



CVTA Regional Prioritization Subcommittee Meeting #4

April 16, 2021

H. The Authority shall develop a prioritization process based on an objective and quantifiable analysis that considers the benefits of projects relative to their cost. Only projects evaluated using such process may be funded pursuant to subdivision D 1.

2020, c. 1235.

Today's #1 Goal

**** Finalize Eligibility & Discuss Evaluation Measures ****

Agenda

- Regional Eligibility 30 Minutes
 - Review “Top” Regional Projects
 - ADT threshold
- Evaluation Measures 40 Minutes
 - Discuss approach
 - Review evaluation measures
- Leveraging 15 Minutes
- Application Process 15 Minutes
- Next Steps/Schedule 10 Minutes



| “Top” Regional Priorities [NON-BINDING] | Project Type |
|---|--------------|
| I-64 / Oilville Rd Interchange | Highway |
| I-64 / Ashland Rd Interchange | Highway |
| I-64 / N. Gayton Interchange Access Request | Highway |
| I-64 / I-95 Bryan Park Interchange Safety & Congestion | Highway |
| I-64 / I-95 Overlap Safety / Operations (2 submissions) | Highway |
| I-64 Widening – New Kent (3 submissions) | Highway |
| I-95 Commerce Study Recommendations | Highway |
| I-95 at RT 10 Interchange – Phase II | Highway |
| RT 288 SB Hard Shoulder Running Lanes (2 submissions) | Highway |
| Hull Street Phase II (Chippenham Parkway to Hey Road) | Highway |
| N. Arthur Ashe Blvd Bridge Replacement | Highway |
| Mayo Bridge Rehabilitation | Highway |
| Magellan Pkwy Extension (GreenCity) | Highway |
| Fall Line Trail (3 submissions) | Bike/Ped |
| North/South BRT Expansion | Transit |

| “Top” Regional Priorities [NON-BINDING] | Functional Class | Eligible? | ADT Threshold | |
|---|--------------------|-----------|---------------|----------|
| | | | > 30,000 | > 20,000 |
| I-64 / Oilville Rd Interchange | Interstate | Yes | | |
| I-64 / Ashland Rd Interchange | Interstate | Yes | | |
| I-64 / N. Gayton Interchange Access Request | Interstate | Yes | | |
| I-64 / I-95 Bryan Park Interchange Safety & Congestion | Interstate | Yes | | |
| I-64 / I-95 Overlap Safety / Operations (2 submissions) | Interstate | Yes | | |
| I-64 Widening – New Kent (3 submissions) | Interstate | Yes | | |
| I-95 Commerce Study Recommendations | Interstate | Yes | | |
| I-95 at RT 10 Interchange – Phase II | Interstate | Yes | | |
| RT 288 SB Hard Shoulder Running Lanes (2 submissions) | Freeway | Yes | | |
| Hull Street Phase II (Chippenham Parkway to Hey Road) | Principal Arterial | | No | Yes |
| N. Arthur Ashe Blvd Bridge Replacement | Principal Arterial | | No | Yes |
| Mayo Bridge Rehabilitation | Principal Arterial | | No | No |
| Magellan Pkwy Extension (GreenCity) | New Alignment | ?? | ?? | ?? |
| Fall Line Trail (3 submissions) | | Yes | | |
| North/South BRT Expansion | | Yes | | |

Regional Eligibility Criteria by Project Type – Ver 3.0

| Project Type | Eligibility Criteria |
|----------------|---|
| Highway/Bridge | <ul style="list-style-type: none"> ▪ Limited access roadways – No ADT Threshold <ul style="list-style-type: none"> › Interstate (I-95, I-64, I-295) › Freeway (Route 288, Route 150, Powhite Parkway) ▪ Arterial roadways <ul style="list-style-type: none"> › Existing Roadways <ul style="list-style-type: none"> ○ Principal arterial = Existing ADT > 30,000 veh/day ○ Minor arterial = Existing ADT > 30,000 veh/day ○ Source: VDOT functional classification, 2019 published count book › New Alignments, locality to justify based on... <ul style="list-style-type: none"> ○ Expected functional classification, supported by comp plan ○ Projected ADT – within 20 years, meets thresholds defined above ○ Estimate reduction in ADT to adjacent arterial due to rerouted traffic › Intersection <ul style="list-style-type: none"> ○ Intersection of two arterials, at least one leg w/ADT > 30,000 veh/day |

Regional Eligibility Criteria by Project Type – Ver 3.0

| Project Type | Eligibility Criteria |
|--------------|--|
| Bike/Ped | <ul style="list-style-type: none">▪ Limited to regional trail networks<ul style="list-style-type: none">› Fall Line Trail, East Coast Greenway› Multi-jurisdictional, defined/conceptual alignment |
| Rail | <ul style="list-style-type: none">▪ Limit to leveraging funds/local match funds for other federal and state fund sources, for capacity and facility rail projects<ul style="list-style-type: none">› Intercity passenger rail or station upgrades |
| Intermodal | <ul style="list-style-type: none">▪ Park and Ride lots, port projects (Richmond Marine Terminal) |
| Transit | <ul style="list-style-type: none">▪ Limit to leveraging funds/local match funds for other federal and state fund sources, for regional capital transit projects:<ul style="list-style-type: none">› e.g., BRT infrastructure, transit transfer center, park and ride |

Evaluation Measures – Discuss Approach

- Smart Scale – all project types scored using same 14 measures

| Factor | Congestion Mitigation | | Safety | | Accessibility | | | Economic Development | | | Environment | | Land Use | |
|---------|---|--------------------------------|---------------------------------------|--|----------------------------|--|---|--|------------------------|--|----------------------------------|--|--|--|
| Measure | Increase in Peak Period Person Throughput | Reduction in Peak Period Delay | Reduction in Fatal and Injury Crashes | Reduction in Fatal and Injury Crash Rate | Increase in Access to Jobs | Increase in Access to Jobs for Disadvantaged Populations | Increase in Access to Multimodal Travel Choices | Square Feet of Commercial/Industrial Development Supported | Tons of Goods Impacted | Improvement to Travel Time Reliability | Potential to Improve Air Quality | Impact to Natural and Cultural Resources | Support of Transportation-Efficient Land Development | Support of Transportation-Efficient Land Development |

- CVTA – score projects by category, with measures specific to that category
 - Regional list of projects, ranked by project type
- I-81 Corridor Improvement Plan – tailored Smart Scale approach

Example: I-81 Corridor Improvement Plan

- One project type -> 106 interstate projects
 - Widening, auxiliary lanes, truck climbing lane, accel/decel lane extensions, curve improvements, shoulder widening
 - Not applicable: multimodal, bike/pedestrian facilities
- Selected measures that provided **discernible differences** between projects
 - “... applied **practical and applicable** measures from the Smart Scale process”
- Measures that did not draw a clear distinction among projects or required significant local information (Econ. Dev.) were excluded

Project Type: Highway

| <i>SMART SCALE MEASURE</i> | Safety | Congestion Management | Accessibility | Land Use | Environment | Economic Development | Weighting Factor |
|---|--------|-----------------------|---------------|----------|-------------|----------------------|------------------|
| Reduce Number of Fatal and Injury Crashes | Y | | | | | | 40% |
| Reduce Fatal and Injury Crash Rate | N | | | | | | - |
| Increase Person Throughput | | N | | | | | - |
| Decrease in Person-Hours of Delay | | Y | | | | | 40% |
| Access to Jobs | | | Y | | | | 15% |
| Access to Jobs for Disadvantaged Populations | | | Y | | | | 5% |
| Access to Multimodal Choices | | | N | | | | - |
| Transportation Efficient Land Use | | | | N | | | - |
| Increase in Transportation Efficient Land Use | | | | N | | | - |
| Air Quality | | | | | N | | - |
| Impact to Natural Resources | | | | | N | | - |
| Project Support for Economic Development | | | | | | N | - |
| Intermodal Access and Efficiency | | | | | | N | - |
| Travel Time Reliability | | | | | | N | - |
| TOTAL WEIGHTING | | | | | | | 100% |

Project Type: Regional Bike/Ped

▪ Fall Line Trail – Smart Scale Round 4 – Benefits (not normalized or weighted)

| App Id | Congestion | | Safety | | Accessibility | | | Environment | | Economic Development | | | Land Use | |
|--------|------------|-------|-----------------|------------|----------------|------------------------------|-------------------|-------------|-------------------------|----------------------|-------------------|-------------------------|---------------------|---------------------------------|
| | Throughput | Delay | Crash Frequency | Crash Rate | Access to Jobs | Disadvantaged Access to Jobs | Multimodal Access | Air Quality | Environmental Resources | Econ Dev Support | Intermodal Access | Travel Time Reliability | Land Use Efficiency | Increase in Land Use Efficiency |
| 6992 | 29.28 | 0.00 | 0.04 | 0.09 | 8.96 | 11.37 | 87.85 | 117.13 | 24.99 | 3,743.70 | 0.00 | 43,483,115.19 | 5.04 | 3.23 |
| 7159 | 26.30 | 0.00 | 0.31 | 1.19 | 11.15 | 15.71 | 131.51 | 131.51 | 15.80 | 2,789.95 | 0.00 | 0.00 | 5.37 | 5.23 |
| 6904 | 70.47 | 5.68 | 24.32 | 1,711.20 | 33.52 | 34.40 | 211.42 | 281.90 | 105.63 | 90,787.89 | 0.00 | 1,144,180.63 | 9.48 | 7.55 |
| 6768 | 24.74 | 0.00 | 0.00 | 0.00 | 1.51 | 0.82 | 74.23 | 0.00 | 7.02 | 0.00 | 0.00 | 0.00 | 5.39 | 4.68 |
| 6778 | 16.60 | 0.01 | 51.36 | 74.54 | 5.27 | 7.90 | 83.02 | 752.02 | 4.47 | 69,002.21 | 0.00 | 183,548,271.92 | 23.51 | 21.69 |
| 6710 | 33.37 | 0.00 | 0.00 | 0.00 | 3.75 | 1.85 | 100.10 | 0.00 | 49.09 | 84,117.03 | 0.00 | 0.00 | 3.14 | 2.46 |



- Yes, # of estimated users
- Note: reduced when normalized against highway projects
- Yes, but modify to only bike/ped crashes within buffer area of project
- Yes, change in the # of jobs accessible within a 45 min, and access to other modes of travel
- No, mitigation of environmental impacts part of project development process
- Not good for trail on new alignment
- No, data intensive
- Other measures enough to compare
- Not good for stand alone, off-road trail, ½ buffer
- Yes, measures # of non-work destinations (bank, school, recreation, shopping, etc.) accessible w/in walking distance

Project Type: Transit/Rail/TDM

| App Id | Project Type | Congestion | | Safety | | Accessibility | | | Environment | | Economic Development | | | Land Use | |
|--------|--------------|------------|--------|------------|------------|----------------|------------------------------|-------------------|-------------|-------------------|----------------------|-------------------|-------------------------|---------------------|---------------------------------|
| | | Thru Put | Delay | Crash Freq | Crash Rate | Access to Jobs | Disadvantaged Access to Jobs | Multimodal Access | Air Quality | Environ Resources | Econ Dev Support | Intermodal Access | Travel Time Reliability | Land Use Efficiency | Increase in Land Use Efficiency |
| 6858 | Bus Transit | 486.78 | 15.47 | 59.51 | 120.69 | 28.04 | 26.87 | 2,433.90 | 2,433.90 | 5.47 | 62,134.96 | 9,211.77 | 316,847,893.06 | 52.39 | 52.10 |
| 6844 | Bus Transit | 455.65 | 6.45 | 6.13 | 0.81 | 49.01 | 60.01 | 2,278.27 | 2,278.27 | 5.12 | 12,268,215.01 | 0.00 | 0.00 | 25.46 | 25.67 |
| 6718 | Bus Transit | 9.18 | 1.00 | 1.80 | 0.59 | 8.77 | 4.41 | 45.90 | 2,066.18 | 4.65 | 8,815,409.10 | 0.00 | 80,301,172.54 | 14.08 | 6.83 |
| 6914 | Bus Transit | 322.31 | 37.76 | 134.69 | 33.55 | 65.61 | 64.33 | 1,611.56 | 966.94 | 2.17 | 2,400,123.22 | 0.00 | 1,803,638,197.10 | 59.45 | 52.15 |
| 6773 | Bus Transit | 38.02 | 0.00 | 11.30 | 0.71 | 0.35 | 0.45 | 190.09 | 209.10 | 0.47 | 0.00 | 0.00 | 462,263,164.15 | 47.97 | 50.07 |
| 6823 | Bus Transit | 69.33 | 17.30 | 8.24 | 2.16 | 29.79 | 31.12 | 346.63 | 103.99 | 0.23 | 0.00 | 0.00 | 0.00 | 56.04 | 54.70 |
| 6678 | Bus Transit | 21.48 | 0.00 | 3.89 | 4.33 | 294.38 | 340.18 | 107.42 | 21.48 | 0.05 | 3,179,510.89 | 0.00 | 0.00 | 31.88 | 40.17 |
| 7198 | Rail Transit | 278.00 | 601.58 | 623.35 | 7.07 | 1,725.03 | 1,972.38 | 1,390.00 | 4,201.00 | 9.45 | 7,473,250.13 | 0.00 | 7,683,566,992.38 | 35.55 | 30.07 |
| 6703 | TDM | 13.52 | 5.33 | 2.90 | 0.57 | 5.34 | 5.75 | 67.60 | 2,446.32 | 5.50 | 80,068.88 | 0.00 | 0.00 | | |
| 7002 | TDM | 10.80 | 1.84 | 2.26 | 0.55 | 2.73 | 2.63 | 54.00 | 1,085.00 | 2.44 | 0.00 | 0.00 | 4,086,329,340.19 | | |
| 6779 | TDM | 77.52 | 7.50 | 23.24 | 2.29 | 61.74 | 74.17 | 387.60 | 348.84 | 0.78 | 0.00 | 0.00 | 0.00 | 14.27 | 11.14 |

The diagram consists of a series of colored bars at the bottom of the table, with arrows pointing upwards to specific columns. The bars are: a green bar under 'Thru Put', a red bar under 'Delay', a green bar under 'Crash Freq', a red bar under 'Crash Rate', a green bar under 'Access to Jobs', a green bar under 'Disadvantaged Access to Jobs', a green bar under 'Multimodal Access', a green bar under 'Air Quality', a green bar under 'Environ Resources', a green bar under 'Econ Dev Support', a red bar under 'Intermodal Access', a green bar under 'Travel Time Reliability', a green bar under 'Land Use Efficiency', and a green bar under 'Increase in Land Use Efficiency'. Below these bars are several text blocks explaining the data points.

- Yes, # of estimated users
- No, hard to measure for transit projects
- Yes
 - Crash Freq 100% of safety measure for transit
- Yes, change in the # of jobs accessible within a 45 min, and access to other modes of travel
- No, mitigation of environmental impacts part of project development process
- No, data intensive
 - Other measures enough to compare
- Yes, measures # of non-work destinations (bank, school, recreation, shopping, etc.) accessible w/in walking distance

CVTA – Score by Project Type, Applicable Measures

| Smart Scale Measure | | Highway | | Bike/Ped | | Transit/Rail/TDM | |
|------------------------|---|---------|------|----------|------|------------------|------|
| Congestion | Increase Person Throughput | | | Y | TBD | Y | TBD |
| | Decrease in Person-Hours of Delay | Y | 40% | | | | |
| Safety | Reduce Number of Fatal and Injury Crashes | Y | 40% | Y | TBD | Y | TBD |
| | Reduce Fatal and Injury Crash Rate | | | | | | |
| Accessibility | Access to Jobs | Y | 15% | Y | TBD | Y | TBD |
| | Access to Jobs for Disadvantaged Populations | Y | 5% | Y | TBD | Y | TBD |
| | Access to Multimodal Choices | | | Y | TBD | Y | TBD |
| Environment | Air Quality | | | | | | |
| | Impact to Natural Resources | | | | | | |
| Econ Dev | Project Support for Economic Development | | | | | | |
| | Intermodal Access and Efficiency | | | | | | |
| | Travel Time Reliability | | | | | | |
| Land Use | Transportation Efficient Land Use | | | Y | TBD | Y | TBD |
| | Increase in Transportation Efficient Land Use | | | Y | TBD | Y | TBD |
| TOTAL WEIGHTING | | | 100% | | 100% | | 100% |

SMART SCALE Area Type B

| Factor | Congestion Mitigation | | Safety | | Accessibility | | | Economic Development | | | Environment | | Land Use | |
|--|---|--------------------------------|---------------------------------------|--|----------------------------|--|---|--|------------------------|--|----------------------------------|--|--|--|
| Measure | Increase in Peak Period Person Throughput | Reduction in Peak Period Delay | Reduction in Fatal and Injury Crashes | Reduction in Fatal and Injury Crash Rate | Increase in Access to Jobs | Increase in Access to Jobs for Disadvantaged Populations | Increase in Access to Multimodal Travel Choices | Square Feet of Commercial/Industrial Development Supported | Tons of Goods Impacted | Improvement to Travel Time Reliability | Potential to Improve Air Quality | Impact to Natural and Cultural Resources | Support of Transportation-Efficient Land Development | Support of Transportation-Efficient Land Development |
| Measure Value | 30.7 persons | 11.5 person hrs. | 26.4 EPDO | 4,525.3 EPDO / 100M VMT | 6.1 jobs per resident | 5.7 jobs per resident | 46.1 adjusted users | 74,103.3 adj sq. ft. | 18,110.9 daily tons | 0.0 adj. buffer time index | 1,008.5 adjusted points | 0.00 impacted acres | 11.4 access * pop/emp density.h | 15.3 access * pop/emp density change. |
| Normalized Measure Value (0-100) | 1.7 | 1.9 | 4.2 | 12.7 | 0.4 | 0.3 | 1.9 | 0.1 | 1.4 | 0.0 | 22.7 | 0.3 | 17.3 | 23.2 |
| Measure Weight (% of Factor) | 50% | 50% | 70% | 30% | 60% | 20% | 20% | 60% | 20% | 20% | 100% | * | 50% | 50% |
| Factor Value | 1.8 | | 6.8 | | 0.6 | | | 0.4 | | | 22.7 | | 20.2 | |
| Factor Weight (% of Project Score) | 15% | | 20% | | 25% | | | 20% | | | 10% | 5 (max point reduction) | 10% | |
| Weighted Factor Value | 0.3 | | 1.4 | | 0.2 | | | 0.1 | | | 2.3 | 0.0 | 2.0 | |
| Project Benefit | 6.1 | | | | | | | | | | | | | |
| SMART SCALE Cost | \$7,850,930 | | | | | | | | | | | | | |
| SMART SCALE Score (Project Benefit per \$10M SMART SCALE Cost) | 7.8 | | | | | | | | | | | | | |

TBD -->

TBD -->

*The second environment measure subtracts up to 5 points from the project benefit score. Because it is subtracted after combining all weighted factors, it has no measure weight and the 10% factor weight is not applied to it.

Project Ranking

- $\text{Score} = \text{Project Benefit} / \text{Requested Funding Amount}$
- Use score to rank by Project Type
 - Highway
 - Bike/Ped
 - Transit/Rail/TDM
- CVTA informed by the rankings by category and will draft funding plan for the region
 - CVTA can task TAC for a funding recommendation if they desire
- Test?
 - Use non-binding “Top” regional project list as test set
 - LRTP Universe of Projects – use selected measures from draft scoring results

Leveraging CVTA Regional Funds – Open Discussion

- $B/C = \text{Benefit} / \text{Requested Funding Amount}$
- Leveraging considerations, what guidelines are needed (if any)?
 - How do we determine leveraging amount?
 - Do we limit total \$\$ that can be used for leveraging?
 - Do we put a timeframe on leveraging funds?
 - What happens when leveraging is unsuccessful?

Application Process – Open Discussion

- Cycle: Annual or bi-annual?
 - How does it align with other programs?
 - Smart Scale, RSTP/CMAQ, TAP, DRPT, etc.
- Limit # of applications? If so...
 - Same number for all localities
 - Follow CVTA voting weights
 - Follow Smart Scale
- Readiness considerations
- Application Format
 - Required: Scope narrative, Sketch, Estimate
 - Supplemental Info?

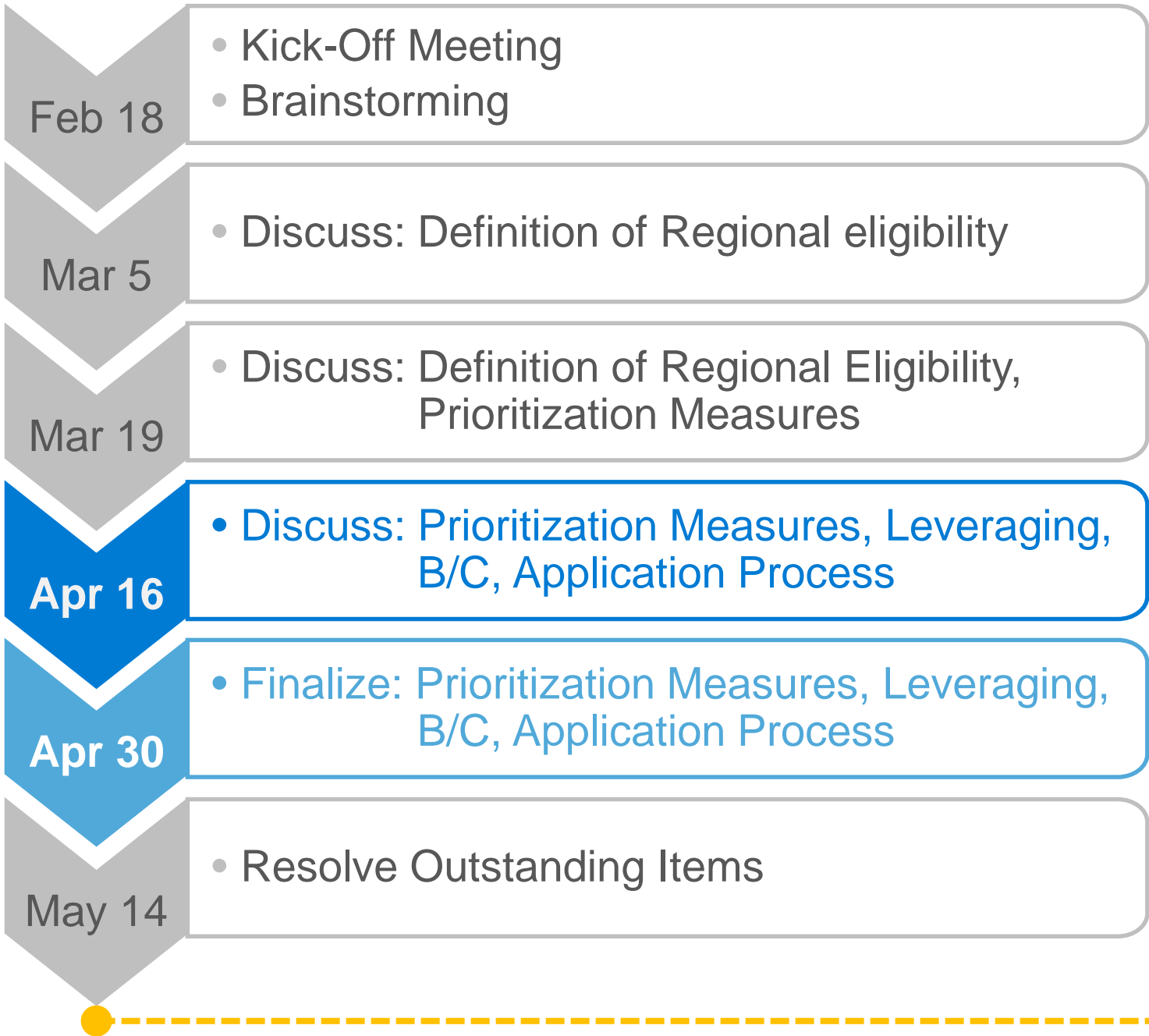
| Members | Population* | Weighted Votes |
|-----------------------------|------------------|----------------|
| Ashland | 7,553 | 1 |
| Charles City | 7,331 | 1 |
| Chesterfield | 333,450 | 4 |
| Goochland | 22,277 | 2 |
| Hanover | 96,460 | 3 |
| Henrico | 320,717 | 4 |
| New Kent | 20,468 | 2 |
| Powhatan | 28,442 | 2 |
| Richmond | 217,938 | 4 |
| Delegate | | 1 |
| Senator | | 1 |
| CTB Member | | 1 |
| *Jul. 1, 2015 Weldon Cooper | 1,054,636 | 26 |

Table 1.2 Application Cap Limits by Population

| Localities | MPOs/PDCs/Transit Agencies | Pre-Application Cap | Full Application Cap |
|----------------------------------|----------------------------------|---------------------|----------------------|
| Less than 200,000 | Less than 500,000 | 5 | 4 |
| Greater than or equal to 200,000 | Greater than or equal to 500,000 | 12 | 10 |

Next Steps

- Test prioritization approach using non-binding “Top” regional project list LRTP
- Begin drafting prioritization process



--- DEADLINE ---> **May XXX**

- Document summarizing subcommittee recommended prioritization finalized for CVTA consideration
- Next Steps
 - » CVTA TAC
 - Mtg 5/10 – Submit draft for review
 - Mtg 6/14 – Take action
 - » CVTA Finance Committee
 - Mtg 5/12 – Submit draft for review
 - Mtg 6/9 – Take action
 - » CVTA Authority
 - 5/7 – Submit draft for review
 - Mtg 5/28 – Info item on agenda
 - Mtg 6/25 – Take action