

Ensuring Quality Paving
Pulling It All Together

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Most Important Tool for Paving Success


- **CONSISTENCY**
 - Must be constantly focused on every shift of every week of every month of the project:
 - One bad day of density or segregation will completely ruin an otherwise good paving job.
 - One bad day of takeoff or tie-in joints will cause diamond grinds that scar your otherwise smooth road.

Everyone on the job plays an important role in creating consistent paving.

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Keys to Consistency

- You must make a detailed plan for every day of paving
 - And you need to communicate that plan to everyone involved
- You must adjust as things change or items don't go as planned
 - Definition: *Insanity*
 - Doing the same thing over and over again and expecting a different result
- If your plan is not working, don't be stubborn. Take a step back and re-evaluate, and come up with a better plan based on the improved information that you have.

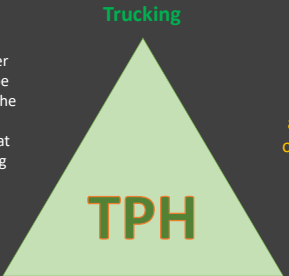


Consistent paving requires "Paving Equilibrium".

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Paving in Equilibrium

Consistent paving requires that tons per hour (TPH) have to be equal for delivery of the HMA by the trucks, producing the HMA at the plant, and paving train speed onsite.



If one of the three are faster than the other two, then you will not have consistent paving.

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Paving in Equilibrium

- Tons per hour (TPH) must be equal for the plant, for the paver, and for the trucking in order to ensure consistent paving.

Paving TPH greater than Plant TPH →	Plant runs out of mix & paver stops
Paving TPH greater than Trucking TPH →	Paver runs out of trucks & paver stops
Paving TPH less than Plant TPH →	Paver keeps stopping and plant keeps stopping.

Starting and Stopping is the greatest enemy to quality paving.

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How to Plan for Consistent Paving

Proper planning is absolutely necessary to ensure consistent paving. Using a "Daily Milestone Schedule" is a great way to do this.

Daily Milestone Schedules uses the same concepts that we use when looking at an overall project schedule. In those schedules, we use milestones to indicate when we complete a critical task such as:

- Start of Milling or Paving
 - Traffic Swap
 - Opening a Roadway to Traffic
 - Putting Traffic in Final Alignment
 - Substantial or Final Completion

We can take the same concepts that we use in overall project scheduling and apply them to the individual shift.

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Daily Milestone Scheduling : Example

- Conditions
 - Lane Closure Hours are 8:00 AM to 4:00 PM
 - We have 1.5 miles of a 12" wide lane to pave at 2.5" thick. This will take about 1,500 tons.
 - We have to setup and remove a left lane closure which will take 30 minutes each.
 - Our paving equipment will have to be brought in on lowboys to the paving area since there is not anywhere close to stage equipment. This will take about 30 minutes.
 - Paving area needs to be swept and tack coat applied which will take 30 minutes.
 - After final truck arrives, you will need 30 minutes to complete rolling.
 - Lane has to be swept and temporary striping applied at the end of the paving. This will take about 2 hours. This work can start once half of lane is paved.
 - At the end of the paving, equipment will need to be loaded up and hauled away on a lowboy.
 - HMA Plant is 1 hour from the paving site.

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Daily Milestone Scheduling : Example

	Time	Setup Lane Closure	Begin Loading Trucks	Mobilize Equipment	Sweep and Tack	2.5" HMA Paving	Finish Rolling	Finish Loading Trucks	Clean and Stripe	De-mobilize Equipment	Remove Lane Closure	
Set lane closure Mobilize, Sweep, & Tack	8:00 AM											
	8:30 AM											
	9:00 AM											
	9:30 AM											
	10:00 AM											
	10:30 AM											
	11:00 AM											
	11:30 AM											
	12:00 PM											
	12:30 PM											
Clean, Stripe, & De-mob	1:00 PM											
	1:30 PM											
	2:00 PM											
	2:30 PM											
	3:00 PM											
	3:30 PM											
	4:00 PM											
	4:30 PM											

Start paving at 9 AM

Finish Loading at Plant at 1:30 PM

Pick up Lane Closure at 3:30 PM


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Pulling It All Together

If you fall behind on your "Daily Milestone Schedule", resist the urge to just speed up the paver or the plant without ensuring that you have ample plant or trucking capacity. Otherwise, you will be out of equilibrium.

Consistent paver speeds and plant speeds are the secret to producing high quality mix, paving smooth roadways, and getting great densities.

Remember, high quality asphalt pavements last longer and make for happy customers that will give us more business in the future!



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