### **ACTION TRANSMITTAL – 2022-03**

DATE:	December 9, 2021
TO:	TAC Funding & Programming Committee
PREPARED BY:	Joe Barbeau, Senior Planner (joe.barbeau@metc.state.mn.us)
SUBJECT:	Scope Change Request for Hennepin County CSAH 158 (Vernon Ave) Bridge Replacement
REQUESTED ACTION:	Hennepin County requests a scope change for its CSAH 158 (Vernon Ave) bridge replacement project (SP # 027-758-006) to increase the project length, remove a channelized right-turn island, reconstruct the southbound MN 100 ramp, and install a noise wall.
RECOMMENDED MOTION:	That the Funding & Programming Committee recommend that TAB approve Hennepin County's scope change request to amend its CSAH 158 (Vernon Ave) bridge replacement project (SP # 027-758-006) to increase the project length, remove a channelized right-turn island, reconstruct the southbound MN 100 ramp, and install a noise wall.

**BACKGROUND AND PURPOSE OF ACTION:** Hennepin County was awarded \$7,000,000 in the Bridge category as part of the 2018 Regional Solicitation to replace the existing Vernon Avenue Bridge over the CP Railway in Edina. Improvements were to include a new bridge structure and modifications to impacted roadway approaches (see Figure 1). Because impacts to the roadway approaches appear to be greater than thought at the time of application, the county is requesting a change in scope, reflected in Figure 2.

The proposed updates are:

- Extension of the project to the east along Vernon Avenue. This is needed to raise the bridge's elevation to accommodate CP Railway vertical clearance standards.
- Removal of the channelized right-turn island from the southbound TH 100 exit ramp. This is added due to safety concerns related to speed through the channel and failure to yield.
- Reconstruction of roughly 825 feet of the southbound TH 100 ramp. Modeling shows that in 20 years the ramp is likely to have queuing onto the freeway.
- A noise wall on the east side of TH 100. MnDOT noise requirements led to this proposed structure.
- Removal of the right-turn lane from westbound Vernon Avenue to Interlachen Boulevard from the scope. This was decided upon because the County felt that modest benefits of the originally proposed channelized right-turn lane along westbound Vernon Avenue at Interlachen Boulevard do not outweigh the negative impact to pedestrians. This led to the proposed three-lane section.

**RELATIONSHIP TO REGIONAL POLICY:** Projects that receive funding through the Regional Solicitation process are subject to the regional scope change policy. The purpose of this policy is to ensure that the project is designed and constructed according to the plans and intent described in the original application. The scope change policy allows project sponsors to adjust

their projects as needed while still providing substantially the same benefits described in their original project applications.

#### STAFF ANALYSIS:

<u>Approval/Denial of the Scope Change:</u> Three primary changes are proposed: the removal of the channelized turn lane in favor of adding a third lane from southbound TH 100; removal of the proposed right-turn lane from Vernon Avenue to Interlachen Boulevard ; and expansion of the project footprint (including the addition of retaining walls and noise walls). The first two are not a concern because the original application had a scoring margin of 143 points over the highest-scoring unfunded project and it is a near certainty that this project, as now proposed, would have been funded. Per scope change policy, the locally funded expansion of the project is only a concern if it detracts from the original proposal. This proposal does not appear to do so.

<u>Funding</u>: Given that the applicant cites \$12,000 as the cost of project elements being removed from the original scope and that the project is essentially intact, historic practice suggests that there is no need to suggest taking federal funds away (that would amount to \$9,600). That said, the application cites new elements costing a total of \$959,000. TAB could stipulate that the federal award cannot be used on those elements. This has occurred in the past.

ROUTING			
ТО	ACTION REQUESTED	DATE SCHEDULED / COMPLETED	
TAC Planning or TAC Funding & Programming Committee	Review & Recommend	12/16/2021	
Technical Advisory Committee	Review & Recommend	1/5/2021	
Transportation Advisory Board	Review Adopt	12/19/2021	

То:	Metropolitan Council – Transportation Advisory Board (TAB)	
From:	: Jason Staebell, PE – Hennepin County Project Manager	
Date:	October 20, 2021	
Re:	CSAH 158 (Vernon Ave) Bridge Replacement Project – Scope Change Request	

This document seeks to provide information the Transportation Advisory Board (TAB) requires for a formal scope change for SP 027-758-006. This includes a comparison of the project scope of the CSAH 158 (Vernon Ave) Bridge Replacement project as described in the 2018 Regional Solicitation Application against the current scope as well as the what benefits were gained, lost, or retained due to those changes. While some aspects of the current scope were not known during the application process, project stakeholders believe these scope items are necessary to fulfill the primary purpose of this project while maintaining standard engineering practices and accommodating safety concerns.

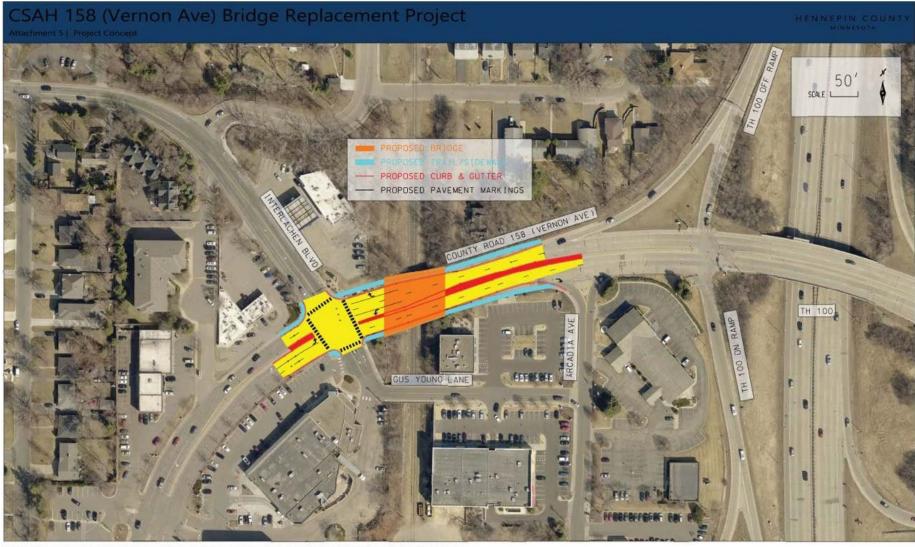
The primary purpose of this project, as described in the 2018 Regional Solicitation Application, Attachment 1 – Project Narrative, is shown below:

The proposed project will replace the existing Vernon Avenue Bridge (#4510) to extend its service life. Improvements will include a new bridge structure and modifications to the roadway approaches that are impacted by the project.

The descriptions below will demonstrate how the aspects of the project that were designed after the 2018 Regional Solicitation Application are still part of the primary purpose of the project and included in "modifications to the roadway approaches that are impacted by the project." As the preliminary design progressed, impacts to the roadway approaches were found to be greater than originally anticipated.

See Figure 1 for layout of expected scope at the time of the 2018 Regional Solicitation Application. See Figure 2 for a layout of the current scope.

# Figure 1



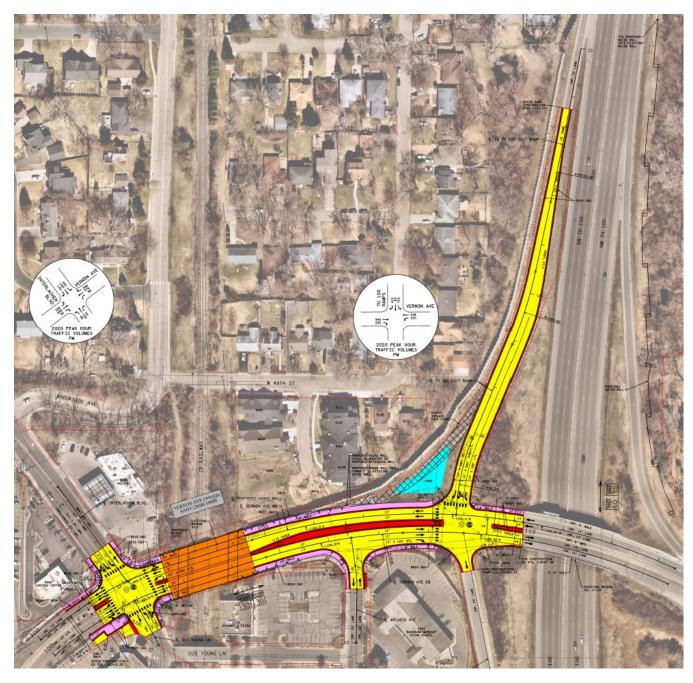
Disclaimer: This map (i) is furnished "AS IS" with no representation as to completeness or accuracy; (ii) is furnished with no warranty of any kind; and (iii) is not suitable for legal, engineering or surveying purposes. Hennepin County shall not be liable for any damage, injury or loss resulting from this map.

Publication date: 7/6/2018 PWV802 L\TTPDIR\Regional Solicitation\2018 Regional Solicitation\\_CSAH 158 - CP 1766 (8ridge)\Layouts\20180620-CSAH158-VernonAveBridge.dgn

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Hennepin

# Figure 2



During the preliminary design phase, several design constraints dictated the need for the proposed work shown in Figure 2.

First, profile requirements caused the project to extend to the east. The CP Railway current standards for vertical clearance over their railway required a significant raise in the elevation of proposed Bridge No. 27C73 as compared to the existing 22 foot clearance for Bridge No. 4510. The current preliminary design satisfies the 23 foot minimum vertical clearance requirement over the existing CP railway as well as over a potential future track, which would be located 15 feet east of the existing track (centerline to centerline). The proposed profiles and clearance information can be seen in Figure 3: Vernon Avenue WB and EB Profiles.

On the west side of the project, these proposed profiles were able to tie into the existing roadway at essentially the same location as expected in the 2018 Regional Solicitation Application. However, on the east side of the project, the construction limits needed to extend considerably to the east in order to tie into the built environment. The profile would allow construction to end approximately 26 feet west of the existing bridge over TH 100 (Bridge No. 27102). To be considerate of future maintenance and lifespan concerns, the project was extended this additional 26 feet to match into existing Bridge No. 27102.

This increase in scope provides new pavement and wider sidewalks up to the TH 100 Bridge (Bridge No. 27102), which will provide better service to the public through improved pedestrian access and will require less maintenance for the new pavement in the future. This extension of scope is an increase in benefits.

Second, the channelized right turn island from the SB TH 100 Exit Ramp is proposed to be removed to address existing safety concerns. Local public agencies have observed two issues with the vehicles traveling along this channelized right turn island: one) excessive speeds, two) poor compliance for the yield condition. In addition, bicycles are known to frequent this area, which presents a higher safety concern since vehicles may complete this turning maneuver at a relatively high rate of speed.

The profile changes required for this project results in a notable grade difference along WB Vernon Avenue at the merge point with the channelized right turn island. Thus, if the channelized right turn island was to remain, a considerable portion of it would still need to be reconstructed in order to tie in with the proposed WB Vernon profile. The City, County, and MnDOT are in agreement that not only should the channelized right turn island be eliminated to address safety concerns, but also that it's not desirable to use public funds to finance the reconstruction of the channelized right turn island in an in-kind condition.

The removal of the channelized right turn island is expected to slightly increase the delay for right turning vehicles; however, with higher priority being given to safety concerns related to rear end collisions and reducing the likelihood of a crash involving a person walking or biking, this change gains more benefit than it loses.

Third, roughly 825 feet of the SB TH 100 Exit Ramp is proposed to be reconstructed in order to accommodate longer left and right dedicated turn lanes. MnDOT required traffic modeling of the SB TH 100 exit ramp to determine if vehicles would queue onto the freeway in the build condition or in the 20 year future condition. It was found that while queuing was not expected to reach the freeway with build year volumes, the same could not be said for the 20 year future condition. Thus, MnDOT requires that the ramp be updated to accommodate the future condition.

After extensive modeling, it was found that extending the turn lanes to 580 feet for the right turn lane and 400 feet for the left turn lane prevented excessive queueing in the 20 year future condition. A fourth lane was also considered instead of extending the turn lanes. However, a fourth lane presented design issues, including severe impacts to the snow storage area as well as steep proposed slopes between the ramp and TH 100 that would likely require the construction of retaining walls and guardrail. A fourth lane would also require considerable reconstruction of the existing ramp. Thus, the turn lane extensions were determined to be the most feasible, maintainable, and cost effective solution.

The turn lane extension required reconstruction of the ramp beyond the extents of the proposed turn lanes to reduce the likelihood of retaining walls. The ramp is proposed to be re-aligned as close to the existing noise wall as possible while still maintaining the recommended 10 feet of clear distance for snow storage. This realignment allows the slopes between the ramp and TH 100 to be moderate enough that retaining walls (and guardrail) will not be required. Retaining walls are not desired because they present safety, maintenance, and cost implications.

Overall, the reconstruction of the TH 100 Exit Ramp and extension of the ramp's turn lanes is a gain in benefit to the project. This change prepares for expected future queuing while maintaining currently needed features such as snow storage.

Fourth, a noise wall is proposed on the east side of TH 100 due to the "Noise Requirements for MnDOT and other Type I Federal-aid Projects" effective since July 10, 2017. These requirements state, "*The noise analysis must include all areas that are affected by the project, including impacts from the project that occur beyond the official project limits/termini.*" and that "... the analyst should extend the modeling limits at a minimum 500' or to a 'logical' termini point greater than 500' from the end of physical construction."

Figure 4 shows the extents of a 500 foot radius from three points, one) the edge of WB Vernon Avenue Construction, two) the edge of construction if the channelized right turn island was reconstructed, and three) the edge of reconstruction of the ramp.

As seen in Figure 4, even disregarding any construction on the SB TH 100 Exit Ramp or channelized right turn island, the noise study would be required to consider the homes just east of TH 100 based solely on the construction of WB Vernon Avenue. Those homes are within 500 feet of the proposed construction.

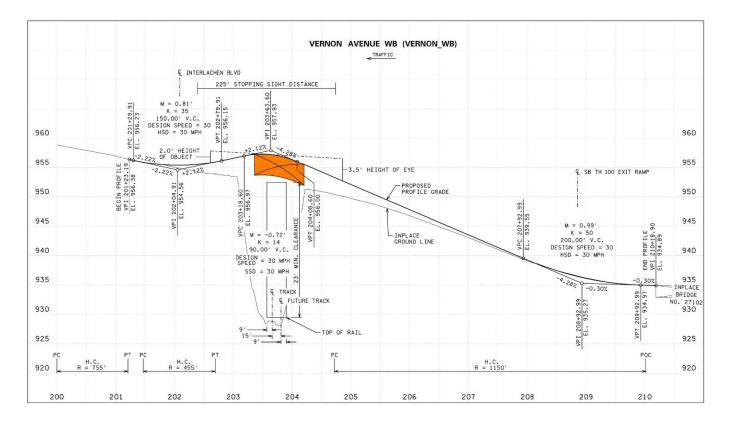
During the noise analysis, two homes east of TH 100 were found to have noise levels that approached or exceeded the FHWA Noise Abatement Criteria (NAC), which triggered analysis of noise walls in this area. Noise Barrier E, the noise wall modeled east of TH 100 in the *Vernon Avenue Bridge Replacement Project Noise Study*, was found to fulfill the requirements needed for a noise wall to be recommended for construction. First, the barrier is acoustically feasible. Several homes were found to be benefitted with noise reduction of at least 5.0 dBA, and at least one receptor met the required 7.0 dBA noise-reduction design goal. Second, the barrier meets engineering feasibility. A preliminary examination of proposed location did not discover any fatal flaws that would make a noise barrier unreasonable to construct or maintain. Thirdly, the barrier met the cost effectiveness criteria, meaning that the cost per benefitted receptor is not expected to exceed \$78,500.

This proposed noise wall is an added benefit to the project since several homes were found to be acoustically benefited.

Fifth, the right turn lane along westbound Vernon Ave at Interlachen Blvd that was proposed in the 2018 Regional Solicitation Application was removed from the scope of the project. After extensive modeling of the project area, is was found that the benefits of right turn lane were not justified. The right turn lane would reduce vehicle delay at the intersection, however the reduction was relatively modest, especially in comparison to the improvement provided by the left turn lane. The four lane section is relatively uninviting and uncomfortable for people walking in the area, requiring a longer crossing time. A three lane section was determined to provide a better balance of needs between people walking and people driving. Overall, the removal of the right turn lane may be viewed as a modest reduction in benefits for people driving, however, a significant increase in benefits for people walking.

These five areas of scope were not known at the time of the 2018 Regional Solicitation Application, however they are necessary modifications to the existing conditions that were prompted by the project development process. Taken as whole, this scope changes gain more benefits the project than they lose.

Attachment 1 (Funding Data for Scope Change Request) shows the estimated costs of each of these scope changes.



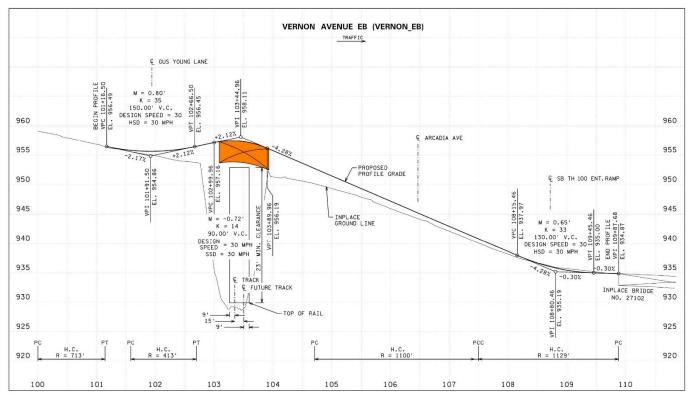


Figure 3: Vernon Avenue WB and EB Profiles

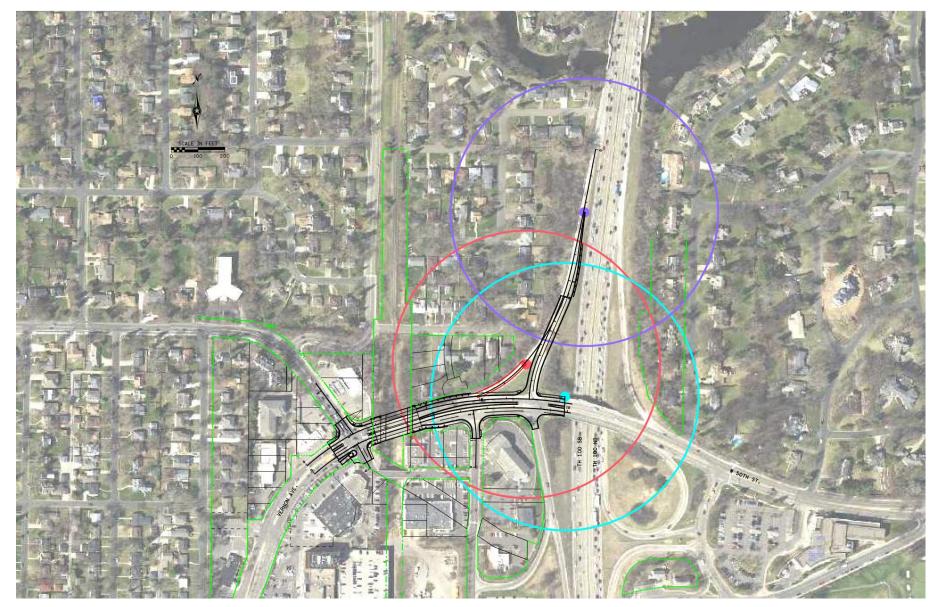


Figure 4: Noise Study Required Extents (500' radius)

## ATTACHMENT 1: FUNDING DATA FOR SCOPE CHANGE REQUEST

#### **Original Application**

Regional Solicitation Year	2018
Application Funding Category	Regional Solicitation – Roadways Including Multimodal Elements
HSIP Solicitation	Yes No
Application Total Project Cost	\$9,150,000.00
Federal Award	\$7,000,000.00
Application Federal Percentage of Total Project Cost	76.5%

Project Elements Being Removed	Original Application Costs
WB Right Turn Lane along Vernon	\$12,000.00
Avenue	\$12,000.00

New Project Elements	Cost (Based on Year of Costs in Original Application)
Increased project length along Vernon Avenue	\$195,000.00
Channelized right turn island removal at TH 100 Ramps	\$26,000.00
SB TH 100 Ramp reconstruction	\$117,000.00
Noise Wall east of TH 100	\$621,000.00

October 8, 2021

Carla Stueve, P.E., P.T.O.E. Director of Transportation Project Delivery and County Engineer Hennepin County Public Works 1600 Prairie Drive Medina, MN 55340

RE: CSAH 158 (Vernon Avenue) Bridge Replacement Project Support Letter for Project Scope Change Request

Dear Ms. Stueve,

The City of Edina presents this letter of support to Hennepin County for the Project Scope Change Request as part of the county's CSAH 158 (Vernon Avenue) Bridge Replacement Project (Hennepin County Project Number CP 2176600).

The City of Edina understands that Hennepin County has received federal funding to replace Bridge #4510 over the Canadian Pacific (CP) Railroad. During project development, agency stakeholders explored the area of work to accommodate the new bridge design that is anticipated to include a new elevation to satisfy railroad clearance requirements, a wider deck area to provide space for people walking and biking, appropriate lane configurations at the adjacent intersections to balance safety and mobility through the area and a noise wall along the east side of Highway 100. As a result, the project area has extended beyond the original project limits included in the county's 2020 Regional Solicitation; requiring a Project Scope Change Request.

The City of Edina is supportive of the county's Project Scope Change Request to extend the project limits. Agency stakeholders have worked extensively throughout the project development process to retain a key crossing of the CP Railroad for people walking, using transit, biking, and driving for many years to come. We look forward to continued coordination with Hennepin County on this regional transportation investment.

Sincerely,

Charl A. Miller

Chad A. Millner, P.E. Director of Engineering City of Edina

## **Scope Change Policy**

Projects awarded federal funds by the Transportation Advisory Board (TAB) as part of the Regional Solicitation or Highway Safety Improvement Program (HSIP) are often concepts that are further developed in the period from project application to implementation. Project sponsors work on activities after funds are awarded such as preliminary and final design, environmental studies, and public involvement. Sometimes during this project development process, the project sponsor wants to make changes to the scope of the project. Changes to a project's scope could affect its benefits to the region. It is important to the TAB that any change in a project's scope does not substantially reduce these benefits.

#### **Scope Changes**

A scope change is any revision that changes the physical characteristics of the project and has the potential to add to or detract from the project's benefits to the region. The project description in the original funding application serves as the project's scope for the purpose of determining whether a scope change is needed.

#### **Three Levels of Scope Changes**

There are three types of scope changes described below. The TAB Coordinator, the MnDOT Metro District Federal Aid Program Coordinator (for Federal Highway Administration-administered projects), and the Transit Federal Grants Manager (for Federal Transit Administration-administered projects) will determine the type of scope change.

#### Administrative scope changes:

Minor changes that typically occur when projects move into detailed design or minor additions such as project amenities or aesthetic items do not need TAB Coordinator/Metropolitan Council staff review. The MnDOT Metro District Federal Aid Program Coordinator or Metropolitan Council Transit Federal Grants Manager can review and approve minor changes including, but not limited to:

- Removing or adding of minor items, such as benches, waste receptacles, signage, etc.
- Changing the design of aesthetic items, such as lighting, railings, benches, etc.
- Adding items due to normal detailed design of a project such as noise walls, retaining walls, storm sewers, bike racks, wi-fi, etc.
- Adding new project elements/improvements funded through another source (e.g., a change to a more fuel-efficient bus) or combining a TAB-funded project with one or more separate non-TAB funded projects to improve efficiency and reduce construction impacts (e.g., combining a roadway project with an adjacent mill and overlay project). These changes should not detract from the original scope.
- Changing the width of a bike path (must still meet standards).

#### Informal scope changes:

Scope changes that exceed the standards of administrative scope changes are brought for a consultation between the TAB Coordinator; the MnDOT Metro District Federal Aid Program Coordinator or Metropolitan Council Transit Federal Grants Manager; and Council staff. The consultation will determine if the scope change can be approved through an informal process or if a formal scope change request is needed due to the potential negative impacts of the changes. An informal scope change may include, but is not limited to:

• Slightly changing a bike or pedestrian trail route alignment while still making the major connections.

- Combining two separate TAB-funded projects, provided this does not threaten to negatively impact either project.
- Changing the termini of a project, provided this does not threaten to negatively impact the project.
- Changing a pedestrian overpass to an underpass; or an underpass to an overpass.
- Changing an intersection treatment (e.g., a traffic signal to a roundabout) or an interchange design.
- Changing bus length, fuel source, type, or number, provided there is no resulting decrease in transit service.
- Reversion to the original scope (or a previously approved scope change). Note that any federal funds taken away in a previous scope change cannot be returned; the entire scope would need to be completed with the reduced federal contribution.

#### Formal scope changes:

Any change that may significantly alter the estimated benefits to the region (particularly if altered to the degree where the revised scope may not have justified its original selection) must go through the formal committee process and be approved by TAB. A formal scope change request process is likely to be needed in instances including, but not limited to:

- Removing significant elements such as a trail, sidewalk, pedestrian bridge, traffic signal, transit stop, transit vehicle, etc.
- Adding elements that detract from the value or intent of the original application.
- Removing proposed access closures, if the closures are described in the project description and used to score points in the application.
- Reducing the frequency or hours of transit service.
- Reducing the number of parking spaces in a park-and-ride facility.
- Changing the number of travel lanes.
- Shifting from a bridge replacement project to a bridge rehabilitation project.
- Changing designs from an off-road trail to on-road bicycle route.

#### **Ineligible Requests**

The TAB Coordinator may inform the project sponsor that the proposed revisions exceed the limits of a scope change and that the proposed change constitutes a new project. Such requests will not be processed through the TAC and TAB and that the original project should either be completed or withdrawn. If the project is to be withdrawn, the project sponsor should submit a formal letter to the TAB Coordinator stating that the project is being withdrawn and federal funds are being returned to the region for reallocation. A proposed change will be considered a new project and therefore not eligible for a scope change if it is:

- Relocating the project away from the defined problem, need, or location, such as switching transit start-up service from one market area to another
- Moving funding from one project to another, such as moving funds awarded to a project on County Road A to the same, similar, or different work on County Road Z.
- Eliminating the primary improvement proposed in the project description (e.g., a bridge will not be improved for a project submitted in the bridge application category or a trail will not be improved in the multiuse trails application category).

# Steps and Requirements to Determine Scope Change Type and Request a Formal Scope Change

The following steps must be followed to determine a scope change type and whether the proposed change needs to go through the formal scope change request process. It should be noted that once a MnDOT Metro District State Aid project has been authorized, the project scope cannot change.

- 1. The project sponsor informs the TAB Coordinator and the MnDOT Metro District Federal Aid Program Coordinator or the Metropolitan Council Transit Grants Manager that it wants to change a project. At this time, the MnDOT Metro District Federal Aid Program Coordinator or the Metropolitan Council Transit Federal Grants Manager may determine that the change is minor in scope and no further action is needed. If the requested change is more substantial, the project sponsor will be asked to provide a written description of the proposed scope change and a map or schematics showing how the proposed scope change affects the project.
- 2. Upon this submittal, the TAB Coordinator will consult with the MnDOT Metro District Federal Aid Program Coordinator or the Metropolitan Council Grants Manager to discuss the extent of the changes and whether the scope change will require a formal scope change request. The TAB Coordinator will contact the project sponsor and inform them whether the proposed modification can be accomplished administratively or whether it will trigger a formal scope change request and/or TIP amendment<sup>1</sup> request.
- 3. For a formal scope change request, the project sponsor must provide data on the revised project scope to the TAB Coordinator, including a complete project description; location map; project layout, sketches, or schematics; and a discussion of project benefits being retained, gained, or lost. Applicants must provide a cost breakdown of the TAB-eligible items proposed for removal and addition (in the year of costs used in the original application) using the attached project cost worksheet. Failure to do so can result in the request not being included on the TAC Funding & Programming Committee's agenda.
- 4. Council staff and will conduct an analysis of the requested change, including the background information provided by the project sponsor for consideration by the TAC Funding & Programming Committee. The Committee will discuss the staff analysis and recommend one the following to TAC and TAB (see detailed sections below and on the following page about determining scope change and federal funding amount recommendations):
  - Approval of the scope change as requested;
  - Approval of the scope change request with modifications to the scope and/or a recommended reduction of federal funds; or
  - Denial of the requested change

#### **Determining the Scope Change Approval Recommendation**

To determine whether the scope change request should be approved, the TAC Funding & Programming Committee will discuss the merits of the proposed changes and weigh the overall

<sup>&</sup>lt;sup>1</sup> A TIP amendment request is only required to accompany a scope change request if the project is in the current fiscal year and either the project description changes in the TIP, the project termini change by 0.3-mile or greater, or the funding amount changes enough to meet federal TIP amendment thresholds.

benefits or reduction of benefits to the region. Council staff will provide a written analysis regarding the potential impacts of the proposed changes. The affected scoring measures, except for cost-effectiveness (any cost increases are paid for by the local agency and not federal funds), will be analyzed by Council staff to determine if each sub-score would have likely increased, decreased, or stayed the same with the scope change (a precise rescoring of the application is not possible since applications were scored against each other at a specific moment in time). Council staff will then evaluate whether the total score would have likely increased, decreased, or stayed roughly the same based on the summation of the sub-score changes. This relative change in the total score will be compared to the scoring gap between the project's original score and the highest unfunded project in the same application category. The TAC Funding & Programming Committee may consider recommending denial of the scope change request if it is clear that the project would have scored fewer points than the highest-scoring unfunded project (i.e., the project would have been undoubtedly below the funding line). Council staff may confirm their findings with the original scorer of the measure and/or request additional information of the applicant, if necessary. Project sponsor must attend TAC Funding & Programming, TAC, and TAB meetings, where the item is on the agenda.

#### **Determining the Federal Funding Amount Recommendation**

To determine whether federal funds should be recommended to be removed from a project, Council staff will assess the project elements being reduced or removed and provide this information to the TAC Funding & Programming Committee. While adding eligible project elements is permitted, federal funds cannot be shifted away from any removed elements to new project elements unless the removed elements are being done as part of some other programmed project. Federal funds cannot be added to a project beyond the original award.

Applicants must provide a revised cost estimate including a cost breakdown of the items proposed for removal using the attached project cost worksheet. Any removed or added items should use the costs in the year requested in the original application instead of the year of construction costs. Regional Solicitation projects must continue to maintain at least a 20% non-federal match, while HSIP projects must continue to maintain at least a 10% non-federal match.

Staff may recommend funding reduction options, if applicable, based on the federal share of the cost of the project elements being removed or the proportionate reduction of project benefits in cases in which that is discernable (e.g., number of parking spaces or length of sidewalk) and/or another method developed by staff or the TAC Funding & Programming Committee. A recommendation will move from TAC Funding & Programming Committee to the TAC and TAB for approval. If applicable, a TIP amendment request will also be moved for approval through the Metropolitan Council.

# ATTACHMENT 1: FUNDING DATA FOR SCOPE CHANGE REQUEST

#### **Original Application:**

Regional Solicitation Year		
Application Funding Category		
HSIP Solicitation?	Yes	No
Application Total Project Cost		
Federal Award		
Application Federal Percentage of Total Project Cost		

#### **Project Elements Being Removed:**

Original Application Cost

#### **New Project Elements:**

Cost (Based on Year of Costs in Original Application)