

NEW JERSEY DEPARTMENT OF TRANSPORTATION
BUREAU OF SAFETY PROGRAMS (BSP) PROGRAM METHODOLOGIES

Intersection Improvement Program

A methodology was developed to reduce the number and severity of crashes occurring at intersections on all New Jersey roadways. These programs consider the total number of crashes and crash severity. These factors are combined through a systematic process to establish a “Severity Index” which aids in the prioritization of intersection improvements.

The initial identification criteria are in terms of Equivalent Property Damage Only (EPDO) crashes. This is derived by summing the EPDO values of every crash at each intersection location throughout the state. The EPDO values were developed using engineering judgment so that both the number and severity of crashes will influence the determination of the “Severity Index”. The EPDO values given to each severity level which are listed on the New Jersey State Police Crash Report Form NJTR-1 are as follows:

EPDO VALUES

| <u>SEVERITY LEVEL</u> | <u>IIP</u> | <u>PED (OLD/NEW)</u> |
|------------------------------|-------------------|-----------------------------|
| Fatal Injury | 5 | 10/8 |
| Incapacitating Injury | 4 | 7/4 |
| Moderate Injury | 3 | 3/2 |
| Complaint of Pain | 2 | 1/1 |
| P.D.O. | 1 | 0/0 |

The EPDO values for each crash are summed over a three-year period for a specific route and milepost associated with each “at” intersection location.

All potential project locations will also be screened for overrepresented crash types as compared to the statewide averages for similar route sections/facilities or excessive frequencies of certain crash types as applied against applicable reference guides (e.g. MUTCD or TCDH) to help focus investigative efforts towards mitigating the dominant crash patterns.

Pedestrian Program

Methodology: Locations will be considered for further evaluation/study upon reaching or exceeding the annual or three year crash criteria as follows:

--3 or more in any 3-year period at any intersection exceeding selected severity minimum (severity weightings are skewed in more of an exponential manner towards higher severity crashes as opposed to the straight line weighting methodology utilized for the intersection program).

Left Turn Crash Reduction Program

Methodology: Locations will be considered for further evaluation/study upon reaching or exceeding the annual or three year crash criteria as follows:

--4 per year on one or any pair of opposing approaches.

Right Angle Crash Reduction/Signalization Program

Methodology: Locations will be considered for further evaluation/study upon reaching or exceeding the annual or three year crash criteria as follows:

--5 per year.

Same Direction Crash Reduction Program

Methodology: Directional locations will be considered for further evaluation/study upon reaching or exceeding the annual or three year crash criteria as follows:

--2 EPDO crashes per month within a 1 / 10th mile study location.

For the Crash Reduction Programs listed above, crashes were collected and analyzed for all public roads in New Jersey.

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