

# HRTPO PROJECT PRIORITIZATION: SUMMARY OF ENHANCEMENTS

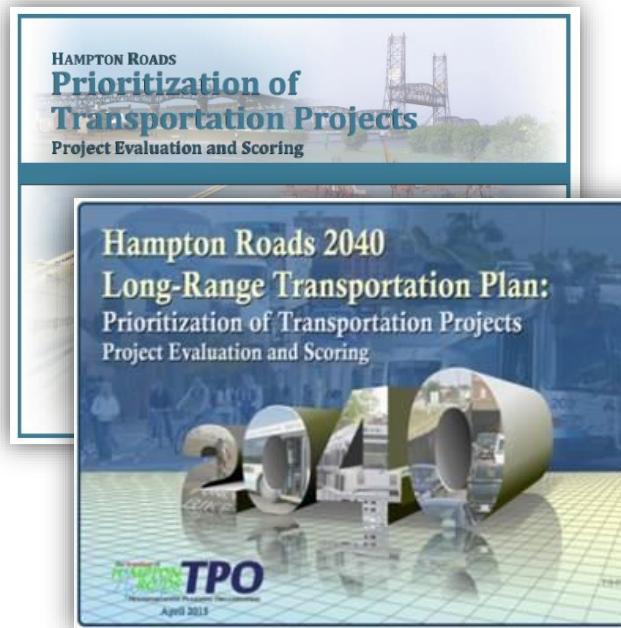
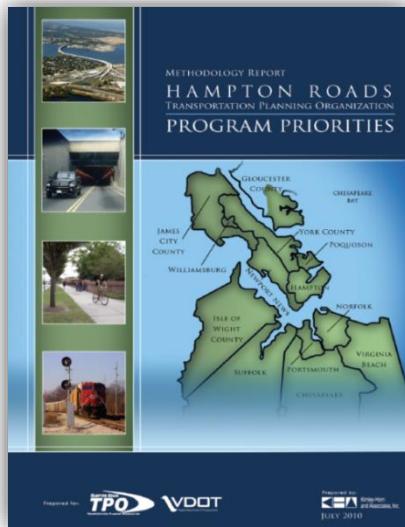
Evaluation criteria for the HRTPO Project Prioritization Tool are based on the current regional vision and can be modified to address changing regional priorities. In 2017, per the direction of the LRTP Subcommittee, HRTPO staff initiated a formal process to review and update the Project Prioritization Tool to incorporate feedback received from regional stakeholders as well as ensure continued alignment with Federal and State planning factors. Recommended enhancements to the Tool were developed through a collaborative process with various HRTPO committees, regional stakeholders, and the public. The HRTPO Board approved the recommended enhancements at its July 16, 2020 meeting.



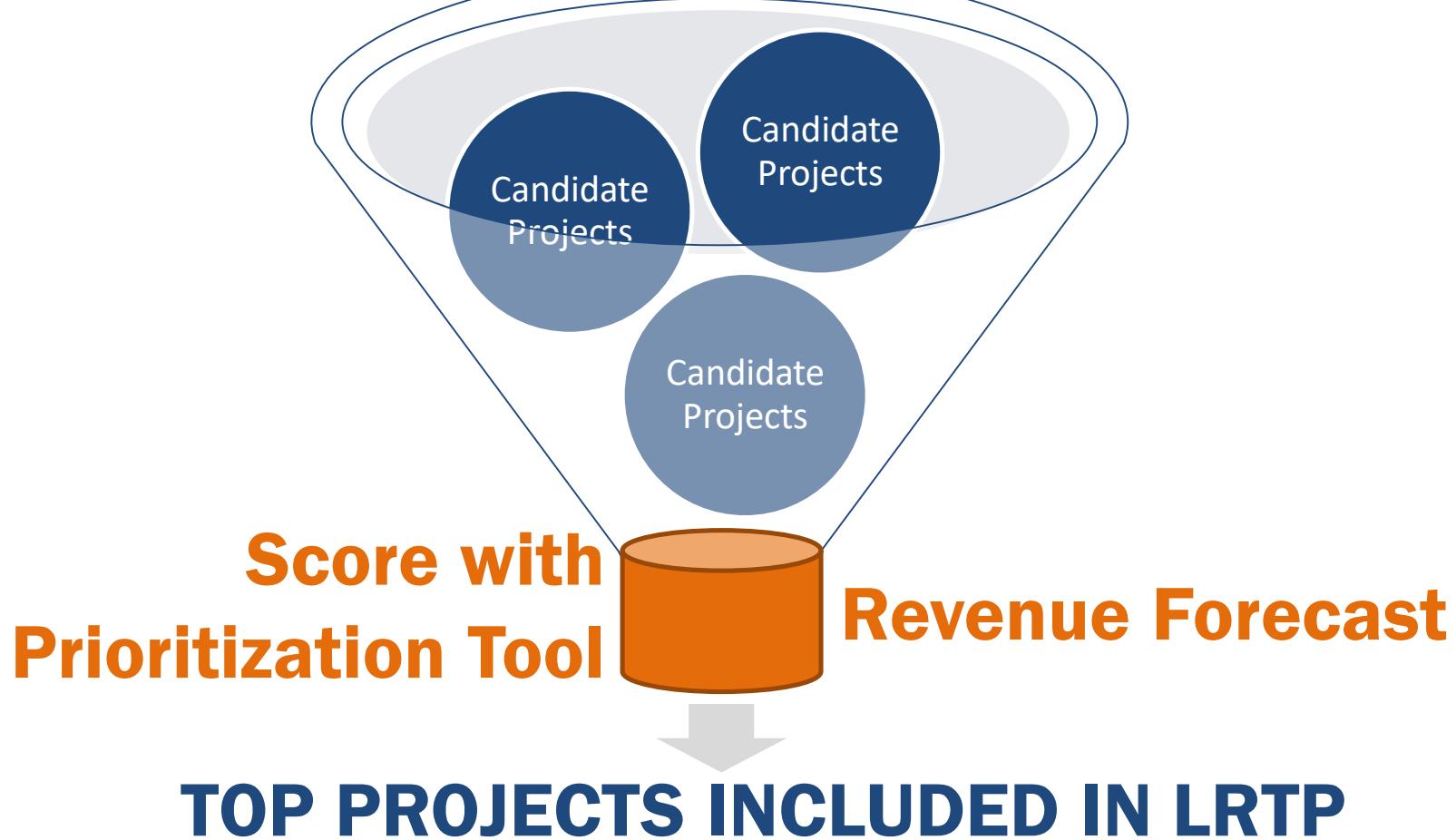
# HRTPO PROJECT PRIORITIZATION



- The HRTPO Project Prioritization Tool has been used in the past 2 LRTP cycles as well as in the identification and prioritization of the Regional Priority Projects
- Designed to be a **dynamic tool that can be updated** to reflect current regional priorities, new data sources, etc.



## REGIONALLY-SIGNIFICANT CANDIDATE PROJECTS



# SUMMARY OF SUGGESTED MODIFICATIONS



## Suggested Modifications Received from Stakeholders

Alignment with Federal Performance Measures	<ul style="list-style-type: none"><li>Include Federal Performance Measures</li></ul>
Alignment with SMART SCALE	<ul style="list-style-type: none"><li>Include measures from SMART SCALE</li><li>Align data where possible</li><li>Establish a Filter/Factor (to gauge how projects might score/rank in SMART SCALE)</li></ul>
Environmental Considerations	<ul style="list-style-type: none"><li>Climate Change/SLR/Storm Surge/Resiliency</li><li>Environmental considerations</li></ul>
Transit	<ul style="list-style-type: none"><li>Refine transit criteria based on findings of Transit Benchmarking and/or future Transit Vision Plan</li><li>Smaller scope transit projects (bus routes, bus replacement)</li><li>Passenger Rail</li></ul>
Active Transportation	<ul style="list-style-type: none"><li>Refine current Bike/Ped criteria based on findings of Regional Active Transportation Plan and Gaps Analysis</li><li>Add Economic Vitality</li></ul>
RSTP/CMAQ Coordination	<ul style="list-style-type: none"><li>Refine Systems Mgmt/TDM/Oplmp criteria to allow more RSTP/CMAQ projects to be scored using Tool</li><li>Separate rehabilitation/replacement projects from capacity improvements</li><li>Add Economic Vitality</li></ul>
Economic Vitality	<ul style="list-style-type: none"><li>Refine Economic Vitality criteria/scoring</li></ul>
Social Equity	<ul style="list-style-type: none"><li>Incorporate Environmental Justice/Title VI measures</li><li>Access: housing, essential services, higher education/tech centers</li></ul>
Balance Components	<ul style="list-style-type: none"><li>Balance scoring components (Economic Vitality and Project Viability were not originally developed to be equally weighted with Project Utility)</li></ul>
Technology	<ul style="list-style-type: none"><li>Include criteria to award points for projects that incorporate technology (i.e. smart roads)</li></ul>

## Action Items

### ■ April 5, 2017

- LRTP Subcommittee unanimously voted on a motion to recommend HRTPO staff initiate the process of updating the Project Prioritization Tool
- Project Prioritization Working Group formed

# RESEARCH AND COORDINATION



## Research

- Federal Performance Measures
- SMART SCALE
- DRPT Prioritization Process
- National Best Practice scan
- Consultation with subject matter experts

## LRTP Subcommittee

### Project Prioritization Working Group and Task Force

### Active Transportation Subcommittee (ATS)

### Transit Stakeholders

### Freight Transportation Advisory Committee (FTAC)

### Community Advisory Committee (CAC)

### Transportation Programming Subcommittee (TPS)

## CONGESTION

### Current (Project Utility):

- Highway/Bridge & Tunnel
  - % Reduction between Existing and Future V/C Ratios
  - Existing Data
  - Existing Impacts
- Interchange
  - Existing
  - Quality
  - Number
- System
  - Existing Impacts
  - Transitions
    - Capacity
    - Delay
    - Number

### Proposed:

- Add SMART SCALE MOEs
- Person Throughput

## ECONOMIC VITALITY – MOEs TO CONSIDER

### Include for Highway, Interchange, B/T

- Access to Institutions of Higher Education (Transit) – include

## RESILIENCY/FLOODING VULNERABILITY

### Proposed (potentially under System Continuity and Connectivity):

- Is the candidate project located in a vulnerable area for sea level rise/storm surge/flood/flooding? (Yes/No)

## EXAMPLE: PROJECT VIABILITY RECOMMENDATIONS

### PROJECT VIABILITY

Percent of Additional Funding (Rating scale 0-50)  
Prior Commitment (project included in currently adopted LRTP or documented by Transit Agency?)

Percent of Additional Funding (Rating scale 0-20)  
Prior Commitment (project included in the currently adopted LRTP?)

## EXAMPLE: ECONOMIC VITALITY RECOMMENDATIONS

### ECONOMIC VITALITY

Total Reduction in Travel Time

### ECONOMIC VITALITY

Total Reduction in Regional Travel Time

## EXAMPLE: PROJECT UTILITY RECOMMENDATIONS

### PROJECT UTILITY

Congestion Level: Impact to Existing and Future V/C Ratios (Daily Delay)

### PROJECT UTILITY

Congestion Level: Impact to Existing and Future V/C Ratios (Daily Delay)

Existing Peak Period Congestion/Level of Service

Existing Peak Period Congestion/Level of Service

Impact to Nearby Roadways

Impact to Nearby Roadways

## EXAMPLE: PROJECT UTILITY RECOMMENDATIONS

### PROJECT UTILITY

System Continuity and Connectivity: Impact to Existing and Future V/C Ratios (Daily Delay)

### PROJECT UTILITY

System Continuity and Connectivity: Impact to Existing and Future V/C Ratios (Daily Delay)

Impact to Incident Management or Evacuation Routes

Impact to Incident Management or Evacuation Routes

System Continuity and Connectivity: Impact to Nearby Roadways

System Continuity and Connectivity: Impact to Nearby Roadways

### ECONOMIC VITALITY

Safety and Security: Crash Rate

### ECONOMIC VITALITY

Safety and Security: Crash Rate

Impact to Incident Management or Evacuation Routes

Impact to Incident Management or Evacuation Routes

Cost Effectiveness: Total Cost (\$/VMT)

Cost Effectiveness: Total Cost (\$/VMT)

Land Use/Future Development Compatibility: Impact to Project Visibility

Land Use/Future Development Compatibility: Impact to Project Visibility

Modal Enhancements: Enhances Other Categories

Modal Enhancements: Enhances Other Categories

Improves Access to Freight Distribution Facilities, Ports, Major Industrial Clients, or Major Employment and Population Centers

Improves Access to Freight Distribution Facilities, Ports, Major Industrial Clients, or Major Employment and Population Centers

Modal Enhancements: Access to Multimodal Choices

Modal Enhancements: Access to Multimodal Choices

Improves Vehicular Access

Improves Vehicular Access

Modal Enhancements: Impact to System Continuity and Connectivity

Modal Enhancements: Impact to System Continuity and Connectivity

Travel Time Reliability: Level of Travel Time Reliability (LTTTR)

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Truck Travel Time Reliability (TTTR)

Truck Travel Time Reliability (TTTR)

PROJECT UTILITY TOTAL

PROJECT UTILITY TOTAL

## PROJECT PRIORITIZATION

# SUMMARY OF RECOMMENDED ENHANCEMENTS



- These enhancements have been vetted through LRTP Subcommittee, Project Prioritization Working, and other relevant committees/stakeholder groups (between 2018-2019)

Balance Three Components (Project Utility, Economic Vitality, Project Viability)

- More robust Economic Vitality and Project Viability measures

Add Economic Vitality to Active Transportation and "Other" (smaller scope) projects

Improved alignment with Federal Performance Measures

Improved alignment with SMART SCALE Measures (congestion, safety, environmental considerations)

Incorporated Resiliency

Enhanced Accessibility and Social Equity considerations throughout categories

Improved Intermodal/Freight, Transit, and Active Transportation Measures

Improved "Other" category to use in RSTP scoring process (projects not evaluated as part of the LRTP)

Modified calculation of Cost Effectiveness

# PROJECT PRIORITIZATION COMPONENTS



## Current Tool Components

### Project Utility 100 points

- Congestion
- System Continuity and Connectivity
- Safety and Security
- Cost Effectiveness
- Regional Significance

### Economic Vitality 100 points

- Total Reduction in Travel Time
- Address the Needs of Basic Sector Industries
- Labor Market Access
- Increase Opportunity
- Impact on Truck Movement

### Project Viability 100 points

- % Funding Committed
- % Design Complete
- Prior Planning Commitment
- NEPA Documents/Decisions

## Modified Tool Components

### Project Utility 100 points

- Congestion
- Travel Time Reliability
- System Continuity and Connectivity
- Safety and Security
- Modal Enhancements

### Economic Vitality 100 points

- Travel Time and Delay Impacts
- Labor Market Access
- Address the Needs of Basic Sector Industries
- Increased Opportunity
- Impact on Truck Movement
- Economic Distress Factors

### Project Viability 100 points

- Project Readiness
- Land Use/Future Development Compatibility
- Environmental Considerations
- Cost Effectiveness

# CURRENT PROJECT SCORING – MAX POINTS



Project Category	Project Utility	Economic Vitality	Project Viability	Grand Total Score
Highway, Interchange/Intersection, Bridge/Tunnel, Intermodal, Transit	100 Points	100 Points	100 Points	<b>300 Points</b>
Active Transportation	100 Points	N/A	100 Points	<b>200 Points</b>
“Other” (Systems Management/ Operations/Etc.)	100 Points	N/A	100 Points	<b>200 Points</b>

# MODIFIED PROJECT SCORING – MAX POINTS



Project Category	Project Utility	Economic Vitality	Project Viability	Grand Total Score
Highway, Interchange/Intersection, Bridge/Tunnel, Intermodal, Transit	100 Points	100 Points	100 Points	<b>300 Points</b>
Active Transportation	100 Points	100 Points	100 Points	<b>300 Points</b>
“Other” (Systems Management/ Operations/Etc.)	100 Points	100 Points	100 Points	<b>300 Points</b>

# SOLICITED FEEDBACK ON SCORING WEIGHTS



## Scoring weights required adjusting due to recommended enhancements

- Input received from:
  - TTAC
  - Community Advisory Committee (Roadways, Transit, and Active Transportation)
  - Freight Transportation Advisory Committee (Intermodal)
  - LRTP Subcommittee/Prioritization Working Group & Task Force
  - Active Transportation Subcommittee (Active Transportation)
  - Transportation Programming Subcommittee

### Highway Projects

RECOMMENDED MODIFICATIONS					
Highway Projects Weighting Factors	Proposed Weighting	TTAC	CTAC	FTAC	AVERAGE
<b>PROJECT UTILITY</b>					
<b>Congestion Level:</b> % Reduction in Travel Time and Future VMT, Active Safety Control Early Peak Period Congestion/Level of Service Area of Project Impact on Travel Time Impact to Mobility Resources	40	38	45	40	41
<b>System Continuity and Connectivity:</b>					
Improvement in Major Employment and Population Centers Roadway Address gaps	25	24	20	25	24
<b>Safety and Security:</b>					
Reduction of FOF of Fatal and Severe Injury crashes Reduction of FOF of Fatal and Severe Injury crashes Improvement in Incident Management or Evacuation Routes	15	16	15	15	15
<b>Modal Enhancements:</b>					
Enhances Other Modes Access to Residential Areas	5	6	5	5	5
<b>Travel Time Reliability:</b>					
Level of Travel Time Reliability (LOTT) Truck Travel Time Reliability (TTTR)	15	16	15	15	15
<b>PROJECT UTILITY TOTAL</b>					
	100	100	100	100	100
<b>ECONOMIC VITALITY</b>					
<b>Travel Time and Delay Impacts</b> Total Reduction in Region Travel Time Improvement in Travel Time	30	30	30	30	30
<b>Labor Market Access<sup>4</sup></b>					
Increased Access to Major Employment Areas Access to the Needs of Basic Sector Industries <sup>5</sup>	10	11	10	10	10
<b>Increased Opportunity<sup>6</sup></b>					
Support for Economic Growth Access to Institutions of Higher Education (includes workforce development areas) Urban Development Areas/Opportunity Zones	20	20	20	20	20
<b>Economic Distress Factors<sup>7</sup></b>					
Provide access to low-income areas Provide access to areas of high unemployment	10	10	10	10	10
<b>ECONOMIC VITALITY TOTAL</b>					
	100	100	100	100	100
<b>PROJECT VIABILITY</b>					
<b>Project Readiness</b> Percent of Additional Funding (if any) available (0-10) Prior Commitment (a project included in the current or a proposed LRTP) Project Alignment with LRTP	55	47	55	55	53
<b>Project Alignment with LRTP</b>					
Percent of Project Design Complete (0-10) Percent of Project Document Complete Percent of Project Construction Complete ROW On or Off Right-of-Way Additional Environmental Permits Obtained					
<b>Land Use/Future Development Compatibility</b>					
Environmentally Sensitive Areas Area of Federal or State Critical Resource Areas Area of High Sensitivity to a proposed or ongoing development, environmental, or other commitment with high percentage of truck traffic Project includes improvements to long-haul routes or inter-modal (truck to rail/ship/air/land/terminal)	20	20	20	20	20
<b>Environmentally Sensitive Areas</b>					
	10	13	10	10	11
<b>Cost Effectiveness (Estimated Cost/(Project Utility + Economic Vitality score))</b>					
	15	20	15	15	16
<b>PROJECT VIABILITY TOTAL</b>					
	100	100	100	100	100

# TEST PROJECTS



- **Purpose: ensure new measures and the redistribution of measures/weights are reasonable and cohesive**
- Selected projects from 2040 LRTP Prioritization
  - Retained data previously submitted
  - Used readily available data for some measures
  - Staff best estimate on other measures (measures that would be provided by locality/VDOT or with updated data)
  - **Test scores DO NOT represent draft 2045 LRTP prioritization scores**

Category	Number of Projects
Highway	17
Interchange	3
Bridge/Tunnel	3
Intermodal	5
Transit (Fixed Guideway)	2
Active Transportation	5

# CONCLUSIONS



Highway Projects	Project Utility	Economic Vitality	Project Viability	Total Score
Original Average	66	44	21	130
Average with Enhancements	55	47	52	153

- Able to incorporate most recommendations
- More balanced components
- Higher Project Viability scores (fewer MOEs with zeros)
- Average change in Project Score: +23
- Reminder: Tool is intended to be DYNAMIC. We can still adjust as necessary as we evaluate 2045 candidate projects

# PUBLIC REVIEW AND COMMENTS



- **Public Review of the Recommended Enhancements: February 6 – March 6, 2020**
  - Updated the HRTPO Project Prioritization webpage to provide details about the improvement process and the recommended enhancements
  - Public comments received from Southern Environmental Law Center
  - Comments were presented and addressed with the LRTP Subcommittee at its June 3, 2020 meeting

# HRTPO BOARD APPROVAL



- The LRTP Subcommittee and TTAC recommend HRTPO Board approval of the enhancements to the Project Prioritization Tool, including adjusted weighting factors
- The HRTPO Board approve the enhancements to the HRTPO Project Prioritization Tool, including adjusted weighting factors at its July 16, 2020 meeting.