



COMMONWEALTH of VIRGINIA

Office of the

SECRETARY of TRANSPORTATION

House Bill 2 – Preparing for Second Round of HB2 Statewide Prioritization Process

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Preparing for Second Round of HB2

- **Lessons Learned**
- **Proposed modifications to policy/process**
- **Proposed changes to measures and scoring**
- **Common sense engineering**

Lessons Learned

- **Conducted key lessons learned activities**
- **External review group**
 - Review of measures development and scores
- **Internal and external stakeholder surveys**
 - Surveys focused on application in-take process, screening and validation
- **Regional workshops (included OIPI, DRPT, VDOT)**
 - Workshops focused on all aspects of process

Lessons Learned - External Review Group

- **Provide additional feedback to applicants to improve application quality in future rounds**
- **Consider approach to scale cost to avoid bias of low cost projects**
- **Consider modifications to accessibility measure to include non-work accessibility**
- **Process was transparent and a great deal of information was made available to facilitate understanding**

Survey Results - Challenges

- **Application Timing.** Insufficient time to prepare application
- **Data & Documentation Collection.** Significant data collection requirements for the pre-application and application
- **Time/Staffing Requirements.** Time required for applicants to collect data and prepare application, travel and attend training sessions, and etc. on top of their daily work activities
- **Economic Development Factor.** Understanding the ED factor along with “trying to estimate future economic benefit”
- **Jurisdictional Equity.** Ability to compete against other jurisdictions that had other local funding sources

Survey Results - Successes

- **VDOT/DRPT Staff Assistance.** VDOT /DRPT staff praised for implementing such a comprehensive process and subsequent assistance and over-and-beyond helpfulness
- **HB2 Outreach and Training.** VDOT/DRPT staff lauded by applicants for provision and helpfulness during HB2 outreach and training
- **HB2 Online Application Tool.** HB2 Online Application Tool was “user-friendly”, “making use of technology for ease of use”, and “easy-to-follow”
- **HB2’s Objectivity.** Best part is attempt to “level the playing field” in terms of transportation projects across the State

Recommendations for Policy Documents

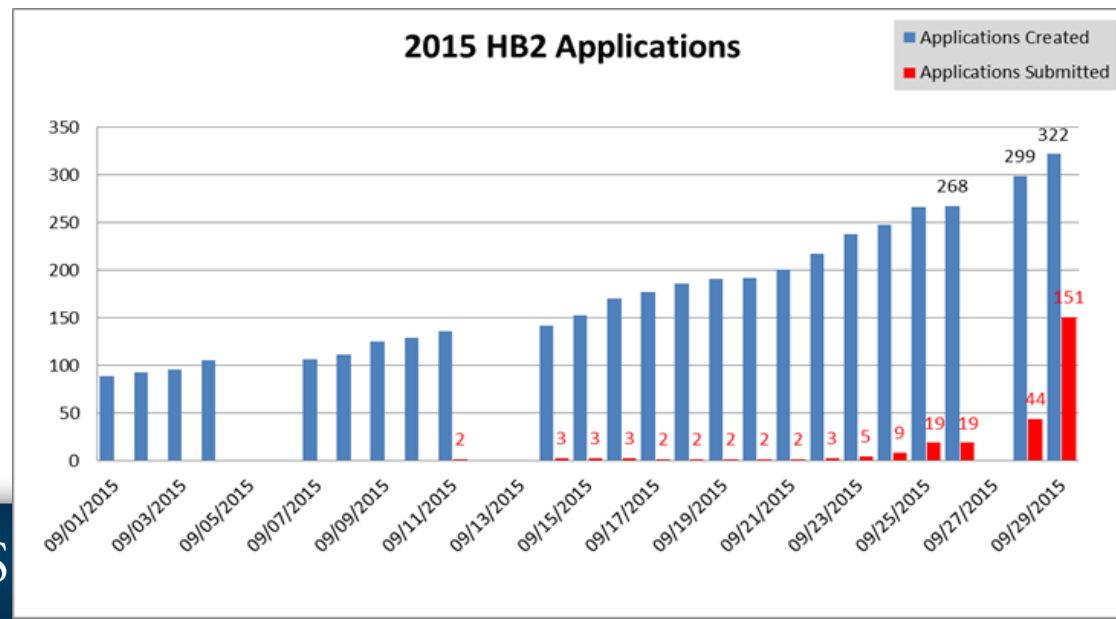
Replace current Policy Guide and Application Guide with revised documents:

- **Policy Guide** – high level policy guide that could be used by legislators, local elected officials, chambers of commerce, etc
- **Technical Guide** – detailed requirements for applicants, measures development, and scoring. The basis is the existing Policy Guide.
- **Application Guide** – detailed information on completing an application with more step-by-step instructions and examples of good application responses.

Recommendations to Improve Application Process

- Update application tool to allow feedback during application submission (pre-screening and validation)
- Strongly encourage submission of Pre-Application
 - Advance knowledge of the number and types of applications
 - Submission required by August 15th to guarantee technical assistance from VDOT and DRPT

Over half the 321 submitted applications were created the final two weeks



Recommendations to Improve Application Process

- **HB2 on-line application tool undergoing improvements based on feedback**
- **Online application tool will be expanded to include other funding programs:**
 - **Revenue Sharing Program**
 - **Transportation Alternatives Program**
 - **Highway Safety Improvement Program**
 - **Bicycle-Pedestrian Safety Program**

Recommendations for Administrative Process

- **Project includes matching funds from other sources then documentation of availability of other funds will be required**
- **If project cost at advertisement or award exceeds thresholds in HB2 policy then project HB2 benefits / cost will be calculated**
 - **IF revised benefits/cost is higher than lowest scoring funded district project then project moves forward**
 - **IF revised benefits/cost is lower then funds will be de-allocated unless CTB takes action to retain funding on project and address shortfall**

Environmental Factor Area

- **Problem identified – projects receiving significant amount of points without providing any other benefits**
- **Recommendation – Determine points by scaling environmental score based on impact to environment (current methodology) and benefits in other categories**

Project	Environmental Impact	Congestion Weighted Points	Safety Weighted Points	Econ Dev Weighted Points	Accessibility Weighted Points	Land Use Points	Scaled Env Impact	Scaled Env Impact Normalized	Weighted Env Points (5%)
1	100	10	5	5	2	3	25	100	5
2	50	10	5	5	2	3	12.5	50	2.5
3	5	10	5	5	2	3	1.25	5	0.25

Environmental Factor Area

Additional Example

Project	Environmental Impact	Congestion Weighted Points	Safety Weighted Points	Econ Dev Weighted Points	Accessibility Weighted Points	Land Use Points	Scaled Env Impact	Scaled Env Impact Normalized	Weighted Env Points (5%)
1	80	20	10	5	10	3	38.4	100	5
2	30	20	10	5	10	3	14.4	37.5	1.88
3	90	6	15	5	5	1	28.8	75	3.75
4	5	6	15	5	5	1	1.6	4.17	0.21

Economic Development Factor Area

- **Problems identified**
 - Types of projects evaluated do not influence growth over the same impact area (5 miles)
 - In many localities zoning took place 30+ years ago and does not necessarily have relationship to current growth patterns
- **Recommendations**
 - Restrict the distance around certain types of projects where benefits may be considered
 - Eliminate the extra scaling point for having zoning in place

Economic Development Factor Area

- **Distance from project - Improvement type dictates the buffer allowed**
 - **Tier 1** – 1 mile limit
 - Turn Lane, ITS, Bike Lane, Sidewalk, Bus Stop, P&R
 - **Tier 2** – 3 mile limit
 - Access Management, Signal optimization, Increase Bus service, Improvement to Rail Transit Station
 - **Tier 3** – 5 mile limit
 - New through lane, new/improved interchange, new bridge, new Rail Transit Station, additional Rail Track

Economic Development Factor Area – Reliability Measure

- **Problems identified**
 - Buffer Time Index (BTI) comes from INRIX data – does not provide statewide coverage
 - For facilities where data does not exist, method pulls BTI from other nearby facilities – this approach leads to questionable results on low volume roadways
- **Recommendations**
 - If INRIX BTI data does not exist, assume there is no reliability issue and score will be 0
 - Include scaling factor based on vehicle miles traveled – to better scale the benefit – testing underway

Economic Development Factor Area – Intermodal Access

- **Problem Identified**
 - Questionable results when comparing measure scores to project types – issue with using mainline tonnage
- **Recommendation**
 - Refine methodology to adjust tonnage for ramps

Economic Development Factor Area – Intermodal Access

District	Project Description	Intermodal Access Score	Tonnage	Revised Tonnage	Percent Change
Staunton	I-81 Exit 220 and 221 Accel/Decl Lanes	100.00	326758	176776	-45.90%
Salem	I-81 Widening from Exit 140 to 143	84.29	220351	220351	0.00%
Salem	I-81 Auxiliary Lanes Exit 150 to Weigh Station & Ramp Extens	67.06	175294	175294	0.00%
Staunton	I-81 Exit 323 Accel/Decel Lane Extension	66.87	218501	37145	-83.00%
NOVA	I-95/Route 286 Northbound Flyover	62.50	204235	102118	-50.00%

Safety Factor Area

- **Problem Identified**
 - Focus on fatalities and severe injuries over 3-year period resulted in anomalous locations at times
 - Some fatality and severe injuries crashes are random and due to factors unrelated to roadway design
- **Recommendation**
 - Consider broader range of crash types with injuries

Safety Factor Area

- Consider all crashes with some level of injury
- Recognize that higher social impacts of fatalities and severe injuries compared to moderate and minor injuries through “equivalent property damage” scale used by FHWA

Accident Type	Value	Weight
Fatal	\$5,400,000	540
Severe Injury	\$300,000	30
Moderate Injury	\$100,000	10
Minor Injury	\$50,000	5

Land Use Factor Area

- **Problem Identified**
 - Measure provides points based on projected future density but does not consider whether there is any growth between today and the future
- **Recommendation**
 - Base score on both future density and the change in density between today and the future

Project	2015 Pop+EMP Density	2025 POP+EMP Density	Growth in Density	New Method 2025 Density + 10 year growth
A	19	20	+1	21
B	15	20	+5	25

Modification for Scoring Process – Corridor-based Transit Improvement

- **Problem**

- Chicken/Egg problem – all VRE platforms must be extended to add new rail cars to all trains, but only final platform extension would receive benefits under current methodology
- Brooke and Leeland platform extensions by themselves do not allow for longer trains but without those improvements longer trains will never be able to run

- **Recommended Solution**

- Analyze full corridor improvement benefits and assign benefits to partial improvement on a pro-rata basis– If station improvement is 10% of the cost, then we take 10% of the benefit
- \$10,000,000 platform and station improvement that will facilitate a \$90,000,000 future investment in rolling stock and service expansion. We would analyze full improvement, then take 10% of Total Benefit Score

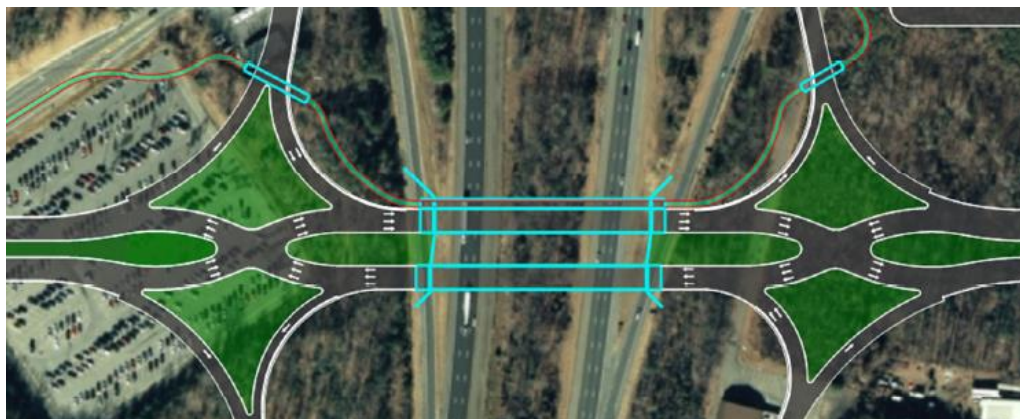
Common Sense Engineering

- **VDOT will offer assistance to communities**
 - Evaluate whether identified need can be addressed through operational improvements or TDM
 - Evaluate current scope to determine if there are components that do not address identified need(s)
 - Evaluate current scope to determine whether design can be modified or design exceptions utilized to reduce costs

Common Sense Engineering

I-95/Route 630 Interchange

- Original design - \$184M
- Revised design - \$149M
- Revised design
 - Provided better or equal congestion benefits
 - Reduced conflict points from 26 to 14 improving safety
 - Reduced number of impacted parcels



Common Sense Engineering

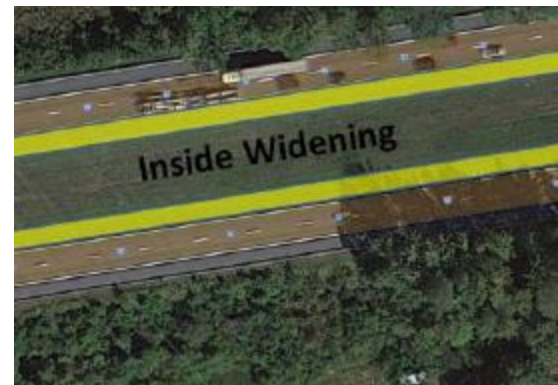
I-64 Widening from I-295 to Bottoms Bridge

- Original design - \$79M
- Revised design - \$60M
- Both projects provide the same benefits

Original design



Revised design



Common Sense Engineering

I-81 “S” Curves in Buchanan

- **Original design - \$38M**
 - Addressed super-elevation over 3 mile stretch of highway
- **Revised design - \$3M, including future work**
 - Installed lighting chevrons along curves
 - Applied high-friction treatment to pavement (only installed in northbound direction at this time)
- **Reduced incidents rate with injuries by 80% and incidents with injury by 90% in northbound direction**

Common Sense Engineering

I-81 Exit 17 Interchange

- **Original design - \$157M**
 - Full interchange reconstruction
 - Improved level-of-service from E to B
- **Revised design - \$21M**
 - Realigning existing ramps and adding one new ramp
 - Improved level-of-service from E to C



Schedule and Next Steps

- **Schedule for CTB policy change and Public Comment**
- **June CTB** - Provide update on resiliency methodology
- **July CTB meeting**
 - Send draft revisions to policy and guide 2 weeks prior to June CTB meeting
 - Present summary of revisions to policy and guide
 - Approve CTB resolution for revisions to policy and guide