

# Project Selection Tool for IMPP: Piedmont Region

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# Outline of Presentation

- Basic framework of selection tool
- Eligibility
- Preservation and Impact
- Technical Items
- Regional Example
- Conclusion



# Overview of Selection Tool

- Use of a systematic process is required by FHWA/NCDOT agreement.
- Tool assists in considering projects...it does not make decisions.
- Includes eligibility, preservation and impacts, and technical issues.
- The more points, the better suited the project.



# Overview (continued)

- Asks questions that a division would need to ask to develop a cost estimate...for example, # of slabs that need to be replaced.
- Generally uses data available on NCDOT websites including PMS and Traffic Services.



# Eligibility

- Current funding is limited to Interstates only. Business routes and alternate route Interstates are not eligible.
- Screen out projects that are material related defects like Alkali Silica Reactivity. Treatment is too costly for this program.



# Preservation and Impact Points

Item	Description	Range of Values	Assigned points
1	<b>Pavement Condition Rating</b> in Fair+ to Good Range?	PCR<65	0
		PCR between 65 and 75	10
		PCR between 75 and 90	20
2	<b>Length of Roadway</b> to be treated	<1 mile	1
		1 to 3 miles	2
		>3 miles	5
3	<b>AADT</b> (vehicles per day)	<1000	1
		1000 to 10000	5
		>10000	10
4	<b>Leveraging other funding Sources</b> (% of total project cost from other sources)	>50%	10
		10 to 50%	5
		<10%	1
5	<b>Division Priority</b> ( 1 is top priority, 2 is second, etc)	>3	1
		2 or 3	5
		1	10



# Preservation and Impact

- Preservation treatments are for roadways in fair+ to good condition.
  - 20 points for PCR of 75 to 90.
  - 10 points for 65 to 75.
  - No points if lower than 65.



# PMS Resources

- Get the most recent PCR from the PMS.  
<http://www.ncdot.gov/~ams>
- PMS Instructions can be found on the [Pavement Management portal](#).
- Navigate by going to the portal then:  
Teams>DOH>Asset Management>Pavement Management





# Other Impacts

- Length in miles: more points for longer projects (1 point for less than a mile, 2 points for 1-3 miles, 5 points for more than 3 miles).
- AADT: How many citizens will benefit from the treatment? (1 point for less than 1000, 5 points for 1000 to 10000), 10 points for more than 10000).



## Other Impacts (continued)

- Leveraging funds: everyone benefits if these funds are augmented by other funds. (1 point for less than 10%, 5 points for 10 to 50%, 10 points for more than 50%) Note that many interstate projects will have no leveraging.



# Other Impacts (continued)

- Division Priority- All proposed projects should be prioritized by the division with 1 being top priority. Lower than third priority gets one point. Five points for second or third priority. Ten points for top priority.



# Preservation and Impact Points

- Total of 50 points are possible.
- Record both the value (AADT, PCR etc) and the assigned points.
- Subtotal the preservation and impact points.



# Technical Points

- Technical points are tied to recommended treatments (like # of shattered slabs with slab replacements).
- There is a separate table of technical points for flexible pavements and for rigid pavements. Each has a total of 50 points.



# Rigid Pavement Technical Points

- # of shattered slabs per mile: 10 points if less than 5 per mile. 5 points if 5 to 9 per mi. 0 points if none or more than 10.
- # of full depth repairs per mile: same point counts as shattered slabs.



# Rigid Pavement Technical Items

- Faulting is the drop between two adjacent slabs in the direction of travel.
- 10 points if less than 0.25", 5 points if 0.25" to 0.5", no points if more than 0.5" or none.



# Rigid Pavement Technical Items

- Spalling is shallow loss of concrete around joints. Partial depth repair.
- No points if more than 20% of joints, 2 points if 10 to 20%, 5 points if less than 10%.





# Rigid Pavement Technical Items

- Joint sealing can be done for various levels of distress up to and including poor seal condition.
- 5 points for poor, 2 points for fair, no points for good or excellent.



# Rigid Pavement Technical Items

- Slab leveling and sub slab stabilization based on number of slabs needing treatment for entire project.
- 5 points each for less than 10, 2 pts for 10 to 20, 1 for >20.



# Treatments for Rigid Pavement

- Treatments are selected based on distresses, performance period and budget.
- Includes: slab replacement, full depth and partial depth repairs, diamond grinding, cleaning and resealing joints, grouting and sub slab stabilization.



# Technical Items Flexible Pavement

Distress	Range of values	Points
Alligator cracks	< 30% low or mod	10
Rutting	0.1 to 0.49"	10
Transverse	0.25" to 0.5" wide	10
Ride Quality	IRI between 65 & 100	10
Surface Issues	Less than 5% but not 0	5
Oxidation	severe	5



# Flexible Pavement Technical Items

- Alligator cracking: want to treat before severe. 10 points for less than 30% low or moderate, 5 points for 30 to 40% low or mod, no points if more than 40% or more than 10% severe.



# Flexible Pavement Technical Items

- Rutting is deformation in the wheelpaths caused by loadings.
- 10 points if 0.1" to 0.49", 5 points if 0.5" to 0.75", no points if more than 0.75"



# Flexible Pavement Technical Items

- Transverse or Reflection cracking. Want to treat before cracks become wide.
- 10 points if 0.25" to 0.5", 5 points if 0.5 to 1.0", no points if >1" wide.



# Flexible Pavement Technical Items

- IRI is a measure of ride quality. Units are inches per mile. Measured using high speed profilometer. Some records in PMS.
- 2 points if >150 (rough), 5 points if 100 to 150 (moderate), 10 points if 65 to 100.





# Flexible Pavement Technical Items

- Surface issues can include debonding, delamination, construction joint opening, raveling, etc. Units are % of surface area with defect.
- 5 points if  $<5$  but  $>0$ ,  
2 points if 5-10%.



# Flexible Pavement Technical Items

- Oxidation is drying out of the asphalt at the surface of the pavement. Want to treat prior to cracking.
- 5 points for severe, 3 points for intermediate, 0 points if none or new.



# Flexible Pavement Technical Items

- Assign points for each distress type and record value.
- Treatments are selected to address the distress on the roadway and include mill and fill, rut filling, microsurfacing, crack filling, thin overlay, micromilling, and rejuvenation or fog seals.



# Project Totals

- Subtotal Preservation and Impact Points
- Subtotal Technical Points.
- Sum to obtain total project points.
- Retain sheets with project points (and the values to obtain the points).



# Example: I-85 Davidson County

- Pavement surface: HMA
- Begin milepost 0.489 (from PMS)
- End milepost 3.678 (from PMS)
- AADT is 29500; PCR= 76.7
- Distresses: 10% low severity alligator cracking, moderate transverse cracking, low rutting. IRI is 130.4 inches/mile.



# Eligibility

- No material related distress.
- Interstate is eligible for federal aid IM funds.



# Preservation and Impact Points

• PCR is 76.7	20 points
• Length is 3.18 miles	5 points
• AADT is 29500	10 points
• Leveraging- no other funds	1 point
• Division Priority- priority 1	10 points
total preservation impact:	<hr/> <b>46 points</b>



# Technical Points

• Alligator cracking 10%	10 points
• Rutting- low	10 points
• Transverse (<0.5")	10 points
• IRI (from PMS) 130.36	5 points
• Surface issues- none	0 points
• Oxidation none	0 points
Total Tech points:	<u>35 points</u>





# Project Totals

• Eligibility (pass/fail)	Pass
• Preservation & Impact	46 points
• Technical	<u>35 points</u>
Total Project points:	<b>81 points</b>

Note that project totals are comparable within a division and are only intended for use within a division.



# Conclusions

- Selection tool is designed to allow systematic evaluation of projects.
- Data to support the tool is available in PMS and the Traffic Services web site.
- Both values and points need to be save on file in case of audit.
- The tool points at recommended treatments.
- The tool does NOT make decisions.



*Are there any questions?*

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