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
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 methodologies 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:

<table>
<thead>
<tr>
<th>Characters Identified</th>
<th># of Possible Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>377,487</td>
</tr>
<tr>
<td>2</td>
<td>11,797</td>
</tr>
</tbody>
</table>

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<tr>
<th>Characters Identified</th>
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<tbody>
<tr>
<td>1</td>
<td>369</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>
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?
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).
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.
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
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.
% Subjects Who Correctly Identified More:

Plates containing Symbols | Plates containing only AN
53% of plates containing symbols were correctly identified

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

% of Plates Correctly Identified

% of Symbol Plates

% of AN Plates
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.