

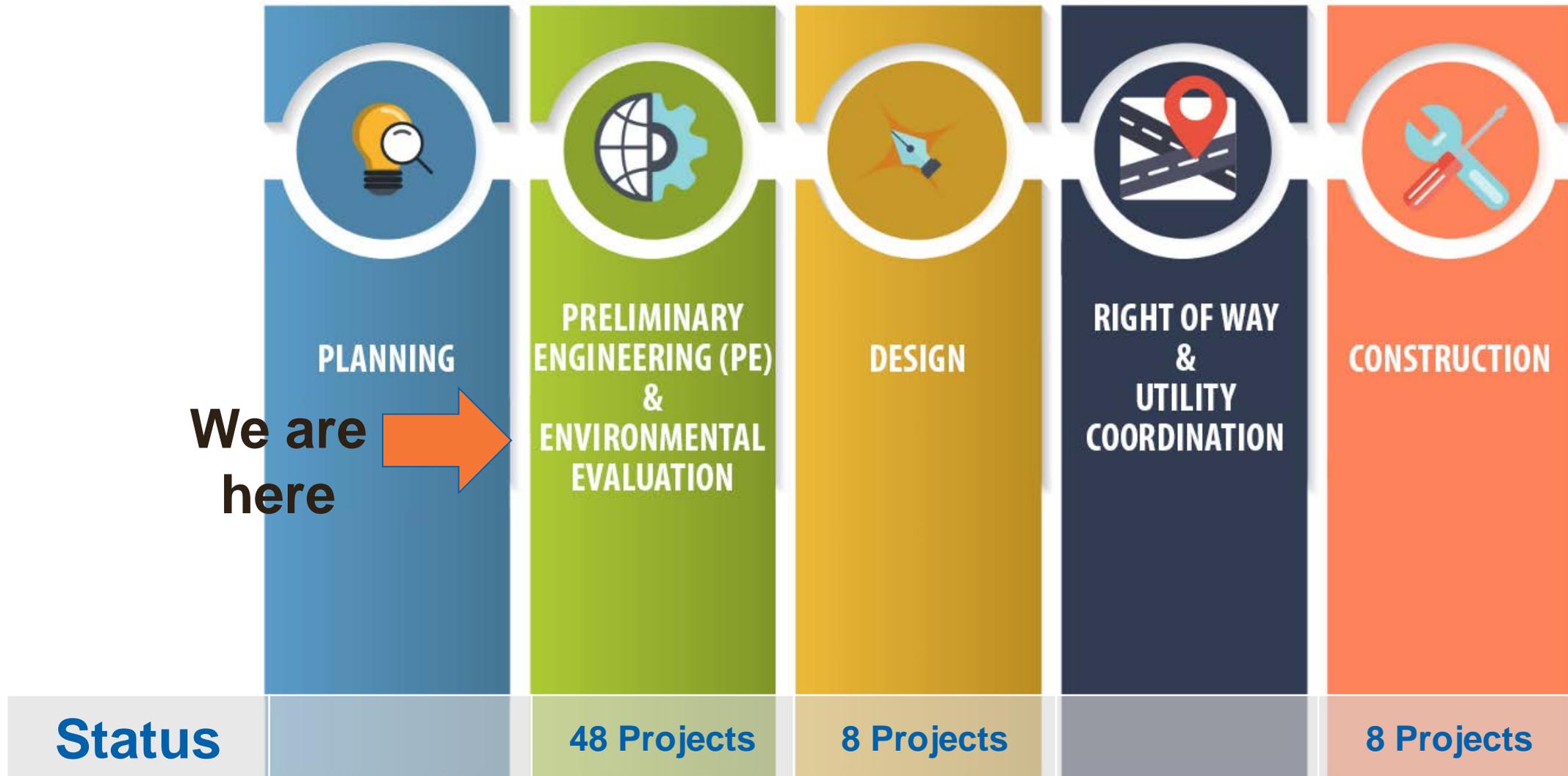
I-81 CORRIDOR IMPROVEMENT PLAN PROJECT SCHEDULING

I-81 Committee Briefing

Bart Thrasher, PE
VDOT Chief Engineer

October 1, 2019

Project Development Process



Status

48 Projects

8 Projects

8 Projects

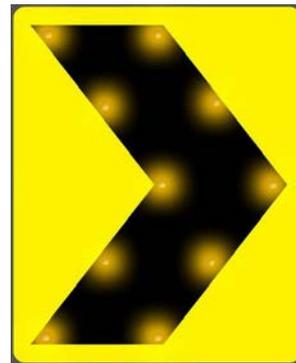
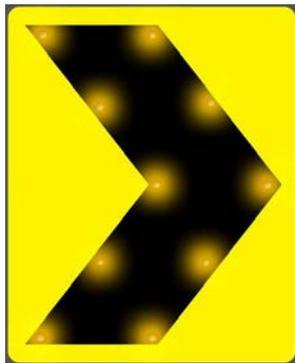
\$2 billion in I-81 Plan Capital Improvements

District	Number of Projects by Type							Total Number of Projects	Total Cost (millions \$) 2018 \$
	Widening	Auxiliary Lane	Truck Climbing Lane	Acceleration Lane Extension	Deceleration Lane Extension	Curve Improvement	Shoulder Widening		
Bristol District	1	3	3	6	10	4	0	27	\$285.3
Salem District	5	0	0	4	2	3	0	14	\$875.4
Staunton District	4	1	2	10	4	1	1	23	\$838.1
Total I-81 Corridor Number of Improvements	10	4	5	20	16	8	1	64	\$1,998.8

Mainline Safety Capital Improvements Underway

Curve Improvements (Static and/or Flashing Chevrons)

District	Number of Locations	Planned Installation Date
Bristol District	4	Fall 2019
Salem District	3	Fall 2019
Staunton District	1	Fall 2019
Total	8	



Mainline Capital Improvements Under Design

Acceleration/Deceleration Lane Extensions

District	Number of Locations	Project Status
Bristol District	2	Underway
Salem District	1	Underway
Staunton District	5	Underway
Total	8	

- All of these projects are included in the FY20-25 Six-Year Improvement Program
- Of the 16 initial programmed projects, 8 will be complete, and 5 will be under construction in 2020

48 Remaining Capital Improvement Highlights

Bristol District

- Add northbound truck climbing lane from Exit 32 and from Exit 39
- Add a southbound truck climbing lane (Chilhowie)
- Various improvements at both I-77/I-81 interchanges

Salem District

- Widen northbound from Exit 119 to Exit 137
- Widen northbound and southbound from Exit 137 to Exit 141
 - Connects to active widening from Exit 141 to Exit 143
- Widen northbound and southbound from Exit 143 to Exit 150

Staunton District

- Widen northbound and southbound from Exit 222 to Exit 225 (Staunton)
- Add northbound and southbound truck climbing lanes (Weyers Cave)
- Widen northbound and southbound from Exit 243 to 248 (Harrisonburg)
- Widen northbound and southbound from Exit 313 to Exit 317 (Winchester)



Develop Planning Level Costs and Schedule

- **Planning level cost estimates have been reviewed and refined**
 - **VDOT internal review**
 - **Independent consultant**
- **Costs are still at an order of magnitude level and will change as VDOT progresses through scoping and design-**
 - ***“we don’t know what we don’t know”***
- **Draft project schedules, anticipated environmental clearances and spend plans developed**

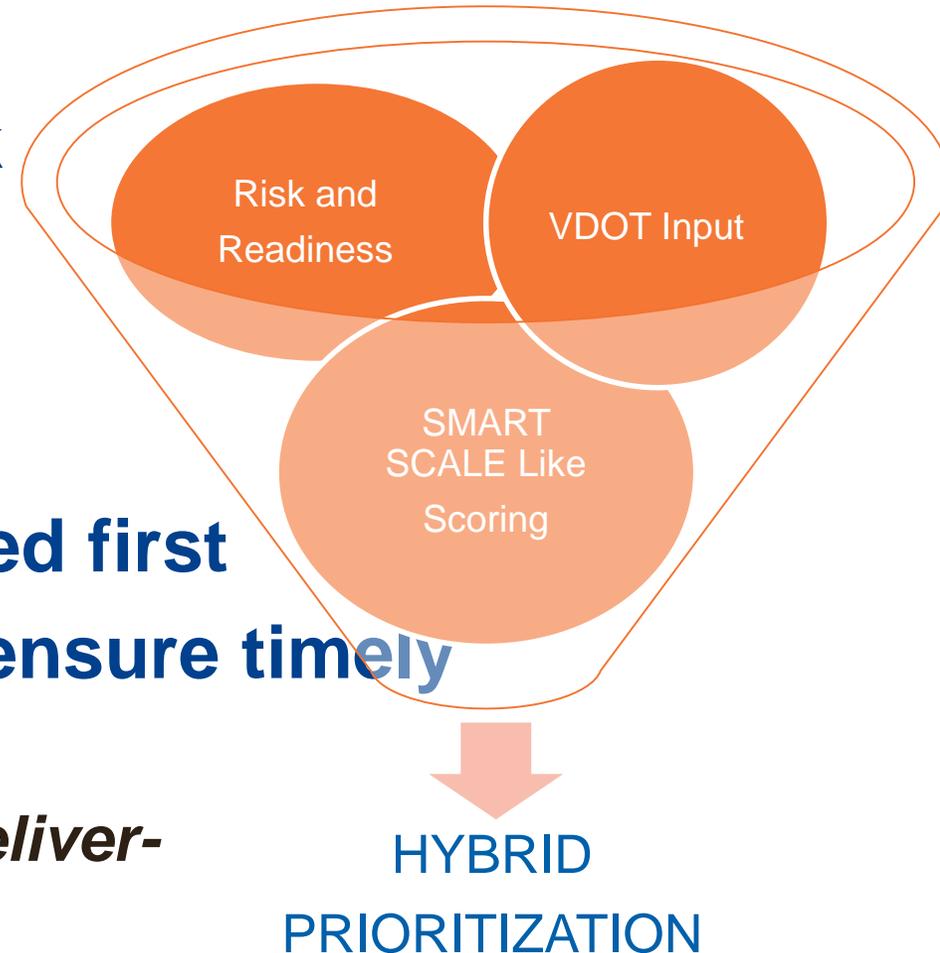
Draft Schedule: Prioritization

“Prioritizing the Priorities” – Hybrid Prioritization

- “SMART SCALE-like” scoring
- Project readiness, constructability, risk
- VDOT Input- MoT, sequencing, SYIP

Will help inform

- WHAT projects SHOULD be implemented first
- WHEN does a project NEED to start to ensure timely delivery?
 - *Large projects need time to develop and deliver-
we need to start now*



Draft Schedule: Project Readiness/ Constructability/ Risk

Identify and evaluate schedule risk

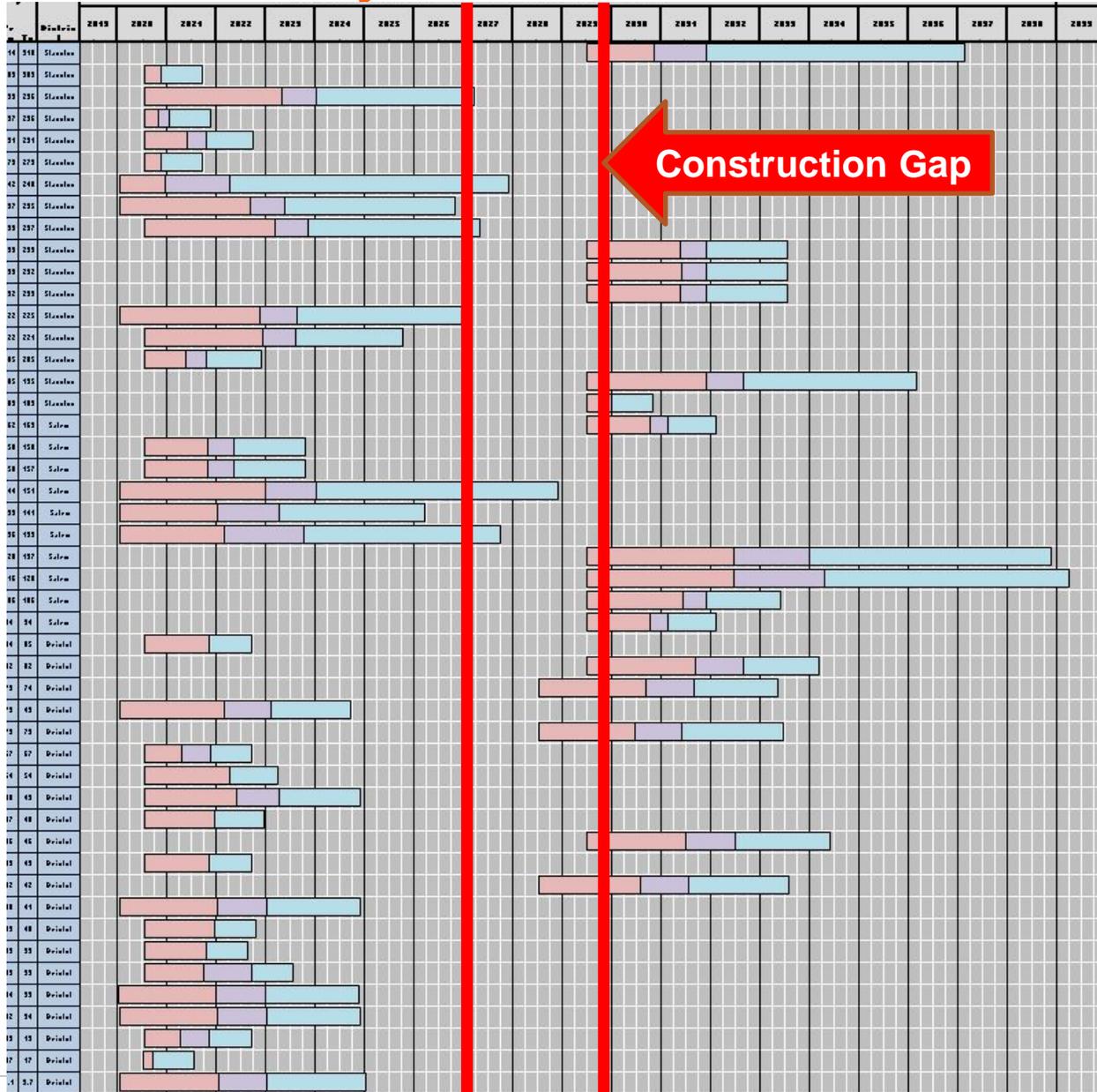
- **Constructability**
- **Right-of-way**
- **Utilities**
- **Maintenance of traffic**
- **Soil/rock conditions**
- **Interchange impacts**
- **Structures (bridges, walls, etc.)**
- **Environmental clearances**



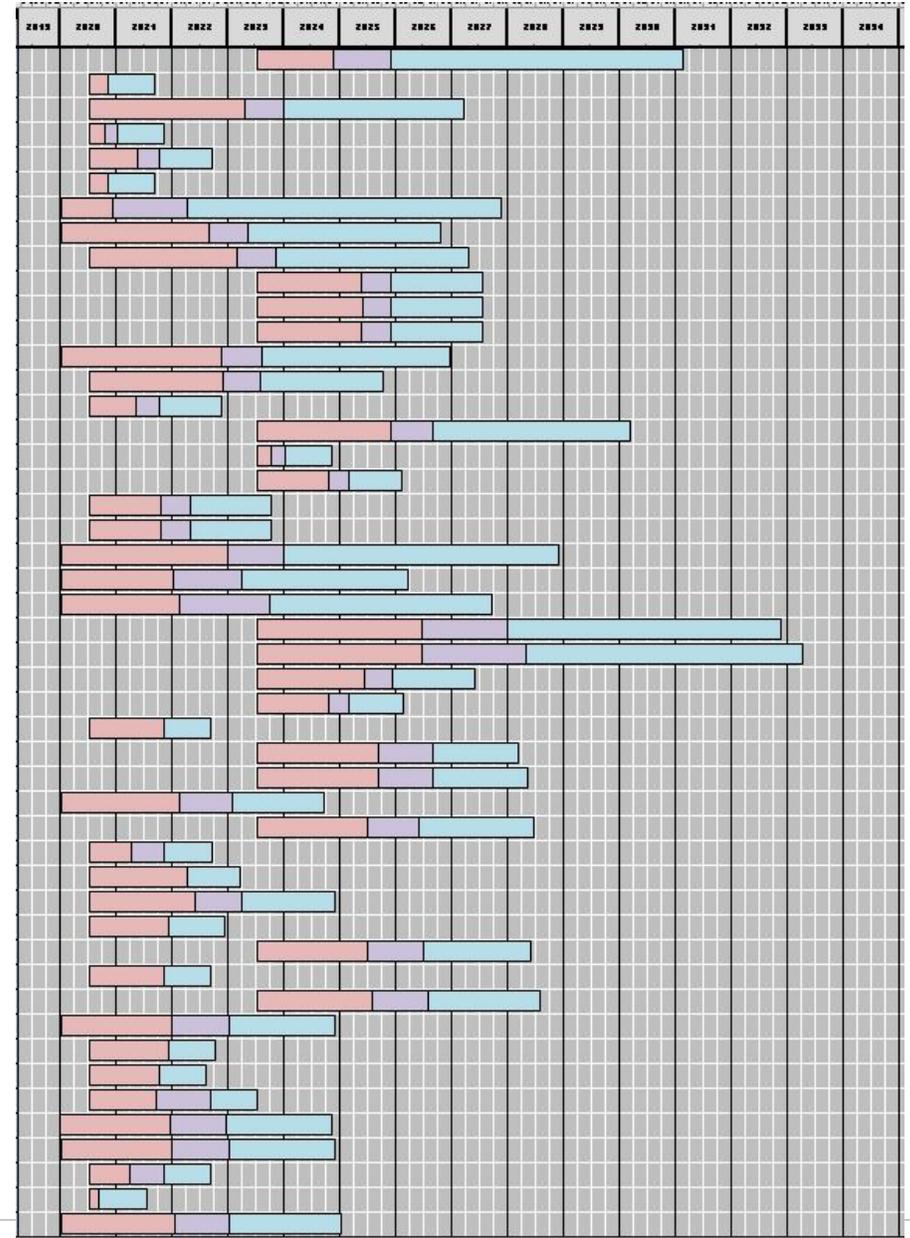
Draft Schedule for Priority Recommendations

- **Reflects a hybrid prioritization**
- **Two scheduling options presented**
 - Existing revenue stream (pay-go)
 - Bonding/TIFIA
- **Existing revenue stream (pay-go)**
 - 48 out of 64 projects completed by 2028
- **Bonding/TIFIA option**
 - Creates sustainable pipeline of projects
 - Minimizes disruption for drivers and industry along corridor
 - 60 out of 64 projects completed by 2028

Pay-Go Schedule



Bonding/TIFIA Schedule



Reading the Draft Schedule

Mile Marker		District	Jurisdiction	Study Project ID	Direction	Improvement Description	Hybrid Prioritization Rank	SMART SCALE Benefit/Mile Rank (25%)	Risk and Readiness Rank (15%)	VDOT Input (60%)	SMART SCALE Benefit Rank	Proposed Environmental Document Type	Proposed Delivery Method	Order of Magnitude Estimate Range
From	To													
162	163	Salem	Buchanan / Botetourt County	33	NB only	Extend acceleration lane	16	32	4	2	29	PCE	D/B/B	\$5M - \$8M

Hybrid Prioritization Rank: incorporates SMART SCALE benefit/mile (25% weight); Risk, Readiness Rank and District Input (75% weight)- includes sequencing and coordination with SYIP projects

Hybrid Prioritization Rank
16

SMART SCALE Benefit/Mile Rank (25%)	Risk and Readiness Rank (15%)	VDOT Input (60%)
32	4	2

Hybrid Prioritization Key Factors

Reading the Draft Schedule

Mile Marker		District	Jurisdiction	Study Project ID	Direction	Improvement Description	Hybrid Prioritization Rank	SMART SCALE Benefit/Mile Rank (25%)	Risk and Readiness Rank (15%)	VDOT Input (60%)	SMART SCALE Benefit Rank	Proposed Environmental Document Type	Proposed Delivery Method	Order of Magnitude Estimate Range
From	To													
162	163	Salem	Buchanan / Botetourt County	33	NB only	Extend acceleration lane	16	32	4	2	29	PCE	D/B/B	\$5M - \$8M

Proposed Environmental Document Type	Proposed Delivery Method
PCE	D/B/B

Order of Magnitude Estimate Range
\$5M - \$8M

Refined order of magnitude level cost estimate range based on additional review

Anticipated level of environmental document required

Proposed delivery method- Design-Bid-Build (D/B/B) or Design-Build (D/B)

- Preliminary Engineering
- Right of Way Acquisition
- Construction

Project Delivery Options

- **VDOT is collaborating with industry on the I-81 project listing and draft schedule**
- **Industry feedback on delivery timeframes is being incorporated**
- **Options for project delivery**
 - **Design-Bid-Build: projects are largely defined**
 - **Design-Build: opportunities identified for innovation and risk transfer**

Takeaway Scorecard

Activity	Status	Anticipated Completion
Safety Service Patrol expansion	Complete	July 2019
Curve improvements (8)	Underway	Fall 2019
Initial accel/decel lane extensions (8)	Underway	Spring 2021
Additional cameras (51)	Underway	Spring 2020
Additional changeable message signs (31)	Underway	Spring 2020
Remaining capital projects (48)	TBD	Under Pay-Go scenario, 75% complete by 2028 Under bonding scenario, 94% complete by 2028

Next Steps

- **Receive feedback**
- **Start preliminary engineering**
- **Recognize schedules will change based on:**
 - **Financing options (to be determined)**
 - **Collaboration with industry**
- **Introduce I-81 Program Delivery Director**
- **Schedule next Committee meeting and status update**
- **I-81 website: www.VA81corridor.org**