address), whereas 8,200 total received reflects suggestions.



SUMMARY OF SMALL DOLLAR DESIGN SUGGESTIONS RECEIVED BY DEPARTMENT  
OF THE TREASURY

Susan B. Anthony  
 Betsy Ross  
 Helen Keller  
 Eleanor Roosevelt  
 Amelia Earhart  
 Miss Liberty  
 Nancy Hanks  
 Clara Barton  
 Martha Washington  
 Virgin Mary  
 Mrs. Carter  
 Madame Curie  
 Miss Pittman  
 Molly Pitcher  
 Harriet Tubman  
 American Pioneer Woman  
 Teddy Roosevelt  
 Mother  
 Pocahontas  
 Mary McLeod Bethune  
 Betty Ford  
 Margaret Chase Smith  
 Elizabeth Blackwell  
 Lucy Stone  
 Martha Mitchell  
 Florence Nightingale  
 Abigail Adams  
 Jane Addams  
 American Woman  
 Margaret Corben  
 Nellie Tayloe Ross  
 Sacajawea  
 Elizabeth Cady Stanton  
 Indian Woman  
 Margaret Mead  
 President Carter  
 Rose Kennedy  
 Shirley Temple Black  
 Sister Kenny  
 Maggie Lena Walker  
 Francis Perkins  
 Pat Nixon  
 Mary Harris "Mother Jones"  
 Hubert Humphrey  
 Elizabeth Taylor  
 George Washington  
 Bess Truman  
 Willa S. Cather  
 Elvis Presley  
 Franklin D. Roosevelt  
 Cameo Head  
 Pilgrim Child  
 Riderless Horse  
 Andrew Jackson  
 Margaret Sanger  
 Mary Edwards Walker  
 Teacher  
 Black Woman  
 Helen Stokes Greven  
 Deborah Sampson  
 Mary Pickersgill

Julia Gordon Low  
 Annie Goodrich  
 Abby Hutchinson  
 Marian Anderson  
 Patricia Harris  
 Dolley Madison  
 Barbara Jordon  
 Grandma Moses  
 Julia Ward Howe  
 Mama Leone's  
 Jane Delano  
 Fanny Farmer  
 Whistler's Mother  
 Frances Willard  
 Charlotte Campbell, D.S.C.  
 Clara Maass  
 Miss America 1979  
 Margaret Lynn Lewis  
 Myself  
 Harriet B. Stowe  
 Sojourner Truth  
 Jackie Onassis  
 Mamie Eisenhower  
 Ella Grasso  
 Martin Luther King, Jr.  
 Francine Neff  
 Joan of Arc  
 Ivy Baker Priest  
 Ann Jarvis  
 Gold Star Mothers  
 Dorothea Dix  
 Virginia Dare  
 Charlotte P. Gilman  
 Immigrant Woman  
 Emma Lazarus  
 Mother-Sullivan Bros.  
 Lucy Wheelock  
 Housewife  
 Louisa May Alcott  
 Anne Lee  
 Oveta Culp Hobby  
 Lucretia Mott  
 Anne Sullivan  
 Lillian Gilbreth  
 Elizabeth Gurley Flynn  
 Pearl S. Buck  
 Mary Baker Eddy  
 St. Francis Cabrini  
 Lady in the Moon  
 Sarah Hale  
 Harry S. Truman  
 Babe Didrikson Zaharias  
 Wilma Rudolph  
 Belva Lockwood  
 Maria L. Sanford  
 Jane Russell  
 Maude Adams  
 Dr. Alice Paul  
 U.S. Flag  
 Jenny Lind

Total number of names, 121



## SUMMARY OF QUESTIONNAIRE RESPONSES SUBMITTED BY COIN WORLD TO BUREAU OF THE MINT

	1st place	2d place	3d place	Total votes
Liberty head design.....	564	68	40	672
Statue of Liberty.....	88	290	94	472
American Indian.....	33	119	179	331
Buffalo.....	7	37	73	117
Pioneer type woman.....	15	35	49	99
Theodore Roosevelt.....	16	30	37	83
Susan B. Anthony.....	35	13	11	59
Hubert H. Humphrey.....	15	18	19	52
Eisenhower.....	6	20	19	45
George Washington.....	5	9	30	44
Eleanor Roosevelt.....	9	15	10	34
Amelia Earhart.....	8	11	11	30

Ms. HACKEL. We have, in all of the lists, the leading candidate Susan B. Anthony; however, in the numismatic press, according to a poll conducted by Coin World, the overwhelming candidate is the Liberty Lady design.

The CHAIRMAN. Those are the coin collectors; right?

Ms. HACKEL. Yes; that's correct, Mr. Chairman.

In order to continue to commemorate President Eisenhower, we would continue to mint 40 percent silver dollar coins in the present size so that for the first time, if this bill is approved, we would have a commemorative coin differing not only in alloy and design but also in size from the circulating coin of the same denomination. If Congress sees fit to select a different design for the new coin—be it Susan B. Anthony or any other—that of course is its prerogative. While we continue to believe that the Liberty head design should be depicted on the new coin, the Treasury Department will of course defer that decision to Congress. Essential, in our view, is that the new dollar coin be authorized without undue delay so that we may proceed expeditiously with the production and issuance of the new coin.

This concludes my statement, Mr. Chairman and Senator Sparkman, and I would be pleased to try to respond to any questions.

The CHAIRMAN. And Senator Lugar appeared after you started.

Ms. HACKEL. And Senator Lugar. How do you do? I'm sorry I didn't know you came in.

The CHAIRMAN. Thank you very much, Ms. Hackel, for a superlative presentation and covering this so broadly and so usefully.

You put only a very modest emphasis on the design because these other elements have been left out and certainly my questions are going to concentrate on the other elements you discussed, whether or not we should have the coin at all; but I take it then that while you have made a strong case for Miss Liberty that you're not in concrete and if Congress, as you say, decides to go ahead with Harriet Tubman or Susan B. Anthony or whoever you would accept that.

Ms. HACKEL. As I testified, that's the prerogative of Congress. As a matter of fact, the Department takes the view that any decision to commemorate a distinguished American or historical event should originate in Congress rather than the Treasury Department.

The CHAIRMAN. Now the first element is the public convenience here. That's the first argument for a new coin. You come down very strongly on the side that this would be convenient to the public. It



would, in your view, increase the competitiveness in the marketplace that would take it in part because one of the most efficient means of distributing many goods is through vending machines. For example, because it economizes on manpower and labor it's convenient to the public, and obviously it's very inconvenient when you're limited to by and large dimes and nickels and quarters.

Ms. HACKEL. That is a consideration, but a major consideration is the cost savings that would result to the U.S. Government.

The CHAIRMAN. I want to come to that second. I'm talking about convenience to the public first, if it were accepted.

There are two elements here. One is that you would be able to use what many of us have found to be convenient, on occasion at least, vending machines more broadly. No. 2, you could carry the coin more easily. Obviously half dollar or dollar pieces are very heavy for most of us to be carrying around in any numbers. It would obviously be more convenient to have a \$1 bill.

Ms. HACKEL. You could have \$3 for the weight of \$1 worth of quarters right now.

The CHAIRMAN. So from the standpoint of convenience, are there arguments made the other way, that this would perhaps confuse the public or that this would be difficult for the public to have this additional coin?

Ms. HACKEL. There was some question as to whether or not the weight and size differential would be sufficient enough to distinguish it from the quarter. But actually it bears the same relationship to the quarter as the quarter bears to the nickel. In addition, we would have the 11-sided border for the visually handicapped.

The CHAIRMAN. How about the savings? Is there any difference of opinion on that \$100 million saving which you claim this would permit? Are there those who argue it would be far less, in fact, it might cost money instead of saving money?

Ms. HACKEL. Senator, that \$100 million figure that I gave was the Bureau of Engraving and Printing estimated cost. There are other savings in addition to that. That was just one potential saving.

The CHAIRMAN. What are the overall savings?

Ms. HACKEL. \$4.5 million a year based on our current projected budgeted production of \$1 coins for fiscal year 1978. At least \$4.5 million a year.

To the extent it displaces \$1 notes, the savings would be considerable for the Federal Reserve System, which in the last analysis of course—

The CHAIRMAN. You say \$4.5 million a year. My question was how much is the overall, counting the Federal Reserve, all of the savings to the Federal Government. I understood you to say on some assumptions, on the assumption that this would replace half of the \$1 bills, the savings would be close to \$100 million.

Ms. HACKEL. No; I am sorry, \$100 million as applied to the Bureau of Engraving, and that is a projected cost estimate.

The CHAIRMAN. That is not an annual savings? That is a one-time saving?

Ms. HACKEL. Yes; that would be a one-time saving. Now in reference to displacement of the \$1 notes, if one-half of the \$1 notes were dis-



placed, Governor Coldwell says it will be an annual saving of \$11 million in terms of his costs for the production of notes, plus another \$2 million savings, as I recall his testimony, for the handling of the coins compared to currency.

The CHAIRMAN. That makes a total of \$17.5 million?

Ms. HACKEL. If half are displaced. However, if half are displaced, we realize more than the \$4.5 million in savings by reducing the size of the coin, because it will cost 3 cents instead of 8 cents.

The CHAIRMAN. In view of the fact we have had a great deal of difficulty with these dollar and half dollar coins in the past, have you projected how long it might take to achieve acceptance of this new dollar coin?

Ms. HACKEL. Well, the task force is considering methods of stimulating public acceptance of the \$1 coin. It is hard to tell. We have got to have the complete cooperation of the major retailers and commercial banks if the \$1 coin is going to be accepted by the American public.

The CHAIRMAN. Well, they both are appearing today, indicating they are negative on this. That doesn't sound as if you will get that kind of cooperation.

Ms. HACKEL. Well, I think that may be a difficulty we will have to overcome. But I am certain eventually we will gain the cooperation of the commercial banks, the retailers, and any other interested people in the U.S. Government, if we can prove there are advantages to handling the smaller coin.

The CHAIRMAN. We should be fair to the banks and the retailers. I don't mean they are being unreasonable. They obviously want to improve our system as we all do. But they have a legitimate argument, they say the administration's proposal does not go far enough in streamlining our currency and coinage system, that is merely applying a bandaid when a more serious operation is called for.

Is there any other coin or Federal Reserve note that might be headed for obsolescence or future revision?

How about the half dollar? You indicated that doesn't circulate much.

Ms. HACKEL. The administration made the decision not to request statutory repeal of authority to mint the half dollar at this time. It is not widely circulated, it won't interfere to any extent whatsoever with the acceptance of the new smaller dollar coin, and we deem it sufficient at this time just to limit supply to meet the demand.

The CHAIRMAN. What assurance can you give the banks and retail merchants that they won't have to go through this again in a few years?

Ms. HACKEL. All we can do is suggest that this is part of the long-range plan and hopefully the smaller \$1 coin will be successfully used in our system.

The CHAIRMAN. How about the little grocery store that has a cash register that was developed for pennies and nickels and dimes and quarters? You come in with this new coin, don't they have to buy a new cash register, or go through considerable expense to fix theirs up, or are they left out of the competition?

Ms. HACKEL. It is my understanding, Senator, that they can buy an insert with additional slots at a relatively low cost.

The CHAIRMAN. What do you mean by "a relatively low cost"?



Ms. HACKEL. Not more than 8 to 10 percent of the cost of the original register.

The CHAIRMAN. You advise that the task force, composed of officials from Treasury and the Federal Reserve System, is studying those banks and retail industries which handle big quantities of coins and currency to identify the advantages of using this new coin. What about the general public? Has there been any research done on consumer attitude on the proposed coin?

Ms. HACKEL. We have had no formal surveys of consumers because it is so difficult to get a judgment from someone when you can't show them what it is you mean, you can't compare the smaller coin to the large dollar coin, you don't have a smaller coin to compare.

We attempted to use a foreign coin of about the same size in our contacts with major retailers and the banks, but that wasn't very successful.

So we have had no consumer surveys. From the surveys made more informally, from our contacts with all of the major banks and retailers and correspondence from the American public, we suggest that there may be 50 percent in accord with the new smaller dollar coin and 50 percent opposed.

Nation's Business had a survey and the question was to the effect do you think we need a smaller \$1 coin, and the responses they had in their survey was about 50 percent for and 50 percent against.

The CHAIRMAN. What is your answer to the banks' argument that you ought to review the whole coinage system and come up with something more comprehensive? Here they are going to have to revise their conversion system; they can't pass that cost on to the consumer very well, but it means higher costs for them. It is a legitimate complaint on their part. What is your response to that?

Ms. HACKEL. We had a very elaborate costly survey of the U.S. coinage system made by Research Triangle Institute that was concluded in 1976. I don't think we need another costly survey. That one recommended strongly that Congress consider eliminating the 1 cent coin, which this administration has decided is not necessary at this time. That recommendation was made under circumstances where the price of copper was rising and where the suggestion was made that it was necessary to build a new \$65 million mint if we are going to continue to produce the 1 cent coin.

It is not necessary to build a \$65 million mint to continue to produce the 1 cent coin, and the price of copper has stabilized. So this administration made the decision that the penny should be a useful part of our coinage system.

The other recommendation they made was at that time to eliminate the half dollar. This administration takes the position that there is no need at this time to seek statutory authority to repeal the authority to mint the half dollar.

The CHAIRMAN. Ms. Hackel, that recitation of the history, it seems to me, would put me in the same mood as the bankers are in here. You say the past administration had one idea, this administration has an entirely different idea, on both the penny and the half dollar. What makes you think that the new Lugar administration in 1981 might not have a different idea than that?



MS. HACKEL. The past administration and this administration are alike in their recommendation for a smaller \$1 coin, which of course is why we are here today. We think that is very necessary to facilitate consumer cash transactions in this country, and to result in considerable cost savings to the U.S. Government.

We feel that once the coin has achieved some degree of widespread circulation, that the banks are going to come to love it.

THE CHAIRMAN. Why didn't the \$2 bill make it then?

MS. HACKEL. Well, there was a problem there, obviously. The Federal Reserve System has not distributed the \$2 note, and the commercial banks don't want to use it, apparently, nor do the consumers.

We feel, however, with wider promotional efforts for the \$2 note, used in conjunction with the smaller \$1 coin, which as you say won't tear holes in your pocket, that we will achieve far more widespread usage of the \$2 note.

THE CHAIRMAN. Senator LUGAR. Maybe I should say President LUGAR.

Senator LUGAR. No, no, you have been far too generous already this morning, Mr. Chairman.

MS. HACKEL. I would like to follow up on the chairman's questioning by asking whether the survey you have mentioned got into consumer attitudes with regard to the use of coins as an overall problem? Do we know from that survey, or from others that are a part of your background, what the normal American consumer uses coins for, about how many, and in what forms? If we are looking in terms of consumer acceptance, what sort of projections are we likely to make in terms of the number, sizes, and so forth that the normal consumer would want to have?

MS. HACKEL. I was just at a conference where they indicated the usage of coins in the United States for cash transactions was, I think, something like 1 day's wages for—I better withdraw that whole thing.

This may have been considered by the Research Triangle report. Was it, Dr. Goldman?

DR. GOLDMAN. Although they didn't talk to consumers directly, those that were surveyed represented a broad spectrum of business people, and bank people, and they were asked to comment on sizes, shapes, weights, and everything else one might find acceptable.

The recommended size and weight comes out of the responses that this survey made and hundreds of people were surveyed.

In addition, we receive daily dozens of letters which comment on our sizes, shapes, designs, and everything else, so that while we have not conducted a formal survey, we are in pretty close touch with the public by means of daily correspondence.

Senator LUGAR. In other words, it is your judgment that the weight and size of this proposed dollar meets a consensus of what consumers are willing to carry around. And you would not find, therefore, gross objections once it is introduced, that it was too big or cumbersome?

I mean you have at least some basis in research for feeling that you have come to a convenient consumer size for this coin?

DR. GOLDMAN. That is correct; in fact, if one looks at coins throughout the world, it turns out about 8½ grams is the maximum weight coin which the public everywhere is willing to carry around and to use.



Senator LUGAR. What has been the response over the course of time, if you have any research in the Bureau, on reaction of the British consumers to different sizes of coins? Obviously the coins in Great Britain do not follow a progression from the smallest to the largest in terms of value. There are heavier coins, coins of different geometric shapes and designs for that matter, denoting certain things. What sort of problems might have been encountered by a banking system or a consumer system in another country that would be instructive for where we might be heading with what will be a considerable departure—moving from our large silver dollar to a smaller coin that is somewhat in the general configuration of a quarter?

Dr. GOLDMAN. The 50-pence coin in Britain is worth about \$1 as you know. That coin was somewhat more than the present recommended weight for the new dollar. And I think the British are somewhat sorry that the coin is as large as it is. For that reason it has not reached the level of acceptability that they hoped to see. They are now considering a 1-pound coin and it is likely that coin will be smaller than the 50-pence coin for that reason.

Senator LUGAR. It appears to me, as I have read the testimony that we have heard or will hear today, that people involved in coin operated retailing have a different viewpoint with regard to a new coin than those who are involved maybe in handling the coins in a retail operation.

What sort of weight in your own thinking do you place on these sets of testimony? Is the coin operated situation one toward which the Bureau is headed, not to the exclusion of the other, but with the feeling that the banking system may be moving toward electronic means, toward a cashless society, and that therefore the primary problem in the production of coins must be toward those mechanisms which are activated by coins as opposed to a transaction activated by machines, by key cards, by other apparatus that the bankers or grocers or others may use?

Ms. HACKEL. There is no question but that the major part of transactions in the United States are cashless transactions. But nevertheless there is a substantial amount of remaining cash transactions and certainly so for lower wage earners. We will always have that with us. And the coinage system of the country is essential, crucial for what cash transactions we make. True, it is the vending machine industry that will have far wider opportunity, not to charge higher prices for the same items, but to offer higher value items through vending machines, and in a sense that may be anti-inflationary, because in terms of food output, for example, which is very labor-intensive in restaurants, people might be able to buy food in vending machines cheaper in fact.

The fact of the matter is because of the general inflationary trends throughout the world, the higher value coins have far more importance in a coinage system, and sooner or later we will need to move toward more useful acceptance of the dollar coin in the United States. We may as well start right now and have a smaller coin right now that is useful, that works. We don't have one now that works.

Senator LUGAR. One thing you have mentioned, Ms. Hackel, that raises another question is if in fact there is heavier usage of coins by people of lower incomes in our country.



Ms. HACKEL. Well, certainly less use of credit.

Senator LUGAR. Yes.

Ms. HACKEL. More use of cash.

Senator LUGAR. Is there value, perhaps, in zeroing in maybe more of our study with regard to this coin or even other coins and the needs of lower income people?

In other words, those people in our society who are most inclined to have a need for coins, more precise value coins for change making, this sort of thing? I am not certain that I am stating the problem correctly, although from what you are indicating it appears to me that this question is of less consequence to people of considerable wealth who would be making payments by check or credit card or by other means.

Ms. HACKEL. I think the people of considerable wealth still need coins, there is no question about that. I know some of my friends who appear never to have any, they are always borrowing them all of the time.

Generally people of any degree of wealth need to use coins. And surely to have a convenient dollar coin that works in a machine when you walk into a subway in order to get change would be immensely convenient to the American public, or in airports, or any place else. There is no question, you, Senator Lugar, need coins.

Senator LUGAR. I certainly do.

Mr. Chairman, if I may just address this question to you for a moment, is essentially the problem facing the committee with this bill the basic question of whether to proceed with a new coin at all?

In other words, does this come to us as a request on the part of the banking system, or the mint to authorize a new coin and this is what has initiated the legislation and the hearings, or could you review what the situation is?

The CHAIRMAN. Well, the legislative proposal came to us from the administration. They feel it would provide more convenience for the public and save some money.

Senator LUGAR. So the judgment we have to make is whether the savings which seem to me to be fairly apparent in the production of the new coin are going to be counterbalanced by the inconvenience that some people would feel, the banking system, some retailers, or consumers and customers using it. Are these ultimately the things that you see we are weighing, Ms. Hackel, in this colloquy with the chairman?

Ms. HACKEL. Yes. But I might add it is our reasoned judgment that eventually this will prove very cost-effective to the commercial banks and to the major retailers, if we do gain widespread acceptance of the new smaller dollar coin.

The CHAIRMAN. As I understand it, this is not a radical change inasmuch as we have a \$1 coin now.

Ms. HACKEL. Yes.

The CHAIRMAN. What it does is take that dollar coin and make it more convenient, smaller and lighter, so it would circulate, or we think it might circulate better than the \$1 coin we have at the present time.

We already made the decision to have a dollar coin, it just doesn't move, it could, but it doesn't; isn't that right?



Ms. HACKEL. Yes. The present \$1 coin is just not useful. There is no purpose in having a coin that is not useful. We are convinced a smaller one that is sized similar to the size we are proposing will be useful and really used, and really needed in the coinage system.

The CHAIRMAN. What I miss in all of this—it is interesting—usually when we have had these things before we had very vigorous representation by the Rocky Mountain Senators, who come in and they are all for silver, and they fight hard for the silver coins. But somehow I guess they acknowledge if you are going to make it with silver it will just be too big.

Ms. HACKEL. Yes; there is no question it could not reasonably be made of silver.

Senator SPARKMAN. I may say to the chairman I was thinking a while ago of some of the coinage battles we have had here. Do you remember the dime?

The CHAIRMAN. I think that was before my time, John.

Senator SPARKMAN. It was? I thought you had been here longer than that.

The CHAIRMAN. You have been here since 1935, I have been here since 1957.

Senator SPARKMAN. Do you remember the penny made out of aluminum?

The CHAIRMAN. I think I remember that. Do you have any questions Senator Sparkman?

Senator SPARKMAN. No, no questions. It has been a very interesting discourse. I do want to hear what the bankers have to say. Ms. Hackel, I will say that you have done a wonderful job.

The CHAIRMAN. I just have a couple of quick questions to ask you.

It has been suggested to me by Jerry Buckley of the staff that this might have a psychological effect in the country because from a practical standpoint what you are doing is you are moving away from the \$1 as a bill to the \$1 as a coin. It is in recognition of inflation, it is kind of a ratification of inflation, and in addition to kissing goodbye to George Washington and saying hello to Ms. Anthony, you are also ratifying an inflation situation that may be international in effect.

Ms. HACKEL. We must face the situation that the \$1 note has declined in purchasing power, and therefore there are many more \$1 notes in circulation, and they only last 1½ years and then they wear out. We have to be practical and realistic and realize a small \$1 coin that will last 15 years makes a lot more sense.

The CHAIRMAN. Have you made any survey of how many dollar bills the typical person carries in their pocket? I happen to carry quite a few because I take a taxi home, and it is \$3 or \$4, so I carry quite a few. I think if you made that survey, you would find the typical person carries quite a few \$1 bills.

If he substitutes coins, I just wonder if he would do that. Couldn't you make a survey to determine whether or not that would be logical? Or do you just make a guess?

Ms. HACKEL. I think such a survey, to make it really professional, would be very costly.

The CHAIRMAN. Why is that?

Ms. HACKEL. We don't want to win the Golden Fleece award.

The CHAIRMAN. Why not? It is a great award.



But seriously, the Gallop and Harris people claim that by a relatively small sample, 1,500 people, you can get something very close to the behavior of all Americans within say a 3-percent error. If you could do that, 1,500 people being questioned, it wouldn't be very costly for something that will save several million a year or which will cost several million if your judgment is wrong.

Ms. HACKEL. Would you like us to ask the question "How many \$1 bills do you carry in your wallet?"

The CHAIRMAN. Well, I think there would be ways you can find that out. I can understand why people might think they were getting set up for a mugging.

Ms. HACKEL. Besides, Senator, if you use the \$2 notes, you wouldn't need all of those \$1 bills in your wallet.

The CHAIRMAN. The introduction of the new coin might also affect the Federal Reserve in ways that can't be quantified at this time. For example, what effect will this have on the Fed's shipping costs?

Coins weigh more than currency, but should not circulate through the Reserve banks as often because of its longer circulating life. Also, as Governor Coldwell pointed out when he testified before the House Coinage Subcommittee, the as-yet-unknown circulation patterns for the coin could affect the Reserve bank requirements for space with a corresponding impact on its building programs. Have you taken that into account, the shipping costs?

Ms. HACKEL. We have not done any specific studies on it, nor has the Federal Reserve. We understand there will be additional shipping costs, but they will be far more than offset by the savings in production costs.

The CHAIRMAN. How about the requirements for more space at the Federal Reserve?

Ms. HACKEL. He says he is storing a lot of \$2 notes now. If he can get rid of some of the \$2 notes, because they are being used in conjunction with the smaller \$1 coin, it might work that out.

The CHAIRMAN. Have you held any briefings for the financial institutions or retailers with regard to this coin?

Ms. HACKEL. We had a meeting in Washington recently. Of course the task force has been meeting with representatives of companies, major potential users.

The CHAIRMAN. Have you had any announced public hearing, where they come in and testify pro and con and give their objections and suggestions and so on?

Ms. HACKEL. We have had no such meeting. We had one meeting with Washington representatives of some of the leading banks, and retailers. But that was simply to define what the Treasury position was, so that it was educational in a sense.

The CHAIRMAN. Thank you very much. I join Senator Sparkman in paying tribute to your fine presentation and your responsiveness to the questions.

Ms. HACKEL. Thank you very much.

The CHAIRMAN. I have a series of questions from Senator Garn which I hope you and the other witnesses will respond to for the record.

[The answers to the questions referred to follow:]

REPLIES OF MS. HACKEL TO QUESTIONS SUBMITTED BY SENATOR GARN CONCERNING THE SMALLER DOLLAR COIN

*Question.* What would be your reaction to the elimination of the dollar bill and its replacement by the dollar coin?



Answer. If public acceptance of the small dollar coin would ultimately displace \$1 Federal Reserve notes, there would be considerable savings for the Government and our economy as a whole. To start with, the Mint has been expending an average of \$7 million annually to manufacture 90 million of the current 1.5 inch diameter dollars at a cost of 8 cents each. The proposed smaller dollar would cost approximately 3 cents each to produce and would last at least 15 years in circulation. In contrast, each Federal Reserve note, would cost 1.8 cents to produce, and lasts 18 months in circulation.

Since it costs more than \$28 million annually for the Federal Reserve to maintain a circulation pool of 2.4 billion \$1 notes, while it would cost less than \$5 million annually to maintain the same size pool of dollar coins, the Government would realize a savings of \$31 million each year if all \$1 Federal Reserve notes were replaced by the new dollar coin. That amount includes the \$7 million annual savings by not manufacturing the current large dollar. If only 50 percent of the notes were displaced by the coin, the total annual savings are estimated to be \$19 million. If only 20 percent of the Federal Reserve notes were displaced by the dollar coins, the estimated savings would total \$12 million a year.

The Federal Reserve would also realize savings in lower handling cost for the coin. If dollar coins replaced half the dollar notes, and if each coin was processed one time per year, the Federal Reserve would save an additional \$2 million annually. Lastly, displacement of one dollar notes by the small dollar coin would permit the Treasury Department to defer indefinitely a facility expansion for the Bureau of Engraving and Printing, which would cost an estimated \$100 million.

*Question.* Do you feel that there is any significance to having the basic unit of our currency bear the image of George Washington?

Answer. We do not believe there is any particular significance to having the image of George Washington on the one dollar bill. As you are aware, President Washington's portrait also appears on the 25 cent coin. Thus, even if the one dollar bill is ultimately displaced by the proposed dollar coin, President Washington would still be properly commemorated in our coinage and currency system.

*Question.* What is your feeling about the reverse side image of the Eisenhower dollar coin, bearing the image of an eagle landing on the moon?

Answer. The eagle symbolizing the Apollo 11 landing on the moon was mandated by Congress for the Eisenhower dollar coin in the Act of December 31, 1970. Under the Administration's proposal, the design for the reverse side of the smaller dollar coin would consist of a soaring eagle. At the same time, again as proposed by the Administration, the Department would continue to issue the current Eisenhower dollar in 40 percent silver clad version in proof and uncirculated quality. Thus, if the bill is approved by the Congress, the Eisenhower dollar with the Apollo 11 landing design on the reverse, although not issued for circulation, would continue to remain a part of our coinage system.

*Question.* What would be your reaction to the elimination of the 50 cent piece?

Answer. The Administration has decided not to propose the statutory repeal of the authority to issue half dollar coins at this time. We believe that the half dollar, since it is not a widely circulating denomination, would not hinder public acceptance of the small dollar coin. As best we can determine, most of the half dollars issued by the Mint are used for gaming and numismatic purposes. Our plan is thus to continue producing the half dollar coins in the volume to satisfy this limited demand.

*Question.* Have you conducted or do you know of any studies that have been conducted concerning the feelings of the public towards the possibility of the elimination of the dollar bill?

Answer. We fully recognize the necessity for a promotional effort to achieve widespread circulation of the new coin, which would result in simultaneous decrease in one dollar notes in circulation. Consequently, a task force has been formed consisting of officials from the Federal Reserve Board and the Treasury Department. This task force is currently reviewing the advantages in using the new coin by banks and retail industries as well as contacting of interested segments of our economy for the purpose of enlisting and supporting for the promotion of the new coin.

*Question.* What are the implications in terms of metal conservation in replacing the dollar bill with a coin?

Answer. The new dollar coin should have little or no effect on the metal conservation. We project production quantities of the proposed dollar coin of approximately 250 million pieces per year. This compares with an average of 90 million coins per year for the Eisenhower dollar coin which will no longer be manufactured for circulation. Since the new coin weighs approximately one-third that of the Eisenhower dollar, the effect of the replacement on metal usage would be negligible.



AMERICAN  
BANKERS  
ASSOCIATION

1120 Connecticut Avenue, N.W.,  
Washington, D.C.  
20036

EXECUTIVE DIRECTOR  
GOVERNMENT RELATIONS

Gerald M. Lowrie  
202/467-4097

August 15, 1978

The Honorable William Proxmire  
Chairman  
Committee on Banking, Housing  
and Urban Affairs  
United States Senate  
Washington, D. C. 20510

Dear Mr. Chairman:

Mr. Vincent C. Burke, Jr., our Association's witness before the Committee when it considered S. 3036, The Susan B. Anthony Dollar Coin Act of 1978, is on vacation and unable to respond to your recent letter. On his behalf, I wish to provide the following responses to Senator Jake Garn's request for additional information. Senator Garn's questions were as follows:

1. What would be your reaction to the elimination of the dollar bill and its replacement by a dollar coin?

If the ultimate goal of the Treasury Department is to replace the \$1 bill with the \$1 coin and thereby to stimulate the use of the \$2 bill, production of the \$1 bill should be halted. As long as the \$1 bill remains fully available, the new \$1 coin and the \$2 bill will not, in our opinion, be used to a degree sufficient to produce the magnitude of cost savings which have been predicted by the Treasury Department and the Federal Reserve.

The Federal Reserve, for example, has predicted a savings from such a change amounting to \$13 million per year in production and currency processing costs. This prediction is based on a 50 percent replacement level of \$1 notes by \$1 coins. However, the members of the American Bankers Association do not discern enough consumer interest in or need for the new \$1 coin to justify such an assumption. In the absence of any documented market study supporting the assumption behind this prediction of savings, we suggest that the American people are comfortable and familiar with the \$1 bill and would not react favorably to its elimination.

2. Do you feel that there is any significance to having the basic unit of our currency bear the image of George Washington?

We do not believe that we are specifically qualified to offer an informed opinion on this aspect of the issue.



The Honorable William Proxmire

AMERICAN  
BANKERS  
ASSOCIATIONCONTINUING OUR LETTER OF  
August 15, 1978

SHEET NO. 2

3. What is your feeling about the reverse side of the Eisenhower dollar coin which bears the image of an eagle landing on the moon?

As with the previous question, our industry is not able to offer an informed opinion on this issue. However, we do urge that the same coin or bill denomination should consistently bear the same images. If the design of a bill or coin were to change frequently, the ensuing confusion could increase the opportunities for counterfeiters since tellers and other currency handlers would lose familiarity with those bills or coins.

4. What would be your reaction to the elimination of the 50 cent piece?

We support elimination of the 50 cent piece as an item of circulating coinage. Although there is not a great demand for this item at present, bankers must nevertheless keep small quantities in inventory and provide storage, counting and dispensing facilities for the 50 cent piece.

However, rather than consider any of these items of coinage in isolation, we believe that Congress and the Treasury should develop a master plan for the management of the entire spectrum of our coins and currency. With such a plan to depend upon -- a plan validated by thorough market studies -- bankers and others who handle large quantities of coin and currency could make the type of commitment necessary to introduce and successfully support any needed coin or item of currency.

5. Have you conducted or do you know of any studies that have been conducted concerning the feelings of the public toward the possibility of the elimination of the dollar bill?

We are not aware of any formal studies of this issue. However, it is our belief that the American people like the \$1 bill and would not favor its elimination.

6. What are the implications in terms of metal conservation of replacing the dollar bill with a coin?

We have not studied this aspect of the issue and cannot offer an informed opinion.

We appreciate this opportunity to respond to Senator Garn's questions and would be pleased to provide additional information if you or other members of the Committee desire.

Sincerely,

*Gerald M. Lowrie*

Gerald M. Lowrie  
Executive Director  
Government Relations




**NARGUS**
**national association of retail grocers of the united states**

P.O. BOX 17208 WASHINGTON, D.C. 20041 • suite #20 reston international center • reston, virginia 22091

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 FRANK D. REGISTER  
executive director

August 1, 1978

The Honorable William Proxmire  
United States Senate  
Committee on Banking, Housing and Urban Affairs  
Washington, D.C. 20510

Dear Senator Proxmire:

Thank you for your letter of July 25. We appreciated very much the opportunity to testify on S. 3036.

In regard to Senator Garn's letter and the questions he proposed, here are our answers:

1. What would your reaction to the elimination of the one dollar bill and its replacement by a dollar coin?
  - A. We feel the elimination of the dollar bill completely would be a better alternative than, as proposed, only 20% of the currency be eliminated. It seems to us that by eliminating only part of the one dollar currency, you encourage consumers to resist accepting the one dollar coin. However, we do feel that any implementation of the one dollar coin concept should be delayed until a complete study of the future money requirements of the Nation is undertaken.
2. Do you feel that there is any significance to having the basic unit of our currency bearing the image of George Washington?
  - A. We have no opinion on this question.
3. What is your feeling about the reverse side image of the Eisenhower dollar coin, bearing the image of an eagle landing on the moon?
  - A. We have no opinion on this question.
4. What would be your reaction to the elimination of the 50 cent piece?
  - A. There has been resistance to the 50 cent piece because of its weight and the fact that it cannot be widely used in vending machines or other types of coin-operated devices. We do not believe the 50 cent piece serves a useful purpose at the present time.

GENERAL COUNSEL: BISON AND WENNING • 1625 EYE STREET, N.W. • WASHINGTON, D.C. 20006 (202) 786-0975  
EXHIBIT MANAGEMENT: HALL-ERICKSON, INC. • 7237 W. LAKE STREET • RIVER FOREST, ILL. 60305 (312) 366-1733



5. Have you conducted or do you know of any studies that have been conducted concerning the feelings of the public towards the possibility of the elimination of the dollar bill?

A. We know of no such studies.

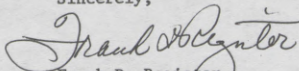
6. What are the implications in terms of metal conservation of replacing the dollar bill with a coin?

A. We have no knowledge regarding this matter.

Thank you for letting us comment on these issues.

Best wishes.

Sincerely,

  
Frank D. Register  
Executive Director

FDR/pp





NATIONAL  
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ASSOCIATION

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WESTERN OFFICE 10889 Wilshire Blvd., Los Angeles, Calif. 90024 (213) 477-5547

August 2, 1978

Honorable E. J. Garn  
Banking, Housing and  
Urban Affairs Committee  
4203 Dirksen Senate Office Building  
Washington, D. C. 20510

Dear Senator Garn:

Senator Proxmire sent me copy of your letter of July 17 raising certain questions with respect to the proposed dollar coin. He asked that those of us who testified regarding the dollar coin respond to you as to the questions you posed.

I am repeating below your questions with my answers as best I can.

- Q. What would your reaction to the elimination of the dollar bill and its replacement by a dollar coin?
- A. In time, the American public may decide that it prefers the dollar coin over the dollar bill, or vice versa, but N A M A as an organization is not at this time endorsing the elimination of the dollar bill.
- Q. Do you feel that there is any significance to having the basic unit of our currency bearing the image of George Washington?
- A. Yes, I think our first President should be depicted on the basic unit of our currency as a reminder of our heritage.
- Q. What is your feeling about the reverse side image of the Eisenhower dollar coin, bearing the image of an eagle landing on the moon?

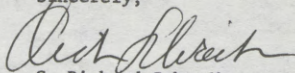


- A. The image of an eagle landing on the moon is a splendid symbol. As an organization, N A M A has not attempted to influence in any way either the reverse or the obverse side of our coinage, but could I am sure endorse the image of the eagle landing on the moon for the reverse of the proposed dollar.
- Q. What would be your reaction to the elimination of the 50 cent piece?
- A. N A M A member companies supported the Treasury in the minting of the present fifty cent piece, and produced and shipped more than 100,000 vending machines containing mechanisms capable of using the fifty cent piece. However, and for whatever reason, the American public and our commercial banks, have failed to accept the fifty cent piece as a viable coin. As an organization, N A M A is not opposed to the elimination of the fifty cent piece, nor is it proposing such elimination.
- Q. Have you conducted or do you know of any studies that have been conducted concerning the feelings of the public towards the possibility of the elimination of the dollar bill?
- A. The only studies with respect to the dollar bill and the dollar coin of which we are aware were conducted during the last two administrations by the Research Triangle Institute in North Carolina. Speaking personally, and not on behalf of N A M A, I would seriously question whether studies of the public's feelings regarding the dollar bill and the dollar coin could be conclusive. Having both at hand, the public will I am sure make its preferences known.
- Q. What are the implications in terms of metal conservation of replacing the dollar bill with a coin?



- A. Quantity of metal used in the proposed dollar would in our judgment be insignificant.

Sincerely,



G. Richard Schreiber  
President

mgn

cc: Honorable William Proxmire



MARY ROSE OAKAR  
20TH DISTRICT, OHIO

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COMMITTEES:  
BANKING, FINANCE  
AND URBAN AFFAIRS  
SELECT COMMITTEE ON AGING

**Congress of the United States**  
**House of Representatives**  
**Washington, D.C. 20515**

July 26, 1978

The Honorable William Proxmire  
Chairman  
Committee on Banking, Housing and  
Urban Affairs  
United States Senate  
Washington, D.C.

Dear Mr. Chairman:

Thank you for all your help with the Susan B. Anthony  
coin. I appreciated the opportunity to testify.

With regards to Senator Garn's questions, I believe  
some of them are redundant, but I have answered them  
anyway.

Question number 1 is a moot one. We are not eliminat-  
ing the dollar bill.

Question number 2 is also moot. George Washington is  
on the quarter.

Question number 3 - I have no problems with the image  
of the eagle landing on the moon, provided the artistic  
design is a good one.

Question number 4 - I am neutral.

Question number 5 - irrelevant because we are not elim-  
inating the dollar bill.

Question number 6 - again - irrelevant because we are  
not eliminating the dollar bill.

Regards,

*Mary Rose Oakar*  
Mary Rose Oakar  
Member of Congress

MRO:ek



The CHAIRMAN. We also have a statement of Senator Garn which we will insert in the record at this point as though read.

[The statement follows:]

### STATEMENT OF SENATOR GARN

Senator GARN. Mr. Chairman, as we begin hearings on the question of a possible new dollar coin there are several concerns that I feel it my duty to raise.

The issue may seem insignificant when compared with the economic, social, and strategic problems facing the country, but the small act of making a change in our coinage is one that will reach the attention of every member of our society. Undoubtedly, it will become a topic of discussion in living rooms and across breakfast tables all across America.

Not only is money basic to any more-than-primitive economy, the units of currency are highly symbolic. Throughout the world and throughout history the faces of coins have been impressed with symbols considered central to the spirit of the society. This practice has continued with paper currency.

My concerns lie first with suggestions that the dollar coin should possibly replace the dollar bill. Whereas I recognize that there are some conveniences, in terms of vending machines, et cetera, associated with having a dollar coin, the convenience of the dollar bill, in terms of weight and personal handling, et cetera, should not be overlooked. In light of this, I am not at all convinced that it is wise to eliminate the option of either one.

I am more deeply concerned, however, with the symbolic significance, as I have mentioned. At present, the basic unit of our currency, the dollar bill, bears upon it the image of the father of our country, George Washington. To my mind, and I am sure to the minds of my colleagues and millions of Americans, this is wholly appropriate. While I have no objections to the minting of a \$1 coin bearing the image of someone other than Washington, to be circulated along with the \$1 bill, I could not refrain from objection if such a coin was designed to replace the \$1 bill. If there is to be only one form of the dollar in circulation, I can think of no image of an American more appropriate to appear on it than that of our first President. Any other would be unacceptable and unsuitable.

Mr. Chairman, if we are to have a new \$1 coin that bears the image of someone other than Washington, then we must keep the \$1 bill.

Given that this will be the likely outcome, I am concerned that the Congress may too quickly render its decision as to what image the coin should bear. I have often been critical of the speed, or rather the lack thereof, with which the Congress enacts legislation and makes decisions. When considering important national symbols, however, which can only be truly national if enshrined by tradition and consensus, the deliberative process is an asset.

I have no objections, Mr. Chairman, to honoring a woman on the \$1 coin. I do object to deciding whose image that should be without adequate consideration. I ask unanimous consent to include in the record the following three letters that I have received as examples of various alternatives that have been brought to my attention. Mr. Chairman, I'm sure that you and my colleagues know of others.



It may be true that various organizations have formed opinions as to whose image should appear on the \$1 coin. They certainly should and have a right to be heard. These organizations, however, are not the only ones that are going to be using the coin, nor should they be the only ones consulted. I have not seen nor have I heard of any polls or any other attempts to consult the American people generally about the design of this proposed coin. I consider such a step important.

Before I can give my support to the minting of a new coin, or to what image or combination of images should appear thereon, there must be more information on the consequences and far more effort to canvass the will of the people who will be asked to live with our creation.

[The letters follow:]

INTERMOUNTAIN RED CROSS BLOOD CENTER,  
Salt Lake City, Utah, May 4, 1978.

Senator JAKE GARN,  
Salt Lake City, Utah.

DEAR SENATOR: Having recently heard of the problem that Congress is having deciding whose likeness to put on the new dollar coin, I thought that I might write and offer my suggestion.

The mother of Red Cross, Clara Barton, is a great historical figure who has contributed greatly to the betterment of the American people. So that you might become better acquainted with Ms. Barton, I have enclosed a pamphlet discussing only a few of her many great accomplishments.

Please consider my suggestion. She deserves the honor that this coin would give.

Sincerely,

DAVID W. STAUB,  
Public Relations/Information Coordinator.

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WEST JORDON, UTAH, May, 28 1978.

SENATOR GARN: In regards to legislation S. 3036, introduced by Senator Proxmire, why do we have to have Susan B. Anthony on our new \$1 coin? Why not Molly Pitcher or even Betsy Ross at least they did something useful!

Thank you,

---

DEBORAH C. BROOKS.

CONGRESS OF THE UNITED STATES,  
HOUSE OF REPRESENTATIVES,  
Washington, D.C., June 9, 1978.

DEAR SENATOR GARN: On Tuesday, June 6, I introduced H.R. 12986, legislation which I hope will resolve the controversy over which American woman's image should appear on the new dollar coin. The woman I am supporting for this signal honor is Georgia Neese Clark Gray, the first women Treasurer of the United States. She is a great Kansas lady who far beyond Susan B. Anthony or the mythical Miss Liberty had an actual impact on the monetary affairs of our country. She was appointed by President Truman exactly 29 years ago to the day that this legislation was introduced and served as U.S. Treasurer from 1949 to 1953.

Georgia was a successful and respected midwestern banker and business leader from Richland, Kans., when she was chosen as U.S. Treasurer. While Treasurer, she traveled across the country and made numerous speeches urging women to take active leadership roles in Government and business. She said of that time, "I never worked harder in my life than when I was U.S. Treasurer; I knew I had to make good on behalf of American women". The rising profile of American women at all levels of business and government owes a great deal to the boldness and vigor with which our first women Treasurer pursued her duties.



In the coming weeks you and the members of your committee will approve legislation to designate the profile which will appear on the new dollar coin. I respectfully request that you consider H.R. 12986, and hope that you might agree that the first woman whose signature appeared on our paper money should also appear on our new dollar coin.

Sincerely,

MARTHA KEYS,  
*Member of Congress.*

The CHAIRMAN. Our next witnesses are Vincent C. Burke, Jr. for the American Bankers Association, Frank D. Register, for the National Association of Retail Grocers, and G. Richard Schreiber, president of the National Automatic Merchandising Association.

Mr. Burke, we are happy to have you. Go right ahead, sir.

### STATEMENT OF VINCENT C. BURKE, JR., AMERICAN BANKERS ASSOCIATION

Mr. BURKE. Thank you, sir.

My name is Vincent C. Burke, Jr. and I am chairman of the board, the Riggs National Bank of Washington, D.C. and I am currently a member of the Government Relations Council of the American Bankers Association and have also been active on the Association's Urban and Community Affairs Committee and the Education Policy and Research Council.

I am appearing today on behalf of the American Bankers Association whose membership is comprised of more than 92 percent of the Nation's 13,254 full service banks. Our membership consists of Federal Reserve member banks—both National and State member banks—and State nonmember banks. These banks are the chief source of circulating coins and currency for most of our Nation's commercial and retail businesses and the millions of citizens who use our consumer facilities and services. In addition to providing coin and currency services our members provide many additional retail and commercial services such as checking accounts, savings accounts, reconciliation packages, safe-deposit boxes, and trust management services. In other words, they are full service financial institutions fulfilling the many and diverse financial needs of their customers.

At the outset, I should indicate that my appearance today reflects our Association's desire to assist in the development and maintenance of an efficient and equitable coin and currency system which provides maximum benefits for all parties exchanging value for goods and services. My purpose today, then, is to offer recommendations which the committee might consider in weighing the merits of S. 3036, a bill to amend the Coinage Act of 1965 by changing the size, weight, and design of the \$1 coin and to place the likeness of Susan B. Anthony on the obverse side of the coin.

Treasury has proposed that the present noncirculating dollar coin be replaced with a smaller, lighter version that might be more acceptable to the general public and ultimately gain widespread use. In support of this proposal, Treasury offers the following four justifications:

1. A 1976 study conducted by the Research Triangle Institute concluded that the present \$1 coin cannot effectively serve as a medium of exchange due to its cumbersome size and weight.

2. The large size of the coin makes it impracticable to the automated merchandising industry.



3. A 20 percent displacement of circulating \$1 bills would permit the deferment of a \$100 million expansion to the Bureau of Engraving and Printing.

4. Even if the quantity of circulating \$1 coins remains the same but the mint produces only new, smaller coins instead of the larger dollars, the Government would save approximately \$4.5 million a year based on 1978 production estimates.

The banking industry is certainly supportive of any efforts to reduce costs for the public treasury as long as the proposed changes offer improved customer service, show reasonable promise of gaining consumer acceptance, and can be realistically achieved without shifting an inequitable cost burden to the private sector. With this objective in mind, banking has used the following criteria in attempting to assess both the feasibility and productivity of the current proposal:

The effect of a piecemeal approach to our circulating coin and currency system; and

The role and significance of consumers in effectuating changes in the circulating coin and currency system.

#### I. THE EFFECT OF A PIECEMEAL APPROACH

Mr. Chairman, I am certain that you and the members of your subcommittee realize that uncertainty about the future causes a business person to think carefully before making long-term decisions, especially in the area of capital expenditures for equipment such as coin sorters and coin changers.

My institution currently has 23 branches and approximately 240 teller stations. If this bill were enacted into law, what equipment capacity must the Riggs Bank, or any other sister bank, possess in order to meet the future circulating coin and currency system's impact on our daily customer service function?

If we could rely on a firm master plan which includes the minimum number of different coins and bills and the elimination of unnecessary items, we could make the type of commitment and support which will be necessary to assist in successfully introducing the proposed \$1 coin or any other needed item. In similar fashion, equipment manufacturers could build machines without costly options for infrequently encountered coins, retail merchants could program the purchase of new cash registers without worrying about their rapid obsolescence, vending machine operators could increase their inventory and equipment, famous Americans could be recognized, numismatic desires could be fulfilled, and perhaps most importantly, our school system could develop better ways to teach all of our citizens how to make change correctly.

At this point, Mr. Chairman, I should add that we support efforts to provide recognition of worthy Americans, such as Susan B. Anthony. We do believe that ordinary circulating coins are not necessarily the best way to achieve this end since only a few individuals could be so honored. We could recommend that the mint produce a commemorative set which could be expanded to encompass all who are worthy of both past and future honor. A multitude of different coins or different types of the same coin would lead to general confusion and opportunity for fraud since tellers and citizens would be less likely to detect irregular items.



But let me return to my main point concerning the present piecemeal proposal. I would suggest that studying the \$1 coin by itself avoids any hard decisions about streamlining our coinage system and essentially pits those who favor a specific item or measure against those who don't.

Such an approach invites criticism and provides little opportunity for wholehearted support from those groups, such as bankers or retail merchants, who must bear the cost of conversion without realizing any particular gain.

We suggest that Treasury conduct a detailed market study which would go beyond merely determining if citizens would use a lighter and smaller \$1 coin. These efforts should develop a master plan of what our circulating coin and currency should be over the next 20 years.

In this fashion all interested parties could have a voice in determining the future shape of our circulating coinage system. This leads me, then, to a discussion of the role and significance of the consumer.

## II. THE ROLE AND SIGNIFICANCE OF THE CONSUMER

Banking is a service industry, and service industries typically offer those activities which they can profitably provide to customers willing and able to purchase the services. Bankers provide coin and currency services, both those of withdrawal and deposit, to corporate and individual customers. Both merchants and their customers need a circulating medium with which to carry on the process of exchanging value in the everyday course of trade and commerce. There are other methods of accomplishing this process, such as checks, drafts, and electronic funds transfers, but reference to these parts of the payment system should not obscure the value and utility to ordinary people of circulating coins and currency.

It is common knowledge that, with a few notable exceptions, our present system works well and is acceptable to the vast majority of our citizens, perhaps because of its relative simplicity and their familiarity with its features through prolonged use. The exceptions, of course, are the \$2 bill, the present \$1 coin and the 50-cent piece.

The Treasury is now proposing a change in the size and weight of the \$1 coin and presents seemingly sound economic justifications for this change. Yet I am reminded of similar arguments advanced about the need for the \$2 bill. Our members frequently report that they include \$2 bills in their bulk shipments to retailers only to receive them back in unopened packages. Some retail customers do ask for \$2 bills, but many more seem to prefer not to have them.

I raise the \$2 bill issue, not in an attempt to discredit the proposed change in the \$1 coin, but to suggest that actions like this and the current development of EFTS which attempt to change the activity patterns of people will have little chance of success unless those affected are involved in the process of developing the change. The timely incorporation of the citizen's voice into a change as basic as this is crucial to the public's acceptance and successful implementation of this proposal by Treasury.

The Research Triangle Institute study found widespread consumer resistance to the size and weight of the current \$1 coin. Yet there is, Mr. Chairman, an important difference between consumers' dissatisfaction with a specific coin, consumers' acceptance and enjoyment of



the present circulating coin and currency system, and consumers' willingness to substitute or adopt a different version of an item which may suffer from indifferent demand.

Bankers, in their contacts with retail merchants and consumers do not, at the present, detect any consumer demand for a new \$1 coin. Gov. Philip E. Coldwell of the Federal Reserve Board testified on this issue before the House Subcommittee on Historic Preservation and Coinage that "circulation of the proposed new coin is not automatically insured." He stressed that the retailing community would be the key to whether the new coin circulated freely and that if voluntary marketing efforts did not produce acceptable circulation within a year of production, "the program must be reconsidered."

Frankly, Mr. Chairman, it is this very concern of Governor Coldwell's which troubles the banking industry. Acceptance is not automatic and we do not detect any consumer interest or general merchant interest in substituting another circulating coin.

Some claimed that the reintroduced \$2 bill failed because it was not promoted enough. Others claim the Kennedy half dollar did not circulate because it was such a collector's item that the mint could not keep up with demand in the early years and that the public therefore never gained the habit of using that coin in market transactions. Whether for those or other reasons the absence of any clear public preference for a new \$1 coin causes many business persons to be concerned that the proposed economic benefits to the new coin may never be fully realized.

#### CONCLUSION

Mr. Chairman, banking supports fiscal responsibility and cost avoidance on the part of Treasury and the Federal Reserve.

However, we must voice our concern about any effort to reduce costs in the public sector and shift them to the private sector, especially when there appears to be a lack of fundamental market research to support the consumer acceptance necessary to achieve these cost reductions.

We would prefer to see Treasury conduct a comprehensive marketing study to determine a master plan for the future shape of our coinage system. With that plan firmly in mind, our members could make the type of commitment and support which will be necessary to successfully introduce a new \$1 coin or, indeed, any other item.

Thank you.

The CHAIRMAN. Thank you, Mr. Burke. Our next witness is Mr. Register.

#### STATEMENT OF FRANK D. REGISTER, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF RETAIL GROCERS, ACCOMPANIED BY THOMAS F. WENNING, COUNSEL

Mr. REGISTER. Thank you, Mr. Chairman. With your permission, I am accompanied by counsel, Thomas F. Wenning, on my left.

The CHAIRMAN. We are happy to have you here, Mr. Wenning.

Mr. REGISTER. Mr. Chairman, and members of the committee, my name is Frank D. Register. I am executive director of the National Association of Retail Grocers of the United States, with headquarter



offices located at Reston International Center, Reston, Va. NARGUS has represented independent retail grocers for over 80 years. It has over 40,000 members in the United States. Its governing board is composed entirely of independent grocery store operators from 16 States. NARGUS members operate small stores and supermarkets.

We thank you for the opportunity to testify in regard to the proposal in S. 3036, calling for the minting of a new \$1 coin. We also appreciate very much our being invited by the Director of the U.S. Mint and by Treasury Department officials to a meeting on May 15, at which the purpose of the coin and what the Treasury hoped to achieve through its use was explained.

This concern of our Government officials as to the impact of proposed programs is deeply appreciated, and we want to assure both you and the Treasury that we will attempt to provide what we hope are constructive comments about this matter.

As we understand the proposal, the Treasury Department believes that it will save some \$4 million to \$5 million per year because of the longer life of the proposed coin, as contrasted with \$1 currency.

The CHAIRMAN. Both you and Mr. Burke made the same point about the savings being \$4 million to \$5 million. I understood the savings spelled out by Ms. Hackel here will be substantially more than that if you include the savings of the Federal Reserve. They would save \$11 million, plus, I think, \$2 million, for a total of \$13 million a year, not to mention the \$100 million they claim they would save on a one-time basis for not building the mint.

Do you acknowledge that, or do you feel that is not correct?

Mr. REGISTER. We acknowledge it. The latter point was not brought out in the briefing we had. But certainly I respect that it is an accurate statement.

As we understand, also, by using the coin to replace about 20 percent of the \$1 notes in circulation, the need to build new facilities for the Bureau Engraving and Printing can be deferred for years.

The proposal, however, raises some real concerns among retail grocers, and these concerns involve the customers they serve.

Almost without exception, the grocers whom I have talked with about the proposal state that they have had very limited success in getting customer acceptance of the \$2 bill, recently reintroduced in their stores. Customers do not want the \$2 bill, and often refuse to accept it. To somewhat the same extent, customers often refuse to accept the half dollar coin.

Perhaps psychologists could tell us why people resist something new and different, but many customers say they are afraid of inadvertently using the \$2 bill where they intended to use the \$1 bill. It would seem that with a \$1 coin, somewhat similar to a quarter in size, the problem of confusion would be compounded.

With the intention of having both \$1 bills and \$1 coins in circulation at the same time, the customer would be even more likely to insist on receiving the \$1 note, since there would be a choice. Retailers must rely on customer goodwill, and cannot be in a position of forcing customers to accept something they don't want. We understand there is no plan for a complete conversion to the \$1 coin.

While there have been silver dollars around for a long time, this proposal would introduce, for the first time, a situation where two items of exchange of exactly the same value, but in different forms,



would be in wide circulation at the same time. This would appear to cause widespread confusion for both consumers and for the cashier attempting to make change at a checkout counter.

A major manufacturer of cash registers has told me that they estimate that about 40 percent of the 3 million cash registers used in all types of stores in this country are of the type that only have four change compartments. This indicates the major problem that many retailers will experience in trying to adapt to an additional coin. New equipment or modification of existing equipment will be required for such retailers to be able to handle an additional denomination.

We have been advised also that the present automatic changemakers cannot handle the dollar coin, nor can they be adapted to them, because such changemakers are designed to deal in units of 100. Completely new automatic changemakers will have to be designed and purchased, if this type of equipment will be used in conjunction with a \$1 coin.

It is our understanding that if this legislation goes into effect this year, the new coins will be in circulation early in 1979. We submit that for a major change in the U.S. money system, this provides very little time for public acceptance to be developed, or for businesses to adapt to handling it.

We believe the proposal needs considerable study and a longer lead time for implementing the coin usage. If there is not public acceptance of the coin, the efforts of the Treasury in developing this coin, and in minting it, are going to be future. The situation will be identical to that experience with the \$2 bill and the 50-cent coin.

We would hope that the Treasury Department will develop a long-range plan for the money needs of this Nation, so that business can work with them in getting public acceptance of new types of money. The \$1 coin does not appear to be a part of a long-range plan, and thus will cause business to invest in new equipment and facilities with no assurance that next year or 2 or 3 years from now a new type of money will be advocated which will repeat the entire process again.

We urge that this bill not be enacted, and further study be made of the impact of the \$1 coin from the standpoint of the consumer and from the standpoint of those who deal with the consumer. We also urge that consideration be given to a study of the long-range coin and currency needs of the Nation.

The CHAIRMAN. Thank you, sir. Mr. Schreiber.

#### **STATEMENT OF G. RICHARD SCHREIBER, PRESIDENT, NATIONAL AUTOMATIC MERCHANDISING ASSOCIATION**

Mr. SCHREIBER. Mr. Chairman, I am president and chief executive of the National Automatic Merchandising Association headquartered at 7 South Dearborn Street, Chicago, Ill. NAMA is the national association of the vending and contract food service management industry and represents more than 2,300 member companies.

On behalf of those member companies, NAMA thanks you and the members of your committee for this opportunity to appear in support of Senate bill No. 3036.

In addition, this NAMA statement has the endorsement of Bell Laboratories with respect to pay telephones, the Amusement and



Music Operators Association, the National Automatic Coin Laundry and Cleaning Council, the National Car Wash Council, and the National Association of Coin Laundry Equipment Operators.

All of the above organizations render service to U.S. consumers through equipment actuated by coins.

Since the introduction of the first vending machines in the United States in the 1880's, American consumers have come to expect and rely upon coin-actuated machines for a wide variety of goods and services.

Without a plentiful supply of coins, American consumers would be unable to avail themselves of pay telephones, coin-operated laundry and dry cleaning equipment, automatic toll collection systems, unattended parking lot systems, automatic change-return cash registers in thousands of retail stores, and an increasingly wide variety of merchandise available through some 5 million vending machines currently in use in this country.

Additionally, coins are used where and when the American public relaxes—to play music on coin-operated phonographs and to enjoy pitting one's skill against a wide variety of traditional and electronic amusement devices.

Accompanying this statement is a report prepared for the United States Mint on the estimated number of coins used in vending machines in our country. Without going into the details of that report, I would simply like to point out that the U.S. public inserts approximately 10 million coins in vending machines each hour of the day and night, 7 days a week, 365 days of the year. Every 24 hours, more than 200 million coins are used by the American public to make purchases from vending machines. This figure does not take into account the coins used in music and amusement machines, pay telephones, coin operated laundry and dry cleaning machines, and the various other types of coin-actuated equipment.

In most industrial establishments, vending machines are the only source of food, snack and beverages for work breaks, and meals. Hospitals, colleges and universities increasingly depend upon vending machines to provide food and beverages at times and in places where these services would otherwise be unavailable. At interstate highway rest stops and in motels, vending machines are often the only constant source where travelers may purchase such items as a pocket comb, a headache remedy, or a late night snack.

During the last two decades, the kind and variety of products, especially food products, available through vending machines have undergone an astonishing growth. At the same time, because of the diversity of products offered through the machines, the range of prices at which purchases are made from vending machines changed dramatically.

For example, sandwiches, salads and entrees purchased from vending machines by millions of Americans every day are priced from 40 cents to more than \$1. With our present coinage, this requires that the customer have anywhere from three to six or more coins readily at hand. Part of the material submitted to accompany this statement, Mr. Chairman, shows the kinds and percentages of merchandise consumers buy from machines at these higher prices.

In the absence of a widely circulated \$1 coin, our industry developed and marketed automatic currency changemakers. These currency



changers are costly to install and maintain, and they require the customers to go through at least one additional step in making a purchase. For practical reasons, the use of currency changers has been confined to very large, high volume establishments. Obviously, a widely accepted and circulating \$1 coin would benefit consumers in millions of daily transactions with coin-actuated devices.

In the earlier hearings held by the House of Representatives, questions were raised as to whether a \$1 coin would cause an escalation of prices in vending machines and fuel inflation which has had such a dreadful impact on all of us.

Mr. Chairman, I am submitting as part of my statement the historic record of vending machine prices in this country since 1967. Even a cursory examination of these pricing trends will, I think, quickly reassure you and the members of this committee that vending machines have consistently followed a policy of restraint with respect to prices. Numerically, the vast majority of items the American public buys from vending machines are purchased at a unit price of less than a quarter (25 cents).

The CHAIRMAN. What is there to dissuade us from the notion that this is because they have been restrained by the fact that the coins have only been available in small denominations, and you haven't had a \$1 coin?

In other words, wouldn't you have gotten different behavior if you had a 50-cent or a \$1 coin?

Mr. SCHREIBER. I don't think so, Mr. Chairman. We are presently selling things that are sold for more than a dollar out of vending machines.

The CHAIRMAN. You are, but isn't there a psychological problem involved here? You have got to have four quarters or go and find somebody who has the quarters if you don't happen to have them with you. It is more convenient, therefore, to buy something that you can get for maybe 50 cents with two quarters, something of that kind.

Mr. SCHREIBER. Unquestionably it would be more convenient if you had a \$1 coin and didn't have to go and find four quarters.

The CHAIRMAN. The only thing I am getting at is the argument that could be made that the absence of a \$1 coin that is used in general circulation is one of the reasons why you have held down your prices.

You say that is not the case? And if it is not the case, how do you meet the argument that it is?

Mr. SCHREIBER. No, sir, it is not the case with respect to soft drinks, coffee, the heavy volume items. We can't sell you a cup of coffee at a price that is not competitive, nor can we sell you a soft drink at a price that you perceive to be too high. I don't think that has any impact on it at all.

As a matter of fact, that was covered in the next paragraph of my statement, which I can summarize.

The CHAIRMAN. All right, I beg your pardon for interrupting.

Mr. SCHREIBER. No; that is perfectly all right. But the price trends here, of course, are by product line. As I point out, all of these products are available from dozens of other sources. When we get into food and beverages of course we compete not only with all retail outlets, but we compete with millions of home kitchens. If people perceive us as pricing the ham sandwich or cup or coffee too high, they will buy it somewhere else, or bring it with them.



Now I would also submit, Mr. Chairman, that one of the important factors that would militate against vending prices escalating as a result of the \$1 coin would be the length of time that would be necessary to bring new equipment in the marketplace that is capable of accepting the dollar, or making conversions if possible of current equipment to accept the coin.

Rather than increase prices to the consumer, Mr. Chairman, I think the effect and the impact of a new \$1 coin over the next 3 to 5 years will be to make available around the clock and in convenient places a wider variety of products and services.

For example, magazines, paperback books, records, certain cosmetics, automotive and household supplies are products which theoretically might be made available in thousands of new convenient outlets. Today experiments with these and other products or services through vending machines have been frustrated by the great number of coins needed to complete the transaction. If the \$1 coin does make possible vending a wider variety of products and services, this will have a positive effect on our Nation's economy. This is so because most of the sales made by vending machines represent "plus" sales, rather than sales taken away from other methods of retailing. As a result, the growth in the kinds and variety of products vended will mean additional new jobs in our industry, without a resulting loss of employment elsewhere.

This point was made very dramatically in a number of studies conducted in the late 1950's and early 1960's. At that time the dairy industry mounted a major marketing effort to make milk available through automatic vending machines. This effort had the support of the U.S. Department of Agriculture. Because milk was at that time a brand new product in vending, it was possible to determine conclusively whether vending added "plus" sales or simply took sales away from other established retail outlets.

The CHAIRMAN. You sure selected a product that strikes home with the chairman.

Mr. SCHREIBER. Thank you, Mr. Chairman.

Perhaps the best of the studies, because of the length of time involved, was conducted at the West Virginia Agricultural Experimental Station in cooperation with the U.S. Department of Agriculture. The study involved a saturation placement of milk vending machines in Berkeley County, W. Va., during the period from October 1955 to June 1957. The final results of that study were made available by the U.S. Department of Agriculture early in 1960. The conclusion of that study was that more than half of all the milk sold through vending machines in all types of locations represented a net increase in milk sales. Specifically, in industrial plants and offices, the report concluded that "about two-thirds of the milk vended in plants and offices represented a net gain."

Obviously, Mr. Chairman, the vending industry and the other organizations I mentioned earlier, have a very keen interest in the outcome of S. 3036. As I said earlier, we do have equipment that will accept the paper dollar. We even, unfortunately, rushed into designing one that would accept the \$2 bill, maybe we will get to use it one of these days.

But the equipment is so expensive, and so service-intensive, as I think you have discovered here in the subway system from time to



time, it has a tendency to reject perfectly good dollars that are dirty. For some reason it doesn't like dirty dollars. For some reason apparently we are circulating paper money a heck of a lot longer than we used to, so that is posing a real problem for us.

Thank you, Mr. Chairman.

[The complete statement and attachments of Mr. Schreiber follow:]

STATEMENT BY G. RICHARD SCHREIBER, PRESIDENT, NATIONAL  
AUTOMATIC MERCHANDISING ASSOCIATION

Mr. Chairman, I am President and Chief Executive of the National Automatic Merchandising Association headquartered at 7 South Dearborn Street, Chicago, Illinois. NAMA is the national association of the vending and contract food-service management, and represents more than 2,300 member companies.

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Additionally, coins are used where and when the American public relaxes—to play music on coin-operated phonographs and to enjoy pitting one's skill against a wide variety of traditional and electronic amusement devices.

Accompanying this statement is a report prepared for the United States Mint on the estimated number of coins used in vending machines in our country. Without going into the details of that report, I would simply like to point out that the U.S. public inserts approximately ten million coins in vending machines each hour of the day and night, seven days a week, 365 days of the year. Every 24 hours, more than 200 million coins are used by the American public to make purchases from vending machines. This figure does not take into account the coins used in music and amusement machines, pay telephones, coin-operated laundry and dry cleaning machines, and the various other types of coin-actuated equipment.

In most industrial establishments, vending machines are the only source of food, snack and beverages for work breaks, and meals. Hospitals, colleges and universities increasingly depend upon vending machines to provide food and beverages at times and in places where these services would otherwise be unavailable. At interstate highway rest stops and in motels, vending machines are often the only constant source where travelers may purchase such items as a pocket comb, a headache remedy, or a late night snack.

During the last two decades, the kind and variety of products—especially food products—available through vending machines have undergone an astonishing growth. At the same time, because of the diversity of products offered through the machines, the range of prices at which purchases are made from vending machines changed dramatically. For example, sandwiches, salads and entrees purchased from vending machines by millions of Americans every day are priced from 40¢ to more than \$1.00. With our present coinage, this requires that the customer have anywhere from 3 to 6 or more coins readily at hand. Part of the material submitted to accompany this statement, Mr. Chairman, shows the kinds and percentages of merchandise consumers buy from machines at these higher prices.

In the absence of a widely circulated dollar coin, our industry developed and marketed automatic currency change-makers. These currency changers are costly to install and maintain, and they require the customer to go through at least one additional step in making a purchase. For practical reasons, the use of



currency changers has been confined to very large, high volume establishments. Obviously, a widely accepted and circulating dollar coin would benefit consumers in millions of daily transactions with coin-actuated devices.

In the earlier hearings held by the House of Representatives, questions were raised as to whether a dollar coin would cause an escalation of prices in vending machines and fuel inflation which has had such a dreadful impact on all of us. Mr. Chairman, I am submitting as part of my statement the historic record of vending machine prices in this country since 1967. Even a cursory examination of these pricing trends will I think quickly reassure you and the members of this Committee that vending machines have consistently followed a policy of restraint with respect to prices. Numerically, the vast majority of items the American public buys from vending machines are purchased at a unit price of less than a quarter (25 cents). Hot drinks—mostly coffee—illustrate the point. Even though hot drink machines are equipped to operate at 25 cents, in 1976—the most recent year for which reliable pricing data are available—97 percent of the vended coffee sold at a price below 25 cents, and as such represented a real bargain in coffee consumed away from home. A similar pricing trend is evident in cold cup drinks vended, and in candy and snacks.

Of all the items sold in vending machines in large numbers, cigarettes as you will see from the material accompanying this statement are sold at prices above 50 cents. These higher prices directly reflect the increases in taxes on cigarettes imposed not only for the Federal government but by the States, and in many States by local governments.

The prices at which products are sold through vending machines are subject, of course, to competition in the marketplace—not only competition from other retail outlets, but where food is concerned, competition from the millions of home kitchens with the classic lunch pail or brown bag. Unless vended products are offered at prices which our potential customers perceive to be reasonable and fair, we will shortly find ourselves out of business.

I am submitting in the material accompanying this statement a table showing the cost/profit ratios of vending machines from 1967 to 1977. Those data I believe you will agree confirm our contention that vending machine prices have increased only in response to inflationary pressure and have not resulted in windfall profits.

Finally, Mr. Chairman, the length of time which will be necessary to bring new equipment into the marketplace capable of accepting the dollar coin, or making conversions of current equipment to accept the dollar coin, militates against the coin having any inflationary impact through increased vended prices.

Rather than increase prices to the consumer, the effect of the new dollar coin over the next three to five years will be to make available around the clock and in convenient places a wider variety of products and services. For example, magazines, paperback books, certain cosmetics, automotive and household supplies are products which theoretically might be made available in thousands of new, convenient outlets. To date, experiments to make these and other products and services available automatically have been frustrated by the great number of coins needed to complete a transaction.

If the dollar coin does make possible vending a wider variety of products and services, this will have a positive effect on our economy. This is so because most of the sales made by vending machines represent "plus" sales rather than sales taken away from other methods of retailing. As a result, growth in the kinds and variety of products vended will mean additional new jobs in our industry without a resulting loss of employment elsewhere. This point was made dramatically in a number of studies conducted in the late 1950's and the early 1960's. At that time, the dairy industry mounted a major marketing effort to make milk available through automatic vending machines. This effort had the support of the U.S. Department of Agriculture.

Because milk was at that time a brand new product in vending, it was possible to determine conclusively whether vending added "plus" sales or simply took sales away from other, established retail outlets. Perhaps the best of the studies, because of the length of time involved, was conducted at the West Virginia Agricultural Experimental Station in cooperation with the U.S. Department of Agriculture. The study involved a saturation placement of milk vending machines in Berkeley County, West Virginia, during the period from October 1955 to June 1957. The final results of that study were made available by the U.S. Department of Agriculture early in 1960. The conclusion of the study was that more than half of all milk sold through vending machines in all types of locations represented a net increase in milk sales. Specifically, in industrial plants and offices, the report concluded that "about two-thirds of the milk vended in plants and offices represented a net gain."





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ESTIMATED NUMBER OF COINS USED IN VENDING MACHINES

FOR THE YEARS 1974, 1975, 1976

The estimates on the following pages are based on the total dollar volume, and the reported selling prices as published in the Annual Census of Vending by Vending Times.

The estimates are based further on the fewest possible coins needed to make a purchase in the various price ranges.

An item selling at 45¢, for example, is counted as one quarter and two dimes. In actual practice, however, a purchaser could use any of the following combinations for a 45¢ purchase:

- 4 dimes and 1 nickel
- 3 dimes and 3 nickels
- 2 dimes and 5 nickels
- 1 dime and 7 nickels
- 9 nickels
- 1 quarter, 1 dime and 2 nickels
- 1 quarter and 4 nickels
- 1 quarter and 2 dimes

G. Richard Schreiber  
President



ESTIMATED NUMBER OF COINS USED IN VENDING MACHINES: 1976, 1975, 1974

	<u>NUMBER OF COINS</u>	<u>% OF TOTAL</u>	<u>DOLLAR VALUE</u>
<u>1976</u>			
Pennies	5,610,000,000	7.0%	\$ 56,100,000.00
Nickels	17,398,250,783	21.9	896,912,539.15
Dimes	34,900,625,681	43.9	3,490,062,568.10
Quarters	<u>21,639,699,571</u>	<u>27.2</u>	<u>5,409,924,892.75</u>
TOTAL	79,548,576,035	100.0%	\$9,826,000,000.00
<u>1975</u>			
Pennies	7,644,000,000	9.5%	\$ 76,440,000.00
Nickels	18,938,270,793	23.6	946,913,539.65
Dimes	34,270,883,476	42.6	3,427,088,347.60
Quarters	<u>19,526,232,451</u>	<u>24.3</u>	<u>4,881,558,112.75</u>
TOTAL	80,379,386,720	100.0%	\$9,332,000,000.00
<u>1974</u>			
Pennies	6,160,000,000	7.8%	\$ 61,660,000.00
Nickels	18,877,869,873	23.8	943,893,493.65
Dimes	37,877,327,371	47.9	3,787,732,737.10
Quarters	<u>16,211,095,077</u>	<u>20.5</u>	<u>4,052,773,769.25</u>
TOTAL	79,126,292,321	100.0%	\$8,846,000,000.00



## DOLLAR VOLUME: 1976, 1975, 1974

1976	PENNIES	NICKELS	DIMS	QUARTERS	TOTAL
TOTALS	\$56,100,000.00	\$896,912,539.15	\$3,490,062,568.10	\$5,409,924,890.75	\$9,826,000,000.00
Average Every 24 hours	153,698.00	2,383,322.00	9,561,815.00	14,821,712.00	26,920,547.00
Average Every Hour	6,404.00	99,305.00	398,409.00	617,571.00	1,121,689.00
Average Every Minute	107.00	1,655.00	6,640.00	10,293.00	18,695.00
<u>1975</u>					
TOTALS	\$76,440,000.00	\$946,913,539.65	\$3,427,088,347.60	\$4,881,558,112.75	\$9,332,000,000.00
Average Every 24 Hours	209,424.00	2,594,284.00	9,389,283.00	13,374,132.00	25,567,123.00
Average Every Hour	8,726.00	108,095.00	391,220.00	557,256.00	1,065,297.00
Average Every Minute	145.00	1,802.00	6,520.00	9,288.00	17,755.00
<u>1974</u>					
TOTALS	\$61,600,000.00	\$943,893,493.65	\$3,787,732,737.10	\$4,052,773,769.25	\$8,846,000,000.00
Average Every 24 Hours	168,767.00	2,586,009.00	10,377,350.00	11,103,490.00	24,235,616.00
Average Every Hour	7,032.00	107,750.00	432,390.00	462,645.00	1,009,817.00
Average Every Minute	117.00	1,796.00	7,206.00	7,711.00	16,830.00



## COIN USAGE: 1976, 1975, 1974

	PENNIES	NICKELS	DIMES	QUARTERS	TOTAL
<u>1976</u>					
TOTALS	5,610,000,000	17,398,250,783	34,900,625,681	21,639,699,571	79,548,576,035
Average Every 24 Hours	15,369,863	47,666,440	95,618,153	59,286,848	217,941,304
Average Every Hour	640,410	1,986,101	3,984,088	2,470,285	9,080,884
Average Every Minute	10,673	33,101	66,401	41,171	151,346
<u>1975</u>					
TOTALS	7,644,000,000	18,938,270,793	34,270,883,476	19,526,232,451	80,379,386,720
Average Every 24 Hours	20,942,466	51,885,673	93,892,831	53,496,527	220,217,497
Average Every Hour	872,603	2,161,903	3,912,201	2,229,022	9,175,729
Average Every Minute	14,543	36,032	65,202	37,150	152,927
<u>1974</u>					
TOTALS	6,160,000,000	18,877,869,873	37,877,327,371	16,211,095,077	79,126,292,321
Average Every 24 Hours	16,876,712	51,720,191	103,773,500	44,413,959	216,784,362
Average Every Hour	703,196	2,155,008	4,323,896	1,850,582	9,032,682
Average Every Minute	11,720	35,917	72,065	30,843	150,545



PERCENTAGE OF PRODUCT BY CATEGORY SELLING  
55¢ OR MORE

	1976	1975	1974	1973	1972
Cigarettes					
55¢ - 60¢	48.0%	58.7%	35.7%	34.0%	38.0%
65¢ - over	40.3	21.6	18.3	-	-
	<u>\$2,348,780,000</u>	<u>\$2,083,785,000</u>	<u>\$1,975,800,000</u>	<u>\$ 836,400,000</u>	<u>\$879,700,000</u>
Prepared Food					
55¢ - 60¢	9.3%	6.7%	5.6%	19.4%	10.2%
65¢ and over	11.8	12.9	13.2	-	-
	<u>\$ - 92,840,000</u>	<u>\$ 80,360,000</u>	<u>\$ 70,688,000</u>	<u>\$ 67,318,000</u>	<u>\$ 32,640,000</u>
Hot Canned Foods					
55¢ and over	15.5%	8.5%	6.0%	.5%	-
	<u>\$ 17,205,000</u>	<u>\$ 9,690,000</u>	<u>\$ 6,840,000</u>	<u>\$ 510,000</u>	<u>-</u>
TOTAL					
	\$2,458,825,000	\$2,173,835,000	\$2,053,328,000	\$ 904,228,000	\$912,340,000
Percentage Of Total Vended Volume	25.0%	23.3%	23.2%	11.5%	13.2%

SOURCE: N A M A Based On Reports  
by Dr. Boris Parl, Northwestern University



## VENDED PRICE TRENDS: 1967 - 1976

	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
<b>Hot Drinks</b>										
10c sales	\$775,000,000	\$712,000,000	\$668,000,000	\$586,000,000	\$533,000,000	\$452,000,000	\$451,795,000	\$447,067,000	\$412,702,000	\$363,377,000
15c sales	5.0%	9.3%	29.5%	55.0%	62.5%	69.0%	72.0%	89.0%	90.0%	N/A
20c sales	60.8	75.0	62.5	44.5	37.1	29.0	26.0	10.0	10.0	
25c sales	31.2	11.7	6.9	.5	.4	2.0	2.0	1.0	-	
25c sales	3.0	4.0	1.1							
<b>Cup Cold Drinks</b>										
10c sales	675,000,000	675,000,000	664,000,000	595,000,000	517,000,000	455,600,000	379,623,000	410,770,000	358,768,000	354,833,000
15c sales	1.0	1.0	11.0	40.0	53.0	60.0	73.0	80.0	90.0	N/A
20c sales	64.0	66.0	68.0	54.0	40.0	39.0	25.0	18.0	9.0	
25c sales	30.0	25.0	17.0	6.0	7.0	1.0	2.0	2.0	1.0	
25c sales	1.0	1.0	4.0	-	-	-	-	-	-	
Over 25c sales	4.0	7.0	-	-	-	-	-	-	-	
<b>Can Cold Drinks</b>										
10c sales	1,452,000,000	1,300,000,000	1,090,000,000	848,000,000	641,000,000	561,000,000	420,226,000	280,228,000	214,498,000	113,800,000
15c sales	-	-	-	-	-	1.0	2.0	4.0	4.0	N/A
20c sales	-	-	1.0	6.0	21.0	27.0	48.0	62.0	84.0	
25c sales	3.0	4.0	15.0	73.0	66.0	72.0	67.0	34.0	12.0	
30c sales	48.0	45.0	52.0	21.0	13.0	-	-	-	-	
35c sales	41.0	44.0	32.0	-	-	-	-	-	-	
35c sales	8.0	7.0	-	-	-	-	-	-	-	
<b>Bottle Cold Drinks</b>										
10c sales	989,000,000	945,000,000	888,000,000	165,000,000	668,000,000	644,200,000	697,029,000	691,495,000	543,060,000	468,659,000
15c sales	-	1.0	-	3.0	20.0	7.0	28.0	30.0	56.0	N/A
20c sales	40.0	10.0	27.0	71.0	72.0	69.0	67.0	64.0	38.0	
25c sales	36.0	49.0	70.0	26.0	8.0	24.0	5.0	6.0	6.0	
25c or more	60.0	40.0	3.0	-	-	-	-	-	-	
<b>Cigarettes</b>										
25c-35c	2,660,000,000	2,595,000,000	2,670,000,000	2,460,000,000	2,315,000,000	2,239,500,000	2,116,506,000	1,887,754,000	1,811,539,000	1,731,348,000
40c-50c	-	-	-	2.7	5.0	5.7	6.7	9.0	23.7	29.7
55c-60c	11.7	19.7	26.0	63.3	57.0	72.0	82.3	85.0	73.0	69.3
65c and over	40.3	21.6	55.7	34.0	38.0	22.3	11.0	6.0	3.3	1.0
			18.3	-	-	-	-	-	-	-



	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
<b>Confections</b>										
5c sales	\$1190,000,000	\$1115,000,000	\$1047,000,000	\$919,000,000	\$707,000,000	\$664,300,000	\$671,314,000	\$585,853,000	\$554,668,000	\$521,417,000
10c sales	-	-	-	-	-	8.2	4.12	10.32	18.32	15.02
15c sales	2.8	3.0	11.5	48.0	81.7	78.3	83.1	85.0	80.4	85.0
20c sales	44.4	63.3	79.3	51.6	17.1	19.3	12.2	4.7	1.3	-
25c sales	49.3	28.6	8.4	.4	1.2	1.6	.6	-	-	-
Over 25c	2.9	4.3	0.8	-	-	-	-	-	-	-
Over 25c	0.6	.8	-	-	-	-	-	-	-	-
<b>Pastries</b>										
10c sales	214,000,000	205,000,000	176,000,000	138,000,000	105,000,000	88,300,000	79,679,000	72,203,000	N/A	N/A
15c sales	-	-	-	-	-	N/A	N/A	N/A	-	-
20c sales	3.0	5.0	12.0	40.0	80.0	-	-	-	-	-
25c sales	7.0	29.0	41.0	55.0	19.0	-	-	-	-	-
30c sales	55.0	40.0	36.0	5.0	1.0	-	-	-	-	-
Over 30c	31.0	26.0	11.0	-	-	-	-	-	-	-
Over 30c	4.0	-	-	-	-	-	-	-	-	-
<b>Milk</b>										
10c sales	248,000,000	244,000,000	234,000,000	209,000,000	155,000,000	170,700,000	152,567,000	144,028,000	106,056,000	98,600,000
15c sales	-	-	-	2.0	10.0	8.9	14.4	16.7	N/A	N/A
20c sales	-	4.3	21.8	58.0	75.0	80.7	81.2	77.8	-	-
25c sales	53.0	63.2	54.9	33.0	10.0	8.2	4.4	-	-	-
30c sales	38.0	21.3	18.6	6.0	5.0	2.2	-	5.5	-	-
35c sales	8.0	9.5	4.4	1.0	-	-	-	-	-	-
Over 35c	1.0	1.7	.3	-	-	-	-	-	-	-
<b>Ice Cream</b>										
10c sales	63,000,000	64,000,000	58,000,000	51,000,000	42,000,000	41,100,000	50,513,000	47,145,000	37,192,000	35,800,000
15c sales	-	1.0	1.0	5.0	17.0	15.0	33.0	49.0	N/A	N/A
20c sales	10.0	17.0	37.0	70.0	74.0	75.0	62.0	47.0	N/A	N/A
25c sales	60.0	49.0	49.0	25.0	9.0	10.0	5.0	4.0	-	-
Over 25c	29.0	25.0	13.0	-	-	-	-	-	-	-
Over 25c and over	1.0	8.0	-	-	-	-	-	-	-	-
<b>Prepared Foods</b>										
10c sales	440,000,000	410,000,000	376,000,000	347,000,000	320,000,000	265,300,000	223,923,000	201,753,000	227,337,000	202,350,000
15c sales	-	-	-	4.1	7.4	8.0	6.9	N/A	N/A	N/A
20c sales	-	.6	1.3	12.3	16.9	15.0	19.7	-	-	-
25c sales	3.3	8.0	5.4	30.9	33.3	28.0	30.0	-	-	-
30c sales	30.7	25.1	22.9	19.6	10.9	14.0	13.4	-	-	-
35c sales	14.3	18.3	23.4	7.1	7.1	8.0	9.6	-	-	-
40c sales	10.4	9.0	14.1	4.1	5.6	6.0	4.9	-	-	-
45c sales	5.8	10.8	3.7	2.9	3.6	6.0	4.4	-	-	-
Over 45c	5.1	3.3	5.1	3.4	-	-	-	-	-	-



	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
<b>Prepared Foods (Continued)</b>										
50¢ sales	9.3%	5.3%	5.3%	3.3%	5.0%	1.0%	2.6			
55¢ sales	5.3	3.4	3.1	8.0		6.0	2.1			
60¢ sales	4.0	2.5	2.5	11.4	7.9	3.0	3.1			
65¢ sales	2.0	1.6	13.2			1.0	2.9			
70¢ and over	9.8	11.3				4.0	.4			
Hot Canned Foods	\$111,000,000	\$114,000,000	\$114,000,000	\$102,000,000	\$84,000,000	\$77,600,000	\$73,678,000	\$53,801,000	\$52,030,000	\$42,469,000
10¢ sales	-	-	-	-	-	-	-	-	-	-
15¢ sales	-	-	-	-	-	-	-	-	-	-
20¢ sales	.5	.5	-	2.0	2.5	5.5	15.5	.5	N/A	N/A
25¢ sales	1.5	6.0	3.5	17.0	23.0	24.5	26.5	17.5		
30¢ sales	17.0	16.0	27.0	22.0	17.0	15.0	9.0	24.5		
35¢ sales	24.0	18.5	14.5	9.0	20.5	24.5	32.0	10.5		
40¢ sales	5.5	9.5	5.0	23.0	23.5	21.5	34.0	34.0		
45¢ sales	10.5	16.5	25.5	21.0	7.0	6.5	13.5	8.5		
50¢ sales	25.5	24.5	18.5	5.5	6.5	2.5	3.0	3.5		
55¢ sales	12.5	5.5	2.5	.5			.5	.5		
60¢ and over	3.0	3.0	3.5	-	-	-	-	-		
Bulk Vending	330,000,000	273,000,000	220,000,000	195,000,000	176,000,000	233,800,000	305,400,000	131,000,000	112,923,000	92,196,000
1¢ sales	17.0	28.0	28.0	29.0	39.0	38.0	44.0	49.0	54.0	54.0
3¢ sales	29.0	30.0	25.0	28.0	34.0	40.0	37.0	30.0	26.0	26.0
10¢ sales	23.0	16.0	27.0	26.0	16.0	16.0	14.0	17.0	17.0	19.0
25¢ sales	29.0	26.0	20.0	17.0	11.0	6.0	5.0	4.0	3.0	1.0
Over 25¢ sales	2.0	-	-	-	-	-	-	-	-	-
Cigars	\$21,000,000	\$20,000,000	\$21,000,000	\$22,000,000	\$22,000,000	\$22,300,000	\$18,208,000	\$17,910,000	\$16,588,000	\$13,104,000
All Other	\$685,000,000	\$660,000,000	\$620,000,000	\$610,000,000	\$621,000,000	\$598,500,000	\$582,547,000	\$549,558,000	\$508,850,000	\$463,000,000
	\$9826,000,000	\$9332,000,000	\$8846,000,000	\$7847,000,000	\$6906,000,000	\$6514,900,000	\$6223,008,000	\$5520,565,000	\$4956,211,000	\$4,500,953,000

SOURCE: Dr. Boris Parl, Professor In The  
Graduate School Of Business  
Northwestern University  
As Published In Vending Times



VENDING OPERATING RATIOS: 1967-1977

	Prelim. 1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
Gross Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Product & Operating Expense	95.3	96.8	96.44	95.65	94.85	94.75	94.87	95.13	94.24	94.87	96.17
Operating Profit	4.7	3.2	3.56	4.35	5.15	5.25	5.13	4.87	5.76	5.13	3.83
Other Income/Expenses	1.0	.6	.53	.86	.88	.84	.88	.14	.19	.64	.88
Net Profit Before Federal Taxes	5.7	3.8	4.09	5.21	6.03	6.09	6.01	5.01	5.95	5.77	4.71

SOURCE: NAVA OPERATING RATIO REPORT  
PUBLISHED ANNUALLY: COMPILED  
FOR NAVA BY PRICE WATERHOUSE & COMPANY.



SIZE OF OPERATING COMPANIES  
N A M A MEMBERSHIP

	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
1 - 2	30.2%	31.2%	32.0%	32.3%	32.0%	29.9%	28.0%	24.9%	27.1%	N/A	N/A
2.5 - 3	9.4	7.1	6.7	6.2	5.8	8.2	10.8	13.2	13.7		
3.5 - 6	20.3	20.1	20.0	20.3	21.8	22.4	23.0	23.6	23.3		
6.5 - 10	15.0	15.8	16.3	16.2	16.0	16.8	16.6	17.3	16.2		
10.5 - 19.5	13.9	13.7	13.5	13.9	13.7	13.0	13.2	11.7	11.7		
20 or more	11.2	12.1	11.5	11.1	10.7	9.7	8.4	9.3	8.0		

SOURCE: N A M A MEMBERSHIP RECORDS



SIZE OF OPERATING COMPANIES  
BY NUMBER OF EMPLOYEES

	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967
Owner only											
1 Employee-part time		18.0%	16.0%	15.0%	16.0%	12.0%	8.0%	7.0%	13.0%	12.0%	14.0%
1-3 Employees		8.0	7.0	5.0	7.0	5.0	9.0	2.0	5.0	4.0	6.0
3.5 to 6 employees		28.0	31.0	34.0	31.0	27.0	28.0	30.0	30.0	33.0	31.0
6.5 to 10.5 employees		16.0	18.0	12.0	15.0	13.0	16.0	16.0	13.0	15.0	16.0
11 to 19.5 employees		8.0	8.0	8.0	8.0	11.0	12.0	25.0	12.0	6.0	13.0
20 or more employees		9.0	9.0	11.0	7.0	8.0	14.0	14.0	11.0	11.0	9.0
		13.0	11.0	15.0	16.0	1.0	13.0	16.0	16.0	19.0	11.0

SOURCE: Dr. Boris Parl, Northwestern University



The CHAIRMAN. Thank you, Mr. Schreiber.

Mr. Burke, aren't we dealing with a simple marketing problem? After all, here the Treasury has a \$1 coin, it isn't circulating, it is too big, too heavy, everybody knows that, so nobody uses it. What they want to do is come in with something that would work. I don't see anything wrong with that. Ford Motor Co. had that problem with the Edsel, they couldn't sell it, but instead of continuing to make a product nobody wanted, they went back to the drawing board and came up with something new. Eventually, the Mustang caught on and Ford recovered its losses on the Edsel. If Ford followed the same approach being suggested by you—that is, one of endless studies coupled with cautious inaction—they would still be making the Edsel today.

Why shouldn't the mint be encouraged to try something new, that makes all of the sense in the world? Anybody will tell you that the dollar coin we have is too heavy now.

Mr. BURKE. Senator, I agree with your phrase "marketing." It is a question of who are you going to market to; namely, the consumers. If the \$1 coin does come into law, America's bankers will adapt whatever is necessary to do their best to accommodate the new law.

And as I was listening to the testimony, Senator, I reflected that from a cost standpoint our bank pays a certain vendor equipment rentals in excess of \$2 million a year. Somebody suggested 8 percent. As, a cost of converting our cash drawers to hold the new coin. Well, 8 percent is \$160,000. If this estimate is right, that is not a lot of money. It is 2 percent of what we earned for the first 6 months of this year. But we are fully willing and hopefully capable to accommodate the market.

Our thrust, Senator, is whether or not the market, in this case the consumer, is willing to use the coin. We don't know. If the Treasury has made a determination that the market will accept it, I couldn't agree with you more.

The CHAIRMAN. Whether it is accepted or not depends so much on you and Mr. Register and your organizations. You really are the key to its success. You indicated that, and Governor Coldwell indicated that.

Let me ask you about that. You referred to Governor Coldwell's remarks when he said that circulation of the proposed new coin is not automatically insured. Then he went on to say:

Several steps could be taken to aid the circulation of the new coin. These include a marketing program, a coordinated retail industry utilization effort, and a financial institutions program to encourage the use of the coin. We hope that the financial institutions and coin vending industry will effectively encourage its useage.

We have heard in ringing terms from Mr. Schreiber, he says they certainly will, and I can understand that, they have everything to gain from it, and he is very frank about it, he will do his best to make it succeed.

But I think he would agree also that we need the cooperation of the banks and of the retail merchants too to make it succeed.

What I want to know is whether or not you will cooperate and the extent to which you will.

Mr. BURKE. We will cooperate. And the extent can best be exhibited by the \$2 bill. Very recently, about 11½ years ago, the Treasury once



again urged the banks to distribute \$2 bills. Our own institution went to a lot of effort in distributing them to all of our retail merchants, with a statement that the Treasury wants you to use them. The only customers of ours who use them regularly are those who operate games of chance or the race tracks. And they are very good customers of the \$2 bill. But they are the only ones.

Senator, Americas bankers will definitely cooperate with any marketing effort, if the bill is passed.

The thrust of my testimony, Senator, I hope is clear. It is my own personal as well as the industry's skepticism of the acceptance of the coin. And perhaps we are totally in error. If we are, we will be delighted to acknowledge that fact.

The CHAIRMAN. Well, but you say in your conclusion that you are concerned about the attempt of the proposal to shift costs from the public sector to the private sector.

Mr. BURKE. Sure, we are concerned about that. Let me give you an example—

The CHAIRMAN. That is a perfectly legitimate complaint, I don't blame you, if I were in your position I would say the same thing.

I wonder what that means. Does that mean you won't go to that expense?

Mr. BURKE. No, sir. If you pass the law, Senator, and if you direct us to distribute \$1 coins, we are going to do it. If our customers ask for them we will supply them.

Let me give you an example, if I may, with reference to marketing in, our industry. EFTS, the electronic funds transfer system—the industry is ready to go right now. We have a great deal of competence. Instead of paying \$2 million, we could pay  $x$  million and do it. Why hasn't the industry as an entity done it? The consumer reaction hasn't completely favored it.

My wife is a bit old-fashioned. She keeps the old-fashioned check-book, three checks to a page. When our statement comes home she reconciles that statement and she staples the cancelled checks to the stub. Now she may be to the extreme end of those who would reject EFT. But we have found that despite our spending a lot of money many consumers are like my wife and consequently we are a bit reticent to attempt to push it too far.

In the case of a coin, it is the Treasury who has recommended that this be done. Therefore if that is the case, it seems to us that the Treasury should come up with some dollars to study the problem. Your suggestion to have a poll is a good one. Let the Treasury pay for that before asking us to spend money to convert our equipment. If the coin is rejected by the consumer, Treasury can stop making it but we will have incurred the cost of conversion.

The CHAIRMAN. I agree with you, the banking industry has moved ahead very vigorously on EFT in many cases.

Let me ask Mr. Register about this, because as you indicated, he is very very important too. If the merchants indicate an interest, then of course the banks are much more likely to go along.

Mr. Register. I am interested in your comment regarding the limited success of getting customers to accept the \$2 bill. You say that many customers fear confusing the bill with a \$1 bill. That is very curious to me, because, after all, you have got the \$5 bill, it is the same color, the same size. I don't see why there would be that difference, that confusion.



I can see why people might at first say that. But you are right, there does seem to be resistance to the \$2 bill, not only on the part of the customer, but I suspect on the part of the retail merchant and clerk. So it is kind of a vicious circle, the retailers prefer not to utilize the \$2 bill, so the banks don't keep them on hand all of the time except for the racetrack fans.

What about the argument that coins are much easier to handle, unlike paper currency, they don't stick together or fold. How about that?

Mr. REGISTER. First, I will comment on your statement about the \$2 bill. The confusion seems to come when there is possibly a \$5 bill involved being changed, then the customer would normally expect to get three or four \$1 bills back, but instead he gets a \$2 bill and a \$1 bill. This is where the customer, I think, gets confused between the \$1 bill and the \$2 bill, and not necessarily with the \$5 or \$10 bill.

As to whether coins are easier to handle than currency, it depends I think on the extent. Now one of our retailers we talked with has a supermarket, and he used 4,500 \$1 bills for change. He says what would I do with 4,500 \$1 coins? He says it would be a steady stream of people running up to the cash register and bringing in new \$1 coins. You can not get as many \$1 coins in the cash register as you can \$1 bills.

The CHAIRMAN. How many quarters does he have?

Mr. REGISTER. I think he probably has two packs of them, and that is probably 50 or so. I don't know.

The CHAIRMAN. He has 4,500 \$1 bills and only two packs of quarters?

Mr. REGISTER. No; he does not have have the 4,500 bills in the register at one time. The quarter is what I am talking about, when he is changing the larger bills, and giving coins back in place of bills. That is the illustration I gave.

The CHAIRMAN. I would agree that at first, anything new is difficult. If we only had pennies and nickels and dimes, and we were now talking about a quarter, there would be the same kind of concern. But I think after a little while, recognizing how incomes have increased over the last few years, it just seems to me this is acknowledging a fact of life.

I want to yield to Senator Sparkman in a minute. Let me ask however a little bit further. I would like you to comment on this quote from Governor Coldwell:

Perhaps more important, the new coin should be employable in a cashier machine that automatically dispenses the coin portion of a customer's change. These machines are now limited to dispensing amounts of less than \$1. With the usable dollar coin, this limit would be raised and the effectiveness of the machines should be increased significantly.

What is your response to that?

Mr. REGISTER. When I discussed this particular thing with one of the major manufacturers of cash registers, he said the equipment is not currently available, as far as coin changers go. It can be developed, but it cannot be adapted. You cannot adapt a unit that is used——

The CHAIRMAN. Ms. Hackel said it could be adapted easily and cheaply and quickly.

Mr. REGISTER. Who said that?

The CHAIRMAN. Ms. Hackel. She testified to that about an hour and a half ago. I raised that very point, I said some mom and pop stores would be in a position, unlike the big operations, who can obviously



handle it although it would be costly, but a little store might find it very difficult. She said no, because for a modest cost they could convert. I was talking about a cash register.

Mr. REGISTER. She is talking about the drawer in the cash register, not the automatic changemaker. I could be wrong. We discussed this at the hearing that they kindly had for us, not a hearing, but the briefing session, and I believe they conceded the automatic coin changer-maker could not be adapted. It would have to be redesigned.

As to the cash register, a new drawer could be adapted in those cases, which would have five compartments, but not the coinchangers.

The CHAIRMAN. Mr. Register, you say that about 40 percent of the 3 million cash registers used in all types of stores only have four change compartments and four currency compartments.

Mr. REGISTER. That is true.

The CHAIRMAN. I take it no attempt was made by the businesses to accommodate the half-dollars?

Mr. REGISTER. The half-dollar, as I understand it, was never widely enough circulated that it presented a problem. Also there was a distinctive coin there as contrasted—

The CHAIRMAN. Maybe that is one of the reasons the half-dollar never was circulated, because they only have this kind of setup. What I am getting at is the importance of having the cooperation of retail merchants in helping to circulate the proposed new coin. So would they go to the trouble of having a fifth drawer?

Mr. REGISTER. I endorse everything Mr. Burke says. If this becomes a reality, we will work very hard to get acceptance of it. Our testimony was trying to bring up the problems it would inflict on retailers that have to deal with the situation. Certainly if it becomes a reality, we will do everything we can to cooperate on it.

The CHAIRMAN. Mr. Schreiber, you made an important case in pointing out the enormous amount of sales that are being made through coin-operated devices. Of course we have all noticed it, we have all used them. But I think you gave us a more comprehensive picture of how big that industry really is than we had before, and how beneficial it is to consumers. Just millions and millions of people use coin-operated laundries and patronize coin-operated equipment in all kinds of areas.

Nevertheless, the present \$1 coin has been in circulation for several years. Are there any vending machines that accept it, and if not, why was it never considered?

Mr. SCHREIBER. The large dollar, Senator?

The CHAIRMAN. Yes.

Mr. SCHREIBER. No; there are no vending machines that will accept them.

The CHAIRMAN. Why not?

Mr. SCHREIBER. Well, nobody carries it.

The CHAIRMAN. Maybe that is one of the reasons. In other words, if you set up a vending machine that could accept it, maybe more people would carry it.

Mr. SCHREIBER. That could be. The thing is so big, they don't even use it much, I am told, in slot machines, where there are capabilities for it. When this dollar first came along, the proposal for the smaller dollar first came along, the only people using the big dollars to our knowledge were the people that make those glorious machines—



The CHAIRMAN. One-armed bandits?

Mr. SCHREIBER. Right. And they took a rather dim view of it, according to a communication that I saw in the newspaper. But then after they got through counting up how many one-arm bandits they had that took the big dollars, they found they didn't have that many of them, now they are all in favor of it. Some are not.

The CHAIRMAN. So you have even got the Atlantic City and Las Vegas people?

Mr. SCHREIBER. I imagine the Atlantic City market might have influenced them.

The CHAIRMAN. I notice the half dollar is not listed in your estimated number of coins used in vending machine transactions. Aren't 50 cent pieces used in these machines?

Mr. SCHREIBER. No, sir, that was an exercise in futility which I sincerely hope the new dollar, if we get it, won't be. When the half dollars came out in 1970, the new half dollars, we put out something like 135,000 vending machines within 2 years with the capability of using the half dollar. All of those mechanisms are now gathering dust in various warehouses for the simple reason that the half dollar just wasn't there.

The CHAIRMAN. What you are saying is that people simply don't carry \$1 coins or half dollar coins, for that matter, and even though you have tried in the case of the half dollar to encourage it by having the machines available, there just wasn't sufficient demand?

I should have asked that first question first, since you did try it with the half dollars, therefore it would be logical for you not to go ahead here.

Now are you really positive that if we come out with the new \$1 coin, lighter and smaller, that the vending machine industry would move in in a big way, comprehensive way, and provide equipment that could accept the dollars?

Mr. SCHREIBER. Oh, yes, yes, sir, very much so.

The CHAIRMAN. How are you so sure about that when they didn't do it with the present big coins?

Mr. SCHREIBER. Well, I think the people in our industry are reading the American public this time as agreeing that a smaller dollar will be a useful coin to have. Admittedly we are guessing as everybody else is. We think the American public will accept the coin.

The CHAIRMAN. Here we have three very intelligent and experienced and practical businessmen here, and you just flatly disagree. You disagree with the other two. They seem to feel that they may use it, but they would like to see a survey first, a survey which we haven't had so far. But you seem very confident.

Mr. SCHREIBER. I am extremely distressed by my banker friend here, because I am inclined to agree that if the banks don't enthusiastically try to promote the \$1 coin, it is going to be a long hard pull for us singly to try to do something with it. By "us" I mean the various organizations that I mentioned here, not just vending. But if it is as hard to get from the bank as the 50 cent piece was hard to get—I remember walking into the Exchange National Bank, where the vice chairman was then the immediate past number two man in the Treasury Department under the administration at that time, and he was the man who



more than anyone else promoted the half dollar when he was here in Treasury. I asked him why they didn't handle the half dollars, and he said we handle it all of the time. And he went downstairs on the floor and stopped at three tellers' windows asking for halves and there weren't any in the bank, they didn't have them.

The CHAIRMAN. Yes, sir.

Mr. BURKE. Senator, I submit that nothing I have said could draw the conclusion that the gentleman on my right has drawn, to wit, that the banking industry is against a \$1 coin.

The CHAIRMAN. He didn't say that, as I understand it. He simply indicated that you have given practical reasons why in your judgment the consumers wouldn't accept it. And therefore the banks would not be able to vigorously promote it.

Mr. BURKE. That is where we differ.

The CHAIRMAN. Isn't that what you said?

Mr. BURKE. No, sir, I did not.

The CHAIRMAN. I beg your pardon.

Mr. BURKE. I agree with the first part of what you said, sir. At no time did I say the American Bankers Association would not promote the \$1 coin if it is in fact the law.

The CHAIRMAN. Fine. I am glad you clarified that again.

Mr. BURKE. I was directly responsive, I submit, Senator.

The CHAIRMAN. I think you did, that is right.

Mr. BURKE. Does this gentleman agree with what I just said?

The CHAIRMAN. It is not a matter of our passing a law and your obeying it. It is a matter of our passing the law and you enthusiastically doing your best to make it available.

Mr. BURKE. We will do our best. The 50 cent coin, that is a different matter. Treasury and the Federal Reserve are disbursing it. We have to handle it in spite of its lack of popularity. If we have them, we will do our best. A year and a half ago we reinstituted an effort on the \$2 bill. This gentleman's industry, I submit, indicated that while it spent money on getting a \$2 bill exchanger, I have never seen one in a hospital or anyplace else where I needed to get change.

The CHAIRMAN. Well, there are different degrees of enthusiasm.

Mr. BURKE. I couldn't agree with you more.

The CHAIRMAN. On EFT there is somewhat more than there was on the \$2 bill.

Mr. BURKE. Senator, the banking industry is spending the money for EFT on our own, and we should. If the Treasury wants this coin, they should at least do what you have suggested, have a survey to see if the consumer wants it. If the consumer wants it, Senator, they should have it. I don't know whether the consumer wants it or not. If they want it, the American Bankers Association will be behind it 100 percent. Whether we can be successful in pushing it, if the consumer doesn't want a new coin, I can't tell you.

The CHAIRMAN. I suggested a survey, but I think anything new is somewhat of a problem. I think once you get it in there, people can see it. This morning we had these dollars up here, they have all disappeared now, someone must have picked them up. Do you have them?

Dr. SELKER. No; I put them up there.

The CHAIRMAN. You are a very generous man, we thank you for your donation.



Dr. SELKER. Those are not dollars, those are tokens, the same size and shape.

The CHAIRMAN. Size, shape and weight, right?

Dr. SELKER. No; half the weight. I also have one made up of the same metal——

The CHAIRMAN. Let me talk with you a little after the hearing. I think we will have a chance then to clarify this situation and we do hope that in the event that the committee and the Congress decide to go ahead with it, and that it certainly problematical at this point, there is not much time left this year, but we certainly want to do everything we can for the convenience of the public, and to reduce the costs of the Federal Government.

We are happy to hear the bankers will cooperate and I take it Mr. Register feels the same way.

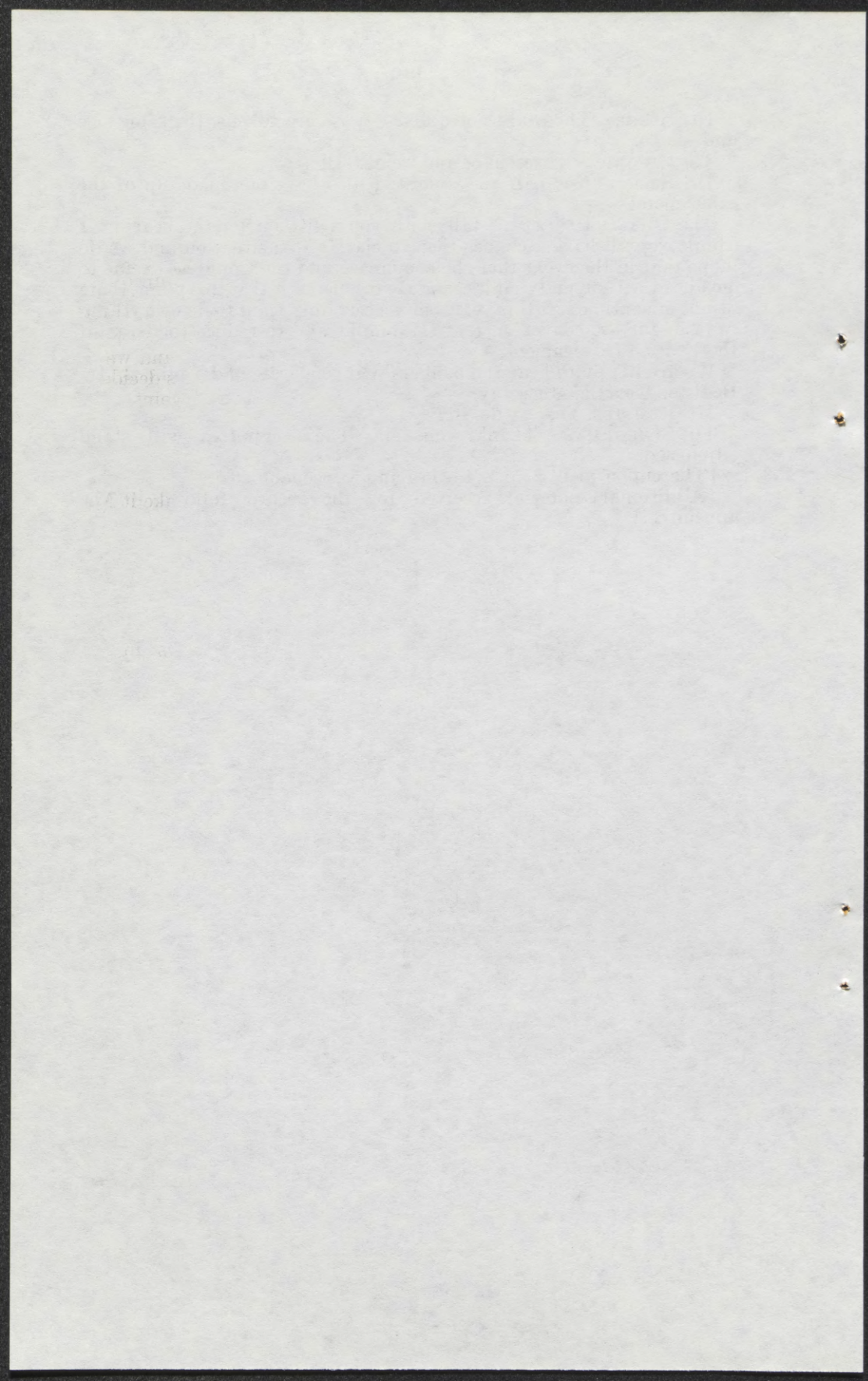
Mr. REGISTER. Yes; we do, sir.

The CHAIRMAN. Thank you, sir. The committee will stand adjourned.

[Thereupon, at 12:25 p.m. the hearing was concluded.]

[Additional material received for the record follows in the appendix:]







## APPENDIX

95TH CONGRESS  
2D SESSION**S. 3036**

## IN THE SENATE OF THE UNITED STATES

MAY 3 (legislative day, APRIL 24), 1978

Mr. PROXMIRE (for himself, Mr. WILLIAMS, Mr. CRANSTON, Mr. RIEGLE, and Mr. LUGAR) introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

**A BILL**

To amend the Coinage Act of 1965 to change the size, weight, and design of the one-dollar coin, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 SECTION 1. This Act may be cited as the "Susan B.  
4 Anthony Dollar Coin Act of 1978".

5 SEC. 2. Section 101 (c) (1) of the Coinage Act of 1965,  
6 as amended (31 U.S.C. 391 (c) (1)), is amended by  
7 striking out "1.500" and inserting in lieu thereof "1.043"  
8 and by striking out "22.68" and inserting in lieu thereof  
9 "8.5".

10 SEC. 3. (a) The one-dollar coin authorized by section



1 101 (c) of the Coinage Act of 1965, as amended by sec-  
2 tion 2, shall bear on the obverse side the likeness of Susan B.  
3 Anthony.

4 (b) Subject to subsection (a) and the limitations  
5 contained in section 3517 of the Revised Statutes, as  
6 amended (31 U.S.C. 324), the Secretary of the Treasury  
7 may prescribe such design for the one-dollar coin authorized  
8 by section 101 (c) of the Coinage Act of 1965, as amended  
9 by section 2, as he deems appropriate.

10 SEC. 4. Section 203 of the Act of December 31, 1970  
11 (31 U.S.C. 324b), is amended by striking out "initially"  
12 and by inserting "(d)" after "section 101".

13 SEC. 5. Until January 1, 1979, the Secretary of the  
14 Treasury may continue to mint and issue one-dollar coins  
15 authorized under section 101 (c) (1) of the Coinage Act of  
16 1965, as such section was in effect immediately prior to the  
17 date of enactment of this Act.





BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM  
WASHINGTON

PHILIP E. COLDWELL  
MEMBER OF THE BOARD

July 28, 1978

The Honorable William Proxmire  
Chairman  
Committee on Banking, Housing  
and Urban Affairs  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter of July 25, 1978, asking for our views on S. 3036, the Susan B. Anthony Dollar Coin Act of 1978.

As I stated in my testimony before the House Subcommittee on Coinage and Historic Preservation, a circulating dollar coin could result in significant cost savings to the Federal Reserve, potentially exceeding \$30 million each year. If all one dollar notes had been replaced by dollar coins for Fiscal Year 1977, we estimate our savings would have been \$28 million in printing costs and an additional \$2 million in handling costs. Even if the cost of producing the coins were borne by the Federal Reserve, the longer life of the coin would still result in significant cost savings.

Of course, the projected savings are contingent upon the new dollar coin circulating and replacing dollar notes. If the proposed legislation is enacted, we would strongly urge the Treasury Department to undertake a program to encourage the retailing community to use the new coin. Our experience with the reintroduction of the \$2 note would indicate that without such a program, the new coin may fail as a circulating medium of exchange.

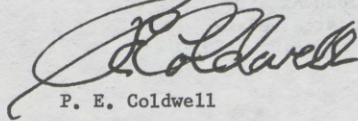
In your letter, you also asked for our observations concerning the relatively more successful circulation of the \$2 bill in some areas of the country. The greatest circulation of the \$2 note has been achieved in the Portland, Oregon area, primarily as a result of an intensive promotional campaign conducted by the Portland Reserve Bank early last year. The Reserve Bank contacted local merchants individually and encouraged them to use the \$2 note in their operations.



The results have been relatively successful. Following the conclusion of the campaign, payout of \$2 notes increased substantially at the Portland Reserve Bank, and has remained at the higher levels. To illustrate, the number of \$2 notes paid out by the Portland Bank over the past year has exceeded 23 per cent of the \$1 notes paid out, compared to a ratio of 2 per cent for the Federal Reserve System as a whole. While the technique employed in Portland may not be easily applied in more populated areas, the results would seem to indicate that a campaign to encourage the use of the proposed new \$1 coin could have a positive effect.

I hope this information is useful to your Committee in its consideration of the proposed legislation.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "P. E. Coldwell". The signature is fluid and cursive, with the first name "P." and last name "Coldwell" clearly distinguishable.

P. E. Coldwell





July 17, 1978

The Honorable William Proxmire  
Chairman  
Senate Committee on Banking, Housing  
and Urban Affairs  
5300 Dirksen Senate Office Building  
Washington, D.C. 20510

RE: Coinage Legislation  
(S. 3036)

Dear Mr. Chairman:

The Anaconda Company, Brass Division, a subsidiary of the Atlantic Richfield Company and a major supplier of coinage strip to the United States Mint, wishes to submit its position concerning proposed legislation to change the size, weight and design of the one-dollar coin.

The proposed size and weight change in the present one-dollar coin is supported by Anaconda as a means of having this coin obtain greater circulation and to provide potential cost-saving by eliminating some of the demand for the one-dollar bill. The circulation of the present one-dollar coin has not achieved the degree of circulation intended due to its cumbersome size and weight.

We also support the continued use of coppermetal for the proposed one-dollar coin. The domestic availability and economy of production by the U.S. Mint, the corrosion properties, non-magnetic characteristics and the recycling value, as well as the proven aesthetic value of coppermetals in our present coinage system, far exceed the inherent characteristics of other metals.

We do, however, request that the Banking, Housing and Urban Affairs Committee give consideration to a 75% copper, 25% nickel alloy for a solid coin. This coppermetal alloy is identical with that of the present five-cent coin.

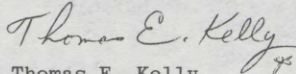


The Honorable William Proxmire  
Page 2  
July 17, 1978

This coppermetal alloy has proven compatability with our total U.S. coinage program. The minting technology and the equipment to work with this well-known alloy exists at the Mint. Further, there are several domestic brass mills which can competitively produce this alloy to supplement any current strip production program at the Philadelphia Mint.

I would appreciate your including this statement of our position as part of your hearing record.

Sincerely,

A handwritten signature in cursive script that reads "Thomas E. Kelly". The signature is written in dark ink and includes a small flourish at the end.

Thomas E. Kelly  
Manager International  
Marketing and Government Sales  
Brass Division

TEK:ms



## JUNETEENTH COMMITTEE

(JUNE 19, 1865)

2314 Wheeler Avenue

Houston, Texas 77004

713 / 529-4195

July 13, 1978

The Honorable William Proxmire  
Chairman  
Senate Banking Committee  
United States Senate  
Washington, D. C. 20510

Dear Senator Proxmire:

Please find enclosed a copy of petition requesting that the face of Harriet Ross Tubman be placed on the new \$1.00 coin. We feel that this petition expresses the sentiment of millions of American Citizens. Since we will not be afforded an opportunity of presenting the petition in person during the hearings to be conducted by the Senate Banking Committee, July 17th, it is our desire that it be included in the record.

Respectfully submitted,

*C. Anderson Davis*  
Rev. C. Anderson Davis  
Director

CAD/b

JUL 13 1978



## PETITION

Duba hearing, record  
S.3036

We, U. S. Citizens of the State of Texas, respectfully petition the Congress of the United States to approve legislation which will cause the face of Harriet Ross Tubman (1820-1913) to be placed on the new \$1.00 coin to be minted by the U. S. Treasury.

Submitted June 19<sup>th</sup> 1978

NAME	ADDRESS
1. Mrs. Lee Jones	3821 North Houston 77021
2. Donald M. Wiley	5015 Edfield
3. Brenda Holmich	6314 Lynnhurst St.
4. Gloria Austin	7625 Mosside
5. Adolph Williams	720 Scott St #138
6. Sheila Ward	5031 Madalyn
7. Jacqueline Commey	8700 Ward
8. Harriet Jones	6802 Tinsworth
9. Virginia Deane	5204 Jackson St.
10. EGGO	1222 I
11. Pebo	4232 Mor Kingbird
12. Alan M. Donald	2205 Alabama
13. Carl Delaney	3814 Hyman St
14. Mark Crossland	5730 Reed Rd.
15. Martha Ann Ellison	3394 Wentworth
16. Jim W. Roussin	5525 Grace #24
17. Tina Michelle Smith	8635 Ward St.
18. Tina Lucrecia Harris	8403 Willow Glen
19. Jerry Duane Commey	3703 Ward
20. Sonia Ellison	3334 Wentworth
21. Carl Wiley	1705 Bladgill
22. Panny Hunter	5014 Jackson
23. Wayne Williams	4826 LA Branch
24. John Watson	NH00W Airport Rly.
25. Regina Watson	6341 Calvacade
26. John Watson	6341 Calvacade
27. Richard Wood	6681 Kearney
28. Gladys Thompson	4214 Trail Lake - Houston
29. Calvin Donelson	4844 Cleburne
30. Lisa Steamer	6122 Hyman



## P E T I T I O N

We, U. S. Citizens of the State of Texas, respectfully petition the Congress of the United States to approve legislation which will cause the face of Harriet Ross Tubman (1820-1913) to be placed on the new \$1.00 coin to be minted by the U. S. Treasury.

Submitted June 19<sup>th</sup> 1978

NAME	ADDRESS
1. Ola T. 995 KN 1947	15015 Arvilla Lane Apt. 7702
2. Monte E. KN 1947	" " " " " "
3. Mary B. KN 1947	908 West 10 <sup>th</sup> St - Apt. 77008
4. <del>Leahy Mary</del>	<del>4141 S. Oaks 1045</del>
5. Mary Margaret L. Carr	6730 Radcliffe St. 77091
6. Louis J. Samuels	6321 Sanger St 77026
7. Martha E. Clark	4701 Burkett 77004
8. Ben Pleasant	4701 Burkett 77004
9. Dr. Beth Mae McGuire	5622 Weaver Rd. Houston 77016
10. Mrs. Eva Alice McGuire	5622 Weaver Rd. Houston 77016
11. Mrs. Jean Bicknell	1614 Raring River Dr. 77055
12. Billy L. Bicknell	1614 Raring River Dr. 77055
13. Thomas W. Smithy	14000 Ambler Lane Houston, Tex 77055
14. Leonora Clark	5504 Cicoma St. Houston 77055
15. Luntan Commans	469 Pine Haven Comm. 77062
16. Roger L. Johnson	908 E 33 <sup>rd</sup> 77022
17. Joe B. Rapp	6550 Biliens Blvd. Houston City 77074
18. Jeanette Burlingh	2111 Soley Hall 77054
19. Murren Brown	6120 Burdick #120
20. M. C. William Black Jr.	8416 Capt. J. F. Lee. Houston #18
21. Miss Joy Jean Moore	8416 Capt. J. F. Lee. Houston #18
22. Mary M. Brown	6120 Bellaire apt 120 - 77081
23. Henry R. Miller	3623 Weyman St. XXXXXXXXX
24. Heidi Gudon	5627 Belarbar. ave. 77033
25. Esther M. Jones	206 East 34 <sup>th</sup> St Houston 77018
26. Robert R. Brighton	6715 Southsea 6493258
27. B. C. T. T. T.	5501 Chambers St. Apt. 77055
28. A. A. Chamber	4123 R. C. C. St.
29. Linda M. Fordal	5938 Willow Glen Dr.
30. Linda M. Fordal	5938 Willow Glen Dr.



## P E T I T I O N

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Submitted June 19<sup>th</sup> 1978

NAME	ADDRESS
1. <u>Anderson, Nava Kase Marie</u>	<u>2209 Wheeler</u> 77004
2. <u>Charles, Harold Beeks</u>	<u>2511 Maple St</u> 77004
3. <u>Sylvester, Glenn Benson</u>	<u>5035 Ventura Houston, Tx</u> 77021
4. <u>Caroline, Dawson</u>	<u>1000 Heights Blvd. #26 Houston, Tx</u> 77008
5. <u>Maria, Anne Lindsay</u>	<u>2315 Engle St #20 - Houston</u> 77004
6. <u>Amos, Armstrong</u>	<u>5418 W. Aldemore Houston</u> 77033
7. <u>Kuhler, Ray &amp; O. Shapiro</u>	<u>4401 Drexel</u> 77004
8. <u>James, D. Windom, Jr.</u>	<u>4401 Dowling Houston</u> 77004
9. <u>W. L. Lowe (MARC LOWE)</u>	<u>3453 N. MAC GREGOR BLVD. TEXAS</u> 77004
10. <u>Norm, Jordan</u>	<u>3718 1/2 Parkwood Houston, Texas</u> 77021
11. <u>Camellia, Truge</u>	<u>4222 S. Acres Dr. Hou. Tex</u> 77047
12. <u>G. B. Bow, Jr.</u>	<u>2319 Wheeler, Houston, Tx</u> 77004
13. <u>Harsharley, Grant Daniel</u>	<u>5118 Brookmeade Houston</u> 77045
14. <u>Joan, Biffo</u>	<u>3209 Anita, Houston</u> 77004
15. <u>Hanita, Johnson</u>	<u>4209 Dowling, Houston</u> 77004
16. <u>Julia, Carter</u>	<u>1919 Runnels #354, Houston</u> 77003
17. <u>Phadria, Thorn</u>	<u>1919 Runnels #189, Houston</u> 77003
18. <u>D. VANCE, Oates</u>	<u>3511 Mosley Ct. H. Tx</u> 77002
19. <u>Marionette, Mitchell</u>	<u>910 Fair Oaks #1017 H. TX</u> 77023
20. <u>Ellettrill, Carter</u>	<u>4211 Dowling Houston, Tx</u> 77004
21. <u>Elkinder, S. Jones</u>	<u>3902 Wichita Houston</u> 77004
22. <u>Robert, G. Smith</u>	<u>320 1/2 So 1st Cyroe H</u> 77301
23. <u>Alma Mae, Williams</u>	<u>4215 Dowling St Houston</u> 77004
24. <u>C. M. Wren</u>	<u>4311 Dowling Houston, Tx</u> 77004
25. <u>Sharon, Burnett</u>	<u>4311 Dowling Houston, Tx</u> 77004
26. <u>Samuel M. Burney</u>	<u>3247 Westworth Houston, Tx</u> 77004
27. <u>Jerry, Harper</u>	<u>1909 Roswell #7 Houston</u> 77004
28. <u>Lee, Hester</u>	<u>4405 Dowling Houston</u> 77004
29. <u>Theresa, Hester</u>	<u>10507 Granville H. Houston</u> 77031
30. <u>Pearlie, Jefferson</u>	<u>4407 Dowling Houston</u> 77004



## PETITION

We, U. S. Citizens of the State of Texas, respectfully petition the Congress of the United States to approve legislation which will cause the face of Harriet Ross Tubman (1820-1913) to be placed on the new \$1.00 coin to be minted by the U. S. Treasury.

Submitted June 19<sup>th</sup> 1978

NAME	ADDRESS
1. <u>Dora Smith</u>	<u>9913 Rebel</u>
2. <u>Abraham Corcoran</u>	<u>6916 Apache St. 77028</u>
3. <u>Rev. Kerley Alexander</u>	<u>3701 Elgin</u>
4. <u>Theresa M. Alexander</u>	
5. <u>Lisa Naomi Stokes</u>	<u>4705 S. 1/2</u>
6. <u>Frank Parker</u>	<u>628 N. 3rd St.</u>
7. <u>W. L. Smith</u>	<u>9913 Rebel</u>
8. <u>Rev. Leroy White, St. Budah Dpt Church</u>	<u>5307 Casey</u>
9. <u>Ed Cain</u>	<u>First St. B.C. 4420 Lyons (Harris)</u>
10. <u>Rev. J. S. Wright</u>	<u>Mt. Ararat, B.C. 77020</u>
11. <u>S. E. Farley</u>	<u>9501 Beechmont #901 Houston, 77031</u>
12. <u>Rev. M. C. Fletcher</u>	<u>4840 White Rock St Houston, TX 7703</u>
13. <u>Rev. E. D. Murphy</u>	<u>6126 Bobby Burns 77028</u>
14. <u>Rev. R. H. Brown</u>	<u>4226 Westworth 77004</u>
15. <u>Rev. S. J. Tilley</u>	<u>1839 Dorson 77091</u>
16. <u>Rev. C. Lee</u>	<u>2009 Bernell 77020</u>
17. <u>W. C. Davidson</u>	<u>6009 Chicago 77019</u>
18. <u>J. C. Richardson</u>	<u>" "</u>
19. <u>Bill Miller E. Jones</u>	<u>3839 Gulding Lane Houston, TX 77021</u>
20. <u>Merlin Gilbert</u>	<u>2204 1/2 Sampson</u>
21. <u>Clellan W. Smith</u>	<u>7623 DAWN RIDGE</u>
22. <u>Paul L. Thomas</u>	<u>2519 Wilshire Houston, Tex 77004</u>
23. <u>Sam A. Bennett</u>	<u>5301 Blythe wood Houston, Texas 77021</u>
24. <u>John W. Jordan</u>	<u>8714 Candy R. Houston, Tex 77061</u>
25. <u>Ed Green</u>	<u>1806 W. Gulf St. Baytown, TX 77520</u>
26. <u>Paul R. Vulliamy</u>	<u>3704 S. Valley Dr., Houston, TX 77022</u>
27. <u>Rev. F. D. Hunt, Jr.</u>	<u>3333 Francis St. Houston, TX 77004</u>
28. <u>Ronnie L. Wilkins</u>	<u>6711 Cloud Street Houston TX 77086</u>
29. <u>James C. Bryant</u>	<u>9526 Rose Dale Houston Texas 77061</u>
30. <u>Alexander O. Mallory</u>	<u>13222 Oakdale St. Houston, TX 77061</u>



## P E T I T I O N

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Submitted June 19th 1978

NAME	ADDRESS
1. Walter D. DeWall	5402 Arguiche <sup>ap 911041</sup> 77081
2. Willie C. Blackman	4119 Spauldine 77045
3. W. W. Rhodes	3809 Southmore 77004
4. <del>Emerson M. Turner</del>	<del>3222 Woodmont</del> 77004
5. C. L. Turner	3108 So. Mac. Oregon 77021
6. Charles H. Bowser	4322 Woodmont Dr 77045
7. Willie M. Wall	10414 York Dr. 77016
8. W. A. Samuel	3223 Westwanta, Ho. Tex 77007
9. Elmer Chagala	2831 Davis Houston Tex 77026
10. Johnny E. Brown	1031 Crestmont Houston, Tex 77088
11. Jack Austin	5914 Southtree Houston Tex 77033
12. Robert Woodhouse	5631 Sunset Houston Tex 77032
13. Rev. Albert McDaniel	5870 Overdale Street Houston Tex 77033
14. Rev. J. E. Green	3817 Shadrock Houston Tex
15. J. W. Green	3211 Collingwood 77056
16. Rev. W. W. Brown	3501 Holman 77004
17. A. J. Brown	3922 W. W. 77020
18. Rev. J. D. Bailey	3003 Cepelin St. 77004
19. Rev. Charles Cosby	1911 Chimney Rock Mission City Tex 77454
20. Rev. Boyce Hill	6706 Bunche Dr. Houston 77091
21. Rev. E. Stovall	132 W. Whitney Houston 77018
22. Rev. Langston J. Brown	
23. Rev. J. L. Brown	2611 Hardy Houston Tex 77001
24. Rev. H. J. Brown	6925 Metcalf Hwy. 77028
25. A. B. Chamberlain	4123 DRUID DR.
26. H. A. King	1306 PANNELL Houston 77020
27. Rev. P. E. Davis	4715 Briggs St. 77004
28. Rev. F. N. Williams	3761 Parkwood Dr. 77021
29. Rev. A. E. Ryland	401 Rhode Island St. 77029
30. Sherona Smith	P.O. Box 2185 - 77026



## P E T I T I O N

We, U. S. Citizens of the State of Texas, respectfully petition the Congress of the United States to approve legislation which will cause the face of Harriet Ross Tubman (1820-1913) to be placed on the new \$1.00 coin to be minted by the U. S. Treasury.

Submitted June 19, 1978

NAME	ADDRESS
1. <u>Irmy Davis</u>	<u>5001 Brunette, Houston TX</u>
2. <u>Lee Lee</u>	<u>2410 Anita, Houston TX</u>
3. <u>Sophie Powell</u>	<u>2421 Rosalie</u>
4. <u>Chitra M. Neal</u>	<u>5874 Ballcourt</u>
5. <u>Subhly Alexander</u>	<u>4818 Burma Road</u>
6. <u>Jella Harris</u>	<u>3614 Goodale</u>
7. <u>Harlowe Turkey</u>	<u>4100 Lyons Ave</u>
8. <u>GEORGE G.D. Llanon</u>	<u>6619 SHERWOOD</u>
9. <u>Hal W. Jones</u>	<u>6101 W. Ballcourt #2975</u>
10. <u>Trivona Young</u>	<u>7635 Sterlingshire</u>
11. <u>Yolanda C. Clark</u>	<u>5501 C. Rooms Houston Texas</u>
12. <u>Warren Glen Barnes</u>	<u>3922 Alberta Houston Texas</u>
13. <u>Donella Morgan</u>	<u>3903 Tophay Houston Texas</u>
14. <u>Beverly Lemons</u>	<u>4506 Ridge Dr Houston Texas</u>
15. <u>Angie P. Mc</u>	<u>3023 Wyoming</u>
16. <u>Calvin J. Edwards</u>	
17. <u>John Thomas</u>	<u>5127 Willowford</u>
18. <u>Verneth Moseley</u>	<u>3446 Webster</u>
19. <u>Pamela G. Lowrey</u>	<u>5434 Madden</u>
20. <u>John Dinkland</u>	<u>7621 Morse Dr</u>
21. <u>Lee Lee Aaron</u>	<u>7542 Cropton</u>
22. <u>Shelia Davis</u>	<u>5200 Coke</u>
23. <u>Echo Aaron Jr.</u>	<u>5300 Coke</u>
24. <u>Erna Aaron</u>	<u>5300 Coke</u>
25. <u>Robert Jordan</u>	<u>3100 Lucille</u>
26. <u>Echo Jr.</u>	<u>5300 Coke</u>
27. <u>Carl Aaron Jr.</u>	<u>7542 Cropton</u>
28. <u>Betty Aaron</u>	<u>7542 Cropton</u>
29. <u>Aracelis Jones</u>	<u>5200 Coke</u>
30. <u>Jessie Brown</u>	<u>5300 Coke #223</u>



## P E T I T I O N

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Submitted June 19<sup>th</sup> 1978

NAME

ADDRESS

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| 1. <u>Martha Mack</u>             | <u>2500 N. Mac Gregor Way #2</u> |
| 2. <u>Shelia Richard</u>          | <u>3520 Attuck</u>               |
| 3. <u>Bellethor McVee</u>         | <u>8310 Holman</u>               |
| 4. <u>Ira Harris</u>              | <u>3507 Blodgett</u>             |
| 5. <u>Zimbalst Telo</u>           | <u>2410 Rosewood</u>             |
| 6. <u>Harold Mapis Jr.</u>        | <u>3421 FRANCIS #1</u>           |
| 7. <u>Christina Chandler</u>      | <u>2202 Oakwood Drive</u>        |
| 8. <u>Valerie Robinson</u>        | <u>3326 Southmore</u>            |
| 9. <u>Sheldon Fair</u>            | <u>1813 ROSEDALE</u>             |
| 10. <u>Mrs. Susie Allaway</u>     | <u>3335 Drew</u>                 |
| 11. <u>Mrs. Blinfa Probst</u>     | <u>3402 Dennis</u>               |
| 12. <u>Milena Aguan</u>           | <u>2711 Sampson</u>              |
| 13. <u>McKim A. Jenkins</u>       | <u>41844 Knifree</u>             |
| 14. <u>Joseph Ringer</u>          | <u>5142 Hall</u>                 |
| 15. <u>Chas Roberts</u>           | <u>3577 Seabrook</u>             |
| 16. <u>Ronald [unclear]</u>       | <u>[unclear]</u>                 |
| 17. <u>[unclear]</u>              | <u>[unclear]</u>                 |
| 18. <u>Dorcas Dumbos</u>          | <u>3433 Lydia</u>                |
| 19. <u>Delores Conner</u>         | <u>4802 Winfree</u>              |
| 20. <u>Barbara Sheppard</u>       | <u>5124 Lauer #3</u>             |
| 21. <u>John Turner</u>            | <u>3518 Northhope</u>            |
| 22. <u>Arnold Blackman</u>        | <u>3723 Dennis</u>               |
| 23. <u>Olivia Lindley</u>         | <u>2210 1/2 Francis</u>          |
| 24. <u>Guyce Gibson</u>           | <u>90037 MARIEATA</u>            |
| 25. <u>Shelia Duwellingham</u>    | <u>4719 Eppes</u>                |
| 26. <u>Melva F. Cuyler</u>        | <u>1512 Isabella</u>             |
| 27. <u>Inger K. Land</u>          | <u>7346 Conley</u>               |
| 28. <u>Paullette King</u>         | <u>3835 Florinda</u>             |
| 29. <u>Johnny Wiley [unclear]</u> | <u>6204 Bell [unclear]</u>       |
| 30. <u>Mrs. Rebecca Lickers</u>   | <u>3710 Zephyr</u>               |



## PETITION

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NAME	ADDRESS
1. Victor C. Williams	2511 8th, Galveston, Tex
2. Joe A. West	1214 Ferguson Way
3. Williams	2616 E. Emanuel
4. Guy C. Jones	2814 Burg St.
5. Chester L. Jones	2316 Dennis
6. Betty L. Gibson	5726 Lyndhurst
7. J. W. Staley	13310 Blumert
8. A. L. Jones	13310 Blumert
9. C. L. Parker	1227 20th Ave
10. John H. Lewis	5603 Belcrest
11. J. H. Jones	3612 Wooding
12. Joe Clark	4361 Whoope, 3344 Houston
13. James Nelson	1813 Calumet, Houston, Tex
14. Billie Ruth Davis	2414 Eagle St.
15. A. Taylor	5139 Ingomar Way, Houston, Tex
16. William Jones	2414 Eagle St. Houston, Tex
17. Billie R. Smith	2414 Eagle St. Houston, Tex
18. Lawrence S. Southern	5622 Christie St #1
19. Lois Beverly	2302 Rosewood
20. Marilyn Beers	2302 ROSEWOOD
21. Candice H. Beverly	2302 Rosewood St.
22. Gerald Beverly	2302 Rosewood
23. Alice - Trigon	1406 Richmond
24. Matt C. Beers	5634 Lyndhurst
25. Monica Beverly	5634 Lyndhurst
26. William Beverly	5634 Lyndhurst
27. Linda Patton	6714 England St.
28. Jackie Long	5638 Lyndhurst
29. Owen Jones	5951 Southwood
30. John A. D. Jones	3006 Eagle



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NAME	ADDRESS
1. <u>Mr. J. P. Mills</u>	<u>10105 Seawall</u>
2. <u>Mr. C. D. Linder</u>	<u>15115 Seawall</u>
3. <u>Mr. A. S. Douglas</u>	<u>3927 Lexington</u>
4. <u>Mr. J. R. Banks</u>	<u>4215 Charleston</u>
5. <u>Mr. R. S. Wise</u>	<u>4215 Charleston</u>
6. <u>Mrs. J. G. McGraw</u>	<u>3945 Lexington</u>
7. <u>Mr. J. R. Banks</u>	<u>4215 Charleston</u>
8. <u>Mr. Doughty Davidson</u>	<u>5600 Sumner #14</u>
9. <u>Mr. George Walker</u>	<u>3826 Mad</u>
10. <u>Mr. Jacobueh Chamber</u>	<u>4118 Roosevelt A</u>
11. <u>Mr. C. R. O. Dewalt</u>	<u>4024 Bellport Blvd</u>
12. <u>Mr. T. W. Williams</u>	<u>2619 McSherry</u>
13. <u>Mr. J. P. Russell</u>	<u>2825 E. Livingston</u>
14. <u>Mr. Elizabeth Holden</u>	<u>2405 St. Charles St</u>
15. <u>Mr. Callie Masley</u>	<u>2306 Nagle</u>
16. <u>Howard Chapman &amp; Co</u>	<u>8611065 Skvator 5A</u>
17. <u>Mary H. Johnson</u>	<u>14765 Perthshire 77079</u>
18. <u>James M. Loe</u>	<u>814 Lamar</u>
19. <u>LLOYD E. Williams</u>	<u>3418 SOUTHADRE BLVD HOUSTON TX</u>
20. <u>Walter James Jr</u>	<u>3106 1/2 Live Oak, Ft. Worth TX</u>
21. <u>John Davis</u>	<u>Rt 1 Box 556 Hatcherburg TX</u>
22. <u>Don Rogers</u>	<u>810 allen parkway Houston TX</u>
23. <u>W. A. G. Baker</u>	
24. <u>ELTON VOLTER JR.</u>	<u>3422 DENNIS #1</u>
25. <u>Walter L. Wood</u>	<u>5623 Flamingo</u>
26. <u>Frank Davis</u>	<u>4251 BROWN CROFT TMOH</u>
27. <u>Homer Conish Jr.</u>	<u>3543 Des Channes St.</u>
28. <u>Misses G. M. M.</u>	<u>170 Boswell St.</u>
29. <u>Derek Kraft</u>	<u>2026 Benz</u>
30. <u>Ellis Robinson Jr.</u>	<u>5430 CANE PLANT &amp; DR.</u>



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NAME	ADDRESS
1. <u>Leah Ann Clark</u>	<u>7621 Mosses St</u>
2. <u>William L Clark</u>	<u>7621 Mosses St</u>
3. <u>Theresa C Clark</u>	<u>7621 Mosses St</u>
4. <u>Christina D. Clark</u>	<u>7621 Mosses St</u>
5. <u>Lucretia Jackson</u>	<u>4838 Ligon Street</u>
6. <u>Frank Jones</u>	<u>7327 R. Lee St</u>
7. <u>Volores Hagen</u>	<u>1341 East St. #403</u>
8. <u>Louis Hart</u>	<u>3746 W. Dwyer St</u>
9. <u>Paul D. Nance</u>	<u>119 E. Thornton</u>
10. <u>Eulene McDonald</u>	<u>3026 Mc. Houston</u>
11. <u>Beverly A. Evans</u>	<u>4407 Gallagher</u>
12. <u>Frederick Horn</u>	<u>4632 Lotus</u>
13. <u>Mr &amp; Mrs Allen Williams</u>	<u>6403 Belcrest</u>
14. <u>Mr &amp; Mrs Raymond May</u>	<u>2611 Palm St</u>
15. <u>Vicki Jackson</u>	<u>5342 Lombury</u>
16. <u>Beth L. Knowler</u>	<u>9738 Hillside 77078</u>
17. <u>Halter A. Knowler</u>	<u>7738 Hillside 77078</u>
18. <u>James Hooks</u>	<u>3627 Cosby 77021</u>
19. <u>Victoria Rucker</u>	<u>3437 Main St 77021</u>
20. <u>Jackie Thomas</u>	<u>3805 Main St 77021</u>
21. <u>Byrdell Bayler</u>	<u>2808 Deland #A</u>
22. <u>Myrtle Williams</u>	
23. <u>Leola Rutt</u>	<u>2505 E. Davis St 3</u>
24. <u>Chris Robinson</u>	<u>7625 Mosses St</u>
25. <u>Jessica Leonard</u>	<u>7210 Scott #55</u>
26. <u>Patricia Lee</u>	<u>5824 Main St</u>
27. <u>Sherry Ballard</u>	<u>3655 W. 4th</u>
28. <u>Carlos Williams</u>	<u>3826 Thruway</u>
29. <u>Rose Mary Rucker</u>	<u>3438 Main St</u>
30. <u>Classie Jones</u>	<u>6802 Limestone</u>
31. <u>Jacqueline Emmer</u>	<u>3703 Ward</u>



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NAME	ADDRESS
1. <u>Mickey Clark</u>	<u>7421 Moss Side St.</u>
2. <u>John Watson</u>	<u>4400 W. Airport BLV</u>
3. <u>Aubrey Barnes</u>	<u>4412 Highway 600 #D</u>
4. <u>Dorian Barnes</u>	<u>4412 Highway 600 #D</u>
5. <u>Charles Alexander Barnes</u>	<u>3847 Lankford Rd Houston</u>
6. <u>Bruce Alexander</u>	<u>486 Bessie Houston</u>
7. <u>Mark Crossland</u>	<u>5730 Red Rd.</u>
8. <u>Le Roy Gillis</u>	<u>3935 Conkey</u>
9. <u>Min Athony Colamon</u>	<u>6833 Luffwood</u>
10. <u>John Raper</u>	<u>4213 Alice</u>
11. <u>Stacy Anglin</u>	<u>6826 Duffwood</u>
12. <u>Lester Patton</u>	<u>6714 England</u>
13. <u>Gerome Cashere</u>	<u>3910 Idaho</u>
14. <u>Shannon O'Neal</u>	<u>6706 St. Augustine</u>
15. <u>Gerald D. Daniels</u>	<u>12514 Retired Tr. Cypress, Tx</u>
16. <u>Herbert</u>	<u>9610 Conkey #9</u>
17. <u>Dorothy L. Taylor</u>	<u>2320 Dowling</u>
18. <u>T.C. Theall</u>	<u>2320 Dowling, St.</u>
19. <u>Kevin Stalkefeld</u>	<u>5011 Arvilla</u>
20. <u>Todd A. Guess</u>	<u>5010 Arvilla</u>
21. <u>Margaret Sparks</u>	<u>4931 Arvilla</u>
22. <u>John B. Jackson</u>	<u>4201 Jackson St.</u>
23. <u>Rozel Vital</u>	<u>5622 Bellant St.</u>
24. <u>Elmer Vital</u>	<u>5622 Bellant St.</u>
25. <u>J. Sanderale</u>	<u>5111 Dickena</u>
26. <u>Cherie Bishop</u>	<u>3610 Stapline St. 29</u>
27. <u>Charles J. Thompson</u>	<u>3309 Hutchies #2</u>
28. <u>Walt Lee Dewart</u>	<u>12999 90th Ave</u>
29. <u>Robert Earl Russell</u>	<u>15005 O'Neal, St.</u>
30. <u>Desper F. Jordan</u>	<u>1905 BINS #5</u>



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Submitted 19th 1978

NAME	ADDRESS
1. <u>Walter M. White</u>	<u>8731 Patton Blvd St.</u>
2. <u>Jessie D. Fowler</u>	<u>10343 Rebel (16)</u>
3. <u>Ms Ethel White</u>	<u>10343 Rebel (16)</u>
4. <u>Ms. Ethel Fowler</u>	<u>10343 Rebel 16</u>
5. <u>Ms. Theresa Fowler</u>	<u>10343 Rebel (16)</u>
6. <u>Theresa Williams</u>	<u>5701 West Forest</u>
7. <u>Lena Wiley</u>	<u>5701 West Forest</u>
8. <u>Lena McFuley</u>	<u>5701 West Forest</u>
9. <u>Mary E. Fath</u>	<u>5418 Leopold Ct.</u>
10. <u>Foy Yates</u>	<u>2418 Leopold</u>
11. <u>Algene Rogers</u>	<u>4111 Eldridge</u>
12. <u>Gene K. Grant</u>	<u>7625 Mossie</u>
13. <u>Dr. Ben E. Jackson</u>	<u>3534 Main</u>
14. <u>Mr. Mary A. Williams</u>	<u>3715 Bayou</u>
15. <u>Mr. Willard H. Hume</u>	<u>3855 Bluff Arbor</u>
16. <u>Mr. Ella M. Upshaw</u>	<u>3855 Arbor</u>
17. <u>Mr. Margaret Robinson</u>	<u>7626 Mossie</u>
18. <u>Mrs. John O. Foster</u>	<u>3839 North</u>
19. <u>Mrs. Clara Foster</u>	<u>3839 North</u>
20. <u>Mrs. Cecile Anderson</u>	<u>3801 North</u>
21. <u>Mrs. Julia Foster</u>	<u>3437 Taylor St.</u>
22. <u>Mrs. Arthur H. Hume</u>	<u>3826 North St</u>
23. <u>Terrence J. Foster</u>	<u>2722 Rosewood</u>
24. <u>John W. Hume</u>	<u>3811 - Avenue</u>
25. <u>G. S. Marley</u>	<u>11207 Fairview Dr. 7707</u>
26. <u>Bernice Hume</u>	<u>4511 Buckman</u>
27. <u>Elizabeth Hume</u>	<u>5626 Rigny</u>
28. <u>Michael Clark</u>	<u>7621 Kithenail</u>
29. <u>David Jefferson</u>	<u>6814 Hoffmann</u>
30. <u>Carl DeWitt</u>	<u>3302 Wayne St.</u>



K E T A A A A A

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NAME	ADDRESS
1. <u>Arnold Heggen</u>	<u>3633 So. Shaver #1831</u> Pasadena, Tex 77504
2. <u>Willie A. Dawson</u>	<u>10815 Sigrest Dr.</u>
3. <u>Patricia Ellis</u>	<u>5563 Live Oak #6</u> 77004
4. <u>Joe Lane</u>	<u>3711 Southmont #1197</u> Houston, Tex. 77004
5. <u>Shuntanell M. Ryland</u>	<u>3237 Rosedale #3</u> Houston, Tex 77004
6. <u>Charlotte C. Butts</u>	<u>2312 Rosedale</u> Houston 77004
7. <u>Lucas J. Jenson</u>	<u>10021 Heresia</u> Houston 77051
8. <u>Hanessa Simms</u>	<u>3709 Cobble</u>
9. <u>Levanga Ryland</u>	<u>3302 Arbor</u> Houston, Tex 77004
10. <u>Doreen Jenson</u>	<u>11911 North Little King</u> Houston 77048
11. <u>Bonnie J. Ruben</u>	<u>6747 Crestmont</u> Houston, Texas 77033
12. <u>Standa Hallaway</u>	<u>3335 Drew</u>
13. <u>Mrs. M. B. Craft</u>	<u>3302 Arbor</u> Houston, Tex 77004
14. <u>Mrs. Estine M. Krue</u>	<u>1606 Roward</u> Houston, Tex 77004
15. <u>Mrs. E. B. Gotic</u>	<u>2222 Drayton</u> 77058
16. <u>Mrs. J. Walker</u>	<u>2809 TUAM</u>
17. <u>Mrs. J. Jenson</u>	<u>3118 Paige</u>
18. <u>Ms. Andrea Wilco</u>	<u>1908 Biny</u>
19. <u>Mr. Tracy B. Williams</u>	<u>1706 DRIFUS</u>
20. <u>Mr. Milton J. Jenson</u>	<u>3711 Charleston</u>
21. <u>James M. Williams</u>	<u>3506 Blodgett</u>
22. <u>Alfreda Henson</u>	<u>3607 Coble</u>
23. <u>Debra Jenson</u>	<u>2405 Briley</u>
24. <u>Wanda Wilco</u>	<u>4825 LEE AVE</u>
25. <u>Alvin Byrd</u>	<u>5035 Dickens</u> 77021
26. <u>Diane Butts</u>	<u>5714 Langley Rd.</u>
27. <u>Lick Fair</u>	<u>1813 Fossale</u>
28. <u>Yvonne Chapman</u>	<u>2101 Winkson</u> 77004
29. <u>Steve Davis</u>	<u>3322 Simmons</u> 77004
30. <u>Mr. Joseph Bennett</u>	<u>334 Skelman St.</u> 77004



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NAME	ADDRESS
1. <u>TYRON HARRIS</u>	<u>5015 SAN JACINTO</u>
2. <u>THAYER MILLER</u>	<u>3074 E 2<sup>nd</sup> St</u>
3. <u>Pamela Butler</u>	<u>3314 Drew</u>
4. <u>Sharon Bauer</u>	<u>4906 Kelso</u>
5. <u>DARRELL HATCH</u>	<u>3203 CHARLESTON</u>
6. <u>BRENDA WHITFIELD</u>	<u>3545 Dreyfus</u>
7. <u>VALERIE YOUNG</u>	<u>3431 SIMMONS</u>
8. <u>Darrell Luster</u>	<u>3720 Seabrook St</u>
9. <u>Anthony Cole</u>	<u>3506 Adams</u>
10. <u>Donald Jackson</u>	<u>3501 Adams</u>
11. <u>Linda Cobb</u>	<u>2441 WINTERGLEN</u>
12. <u>Elroy Dennis</u>	<u>6319 Sherwood</u>
13. <u>Wanda Choon</u>	<u>3931 Coney Ln.</u>
14. <u>Naomi McQueen</u>	<u>4302 Dragonwick 77045</u>
15. <u>Hazel Williams</u>	<u>3341 Southmore</u>
16. <u>Pamela Hammons</u>	<u>2605 #145 Calumet</u>
17. <u>Donnell Thorne</u>	<u>3211 1/2 CLEBURNE</u>
18. <u>Guthrie Taylor</u>	<u>2101 Wheeler</u>
19. <u>Shirley L. Smith</u>	<u>4615 Cadillac St.</u>
20. <u>Frances Daniel</u>	<u>3261 C. Cleburne</u>
21. <u>Nelora J. Brown</u>	<u>2312 Robert St.</u>
22. <u>Sandra Finch</u>	<u>2318 Wheeler St. #3</u>
23. <u>Darlene Lewis</u>	<u>5415 Division</u>
24. <u>Wesley J. Hayes</u>	<u>1400 Richmond #132</u>
25. <u>Andrea L. Ward</u>	<u>5450 Watford</u>
26. <u>Athonda Howard</u>	<u>2611 Milwaukee</u>
27. <u>Fredericka Richardson</u>	<u>6701 Foster</u>
28. <u>Paullette Redman</u>	<u>7402 Calhoun #26</u>
29. <u>Jason Poe</u>	<u>2712 Beatterson</u>
30. <u>Barbara Tompkins</u>	<u>6614 Cadillac</u>



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NAME	ADDRESS
1. <u>Clarence</u>	<u>7700</u>
2. <u>Sidney</u>	<u>1111</u>
3. <u>Johnny Riley</u>	<u>6206 Bellport</u>
4. <u>John Turner</u>	<u>3515 York</u>
5. <u>Mary Taylor</u>	<u>2910 1/2 - 11th</u>
6. <u>W. Taylor</u>	<u>1111</u>
7. <u>Michael</u>	<u>4135 GAINLOCK</u>
8. <u>Rebecca Chandler</u>	<u>3710 3rd Ave - 77021</u>
9. <u>JANDRA JACKSON</u>	<u>12202 CAPE NYANNIS 77048</u>
10. <u>Brenda Wiley</u>	<u>5926 GRACIE 77021</u>
11. <u>Sandra Lockett</u>	<u>2503 McBURNE #3</u>
12. <u>JOYCE Gibson</u>	<u>3027 MARIE TA</u>
13. <u>Shelia Dwellington</u>	<u>4719 EPPES</u>
14. <u>Yvonda Sanchez</u>	<u>2714 Rosedale</u>
15. <u>Donnie Dorman</u>	<u>5715 Mythenood</u>
16. <u>Kathleen Redmond</u>	<u>3501 Campfield</u>
17. <u>Loria Ann Nalla</u>	<u>3715 Wyoming</u>
18. <u>Denna Lynn Powers</u>	<u>4334 Binkley St. 77051</u>
19. <u>Eve Mayes</u>	<u>3403 Blodgett</u>
20. <u>BETTY BASS</u>	<u>7210 SLOAN #38</u>
21. <u>Parola Hight</u>	<u>2810 Quinn St. 77004</u>
22. <u>Reginald Wilson</u>	<u>2317 Cleburne 77004</u>
23. <u>Ronny Gile</u>	<u>4839 Palmer 77028</u>
24. <u>Albert Brooks</u>	<u>3655 1st Ave</u>
25. <u>Michael Thomas</u>	<u>3946 Curry Dr. 77004</u>
26. <u>Shelia Curtis</u>	<u>4011 Nettleton 77004</u>
27. <u>Bernice Driffin</u>	<u>6607 Stearns 77021-3048</u>
28. <u>Edward F. Downing Jr.</u>	<u>3700 Wakeford #67-77088</u>
29. <u>Reddie Wynn</u>	<u>2801 Balda apt #8 77063</u>
30. <u>Yvonne D. Clay</u>	<u>3830, Heatherbrook - 77045</u>



## PETITION

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Submitted June 19<sup>th</sup> 1978

NAME	ADDRESS
1. <u>Phyllis Northam</u>	<u>3201 Wheeler 77004</u>
2. <u>Carrie M. Bullard</u>	<u>15132 Carol Chase <sup>Mo City</sup> TV - 77457</u>
3. <u>Charles S. Bullard</u>	<u>" " " "</u>
4. <u>Charles Dexter Ballard</u>	<u>" " " "</u>
5. <u>Charisse P. Ballard</u>	<u>" " " "</u>
6. <u>PA'LANA E Ballard</u>	<u>" " " "</u>
7. <u>Mrs Alma Bennett</u>	<u>3327 Blissett 77004</u>
8. <u>Betty R. Gentry</u>	<u>2620 Chaburn 77004</u>
9. <u>Angela Williams</u>	<u>" " " "</u>
10. <u>Alma Y. Gentry</u>	<u>" " " "</u>
11. <u>Donald E. Gentry</u>	<u>3406 Seabrook 77021</u>
12. <u>Arleta A. Koles</u>	<u>4705 Lipas 77020</u>
13. <u>Alma D. Koles</u>	<u>4705 Lipas 77020</u>
14. <u>Renee Bullard</u>	<u>4416 Hensche 77020</u>
15. <u>John W. Anderson</u>	<u>4214 Perryman 77916</u>
16. <u>Foggy a Gentry</u>	<u>8000 W. F. W. ELC</u>
17. <u>Gertrude Jenkins</u>	<u>8000 W. F. W. ELC</u>
18. <u>Conrad A. Bolden</u>	<u>4603 New Orleans St. 77020</u>
19. <u>David R. Lewis</u>	<u>4603 New Orleans St. 77020</u>
20. <u>Mrs. Maxwell Brent</u>	<u>7107 England St 77021</u>
21. <u>Mrs. Martha Constant</u>	<u>4512 Kewly St. 77020</u>
22. <u>Lois F. Bolden</u>	<u>4603 New Orleans St. 77020</u>
23. <u>Ms. Gayla Bolden</u>	<u>4603 New Orleans St. 77020</u>
24. <u>Fran E. Gentry</u>	<u>7714 Jolly 77016</u>
25. <u>Robert Gentry</u>	<u>7714 Jolly 77016</u>
26. <u>WYNTHIA Clifton</u>	<u>23013 HEBsch 77022</u>
27. <u>Mrs. A. B. Smith</u>	<u>2501 McDaniel 77093</u>
28. <u>Mrs. Eugene Smith</u>	<u>9913 Rebel St 77016</u>
29. <u>Mrs. Loretta Smith</u>	<u>9913 Rebel 77016</u>
30. <u>Fernita Smith</u>	<u>2501 McDaniel 77093</u>



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Submitted June 19<sup>th</sup> 1978

## NAME

## ADDRESS

- |                                     |   |
|-------------------------------------|---|
| 1. <u>A.E. Gray</u>                 | <u>3018 Hutchins</u>                                  |
| 2. <u>Walter B. Bledsoe</u>         | <u>2711 Main</u>                                      |
| 3. <u>HAROLD CLARK</u>              | <u>2505 BOKEDALE</u>                                  |
| 4. <u>LOUIS J. FINE CLARK</u>       | <u>" "</u>  |
| 5. <u>Don Lee Everett</u>           | <u>5500 South Acres HO. 1. 77048</u>                  |
| 6. <u>FRANK JOHNSON</u>             | <u>8900 Broadway #5389 HO. 77061</u>                  |
| 7. <u>Tom Saucedo</u>               | <u>525 E. 40<sup>th</sup> HO. TX 77022</u>            |
| 8. <u>McCoy McLEMORE</u>            | <u>5538 HUMMINGBIRD - 77096</u>                       |
| 9. <u>Brenda C. Long</u>            | <u>6603 WINFIELD (77050)</u>                          |
| 10. <u>James L. Moore</u>           | <u>4444 Westheimer #542 - 77022</u>                   |
| 11. <u>Louis Fontenot</u>           | <u>5411 Blytheview St., HO. TX 77021</u>              |
| 12. <u>JAMES A. BELL</u>            | <u>2660 PHOENIX HO. TX 77025</u>                      |
| 13. <u>Steve S. Jefferson</u>       | <u>9522 Ravenworth HO. TX 77031</u>                   |
| 14. <u>PATRICIA A. HOLT</u>         | <u>8311 SULTAN ST. HO. TX 77078</u>                   |
| 15. <u>Mrs. Mrs. John C. Garcia</u> | <u>1314 Sus Barnett HO. TX 77018</u>                  |
| 16. <u>Donna Banks, Jr</u>          | <u>521-59<sup>th</sup> West Schuster, HO. - 77050</u> |
| 17. <u>LILLIE EVANS</u>             | <u>9226 BASSWOOD DR HO. 77025</u>                     |
| 18. <u>Francis R. G. Cook</u>       | <u>20230A MSCOCITA Shreve HO. 77338</u>               |
| 19. <u>CHARLES GOODEN</u>           | <u>6218 HEATHERBLOOM 77085</u>                        |
| 20. <u>Helen George</u>             | <u>7303 Chasewood Drive Missouri City, Tex 77454</u>  |
| 21. <u>Mike Bandy</u>               | <u>3316 Proctor HO. Houston 77</u>                    |
| 22. <u>Robert C. Jones</u>          | <u>3340 Parkwood HO. Houston 77021</u>                |
| 23. <u>Wm. J. Anderson</u>          | <u>16 Charleston Park HO. #1514 Houston 77025</u>     |
| 24. <u>Walter Mosley</u>            | <u>401 SW. JERRY #208 HO. TX 77024</u>                |
| 25. <u>Robert L. Holze</u>          | <u>4206 Waverly St. Houston TX 77045</u>              |
| 26. <u>Gertrude Thompson</u>        | <u>2711 Main St. HO. 77002</u>                        |
| 27. <u>Robert J. Stone</u>          | <u>6402 Norchur St. HO. 77028</u>                     |
| 28. <u>Anthony Comenex</u>          | <u>1043 MARCELA 77091</u>                             |
| 29. <u>Al. Bandy</u>                | <u>3102 Silbury A HO. 77026</u>                       |
| 30. <u>Charles Brown</u>            | <u>7622 Caddo 77066</u>                               |



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NAME	ADDRESS
1. <u>Kenn Bentley</u>	<u>650 E. Mtnwood St. Englewood Co 9250</u>
2. <u>Chas. J. Kelly</u>	<u>3213 Ewing Houston - 77004</u>
3. <u>A. Gregg</u>	<u>579 LINDWOOD</u>
4. <u>RAY GARRISTON III</u>	<u>5500 N. Braeswood 288 Houston TX 77096</u>
5. <u>Robert A. Coane</u>	<u>1034 Ellington Ave - 18</u>
6. <u>Gen. C. Church</u>	<u>3014 Prospect Ave. Tex. 77004</u>
7. <u>Ray Martin</u>	<u>3524 Roswood 77004</u>
8. <u>REGINALD HARRISON</u>	<u>7504 ORIOLE W. TEXAS CITY</u>
9. <u>Larry Marshall</u>	<u>1803 N. Wentworth</u>
10. <u>Amel Houston</u>	<u>3702 Cloverbrook Houston TX 77031</u>
11. <u>Harold L. Ford</u>	<u>3906 Grapevine Houston</u>
12. <u>W. J. Jones</u>	<u>2218 Breckin St Houston 77004</u>
13. <u>W. J. Jones</u>	<u>6130 Oakhurst Ln Houston 77055</u>
14. <u>DES BROCK</u>	<u>3601 S. Loop West #12 Houston 77025</u>
15. <u>James H. Johnson</u>	<u>3544 RUTH HOUSTON 77004</u>
16. <u>Vernon J. Chamber</u>	<u>3410 Southman Blvd. 77004 Houston TX</u>
17. <u>REGINA GARRISTON</u>	<u>5500 N. Braeswood #288 Houston TX 77096</u>
18. <u>PERKINS Edward</u>	<u>4176 Nottingham Dr. 70127 N.O., L.</u>
19. <u>Dean Temple</u>	<u>3914 Dauling Houston 77003</u>
20. <u>Erline M. Temple</u>	<u>3914 Dauling St - 77004</u>
21. <u>E. Boni</u>	<u>706 E. Whitney Houston TX 77022</u>
22. <u>Kenn Kaganis</u>	<u>7805 Shady Ln #214 Houston TX 77055</u>
23. <u>W. J. Jones</u>	<u>3403 N. Parkwood Houston TX 77021</u>
24. <u>W. J. Jones</u>	<u>4301 Laurel Dr. 77024</u>
25. <u>Calvin Willmon</u>	<u>Box Southern Union</u>
26. <u>James F. Stanley</u>	<u>Kod. Pipe #322 Ward St City</u>
27. <u>Will E. Zyl</u>	<u>P.O. BOX 45604, HOUSTON, TEX 77045</u>
28. <u>Ernest Smith</u>	<u>2500 N. W. BRASGARD #67 Houston 77004</u>
29. <u>Leslie Bryant</u>	<u>2217 Cleburne Houston 77004</u>
30. <u>J. H. Johnson</u>	<u>1407 Line Oak Houston 77003</u>



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NAME	ADDRESS
1. Mary E. Hamilton	5139 Stuyvesant Dr
2. Carl E. Taylor	3923 Ebbtide drive
3. Vannie E. Taylor	3923 Ebbtide drive
4. Eddie Marie	3906 Tidewater
5. Jacqueline Marie	3906 Tidewater
6. Mary L. Brown	3351 Rosedale
7. Mary A. Brown	3200 W. 14th Street #19
8. James Jefferson	810 W. Mechanics St. Houston TX 77089
9. James L. Brown	4365 N. MAC GREGOR 77004
10. Mary J. Brown	1834 Franklin Blvd. Houston 7704
11. Mary J. Brown	7126 Bayou 77028
12. John L. Brown	7426 Bayou 77028
13. Henry J. Brown	3351 Rosedale 77004
14. Bill Brown	8955 Valley View Heights 77074
15. Fred Brown	4301 Rosemeath 77021
16. Paul, Jr.	5711 NW. 27th St. Ft. Worth
17. Henry H. Brown	3001 E. Brown - York
18. Robert J. Brown	2809 Aragonway 77045
19. James J. Brown	P.O. Box, Brown, La. 71225
20. John J. Brown	3201 Keller - Fort Worth
21. James J. Brown	4130 Aragonway, Davis, Texas 77613
22. Cleveland Brown	3614 Tenthredine
23. John Brown	76017 Cherry #106
24. John J. Brown	53151 Buckett St 77004
25. John J. Brown	1501 Elgin 77004
26. Ed Brown	5607 Tara St 77033
27. Elizabeth Brown	9555 Crofton #1129
28. Marshall Brown	5430 Long Creek Hwy. 88
29. Donald Brown	3620 S. Gray 77021
30. Mary L. Brown	1037 N. Wall 77088



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NAME	ADDRESS
1. Rev. Leroy Beverly	143 Bi-Zento Street
2. Mrs. Clara M Beverly	143 Bi-Zento Street
3. Mrs. L. J. Beverly JR.	4319 Cadman Street
4. Mrs. Vera Beverly JR.	4319 Cadman Street
5. Mrs. Nadine Beverly	4319 Cadman Street
6. Rev. Hall	Hamato Texas 77022
7. Rev. Houston	Hamato Texas
8. Mrs. Elsie M. Likred	Hamato Texas
9. Mrs. Annie Bell	3606 Carlsile Street
10. Rev. A. H. Painter	Bay City Texas
11. Rev. Joel Taylor	Hamato Tx.
12. Rev. H. K. Tommessel	Hamato Tx.
13. Mrs. Willie Beverly	307 South Elm St. Bunkie La.
14. Mrs. Elsie Beverly	705 Sassy Street
15. J. J. Cooper	911 Ruthven
16. M. J. Cooper	911 Ruthven
17. Anthony Cooper	911 Ruthven
18. Sandra Cooper	911 Ruthven
19. Michelle Cooper	911 Ruthven
20. Vella Cooper	911 Ruthven
21. Lisa Cooper	911 Ruthven
22. Patricia White	837 Lucky
23. Teresa White	837 Lucky
24. Margaret White	837 Lucky
25. F. White	837 Lucky
26. May L. White	1117 Bell St.
27. Dale White	837 Lucky Street
28. Notting L. O. R.	2244, Willow Forge
29. Lela V. Wells	1235 2nd Street, Ft. Worth, TX
30. S. A. R. Campbell	



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NAME

ADDRESS

- |                                   |  |
|-----------------------------------|--|
| 1. <u>Rev W N Sanders</u>         | <u>5432 Mc Lee Houston Tex 77026</u>     |
| 2. <u>Susie McKinnis</u>          | <u>5004 Russ Houston Tex 77026</u>       |
| 3. <u>Mrs. Bessie W. Raymond</u>  | <u>5430 Mc Lee Houston 77026</u>         |
| 4. <u>Mr. Rufus E. Vann</u>       | <u>3430 Mc Lee</u>                       |
| 5. <u>Mrs. L. M. Dorsey</u>       | <u>5434 Mc Lee St Houston, TX</u>        |
| 6. <u>Johnny Dorsey</u>           | <u>5434 Mc Lee St Houston, TX</u>        |
| 7. <u>Lynda Dorsey</u>            | <u>3419 Lockwood Houston Tx. 77026</u>   |
| 8. <u>Rebecca Alford</u>          | <u>4720 Market</u>                       |
| 9. <u>Frank C. Bousy</u>          | <u>3419 Lockwood Houston Texas 77020</u> |
| 10. <u>Heather Bousy</u>          | <u>5434 Mc Lee St Houston Texas</u>      |
| 11. <u>Mrs. L. W. Moore</u>       | <u>3702 Brooks Houston Texas</u>         |
| 12. <u>Mrs. Alma Mae Robinson</u> | <u>5804 Lockwood Houston, TX 77026</u>   |
| 13. <u>Rev A. M. Douglas</u>      | <u>1422 Silver Dale - Houston 77029</u>  |
| 14. <u>Earvin Robinson</u>        | <u>5804 Lockwood Houston TEX 77026</u>   |
| 15. <u>Jimmie Butler</u>          | <u>5804 Lockwood Houston 77026</u>       |
| 16. <u>Gladys Robinson</u>        | <u>5804 Lockwood Houston 77026</u>       |
| 17. <u>James Butler</u>           | <u>3115 Muther Houston 77026</u>         |
| 18. <u>Louis Dancy</u>            | <u>5434 Mc Lee</u>                       |
| 19. <u>DAVID JOHNSON</u>          | <u>389 Quince</u>                        |
| 20. <u>Jimmie Dorsey</u>          | <u>5434 Mc Lee</u>                       |
| 21. <u>Alex Johnson</u>           | <u>3125 1/2 Coal St.</u>                 |
| 22. <u>Martha Johnson</u>         | <u>6916 Ben W. Houston, TX</u>           |
| 23. <u>Bobbi Johnson</u>          | <u>3125 1/2 Coal St Houston, TX</u>      |
| 24. <u>Bonnie Mae Johnson</u>     | <u>3125 1/2 Coal St Houston TX</u>       |
| 25. <u>Rev. Daniel Bostick</u>    | <u>3319 Bostick Houston Texas</u>        |
| 26. <u>Rev. J. Frankless</u>      | <u>4917 Jones</u>                        |
| 27. <u>Frankless &amp; Sons</u>   | <u>3802 Lulla - Houston, TX</u>          |
| 28. <u>Harold J. Reed</u>         | <u>3802 Lulla Houston Tex.</u>           |
| 29. <u>James Reed</u>             | <u>4310 Lulla</u>                        |
| 30. <u>Janita M. Bostick</u>      | <u>3308 Bostick 7704</u>                 |



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NAME	ADDRESS
1. <u>Rev. M. S. Brown</u>	<u>2214 Raudale St. Houston, Tex.</u>
2. <u>Mrs. Dora Hunter</u>	<u>3301 Parkwood Dr. Houston, Tex. 7702</u>
3. <u>Osie Brown</u>	<u>3421 Main St. Houston, Tex.</u>
4. <u>Mr. Jacob L. Luckitt</u>	<u>5213 Pickfair, Houston, Tex. 77026</u>
5. <u>Lloyd E. Luckitt</u>	<u>5213 Pickfair Houston, Tex. 77026</u>
6. <u>Mrs. Zela Early</u>	<u>779 So. Victoria Dr. Houston, Tex.</u>
7. <u>Sis. Ruby Mae Harmon</u>	<u>3217 White Houston, Tex. 77004 7705</u>
8. <u>W. Brock Jackson</u>	<u>3903 Cuney Dr. H. H. H.</u>
9. <u>Florence Colby</u>	<u>7618 Masside, Houston, Tex.</u>
10. <u>E. L. Colby</u>	<u>7618 Masside, Houston, Tex.</u>
11. <u>Opalia Duvall</u>	<u>2402 Oakdale, Houston, Tex.</u>
12. <u>Salton Duvall</u>	<u>2402 Oakdale, Houston, Tex.</u>
13. <u>Cecil L. Wilson</u>	<u>2402 Oakdale, Houston, Tex.</u>
14. <u>Clarence Shelley</u>	<u>3222 Beulah, Houston</u>
15. <u>Mary Shelley</u>	<u>3222 Beulah Houston</u>
16. <u>Donald L. Hunter</u>	<u>3301 Parkwood Dr. Houston, TX</u>
17. <u>Dorothy J. Nash</u>	<u>5326 Dewberry St. Houston, Tex.</u>
18. <u>Edwin A. Nash</u>	<u>3409 Rimes St. Houston, Texas</u>
19. <u>John L. Nash, Jr.</u>	<u>3409 Rimes St. Houston, Texas</u>
20. <u>John L. Nash, Jr.</u>	<u>12602 Martindale Rd. Houston, Tex.</u>
21. <u>Faye L. Cragin</u>	<u>3329 Tampa - Houston, Texas</u>
22. <u>Waymon Harris Jr.</u>	<u>3329 Tampa - Houston, Texas</u>
23. <u>Ernie B. Zabus</u>	<u>5510 Mayday Houston, Texas</u>
24. <u>Clarence Reeves</u>	<u>3603 S. 1st Houston, Tex. 77001</u>
25. <u>L. A. Dawson</u>	<u>5419 Park Plaza Houston, Tex. 77031</u>
26. <u>Morie Sanford</u>	<u>12321 Hylenier Tr. Houston, Texas 77085</u>
27. <u>Willie Brown</u>	<u>4818 E. 1st - 7703</u>
28. <u>Robert L. Hobbs</u>	<u>5510 Sheryl Dr. Houston, Tex.</u>
29. <u>Elmora McLean</u>	<u>2601 Cleburne St. Houston 77004</u>
30. <u>Mary Henderson</u>	<u>5330 Carmen St. Houston, Tex. 77035</u>



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NAME	ADDRESS
1. Mrs. Mittie Robinson	2909 Clay Ave Houston Texas
2. Mr. John Robinson	2909 Clay Ave Houston Texas
3. Mrs. Robbie Dell Hill	7213 Bantain Houston Texas
4. Mrs. Anderson Franklin	8406 Parker Rd Houston, Texas
5. Mrs. Dorothy L. Casley	8006 Hoffman St. Houston, Tex 77011
6. W. M. Smiddle	4818 Garman
7. Rev. G. H. Thomas	8538 Fillmore St.
8. <del>Rev. G. H. Thomas</del>	8538 Fillmore St
9. Miss M. Eason	421 Cleverwater
10. Rev. J. T. Charleston	2204 Carey - St
11. Rev. G. S. Thomas	7121 Parker Rd. Houston 2+
12. Tw. J. H. Jom	9829 Sandra Ave. Tex
13. Rev. Robert L. Williams	8038 Ricard Houston Tex
14. Rev. H. Coyle	7908 Alvin St. HOUST
15. Rev. J. L. L. L. L.	5202 Arbor Ct
16. Rev. J. H. L.	5711 Thrush
17. Mrs. J. M. Morris	806 Glen Park Ave
18. Mrs. P. E. Morris	428 Doff Ave
19. Rev. Ricie Payne	1309 Yorktown Richmond Tex 77469
20. Rev. Samuel L. Hutchins	3814 Le Hall
21. Mrs. S. B. Hutchins	3814 Le Hall Houston
22. Mrs. Viola L. Shorts	3413 Limboy St. Houston Tex 77021
23. Mrs. Annie M. L. L.	3009 Coal St Houston Tex 77026
24. Mrs. Mary Harrison	4012 Beatha St. 77726
25. Mrs. C. N. Deverly	7417 South Hall 77028
26. Mrs. B. Beverly	7417 South Hall 77028
27. Rev. T. B. Black	4006. Mayne. Houston 77026
28. Mrs. T. M. L. L. L.	8911 Camar. Houston, Tex 77026
29. Mr. & Mrs. Charles S. George	7835 Growlby Houston, Texas
30. <del>Mr. &amp; Mrs. Charles S. George</del>	5454 M. C. F. C. Houston TEXAS



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NAME	ADDRESS
1. Rev. M. L. Price	3110 Gray ave. Hous. 7700K
2. Max Dorothy Daniels	3321 Mon. ave. Hous. 77014
3. Mrs. Emma Sample	6805 Skottel
4. Mrs. Lulla B. West	3202 Webster
5. Sir. Helen Burke	3606 Hadley
6. Mrs. Essie Shelton	4830 Scatter. Houston
7. Ray Bunch	3606 Hadley
8. Emma Sheekford	3301 Dennis
9. Chester Dugas	9410 Chestnut St. S.W.
10. Lela Chaney	3441 Lybia Houston
11. Beaver J. J. J.	8415 Parkview
12. Mr & Mrs Reuben Doyle	4231 Duran Dr. Hous. 7704
13. Mrs. Lura W. Barney	3229 Mc. Leaven
14. Mary Ann Re. Inyon	4521 Newberry Hous. 77020
15. Mrs. Marie Mitchell	3240 Duane
16. James Creek	3103 Edhild 77045
17. Bernice A. Lueken	4319 Bente, Houston 77022
18. Mary Frances Inyon	4521 Newberry Lane - Hous. 770
19. Christine M. Moxley	5532 Indian, Houston 77033
20. Mrs. M. L. Price	3110 Gray 77004
21. Milton S. Hart	
22. Mrs. Jewell J. White	
23. Sir. John M. Smith	3217 Delano No 2
24. Bro. Robert Lee Duffie	4610 Newberry Lane
25. J. J. J. J. J.	4806 J. J. J.
26. Sir. J. J. J. J.	3837 Bladgett
27. Sir. J. J. J. J.	3814 Drew
28. Mrs. Annie J. Hayes	8620 Scatter
29. J. J. J. J. J.	3601 Barbary Drive
30. REUBEN L. JACKSON SR	5415 BELLETH
Shirley Boyd	5938 Daulton
William Hano	8304 Irving



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NAME	ADDRESS
Rev. J. Royce Powell	5708 Wayne St, Houston - 77026
1. Mrs. Eliza Williams	
2. 3301 Webster - Houston	
3. Margaret L. Williams	235 J. Howard - L.A., Ca
4. J. Royce Powell	5128 Hamilton Street
5. Robert L. Powell	3523 Woodworth St
6. Maude L. Bass	7550 West Tinsell
7. Dorothy Bennett	3104 Truller #2
8. Dora Davis	3304 Anita St
9. Mrs. Gertrude Lee	10317 Sierra Drive
10. Loretta Bell	" " " "
11. Mr. Chas. L. Johnson	5623 Belneath Dr. Houston, 243
12. Mrs. Annie Halley	6836 Buckwood
13. Mrs. Mary Cole	6836 Buckwood
14. Berni Buchanan	4312 Bran. Dring
15. Janie Mills	4743 Marquette Dr.
16. Gloria M. Davis	5534 Houston St
17. Doretta Johnson	5423 Belneath
18. Lerna Moore	11514 Sandrock Drive
19. Barbara L. Taylor	11514 Sandrock Drive
20. Mildred Barrs	4405 Charleston
21. Phyllis Rose	4103 Rosemeath
22. Fayel White	3827 Beran
23. Roosevelt Mills	3603 McAllister Ave
24. Madeline Arone	3109 Truller #5
25. Minerva West	2919 Ruth
26. Mrs. and Mrs. Lionel Green	206 Duham Ave
27. Mrs. Rose Lee Mills	3603 McAllister Ave
28. BRADY BARRS	3012 SOUTHWEST
29. ORA WATSON	3410 SANDERS
30. Vernon Bell Sr	10317 SIERRA DR.
Lola Clay	3130 Webster
Latton Helton	3603 Earle



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Submitted June 19th 1978

NAME	ADDRESS
1. Mr. Walter Hillard	5713 Wilcox Glen Houston
2. Mrs. Albert Miller	3333 Sampson St.
3. Mr. Glen Plummer	2616 Rosewood St.
4. Mr. Roberts	2505 Rosewood St.
5. Mr. Chas. Rice	2906 Rosewood St.
6. Mrs. Austin	2712 Rosewood St.
7. Mrs. Rice	2906 Rosewood St.
8. Mr. Glen Plummer	2916 Rosewood St.
9. Mrs. Annie Hillard	5713 Wilcox Glen
10. Billy Mitchell	4710 Dowling St.
11. Lesace Moore	4602 Dowling
12. Michael Mitchell	4710 Dowling
13. Rev. Phelps	2303 Dragle St.
14. Mrs. M. Smith	2918 Cleburne St.
15. Mrs. Lucky	2506 Rosewood St.
16. Mrs. D. Prinstead	1417 W. W. Shaw
17. Mr. D. Prinstead	P.O. Box 63 Houston
18. Mrs. Vinson	P.O. Box 596 Houston
19. Mr. Eugene Prinstead	P.O. Box 296 Houston
20. Mrs. Glenn Williams	238 W. Wheeler St.
21. Mr. E. L. Horne	2318 Wheeler St.
22. Mrs. D. Prinstead	P.O. Box 595
23. Mrs. W. D. Anderson	821 Clay St.
24. Mrs. Clara Burr	826 Norwood Glen
25. Mr. J. Anderson	821 Clay
26. Mrs. B. Vinson	Rt. 2 Box 596
27. Mr. E. Prinstead	1412 W. W. Shaw St.
28. Mrs. Joy Davis	1417 1/2 W. W. Shaw
29. Mr. Leonard Smith	1414 W. W. Shaw
30. Mr. Abe Smith	2918 Cleburne St.



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NAME	ADDRESS
1. <u>Jeandine Sutton</u>	<u>3702 Southman #21</u>
2. <u>Mrs. L. Smice</u>	<u>2303 Whidley Ave</u>
3. <u>Mr. Boris Smith</u>	<u>3016 Blaggett #3</u>
4. <u>Mildred Tilton</u>	<u>4706 Falls</u>
5. <u>Arnold Tilton</u>	<u>2301 W. Leake St. #21</u>
6. <u>Mrs. Lee</u>	<u>2216 Wheeler St.</u>
7. <u>Mr. E. M. Stott</u>	<u>2213 E. Edmundson St.</u>
8. <u>Mr. James Stevens</u>	<u>2214 Edmundson</u>
9. <u>Tom &amp; Clara Swadlow</u>	<u>2213 Edmundson St.</u>
10. <u>Mrs. Ruth Scott</u>	<u>2213 Edmundson St.</u>
11. <u>Mrs. D. Stevens</u>	<u>2214 E. Edmundson St.</u>
12. <u>Ernestine Talone</u>	<u>2616 Rosewood</u>
13. <u>Johna Bell</u>	<u>2216 Rosewood</u>
14. <u>Pat. Barnes</u>	<u>2216 Rosewood</u>
15. <u>Henry Barnes</u>	<u>2216 Rosewood</u>
16. <u>Manuel Turch</u>	<u>3342 Morgan St.</u>
17. <u>Mrs. Mary Salmoie</u>	<u>4426 Chertons</u>
18. <u>Mrs. Allen Salmoie</u>	<u>4423 Chertons</u>
19. <u>Ang Salmoie</u>	<u>4216 Chertons</u>
20. <u>Mr. E. W. Willis</u>	<u>4007 Hadley St.</u>
21. <u>Mrs. Louisa Willis</u>	<u>4007 Hadley St.</u>
22. <u>Viggo Willis</u>	<u>3027 Harper</u>
23. <u>Henry Willis</u>	<u>3027 Harper</u>
24. <u>Mrs. Della Davis</u>	<u>3865 Westworth</u>
25. <u>Mr. Earl Davis</u>	<u>3865 Westworth</u>
26. <u>Mrs. J. Tillum</u>	<u>5057 Meadows Lane</u>
27. <u>Mr. George Tillum</u>	<u>5057 Meadows Lane</u>
28. <u>Daine Malone</u>	<u>2616 Rosewood</u>
29. <u>Greeter Tillum</u>	<u>5057 Meadows Lane</u>
30. <u>Mark Tillum</u>	<u>5057 Meadows Lane</u>



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NAME	ADDRESS
1. Mark L. Furch	2318 Wheeler St. Houston
2. Miss Sandra Furch	2318 Wheeler St. Houston, Tex.
3. Mrs. Ruthie Jenkins	5510 Leaking St. Houston, Texas
4. Jack Burk	4401 Dowling
5. J. O. F. Gordon	4401 Dowling
6. Joe R. Z. [unclear]	6203 Belknap XXXXXXXX
7. O. Burk	4401 Dowling
8. J. H. Barber	2455 Hwy. 17, Houston
9. Rev. Cecil B. Rabun	2211 Ruth St.
10. Christopher Mary	2402 Rosalie
11. Mrs. Lucille Radtke	
12. Melvin Morrison	3420 N. Mayfield In 36
13. E. J. F. F. F. F.	2617 Asafella St. Houston, Tex.
14. Sammie C. F. F.	1221 Blodgett
15. F. F. F. F.	1260 [unclear]
16. F. F. F. F.	4207A Woodmont
17. F. F. F. F.	9203 Fairview
18. F. F. F. F.	5126 Grandwood St
19. F. F. F. F.	3437 [unclear]
20. F. F. F. F.	2216 Wheeler
21. Melvin Marshall	9751 Fulton
22. Elizabeth Campbell	2222 Wheeler
23. Daniel Munday	2218 Wheeler
24. F. F. F. F.	2218 Wheeler +
25. F. F. F. F.	2310 Wheeler St. Houston, Texas
26. Miss R. J. F. F.	2612 Travis
27. Mrs. Estelle Snider	2304 Anita, Houston, Tex.
28. Mrs. Bessie F. F.	6741 Galveston
29. Mrs. E. Stella Caffery	3801 North Houston
30. Mrs. Hazel Owens	3333 Sampson St.



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NAME

Alf. Houston Lx ADDRESS

1. Rev. + Mrs CW Ambrose 110 Pennsylvania Street Houston 77029
2. Rev + Mrs O. Mitchell 5618 Malvody Houston 77033
3. Rev + Mrs Noel 7235 Conifer Christi Houston 77020
4. Dec. J. Davis 3709 Chickering St. 77026
5. C. B. Baker 9027 TITE D 77029
6. Earl Suprington 4212 Horner st 77026
7. Mrs. Billie Adams 3709 Chickering St. 77026
8. Rev and Sig E. Hough 3918 Leffingwell St. 77024
9. Rev D. B. Foster 3738 Othello Houston 77020
10. Mr + Mrs L. Hill 4706 Buck Houston 77020
11. Enlin Ambrose 7440 Briarcliff #359 Houston 77025
12. Mr H. Smith 706 Autumnwood Houston 77013
13. Mrs Lola Banks 12219 A.W. Village Dr. Houston 16
14. Mr H. Cherry 3506 Market Houston 77020
15. Mrs Ruby Randolph 1911 Capron Houston Lx 77020
16. Mrs. R. Stearns 3510 Market Houston 77020
17. Mrs. R. Smith 7518 Hillsford Houston 77020
18. Mrs. Gena Smith 1111 Maury Houston 77020
19. Mrs. R. Taylor 3219 Euella Houston 77026
20. Mr. W. Malten 3015 Green Houston 77020
21. Mrs. M. Cooper 3940 Hoffman Houston 77026
22. Mrs. L. Haynes 4001 Market Houston 77020
23. Mrs. Lizzie Boyd 3515 Gregg Houston 77026
24. Mrs. E. M. Nichols 7210 Eugene Houston 77016
25. Mrs. M. Bolden 3920 Doyers Houston 77026
26. Mr. Robert Johnson 3522 Vernon Houston 77020
27. Mrs. M. Y. Lee 3521 Moses Houston 7702
28. Mrs. M. J. Brown 10119 Jensen Dr Houston 77016
29. Mrs. J. E. Johnson 2301 Spencer Houston 77016
30. Mrs. C. Johnson 8616 Sandra Houston 77016



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	NAME	ADDRESS	
1.	Mr H. Boyd Jr.	5813 Cashmere	77026
2.	Mr Masley	10114 Jensen Dr	77016
3.	Janne Masley	10114 Jensen Dr	77016
4.	Brenda Robert	4814 Calade Apt #3	77026
5.	Mr J. Armstrong	10202 Royal Oaks	77016
6.	Phyllis Boyd	5813 Cashmere	77026
7.	Etalicia Boyd	5813 Cashmere	77026
8.	Conney Boyd	5813 Cashmere	77026
9.	Dwight Wilton	6107 Gulf Freeway Apt #3	
10.	Eugene Brown	3605 Crane	77026
11.	Eddie Douglas	3920 Lacey	77026
12.	May Stone	6739 Lander	77026
13.	Brenda Henderson	7601 Carry #139	
14.	Bridget Lymon	2705 Lorraine #27	77016
15.	Bridget Lymon	2705 Lorraine #27	77016
16.	Sheldon Masley	4619 Arlington	
17.	Robert Gilbert	3521 Moss	
18.	Lola Nickles	6507 Annunciation	77016
19.	Willie Petersen	2801 Spence St	77016
20.	Gladis William	1231 Gal.	77029
21.	Dagmar Hugh	3920 Lacey	77026
22.	John Smith	916 Fern Oaks Apt 1060	77023
23.	Willie Jenkins	1724 Bostan	77016
24.	M. Grant	1202 Brighthouse	77020
25.	Max R. Lander	4130 Crane	77026
26.	Clare Harrison	1211 Bayou	77020
27.	Mr C. R. Davis	7373 N. Mayo Dr Apt 1002	77028
28.	Mr E. R. Mough	3709 Chisling	77026
29.	Sam Saltor	3410 Market	77020
30.	Erma J. Landon	3522 Vernon	77020



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NAME	ADDRESS
1. <u>Rev. Jimmie Conner</u>	<u>5406 Candlemist</u>
2. <u>Rev. Henry Adams Jr</u>	<u>5109 Mahomed</u>
3. <u>Rev. Hara Mosazer</u>	<u>55. Mend. St</u>
4. <u>Annie Kyle</u>	<u>10330 Homestead</u>
5. <u>Opal Don</u>	<u>4117 King #18</u>
6. <u>Blaise Parker</u>	<u>5301 Westcott</u>
7. <u>Marie Sherry</u>	<u>1919 Pennels #132</u>
8. <u>Wayne J. Coleman</u>	<u>3416 Rosedale A A</u>
9. <u>James Smith</u>	<u>3416 Rosedale #A</u>
10. <u>Betty Maryharry</u>	<u>4102 Lumber Lane</u>
11. <u>Mary Washington</u>	<u>3323 George St.</u>
12. <u>Minnie Manning</u>	<u>8116 Hoffman</u>
13. <u>William McJohnson</u>	<u>4086 Melbourne</u>
14. <u>Mrs. Mary Black</u>	<u>4107 Melbourne</u>
15. <u>Mrs. Betty Simmons</u>	<u>3938 Melbourne</u>
16. <u>Mrs. Patsy Simmons</u>	<u>3938 Melbourne</u>
17. <u>Miss R. L. McCa</u>	<u>4117 King St #8</u>
18. <u>Earl Mayberry</u>	<u>4102 Lumber Lane</u>
19. <u>Cora English</u>	<u>3923 Reid</u>
20. <u>Mary B. McCoy</u>	<u>5509 Minden</u>
21. <u>Mrs. Eunice Hare</u>	<u>7637 Fairview St</u>
22. <u>Dorothy Goggin</u>	<u>4117 Melbourne</u>
23. <u>William D. Johnson</u>	<u>4026 Melbourne St</u>
24. <u>Leah M. Duford</u>	<u>3833 Ravenna St.</u>
25. <u>Rebecca Donaldson</u>	<u>12600 Deerlap</u>
26. <u>Amelia E. Conner</u>	<u>5406 Candlemist</u>
27. <u>Betty A. Mayberry</u>	<u>4102 Lumber Lane</u>
28. <u>Ethel L. Anderson</u>	<u>3934 Caplin</u>
29. <u>Rev. W. C. Cross</u>	<u>6510 W. 11th St. (6510 N. W. 11th St. 77028)</u>
30. <u>Harold</u>	<u>3506 Grigg 77021</u>



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NAME	ADDRESS
1. ERMA Thompson	4755 MARIETTA LANE City 77021
2. Equale Bedford	3719 Lydin Hunt 77021
3. J.V. Early	779. South. Victory 77028 city
4. Mrs Constance Perry	1607 Elm City
5. Wesley W. Pineda	1607 Elm City
6. Elvise Falcione	
7. Shirley M. Hadcroft	6106 Newquay
8. Michael E. Wain	6519 Gray Oaks Dr.
9. William A. Karmel	4818 Edfield St Houston
10. Harriet A. Caldwell	5322 North Elm St.
11. Leon Davis	3514 S HOORE
12. Clarence Wheat	3802 Carleton 77047
13. Ruth S. Davis	3514 Northhope
14. V.G. Betty Jones	2218 Rosedale
15. M. D. Davis	4111 WINDY HILL
16. Hollie Thompson	2918 Wheeler St
17. James C. Jones	2218 Rosedale
18. Eric L. Jones	2218 Rosedale
19. Laurence Jones	2218 Rosedale
20. Eric S. Brown	2214 Rosedale
21. Kim Henry Kelly	3014 mtn 77051
22. Rev. Rev. Joseph	4535 1/2 BRINKLEY 77051
23. Eldred Thompson	2918 Wheeler 77047
24. J. Williams	7136 Eastwood 77021
25. Anne Williams	7136 Eastwood 77021
26. Paula Williams	7136 Eastwood 77021
27. W.H. Fudley	2017 Eubanks Street Hou. 77093
28. Fred Taylor Young	2411 Northside St 77021
29. George Hardy	3114 Lyana Houston 77021
30. Geraldine Jones	5707 Ridgeway Hou 77055



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NAME	ADDRESS
1. <u>Mr. Rudy B. Randle</u>	<u>4010 W. Belfort #459 77025</u>
2. <u>Carl P. Taylor</u>	<u></u>
3. <u>Islecia Smith</u>	<u></u>
4. <u>Islecia Smith</u>	<u></u>
5. <u>Carol Smith</u>	<u></u>
6. <u>Howard Smith</u>	<u></u>
7. <u>Terrence Smith</u>	<u></u>
8. <u>Nellie Mae Murphy</u>	<u>2214 Graham</u>
9. <u>Thymara Robert</u>	<u>3033 Rita</u>
10. <u>Alfred G. Davis</u>	<u>10444 ROSECROFT apt 1</u>
11. <u>Edward Randle</u>	<u>1442 SILVERDALE ST</u>
12. <u>Jessie Wilson</u>	<u>3323 Charles</u>
13. <u>John R. Potts</u>	<u>6714 England Row</u>
14. <u>Charles Hall</u>	<u>4835 Dunblaine</u>
15. <u>Paul Corwin</u>	<u>4706 Crawford</u>
16. <u>Barbara Keaton</u>	<u>5932 Milant #19</u>
17. <u>William Beene</u>	<u>5932 Milant #18</u>
18. <u>Write in for Martin Luther King, Jr. Mrs I. H. King</u>	<u></u>
19. <u>" " " Martin Luther King, Jr. J. J. Sullivan</u>	<u></u>
20. <u>Earl J. Smith</u>	<u>12000 Martin Luther King Blvd</u>
21. <u>James P. Virginia</u>	<u>3328 McHannery</u>
22. <u>Charlotte Gardner</u>	<u>Box 105 Fulshear Texas 77441</u>
23. <u>3rd Marie Jones</u>	<u>3335 CHARLESTON ST. 77031</u>
24. <u>Jen. Jen. Falk</u>	<u>12600 Dunlap</u>
25. <u>Jarvis Falk</u>	<u></u>
26. <u>Rev. A. Bush</u>	<u>5643 Lipd Hunt</u>
27. <u>Mrs. Dorothy Beverly</u>	<u>" "</u>
28. <u>William Beverly</u>	<u>" "</u>
29. <u>Erica Opel Lopez</u>	<u>4213 Alise</u>
30. <u>Sandra Lopez</u>	<u>" "</u>



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NAME	ADDRESS
1. <u>Leas A. Bush</u>	<u>5643 Lyndhurst</u>
2. <u>Mrs Dorothy B. Bush</u>	<u>5642 Lyndhurst</u>
3. <u>William B. Bush</u>	<u>" "</u>
4. <u>Erica Rose Reper</u>	<u>4213 Alice</u>
5. <u>Sonja Reper</u>	<u>4213 Alice</u>
6. <u>Minnie B. Warrick</u>	<u>4405 Austin</u>
7. <u>Gladya Thompson</u>	<u>4214 Trail Lake - Houston</u>
8. <u>Wanda F. Haggard</u>	<u>1811 Crawford St. - Houston</u>
9. <u>Debra Gandy</u>	<u>4123 Grapevine</u>
10. <u>John Gandy</u>	<u>" "</u>
11. <u>Benny A. Joseph</u>	<u>3608 Rio Vista</u>
12. <u>Ms. Miss Douglas</u>	<u>3504 Hardie St 77026</u>
13. <u>Mrs. Mary Douglas</u>	<u>3504 Hardie St 77026</u>
14. <u>Mrs. E. Harris</u>	<u>2314 Wheeler 77004</u>
15. <u>Mrs. Elmer Bushy</u>	<u>6010 Bacher St 77028</u>
16. <u>Mrs. Adele Lewis</u>	<u>8981 Braunville Dr. 77091</u>
17. <u>Mrs. Guspie Smith</u>	<u>922 Ficus St 77054</u>
18. <u>Archie Simmons</u>	<u>10306 Hollyhock 77046</u>
19. <u>Verlie Elliot</u>	<u>2306 Woodleigh Lane 77038</u>
20. <u>Mrs. Phyllis R. Banks</u>	<u>3514 Baulch St 77004</u>
21. <u>Emma Jean Phillips</u>	<u>11515 Fairway 77048</u>
22. <u>Will F. Phillips, Jr</u>	<u>11515 Fairway 77048</u>
23. <u>Brenda J. Brown</u>	<u>2305 Francis St 77004</u>
24. <u>Neal Anthony Brown</u>	<u>2305 Francis St 77004</u>
25. <u>Alton Cornell Smith</u>	<u>10839 Gerlane 77051</u>
26. <u>Paula Laraine Anglen</u>	<u>3817 Wichita 77004</u>
27. <u>Chae Austara Withers</u>	<u>5901 Schinsky 77048</u>
28. <u>Billy Byrd Smith</u>	<u>2401 Sampson 77004</u>
29. <u>Donald Webster Johnson</u>	<u>3508 Lous Avenue 77022</u>
30. <u>Rev. L. Anderson Davis</u>	<u>2314 Wheeler, Houston, Texas 77014</u>

XXXXXXXXXX



