

## Minor Collector Highway Improvement Standard

### Minor Collector Design & Construction Standards:

The intent of these standards is to bring the minor collector road up to a 10 year expected life. It is expected that in 10 years some type of light capital paving would be needed with custodial maintenance required on an ongoing basis.

### Development Process:

The Maine Department of Transportation in collaboration with the municipality or county will evaluate the roadway through field reviews looking at the pavement condition, required upgrades to guardrail as well as other safety devices, and needed replacement of drainage structures. Anything that was determined to have at least a 10 year life would remain. The following factors should be evaluated, unless otherwise noted, when scoping the work.

#### 1. Pavement Condition

Typical minor collectors throughout the state are  $\pm$  22 feet in paved width. The standard calls for placing 1200 tons of asphalt mix per mile, and achieving a cross slope between 2 and 8 %. To achieve the cross slope additional shim from the quarter point out might be necessary using asphalt mix or a rap material.

#### 2. Geometrics

##### a. *Horizontal Alignment*

The intent of this standard would be to stay on existing alignment. Additional signage, (chevrons, curve signs), might be necessary depending on the degree of curve.

##### b. *Vertical Alignment and sight distance*

If the stopping sight distance for a crest vertical curve does not meet existing design criteria and is a documented high crash location, the design should evaluate the practicality of flattening the crest vertical curve.

#### 3. Cross Section Elements

##### a. *Roadside Clear Zone*

Clearing of roadside hazards such as boulders and trees should be done if the existing right of way allows and there can be some consistency developed through the corridor for the traveling public.

##### b. *Ledge*

The intent is not to remove ledge unless it is a documented high crash location and can be done at a reasonable cost through mechanical means and within the existing right of way.

##### c. *Guardrail*

Existing W beam rail should remain in place if it has a 10 year remaining service life. New guardrail should be placed in areas where there is an existing cable or an inslope of 2:1 or steeper and is a documented high crash location.

##### d. *Utilities*

The intent is to leave aerial utilities in place.

*e. Signage/Striping*

All signage that does not meet the latest reflectivity requirements or the MUTCD should be replaced. Striping will be provided according to the MaineDOT Policy which resides with M&O Traffic Operations.

*f. Traffic Hardware*

Flashing beacons and lighting should be looked at on a case by case basis.

*g. Right of Way*

The intent is to stay within the existing right of way. Drainage easements or work permits should be obtained when necessary.

*Sidewalks*

The intent is not to reconstruct, rehabilitate, or construct sidewalks.

*h. Intersections*

The intent would be to modify intersections if a documented high crash location is identified. Opportunities to implement low cost modifications, such as special signage, clearing of vegetation, or the removal of obstructions will be explored.

*i. Shoulder type*

The intent is to maintain the existing shoulder type (i.e., gravel or paved).

*j. Continuity*

The continuity of travelway and shoulder widths within a corridor should be taken into consideration when looking at improvements to a specific section of roadway. This includes the possibility of reducing or increasing width on an abutting section of roadway in the future.

**4. Drainage**

*a. Culverts*

Culverts up to 60 inches that during the field review are considered to have less than a 10 year service life remaining, should be replaced in kind. A culvert that has a history of flooding will be reviewed for up sizing.

*b. Ditching*

Ditches shall be cleaned of winter sand and debris. Construction of any new ditch needed because of drainage issues should be designed to stay within the existing right of way.

*c. Closed Systems*

Closed drainage systems should be cleaned out, and repaired to a 10 year or greater remaining service life.

**5. Major Structures**

- a. Minor spans (i.e., structures between 10 and 20 feet in length), and Struts (i.e. structures between 5 and 10 feet), on minor collector roads will be improved to a 10-year remaining service life.

**High Crash Location is defined as:** If the Critical Rate Factor (C.R.F.) is > 1.00, it can be a potential High Crash Location (providing the location has eight (8) or more crashes in a three-year study period). C.R.F. = Actual Crash Rate/Critical Crash Rate.