## 2019 Construction Projects Dollar Value

<table>
<thead>
<tr>
<th>District</th>
<th>Projects</th>
<th>Dollar Value</th>
</tr>
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<tbody>
<tr>
<td>Lackawanna</td>
<td>19</td>
<td>$110,032,782</td>
</tr>
<tr>
<td>Luzerne</td>
<td>31</td>
<td>$211,959,129</td>
</tr>
<tr>
<td>Wyoming</td>
<td>5</td>
<td>$8,894,068</td>
</tr>
<tr>
<td>Susquehanna</td>
<td>13</td>
<td>$25,741,714</td>
</tr>
<tr>
<td>Wayne</td>
<td>8</td>
<td>$13,831,729</td>
</tr>
<tr>
<td>Pike</td>
<td>11</td>
<td>$238,096,789</td>
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<tr>
<td><strong>District Total</strong></td>
<td><strong>87</strong></td>
<td><strong>$608,556,211</strong></td>
</tr>
</tbody>
</table>

Construction Accomplishments

Material Totals - 2018

• Bituminous – 654,923 tons
• Concrete – 14,413 cubic yards
• Aggregates – 480,796 tons
### District 4-0 Significant Projects: $10 Million and Over

<table>
<thead>
<tr>
<th>Year</th>
<th>County</th>
<th>ECMS</th>
<th>Project</th>
<th>SR</th>
<th>Section</th>
<th>Number of Years</th>
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<tbody>
<tr>
<td>2018</td>
<td>Wayne/Pike</td>
<td>76861</td>
<td>I-84 E&amp;W I-4R Wayne - E26</td>
<td>84</td>
<td>450</td>
<td>4</td>
</tr>
<tr>
<td>2019</td>
<td>Luzerne</td>
<td>98247</td>
<td>I-81 NB/SB Mill/Fill – Sugar Notch to Avoca</td>
<td>81</td>
<td>345</td>
<td>2</td>
</tr>
<tr>
<td>2018</td>
<td>Lackawanna</td>
<td>106328</td>
<td>I-380 Mill/Fill Lackawanna</td>
<td>380</td>
<td>245</td>
<td>2</td>
</tr>
<tr>
<td>2019</td>
<td>Lackawanna</td>
<td>109304</td>
<td>I-81 NB/SB Mill/Fill – County Line to Scranton</td>
<td>81</td>
<td>249</td>
<td>2</td>
</tr>
<tr>
<td>2020</td>
<td>Lackawanna</td>
<td>61813</td>
<td>Casey Highway Diamond Grinding</td>
<td>6</td>
<td>D04</td>
<td>2</td>
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<tr>
<td>2020</td>
<td>Pike</td>
<td>85766</td>
<td>I-84 E&amp;W I-4R MP 40 – E46</td>
<td>84</td>
<td>494</td>
<td>4</td>
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</tbody>
</table>
Surface Treatment
Longitudinal joints are to be sealed on all roads after the final wearing surface is placed. Added item and quantity to contracts.
Surface Treatment

When milling provide for a scratch course, i.e., mill 2”, scratch ½”, overlay 1 ½”. 
Surface Treatment

Include a note in the Construction Restrictions to record the location of existing pavement markings prior to milling and paving operations for projects that include pavement marking pay items but do not require a Pavement Marking Plan.
Surface Treatment

On mill and fill projects where the milling depth gets close to the top of the existing underlying concrete pavement, we consider milling down to the concrete surface to re-establish the joints in the underlying concrete and installing heavy duty membrane to prevent reflective cracking. Discuss with Pavement Engineer, Construction, and Plans Engineer for determination of which project this is used on.
Surface Treatment

On mill and fill projects, when transverse joint repairs are performed include “as directed” items for transverse joint repair and base repair as indicated in the detail.
Surface Treatment

Complete the final wearing course within 14 consecutive calendar days of placing the scratch/leveling course. The purpose is to limit the amount of time the public drives on a road with exposed manholes/drainage inlets and also to allow for water to make it into the inlets.
Pike- ECMS 75762- I-84-448 –First I-84 Section

- I-4R Project - SR 6 to NY State Line
- PIKE COUNTY
- WESTFALL, MILFORD AND DINGMAN TOWNSHIPS AND MATAMORAS BOROUGH
- $65.7M
- SUPERPAVE ASPHALT MIXTURE DESIGN, WMA WEARING COURSE, RPS, PG 76-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, 2" DEPTH, SRL-E
- 744,250 sy of asphalt wearing course
- Completed October 2018
District 4-0 2019 Projects

Pike- ECMS 76860- I-84-449

- I-4R Project - MM 34 - 40
- PIKE COUNTY
- BLOOMING GROVE AND DINGMAN TOWNSHIPS
- $69.6M
- SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, RPS, PG 76-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, 2" DEPTH, SRL-E
- 345,595 sy of asphalt wearing course
- Under Construction – Completion May 2020
Pike- ECMS 76861- I-84-450

• I-4R Project
• WAYNE and PIKE COUNTY
• BLOOMING GROVE AND DINGMAN TOWNSHIPS
• $103.8M
• GREENE, PALMYRA AND STERLING TOWNSHIPS
  • 0419-1320 STONE MATRIX ASPHALT MIXTURE DESIGN, WMA WEARING COURSE, RPS PG 76-22, 12.5 MM MIX, 2” depth SRL-E
  • 48,794 sy of SMA
### Progression to SMA in I-4R

<table>
<thead>
<tr>
<th>I-84 Section 448</th>
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<tbody>
<tr>
<td>• SUPERPAVE</td>
<td>• SUPERPAVE</td>
<td>• LLAP, SUPERPAVE</td>
</tr>
<tr>
<td>• HMA BASE COURSE</td>
<td>• BASE COURSE</td>
<td>• WMA BASE COURSE</td>
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<tr>
<td>• PG 64-22</td>
<td>• PG 64-22</td>
<td>• PG 64-22</td>
</tr>
<tr>
<td>• 10 TO &lt;30 MILLION ESALS</td>
<td>• 10 to &lt;30 MILLION ESALS</td>
<td>• &gt;/= 30 MILLION ESALS</td>
</tr>
<tr>
<td>• 25.0 MM MIX</td>
<td>• 25.0 MM MIX</td>
<td>• 19.0 MM MIX</td>
</tr>
<tr>
<td>• 5” DEPTH</td>
<td>• 5 ½” DEPTH</td>
<td>• 2 1/2” DEPTH</td>
</tr>
<tr>
<td>• SUPERPAVE</td>
<td>• SUPERPAVE</td>
<td>• LLAP, SUPERPAVE</td>
</tr>
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<td>• HMA BINDER COURSE RPS</td>
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<td>• WMA BINDER COURSE RPS</td>
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<td>• SUPERPAVE</td>
<td>• SUPERPAVE</td>
<td>• LLAP, STONE MATRIX ASPHALT</td>
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<tr>
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<td>• WMA WEARING COURSE, RPS</td>
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<td>• 12.5 MM MIX</td>
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<tr>
<td>• 12.5 MM MIX</td>
<td>• 12.5 MM MIX / Minimum Effective Asphalt</td>
<td>• 2” DEPTH, SRL-E</td>
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<td>• 2” DEPTH, SRL-E</td>
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Class-4 Geo-textile under the subbase in order to create a stronger pavement cross section.
Construction Specifications

- SMA only
- Tack all layers
- MTV required
- WMA Technology Required
- Ride incentive is optional
- Joint incentive / disincentive is required
District 4-0 2019 Projects

Lackawanna - ECMS 106328 - 380/245 - I-380

Mill/Fill
Resurfacing on Interstate 380 in Clifton, Covington and Roaring Brook Townships and Moscow Borough
STONE MATRIX ASPHALT MIXTURE DESIGN, WMA WEARING COURSE, RPS PG 76-22, 9.5 MM MIX, 1 ½” depth, SRL-E
SUPERPAVE ASPHALT MIXTURE DESIGN, WMA BINDER COURSE, PG 76-22, 10 TO < 30 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH
Lackawanna – ECMS 109304

- I-81 NB/SB Mill/Fill County Line to Scranton
- Interstate resurfacing and bridge preservation on I-81 (American Legion Memorial Highway) NB/SB from Luzerne County line to Mile Marker 185.5; in Moosic Borough and City of Scranton
- STONE MATRIX ASPHALT MIXTURE DESIGN, WMA WEARING COURSE, RPS PG 76-22, **12.5 MM MIX**, 2" DEPTH, SRL-E
District 4-0 2019 Projects

Luzerne – ECMS 98247
• I-81 Mill/Fill 2018, Sugar Notch to Avoca
• Resurfacing on Interstate 81 Northbound, Southbound, and ramps from Exit 164, Nanticoke to Exit 178, Avoca in Hanover, Newport, Plains, Wilkes Barre, Jenkins, Pittston Townships, Ashley, Dupont, Laflin Boroughs
• 0419-1306 STONE MATRIX ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, RPS PG 76-22, 9.5 MM MIX, 1 1/2" DEPTH, SRL-E
Stone Matrix Asphalt (SMA) is a gap-graded HMA that is designed to maximize deformation (rutting) resistance and **durability** by using a structural basis of stone-on-stone contact. Because the aggregates are all in contact, rut resistance relies on aggregate properties rather than asphalt binder properties. Since aggregates do not deform as much as asphalt binder under load, this stone-on-stone contact greatly reduces rutting.
• **Stone Matrix Asphalt will improve Pavement Life**
  - Superior to superpave mixes previously used
  - Higher rutting resistance
  - Higher asphalt content
  - Being utilized on Interstates this season
Enhanced Quality Assurance

- Utility/Contractor Coordination
- Just-In-Time Training
- Team Quality Assurance Reviews
- Asphalt Paving
- After Action Review
- One Year Follow Up Review
Enhanced Quality Assurance

• **Utility / Contractor Coordination**
  - Spring 2019 coordination meeting held with utility companies and contractors working in District 4
  - Coordinate PA is a web service application developed by Pennsylvania 811 to support Public Works and utility project planning and utility coordination within the Commonwealth of Pennsylvania
• **Utility / Contractor Coordination Cont.**
  • Coordinate PA is the next generation of utility coordination. Instead of meeting to discuss plans, or copy maps, or create a spreadsheet of projects, Utility Companies, public works directors and others describe their projects on a map. Coordinate PA then shows the projects and the project time frames for users and automatically identifies opportunities for collaboration between projects. The user can see project overlap within a geographic area and can query for overlap within a specific time frame.
Enhanced Quality Assurance

• **Just in Time Training**
  - Quality Assurance division short videos are designed to provide operation-specific training for all
  - Asphalt Paving Surface Preparation
  - Bituminous Pavement Longitudinal Joints
• **Team Quality Assurance Reviews**
  - ADE-Construction and QA representatives will perform quality assurance reviews

• **After Action Review / One Year Follow Up Review**
  - All paving projects will receive an after action review and a one year follow up review to ensure quality
THANK YOU FOR ATTENDING THE 2019 PENNDOT and PAPA BUS TOUR IN DISTRICT 4!

Harold S. Hill, P.E.
ADE – Construction