

Checking Mix Type

Step 1: Count tractor trailers and single unit trucks for one “representative” hour.

Then, calculate the “Hourly ESALs” using the following:

$$\text{Hourly ESALs} = (\text{tractor trailer count}) + (\text{single unit count} \div 3)$$

Step 2: Check the *Hourly ESALs Table*:

Hourly ESALs	Mix Type
40 or less	S9.5B
More than 40	S9.5C

- Notes:
- S4.75A is a preservation treatment to keep good roads in good condition. It can be used to fill ruts and for leveling. Placing this mix on roads in less than good condition is not cost effective.
 - S9.5D is normally used for Interstate-level traffic and requires an MTV for placement. For guidance on the use of this mix type, contact the Materials and Tests – Pavement Design Section.

Step 3: Determine the thickness of the existing pavement.

Then, check the *Pavement Thickness Table*:

Existing Pavement Thickness*	Mix Type
7” or less	S9.5B
More than 7”	S9.5C

- Notes:
- Each inch of ABC equals 1/2 inch of asphalt.
 - Intermediate mixes can be placed on thinner pavements than Surface mixes.
 - If the condition of the pavement is Poor, thicker pavement is required.

Step 4: Select the LOWER Mix Type indicated by the two tables.

Remember:

- These are very rough guidelines.
- Always consider the condition of the existing pavement and the quality of the subgrade.
- Consider increasing the Mix Level for roads with heavy truck traffic (industrial sites, landfills, quarries, distribution centers, etc.)
- These guidelines should not be used to make changes to the plans immediately. Use these guidelines to raise questions on Mix Type selection with the Resident Engineer, Pavement Construction Section, or M&T-Pavement Design.

Recommended Treatment of Distresses

Pavement Distress Definitions

- **Alligator Cracking**
 - o **Light:** Longitudinal disconnected hairline cracks approximately 1/8 inch wide running parallel to each other; initially, may be only a single crack in the wheel path or edge of pavement but could also form an alligator pattern.
 - o **Moderate:** Longitudinal cracks in wheel path(s) or edge of pavement forming an alligator pattern; cracks may be slightly spalled and are 1/4 inch wide.
 - o **Severe:** Cracking has progressed so that pieces appear loose with severely spalled edges; cracks are about 3/8 to 1/2 inch wide or greater; potholes may be present.
- **Transverse Cracking**
 - o **Light:** Cracks are less than 1/4 inch wide and are not spalled; block pattern may not be visible yet; transverse cracks usually 10 to 20 feet apart. Cracks have little or no spalling and joints are usually not humped up.
 - o **Moderate:** Block pattern may be visible with blocks 10 square feet or greater present; cracks are 1/4 inch to less than 1/2 inch wide; cracks may or may not be spalled; transverse cracks usually 5 to 20 feet apart. Joints humped up 1/2 to 1 inch high.
 - o **Severe:** Cracks may be severely spalled with smaller blocks 2 to 10 square feet; cracks 1/2 inch wide or greater; transverse cracks may be 1 to 2 feet apart throughout portions of the surface. Joints humped up greater than 1 inch high.
- **Rutting**
 - o **Light:** Rutting 1/4 inch to less than 1/2 inch deep.
 - o **Moderate:** Rutting 1/2 inch to less than 1 inch deep.
 - o **Severe:** Rutting 1 inch or greater.

Recommended Treatments

Distress	Light	Moderate	Severe
Alligator Cracking	No treatment for longitudinal hairline cracks.	Mill and Replace 2.5” to 4”	Full-Depth Patch
Transverse Cracking – Isolated	No Treatment	No Treatment	Mill and Replace 2.5” to 4”
Transverse Cracking – Block Pattern	No Treatment	Mill and Replace 2.5” to 4”	Mill and Replace 2.5” to 4” (consider Full-Depth patch)
Rutting	No Treatment	Mill; or Mill and Replace; or Leveling Course	Mill; or Mill and Replace; or Leveling Course

General Guidance

- Do NOT mill more than half the thickness of the existing asphalt.
- If half or more of a segment of the project requires treatment, treat it all.
- No treatment may lead to compaction difficulties, and/or poor long-term performance.