# Improving Safety through Ohio's Intersection Safety Implementation Plan (ISIP)

## Introduction

The Federal Highway Administration (FHWA) provided technical assistance to Ohio in the summer of 2010 to develop an Intersection Safety Implementation Plan (ISIP). FHWA held a workshop, provided a data package, and identified a list of candidate intersections by countermeasure type. The State released the final ISIP in July 2010.

## Process and Results

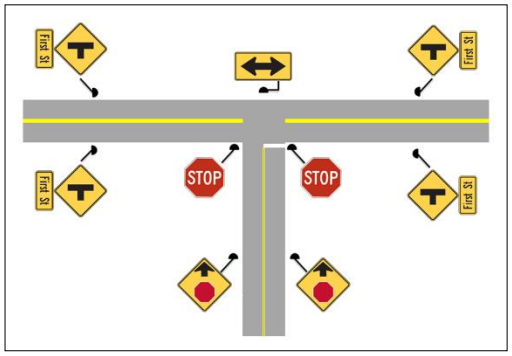
The Ohio Department of Transportation (ODOT) central office sent the complete list of State, rural, stop-controlled intersections identified in the ISIP—1,004 intersections in total—to district personnel for review for potential sign and pavement marking enhancements. ODOT used funding from Ohio's Highway Safety Improvement Program to purchase the sign and marking materials and provided a slide presentation to the district offices that served to assist the districts in implementing the rural intersection sign and marking improvements. ODOT also provided a standardized sign order form for the districts to fill out. The ODOT sign shop produced the signs, and the district maintenance forces installed the signs. All 12 districts in Ohio completed the effort in 2013 and 2014.


*Sign post reflectors were one of the systemic countermeasures that the ISIP identified. Source: ODOT.*

ODOT has involved local agencies through the Local Technical Assistance Program, which started a township signage program in 2013. There are over 1,100 townships in the State of Ohio. Each year, 100 townships are eligible for up to $50,000 for safety-related signs, which typically comprise intersection and curve signage. The selection process uses total crash counts to determine the 100 townships chosen. The next 100 townships on the list are targeted the following year, and the process continues, deploying countermeasures where they are needed most. This method prioritizes the townships with the most crashes with the expectation that the improvements will prevent more crashes.

The following are the funding amounts for the ISIP signage upgrades:

- Fiscal year 2013 – $2 million.
- Fiscal year 2014 – $2 million.
- Fiscal year 2015 – $7.5 million.
- Fiscal year 2016 – $7.5 million.




*A typical signing detail for stop-controlled T-intersections. This image was included in the slide presentation the ODOT central office provided to the districts. Source: ODOT.*

## Countermeasures

The ISIP identified several countermeasures that could be applied on a systemic basis, including the following:

- Stop-controlled intersections:
  - Basic set of sign and pavement marking improvements.
  - Flashing, solar-powered LED beacons on Advance Intersection Warning Signs and STOP signs or flashing overhead intersection beacons.
  - J-turn modifications on high-speed, divided arterials.
- Signalized intersections:
  - Basic set of signal, sign, and pavement marking improvements.
  - Change of permitted and protected left-turn phasing to protected-only.
  - Advance detection control systems.

Minor signal upgrades consisting of converting any remaining signal heads to 12-inch LEDs and adding reflectorized backplates as recommended in the plan are ongoing, and 35 roadway corridors have had clearance intervals retimed in accordance with the ITE clearance interval timing formula.

## Expected Outcome

ODOT has monitored statewide intersection crash data but has not conducted site-specific analyses for the locations that may have been treated based on the ISIP. ODOT found that the five-year rolling averages from 2003 to 2013 have experienced a 23-percent reduction in fatalities and a 14-percent reduction in serious injuries at intersections. To quantify the effectiveness of its ISIP, ODOT would have to perform an analysis of the exact locations the State improved through the ISIP, but it expects fatalities and injuries to be consistent with the statewide trends.

The goals of Ohio's Strategic Highway Safety Plan are to reduce the number of intersection fatalities from 266 to 245 between 2013 and 2017, and to reduce the number of serious injuries related to intersection crashes from 3,687 to 3,401 between 2013 and 2017. To achieve this goal, ODOT will use approximately $38 million beyond currently-programmed intersection safety projects over a five-year period—or approximately $7.5 million annually.

## Contact

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