



TEXAS DEPARTMENT OF TRANSPORTATION



VARIABLE SPEED LIMIT PILOT STUDY

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Introduction to VSL - History

Michigan (1960) – First VSL

United States



- Washington
- Michigan
- New Jersey
- Tennessee
- New Mexico

Europe



Netherlands



Germany



Finland



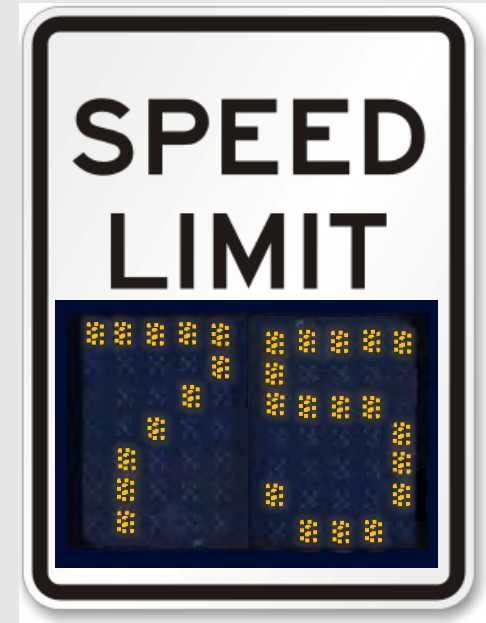
England



Introduction to VSL - Concept

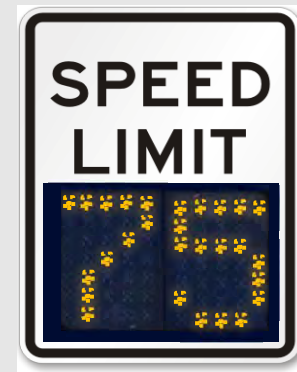
What is a Variable Speed Limit?

Simply put, it's a **speed limit** that **changes** based on the conditions of the road including construction, traffic, and weather. Changes to the speed limit can occur in real time with modern systems.



Introduction to VSL - Concept

Application – Construction

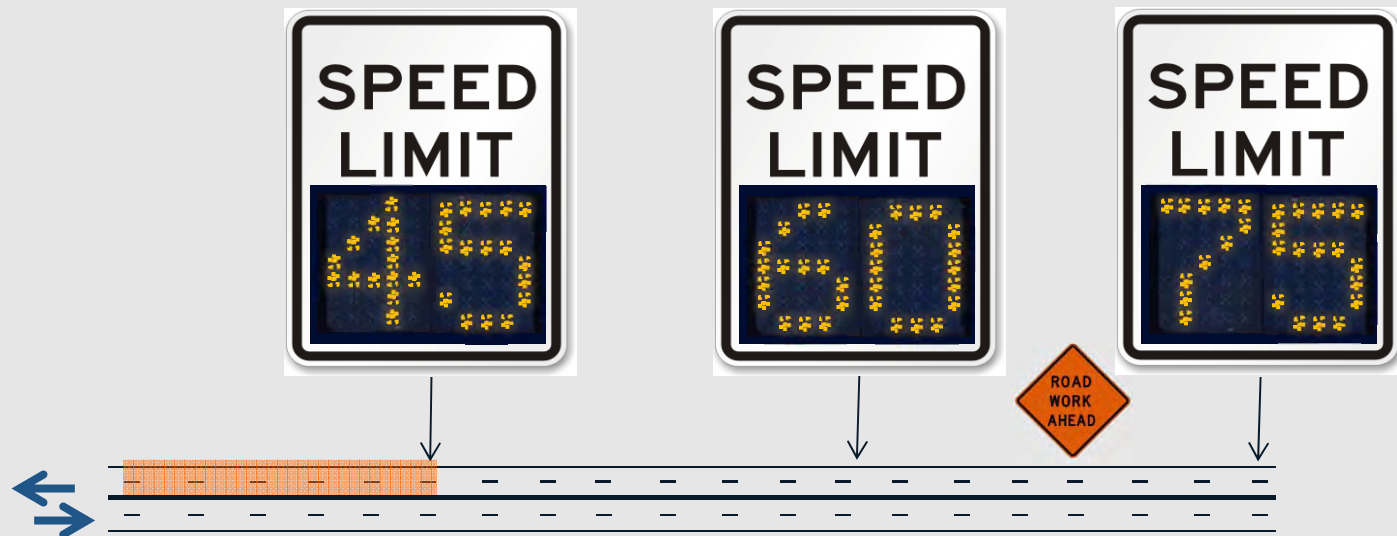


Example for illustrative purposes. Not to scale.

Status: No Work Present

Introduction to VSL - Concept

Application – Construction

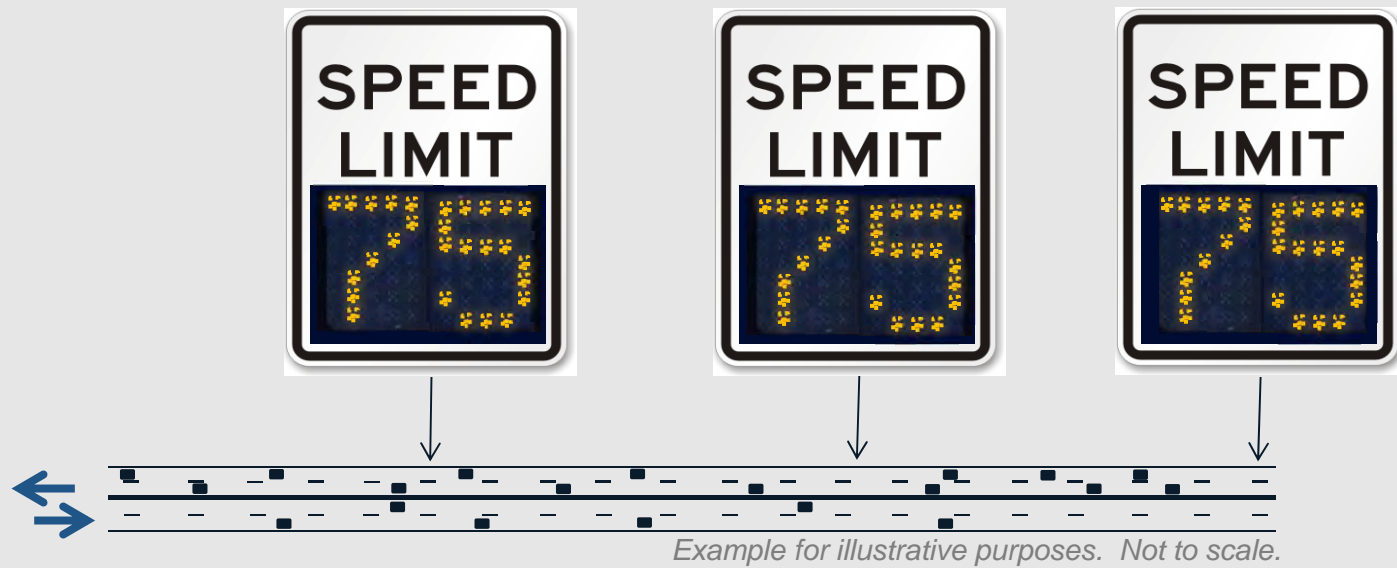


*Example for illustrative purposes.
Not to scale & missing required signage.*

Status: Active Work Zone

Introduction to VSL - Concept

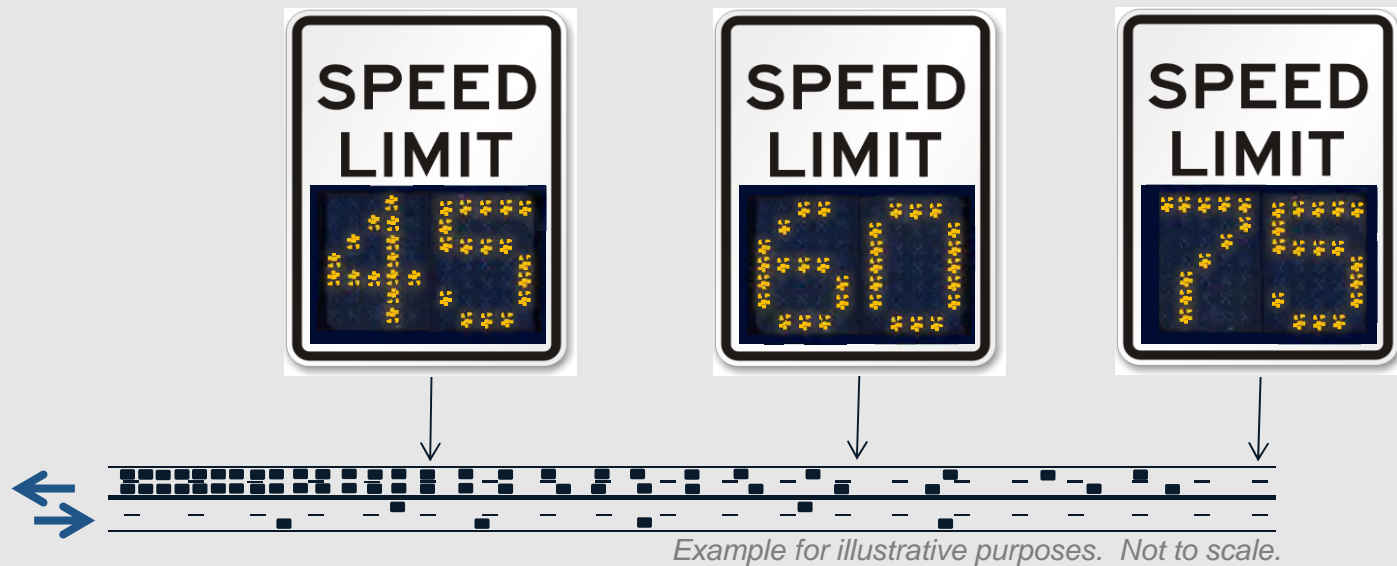
Application – Congestion



Status: Free Flow

Introduction to VSL - Concept

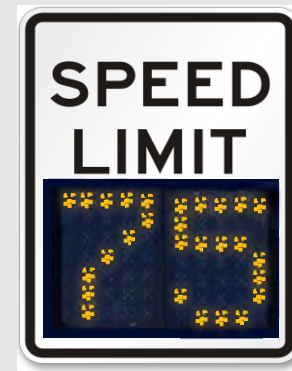
Application – Congestion



Status: Heavy Congestion

Introduction to VSL - Concept

Application – Weather

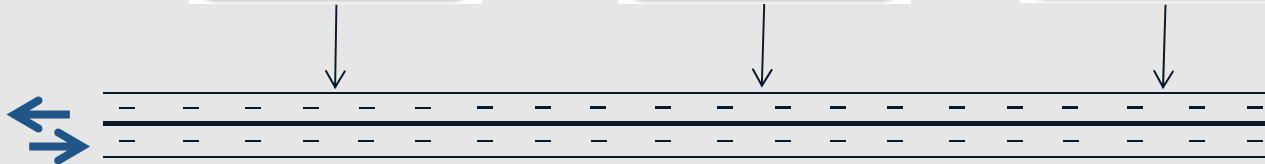
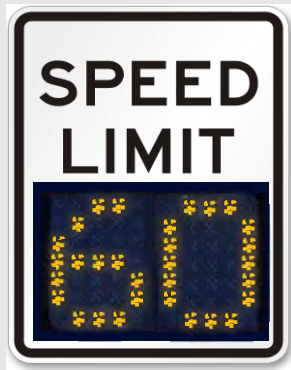


Example for illustrative purposes. Not to scale.

Status: All Clear

Introduction to VSL - Concept

Application – Weather

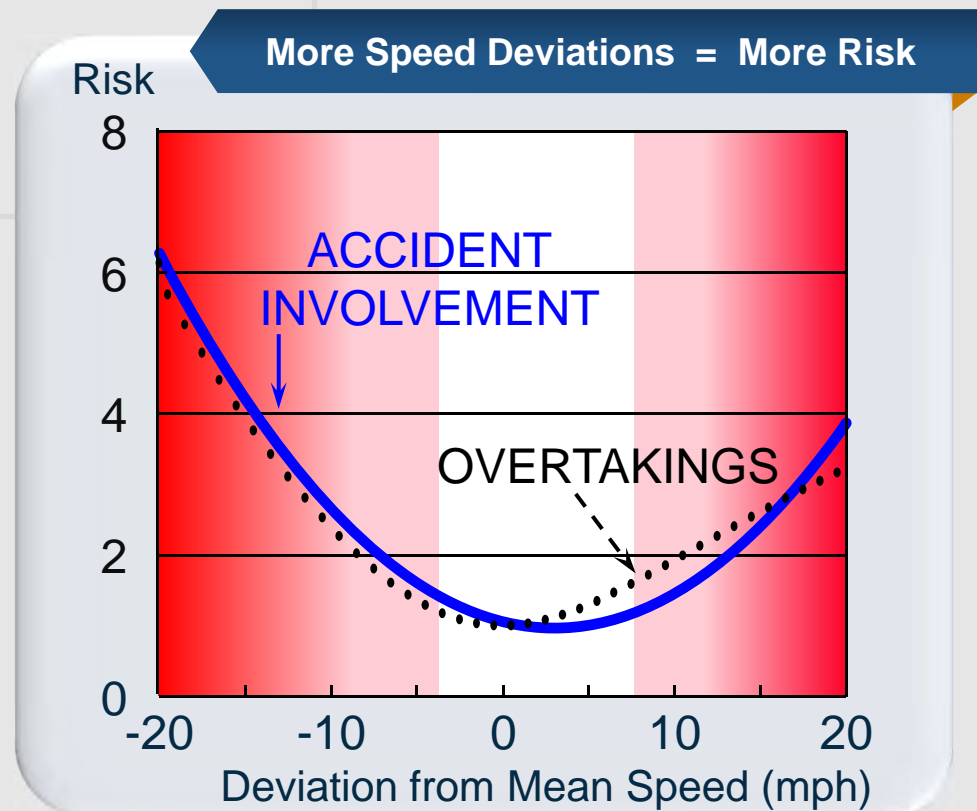
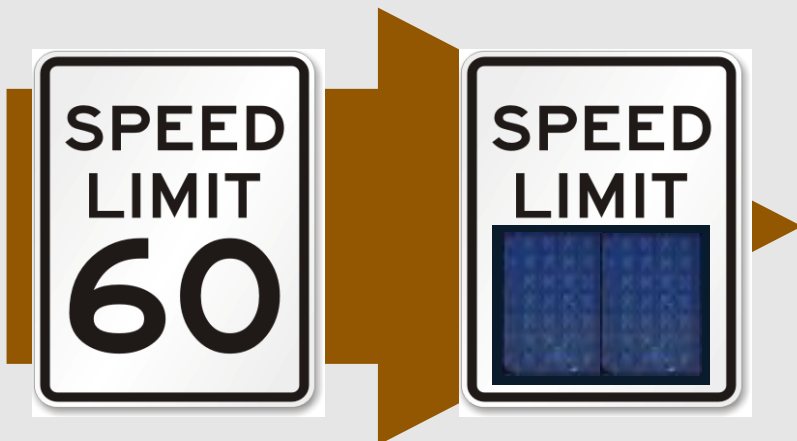


Example for illustrative purposes. Not to scale.

Status: Weather Event

VSL – Potential Benefits

- ▶ Greater Safety
- ▶ Efficient Use of Highway Facilities
- ▶ Increased Compliance
- ▶ Congestion Relief



House Bill 2204



House Bill 2204- Pilot Study





Tasks

1. Site Selection Assistance
2. Implementation Plan
3. Develop Evaluation Plan
4. Equipment Assistance
5. Implementation Assistance
6. Evaluation & Evaluation Report

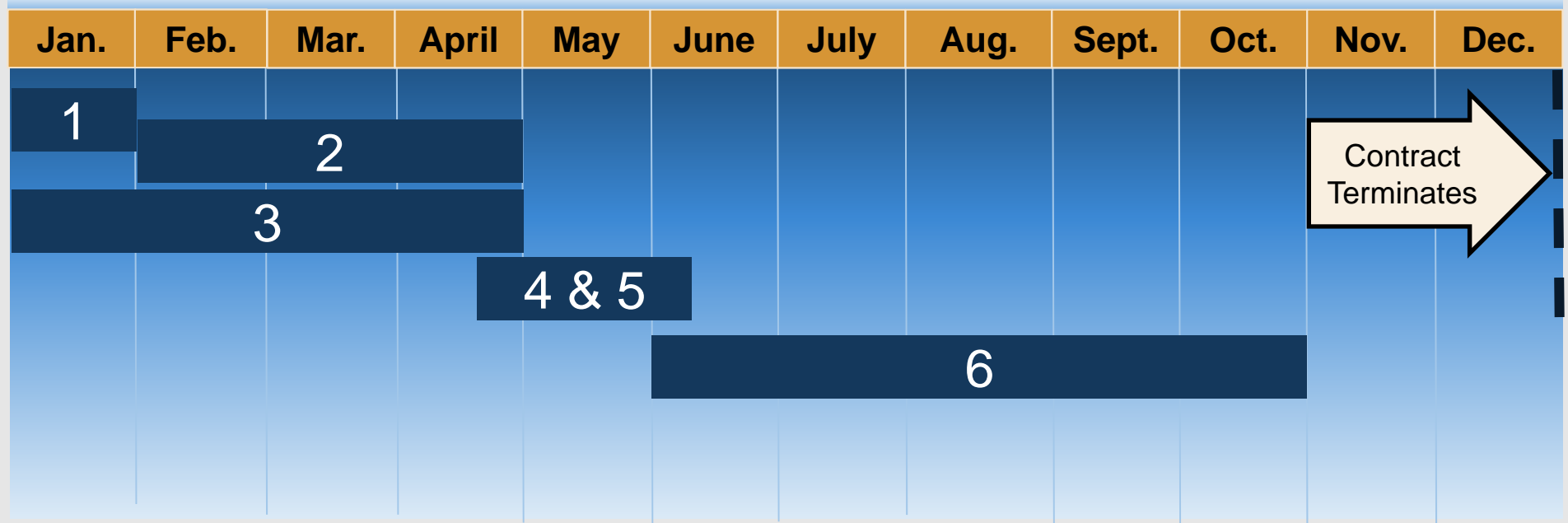
Time Line



Tasks

1. Site Selection Assistance
2. Implementation Plan
3. Develop Evaluation Plan
4. Equipment Assistance
5. Implementation Assistance
6. Evaluation & Evaluation Report

2014



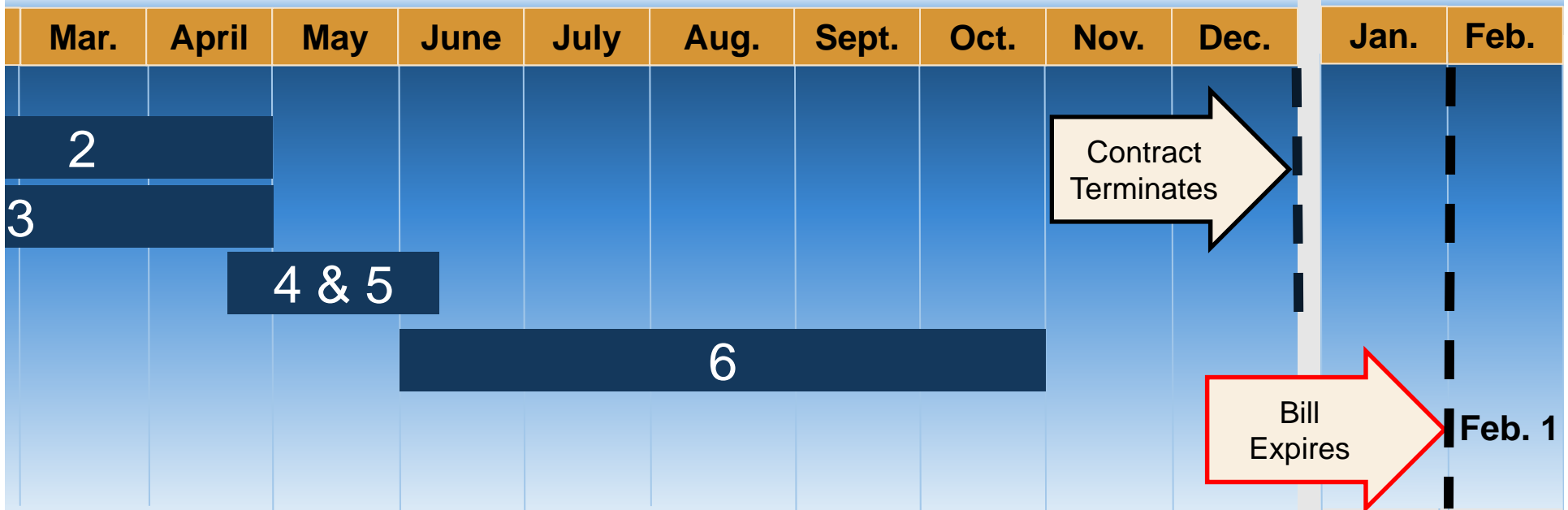
Time Line



Tasks

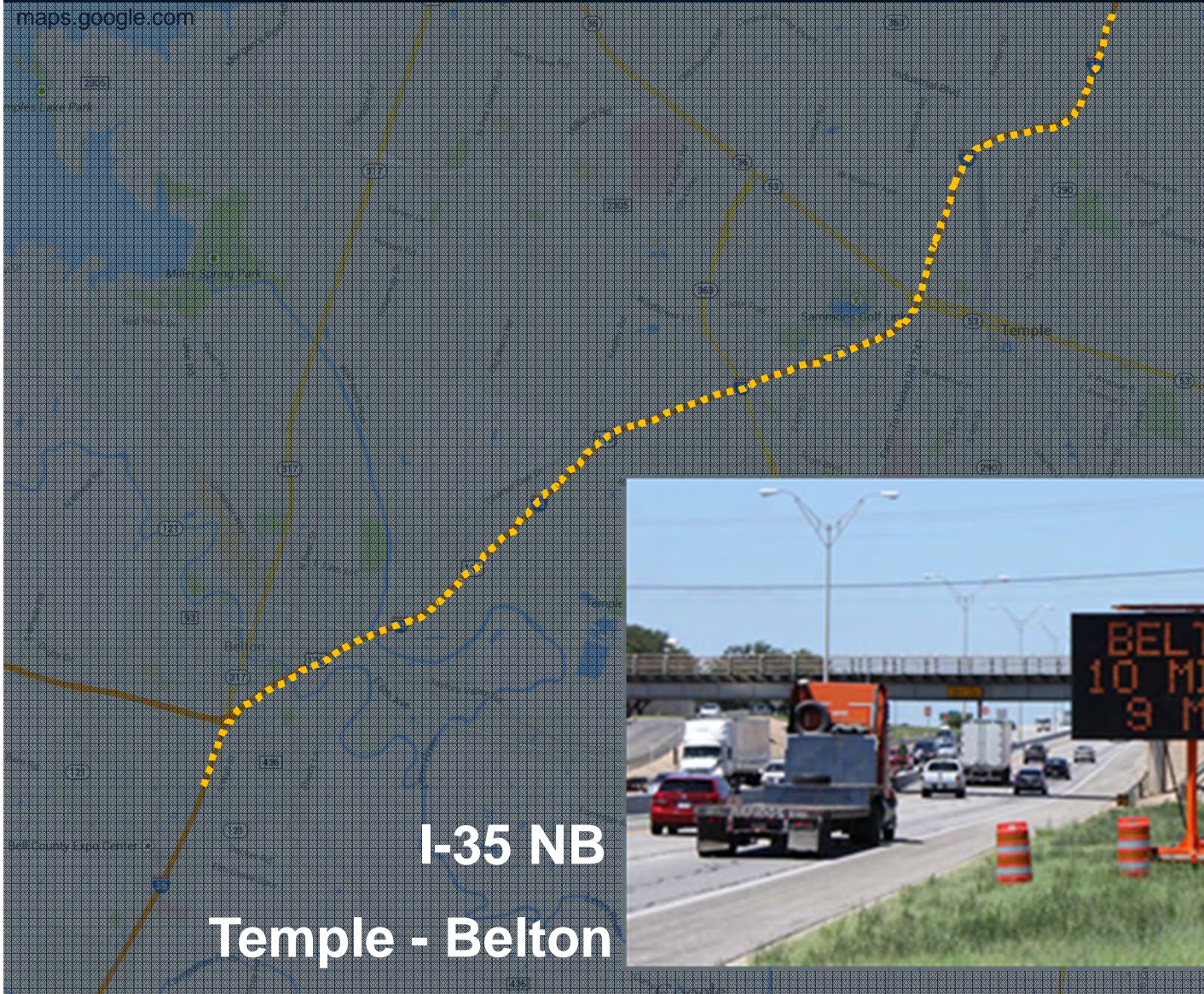
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2014 2015

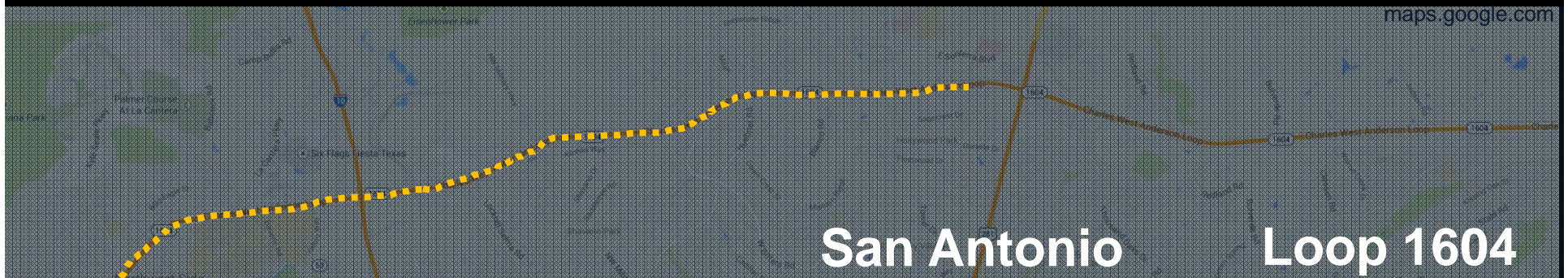


Construction Variable Speed Limit

maps.google.com



Congestion Variable Speed Limit



Weather Variable Speed Limit

maps.google.com

Ranger Hill

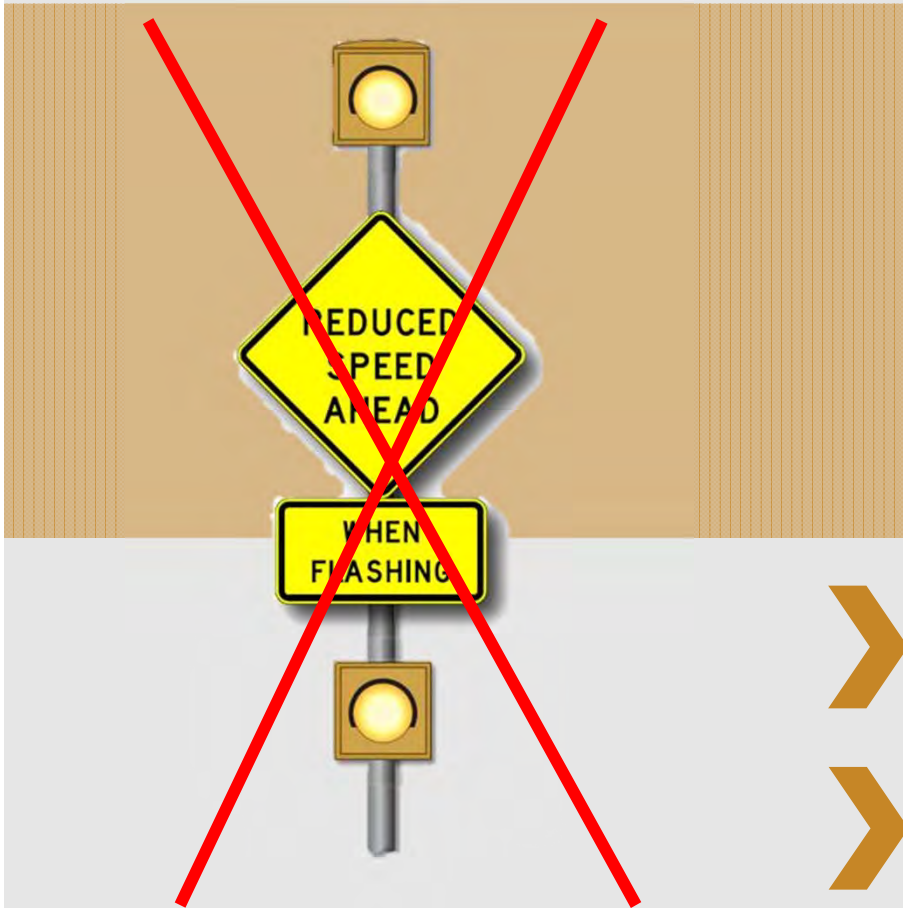
I-20



VSL PCMS



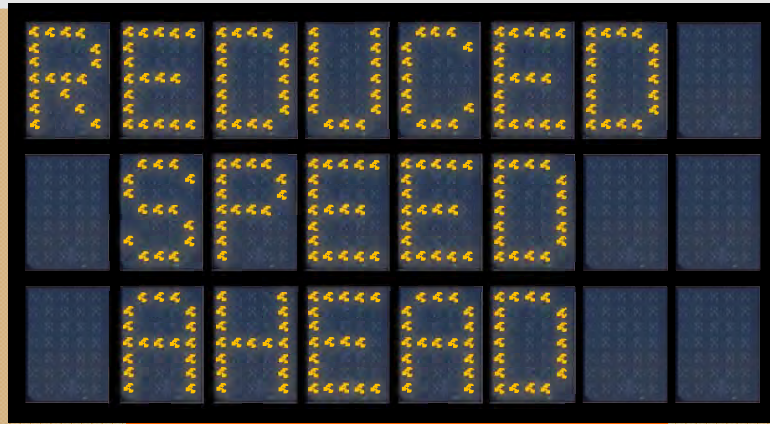
Warning Sign & PCMS



Legislative bill requires an advance warning sign

Beacons will flash when VSL is in operation

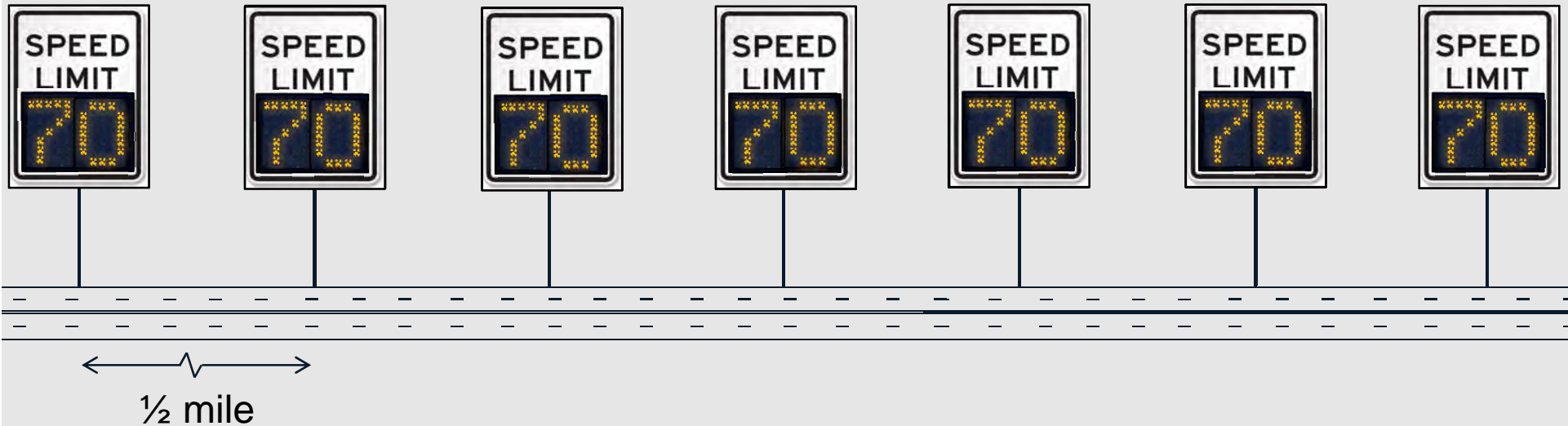
Warning Sign & PCMS



Legislative bill requires an advance warning sign

Beacons will flash when VSL is in operation

VSL Spacing



Spacing & Transition

- $\frac{1}{2}$ mile spacing, or up to 1 mile spacing
- Transitions no greater than 15 mph, except on downstream side of congested area

VSL Operation – (TM Center)



Steps of Operation

- VSL system pings the traffic management center if it detects need for VSL
- An operator has the ability to accept/deny the implementation of VSL
- System will notify operator when conditions have returned to normal
- Operator “acknowledges” deactivation. Important information is logged in the system, such as date, time, speeds that were set during VSL, etc.



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