District 8-0 Interstate Planning

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Interstate Profile

- **Four Interstates (81, 83, 78, 283)**
  - 318 Miles
  - 88% Excellent/Good IRI (2014)
  - 12% Fair/Poor (2014)
  - IRI Trend up with 5 projects in 2014/2015 (24.5 miles)

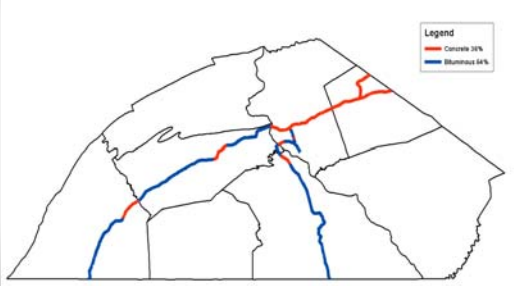
Interstate Profile

- **Four Interstates (81, 83, 78, 283) (76 is TPK)**
  - 8% of the nation's freight passes through Harrisburg on any given day
  - Truck traffic steadily increases with no end in sight (30,000+ ADTT on I-81)
  - Carlisle is the center for distribution centers and continues to grow
  - Wade Bridge (I-81) and South Bridge (I-83) over the Susquehanna River

Interstate Profile

- **Four Interstates (81, 83, 78, 283)**
  - Capital Beltway on I-83 and I-81
  - I-83 in York County is a converted highway from the 1950's (Narrow bridges, narrow medians, deficient ramps)
  - One lane I-83 in Dauphin County
  - 9 SD bridges, 3 are deep culverts
  - ITS is fully deployed

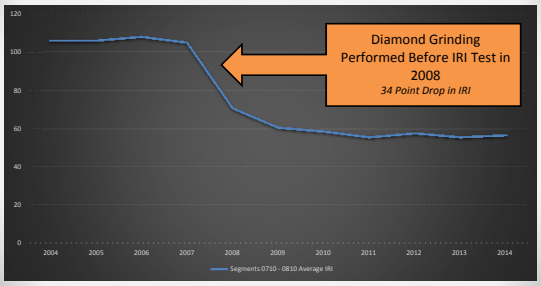
Interstate Pavement Types



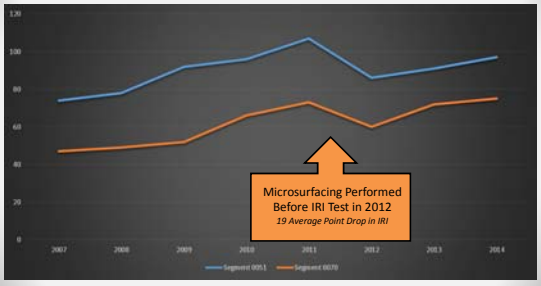
Challenges in Maintaining Assets

- 46 Miles of Concrete on I-81, I-78
  - Diamond Grind in 2007 and 2015 with excellent results (20 Years after reconstruction)
  - Expect some spall repairs over next 10 years
- 47 Miles of Microsurfacing in place
  - I-83 York; 26 miles
  - I-81 Cumberland; 21 miles

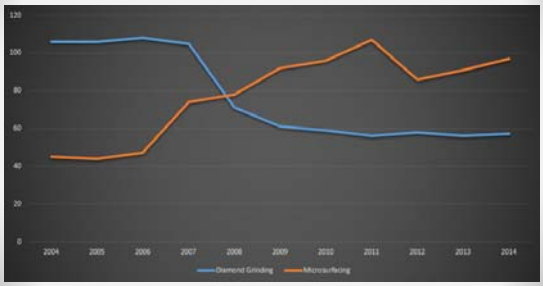
Diamond Grinding – IRI (I-81)



Microsurfacing – IRI (I-83)



Diamond Grinding v. Microsurfacing



Challenges in Maintaining Assets

- Need to maintain four lanes minimum
  (express lanes used for 6 lanes in the past)
- Spacing projects to eliminate saturation/congestion
- I-83 Width
- Capital City
- Truck Crashes
- Cost to do one bridge at a time is high

Recent Projects

- George Wade Bridge Rehabilitation
- I-83 Bridges PM in Dauphin County
  (early action for I-83 adjacent projects)
- Three Act 89 resurfacings
  - I-283 (Do before I-83 work)
  - I-83 in York (2 nighttime projects at once)

Scheduling for conflicts is important

Recent Projects

- I-81 Carlisle Rehabilitation
  (S. of Exit 48 – N. of Exit 57)
  - 11 miles total, 2 projects together, $14 million
  - 5.5 miles of concrete rehab with slabjacking, patching, diamond grinding
  - 5.5 miles of resurfacing
  - 1 SD bridge deck replaced
  - FWD results bad for years, project results encouraging

Recent Projects

- I-83/PA 581 Bottleneck
  - Modernize the interchange area without total reconstruction; two contracts
  - $30 million project where original Master Plan called for $190 million
  - Add northbound lane for I-83 (2 lanes now)
  - New overpass in first contract

Recent Projects

- I-83/PA 581 Bottleneck
  - Widen with bituminous, overlay the concrete
  - Added lane to South Bridge with markings
  - Eliminated weave and ramp conflicts
  - Precast Accelerated Bridge for 10th Street
  - Hybrid for reconstruction/rehabilitation

I-83/PA 581 Project

Added 4th lane to South Bridge

Bottleneck - 2010

Post-Construction

Lowther Street - 2010

Post-Construction

I-83/PA 581 Contract #1

I-83/PA 581 Contract #1

I-83/PA 581 Precast Bridge

10th Street Time Lapse Video

Planning Strategy

- Use 2 inch mill/fill with profile milling when possible for bituminous resurfacing
- Microsurfacing candidates limited now
- In old sections of 4.5 inch overlay, replace all pavement if no reconstruction projected in 10 years
- Do I-83 Master Plan projects in Harrisburg and North York Widening with Act 89 funds

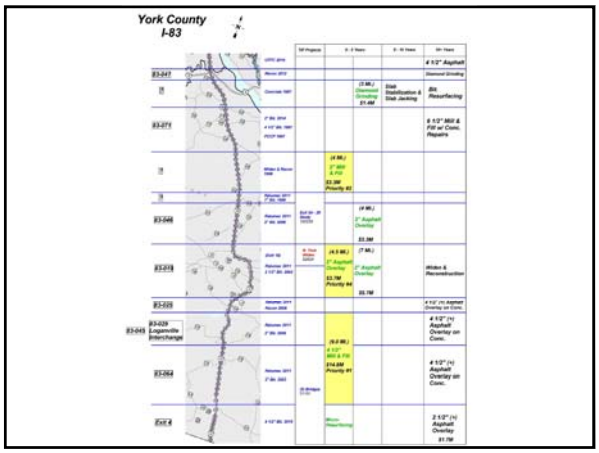
Planning Strategy

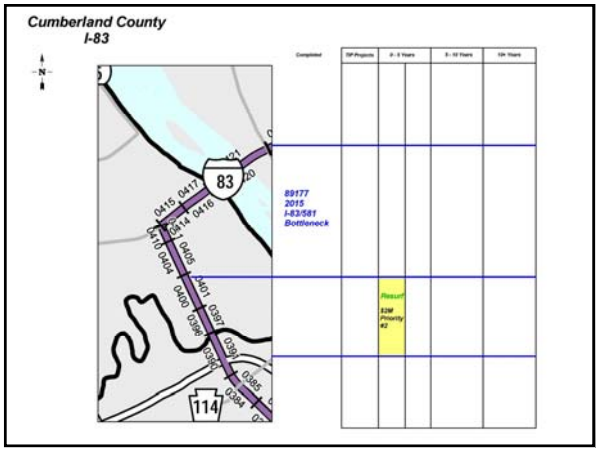
- Do project sequencing to avoid impacts where corridor is worked on for multiple years

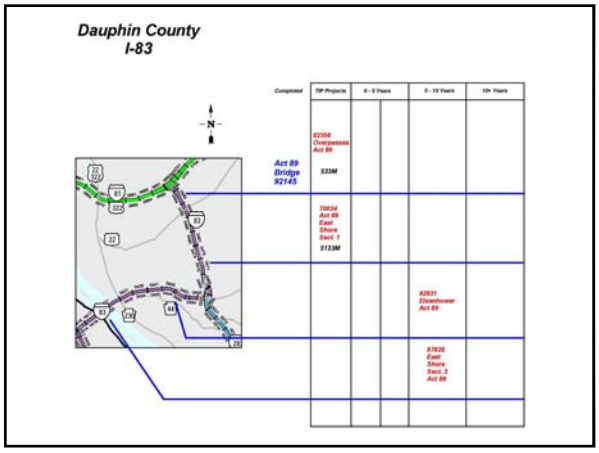
  Examples:
  - I-283 PM in 2014, I-83 Bridge PM in 2015, Major I-83 work from 2016 to 2020
  - I-83 in York, do two night PM projects in one year on I-83 to minimize impacts. Avoid work in other years.
- Combine TIP funds with Interstate funds for crossover projects

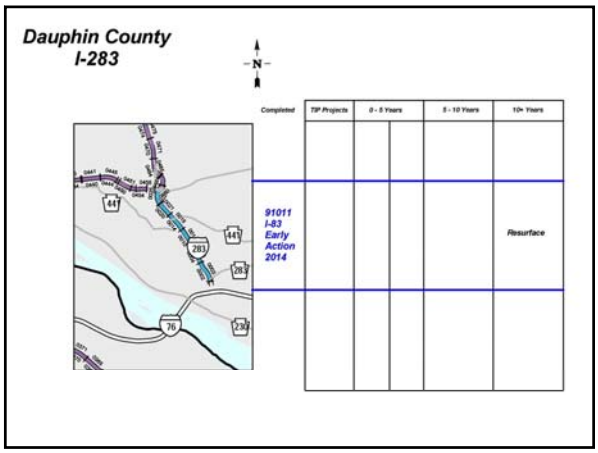
Planning Strategy

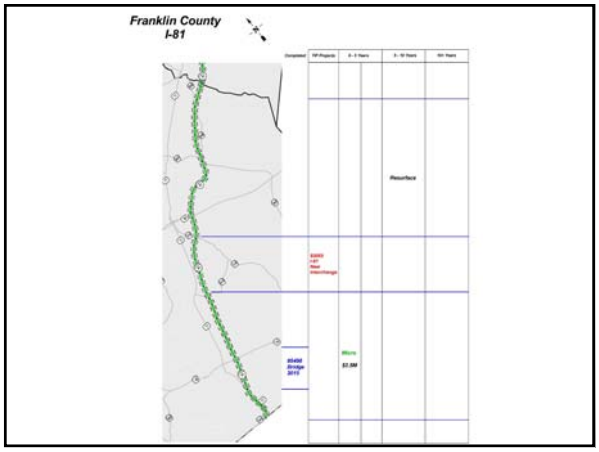
- For major projects, follow concepts of I-83/PA 581 project
  - Merge Rehab with replacement
  - Eliminate conflicts/weaves
  - Design Exceptions, maximize use of ROW
  - Limit waste costs
  - Precast/acceleration techniques

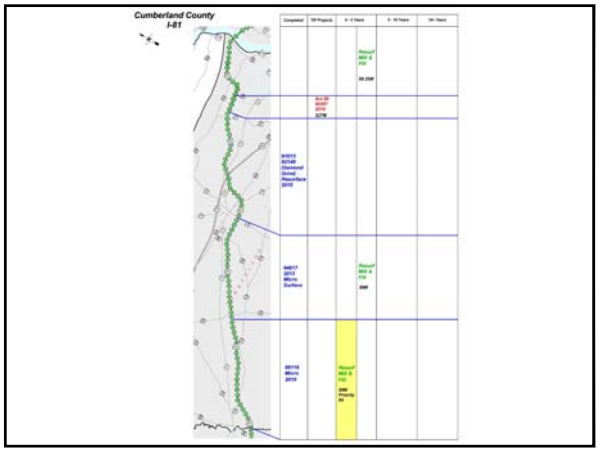

York County
I-83
N
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
03-247
03-271
03-046
03-215
03-020
03-045
03-029
Loganville Interchange
03-064
Exit 4
4 1/2" Asphalt
Diamond Grinding
(3 Mi.)
Diamond Grinding
$1.4M
Slab Stabilization & Slab Jacking
Bit. Resurfacing
4 1/2" Mill & Fill w/ Conc. Repairs
(4 Mi.)
2" Mill & Fill
$3.3M
Priority #3
(4 Mi.)
2" Asphalt Overlay
$3.3M
(4.5 Mi.)
2" Asphalt Overlay
$3.7M
Priority #4
(7 Mi.)
2" Asphalt Overlay
$5.7M
Widen & Reconstruction
4 1/2" (+) Asphalt Overlay on Conc.
4 1/2" (+) Asphalt Overlay on Conc.
(5.0 Mi.)
4 1/2" Mill & Fill
$14.0M
Priority #1
4 1/2" (+) Asphalt Overlay on Conc.
2 1/2" (+) Asphalt Overlay
$1.7M

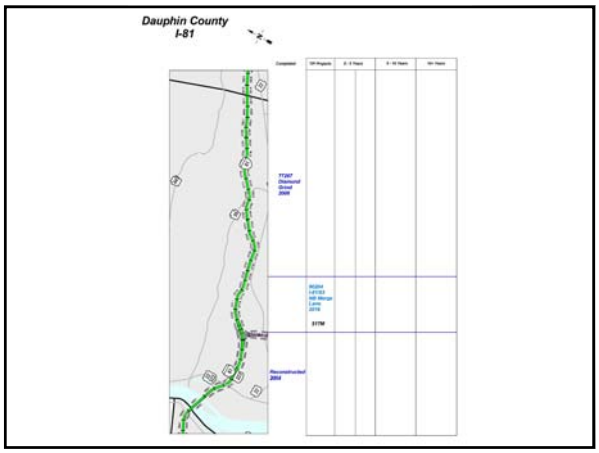

Cumberland County
I-83
N
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
83
0415
0417
0414
0416
0410
0404
0405
0400
0401
0398
0397
0396
0395
0385
0384
114
89177
2015
I-83/581
Bottleneck
Resurf
$2M
Priority
#2

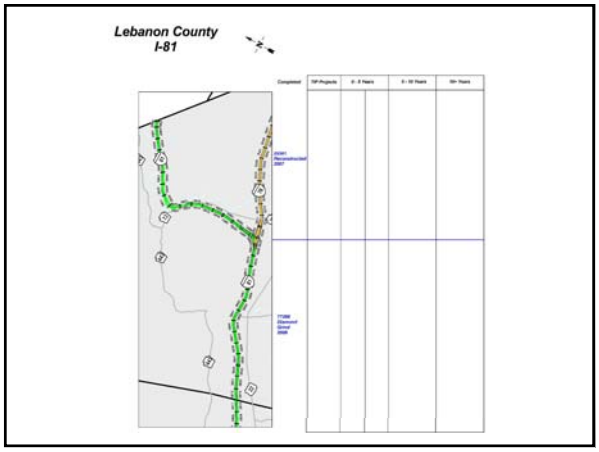

Dauphin County
I-83
N
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
Act 89
Bridge
92145
$33M
70034
Act 89
East
Shore
Sect. 1
$123M
92931
Eisenhower
Act 89
97035
East
Shore
Sect. 3
Act 89

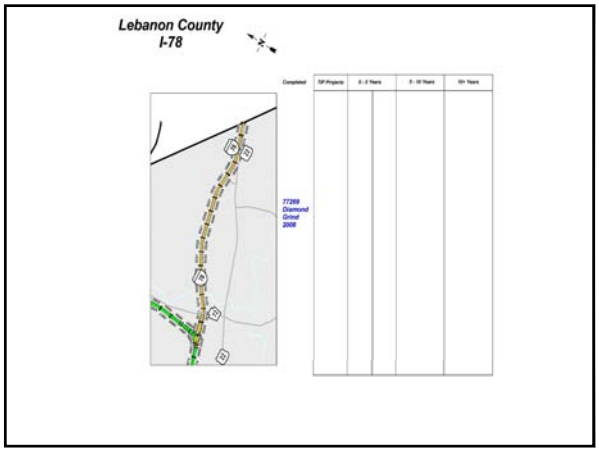

Dauphin County
I-283
N
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
91011
I-83
Early
Action
2014
Resurface
441
283
76
230


Franklin County
I-81
Resurface


Cumberland County
I-81


Dauphin County
I-81
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
77267
Diamond
Grind
2008
95254
L61153
NB Merge
Lane
2016
517M
Reconstructed
2004


Lebanon County
I-81
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
95261
Reconstructed
2007
77266
Diamond
Grind
2008


Lebanon County
I-78
Completed
TIP Projects
0 - 5 Years
5 - 10 Years
10+ Years
77269
Diamond
Grind
2008

Thank you!

Questions?