TRANSPORTATION ADVISORY BOARD

Metropolitan Council, 390 Robert Street North, Saint Paul, Minnesota 55101

NOTICE OF A MEETING
of the
FUNDING AND PROGRAMMING COMMITTEE

Thursday, August 17, 2017
1:30 P.M. – Metropolitan Council, Room LLA
390 Robert Street N, Saint Paul, MN

AGENDA

1) Call to Order

2) Adoption of Agenda

3) Approval of the Minutes from the July 20, 2017 meeting*

4) TAB Report

5) 2018 Regional Solicitation: Roadway Applications – Information Item*

6) Other Business

7) Adjournment

*Attachments

Please notify the Council at 651-602-1000 or 651-291-0904 (TTY) if you require special accommodations to attend this meeting. Upon request, the Council will provide reasonable accommodations to persons with disabilities.

TRANSPORTATION ADVISORY BOARD
Metropolitan Council
390 N. Robert St., St. Paul, Minnesota 55101-1805
Minutes of a Meeting of the
FUNDING AND PROGRAMMING COMMITTEE
July 20, 2017

MEMBERS PRESENT: Tim Mayasich (Chair, Ramsey County), Lynne Bly (MnDOT Metro District), Colleen Brown (MnDOT State Aid), Bob Byers (Hennepin County), Robert Ellis (Eden Prairie), Innocent Eyoh (MPCA), Anna Flintoft (Metro Transit), Jenifer Hager (Minneapolis), Craig Jenson (Scott County), Karl Keel (Bloomington), Elaine Koutsoukos (TAB), Jen Lehmann (MVTA), Lyssa Leitner (Washington County), Steve Love (Maplewood), Joe MacPherson (Anoka County), Gina Mitteco (MnDOT Bike & Ped), Ryan Peterson (Burnsville), Steve Peterson (Metropolitan Council), John Sass (Dakota County), Nancy Spooner-Mueller (DNR), Anne Weber (St. Paul), and Joe Barbeau (staff)

OTHERS PRESENT: Steve Elmer (Metropolitan Council) and Heidi Schallberg (Metropolitan Council)

1. Call to Order
The meeting was called to order just after 1:30 p.m.

2. Adoption of Agenda
MOTION: Koutsoukos moved to adopt the agenda. Seconded by MacPherson. The motion was approved unanimously.

3. Approval of the Minutes from the May 18, 2017, Meeting
MOTION: Koutsoukos moved to approve the minutes. Seconded by MacPherson. The motion was approved unanimously.

4. TAB Report – Information Item
Koutsoukos reported on the July 19, 2017, TAB meeting. Scott McBride reported that the St. Croix River Crossing opening is August 2. MnDOT has two solicitations out, one for $20 million in federal funds for highway construction projects in years 2019 through 2022 with discernable freight transportation benefits. The other is for $18 million in state matching funds for state highway construction projects in 2018-2022 with measurable economic benefits. The Minnesota Department of Employment and Economic Development has a parallel program that funds projects on local roads for $4 million. Streamlined TIP amendments were approved to add a MnDOT median barrier HSIP-funded project on US 10 and to add a railroad crossing project in South St. Paul, in both cases to start projects earlier.

5. ADA Transition Plans
Heidi Schallberg from Metropolitan Council staff reported that agencies with at least 50 council employees will have to be making progress on Americans with Disabilities Act (ADA) Transition Plans or federal funding could be in jeopardy. The Council intend to survey local agencies to get a sense of how far along most entities are in this process. Mayasich asked whether plans need to be in place before the start of the next Solicitation, to which Steve Peterson replied probably not. Koutsoukos said that most agencies have plans, though Schallberg replied that she is looking into whether updates are required.

Ellis asked whether the requirements pertain only to public right-of-way, to which Schallberg replied that she is looking for clarification from FHWA.

Brown said that transition plans are different from the construction plans that State Aid checks for ADA compliance.

Steve Peterson said that a requirement could be placed in the qualifying criteria or the risk assessment. Flintoft said that it will be important to find out about update requirements.

6. 2018 Regional Solicitation: Qualifying Requirements and Forms – Information Item

Steve Peterson asked whether there is interest in interchange projects having their own category. In the 2016 Regional Solicitation, five of seven interchange applications were funded. Barbeau said that interchange projects scored better than non-interchange projects in several measures. Leitner asked whether the dominance of interchanges in the category is a recent issue, to which Steve Peterson replied that it could be connected to the 2014 Solicitation overhaul along with the increased frequency in cities and counties applying for projects on the MnDOT system. Sass added that many of these projects are low-match projects. Keel said that the more categories there are, the more often that the best projects are eliminated. Mayasich said that he would like a sense of who wants to apply for interchange projects. MacPherson suggested limiting the number of projects by type. The group expressed no desire to add a category.

Steve Peterson said that staff proposes that titles of some categories change to match categories in the TPP. The draft includes addition of language that mandates applicants show local support. Keel replied that applicants should just be referred directly to the locals. Committee members agreed that this addition is not needed.

Steve Peterson said that a one-page project summary could be either required or optional. Keel suggested providing a template and making applicants submit it. Koutsoukos said that most of the information is already complete and the form could be auto populated. Lehmann said that a summary sheet would be helpful to scorers who need to see more than just their measures.

Steve Peterson said that the risk assessment did not make a significant difference in the scoring, as the many elements of the measure spread the points too thinly. He said he and Brown worked to remove the ineffective elements. Brown said that the draft removes the elements on which applicants scored most similarly. Ryan Peterson said that the "funding" element could be subjective. Leitner said that the "confirmed" language is vague and suggested making it specific to applications waiting on state funding.

Sass suggested increasing spacing lengths for the interchange approval. Keel suggested simply requiring the approval process to be completed with no other requirements attached.

Sass questioned the proposed inclusion of a requirement that signal timing must be completed within five years of project submittal when thru lanes are expanded. Ryan Peterson added that local agencies cannot force MnDOT to re-time signals.

Mayasich asked for a definition of "spot mobility," to which Steve Peterson said that "spot mobility" is something like a roundabout or another intersection improvement and that the term is used in the TPP.

Sass asked whether the requirement of student travel tallies and parent surveys needs to be included, as schools are not always a part of the project. Brown said that this is a Safe Routes to School program requirement. Barbeau said that he would contact Safe Routes to School personnel at MnDOT for clarification.

Steve Peterson said that the draft shows a requirement in transit applications must show independent utility and that the points awarded should only account for improvements shown in the application. This is meant to assure that riders and other elements are not double-counted.

Koutsoukos asked why the budget shows committed private sector contribution. Steve Peterson replied that it notes any private sector contributions, which would be worth points in the Roadway Expansion application. Koutsoukos replied that this is not a budget element and should be removed from that sheet.

Mayasich said that the requirement of a letter of support from any agency that owns a facility should refer to an agency that "owns and operates" a facility.

Ryan Peterson recalled that a proposed project did not meet the federal minimum in the last Regional Solicitation and asked whether the project was allowed to proceed. Steve Peterson replied that it did. Ryan Peterson suggested exploring that requirement, given that it was not enforced strictly.

7. 2018 Regional Solicitation: Safe Routes to School and Pedestrian Facilities – Information Item

Barbeau said that the Deficiencies measure of both the Safe Routes to School and Pedestrian Facilities applications show an adjustment to the scoring ranges of applications that provide data and those that do not so that there can be overlap.

Ellis said that some school districts do not want to participate in Safe Routes to School applications.

8. Bicycle Barriers Study – Information Item

Steve Elmer from Metropolitan Council staff discussed the ongoing Regional Bicycle Barriers Study (RBBS), which will assess existing and potential bicycle crossing opportunities of regional barriers; analyze regional physical barriers to bicycling and where they impact continuity of regional and local bicycle networks; and inform the TPP and Regional Solicitation updates.

Lehmann asked how demonstration projects are selected. Elmer replied that that is still undecided.

Ryan Peterson said that the Regional Bicycle Transportation Network (RBTN) is worth a lot of points in the Regional Solicitation and that this could increase the degree to which some projects are favored. Elmer replied that the RBBS will address projects not on RBTN corridors. Ryan Peterson pointed out that all areas identified by the RBBS are within the RBTN network buffer.

Koutsoukos asked whether a project would have to be on the RBBS list to score well, to which Elmer replied that this depends on the particulars of the scoring.

9. Other Business

None.

10. Adjournment

The meeting was adjourned.

Bridges – Prioritizing Criteria and Measures

August 17, 2017

Definition: A bridge rehabilitation or replacement project located on a non-Freeway Principal Arterial or A-Minor Arterial functionally-classified roadway, consistent with the latest TAB-approved functional classification map. Bridge structures that have a separate span for each direction of travel can apply for both spans as part of one application.

The bridge must carry vehicular traffic, but may also include accommodations for other modes. Bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities application categories. Rail-only bridges are not eligible for funding. Completely new bridges, interchanges, or overpasses should apply in the Roadway Expansion application category.

Examples of Bridge Rehabilitation/Replacement Projects:

- Bridge rehabilitation of 20 or more feet with a sufficiency rating less than 80 and classified as structurally deficient or functionally obsolete.
- Bridge replacement of 20 or more feet with a sufficiency rating less than 50 and classified as structurally deficient or functionally obsolete.

Scoring:

Criteria and Measures	Points	% of Total Points
1. Role in the Regional Transportation System and Economy	**195**	**19.58%**
Measure A - Average dDistance to the nearest parallel bridges	115100	
Measure B - Connection to Total Jobs, and Manufacturing/Distribution Jobs, and Post-Secondary Students	30	
Measure C - Current daily heavy commercial trafficHighway Truck Corridor Tiers	3565	
Measure D - Freight project elements	15	
2. Usage	**130**	**1312%**
Measure A - Current daily person throughput	100	
Measure B - Forecast 2040 average daily traffic volume	30	
3. Equity and Housing Performance	**100**	**109%**
Measure A - Connection to disadvantaged populations and project's benefits, impacts, and mitigation	30	
Measure B - Housing Performance Score	70	
4. Infrastructure Condition	**400**	**4036%**
Measure A – Bridge Sufficiency Rating	300	
Measure B – Load-Posting	100	
5. Multimodal Elements and Existing Connections	**100**	**109%**
Measure A - Transit, bicycle, or pedestrian project elements and connections	100	
6. Risk Assessment	**75**	**7.57%**
Measure A - Risk Assessment Form	75	
Sub-Total	1,000	100%
7. Cost Effectiveness	**100**	9%

	Measure A – Cost effectiveness (~~total project cost/~~total points awarded/ total project cost)	100
Total		**1,100**

1. Role in the Regional Transportation System and Economy (195 Points) – Tying regional policy (Thrive MSP2040) to the Regional Solicitation, this criterion measures the project's ability to serve a transportation purpose within the regional transportation system and economy based on how well it fulfills its functional classification role, ~~serves heavy commercial traffic, and~~ connects to employment, post-secondary students, and manufacturing/distribution-related employment, and aligns with the Highway Truck Corridor Study.

A. *MEASURE:* Address how the project route fulfills its role in the regional transportation system by measuring the diversion to the nearest parallel crossing (must be an A-minor arterial or principal arterial) if the proposed project is closed. (100 points) The project must be located on a non-freeway principal arterial or an A-minor arterial.

RESPONSE:

- Distance from one end of proposed project to nearest parallel crossing (that is an A-minor arterial or principal arterial) and then back to the other side of the proposed project:_____
- Location of nearest parallel crossing:_____
- Explanation (*Limit 2,800 characters; approximately 400 words*): _____

- ~~Reference the "Roadway Area Definition" map generated at the beginning of the application process. Report the total area and project length, as depicted on the "Roadway Area Definition" map, to calculate the average distance between the project and the closest parallel "A" Minor Arterials or Principal Arterials on both sides of the project.~~

~~Upload the "Roadway Area Definition" map used for this measure.~~

SCORING GUIDANCE (~~115~~ 100 Points)
The applicant with the furthest ~~average~~ distance from the closest parallel A-Minor Arterial or Principal Arterial bridge on ~~both sides~~ will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the project being scored had a distance of 8 miles and the top project was had ~~an average~~a distance of 10 miles, this applicant would receive (8/10)*~~115~~ 100 points or ~~92~~ 80 points. ~~Metropolitan Council staff will provide average distance data for all projects to ensure consistency of methodology between applications.~~

B. *MEASURE:* Reference the "Regional Economy" map generated at the beginning of the application process. Report the employment, manufacturing/distribution-related employment, and post-secondary students enrolled within one mile, as depicted on the "Regional Economy" map.

Upload the "Regional Economy" map used for this measure.

RESPONSE (Data from the "Regional Economy" map):

- Existing Employment within 1 Mile:_____(Maximum of 30 points)
- Existing Manufacturing/Distribution-Related Employment within 1 Mile:_____ (Maximum of 30 points)
- Existing Post-Secondary Students: _____(Maximum of 18 points)

SCORING GUIDANCE (30 Points)

All Census block groups that are included within or intersect the buffer area around the project will be included.

The applicant with the highest existing total employment will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 1,000 workers within one mile and the top project had 1,500 workers, this applicant would receive (1,000/1,500)*30 points or 20 points.

The applicant with the highest existing manufacturing/distribution-related employment will receive the full points. Remaining projects will receive a proportionate share of the full points equal to the existing manufacturing/distribution-related employment within one mile of the project being scored divided by the project with the highest manufacturing/distribution-related employment within one mile multiplied by the maximum points available for the measure (20). For example, if the application being scored had 1,000 manufacturing/distribution-related workers within one mile and the top project had 1,500 manufacturing/distribution-related workers, this applicant would receive (1,000/1,500)*30 points or 20 points.

The applicant with the highest number of post-secondary students will receive 18 points. Remaining projects will receive a proportionate share of the 18 points. For example, if the application being scored had 1,000 students within one mile and the top project had 1,500 students, this applicant would receive (1,000/1,500)*18 points or 12 points.

The scorer will assess if the applicant would score highest with the total employment part of the measure, the manufacturing/distribution employment part of the measure, or the education part of the measure and give the applicant the highest of the three scores out of a maximum of 30 points.

Note: Due to the use of multiple sub-measures, two applicants will receive the full 30 points.

C. *MEASURE:* ~~Provide the current daily heavy commercial traffic at one location on the A Minor Arterial or Non-Freeway Principal Arterial project length. It is required that an actual daily count is collected or available data from within the last three years is used (from the city, county or MnDOT). Heavy commercial traffic is defined as all trucks with at least two axles and six tires.~~ This ~~criterion~~measure relies on the results ~~on~~in the Highway Truck Corridor Study, which prioritized all roadways based on truck volume, truck percentage of total traffic, proximity to freight clusters, and proximity to regional freight terminals. (65 points)

Use the final study report for this measure:
https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Truck-Freight-Corridor-Study.aspx

RESPONSE (Select one for your project, based on the Highway Truck Corridor Study*):*

- The project is located on either a Tier 1, Tier 2, or Tier 3 corridor: ☐ (65 Points)
- The project is not located on a Tier 1, Tier 2, or Tier 3 corridor: ☐ (0 Points)

~~*RESPONSE:*~~

- ~~Location:_____~~
- ~~Current daily heavy commercial traffic volume:_____~~
- ~~Date heavy commercial count taken: _____~~

SCORING GUIDANCE (~~3~~65 Points)

The scorer will assign points based on which of the above scores applies. Note that multiple applicants can score the maximum point allotment. ~~The applicant with the highest daily heavy commercial traffic at a location along the bridge will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a heavy commercial volume of 750 vehicles and the top project had a heavy commercial volume of 1,000 vehicles, this applicant would receive (750/1,000)*35 points, or 26 points.~~

~~C. *MEASURE:* Discuss any freight elements that are included as part of the project and how they improve efficiency, security, or safety. (15 points)~~

~~Address how the proposed project safely integrates freight. Freight elements could be project elements such as upgrading a non ten ton roadway to a ten ton roadway, adding paved shoulders, wider shoulders, acceleration lanes, or longer turning lanes added specifically to accommodate freight movements.~~

~~*RESPONSE (Limit 1,400 characters; approximately 200 words):*~~

~~SCORING GUIDANCE (15 Points)~~

~~The project with the most comprehensive freight elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.~~

2. Usage (130 Points) – This criterion quantifies the project's potential impact by measuring the current daily person throughput and future vehicular traffic that will be served by the project. These roadway users directly benefit from the project improvements on the "A" Minor Arterial or Non-Freeway Principal Arterial.

A. *MEASURE:* Metropolitan Council staff will calculate the current daily person throughput at one location on the "A" Minor Arterial or Non-Freeway Principal Arterial bridge using the current average annual daily traffic (AADT) volume and average annual ridership. The applicant must identify the location along the project length and provide the current AADT volume from the MnDOT 50-series maps ~~and existing transit routes that travel on the road~~. Reference the Transit Map for transit routes along the project. Ridership data will be provided by the Metropolitan Council staff, if public transit is currently provided on the project length.

- Current Daily Person Throughput = (current average annual daily traffic volume x 1.30 vehicle occupancy) + average annual daily transit ridership (~~2015~~2017)

RESPONSE:

- Location:_____
- Current AADT volume:_____
- Existing Transit Routes on the Project:_____

SCORING GUIDANCE (100 Points)
The applicant with highest current daily person throughput will receive the full points for the measure. Remaining projects will receive a proportionate share of the full. For example, if the application being scored had a daily person throughput of 1,000 vehicles and the top project had a daily person throughput of 1,500 vehicles, this applicant would receive (1,000/1,500)*100 points or 67 points.

B. *MEASURE:* Provide the forecast (2040) average daily traffic volume at the same location on the "A" Minor Arterial or Non-Freeway Principal Arterial bridge, as identified in the previous measure. The applicant may choose to use a county or city travel demand model based on the Metropolitan Council model to identify the forecast (2040) average daily traffic volume or have Metropolitan Council staff determine the forecast volume using the Metropolitan Council model and project location. Respond as appropriate to the use of one type of forecast model. (30 points)

RESPONSE:

- Use Metropolitan Council model to determine forecast (2040) ADT volume ☐
- METC Staff-Forecast (2040) ADT volute ☐

OR

RESPONSE:

- Approved county or city travel demand model to determine forecast (2040) ADT volume ☐
- Forecast (2040) ADT volume : _____

SCORING GUIDANCE (30 Points)

The applicant with the highest forecast (2040) ADT volume will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily forecast of 28,000 vehicles and the top project had a daily forecast of 32,000 vehicles, this applicant would receive (28,000/32,000)*30 points or 26 points.

3. Equity and Housing Performance (100 Points) – This criterion addresses the project's positive and negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly. The criterion also evaluates a community's efforts to promote affordable housing.

A. *MEASURE:* Reference the "Socio-Economic Conditions" map generated at the beginning of the application process. Identify the project's location as it applies in the listed responses below. Describe the project's positive benefits, and negative impacts, and mitigation for low-income populations; people of color; children, people with disabilities, and the elderly. Geographic proximity alone is not sufficient to receive the full points listed below. In order to receive the maximum points, the response should address the benefits, impacts, and mitigation for the populations listed.

Upload the "Socio-Economic Conditions" map used for this measure.

RESPONSE (Select one, based on the "Socio-Economic Conditions" map):

- Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50): ☐ ~~(0 to 30 Points)~~ (up to 100% of maximum score)
- Project located in Area of Concentrated Poverty: ☐ (~~0 to 24 Points)~~ (up to 80% of maximum score)
- Project's census tracts are above the regional average for population in poverty or population of color: ☐ ~~(0 to 18 Points)~~ (up to 60% of maximum score)
-
- Project located in a census tract that is below the regional average for population in poverty or populations of color, or includes children, people with disabilities, or the elderly: ☐ ~~(0 to 12 Points)~~ (up to 40% of maximum score)

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (30 Points)

Based on the "Socio-Economic Conditions" map's output, the applicant will select the appropriate option from the above bullets. However, geographic proximity alone is not sufficient to receive full points. The applicant must fully describe the positive benefits and negative impacts (with mitigation to address the issue) for those identified groups. Each project will first be graded on a 10-point scale, not accounting for geography. Each score from the 10-point scale will then be adjusted to the appropriate geography. The project with the most positive benefits and appropriate mitigation for negative impacts will receive the full points relative to its maximum geographic sub-area defined above. Remaining projects will receive a share of the full points at the scorer's discretion. This response is intended to be qualitative. Metropolitan Council staff will score this measure.

Note: Due to the geographic adjustment to scores, it is possible that the above process will result in no project receiving the maximum allotment of 30 points. In this case, the highest-scoring application for this measure will be adjusted to receive the full 30 points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 10 points and the top project had 20 points, this applicant would receive (10/20)*30 points or 15 points.

B. *MEASURE:* Metropolitan Council staff will award points to the project based on the ~~2015~~ 2017 Housing Performance Score for the city or township in which the project is located. The score includes consideration of affordability and diversification, local initiatives to facilitate affordable workforce housing development or preservation, and density of residential development. A one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer. If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result. (70 Points)

RESPONSE (Affordable Housing Score completed by Metropolitan Council staff):

- City/Township: _____
- Population from the Regional Economy map within City/Township:

SCORING GUIDANCE (70 Points)

The applicant with the highest ~~2015~~ 2017 Housing Performance Score will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a Housing Performance Score of 55 and the top project had a Housing Performance Score of 90, this applicant would receive (55/90)*70 points or 43 points.

Note: Metropolitan Council staff will score this measure.

Projects will use the city Housing Performance Score based on the project location. A one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

If this is the case, then the total points possible in the application will be 930 instead of 1,000. The total points awarded through the rest of the application (900 as a hypothetical example) will be divided by 930, then multiplied by 1,000. Therefore, a project scoring 900 out of 930, will equate to 968 points on a 1,000-point scale.

If a portion of the project is located in a city with an affordable housing allocation and the other portion is located in a township with no affordable housing allocation, then a combination of the weighted average and no affordable housing methodologies should be used. This will result in a total score that will be somewhere between 930 and 1,000; then the score will need to be adjusted to fit a 1,000-point scale.

4. Infrastructure Condition (400 Points) – This criterion will assess the age and condition of the bridge facility being improved. Bridge improvement investments should focus on the higher needs of unsafe facilities. If there are two separate spans, then the applicant should take the average bridge sufficiency rating of the two spans.

A. *MEASURE:* Identify the bridge sufficiency rating, from the most recent market structure inventory report. Attach the report to the application.

RESPONSE:

- Bridge Sufficiency Rating: ____

SCORING GUIDANCE (300 Points)
The applicant with the lowest bridge sufficiency rating will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points equal to the rating for the project with the lowest bridge sufficiency rating divided by the project being scored multiplied by the maximum points available for the measure (300). For example, if the top project had a bridge sufficiency rating of 35 and the application being scored had a score of 55, this applicant would receive (35/55)*300 points or 191 points.

B. *MEASURE:* Identify whether the bridge is posted for load restrictions.

RESPONSE (Check box if the bridge is load-posted):

- Load-Posted (Check box if the bride is load-posted): ☐

SCORING GUIDANCE (100 Points)
Applicants will receive the points shown depending on whether the bridge is load-posted. The applicant can only score 0 or 100 points for this measure.

5. Multimodal Elements and Connections (100 Points) – This criterion measures how the project improves the travel experience, safety, and security for other modes of transportation and addresses the safe integration of these modes. The *Transportation Policy Plan* requires that explicit consideration of all users of the transportation system be considered in the planning and scoping phase of roadway projects.

A. *MEASURE:* Discuss any bicycle, pedestrian, or transit elements that are included as part of the project and how they improve the travel experience, safety, and security for users of these modes. Applicants should make sure that new multimodal elements described in the response are accounted for as part of the cost estimate form earlier in the application. Applicants may want to reference how the proposed multimodal improvements positively affect identified alignments in the Regional Bicycle Transportation Network (RBTN), if applicable. (100 points)

Also, describe the existing bicycle, pedestrian, and transit connections. Furthermore, address how the proposed project safely integrates all modes of transportation (i.e., vehicles, bicyclists, transit, and pedestrians) and, if applicable, supports planned transitway stations. Applicants should note if there is no transit service in the project area and identify supporting studies or plans that address why a mode may not be incorporated in the project (e.g., a bicycle system plan that locates bikeway facilities on a lower-volume parallel route).

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (100 Points)

The project with the most comprehensive multimodal elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion. The project score will be based on the quality of the improvements, as opposed to being based solely on the number of modes addressed.

Scorers should make sure that new multimodal elements described in the response are accounted for on the cost estimate form earlier in the application.

6. Risk Assessment (75 Points) – This criterion measures the number of risks associated with successfully building the project. High-risk applications increase the likelihood that projects will withdraw at a later date. ~~and the steps already completed in the project development process~~. These steps are outlined in the checklist in the required Risk Assessment.

A. *MEASURE:* Applications involving construction must complete the Risk Assessment. This checklist includes activities completed to-date, as well as an assessment of risks (e.g., right-of-way acquisition, proximity to historic properties, etc.).

RESPONSE (Complete Risk Assessment):

SCORING GUIDANCE (75 Points)

The applicant with the most points on the Risk Assessment (more points equate to less project risk) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 40 points and the top project had 70 points, this applicant would receive (40/70)*75 points or 43 points.

7. Cost Effectiveness (100 Points) – This criterion will assess the project's cost effectiveness based on the TAB-eligible project cost (not including noise walls) and total points awarded in the previous six criteria.

A. *MEASURE:* This measure will calculate the cost effectiveness of the project. Metropolitan Council staff will divide the number of points awarded in the previous criteria by the TAB-eligible project cost (not including noise walls) ~~by the total number of points awarded in the previous criteria~~.

- Cost Effectiveness ~~= total TAB-eligible project cost (not including noise walls)/~~total number of points awarded in previous criteria/total TAB-eligible project cost (not including noise walls)

RESPONSE (Points Awarded and Cost Effectiveness will be Automatically Calculated):

- Total Project Cost (entered in Project Cost Form):_____

SCORING GUIDANCE (100 Points)

~~The applicant with the lowest dollar value per point earned in the application (i.e., the benefits) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the top project had 35,000 and the application being scored had 70,000, this applicant would receive (35,000/70,000) *100 points for 50 points.~~The applicant with the most points (i.e., the benefits) per dollar will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the top project received .0005 points per dollar and the application being scored received .00025 points per dollar, this applicant would receive (.00025/.0005)*100 points or 50 points.

TOTAL: 1,100 POINTS

~~Roadway System~~Traffic Management Technologies – Prioritizing Criteria and Measures

August 17, 2017

Definition: An Intelligent Transportation System (ITS) or similar project~~s~~ that primarily benefits roadway users. ~~Roadway System~~Traffic Management Technology projects can include project elements along a single corridor, ~~a continuous route (could be more than one~~multiple ~~roadway~~corridors,~~)~~ or within a ~~defined~~ specific geographic area such as a downtown area. ~~The~~ To be eligible, ~~system management~~ projects must make improvements to at least one A-Minor Arterial or non-freeway Principal Arterial ~~as part of the project~~. Projects that are more transit-focused must apply in the Transit System Modernization application category.

Examples of ~~Roadway System~~Traffic Management Technology Projects:

- Flashing yellow arrow traffic signals
- Traffic signal retiming projects
- Integrated corridor signal coordination
- Traffic signal control system upgrades
- New/replacement detectors
- Passive detectors for bicyclists and pedestrians
- New/replacement traffic mgmt. centers
- New/replacement ~~fiber optic cables used for~~ traffic ~~control, etc.~~communication
- New/replacement CCTV cameras
- New/replacement variable message signs & other info improvements
- Incident management coordination

Scoring:

Criteria and Measures	Points	% of Total Points
1. Role in the Regional Transportation System and Economy	~~125~~225	~~12.5~~20%
Measure A - ~~Average distance to nearest parallel roadways~~Functional classification of project	~~55~~50	
Measure B - ~~Connection to Total Jobs and Manufacturing/Distribution Jobs~~ Highway Truck Corridor Study Tiers	~~30~~65	
Measure C - Integration within existing traffic management systems	~~70~~60	
Measure D - ~~Freight project elements~~ Coordination with other agencies	50	
2. Usage	**125**	11~~12.5~~~~11~~%
Measure A - Current daily person throughput	85	
Measure B - Forecast 2040 average daily traffic volume	40	
3. Equity and Housing Performance	**100**	~~10~~9%
Measure A - Connection to disadvantaged populations and project's benefits	30	
Measure B - Housing Performance Score	70	
4. Infrastructure Age	**75**	~~7.5~~7%
Measure A - ~~Date of construction~~ Upgrades to obsolete equipment	75	
5. Congestion Reduction/Air Quality	**200**	18~~20~~%
Measure A - ~~Vehicle delay reduced~~Congested roadway (V/C Ratio)	150	
Measure B - ~~Kg of emissions reduced~~Emissions and congestion benefits of project	50	
6. Safety	~~200~~150	~~20~~14%
Measure A - Crashes reduced	~~200~~50	
Measure B - Safety issues in project area	~~50~~100	

Criteria and Measures	Points	% of Total Points
7. Multimodal Elements and Existing Connections	~~100~~50	~~10~~5%
Measure A - Transit, bicycle, or pedestrian project elements and connections	~~100~~50	
~~8~~8. Risk Assessment	**75**	**~~7.5~~7%**
Measure A- Risk Assessment Form	75	
~~Sub Total~~	**~~1,000~~**	**~~100%~~**
~~9~~9. Cost Effectiveness	**100**	**9%**
Measure A – Cost effectiveness (~~total project cost/~~total points awarded/ total project cost)	100	
Total	**1,100**	

1. Role in the Regional Transportation System and Economy (~~125~~ 225 Points) – Tying regional policy (Thrive MSP2040) to the Regional Solicitation, this criterion measures the project's ability to serve a transportation purpose within the regional transportation system and economy based on how well it fulfills its functional classification role, ~~serves heavy commercial traffic~~aligns with the Highway Truck Corridor Study, and ~~connects to employment, students, and manufacturing/distribution-related employment~~integrates with existing traffic management systems, and provides coordination across agencies.. The project must be located on at least one ~~N~~non-~~F~~freeway ~~P~~principal ~~A~~arterial or A-~~M~~minor ~~A~~arterial.

A. *MEASURE:* ~~Address how the project route fulfills its role in the regional transportation system. The project must be located on at least one Non-Freeway Principal Arterial or "A" Minor Arterial.~~ Reference the functional classification(s) that the project would serve. Investment in a higher functionally-classified roadway (i.e., the principal arterial system) serves a more regional purpose and will result in more points.

~~Upload the "Roadway Area Definition" map used for this measure.~~

RESPONSE (~~Calculation~~Select one):

- The majority of the project funds will be invested on the principal arterial system: ☐ (~~4~~50 points)
- The majority of the project funds will be invested on the A-minor arterial system: ☐ (2~~0~~5 points)
- The majority of the project funds will be invested on the collector or local system with some investment either on the principal arterial or A-minor arterial system: ☐ (0 points)

SCORING GUIDANCE (50 Points)
The scorer will assign points based on which of the above scores applies. Note that multiple applicants are able to score the maximum point allotment. If no applicant scores 50 points, the 25-point projects will be adjusted to 50 points, while the zero-point projects will remain at zero.~~SCORING GUIDANCE (55 Points)~~
~~The applicant with the furthest average distance from the closest parallel A-Minor Arterials or Principal Arterials on both sides will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the project being scored had a distance of 8 miles and the top project was had an average distance of 10 miles, this applicant would receive (8/10)*55 points or 44 points. Metropolitan Council staff will provide average distance data for all projects to ensure consistency of methodology between applications.~~

A. *B. MEASURE:* ~~Reference "Regional Economy" map generated at the beginning of the application process. Report the employment and manufacturing/distribution-related employment, and post-secondary students enrolled within one mile, as depicted on the "Regional Economy" map. (30 Points)~~ This criterion relies on the results on the Highway Truck Corridor Study, which prioritized all roadways based on truck volume, truck percentage of total traffic, proximity to freight clusters, and proximity to regional freight terminals. (65 points)

Use the final study report for this measure:
https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Truck-Freight-Corridor-Study.aspx

RESPONSE (Select one for your project, based on the Highway Truck Corridor Study*):*

- The majority of the project funds will be invested on either a Tier 1, Tier 2, or Tier 3 corridor: ☐ (65 Points)
- A majority of the project funds will NOT be invested on a Tier 1, Tier 2, or Tier 3 corridor, but some funds will be invested on these corridors: ☐ (30 Points)
- No project funds will be invested on a Tier 1, Tier 2, or Tier 3 corridor: ☐ (0 Points)

SCORING GUIDANCE (50 Points)
The scorer will assign points based on which of the above scores applies. Note that multiple applicants can score the maximum point allotment. If no applicant scores 65 points, the 30-point projects will be adjusted to 65 points, while the zero-point projects will remain at zero. ~~SCORING GUIDANCE (30 Points) All Census block groups that are included within or intersect the buffer area around the project will be included.~~

~~The applicant with the highest existing total employment will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 1,000 workers within one mile and the top project had 1,500 workers, this applicant would receive (1,000/1,500)*30 points or 20 points.~~

~~The applicant with the highest existing manufacturing/distribution-related employment will receive the full points. Remaining projects will receive a proportionate share of the full points equal to the existing manufacturing/distribution-related employment within one mile of the project being scored divided by the project with the highest manufacturing/distribution-related employment within one mile multiplied by the maximum points available for the measure. For example, if the application being scored had 1,000 manufacturing/distribution-related workers within one mile and the top project had 1,500 manufacturing/distribution-related workers, this applicant would receive (1,000/1,500)*30 points or 20 points.~~

~~The applicant with the highest number of students will receive 18 points. Remaining projects will receive a proportionate share of the 18 points. For example, if the application being scored had 1,000 students within one mile and the top project had 1,500 students, this applicant would receive (1,000/1,500)*18 points or 12 points.~~

~~The scorer will assess if the applicant would score highest with the total employment part of the measure, the manufacturing/distribution employment part of the measure, or the education part of the measure and give the applicant the highest of the three scores out of a maximum of 30 points.~~

~~Note: Due to the use of multiple sub-measures, two applicants will receive the full 30 points.~~

C. MEASURE: ~~Provide the current daily heavy commercial traffic at one location along the A- Minor Arterial or Non-Freeway Principal Arterial project length. It is required that an actual count is collected or that available data from within the last three years is used (from the city, county or MnDOT). Heavy commercial traffic is defined as all trucks with at least two axles and six tires.~~Discuss how the proposed project integrates and/or builds on existing traffic ~~-~~management infrastructure (examples of systems include traffic signal systems, freeway management systems, and incident management systems). (65 Points)

RESPONSE (Limit 2,800 characters; approximately 400 words):
~~*RESPONSE:*~~

- ~~Location:_____~~
- ~~Current daily heavy commercial traffic volume:_____~~
- ~~Date(s) heavy commercial count taken: _____~~

SCORING GUIDANCE (~~30~~ 65 Points)
~~The applicant with the highest daily heavy commercial traffic at a location along the project length will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a heavy commercial volume of 750 vehicles and the top project had a heavy commercial volume of 1,000 vehicles, this applicant would receive (750/1,000)*30 points, or 23 points.~~The applicant will describe how the project would build on other infrastructure and management systems. Prioritizing projects that complement existing infrastructure and management methods, the scorer will award the full share of points to the project that best builds on other infrastructure and management systems. Remaining projects will receive a share of the full points at the scorer's discretion. This response is intended to be qualitative.

D. MEASURE: ~~Discuss any freight elements that are included as part of the project and how they improve efficiency, security, or safety. (10 points)Address how the proposed project safely integrates freight. Freight elements could be project elements such as upgrading a non-ten-ton roadway to a ten-ton roadway, adding paved shoulders, wider shoulders, acceleration lanes, or longer turning lanes added specifically to accommodate freight movements.~~Demonstrate how the project provides or enhances coordination among operational and management systems and/or jurisdictions. (50 points)

RESPONSE (Limit 2~~1~~,8~~4~~00 characters; approximately 4~~2~~00 words):

SCORING GUIDANCE (~~10~~ 450 Points)
The project that best provides or enhances coordination among operational and management systems and/or jurisdictions ~~with the most comprehensive freight elements included as part of the project~~ will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.

2. Usage (~~125~~ 1205 Points) – This criterion quantifies the project's potential impact by measuring the current daily person throughput and future vehicular traffic that will be served by the project. These roadway users directly benefit from the project improvements.

A. *MEASURE:* Metropolitan Council staff will calculate the current daily person throughput at one location along the A-minor arterial or non-freeway principal arterial project length using the current average annual daily traffic (AADT) volume and average ~~annual~~ daily transit ridership. If more than one corridor or location is included in the project, then the applicant should select the corridor where the most investment is being made with the project. The applicant must identify the location along the project length and provide the current AADT volume from the MnDOT 50-series maps ~~and existing transit routes that travel on the road~~. Reference the Transit Map for transit routes along the project. Ridership data will be provided by the Metropolitan Council staff, if public transit is currently provided on the project length. (80~~0~~5 points)

- Current Daily Person Throughput = (current average annual daily traffic volume x 1.30 vehicle occupancy) + average annual daily transit ridership (~~2015~~2017)

RESPONSE:

- Location:_____
- Current AADT volume:_____
- Existing ~~Transit~~ transit ~~Routes~~ routes ~~on the Project~~at the location noted above:_____

SCORING GUIDANCE (~~85~~80~~0~~5 Points)
The project with highest current daily person throughput will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily person throughput of 1,000 vehicles and the top project had a daily person throughput of 1,500 vehicles, this applicant would receive (1,000/1,500)*~~85~~80~~0~~5 points or 5~~4~~6 points.

B. *MEASURE:* Provide the forecast (2040) average daily traffic volume at the same location along the A-minor arterial or non-freeway principal arterial project length, as identified in the previous measure. The applicant may choose to use a county or city travel demand model based on the Metropolitan Council model to identify the forecast (2040) average daily traffic volume or have Metropolitan Council staff determine the forecast volume using the Metropolitan Council model and project location. Respond as appropriate to the use of one type of forecast model. (40 points)

RESPONSE:

- Use Metropolitan Council model to determine forecast (2040) ADT volume☐
- If checked, METC Staff will provide Forecast (2040) ADT volume ☐

OR

RESPONSE:

- Approved county or city travel demand model to determine forecast (2040) ADT volume ☐
- Forecast (2040) ADT volume: _____

SCORING GUIDANCE (40 Points)

The applicant with the highest forecast (2040) ADT volume will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily forecast of 28,000 vehicles and the top project had a daily forecast of 32,000 vehicles, this applicant would receive (28,000/32,000)*40 points or 35 points.

3. Equity and Housing Performance (100 Points) – This criterion addresses the project's positive and negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly. The criterion also evaluates a community's efforts to promote affordable housing.

A. *MEASURE:* Reference the "Socio-Economic Conditions" map generated at the beginning of the application process. Identify the project's location as it applies in the listed responses below. Describe the project's positive benefits, and negative impacts, and mitigation for low-income populations; people of color; children, people with disabilities, and the elderly. Geographic proximity alone is not sufficient to receive the full points listed below. In order to receive the maximum points, the response should address the benefits, impacts, and mitigation for the populations listed.

Upload the "Socio-Economic Conditions" map used for this measure.

RESPONSE (Select one, based on the "Socio-Economic Conditions" map):

- Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50): ☐ ~~(0 to 30 Points)~~ (up to 100% of maximum score)
- Project located in Area of Concentrated Poverty: ☐ ~~(0 to 24 Points)~~ (up to 80% of maximum score)
- Project's census tracts are above the regional average for population in poverty or population of color: ☐ ~~(0 to 18 Points)~~ (up to 60% of maximum score)
- Project located in a census tract that is below the regional average for population in poverty or populations of color, or includes children, people with disabilities, or the elderly: ☐ ~~(0 to 12 Points)~~ (up to 40% of maximum score)

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (30 Points)

Based on the "Socio-Economic Conditions" map's output, the applicant will select the appropriate option from the above bullets. However, geographic proximity alone is not sufficient to receive full points. The applicant must fully describe the positive benefits and negative impacts (with mitigation to address the issue) for those identified groups. Each project will first be graded on a 10-point scale, not accounting for geography. Each score from the 10-point scale will then be adjusted to the appropriate geography. The project with the most positive benefits and appropriate mitigation for negative impacts will receive the full points relative to its maximum geographic sub-area defined above. Remaining projects will receive a share of the full points at the scorer's discretion. This response is intended to be qualitative. Metropolitan Council staff will score this measure.

Note: Due to the geographic adjustment to scores, it is possible that the above process will result in no project receiving the maximum allotment of 30 points. In this case, the highest-scoring application for this measure will be adjusted to receive the full 30 points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 10 points and the top project had 20 points, this applicant would receive (10/20)*30 points or 15 points.

B. *MEASURE:* Metropolitan Council staff will award points to the project based on the ~~2015~~ 2017 Housing Performance Score for the city or township in which the project is located. The score includes consideration of affordability and diversification, local initiatives to facilitate affordable workforce housing development or preservation, and density of residential development. If the project is in more than one jurisdiction, the points will be awarded based on a weighted average using the ~~length of the project~~percent of total funds to be spent in each jurisdiction.

For stand-alone intersection, bridge, underpass, and interchange projects, a one-mile-radius buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile-radius buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

RESPONSE (Affordable Housing Score completed by Metropolitan Council staff):

- City/Township: _____
- ~~Length of Segment~~Percent of total funds to be spend within City/Township:_____

SCORING GUIDANCE (70 Points)

The applicant with the highest ~~2015~~ 2017 Housing Performance Score will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a Housing Performance Score of 55 and the top project had a Housing Performance Score of 90, this applicant would receive (55/90)*70 points or 43 points.

Note: Metropolitan Council staff will score this measure.

Projects will use the city Housing Performance Score based on the project location. If a project is located in more than one jurisdiction, the points will be awarded based on a weighted average of the city or township scores for the project location based on the length of the project in each jurisdiction. For stand-alone roadway (intersection, bridge, underpass, and interchange) projects, a one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

If this is the case, then the total points possible in the application will be 930 instead of 1,000. The total points awarded through the rest of the application (900 as a hypothetical example) will be divided by 930, then multiplied by 1,000. Therefore, a project scoring 900 out of 930, will equate to 968 points on a 1,000-point scale.

If a portion of the project is located in a city with an affordable housing allocation and the other portion is located in a township with no affordable housing allocation, then a combination of the weighted average and no affordable housing methodologies should be used. This will result in a total score that will be somewhere between 930 and 1,000; then the score will need to be adjusted to fit a 1,000-point scale.

4. Infrastructure Age (75 Points) – This criterion will assess the ~~age of the infrastructure elements being improved. Roadway system management investments should focus on improving and replacing existing equipment that is beyond its useful life~~ degree to which functionally obsolete infrastructure elements are being replaced and improved.

A. *MEASURE:* ~~Identify~~ Describe how various ~~type(s) and age(s) of ITS, signal/control, and/or communication~~ equipment will be improved or replaced as part of this project relative to its age and whether it is functionally obsolete~~, as reflected in the project cost estimate~~.

~~RESPONSE:~~

- ~~Equipment to be improved: _____~~
- ~~Date of equipment installation (year): _____~~

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (75 Points)

The project that best provides for stewardship of public funds and resource by replacing functionally obsolete equipment and finding cost-effective solutions to upgrade viable equipment will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.~~All applicants replacing equipment past the total useful life, as listed below, will receive full points. Projects replacing more than one type or age of equipment should be scored based on the average remaining useful life. Remaining projects will receive a proportionate share of the full points equal to the total useful life minus the remaining useful life for the project being scored divided by the total useful life.~~

~~If there are no projects at or past the useful life of the equipment, the applicant with shortest remaining useful life will receive full points, and remaining projects will receive a proportionate share. For example, if the oldest project was installed 18 years ago (traffic signal) and the application being scored was installed 14 years ago, this applicant would receive (14/18)*75 points, or 58 points.~~

~~Equipment Useful Life Values~~

- ~~ITS Equipment: 10 years~~
- ~~Traffic Signals/Control Equipment: 20 years~~
- ~~Communication Equipment: 10 years~~

5. Congestion Reduction/Air Quality (200 Points) – This criterion measures the project's ability to ~~reduce congestion. In addition, it will address its ability to improve congested intersections operating at unacceptable levels of service during peak hour conditions.~~make improvements in congested corridors. The project will also be measured based on its ability to reduce emissions.

A. *MEASURE:* Conduct a volume to capacity (V/C) ratio analysis at one ~~or more of the intersections being located~~location that will be improved by the project. If more than one corridor or location is included in the project, then the applicant should select the corridor where the most investment is being made with the project. The applicant must identify the location and provide the current average annual daily traffic (AADT) volume from the MnDOT 50-series maps. (150 Points)

Non-Freeway Volume/Capacity Table

Design Capacity

The assumed maximum number of vehicles per lane which pass any given point in an hour on an average day during normal operating conditions. For the purposes of responding to criteria in this solicitation packet, the following capacities shall be used:

- Expressway through lane - 800 vehicles per hour;
- Arterial through lane - 600 vehicles per hour;
- Left-turn lane - 300 vehicles per hour;
- Right-turn lane - 200 vehicles per hour;
- Dedicated bike lane or joint use trail - 60 vehicles per hour.

~~using existing turning movement counts (collected within the last three years) in the a.m. or p.m. peak hour and the Synchro or HCM software. The applicant must show the current total peak hour V/C ratio delay at one or more intersections (or rail crossings) and the reduction in total peak hour intersection delayV/C ratio at these intersections (or rail crossings), in seconds, due to the project. If more than one intersection (or rail crossing) is examined, then the V/C ratio delay reduced by each intersection can be added together to determine the project's total reductiontotal .~~

- ~~For roadway projects that include a railroad crossing, the applicant should conduct fieldwork during either the a.m. or p.m. peak hour to determine the total peak hour delay reduced by the projectreduction resulting from the project. Applicants can also add together intersection delay reduced and railroad delay reduced, if they both will be improved by the project.~~

~~The applicant should include the appropriate Synchro or HCM full reports (including the Timing Page Report) that support the improvement in total peak hour delay and should conduct the analysis using the following:~~

- ~~Under the network settings, all defaults should be used for lanes, volumes, phases and simulation~~
- ~~Use Synchro's automatic optimization to determine cycle, offset and splits (for traffic signals)~~

- ~~Project improvements assumed in the build condition should be reflected in the total project cost, such as additional through or turn lanes and protective left-turn phasing~~
- ~~Roadway lengths for intersection approaches must be the same length for before and after scenarios~~

~~Total Peak Hour Delay Reduced (Seconds) = Total Peak Hour Delay/Vehicle x Vehicles Per Hour~~

RESPONSE ~~(Calculation)~~:

- Location: _____
- Current AADT volume: _____
- Capacity: _____
- Volume/Capacity Ratio: _____
- ~~Total Peak Hour Delay/Vehicle without the Project (Seconds/Vehicle): _____~~
- ~~Total Peak Hour Delay/Vehicle with the Project (Seconds/Vehicle): _____~~
- ~~Total Peak Hour Delay/Vehicle Reduced by the Project (Seconds/Vehicle): _____~~
- ~~Volume (Vehicles Per Hour): _____~~
- ~~Total Peak Hour Delay Reduced by the Project (Seconds): _____~~

SCORING GUIDANCE (150 Points)

The applicant with the highest V/C ratio~~most peak hour vehicle delay reduced by the project improvement~~ will receive the full points for the measure. Remaining projects will receive a proportionate share of the points. For example, if the application being scored had a V/C ratio of 0.50 ~~reduced delay by 5,000.8 seconds~~ and the top project ~~reduced delay by 25,0001.01 seconds~~had a V/C ratio of 1.00, this applicant would receive (~~5,000~~0.50/~~25,00~~1.00)*150 points, or ~~30~~ 75 points.

A. ~~*MEASURE:* Using the Synchro or HCM analysis completed in the previous measure, identify the total peak hour emissions reduction in kilograms (CO, NO_x, VOC) due to the project. The applicant should include the appropriate Synchro or full HCM reports (including the Timing Page Report) that support the improvement in total peak hour emissions. If more than one intersection is examined, then the emissions reduced by each intersection can be can added together to determine the total emissions reduced by the project.~~

- ~~Total Peak Hour Emissions Reduced (Kilograms)= Total Peak Hour Emissions Reduced per Vehicle x Vehicles Per Hour~~

~~If more than one intersection is examined, the response is a total of all emissions reduced.~~

~~Respond to one of the following sections, depending on project type:~~

1. ~~Roadway projects that do not include new roadway segments or railroad grade-separation elements~~
2. ~~Roadway projects that are constructing new roadway segments, but do not include railroad grade-separation elements (for Roadway Expansion applications only)~~
3. ~~Roadway projects that include railroad grade-separation elements~~

~~*RESPONSE (Calculation):*~~

- ~~Total (CO, NO_x, and VOC) Peak Hour Emissions/Vehicle without the Project (Kilograms):_____~~
- ~~Total (CO, NO_x, and VOC) Peak Hour Emissions/Vehicle with the Project (Kilograms):_____~~
- ~~Total (CO, NO_x, and VOC)Peak Hour Emissions Reduced/Vehicle by the Project (Kilograms):_____~~
- ~~Volume (Vehicles Per Hour):_____~~

B. ~~Total (CO, NO_x, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):_____~~Discuss how the project will reduce emissions and congestion. Projects on roadways that provide relief to congested, parallel principal arterial roadways may want to reference the current MnDOT Metro Freeway Congestion Report and discuss the systemwide emissions and congestion impact of the proposed improvements.

SCORING GUIDANCE (50 Points)

The project that is most likely to reduce emissions and congestion will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.~~The applicant with the most kilograms reduced by the project improvement will receive the full points for the measure. Remaining projects will receive a proportionate share of the full. For example, if the application being scored reduced emissions by 3 kilograms and the top project reduced emissions by 5 kilograms, this applicant would receive (3/5)*50 points or 30 points.~~

6. Safety (~~200~~ 150 Points) – This criterion addresses the project's ability to correct deficiencies and improve the overall safety of an existing or future roadway facility. It will assess the project's monetized safety benefits.

A. *MEASURE:* Calculate the reduction in the total number of crashes due to improvements on the "A" Minor Arterial or Non-Freeway Principal Arterial made by the project. The applicant must base the estimate of crash reduction on the methodology consistent with the latest MnDOT Metro District Highway Safety Improvement Program (HSIP) application. Applicants should focus on the crash analysis for reactive projects ~~starting on page 7 through page 11, in addition to Appendix A, E, and F~~.

Crash data must be obtained for the project length using the MnDOT TIS system average for calendar years ~~2013~~ 2015 through ~~2015~~2017. Crash data should include all crash types and severity, including pedestrian and bicycle crashes.

Applicants should request crash data from MnDOT as early as possible. The applicant must then attach a listing of the crashes reduced and the HSIP Benefit/Cost (B/C) worksheet that identifies the resulting benefit associated with the project. As part of the response, please detail and attach the crash modification factor(s) used from FHWA's Crash Modification Factors Clearinghouse: http://www.cmfclearinghouse.org/. This measure requests the monetized safety benefit of the project. The cost of the project is scored in the Cost Effectiveness criterion.

RESPONSE (Calculation):

- Crash Modification Factors Used: _____
- Rationale for Crash Modifications Selected (*Limit 1,400 characters; approximately 200 words)*: _____
- Project Benefit ($) from B/C ratio~~–~~: _____
- Explanation of Methodology: _____

SCORING GUIDANCE (~~1~~50 Points)
The applicant with the highest dollar value of benefits will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had safety benefits of $11,000,000 and the top project had safety benefits of $16,000,000, this applicant would receive (11,000,000/16,000,000)*~~1~~50 points or ~~103~~ 34 points.

B. *MEASURE:* Discuss how the project will improve safety issues in the project area. As part of the response, the applicant may want to reference the project relative to County Highway Safety Plan or similar planning documents and what the project will specifically do to improve the safety issue.

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (100 Points)

The project that will provide the most safety benefits and alleviate identified safety concerns will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.

7. Multimodal Elements and Existing Connections (~~100~~ 50 Points) – This criterion measures how the project improves the travel experience, safety, and security for other modes of transportation, and addresses the safe integration of these modes. The *Transportation Policy Plan* requires that explicit consideration of all users of the transportation system be considered in the planning and scoping phase of roadway projects.

A. *MEASURE:* Discuss any bicycle, pedestrian, or transit elements that are included as part of the project and how they improve the travel experience, safety, and security for users of these modes. Applicants should make sure that new multimodal elements described in the response are accounted for as part of the cost estimate form earlier in the application. Applicants may want to reference how the proposed multimodal improvements positively affect identified alignments in the Regional Bicycle Transportation Network (RBTN), if applicable. (~~100~~ 50 points)

Also, describe the existing bicycle, pedestrian, and transit connections. Furthermore, address how the proposed project safely integrates all modes of transportation (i.e., vehicles, bicyclists, transit, and pedestrians) and, if applicable, supports planned transitway stations. Applicants should note if there is no transit service in the project area and identify supporting studies or plans that address why a mode may not be incorporated in the project (e.g., a bicycle system plan that locates bikeway facilities on a lower-volume parallel route).

RESPONSE (Limit 2, 800 characters; approximately 400 words) :

SCORING GUIDANCE (~~100~~ 50 Points)

The project with the most comprehensive multimodal elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion. The project score will be based on the quality of the improvements, as opposed to being based solely on the number of modes addressed.

Scorers should make sure that new multimodal elements described in the response are accounted for on the cost estimate form earlier in the application.

8. Risk Assessment (75 Points) – This criterion measures the number of risks associated with successfully building the project. High-risk applications increase the likelihood that projects will withdraw at a later date. If this happens, the region is forced to reallocate the federal funds in a short amount of time or return them to the Federal Highway Administration ~~and the steps already completed in the project development process~~. These steps are outlined in the checklist in the required Risk Assessment.

A. *MEASURE:* Applications involving construction must complete the Risk Assessment. This checklist includes activities completed to-date, as well as an assessment of risks (e.g., right-of-way acquisition, proximity to historic properties, etc.).

RESPONSE (Complete Risk Assessment):

SCORING GUIDANCE (75 Points)
The applicant with the most points on the Risk Assessment (more points equate to less project risk) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 40 points and the top project had 70 points, this applicant would receive (40/70)*75 points or 43 points.

9. **Cost Effectiveness (100 Points) –** This criterion will assess the project's cost effectiveness based on the total TAB-eligible project cost (not including noise walls) and total points awarded in the previous 8 criteria.

   A. *MEASURE: Calculate the cost effectiveness of the project.* Metropolitan Council staff will divide the number of points awarded in the previous criteria by the TAB-eligible project cost (not including noise walls) ~~by the total number of points awarded in the previous criteria~~.

      - Cost effectiveness = ~~total TAB-eligible project cost (not including noise walls)/~~total number of points awarded in previous criteria/total TAB-eligible project cost (not including noise walls)

      RESPONSE (This measure will be calculated after the scores for the other measures are tabulated by the Scoring Committee):

      - Total Project Cost (entered in Project Cost Form):_____

SCORING GUIDANCE (100 Points)

~~The applicant with the lowest dollar value per point earned in the application (i.e., the benefits) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the top project had 35,000 and the application being scored had 70,000, this applicant would receive (35,000/70,000) *100 points for 50 points.~~The applicant with the most points (i.e., the benefits) per dollar will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the top project received .0005 points per dollar and the application being scored received .00025 points per dollar, this applicant would receive (.00025/.0005)*100 points or 50 points.

TOTAL: 1,100 POINTS

Roadway Reconstruction/Modernization and Spot Mobility– Prioritizing Criteria and Measures

August 17, 2017

Definition: A roadway project that does not add thru-lane capacity, but reconstructs, reclaims, ~~or~~ modernizes, or adds new spot mobility elements (e.g., new turn lanes, traffic signal, or roundabout)~~the facility~~. Routine maintenance including mill and overlay projects are not eligible. Projects must be located on a non-freeway principal arterial or A-minor arterial functionally-classified roadway, consistent with the latest TAB approved functional classification map.

Examples of Roadway Reconstruction/Modernization and Spot Mobility Projects:

- Intersection improvements or alternative intersections such as unsignalized or signalized reduced conflict intersections.
- Interchange reconstructions that do not involve new ramp movements or added thru lanes
- Turn lanes ~~(not continuous)~~
- Two-lane to three-lane conversions
- Four-lane to three-lane conversions
- Roundabouts
- Addition or replacement of traffic signals
- Shoulder improvements
- Strengthening a non-10-ton roadway
- Raised medians, frontage roads, access modifications, or other access management
- Roadway improvements that add multimodal elements
- New alignments that replace an existing alignment and do not expand the number of lanes

Scoring:

Criteria and Measures	Points	% of Total Points
1. Role in the Regional Transportation System and Economy	**~~175~~170**	**15%**
~~Measure A - Average distance to nearest parallel roadways~~	~~80~~	
Measure ~~B~~ A - Connection to Total Jobs and Manufacturing/Distribution Jobs	~~30~~40	
Measure ~~C~~B - Highway Truck Corridor Study Tiers~~Current daily heavy commercial traffic~~	~~50~~65	
Measure C~~D~~ - Principal Arterial Intersection Conversion Study Priorities~~Freight project elements~~	~~15~~65	
2. Usage	**175**	**16%**
Measure A - Current daily person throughput	110	
Measure B - Forecast 2040 average daily traffic volume	65	
3. Equity and Housing Performance	**100**	**~~10~~9%**
Measure A - Connection to disadvantaged populations and project's benefits	30	
Measure B - Housing Performance Score	70	
4. Infrastructure Age/Condition	**150**	**~~15~~14%**
Measure A - Date of construction	50	
Measure B - Geometric, structural, or infrastructure deficiencies	100	
5. Congestion Reduction/Air Quality	**~~75~~80**	**~~7.5~~8%**
Measure A - Vehicle delay reduced	~~45~~50	
Measure B - Kg of emissions reduced	30	
6. Safety	**150**	**~~15~~14%**
Measure A - Crashes reduced	150	
7. Multimodal Elements and Existing Connections	**100**	**~~10~~9%**
Measure A - Transit, bicycle, or pedestrian project elements and connections	100	
8. Risk Assessment	**75**	**~~7.58~~7%**
Measure A - Risk Assessment Form	75	

Criteria and Measures	Points	% of Total Points
9. Cost Effectiveness	**100**	9%
Measure A – Cost effectiveness (~~total project cost/~~total points awarded/total project cost)	100	
Total	**1,100**	

1. Role in the Regional Transportation System and Economy (~~175~~ 170 Points) – Tying regional policy (Thrive MSP2040) to the Regional Solicitation, this criterion measures the project's ability to serve a transportation purpose within the regional transportation system and economy based on how well it ~~fulfills its functional classification role, serves heavy commercial traffic, and~~ connects to employment, and manufacturing/distribution-related employment, and post-secondary students, and aligns with regional studies (Highway Truck Corridor Study and Principal Arterial Intersection Conversion Study).

~~A. *MEASURE:* Address how the project route fulfills its role in the regional transportation system as identified by its current functional classification. Respond as appropriate to one type of functional classification.~~

~~**For Expander/Augmentor/Connector/Non-Freeway Principal Arterial Projects Only:**~~

- ~~Reference the "Roadway Area Definition" map generated at the beginning of the application process. Report the total area and project length, as depicted on the "Roadway Area Definition" map, to calculate the average distance between the project and the closest parallel "A" Minor Arterials or Principal Arterials on both sides of the project.~~

  ~~Upload the "Roadway Area Definition" map used for this measure.~~

~~*RESPONSE (Calculation):*~~

~~**For Reliever Projects Only:**~~

~~For A-Minor Arterial Relievers, the measure will analyze the level of congestion on the parallel Principal Arterial to determine the importance of the Reliever. Identify the hours per day the current volume exceeds the design capacity on the Principal Arterial being relieved by the Reliever.~~

- ~~If the Reliever is relieving a Principal Arterial that is a freeway facility, the applicant should obtain data from the current MnDOT Metro Freeway Congestion Report.~~
- ~~If the Reliever is relieving a Principal Arterial that is a non-freeway facility, the applicant should obtain intersection turning movement or hourly volume data (within the last three years) directly from the MnDOT Metro Intersection Warrant Information website. If data is unavailable on the website, the applicant should collect or use their own intersection turning movement or hourly volume data (within the last three years) for the non-freeway facility. The volume used for the Principal Arterial being relieved should be located within the parallel length of the project. To calculate existing conditions, the applicant must obtain the hourly directional traffic volumes on a weekday, and the current lane configurations.~~

~~For the design capacity calculations, the applicant must use Metropolitan Council definition below:~~

~~**Non-Freeway Volume/Capacity Table**~~
~~**Design Capacity**~~

~~The assumed maximum number of vehicles per lane which pass any given point in an hour on an average day during normal operating conditions. For the purposes of responding to criteria in this solicitation packet, the following capacities shall be used:~~

- ~~Expressway through lane - 800 vehicles per hour;~~
- ~~Arterial through lane - 600 vehicles per hour;~~
- ~~Left-turn lane - 300 vehicles per hour;~~
- ~~Right-turn lane - 200 vehicles per hour;~~
- ~~Dedicated bike lane or joint use trail - 60 vehicles per hour.~~

~~*RESPONSE (Calculation):*~~

SCORING GUIDANCE ~~(80 Points)~~

~~Expanders, Augmentors, Connectors, and Non-Freeway Principal Arterials: The applicant with the furthest average distance from the closest parallel A-Minor Arterials or Principal Arterials on both sides will receive the full points. The furthest average distance will be considered separately for Expanders, Augmentors, Connectors, and Non-Freeway Principal Arterials.~~

~~Relievers: The applicant with the highest number of hours per day in which current capacity exceeds the design capacity on the Principal Arterial will receive the full points. Remaining Reliever projects will receive a proportionate share of the full points, calculated as described above.~~

~~Five projects (one each for Augmentor, Connector, Expander, Reliever, and Non-Freeway Principal Arterial) may receive the full points. Remaining projects will receive a proportionate share of the full points (awarded to the top score in its appropriate functional classification). For example, if the Expander being scored had a distance of 8 miles and the top Expander project had an average distance of 10 miles, this applicant would receive (8/10)*80 points or 64 points. Metropolitan Council staff will provide average distance data for all Augmentor, Expander, Connector and Non-Freeway Principal Arterial projects to ensure consistency of methodology between applications.~~

~~B.~~A. *MEASURE:* Reference the "Regional Economy" map generated at the beginning of the application process. Report the existing employment and manufacturing/distribution-related employment, and post-secondary students enrolled within one mile, as depicted on the "Regional Economy" map.

Upload the "Regional Economy" map used for this measure.

RESPONSE (Data from the "Regional Economy" map):

- Existing Employment within 1 Mile:_____(Maximum of ~~30~~ 40 points)
- Existing Manufacturing/Distribution-Related Employment within 1 Mile:_____ (Maximum of ~~30~~ 40 points)
- Existing Post-Secondary Students: _____(Maximum of ~~18~~ 24 points)

SCORING GUIDANCE (~~30~~ 40 Points)
All Census block groups that are included within or intersect the buffer area around the project will be included.

The applicant with the highest existing total employment will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 1,000 workers within one mile and the top project had 1,500 workers, this applicant would receive (1,000/1,500)*~~30~~ 40 points or ~~20~~ 27 points.

The applicant with the highest existing manufacturing/distribution-related employment will receive the full points. Remaining projects will receive a proportionate share of the full points equal to the existing manufacturing/distribution-related employment within one mile of the project being scored divided by the project with the highest manufacturing/distribution-related employment within one mile multiplied by the maximum points available for the measure (30). For example, if the application being scored had 1,000 manufacturing/distribution-related workers within one mile and the top project had 1,500 manufacturing/distribution-related workers, this applicant would receive (1,000/1,500)*~~30~~ 40 points or ~~20~~ 27 points.

The applicant with the highest number of post-secondary students will receive 18 points. Remaining projects will receive a proportionate share of the 18 points. For example, if the application being scored had 1,000 students within one mile and the top project had 1,500 students, this applicant would receive (1,000/1,500)*~~18~~ 24 points or ~~12~~ 16 points.

The scorer will assess if the applicant would score highest with the total employment part of the measure, the manufacturing/distribution employment part of the measure, or the education part of the measure and give the applicant the highest of the three scores out of a maximum of ~~30~~ 40 points.

Note: Due to the use of multiple sub-measures, two applicants will receive the full ~~30~~ 40 points.

B. *MEASURE:* This criterion relies on the results on the Highway Truck Corridor Study, which prioritized all roadways based on truck volume, truck percentage of total traffic, proximity to freight clusters, and proximity to regional freight terminals. (65 points)

Use the final study report for this measure:
https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Truck-Freight-Corridor-Study.aspx

RESPONSE Select one for your project, based on the Highway Truck Corridor Study*):*

- Tier 1: ☐ (65 Points)
- Tier 2: ☐ (45 Points)
- Tier 3: ☐ (25 Points)
- None of the tiers: ☐ (0 Points)

~~Provide the current daily heavy commercial traffic at one location along the A- Minor Arterial or Non-Freeway Principal Arterial project length. It is required that an actual count is collected, or that available data from within the last three years is used (from the city, county~~

~~or MnDOT). Heavy commercial traffic is defined as all trucks with at least two axles and six tires. (50 Points)~~

~~*RESPONSE:*~~

- ~~Location:_____~~
- ~~Current daily heavy commercial traffic volume:_____~~
- ~~Date heavy commercial count taken:_____~~

SCORING GUIDANCE ~~(50 Points)~~
~~The applicant with the highest daily heavy commercial traffic at a location along the project length will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a heavy commercial volume of 750 vehicles and the top project had a heavy commercial volume of 1,000 vehicles, this applicant would receive (750/1,000)*50 points, or 38 points.~~

C. *MEASURE:* This criterion relies on the results on the Principal Arterial Intersection Conversion Study, which prioritized non-freeway principal arterial intersections. (65 points)~~Discuss any freight elements that are included as part of the project and how they improve efficiency, security, or safety.~~

Use the final study report for this measure: metrocouncil.org/PAICS

RESPONSE Select one for your project, based on the Principal Arterial Intersection Conversion Study):

- Proposed at-grade project that improves a High Priority Intersection: ☐ (65 Points)
- Proposed at-grade project that improves a Medium Priority Intersection: ☐ (55 Points)
- Proposed at-grade project that improves a Low Priority Intersection: ☐ (45 Points)
- Not listed as a priority in the study: ☐ (0 Points)

~~Address how the proposed project safely integrates freight. Freight elements could be project elements such as upgrading a non ten ton roadway to a ten ton roadway, adding paved shoulders, wider shoulders, acceleration lanes, or longer turning lanes added specifically to accommodate freight movements.~~

~~*RESPONSE (Limit 1,400 characters; approximately 200 words):*~~

SCORING GUIDANCE ~~(15 Points)~~
~~The project with the most comprehensive freight elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.~~

2. Usage (175 Points) – This criterion quantifies the project's potential impact by measuring the current daily person throughput and future vehicular traffic that will be served by the project. These roadway users directly benefit from the project improvements on the "A" Minor Arterial or Non-Freeway Principal Arterial.

A. *MEASURE:* The applicant must identify the location along the project length and provide the current AADT volume from the MnDOT 50-series maps and existing transit routes that travel on the road (reference Transit Connections Map). Ridership data will be provided by the Metropolitan Council staff, if public transit is currently provided on the project length. Metropolitan Council staff will calculate the current daily person throughput at one location along the "A" Minor Arterial or Non-Freeway Principal Arterial project length using the current average annual daily traffic (AADT) volume and average annual ridership.

- Current Daily Person Throughput = (current average annual daily traffic volume x 1.30 vehicle occupancy) + average annual daily transit ridership (~~2015~~2017)

RESPONSE:

- Location:_____
- Current AADT volume:_____
- Existing Transit Routes on the Project:_____

SCORING GUIDANCE (110 Points)
The applicant with highest current daily person throughput will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily person throughput of 1,000 vehicles and the top project within the same functional classification had a daily person throughput of 1,500 vehicles, this applicant would receive (1,000/1,500)*110 points or 73 points.

B. *MEASURE:* Provide the forecast (2040) average daily traffic volume at the same location along the "A" Minor Arterial or Non-Freeway Principal Arterial project length, as identified in the previous measure. The applicant may choose to use a county or city travel demand model based on the Metropolitan Council model to identify the forecast (2040) average daily traffic volume or have Metropolitan Council staff determine the forecast volume using the Metropolitan Council model and project location. Respond as appropriate to the use of one type of forecast model.

RESPONSE:

- Use Metropolitan Council model to determine forecast (2040) ADT volume☐
- If checked, METC Staff will provide Forecast (2040) ADT volume ☐

OR

RESPONSE:

- Identify the approved county or city travel demand model to determine forecast (2040) ADT volume: _____
- Forecast (2040) ADT volume : _____

SCORING GUIDANCE (65 Points)

The applicant with the highest forecast (2040) ADT volume will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily forecast of 28,000 vehicles and the top project had a daily forecast of 32,000 vehicles, this applicant would receive (28,000/32,000)*65 points or 57 points.

3. Equity and Housing Performance (100 Points) – This criterion addresses the project's positive and negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly. The criterion also evaluates a community's efforts to promote affordable housing.

A. *MEASURE:* Reference the "Socio-Economic Conditions" map generated at the beginning of the application process. Identify the project's location as it applies in the listed responses below. Describe the project's positive benefits, and negative impacts, and mitigation for low-income populations; people of color; children, people with disabilities, and the elderly. Geographic proximity alone is not sufficient to receive the full points listed below. In order to receive the maximum points, the response should address the benefits, impacts, and mitigation for the populations listed.

Upload the "Socio-Economic Conditions" map used for this measure.

RESPONSE (Select one, based on the "Socio-Economic Conditions" map):

- Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50): ☐ ~~(0 to 30 Points)~~ (up to 100% of maximum score)
- Project located in Area of Concentrated Poverty: ☐ ~~(0 to 24 Points)~~ (up to 80% of maximum score)
- Project's census tracts are above the regional average for population in poverty or population of color: ☐ ~~(0 to 18 Points)~~ (up to 60% of maximum score)
- Project located in a census tract that is below the regional average for population in poverty or populations of color, or includes children, people with disabilities, or the elderly: ☐ ~~(0 to 12 Points)~~ (up to 40% of maximum score)

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (30 Points)

Based on the "Socio-Economic Conditions" map's output, the applicant will select the appropriate option from the above bullets. However, geographic proximity alone is not sufficient to receive full points. The applicant must fully describe the positive benefits and negative impacts (with mitigation to address the issue) for those identified groups. Each project will first be graded on a 10-point scale, not accounting for geography. Each score from the 10-point scale will then be adjusted to the appropriate geography. The project with the most positive benefits and appropriate mitigation for negative impacts will receive the full points relative to its maximum geographic sub-area defined above. Remaining projects will receive a share of the full points at the scorer's discretion. This response is intended to be qualitative. Metropolitan Council staff will score this measure.

Note: Due to the geographic adjustment to scores, it is possible that the above process will result in no project receiving the maximum allotment of 30 points. In this case, the highest-scoring application for this measure will be adjusted to receive the full 30 points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 10 points and the top project had 20 points, this applicant would receive (10/20)*30 points or 15 points.

B. *MEASURE:* Metropolitan Council staff will award points to the project based on the ~~2015~~ 2017 Housing Performance Score for the city or township in which the project is located. The score includes consideration of affordability and diversification, local initiatives to facilitate affordable workforce housing development or preservation, and density of residential development. If the project is in more than one jurisdiction, the points will be awarded based on a weighted average using the length of the project in each jurisdiction.

For stand-alone intersection, bridge, underpass, and interchange projects, a one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

RESPONSE (Affordable Housing Score completed by Metropolitan Council staff):

- City/Township: _____
- Length of Segment (Population for stand-alone projects from Regional Economy map) within City/Township: _____

SCORING GUIDANCE (70 Points)

The applicant with the highest ~~2015~~ 2017 Housing Performance Score will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a Housing Performance Score of 55 and the top project had a Housing Performance Score of 90, this applicant would receive (55/90)*70 points or 43 points.

Note: Metropolitan Council staff will score this measure.

Projects will use the city Housing Performance Score based on the project location. If a project is located in more than one jurisdiction, the points will be awarded based on a weighted average of the city or township scores for the project location based on the length of the project in each jurisdiction. For stand-alone intersection, bridge, underpass, and interchange projects, a one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

If this is the case, then the total points possible in the application will be 930 instead of 1,000. The total points awarded through the rest of the application (900 as a hypothetical example) will be divided by 930, then multiplied by 1,000. Therefore, a project scoring 900 out of 930, will equate to 968 points on a 1,000-point scale.

If a portion of the project is located in a city with an affordable housing allocation and the other portion is located in a township with no affordable housing allocation, then a combination of the weighted average and no affordable housing methodologies should be used. This will result in a total score that will be somewhere between 930 and 1,000; then the score will need to be adjusted to fit a 1,000-point scale.

4. Infrastructure Age/Condition (150 Points) – This criterion will assess the age of the roadway facility being improved. Roadway improvement investments should focus on the higher needs of an aging facility, whereas, improvements to a recently reconstructed roadway does not display an efficient use of funds.

A. *MEASURE:* Identify the year of the roadway's original construction or most recent reconstruction. If the reconstruction date is used for the roadway, a full reconstruction must have been completed during the indicated year. Routine maintenance, such as an overlay or sealcoating project does not constitute a reconstruction and should not be used to determine the infrastructure age.

RESPONSE:

- Year of original roadway construction or most recent reconstruction: _____
- Location(s) used: _____

SCORING GUIDANCE (50 Points)
The applicant with the oldest roadway will receive full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored was constructed 41 years ago and the oldest project was constructed 48 years ago, this applicant would receive (41/48)*50 points or 43 points.

Note: Because of the reporting of year of construction, it is possible for multiple projects to receive the full allotment of 50 points.

B. *MEASURE:* Select the geometric, structural, or infrastructure deficiencies listed below that will be improved as part of this project, as reflected in the project cost estimate. (100 Points)

RESPONSE (Select all that apply. Please identify the proposed improvement):

- Improving ~~a non-10-ton~~ roadway to better accommodate freight movements~~a 10-ton roadway~~: ☐ 0-15 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words):*
- Improved clear zones or sight lines: ☐ 0-10 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- Improved roadway geometrics: ☐ 0-15 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- Access management enhancements: ☐ 0-20 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- Vertical/horizontal alignments improvements: ☐ 0-10 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- Improved stormwater mitigation: ☐ 0-10 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- Signals/lighting upgrades: ☐ 0-10 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*
- *Other Improvements*: ☐ 0-10 pts
  - *RESPONSE (Limit 700 characters; approximately 100 words)*

SCORING GUIDANCE (100 Points)

Within each improvement sub-measure, the answer most responsive to the need will receive full (e.g., the top project that improves clear zones or sight lines will receive 10 points), with each remaining project receiving a share of the full points at the scorer's discretion. It is possible for more than one project to receive maximum points for a sub-measure.

The highest-scoring application for this measure will be adjusted to receive the full 100 points. Remaining projects will receive a proportionate share of the full points equal to the points for the project being scored divided by the points assigned to the highest-scoring project multiplied by the maximum points available for the measure (100). For example, if the application being scored had 25 points and the top project had 50 points, this applicant would receive (25/50)*100 points or 50 points.

5. Congestion Reduction/Air Quality (~~75~~ 80Points) – This criterion measures the project's ability to reduce congestion. In addition, it will address its ability to improve congested intersections operating at unacceptable levels of service during peak hour conditions. The project will also be measured based on its ability to reduce emissions.

A. *MEASURE:* Conduct a capacity analysis at one or more of the intersections (or rail crossings) being improved by the roadway project using existing turning movement counts (collected within the last three years) in the a.m. or p.m. peak hour and the Synchro or HCM software. The applicant must show the current total peak hour delay at one or more intersections (or rail crossings) and the reduction in total peak hour intersection delay at these intersections (or rail crossings) in seconds due to the project. If more than one intersection (or rail crossing) is examined, then the delay reduced by each intersection can be can added together to determine the total delay reduced by the project.

- For roadway projects that include a railroad crossing, the applicant should conduct fieldwork during either the a.m. or p.m. peak hour to determine the total peak hour delay reduced by the project. Applicants can also add together intersection delay reduced and railroad delay reduced, if they both will be improved by the project.

The applicant should include the appropriate Synchro or HCM full reports (including the Timing Page Report) that support the improvement in total peak hour delay and should conduct the analysis using the following:

- Under the network settings, all defaults should be used for lanes, volumes, phases and simulation
- Use Synchro's automatic optimization to determine cycle, offset and splits (for traffic signals)
- Project improvements assumed in the build condition should be reflected in the total project cost, such as additional through or turn lanes and protective left-turn phasing
- Roadway lengths for intersection approaches must be the same length for before and after scenarios
- An average weekday should be used for the existing conditions instead of a weekend, peak holiday, or special event time period that is not representative of the corridor for most of the year

Total Peak Hour Delay Reduced (Seconds) = Total Peak Hour Delay/Vehicle x Vehicles Per Hour

RESPONSE (Calculation):

- Total Peak Hour Delay/Vehicle without the Project (Seconds/Vehicle):_____
- Total Peak Hour Delay/Vehicle with the Project (Seconds/Vehicle):_____
- Total Peak Hour Delay/Vehicle Reduced by the Project (Seconds/Vehicle):_____
- Volume (Vehicles Per Hour): _____
- Total Peak Hour Delay Reduced by the Project (Seconds): _____
- *EXPLANATION of methodology used to calculate railroad crossing delay, if applicable (Limit 1,400 characters; approximately 200 words):*

SCORING GUIDANCE (50 Points)
The applicant with the most peak hour vehicle delay reduced by the project improvement will receive the full points for the measure. Remaining projects will receive a proportionate share of the points. For example, if the application being scored reduced delay by 5,000 seconds and the top project reduced delay by 25,000 seconds, this applicant would receive (5,000/25,000)*50 points, or 10 points.

B. *MEASURE:* Using the Synchro or HCM analysis completed in the previous measure, identify the total peak hour emissions reduction in kilograms (CO, NO_X, VOC) due to the project. The applicant should include the appropriate Synchro or full HCM reports (including the Timing Page Report) that support the improvement in total peak hour emissions. If more than one intersection is examined, then the emissions reduced by each intersection can be can added together to determine the total emissions reduced by the project.

Roadway projects that do not include railroad grade-separation elements:

- Total Peak Hour Emissions Reduced (Kilograms)= Total Peak Hour Emissions without the project – Total Peak Hour Emissions with the Project ~~Reduced Per Vehicle x Vehicles Per Hour~~

RESPONSE (Calculation):

- Total (CO, NO_X, and VOC) Peak Hour Emissions~~/Vehicle~~ without the Project (Kilograms):_____
- Total (CO, NO_X, and VOC) Peak Hour Emissions~~/Vehicle~~ with the Project (Kilograms):_____
- Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced~~/Vehicle~~ by the Project (Kilograms):_____
- ~~Volume (Vehicles Per Hour): _____~~
- ~~Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): _____~~

If more than one intersection is examined, the response ~~in~~ should include a total of all emissions reduced.

Roadway projects that include railroad grade-separation elements:

- For roadway projects that include a railroad crossing, the applicant needs to input four variables before and after the project to determine the change in emissions. Those variables include: speed, vehicle mile traveled, delay, and total vehicle stops. The applicant needs to conduct fieldwork during either the a.m. or p.m. peak hour to determine the existing conditions and then detail any assumptions used for conditions after the project is built. The variables will be used in the exact same equation used within the software program (i.e., Synchro) required of the other project types. Therefore, the approach to calculate the kilograms emissions reduced for railroad grade-separation projects will be comparable to intersection improvement projects.

RESPONSE (Calculation):

- Cruise speed in miles per hour without the project:_____ (Applicant inputs number)
- Vehicle miles traveled without the project:_____ (Applicant inputs number)
- Total delay in hours without the project:_____ (Applicant inputs number)
- Total stops in vehicles per hour without the project:_____ (Applicant inputs number)

- Cruise speed in miles per hour with the project:_____ (Applicant inputs number)
- Vehicle miles traveled with the project:_____ (Applicant inputs number)
- Total delay in hours with the project:_____ (Applicant inputs number)
- Total stops in vehicles per hour with the project:_____ (Applicant inputs number)
- Fuel consumption in gallons (F1)
- Fuel consumption in gallons (F2)
- Fuel consumption in gallons (F3)
- Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
- EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)
-

Speed = cruise speed in miles per hour
Total Travel = vehicle miles traveled
Total Delay = total delay in hours
Stops = total stops in vehicles per hour

$K1 = 0.075283-0.0015892 * Speed + 0.000015066 * Speed^2$
K2 = 0.7329
$K3 = 0.0000061411 * Speed^2$

F1 (or F2 – without the project) = Fuel consumption in gallons

*F1 = Total Travel * k1 + Total Delay * k2 + Stops * k3*
*F2 = Total Travel * k1 + Total Delay * k2 + Stops * k3*

F3 = F1 – F2

*CO = F3 * 0.0699 kg/gallon*
NO_X *= F3 * 0.0136 kg/gallon*
*VOC = F3 * 0.0162 kg/gallon*

Equation Automatically Provides Emissions Reduced:

- Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): _____ (Online Calculation)

- *EXPLANATION of methodology and assumptions used (Limit 1,400 characters; approximately 200 words):*

SCORING GUIDANCE (30 Points)
The applicant with the most kilograms reduced by the project improvement will receive the full points for the measure. Remaining projects will receive a proportionate share of the full. For example, if the application being scored reduced emissions by 3 kilograms and the top project reduced emissions by 5 kilograms, this applicant would receive (3/5)*30 points or 18 points.

6. Safety (150 Points) – This criterion addresses the project's ability to correct deficiencies and improve the overall safety of a roadway facility. It will assess the project's monetized safety benefits.

A. *MEASURE:* Respond as appropriate to one of the two project types below. (150 Points)

Roadway projects that do not include railroad grade-separation elements:

Calculate the reduction in the total number of crashes due to improvements on the "A"-Minor Arterial or Non-Freeway Principal Arterial made by the project. The applicant must base the estimate of crash reduction on the methodology consistent with the latest Highway Safety Improvement Program (HSIP) application. Applicants should focus on the crash analysis for reactive projects ~~starting on page 7 through page 11, in addition to Appendix A, E, and F~~.

Crash data must be obtained for the project length using the MnDOT TIS system average for calendar years ~~2013~~ 2015 through ~~2015~~2017. Crash data should include all crash types and severity, including pedestrian and bicycle crashes.

Applicants should request crash data from MnDOT as early as possible. The applicant must then attach a listing of the crashes reduced and the HSIP Benefit/Cost (B/C) worksheet that identifies the resulting benefit associated with the project. As part of the response, please detail and attach the crash modification factor(s) used from FHWA's Crash Modification Factors Clearinghouse: http://www.cmfclearinghouse.org/. This measure requests the monetized safety benefit of the project. The cost of the project is scored in the Cost Effectiveness criterion.

RESPONSE (Calculation):

- Crash Modification Factors Used: _____
- Rationale for Crash Modifications Selected (*Limit 1,400 characters; approximately 200 words)*: _____
- Project Benefit ($) from B/C ratio: _____
- Explanation of Methodology: _____

Roadway projects that include railroad grade-separation elements:

Since the number of observed crashes at an existing at-grade railroad crossing is minor compared to an intersection, this measure will assess crash risk exposure that exists in order to compare projects. As a proactive safety measure, railroad grade-separation projects eliminate the crash risk exposure.

- Crash Risk Exposure Eliminated = current average annual daily traffic volume x average number of daily trains at the at-grade crossing

RESPONSE (Calculation):

- Current AADT volume:_____
- Average daily trains:_____
- Crash Risk Exposure eliminated:_____

SCORING GUIDANCE (150 Points)

This measure will be considered separately for projects that do and do not include a railroad grade-separation project. As a result, two projects (one without a railroad grade-separation project and one with a railroad grade-separation) may receive the full points.

For projects that do not include a grade-separation project, the applicant with the highest dollar value of benefits will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had safety benefits of $11,000,000 and the top project had safety benefits of $16,000,000, this applicant would receive (11,000,000/16,000,000)*150 points or 103 points.

For railroad grade-separation projects, the applicant with the highest crash risk exposure eliminated due to the project will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored reduced 11,000 exposures and the top project reduced 16,000, this applicant would receive (11,000 /16,000)*150 points or 103 points.

7. Multimodal Elements and Existing Connections (100 Points) - This criterion measures how the project improves the travel experience, safety, and security for other modes of transportation and addresses the safe integration of these modes. The *Transportation Policy Plan* requires that explicit consideration of all users of the transportation system be considered in the planning and scoping phase of roadway projects.

A. *MEASURE:* Discuss any bicycle, pedestrian, or transit elements that are included as part of the project and how they improve the travel experience, safety, and security for users of these modes. Applicants should make sure that new multimodal elements described in the response are accounted for as part of the cost estimate form earlier in the application. Applicants may want to reference how the proposed multimodal improvements positively affect identified alignments in the Regional Bicycle Transportation Network (RBTN), if applicable. (100 points)

Also, describe the existing bicycle, pedestrian, and transit connections. Furthermore, address how the proposed project safely integrates all modes of transportation (i.e., vehicles, bicyclists, transit, and pedestrians) and, if applicable, supports planned transitway stations. Applicants should note if there is no transit service in the project area and identify supporting studies or plans that address why a mode may not be incorporated in the project (e.g., a bicycle system plan that locates bikeway facilities on a lower-volume parallel route).

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (100 Points)

The project with the most comprehensive multimodal elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion. The project score will be based on the quality of the improvements, as opposed to being based solely on the number of modes addressed.

Scorers should make sure that new multimodal elements described in the response are accounted for on the cost estimate form earlier in the application.

8. Risk Assessment (75 Points) – This criterion measures the number of risks associated with successfully building the project. High-risk applications increase the likelihood that projects will withdraw at a later date. ~~and the steps already completed in the project development process~~. These steps are outlined in the checklist in the required Risk Assessment.

A. *MEASURE:* Applications involving construction must complete the Risk Assessment. This checklist includes activities completed to-date, as well as an assessment of risks (e.g., right-of-way acquisition, proximity to historic properties, etc.).

RESPONSE (Complete Risk Assessment):

SCORING GUIDANCE (75 Points)
The applicant with the most points on the Risk Assessment (more points equate to less project risk) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 40 points and the top project had 70 points, this applicant would receive (40/70)*75 points or 43 points.

9. **Cost Effectiveness (100 Points) –** This criterion will assess the project's cost effectiveness based on the total TAB-eligible project cost (not including noise walls) and total points awarded in the previous criteria.

   A. *MEASURE: This measure will calculate the cost* effectiveness *of the project.* Metropolitan Council staff will divide the number of points awarded in the previous criteria by the TAB-eligible project cost (not including noise walls) ~~by the total number of points awarded in the previous criteria~~.

      - Cost- effectiveness = ~~total TAB-eligible project cost (not including noise walls)/~~total number of points awarded in previous criteria/total TAB-eligible project cost

      RESPONSE (This measure will be calculated after the scores for the other measures are tabulated by the Scoring Committee):

      - Total Project Cost (entered in Project Cost Form):_____

SCORING GUIDANCE (100 Points)
The applicant with the most points (i.e., the benefits) per~~lowest~~ dollar ~~value per point earned in the application (i.e., the benefits)~~ will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the top project ~~had 35,000~~received .0005 points per dollar and the application being scored received .00025 points per dollar, ~~had 70,000,~~ this applicant would receive (.0005~~35,000~~/.00025~~70,000~~) *100 points for 50 points.

TOTAL: 1,100 POINTS

Roadway Expansion – Prioritizing Criteria and Measures

August 17, 2017

Definition: A roadway project that adds thru-lane capacity. Projects must be located on a non-freeway principal arterial or A-minor arterial functionally-classified roadway, consistent with the latest TAB approved functional classification map. However, A-minor connectors cannot be expanded with new thru lane capacity with these federal funds per regional policy and must apply in the Reconstruction/Modernization and Spot Mobility application category.

Examples of Roadway Expansion Projects:

- New roadways
- Two-lane to four-lane expansions
- ~~Two-lane to three-lane expansions~~
- Four-lane to six-lane expansions
- New interchanges with or without associated frontage roads
- Expanded interchanges with either new ramp movements or added thru lanes
- New bridges, overpasses and underpasses

Scoring:

Criteria and Measures	Points	% of Total Points
1. Role in the Regional Transportation System and Economy	~~175~~210	1~~97.5~~%
Measure A - ~~Average distance to nearest~~Relieves a congested parallel roadway~~s~~	~~80~~40	
Measure B - Connection to Total Jobs, ~~and~~ Manufacturing/Distribution Jobs, and Students	~~30~~40	
Measure C - ~~Current daily heavy commercial traffic~~Highway Truck Corridor Study Tiers	~~50~~65	
Measure D - Principal Arterial Intersection Conversion Study Priorities~~Freight project elements~~	~~15~~65	
2. Usage	**175**	1~~67.5~~%
Measure A - Current daily person throughput	110	
Measure B - Forecast 2040 average daily traffic volume	65	
3. Equity and Housing Performance	**100**	~~10~~9%
Measure A - Connection to disadvantaged populations and project's benefits, impacts, and mitigation	30	
Measure B - Housing Performance Score	70	
4. Infrastructure Age	~~75~~40	~~7.~~5%
Measure A - Date of construction	~~75~~40	
5. Congestion Reduction/Air Quality	**150**	~~15~~13%
Measure A - Vehicle delay reduced	100	
Measure B - Kg of emissions reduced	50	
6. Safety	**150**	~~15~~13%
Measure A - Crashes reduced	150	
7. Multimodal Elements and Existing Connections	**100**	~~10~~9%
Measure A - Transit, bicycle, or pedestrian project elements & connections	100	
8. Risk Assessment	**75**	7%
Measure A - Risk Assessment Form	75	
9. Cost Effectiveness	**100**	9%

	Measure A - Cost effectiveness (~~total project cost/~~total points awarded/total project cost)	100
Total		**1,100**

1. Role in the Regional Transportation System and Economy (~~175~~ 210 Points) – Tying regional policy (Thrive MSP2040) to the Regional Solicitation, this criterion measures the project's ability to serve a transportation purpose within the regional transportation system and economy based on how well it ~~fulfills its functional classification role,~~ relieves congested parallel routes~~,~~; ~~serves heavy commercial traffic, and~~ connects to employment, manufacturing/distribution-related employment, and students~~,~~; and aligns with regional studies (i.e., the Highway Truck Corridor Study and the Principal Arterial Intersection Conversion Study)~~students, and manufacturing/distribution-related employment~~.

A. *MEASURE:* ~~Address how the project route fulfills its role in the regional transportation system as identified by its current functional classification. Respond as appropriate to one type of functional classification.~~

~~For Expander, Augmentor, or Non-Freeway Principal Arterial Projects Only~~:

- ~~Reference the "Roadway Area Definition" map generated at the beginning of the application process. Report the total area and project length, as depicted on the "Roadway Area Definition" map, to calculate the average distance between the project and the closest parallel "A" Minor Arterials or Principal Arterials on both sides of the project.~~

  ~~Upload the "Roadway Area Definition" map used for this measure.~~

~~RESPONSE (Calculation):~~

~~For Reliever Projects Only:~~

~~For A Minor Arterial Relievers, t~~The measure will analyze the level of congestion on the parallel Principal Arterial to determine the importance of the ~~Reliever~~roadway in relieving the principal arterial system. A-minor augmentors, expanders, and relievers, as well as non-freeway principal arterials can provide relief to congested principal arterials. Identify the hours per day the current volume exceeds the design capacity on the Principal Arterial being relieved by the ~~Reliever~~roadway.

- If the ~~Reliever~~ project is relieving a Principal Arterial that is a freeway facility, the applicant should obtain data from the current MnDOT Metro Freeway Congestion Report.
- If the ~~Reliever~~ project is relieving a Principal Arterial that is a non-freeway facility, the applicant should obtain intersection turning movement or hourly volume data (within the last three years) directly from the MnDOT Metro Intersection Warrant Information website. If data is unavailable on the website, the applicant should collect or use their own intersection turning movement or hourly volume data (within the last three years) for the non-freeway facility. The volume used for the Principal Arterial being relieved should be located within the parallel length of the project. To calculate existing conditions, the applicant must obtain the hourly directional traffic volumes on a weekday, and the current lane configurations.

For the design capacity calculations, the applicant must use Metropolitan Council definition below:

Non-Freeway Volume/Capacity Table

Design Capacity

The assumed maximum number of vehicles per lane which pass any given point in an hour on an average day during normal operating conditions. For the purposes of responding to criteria in this solicitation packet, the following capacities shall be used:

- Expressway through lane - 800 vehicles per hour;
- Arterial through lane - 600 vehicles per hour;
- Left-turn lane - 300 vehicles per hour;
- Right-turn lane - 200 vehicles per hour;
- Dedicated bike lane or joint use trail - 60 vehicles per hour.

RESPONSE (Calculation):

- Hours per day of congestion on parallel principal arterial: _____
- Parallel roadway selected and location on that segment: _____

SCORING GUIDANCE (~~8~~40 Points)

~~Expanders, Augmentors, and Non-Freeway Principal Arterials: The applicant with the furthest average distance from the closest parallel A-Minor Arterials or Principal Arterials on both sides will receive the full points. The furthest average distance will be considered separately for Expanders, Augmentors, and Non-Freeway Principal Arterials.~~

~~Relievers:~~ The applicant with the highest number of hours per day in which current capacity exceeds the design capacity on the Principal Arterial will receive the full points. Remaining ~~Reliever~~ projects will receive a proportionate share of the full points, calculated as described above. The scorer will have discretion in determining whether the applicant selected the correct, parallel principal arterial (and location on that segment) and if the proposed roadway provides relief to the parallel principal arterial.

~~Four projects (one each for Augmentor, Expander, Reliever, and Non-Freeway Principal Arterial) may receive the full points. Remaining projects will receive a proportionate share of the full points (awarded to the top score in the appropriate functional classification). For example, if the Expander being scored had a distance of 8 miles and the top Expander project had an average distance of 10 miles, this applicant would receive (8/10)*80 points or 64 points. Metropolitan Council staff will provide average distance data for all Augmentor, Expander, and Non-Freeway Principal Arterial projects to ensure consistency of methodology between applications.~~

B. *MEASURE:* Reference the "Regional Economy" map generated at the beginning of the application process. Report the existing employment, manufacturing/distribution-related employment, and post-secondary students enrolled within one mile, as depicted on the "Regional Economy" map.

Upload the "Regional Economy" map used for this measure.

RESPONSE (Data from the "Regional Economy" map):

- Existing Employment within 1 Mile:_____(Maximum of ~~30~~ 40 points)

- Existing Manufacturing/Distribution-Related Employment within 1 Mile:_____ (Maximum of ~~30~~ 40 points)
- Existing Post-Secondary Students: _____(Maximum of ~~18~~ 25 points)

SCORING GUIDANCE (~~3~~40 Points)

All Census block groups that are included within or intersect the buffer area around the project will be included.

The applicant with the highest existing total employment will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 1,000 workers within one mile and the top project had 1,500 workers, this applicant would receive (1,000/1,500)*~~30~~ 40 points or 20 points.

The applicant with the highest existing manufacturing/distribution-related employment will receive the full points. Remaining projects will receive a proportionate share of the full points equal to the existing manufacturing/distribution-related employment within one mile of the project being scored divided by the project with the highest manufacturing/distribution-related employment within one mile multiplied by the maximum points available for the measure. For example, if the application being scored had 1,000 manufacturing/distribution-related workers within one mile and the top project had 1,500 manufacturing/distribution-related workers, this applicant would receive (1,000/1,500)*~~30~~ 40 points or 20 points.

The applicant with the highest number of post-secondary students will receive 18 points. Remaining projects will receive a proportionate share of the 18 points. For example, if the application being scored had 1,000 students within one mile and the top project had 1,500 students, this applicant would receive (1,000/1,500)*~~18~~ 25 points or 12 points.

The scorer will assess if the applicant would score highest with the total employment part of the measure, the manufacturing/distribution employment part of the measure, or the education part of the measure and give the applicant the highest of the three scores out of a maximum of ~~30~~ 40 points.

Note: Due to the use of multiple sub-measures, two applicants will receive the full ~~30~~ 40 points.

C. *MEASURE:* This criterion relies on the results on the Truck Highway Corridor Study, which prioritized all roadways based on truck volume, truck percentage of total traffic, proximity to freight clusters, and proximity to regional freight terminals. (65 points)

Use the final study report for this measure:
https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Truck-Freight-Corridor-Study.aspx

RESPONSE Select one for your project, based on the Highway Truck Corridor Study*):*

- Tier 1: ☐ (65 Points)
- Tier 2: ☐ (45 Points)
- Tier 3: ☐ (25 Points)

- None of the tiers: ☐ (0 Points)

~~C. Provide the current daily heavy commercial traffic at one location along the A-Minor Arterial or Non-Freeway Principal Arterial's project length. It is required that an actual count is collected, or that available data from within the last three years is used (from the city, county or MnDOT). Heavy commercial traffic is defined as all trucks with at least two axles and six tires.~~

- ~~For new roadways, using a traffic model, identify the estimated current daily heavy commercial traffic volume.~~

~~*RESPONSE:*~~

- ~~Location:_____~~
- ~~Current daily heavy commercial traffic volume:_____~~
- ~~Date heavy commercial count taken: _____~~

~~SCORING GUIDANCE (50 Points)~~
~~The applicant with the highest daily heavy commercial traffic at a location along the project length will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a heavy commercial volume of 750 vehicles and the top project had a heavy commercial volume of 1,000 vehicles, this applicant would receive (750/1,000)*50 points, or 38 points.~~

D. *MEASURE:* This criterion relies on the results on the Principal Arterial Intersection Conversion Study, which prioritized non-freeway principal arterial intersections. In addition to interchange projects, other lane expansion projects that make improvements to a low, medium, or high priority intersection can also earn points in this measure~~Discuss any freight elements that are included as part of the project and how they improve efficiency, security, or safety~~. (~~15~~ 65 points)

Use the final study report for this measure: metrocouncil.org/PAICS

~~Address how the proposed project safely integrates freight. Freight elements could be project elements such as upgrading a non-ten-ton roadway to a ten-ton roadway, adding paved shoulders, wider shoulders, acceleration lanes, or longer turning lanes added specifically to accommodate freight movements.~~

RESPONSE Select one for your project, based on the Principal Arterial Intersection Conversion Study): ~~*(Limit 1,400 characters; approximately 200 words*~~*):*

- Proposed interchange or at-grade project that improves a High Priority Intersection: ☐ (65 Points)
- Proposed at-grade project that improves a Medium Priority Intersection: ☐ (55 Points)
- Proposed at-grade project that improves a Low Priority Intersection: ☐ (45 Points)
- Proposed interchange that improves a Medium Priority Intersection: ☐ (35 Points)
- Proposed interchange project that improves a Low Priority Intersection: ☐ (0 Points)
- Not listed as a priority in the study: ☐ (0 Points)

~~SCORING GUIDANCE (15 Points)~~

~~The project with the most comprehensive freight elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion.~~

2. Usage (175 Points) – This criterion quantifies the project's potential impact by measuring the current daily person throughput and future vehicular traffic that will be served by the project. These roadway users directly benefit from the project improvements on the A-Minor Arterial or Non-Freeway Principal Arterial.

A. *MEASURE:* The applicant must identify the location along the project length and provide the current AADT volume from the MnDOT 50-series maps and existing transit routes that travel on the road (reference Transit Connections Map). Ridership data will be provided by the Metropolitan Council staff, if public transit is currently provided on the project length. Metropolitan Council staff will calculate the current daily person throughput at one location along the "A" Minor Arterial or Non-Freeway Principal Arterial project length using the current average annual daily traffic (AADT) volume and average annual ridership.

- Current Daily Person Throughput = (current average annual daily traffic volume x 1.30 vehicle occupancy) + average annual daily transit ridership (~~2015~~2017)

- For new roadways, identify the estimated existing daily traffic volume based on traffic modeling.

RESPONSE:

- Location:_____
- Current AADT volume:_____
- Existing Transit Routes on the Project:_____
- Transit routes that will likely be diverted to ~~a~~ the new proposed roadway (if applicable):_____

SCORING GUIDANCE (110 Points)
The applicant with highest current daily person throughput will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily person throughput of 1,000 vehicles and the top project within the same functional classification had a daily person throughput of 1,500 vehicles, this applicant would receive (1,000/1,500)*110 points or 73 points.

B. *MEASURE:* Provide the forecast (2040) average daily traffic volume at the same location along the "A" Minor Arterial or Non-Freeway Principal Arterial project length, as identified in the previous measure. The applicant may choose to use a county or city travel demand model based on the Metropolitan Council model to identify the forecast (2040) average daily traffic volume or have Metropolitan Council staff determine the forecast volume using the Metropolitan Council model and project location. Respond as appropriate to the use of one type of forecast model. (65 Points)

- For new roadways, identify the modeled forecast daily traffic volume ~~if this information is available. If not available, then identify the forecast volumes that will be relocated from any parallel roadway(s) to the new roadway.~~

RESPONSE:

- Use Metropolitan Council model to determine forecast (2040) ADT volume☐
- If checked, METC Staff will provide Forecast (2040) ADT volume ☐

OR

RESPONSE:

- Identify the approved county or city travel demand model to determine forecast (2040) ADT volume: _____
- Forecast (2040) ADT volume : _____

SCORING GUIDANCE (65 Points)
The applicant with the highest forecast (2040) ADT volume will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a daily forecast of 28,000 vehicles and the top project had a daily forecast of 32,000 vehicles, this applicant would receive (28,000/32,000)*65 points or 57 points.

3. Equity and Housing Performance (100 Points) – This criterion addresses the project's positive and negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly. The criterion also evaluates a community's efforts to promote affordable housing.

A. *MEASURE:* Reference the "Socio-Economic Conditions" map generated at the beginning of the application process. Identify the project's location as it applies in the listed responses below. Describe the project's positive benefits, and negative impacts, and mitigation for low-income populations; people of color; children, people with disabilities, and the elderly. Geographic proximity alone is not sufficient to receive the full points listed below. In order to receive the maximum points, the response should address the benefits, impacts, and mitigation for the populations listed.

Upload the "Socio-Economic Conditions" map used for this measure.

RESPONSE (Select one, based on the "Socio-Economic Conditions" map):

- Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50): ☐ ~~(0 to 30 Points)~~ (up to 100% of maximum score)
- Project located in Area of Concentrated Poverty: ☐ (~~0 to 24 Points)~~ up to 80% of maximum score)
- Project's census tracts are above the regional average for population in poverty or population of color: ☐ ~~(0 to 18 Points)~~ (up to 60% of maximum score)
- Project located in a census tract that is below the regional average for population in poverty or populations of color, or includes children, people with disabilities, or the elderly: ☐ ~~(0 to 12 Points)~~ (up to 40% of maximum score)

RESPONSE (Limit 2,800 characters; approximately 400 words):

SCORING GUIDANCE (30 Points)

Based on the "Socio-Economic Conditions" map's output, the applicant will select the appropriate option from the above bullets. However, geographic proximity alone is not sufficient to receive full points. The applicant must fully describe the positive benefits and negative impacts (with mitigation to address the issue) for those identified groups. Each project will first be graded on a 10-point scale, not accounting for geography. Each score from the 10-point scale will then be adjusted to the appropriate geography. The project with the most positive benefits and appropriate mitigation for negative impacts will receive the full points relative to its maximum geographic sub-area defined above. Remaining projects will receive a share of the full points at the scorer's discretion. This response is intended to be qualitative. Metropolitan Council staff will score this measure.

Note: Due to the geographic adjustment to scores, it is possible that the above process will result in no project receiving the maximum allotment of 30 points. In this case, the highest-scoring application for this measure will be adjusted to receive the full 30 points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 10 points and the top project had 20 points, this applicant would receive (10/20)*30 points or 15 points.

B. *MEASURE:* Metropolitan Council staff will award points to the project based on the ~~2015~~ 2017 Housing Performance Score for the city or township in which the project is located. The score includes consideration of affordability and diversification, local initiatives to facilitate affordable workforce housing development or preservation, and density of residential development. If the project is in more than one jurisdiction, the points will be awarded based on a weighted average using the length of the project in each jurisdiction.

For stand-alone intersection, bridge, underpass, and interchange projects, a one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

RESPONSE (Affordable Housing Score completed by Metropolitan Council staff):

- City/Township: _____
- Length of Segment (Population from Regional Economy Map for stand-alone projects) within City/Township:

SCORING GUIDANCE (70 Points)

The applicant with the highest ~~2015~~ 2017 Housing Performance Score will receive the full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had a Housing Performance Score of 55 and the top project had a Housing Performance Score of 90, this applicant would receive (55/90)*70 points or 43 points.

Note: Metropolitan Council staff will score this measure.

Projects will use the city Housing Performance Score based on the project location. If a project is located in more than one jurisdiction, the points will be awarded based on a weighted average of the city or township scores for the project location based on the length of the project in each jurisdiction. For stand-alone roadway (intersection, bridge, underpass, and interchange) projects, a one-mile radius-buffer will be drawn around the project. If the radius-buffer enters more than one jurisdiction, the points will be awarded based on the proportionate population of the Census blocks in each jurisdiction that are all or partially located in the area within the one-mile radius-buffer.

If a project is located in a city or township with no allocation of affordable housing need (either there is no forecasted household growth or the area does not have land to support sewered development), then the project will not be disadvantaged by this measure and the project's total score will be adjusted as a result.

If this is the case, then the total points possible in the application will be 930 instead of 1,000. The total points awarded through the rest of the application (900 as a hypothetical example) will be divided by 930, then multiplied by 1,000. Therefore, a project scoring 900 out of 930, will equate to 968 points on a 1,000-point scale.

If a portion of the project is located in a city with an affordable housing allocation and the other portion is located in a township with no affordable housing allocation, then a combination of the weighted average and no affordable housing methodologies should be used. This will result in a total score that will be somewhere between 930 and 1,000; then the score will need to be adjusted to fit a 1,000-point scale.

4. Infrastructure Age (~~75~~ 40 Points) – This criterion will assess the age of the roadway facility being improved. Roadway improvement investments should focus on the higher needs of an aging facility, whereas improvements to a recently reconstructed roadway does not display an efficient use of funds.

A. *MEASURE:* Identify the year of the roadway's original construction or most recent reconstruction. If the reconstruction date is used for the roadway, a full reconstruction must have been completed during the indicated year. Routine maintenance, such as an overlay or sealcoating project does not constitute a reconstruction and should not be used to determine the infrastructure age.

- For new roadways, identify the average age of the parallel roadways from which traffic will be diverted to the new roadway.

RESPONSE:

- Year of original roadway construction or most recent reconstruction: _____
- Segment length: _____

SCORING GUIDANCE (~~75~~ 40 Points)
The applicant with the oldest roadway will receive full points. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored was constructed 41 years ago and the oldest project was constructed 48 years ago, this applicant would receive (41/48)*~~75~~ 40 points or ~~64~~ 34 points.

Note: Because of the reporting of year of construction, it is possible for multiple projects to receive the full allotment of ~~75~~ 40 points.

5. Congestion Reduction/Air Quality (150 Points) – This criterion measures the project's ability to reduce intersection delay and emissions during peak hour conditions. In addition, it will address its ability to improve congested intersections operating at unacceptable levels of service during peak hour conditions.

A. *MEASURE:* Conduct a capacity analysis at one or more of the intersections (or rail crossings) being improved by the roadway project using existing turning movement counts (collected within the last three years) in the weekday a.m. or p.m. peak hour and Synchro or HCM software. The analysis must include build and no build conditions (with and without the project improvements). The applicant must show the current total peak hour delay at one or more intersections (or rail crossings) and the reduction in total peak hour intersection delay at these intersections (or rail crossings) in seconds, due to the project. If more than one intersection is examined, then the delay reduced by each intersection (or rail crossing) can be can added together to determine the total delay reduced by the project. If expanding thru lanes or building a new interchange on an existing signalized corridor, signal retiming must be completed in the five-year time period before the project was submitted for funding (i.e., completed a signal retiming between 2013 and 2018), consistent with regional policy in the 2040 Transportation Policy Plan.

- For new roadways, identify the key intersection(s) on any parallel roadway(s) that will experience reduced delay as a result of traffic diverting to the new roadway. If more than one intersection is examined, then the delay reduced by each intersection can be can added together.
- For roadway projects that include a railroad crossing, the applicant should conduct fieldwork during either the a.m. or p.m. peak hour to determine the total peak hour delay reduced by the project. Applicants can also add together intersection delay reduced and railroad delay reduced, if they both will be improved by the project.

The applicant should include the appropriate Synchro or HCM ~~full~~ reports (including the Timing Page Report) that support the improvement in total peak hour delay and should conduct the analysis using the following:

- Under the network settings, all defaults should be used for lanes, volumes, phases and simulation
- Use Synchro's automatic optimization to determine cycle, offset and splits (for traffic signals)
- Project improvements assumed in the build condition should be reflected in the total project cost, such as additional through or turn lanes and protective left-turn phasing
- Roadway lengths for intersection approaches must be the same length for before and after scenarios
- An average weekday should be used for the existing conditions instead of a weekend, peak holiday, or special event time period that is not representative of the corridor for most of the year

Total Peak Hour Delay Reduced (Seconds) = Total Peak Hour Delay Per Vehicle x Vehicles Per Hour

RESPONSE (Calculation):

- Total Peak Hour Delay/Vehicle without the Project (Seconds/Vehicle):_____
- Total Peak Hour Delay/Vehicle with the Project (Seconds/Vehicle):_____
- Total Peak Hour Delay/Vehicle Reduced by the Project (Seconds/Vehicle):_____
- Volume (Vehicles Per Hour): _____
- Total Peak Hour Delay Reduced by the Project (Seconds): _____
- *EXPLANATION of methodology used to calculate railroad crossing delay, if applicable, or date of last signal retiming for signalized corridors (Limit 1,400 characters; approximately 200 words):*

SCORING GUIDANCE (100 Points)

The applicant with the most peak hour vehicle delay reduced by the project improvement will receive the full points for the measure. Remaining projects will receive a proportionate share of the points. For example, if the application being scored reduced delay by 5,000 seconds and the top project reduced delay by 25,000 seconds, this applicant would receive (5,000/25,000)*100 points, or 20 points. If expanding thru lanes or building a new interchange on an existing signalized corridor, signal retiming must be completed in the five-year time period before the project was submitted for funding (i.e., completed a signal retiming between 2013 and 2018), consistent with regional policy in the 2040 Transportation Policy Plan. If the date of the signal retiming is more than five years past, then the project will be disqualified as part of the qualifications review of the projects. Applicants will provide that date as part of the explanation for this measure.

B. *MEASURE:* Using the Synchro or HCM analysis completed in the previous measure, identify the total peak hour emissions reduction in kilograms (CO, NO_X, VOC) due to the project. The applicant should include the appropriate Synchro or HCM reports (including the Timing Page Report) that support the improvement in total peak hour emissions. If more than one intersection is examined, then the emissions reduced by each intersection can be can added together to determine the total emissions reduced by the project.

Roadway projects that do not include new roadway segments or railroad grade-separation elements:

- Total Peak Hour Emissions Reduced (Kilograms)= Total Peak Hour Emissions without the project – Total Peak Hour Emissions with the Project~~Reduced Per Vehicle x Vehicles Per Hour~~

RESPONSE (Calculation):

- Total (CO, NO_X, and VOC) Peak Hour Emissions~~/Vehicle~~ without the Project (Kilograms):_____
- Total (CO, NO_X, and VOC) Peak Hour Emissions~~/Vehicle~~ with the Project (Kilograms):_____
- Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced~~/Vehicle~~ by the Project (Kilograms):_____
- ~~Volume (Vehicles Per Hour): _____~~
- ~~Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): _____~~

If more than one intersection is examined, the response ~~in~~ should include a total of all emissions reduced.

Roadway projects that are constructing new roadway segments, but do not include railroad grade-separation elements:

- For new roadways, identify the key intersection(s) on any parallel roadway(s) that will experience reduced emissions as a result of traffic diverting to the new roadway (using Synchro). If more than one intersection is examined, then the emissions reduced by each intersection can be can added together.

  However, new roadways will also generate new emissions compared to existing conditions as traffic diverts from the parallel roadways. The applicant needs to estimate four variables to determine the new emissions generated once the project is completed on any major intersections. Those variables include: speed, vehicle mile traveled, delay, and total vehicle stops. The applicant needs to detail any assumptions used for conditions after the project is built. The variables will be used in the exact same equation used Synchro required of the other project types.

The equation below should only be used to estimate the new emissions generated by new roadways.

Parallel Roadways

Enter data for Parallel Roadways.

- Total Peak Hour Emissions Reduced (Kilograms) = Total Peak Hour ~~Emissions Reduced Per Vehicle x Vehicles Per Hour~~without the project – Total Peak Hour Emissions with the Project

RESPONSE (Data Input and Calculation):

- Total (CO, NO_X, and VOC) Peak Hour Emissions ~~Per Vehicle~~ without the Project (Kilograms):_____ (Applicant inputs number)
- Total (CO, NO_X, and VOC) Peak Hour Emissions ~~Per Vehicle~~ with the Project (Kilograms):_____ (Applicant inputs number)
- Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced ~~Per Vehicle~~ by the Project (Kilograms):_____ (Online Calculation)
- ~~Volume (Vehicles Per Hour): _____ (Applicant inputs number)~~
- ~~Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): _____ (Online Calculation)~~

If more than one intersection is examined, the response is a total of all emissions reduced.

Emissions Reduced on Parallel Roadways _____ (Online Calculation)

New Roadway Portion

- Cruise speed in miles per hour with the project:_____ (Applicant inputs number)
- Vehicle miles traveled with the project:_____ (Applicant inputs number)
- Total delay in hours with the project:_____ (Applicant inputs number)
- Total stops in vehicles per hour with the project:_____ (Applicant inputs number)
- Fuel consumption in gallons: _____
- Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):_____
- EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)
- Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):

Speed = cruise speed in miles per hour
Total Travel = vehicle miles traveled
Total Delay = total delay in hours
Stops = total stops in vehicles per hour
$K4 = 0.075283-0.0015892 * Speed + 0.000015066 * Speed^2$
K2 = 0.7329
$K5 = 0.0000061411 * Speed^2$

F2 = Fuel consumption in gallons

*CO = F2 * 0.0699 kg/gallon*
$NO_X = F2 * 0.0136$ kg/gallon
*VOC = F2 * 0.0162 kg/gallon*

Total = Total Peak Hour Emissions reduced on Parallel Roadways – (CO + NOx + VOC)

Roadway projects that include railroad grade-separation elements:

- For roadway projects that include a railroad crossing, the applicant needs to input four variables before and after the project to determine the change in emissions. Those variables include: speed, vehicle mile traveled, delay, and total vehicle stops. The applicant needs to conduct fieldwork during either the a.m. or p.m. peak hour to determine the existing conditions and then detail any assumptions used for conditions after the project is built. The variables will be used in the exact same equation used within the software program (i.e., Synchro) required of the other project types. Therefore, the approach to calculate the kilograms emissions reduced for railroad grade-separation projects will be comparable to intersection improvement projects.

RESPONSE (Calculation):

- Cruise speed in miles per hour without the project:_____ (Applicant inputs number)
- Vehicle miles traveled without the project:_____ (Applicant inputs number)

- Total delay in hours without the project:_____ (Applicant inputs number)
- Total stops in vehicles per hour without the project:_____ (Applicant inputs number)

- Cruise speed in miles per hour with the project:_____ (Applicant inputs number)
- Vehicle miles traveled with the project:_____ (Applicant inputs number)
- Total delay in hours with the project:_____ (Applicant inputs number)
- Total stops in vehicles per hour with the project:_____ (Applicant inputs number)
- Fuel consumption in gallons (F1)
- Fuel consumption in gallons (F2)
- Fuel consumption in gallons (F3)
- Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
- EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)

Speed = cruise speed in miles per hour
Total Travel = vehicle miles traveled
Total Delay = total delay in hours
Stops = total stops in vehicles per hour

*K1 = 0.075283-0.0015892 * Speed + 0.000015066 * Speed^2*
K2 = 0.7329
*K3 = 0.0000061411 * Speed^2*

F1 (or F2 – without the project) = Fuel consumption in gallons

*F1 = Total Travel * k1 + Total Delay * k2 + Stops * k3*
*F2 = Total Travel * k1 + Total Delay * k2 + Stops * k3*

F3 = F1 – F2

*CO = F3 * 0.0699 kg/gallon*
NO_X *= F3 * 0.0136 kg/gallon*
*VOC = F3 * 0.0162 kg/gallon*

Equation Automatically Provides Emissions Reduced:

- Total (CO, NO_X, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): _____ (Online Calculation)

- *<u>EXPLANATION of methodology and assumptions used (Limit 1,400 characters; approximately 200 words)</u>:*

<u>SCORING GUIDANCE (50 Points)</u>
The applicant with the most kilograms reduced by the project improvement will receive the full points for the measure. Remaining projects will receive a proportionate share of the full. For example, if the

application being scored reduced emissions by 3 kilograms and the top project reduced emissions by 5 kilograms, this applicant would receive (3/5)*50 points or 30 points.

6. Safety (150 Points) – This criterion addresses the project's ability to correct deficiencies and improve the overall safety of an existing or future roadway facility. It will assess the project's monetized safety benefits.

A. *MEASURE:* Respond as appropriate to one of the two project types below.

Calculate the reduction in the total number of crashes due to improvements on the A-Minor Arterial or Non-Freeway Principal Arterial made by the project. The applicant must base the estimate of crash reduction on the methodology consistent with the latest Highway Safety Improvement Program (HSIP) application. Applicants should focus on the crash analysis for reactive projects. ~~starting on page 7 through page 11, in addition to Appendix A, E, and F.~~

Crash data must be obtained for the project length using the MnDOT TIS system average for calendar years ~~2013~~ 2015 through ~~2015~~2017. Crash data should include all crash types and severity, including pedestrian and bicycle crashes.

Applicants should request crash data from MnDOT as early as possible. The applicant must then attach a listing of the crashes reduced and the HSIP Benefit/Cost (B/C) worksheet that identifies the resulting benefit associated with the project. As part of the response, please detail and attach the crash modification factor(s) used from FHWA's Crash Modification Factors Clearinghouse: http://www.cmfclearinghouse.org/. This measure requests the monetized safety benefit of the project. The cost of the project is scored in the Cost Effectiveness criterion.

New Roadways:

1. For new roadways, identify the parallel roadway(s) from which traffic will be diverted to the new roadway.
2. Using the crash data for 2013-2015, calculate the existing crash rate for the parallel roadway(s) identified in Step 1.
3. Identify the daily traffic volume that will be relocated from the parallel roadway(s) to the new roadway.
4. Calculate the number of crashes on the parallel roadway(s) using the existing crash rate from Step 2 and the relocated traffic volume to determine the change in number of crashes due to the relocated traffic volume. For instance, if 5,000 vehicles are expected to relocate from the existing parallel roadway to the new roadway, calculate the number of crashes related to the 5,000 vehicles.
5. Identify the average crash rate for the new roadway using MnDOT's average crash rates by roadway type. Using the average crash rate for the new roadway, calculate the number of crashes related to the relocated traffic (i.e., the 5,000 vehicles).
6. Calculate the crash reduction factor using the existing number of crashes on the existing parallel roadway (Step 4) compared to the estimated crashes calculated for the new roadway (Step 5), due to the relocated traffic volume (i.e., the 5,000 vehicles).

7. The calculated crash reduction factor should be used in the HSIP B/C worksheet.
8. Upload additional documentation materials into the "Other Attachments" Form in the online application.

RESPONSE (Calculation):

- Crash Modification Factor Used (*Limit 700 characters; approximately 100 words)*: _____
- Rationale for Crash Modifications Selected (*Limit 1,400 characters; approximately 200 words)*: _____
- Project Benefit ($) from B/C ratio: _____
- Explanation of Methodology: _____

Roadway projects that include railroad grade-separation elements:

Since the number of observed crashes at an existing at-grade railroad crossing is minor compared to an intersection, this measure will assess crash risk exposure that exists in order to compare projects. As a proactive safety measure, railroad grade-separation projects eliminate the crash risk exposure.

- Crash Risk Exposure Eliminated = current average annual daily traffic volume x average number of daily trains at the at-grade crossing

RESPONSE (Calculation):

- Current AADT volume:_____
- Average daily trains:_____
- Crash Risk Exposure eliminated:_____

SCORING GUIDANCE (150 Points)

This measure will be considered separately for projects that do and do not include a railroad grade-separation project. As a result, two projects (one project without a railroad grade-separation project and one with a railroad grade-separation project) may receive the full points.

For projects that do not include a grade-separation project, the applicant with the highest dollar value of benefits will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had safety benefits of $11,000,000 and the top project had safety benefits of $16,000,000, this applicant would receive (11,000,000/16,000,000)*150 points or 103 points.

For railroad grade-separation projects, the applicant with the highest crash risk exposure eliminated due to the project will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored reduced 11,000 exposures and the top project reduced 16,000 exposures this applicant would receive (11,000 /16,000)*150 points or 103 points.

7. Multimodal Elements and Existing Connections (100 Points) – This criterion measures how the project improves the travel experience, safety, and security for other modes of transportation and addresses the safe integration of these modes. The *Transportation Policy Plan* requires that explicit consideration of all users of the transportation system be considered in the planning and scoping phase of roadway projects.

A. *MEASURE:* Discuss any bicycle, pedestrian, or transit elements that are included as part of the project and how they improve the travel experience, safety, and security for users of these modes. Applicants should make sure that new multimodal elements described in the response are accounted for as part of the cost estimate form earlier in the application. Applicants may want to reference how the proposed multimodal improvements positively affect identified alignments in the Regional Bicycle Transportation Network (RBTN), if applicable.

Also, describe the existing bicycle, pedestrian, and transit connections. Furthermore, address how the proposed project safely integrates all modes of transportation (i.e., vehicles, bicyclists, transit, and pedestrians) and, if applicable, supports planned transitway stations. Applicants should note if there is no transit service in the project area and identify supporting studies or plans that address why a mode may not be incorporated in the project (e.g., a bicycle system plan that locates bikeway facilities on a lower-volume parallel route).

RESPONSE (Limit 2, 800 characters; approximately 400 words):

SCORING GUIDANCE (100 Points)

The project with the most comprehensive multimodal elements included as part of the project will receive the full points. Remaining projects will receive a share of the full points at the scorer's discretion. The project score will be based on the quality of the improvements, as opposed to being based solely on the number of modes addressed.

Scorers should make sure that new multimodal elements described in the response are accounted for on the cost estimate form earlier in the application.

8. Risk Assessment (75 Points) – This criterion measures the number of risks associated with successfully building the project. ~~and the steps already completed in the project development process~~. These steps are outlined in the checklist in the required Risk Assessment.

A. *MEASURE:* Applications involving construction must complete the Risk Assessment. This checklist includes activities completed to-date, as well as an assessment of risks (e.g., right-of-way acquisition, proximity to historic properties, etc.).

If the applicant is completing a transit or TDM application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

RESPONSE (Complete Risk Assessment):

SCORING GUIDANCE (75 Points)
The applicant with the most points on the Risk Assessment (more points equate to less project risk) will receive the full points for the measure. Remaining projects will receive a proportionate share of the full points. For example, if the application being scored had 40 points and the top project had 70 points, this applicant would receive (40/70)*75 points or 43 points.

9. Cost Effectiveness (100 Points) – This criterion will assess the project's cost effectiveness based on the total TAB-eligible project cost (not including noise walls) and total points awarded in the previous 8 criteria.

A. *MEASURE:* This measure will calculate the cost effectiveness of the project. Metropolitan Council staff will divide the number of points awarded in the previous criteria by the TAB-eligible project cost (not including noise walls) ~~by the total number of points awarded in the previous criteria~~.

- Cost effectiveness = ~~total TAB-eligible project cost (not including noise walls)/~~total number of points awarded in previous criteria/total TAB-eligible project cost (not including noise walls)

RESPONSE (This measure will be calculated after the scores for the other measures are tabulated by the Scoring Committee):

- Total Project Cost (entered in Project Cost Form):_____

TOTAL: 1,100 POINTS

Risk Assessment

Please check those that apply and fill in anticipated completion dates for all projects, except for new/expanded transit service projects, transit vehicle purchases, or travel demand management (TDM) projects.

1) ~~Project Scope~~Funding (~~5~~ 20 Percent of Points)

100% ☐ ~~Meetings or contacts with stakeholders have occurred~~All funding sources are identified and/or are local sources (the Regional Solicitation award is the gap funding/remaining funding needed to implement the project); applicants may still pursue other funding sources after the project award to reduce the local contribution.

~~40% ☐ Stakeholders have been identified~~

0% ☐ The applicant is promising to cover the entire local match, but it is necessary for them to seek other sources (e.g., state bonding or various state/federal competitive grants) or funding partners to be able to successfully deliver the project (i.e., the local agency does not have the entire local match committed at this time) ~~Stakeholders have not been identified or contacted~~

~~**2) Layout or Preliminary Plan (5 Percent of Points)**~~

~~100% ☐ Layout or Preliminary Plan completed~~

~~50% ☐ Layout or Preliminary Plan started~~

~~0% ☐ Layout or Preliminary Plan has not been started~~

~~Anticipated date or date of completion: _____~~

~~**3) Environmental Documentation (5 Percent of Points)**~~

~~☐EIS ☐EA ☐PM~~

~~Document Status:~~

~~100% ☐ Document approved (include copy of signed cover sheet)~~

~~75% ☐ Document submitted to State Aid for review (date submitted: _____)~~

~~50% ☐ Document in progress; environmental impacts identified; review request letters sent~~

~~0% ☐ Document not started~~

~~Anticipated date or date of completion/approval: _____~~

~~4)~~2) Review of Section 106 Historic Resources (~~10~~ 20 Percent of Points)

100% ☐ No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge

100% ☐ There are historical/archeological properties present, but determination of "no historic properties affected" is anticipated.

80% ☐ Historic/archeological ~~review under way~~property impacted; determination of ~~"no historic properties affected" or~~ "no adverse effect" anticipated

40% ☐ Historic/archeological ~~review under way~~property impacted; determination of "adverse effect" anticipated

0% ☐ Unsure if there are any historic/archaeological ~~resources~~ properties in the project area.

~~Anticipated date or date of completion of historic/archeological review: _____~~
Project is located on an identified historic bridge: ☐

~~5)~~3) Review of Section 4f/6f Resources (~~10~~ 20 Percent of Points)

4(f) – Does the project impacts any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or public private historic properties?

6(f) – Does the project impact any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or historic property that was purchased or improved with federal funds?

100% ☐ No Section 4f/6f ~~resources~~ property located in or adjacent to the project

100% ☐ Impact to 4(f) property. The project is an Independent Bikeway/Walkway project covered by the bikeway/walkway Negative Declaration statement. Letter of support received (potential option for bicycle and pedestrian facility applications only)

~~80~~70% ☐ Section 4f resources present within the project area, but ~~no adverse effects~~impacts are minor and they do not adversely affect the activities, features, or attributes of the 4(f) property.

50% ☐ ~~Project impacts to~~ Section 4f/6f resources ~~likely~~ present within project area; 4(f) evaluation required. ~~–~~ Cc~~c~~oordination/documentation has begun

~~3~~0% ☐ ~~Project impacts to~~ Section 4f/6f present within project area; 4(f) evaluation required. Coordination/documentation has not begun ~~resources likely – coordination/documentation has not begun~~

0% ☐ Unsure if there are any impacts to Section 4f/6f resources in the project area

~~6)~~4) Right-of-Way (~~15~~ 20 Percent of Points)

100% ☐ Right-of-way, permanent or temporary easements not required

100% ☐ Right-of-way, permanent or temporary easements has/have been acquired

75% ☐ Right-of-way, permanent or temporary easements required, offers made

50% ☐ Right-of-way, permanent or temporary easements required, appraisals made

25% ☐ Right-of-way, permanent or temporary easements required, parcels identified

0% ☐ Right-of-way, permanent or temporary easements required, parcels not identified

0% ☐ Right-of-way, permanent or temporary easements identification has not been completed

~~Anticipated date or date of acquisition _____~~

~~7)~~5) Railroad Involvement (~~25~~ 20 Percent of Points)

100% ☐ No railroad involvement on project

100% ☐ Railroad Right-of-Way Agreement is executed (include signature page)

60% ☐ Railroad Right-of-Way Agreement required; Agreement has been initiated

40% ☐ Railroad Right-of-Way Agreement required; negotiations have begun

20% ☐ Railroad Right-of-Way Agreement required; railroad has been contacted

0% ☐ Railroad Right-of-Way Agreement required; ~~negotiations not begun~~railroad has not been contacted.

Anticipated date or date of executed Agreement _____

8) Interchange Approval (15 Percent of Points)*

100% ☐ Project does not involve construction of a new/expanded interchange or new interchange ramps

100% ☐ Interchange project has been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

0% ☐ Interchange project has not been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

*Please contact Karen Scheffing at MnDOT (Karen.Scheffing@state.mn.us or 651-234-7784) to determine if your project needs to go through the Metropolitan Council/MnDOT Highway Interchange Request Committee.

9) Construction Documents/Plan (10 Percent of Points)

100% ☐ Construction plans completed/approved (include signed title sheet)

75% ☐ Construction plans submitted to State Aid for review

50% ☐ Construction plans in progress; at least 30% completion

0% ☐ Construction plans have not been started

Anticipated date or date of completion: _____

10) Letting

Anticipated Letting Date: _____