

Small Panel Information Collection Justifications

Background:

The Bureau of Engraving and Printing (BEP) will add tactile features to American banknotes so that visually impaired people can use their sense of touch to determine the denominations. The BEP must ensure that the tactile feature is easily perceptible and distinguishable to visually impaired people. This particular phase of the project will assess the perceptibility and distinguishability of six locations and styles for each denomination. The two different types of application methods will be, “intaglio” and “coating embossed.” The BEP has created prototypes, called “coupons,” bearing those six locations and styles of tactile features for each application method. The paper used to make the coupons is similar to the paper used to make real banknotes. These coupons have been laboratory “aged” to simulate worn currency.

For each tactile feature denomination location and style, the BEP created coupons with the tactile feature in six different configurations as shown in figures 1-2. This is repeated for each application method.

RTF Designs (Location/Styles)

There will be six different RTF designs tested (listed below) for the two remaining technology application methods, Intaglio and Coated-Embossing:

- Right Side Border Rectangle
- Right Side No Border Rectangle
- Right Side Twisted Rope Overlap
- Right Side Open Ended Rectangle Overlap
- Right Side Closed End Rectangle Overlap

- Right Bottom Rectangle

The first five styles will feature on the right or both sides either rectangles or twisted rope as follows:

- ⇒ One symbol in the upper right side corner,
- ⇒ Two symbols in the upper right corner,
- ⇒ Three symbols in the upper right corner,
- ⇒ Four symbols in the upper right corner,
- ⇒ Two symbols in the upper right corner spaced apart.

The configuration of the location on the coupons:

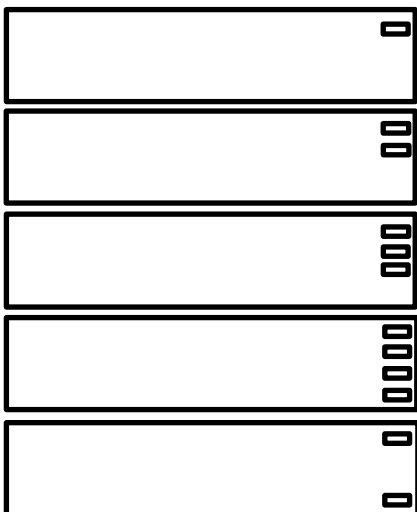


Figure 1

The sixth style will be featured in the lower right bottom corner as follows:

- ☐ One symbol in the lower right side corner,
- ☐ Two symbols in the lower right corner,
- ☐ Three symbols in the lower right corner,
- ☐ Four symbols in the lower right corner,
- ☐ Two symbols in the lower right corner spaced apart

The configuration of the location on the coupons

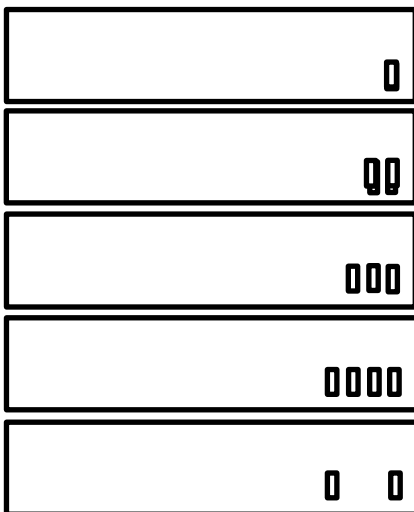


Figure 2

Tactile Sample Sets:

Sample sets A-F, and G-M represent two different application options for possible tactile features, using six denomination location and styles. The sample sets have been subject to a wearing process simulated to currency in circulation. The sample IDs (application method and denomination location/style) are listed in the table below. The objective of the study is to determine the relative tactility or ease of perception and identification of these various samples with the two application methods. We are getting feedback through accuracy tasks, as designed by the subject matter experts at Lighthouse and Westat.

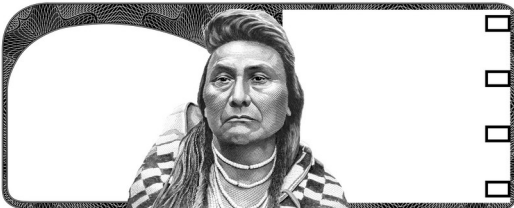
Sample ID/Task	Print Method	Prototype Location/Style
A	Intaglio	Right Side Border Rectangle
B	Intaglio	Right Side No Border Rectangle
C	Intaglio	Right Side Twisted Rope Overlap
D	Intaglio	Right Side Open Ended Rectangle Overlap
E	Intaglio	Right Side Closed End Rectangle Overlap
F	Intaglio	Right Bottom Rectangle

G	Coat-Emboss	Right Side Border Rectangle
H	Coat-Emboss	Right Side No Border Rectangle
J	Coat-Emboss	Right Side Twisted Rope Overlap
K	Coat-Emboss	Right Side Open Ended Rectangle Overlap
L	Coat-Emboss	Right Side Closed End Rectangle Overlap
M	Coat-Emboss	Right Bottom Rectangle

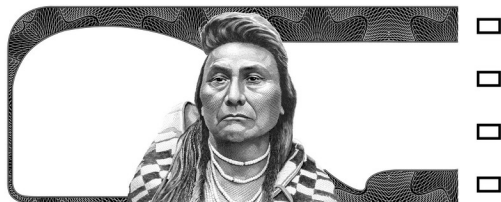
Figure 3

The pictures below represent the style and location of each coupon

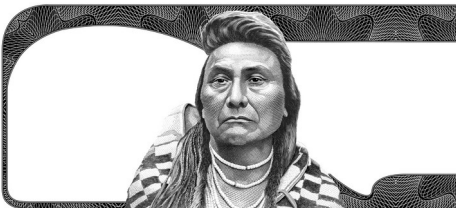
Sample A/G



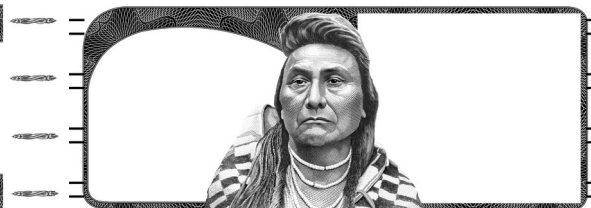
Sample B/H



Sample C/J

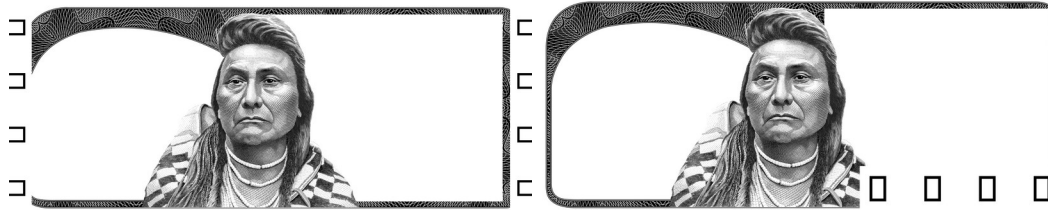


Sample D/K



Sample E/L

Sample F/M



Tactile Feature Application Method

A total of 50-60 blind people will be recruited up to seven locations: American Council of the Blind, Arlington, VA; National Federation of the Blind, Baltimore; MD, Department of Veterans Affairs, Washington, DC; National Industries for the Blind, Alexandria, VA; Columbia Lighthouse for the Blind, Silver Spring, MD, National Library Service, Washington, DC; Walter Reed National Military Medical Center, Bethesda, MD; and other locations will serve as respondents in this project. The respondents will carry out a singular task using specially made coupons, made with paper similar in shape and feel to real banknotes, bearing the six denomination schemes produced by two application methods. The respondents' accuracy will be recorded. The overall time to complete each type of tactile feature will be collected for reference purposes. The respondents will also be asked to rate the ease of determining the tactile feature on a scale of 1 (very difficult) to 5 (very easy).

The test protocol that will be used at these gatherings is based upon the protocol previously developed by Westat, Inc. under contract with the BEP. It has been revised to focus on just one task and is otherwise nearly identical to the protocol that was successfully used by BEP at the California State University at Northridge (CSUN) Technology and Disabilities Conference as well as with several focus groups. This protocol was developed to ensure the method of presenting the various samples to the blind participants and collecting the associated data and comments regarding the samples evaluated provides the most relevant and accurate feedback and data for use by the BEP in refining their tactile feature development effort for the future.

Type of Intake	Estimated Number of Respondents	Estimated Number of Intakes per Respondent	Average Burden Hours per Intake	Estimated Total Burden Hours Requested
In-Person Questions	50-60	1	30 minutes	30 hours