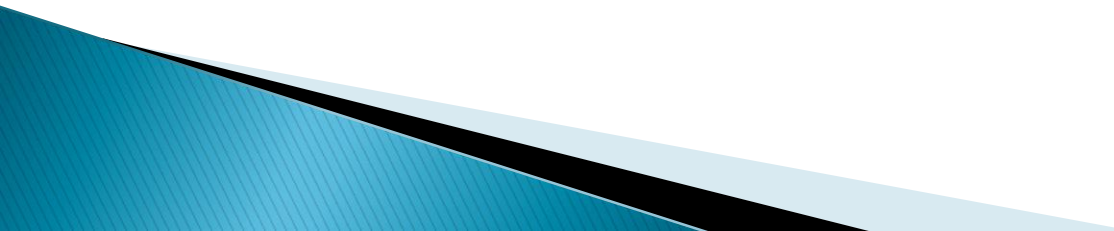# EZ-ID
Pilot Study

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The Problem

- 70% of crime involves a motor vehicle.

- Recall of the license plate number is the fastest method of identifying the vehicle.

- Most people cannot recall enough of a plate number to adequately limit the search for the offender.
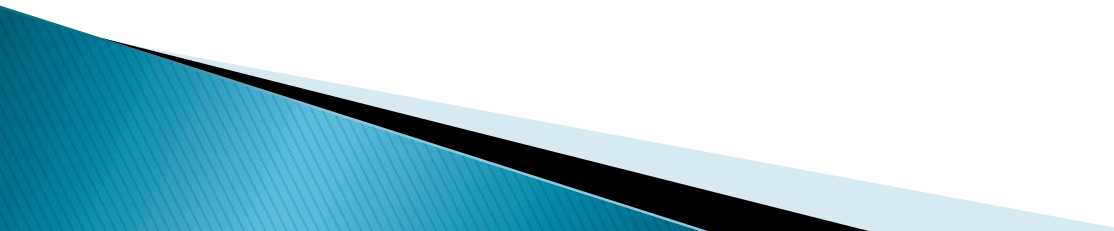
Speed of search is critical

- In Amber Alerts where the child is killed:

  ◦ 44% are dead within 1 hour

  ◦ 74% are dead within 3 hours

  ◦ 91% are dead within 24 hours

What is EZ-ID?

▸ A proposed change in license plate design which incorporates symbols (e.g. star, square, triangle, etc) to augment alphanumeric characters.

What are the advantages of EZ-ID?

- Fewer characters for the same or greater variety.

- Easier recall.

- Can be combined with other methodolgies to improve recall even further.

What are the advantages of EZ-ID?

▸ More rapid vehicle identification

Identifying a BLUE (9%) SUV (12.5%), the symbol, and the symbol position:

Characters Identified	# of Possible Vehicles
1	377,487
2	11,797

Characters Identified	# of Possible Vehicles
1	369
2	12

What are the advantages of EZ-ID?
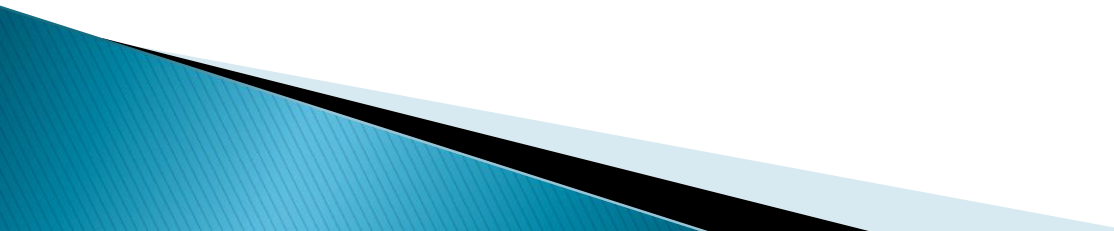
▸ Can be identified in rear view mirror:

Research Question

▸ Is a license plate number that contains a symbol easier to recall than a plate with only alphanumeric characters?

Study Design

- Ten plates were randomly selected from a sample of Massachusetts cars.

- All plates contained six characters; mixed numbers and letters.

- Five plates were modified to replace one of the two middle characters with a symbol (star, heart, triangle, square).

Study Design

- Subjects were volunteers from the graduate professional program at NECO. All had 20/20 vision and normal ocular health.

- Ages were between 22 and 35.

- 2 were male; 26 were female.

- All subjects signed informed consent as required by the Institutional Review Board.

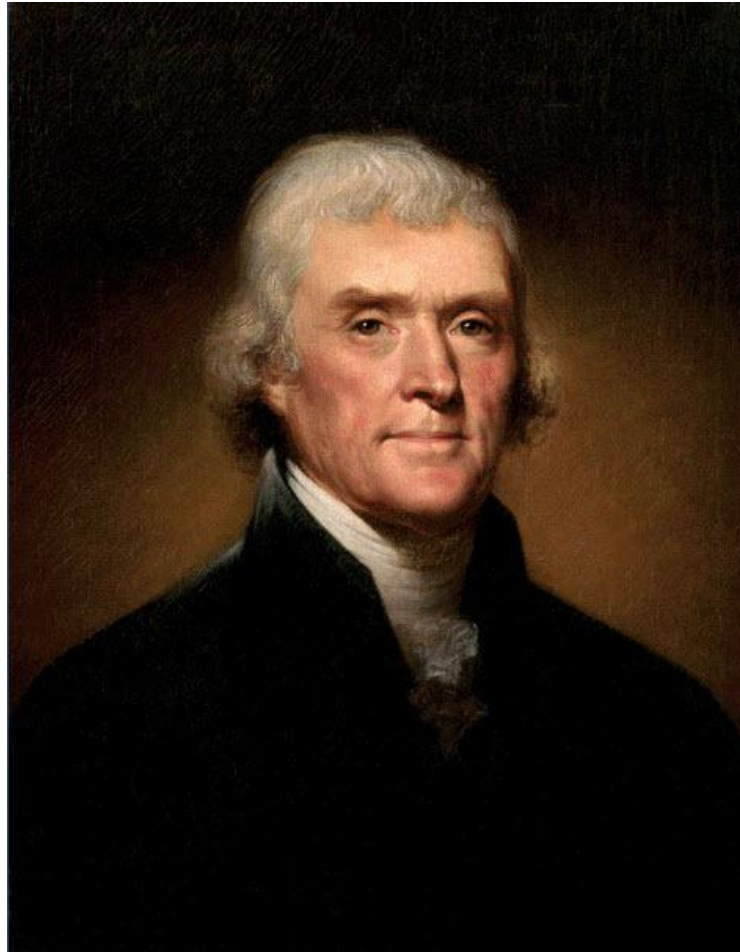# Testing

- Subjects were seated 1.5 meters from a flat screen video monitor.

- After a brief explanation of the testing procedure, a 3 second countdown occurred followed by a 3 second presentation of a license plate and a 30 second presentation of a "distracter" (a picture of a US president).
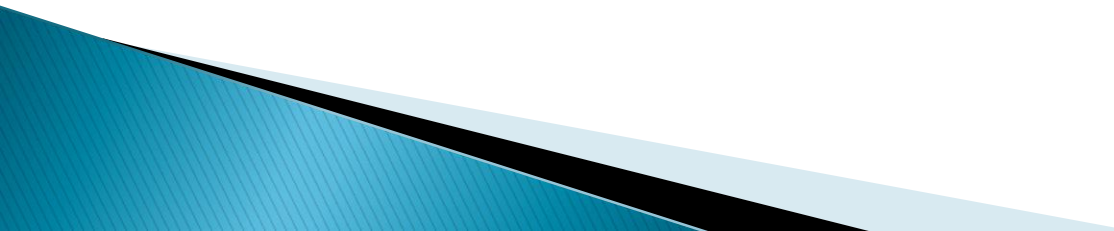
Testing

Testing

Testing

Testing

- During the distracter presentation, a question was asked about the president, e.g.:
  - ◦ Who is it?
  - ◦ What number president was he?
  - ◦ What currency contains his picture?
  - ◦ What state is he from?

- After the question was answered, the subject was asked to verbally recall the license plate number. The response was recorded by the examiner.

  - ◦ NOTE: many of the subjects were Canadian and couldn't identify the presidents – except President Obama)
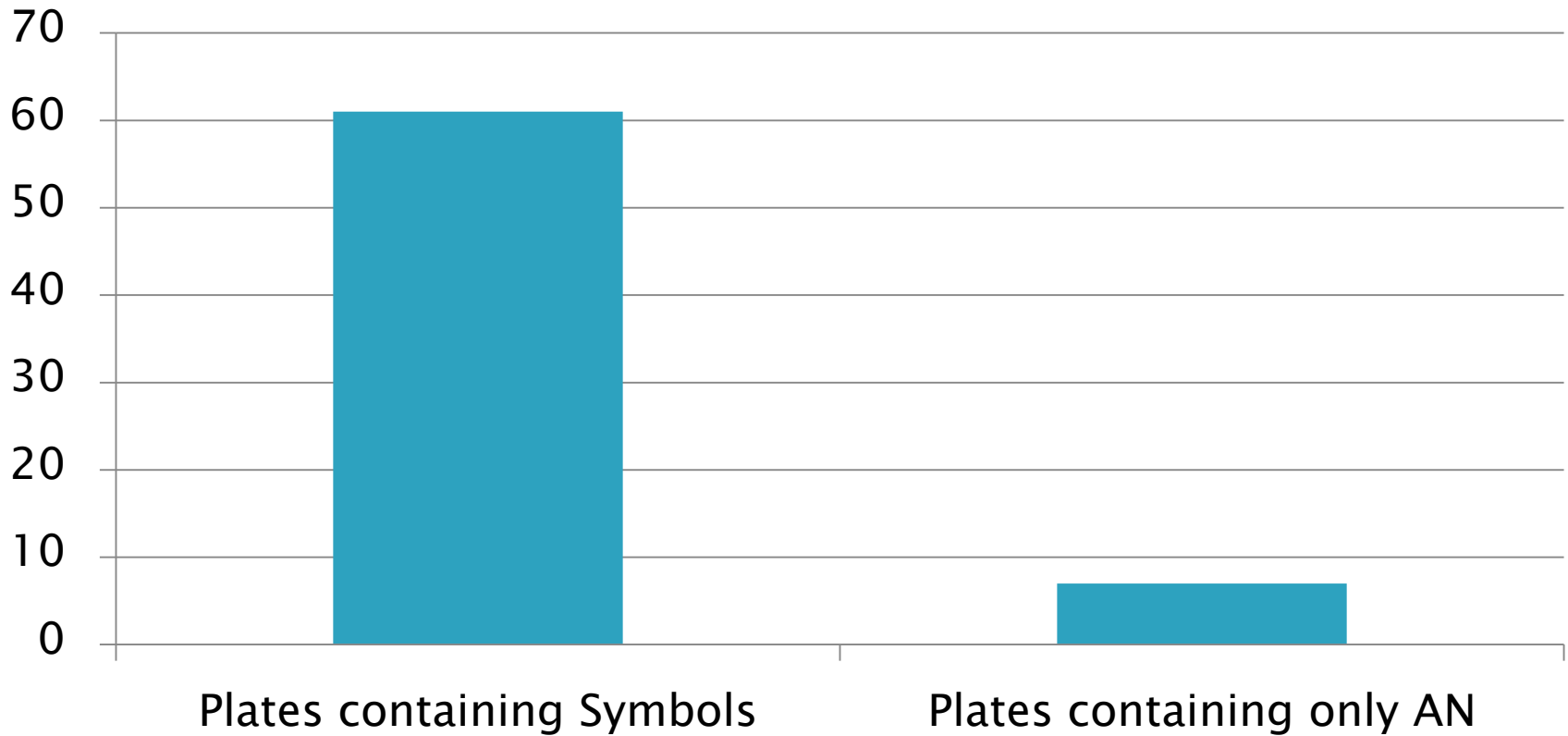
Testing

- The sequence was repeated for the total of 10 license plates.

- All subjects saw the plates in the same order.

Results
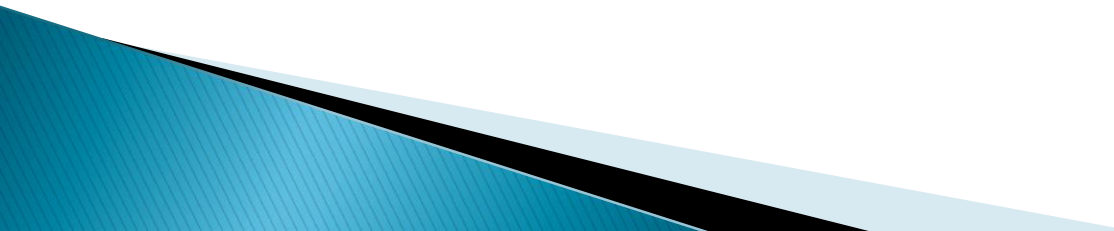
- 43% of all plates were correctly recalled.

- 61% of subjects correctly identified more plates containing symbols than containing only alphanumerics.

- 7% of subjects correctly identified more plates containing only alphanumerics than containing symbols.
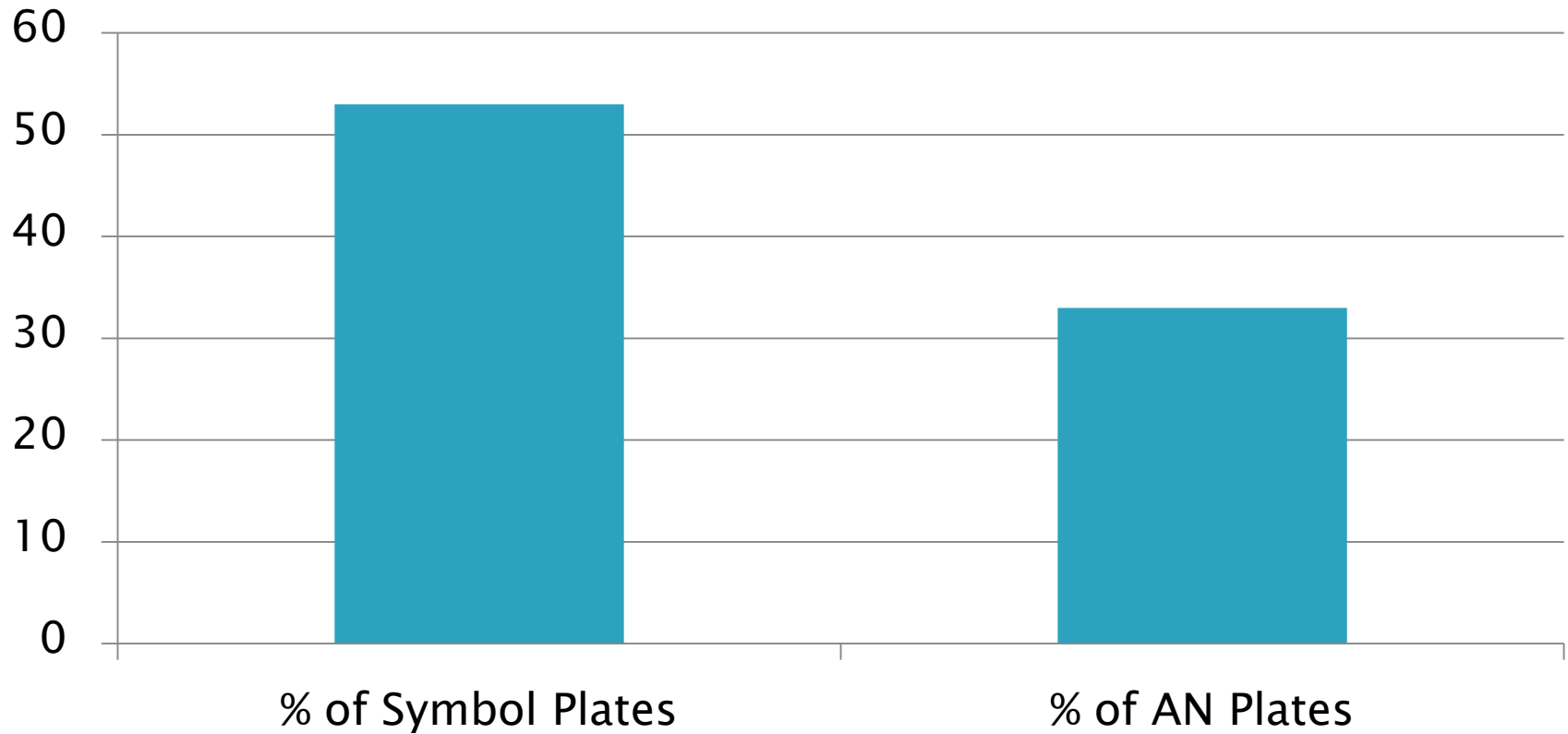
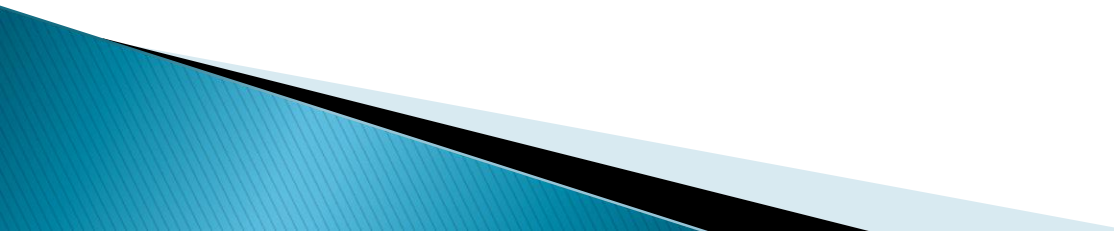# Results

% Subjects Who Correctly Identified More:

Results

- 53% of plates containing symbols were correctly identified

- 33% of plates containing only alphanumerics were correctly identified.

Results

% of Plates Correctly Identified

Results

- 96% of all symbols were correctly recalled.

- Only 6 of 140 symbol presentations were incorrectly recalled (identified and position)

- Even when a symbol was misidentified, it was in the correct position.

Conclusions

▸ The inclusion of symbols in a six character plate increases the recall of a complete license number.

▸ Symbols are significantly more apt to be recalled than letters or numbers.