DMS Composer: A Software Application for Supporting DMS Operation

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Outline

- **Background**

- **Purpose/Need**

- **Components**

- **Summary**

Background

- **DMS** use increasing
- **Rising** user expectations
- FHWA guidelines for portable DMS
  - Proper use situations
  - Suggestions for messages
- States developing their own guidelines
  - Pressures for non-traditional use
 - "Have a nice day" messages

Conception

- **Documenting DMS guidelines could be lengthy and cumbersome**

- **DMS composer is an interactive software tool to facilitate application of these guidelines**

Purpose/Need

- **Support the process of generating messages for display on a DMS while following state standards**
  - Allows interagency integration
    - e.g. Law enforcement
  - Allows for consistent messages
    - Many users
- **Training tool**

DMS Composer
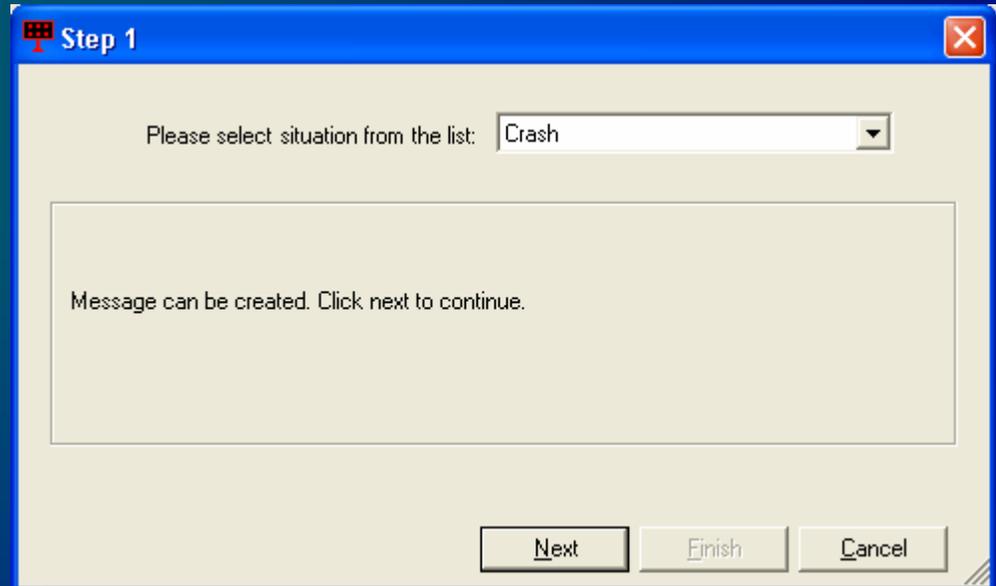
- **A Windows based application**
  - **User-friendly GUI**
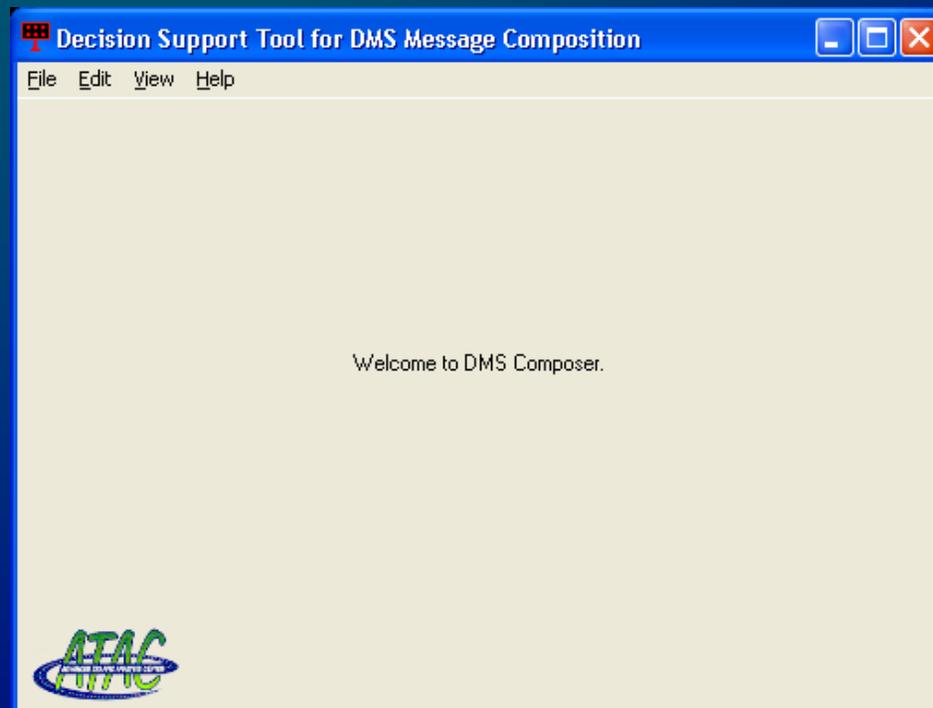
DMS Composer

- **Two main functions:**
  - Ensure that a message is warranted in compliance with agency standards
  - If warranted, walk user through steps to create a message
    - Formatted to fit display specifications
    - Agency guidelines are followed, i.e. phase timings, acceptable abbreviations

Major Components

- Input interface

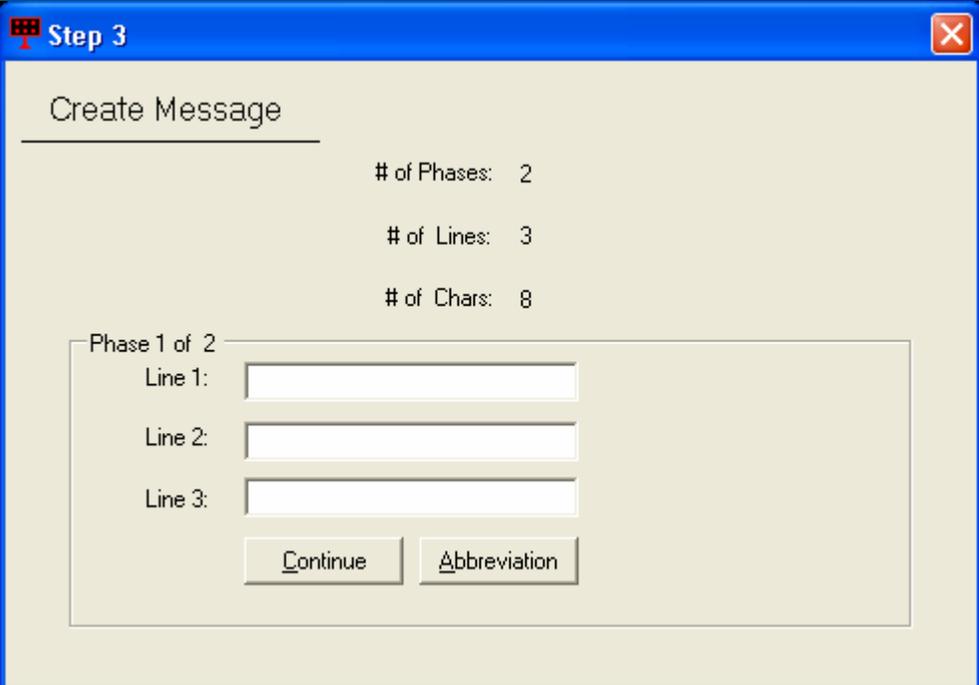- Decision tree

- Database

- Output interface

Input Interface

- Interview module
  - Pull-down menus & click-on buttons to answer questions
  - Outcome: warranted or not

Input Interface

- **Message creation module**
  - **User enters the message**

Decision Tree

- **Based on agency guidelines**
- **User asked questions about the situation**
- **Answers are compared against the decision tree**

Decision Tree

- **Typical situations**
  - **Advisories**
  - **Amber Alert**
  - **Crash**
  - **Disaster Management**
  - **Events**
  - **Roadwork**
  - **Safety Campaigns**

Database

- **Message use criteria**
  - Type of situations/events
- **DMS specifications**
  - Sign type (portable or permanent)
  - Number of lines and characters allowed
- **Abbreviations**
  - Acceptable
    - Software will prompt the user to use an abbreviation from the list when a long word is used
  - Non-acceptable
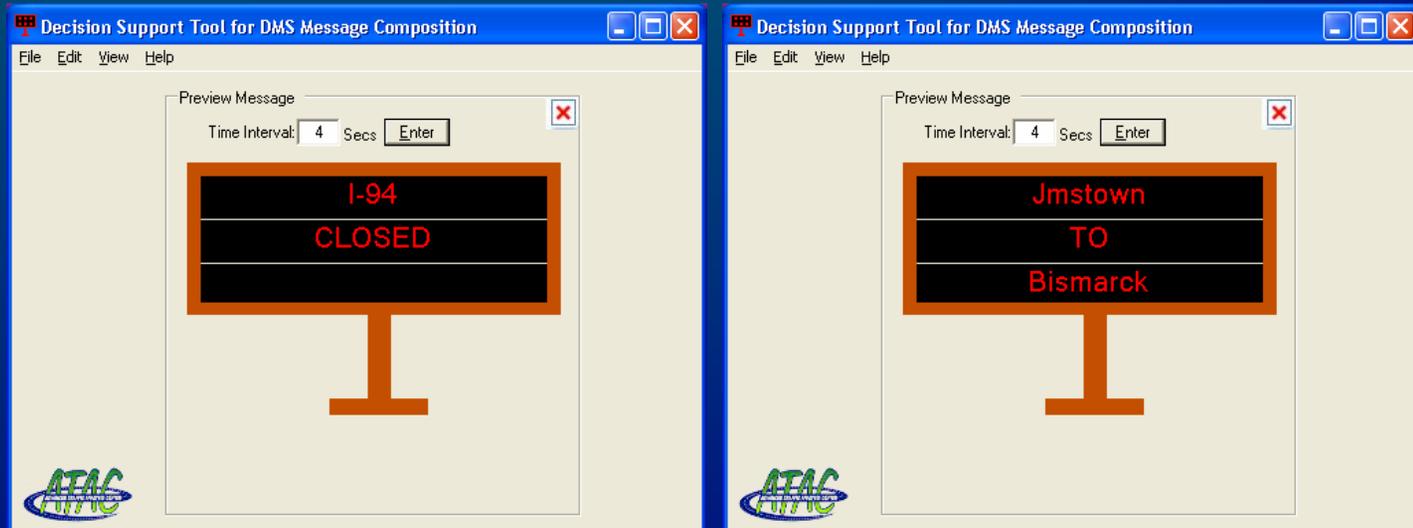   - Software will notify the user of the use of an ambiguous abb

Database

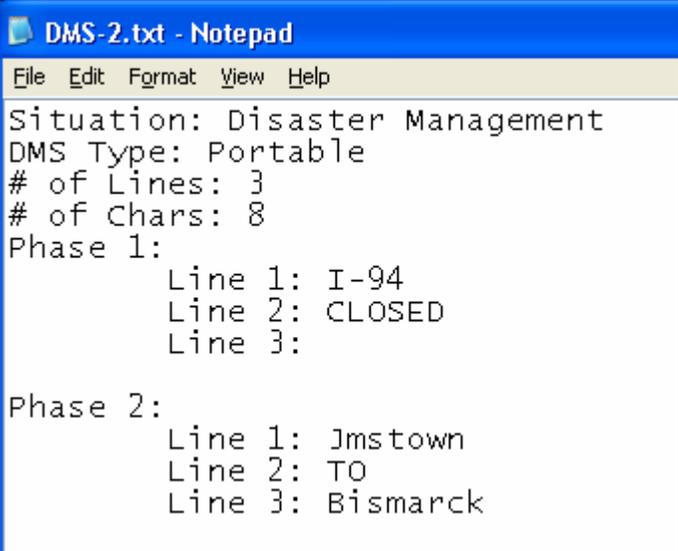- Configurable according to agency guidelines

Output Interface

- **Displays approved messages graphically**
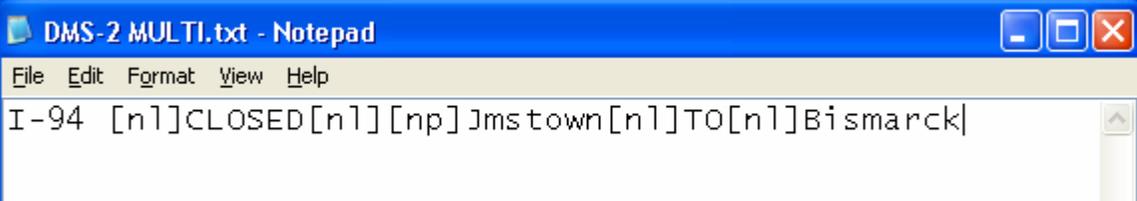- **Supports dual panel messages**
  - **Timing is incorporated into output**

Output Interface

- **Message can be saved, printed, and copied**
- **Saved formats:**
  - **Text**
  - **MULTI** syntax format

DMS-2.txt - Notepad

File Edit Format View Help

```
Situation: Disaster Management
DMS Type: Portable
# of Lines: 3
# of Chars: 8
Phase 1:
        Line 1: I-94
        Line 2: CLOSED
        Line 3:

Phase 2:
        Line 1: Jmstown
        Line 2: TO
        Line 3: Bismarck
```

DMS-2 MULTI.txt - Notepad

File Edit Format View Help

```
I-94 [nl]CLOSED[nl][np]Jmstown[nl]TO[nl]Bismarck
```

Summary

- **Simplify the process of warranting DMS message use**
- **Crate proper messages**
  - Following agency guidelines
  - Adhering to display specifications
- **Adaptable**
  - For different agencies
  - For possible national standards
- **Training tool**

Thank You

- Questions?