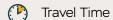
# **Queue Warning**

Warnings delivered by static or dynamic signs alert motorists that traffic is slowed or stopped ahead.







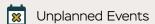














- Improve safety by reducing end-of-queue crashes.
- The strategy may also lead to speed harmonization, reducing delay, fuel consumption, and gas emissions caused by queues.

## **HOW DOES IT WORK?**

- Static signs with flashing beacons or dynamic message signs are deployed on freeways and arterials in advance of roadway curves, recurring bottlenecks, and work zones.
- The flashing beacons or queue warning messages are activated based on queue detection from real-time traffic sensors.

#### **COST MAGNITUDE**

CAPITAL COST







OPERATION AND MAINTENANCE COST





## WHEN TO CONSIDER THIS STRATEGY

ROADWAYS WITH RECURRING CONGESTION, SIGHT DISTANCE RESTRICTIONS, OR HIGH SECONDARY CRASH RATES

IN ADVANCE OF WORK ZONES

### COMPLIMENTARY **STRATEGIES**

DYNAMIC SPEED LIMIT

DYNAMIC LANE USE CONTROL

TRAFFIC SURVEILLANCE

TRAVELER INFORMATION

SMART WORK ZONE

WORK ZONE MANAGEMENT

MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION



\* ADDRESS THE NEED FOR INFRASTRUCTURE AND SOFTWARE ENHANCEMENTS TO MEET THE OPERATIONAL NEEDS.