Capital Area Metropolitan Planning Organization

2019-2022 Project Call

Project Selection Criteria

November 2017

CAMPO
CAPITAL AREA METROPOLITAN PLANNING ORGANIZATION
CENTRAL TEXAS

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Overview

The Capital Area Metropolitan Planning Organization (CAMPO) is responsible for allocating certain federal and state funds for transportation projects in the six-county capital region. In order to administer these funding programs and ensure an effective and equitable distribution to project sponsors, CAMPO has developed a project evaluation and selection process with an emphasis on several key factors.

Regional Perspective – The six-county CAMPO region includes Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson counties and includes a diverse mix of urban, suburban, and rural areas each experiencing unique challenges. CAMPO has strived to ensure that the selection criteria and process take these differences into consideration with a balanced, regional approach to addressing the needs of the transportation system.

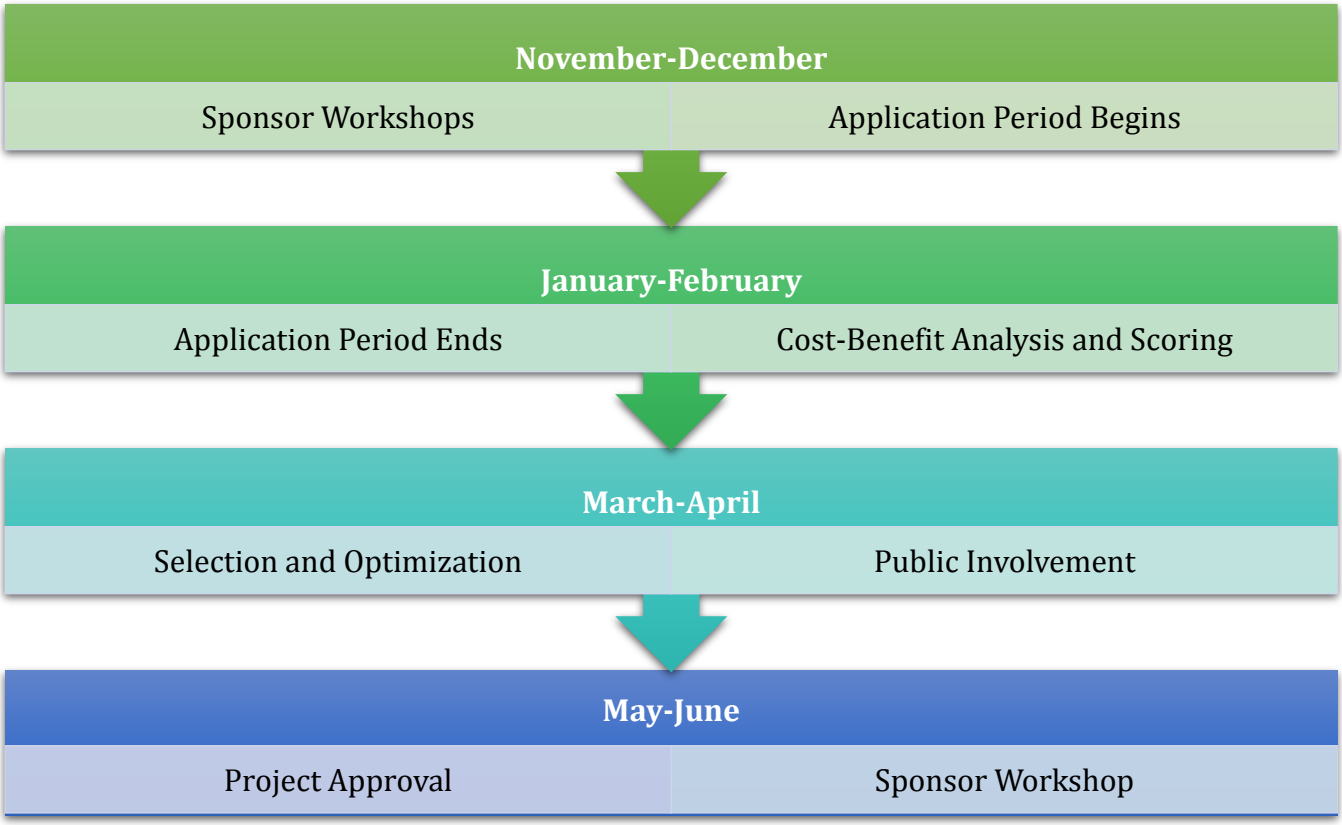
Transparency – A major goal for the project scoring and selection process is to provide a mechanism for transparent decision-making in allocating funding projects for the region. CAMPO will make the process and resulting outcomes clear to all stakeholders including project sponsors and the public.

Objectivity – The process has been designed to be an objective evaluation that emphasizes performance-based, results-driven outcomes. Projects will be selected based on objective criteria and analysis that demonstrate the direct, measurable impacts of a project.

Data-Support – Project evaluations require robust information to support the project applications and evaluation process. The supporting information will be thoroughly evaluated to ensure that only accurate, informative data is used to evaluate a project.

Accountability – This process was developed because CAMPO is delegated the responsibility for allocating funding and is accountable for selecting projects that provide the most value for the regional transportation system. CAMPO is also accountable for ensuring that the funding is spent efficiently and effectively by project sponsors which will be emphasized through the continual monitoring of projects as they continue through the development process and beyond.

Timeline

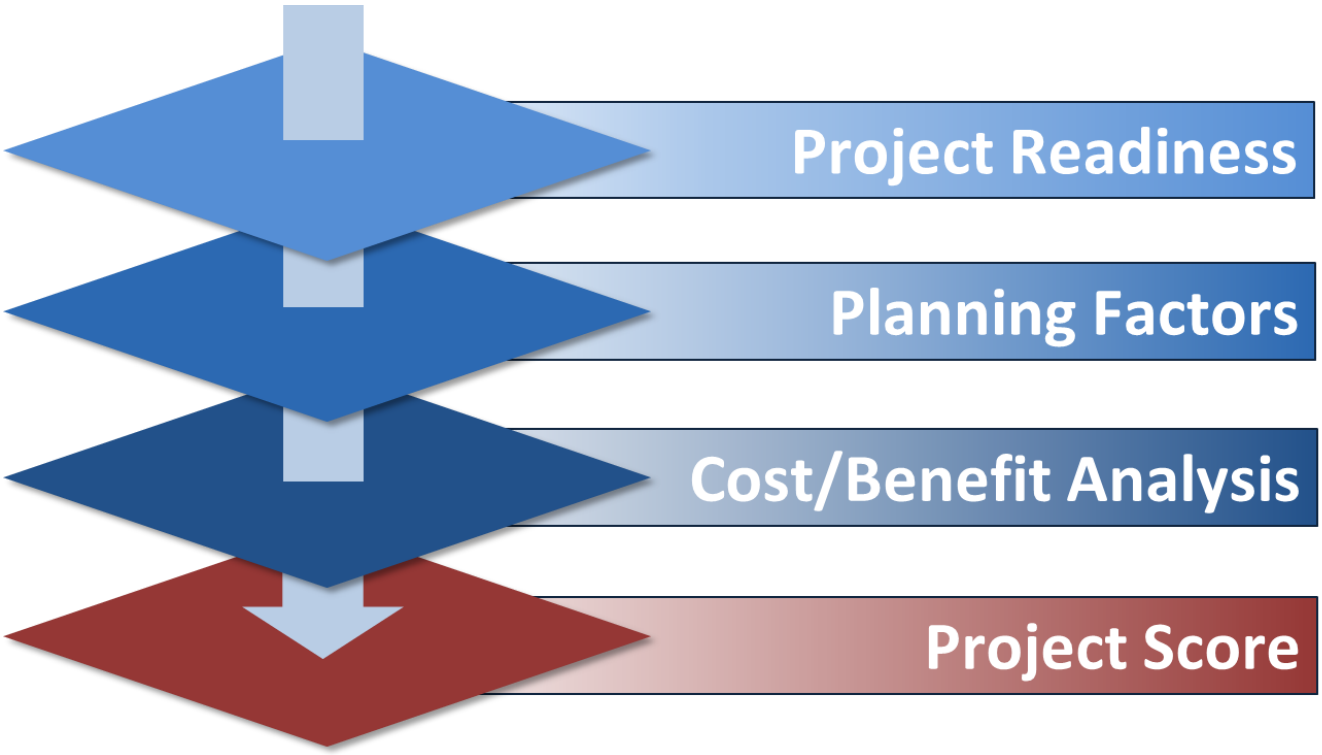

November-December
Sponsor Workshops
Application Period Begins
January-February
Application Period Ends
Cost-Benefit Analysis and Scoring
March-April
Selection and Optimization
Public Involvement
May-June
Project Approval
Sponsor Workshop

Schedule

Date	Item
10/23/2017	Sponsor Workshop (Travis County)
10/25/2017	Sponsor Workshop (Hays, Caldwell, Bastrop County)
11/3/2017	Sponsor Workshop (Williamson and Burnet County)
11/7/2017	Sponsor Workshop (ACEC)
11/13/2017	Project Selection Criteria Approval
11/22/2017	Sponsor Webinar (Criteria Review)
12/8/2017	Sponsor Webinar (Application Form Review)
12/11/2017	**Application Period Opens**
1/18/2018	**Application Period Closes (COB, 5:00 p.m. Central Time)**
1/19/2018	Cost-Benefit Analysis, Planning Factor Scoring and Portfolio Development
3/26/2018	Technical Advisory Committee – Information
4/1/2018	Public Comment Period Opens
4/9/2018	Transportation Policy Board – Information
4/9/2018	Public Hearing
4/23/2018	Technical Advisory Committee – Recommendation
4/30/2018	Public Comment Period Closes
5/7/2018	Transportation Policy Board – Approval
6/5/2018	Project Call Sponsor Workshop (Awarded Sponsors)

Scoring Process

The scoring process will evaluate submitted projects in three important areas. The first part of the process will determine if the project will be ready for the phase and fiscal year in which it is applying for funding. Once this is determined, the project will be scored through Planning Factors and a Cost/Benefit Analysis.



Selection Process

Project selection will take place after all projects that demonstrate readiness have been scored. The review committee will combine submitted projects into a single combined portfolio. From this portfolio, the highest-ranking projects will be recommended based on eligibility and funding availability. The recommended projects will then be subject to the public involvement process and reviewed by the Technical Advisory Committee before going to the Transportation Policy Board for final approval. The final selection is at the discretion of the Transportation Policy Board.

Project Development and Readiness

The first part of the selection process evaluates project readiness and determines if a project will be ready for the phase and fiscal year in which the funding is to be applied. By assessing how far along projects are in the development process, scheduling of milestones, sponsor resources and other factors that affect development, only projects that demonstrate readiness will move forward in the scoring process.

Development Task	Completion*
Preliminary Engineering and Design	Completion Rate
Public Involvement	Completion Rate
Environmental Compliance	Completion Rate
Right-of-Way Acquisition	Completion Rate
Utility Relocation	Completion Rate
Financial Requirements	Completion Rate
Coordination and Agreements	Completion Rate

*As applicable. Project readiness measurements will be dependent on the project and appropriate development tasks necessary for implementation.

Scoring Weight

The project score will be a combination of the scores for planning factors and the cost/benefit analysis. The weights for the planning factors and cost-benefit analysis for each category are listed below.

Project Type	Planning Factors	Cost-Benefit Analysis
Roadway	50%	50%*
ITS/Operations	50%	50%
Transit	50%	50%
Active Transportation	75%	25%
Transportation Demand Management	50%	50%
Other	N/A	N/A

*The Cost Benefit Analysis for Roadway Projects will be a combination of Travel Time Savings (25%) and Safety (25%).

Roadway Project Selection

Planning Factors

Criteria	Value	Performance Measure
Planning	**10**	The project has undergone a comprehensive planning process or is identified as a priority in a local or regional transportation plan.
System Preservation	**5**	The project includes work that will help preserve the existing transportation system.
Modification	**5**	Project includes modifications that improve existing facility operations.
Congestion and Mobility	**10**	The project removes a bottle neck, improves person per hour throughput in a congested area or reduces vehicle emissions.
	5	The project fills a gap, removes a barrier and enhances network connectivity.
	5	The project creates transportation network redundancy.
Safety	**10**	The project addresses a severe crash rate higher than CAMPO regional average (including pedestrian and bicycle crash rates).
	5	The project addresses additional safety issues.
Regional Impact	**10**	The project is located on an existing or proposed regionally significant facility.
	5	The project is on a designated or proposed truck, heavy-cargo, hazardous material or evacuation route.
Social and Environmental Impacts	**5**	The project serves traditionally underserved populations including low-income, minority, elderly, disabled, and limited English proficiency households.
	5	The project has incorporated measures that reduce, minimize or avoid negative impacts to the environment or cultural resources.
Multimodal Elements	**5**	The project provides pedestrian/bicycle accommodations identified in the Regional Active Transportation Plan or a locally adopted transportation plan.
	5	The project includes transit elements or service routes.
Economic Development	**5**	The project supports local, regional or state economic development plans and strategies.

Funding	**1-5**	The project's local cost share is overmatched. (5% = 1 point)
Total Points	**100**	

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Added Capacity	2020 and 2040 Network Effects (Vehicle Hours of Travel and Travel Speeds) and Projected Facility Volumes	CAMPO 2040 Regional Travel Demand Model	1. VHT savings growth from 2020 through 2040, or until facility reaches capacity 2. 2020-2040 VHT benefits monetized and discounted to 2016.
Roadway – TSM (Auxiliary Lanes)	(a) Estimated Capacity Increase (b) 2020 and 2040 Projected Facility Volumes and Travel Speeds	CAMPO 2040 Regional Travel Demand Model or Synchro analysis.	1. Travel time savings growth from 2020 through 2040, or until facility reaches capacity 2. 2020-2040 VHT benefits monetized and discounted to 2016.
Roadway – TSM (Railroad Grade Separations)	(a) Observed RR Crossing Delay, (b) 2020 and 2040 Projected Facility Volumes and Travel Speeds	Sponsor and CAMPO 2040 Regional Travel Demand Model or Synchro analysis.	1. Observed delay (VHT) escalated to 2040 based on observed traffic count and projected 2040 facility volume 2. VHT savings growth from 2020 through 2040, or until facility reaches capacity 3. 2020-2040 VHT benefits monetized and discounted to 2016.
Safety	(a) Crash statistics for intersection/facility type, geographic location	(a) Crash Records Information System (CRIS) or other comparable, (b) Highway Safety Inventory Program (HSIP) crash modification factor (CMF) for project type	1. Use crash rate for facility type, by county. 2. Estimate reduction in crash rates due to project design – Lookup table of HSIP CMF and service life. 3. Combine with project cost category

ITS/Operations Project Selection

Planning Factors

Criteria	Value	Performance Measure
Planning	**10**	The project has undergone a comprehensive planning process or is identified as a priority in a local or regional transportation plan
Redundancy	**10**	The project will provide system redundancy and ensure continuity in operations.
Expandability	**10**	The project will expand the regional transportation ITS network.
Integration	**10**	The project will utilize technology compatible with other relevant systems.
	10	The project will tie into a centralized operations center.
	10	The project will collect and provide data available to the public.
Incident Management	**10**	The project is part of an incident management system.
	10	The project will be used for management of special events or emergencies.
Lifecycle	**10**	The project lifecycle is greater than five years.
Maintenance	**5**	The project has a formal maintenance program in place.
Funding	**1-5**	The project's local cost share is overmatched. (5% = 1 point)
Total Points	**100**	

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Traffic	Peak period modeling network output, project development detail.	Tool for Operations Benefit/Cost (TOPS-BC) Model (FHWA)	1. VHT total decrease, travel time reliability valuation using TOPS-BC model 2. 2020-2040 VHT benefits monetized and discounted to 2016.

Transit Project Selection Criteria

Planning Factors

Criteria	Value	Performance Measure
Planning	**10**	The project has undergone a comprehensive planning process or is identified as a priority in a local or regional transportation plan
Interagency Coordination	**5**	The project has been coordinated with other agencies maintaining roadways and connecting transit services.
Connections	**10**	The project provides connections to other transit services and/or modes of transportation
ITS	**5**	The project includes an Intelligent Transportation System (ITS) component and enhances the system through technology.
Safety	**10**	The project enhances transit vehicle safety.
	5	The project includes safety and security measures that will provide safe connections and facilities.
Service	**10**	The project fills a service gap, expands coverage or increases frequency of a route.
Innovation	**5**	The project demonstrates innovative design, technology or service.
Land Use	**5**	The project integrates existing or planned transit-supportive land use and infrastructure.
Economic Development	**5**	The project supports local, regional or state economic development plans and strategies.
Ridership	**10**	The project has documentation showing anticipated ridership and potential growth.
State of Good Repair	**5**	The project meets the life expectancy thresholds established by the FTA, preventative maintenance schedules, or an existing maintenance plan.
	5	The project addresses maintenance needs to maintain FTA State of Good of Repair requirements.
Social Impact	**5**	The project serves traditionally underserved populations including low-income, minority, elderly, disabled, and limited English proficiency households.
Funding	**1-5**	The project's local cost share is overmatched. (5% = 1 point)
Total Points	**100**	

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Transit	Project related documentation	Project Sponsor	Estimated reduction in vehicle miles traveled from mode choice model if appropriate

Active Transportation

Planning Factors

Criteria	Value	Performance Measure
Planning	**10**	The project has undergone a comprehensive planning process or is identified as a priority in a local or regional transportation plan.
Distribution	**5**	The project is facility where no other facility of this type exists within the jurisdiction or is outside the 5-mile radius of a similar facility.
Innovation	**5**	The project is a pilot project or includes innovative design elements.
Connectivity	**10**	Project removes a barrier or provides a connection that did not exist previously.
	10	Project connects to existing facilities such as schools, community facilities, residential, employment centers, etc.
	10-20	The project directly links to a transit connection or is within: • *20 points*, if .25 miles or less or • *15 points*, if .26 to .5 miles or • *10 points*, if the project demonstrates a potential for future connection to a transit system.
Safety	**15**	The project improves pedestrian and cyclist safety.
Social and Environmental Impact	**10**	The project serves traditionally underserved populations including low-income, minority, elderly, disabled, and limited English proficiency households.
	10	The project has incorporated measures that reduce, minimize or avoid negative impacts to the environment or cultural resources.
Funding	**1-5**	The project's local cost share is overmatched. (5% = 1 point)
Total Points	**100**	

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Active Transportation	2000 Census Transportation Planning Package (CTPP), CAMPO 2040 Regional Travel Demand model demographic structure	CAMPO 2040 Regional Travel Demand Model	GIS buffer analysis used to identify travel analysis zones (TAZs) influenced by the project (0.25 mi buffer).

Transportation Demand Management

Planning Factors

Criteria	Value	Performance Measure
Regional Impact	**10**	The project has a regional scope, impacts key regional congested roadways, or impacts key employment centers.
Safety	**10**	The project addresses transportation safety.
Congestion and Mobility	**10**	The project reduces vehicle miles traveled, single-occupant vehicle travel, or congested peak period travel.
	10	The project fills a gap and provides a service that is currently not being addressed or is underfunded.
	20	The project utilizes the existing roadway network, bicycle network, and transit network.
Social and Environmental Impacts	**10**	The project has a positive impact (e.g. reduction in transportation costs, improvements on public health) on underserved populations including low-income, minority, elderly, disabled, and limited English proficiency households.
	5	The project improves air quality.
Multimodal Elements	**10**	The project increases walking, bicycling, the use of public transit, ridesharing, and teleworking.
Total Points	**85**	

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Transportation Demand Management	Project related documentation	Project Sponsor	To be determined by CAMPO and project sponsor.

Other Projects

Projects that do not readily fit the five traditional project categories will be provided opportunity to apply, however these projects will not be traditionally scored. The sponsor must detail how the project will benefit the region, how it meets applicable criteria, and provide supporting documentation for all criteria selected.

From the criteria outlined above in the five traditional categories, sponsors will determine which criteria apply to their projects. Using these selected criteria, the sponsor will demonstrate how the project addresses the criteria and provide supporting documentation. Sponsors are also encouraged to submit Cost-Benefit Analysis documentation, as CAMPO will develop an industry standard Cost-Benefit Analysis based on the project submitted.

Projects submitted under this category will not be scored as the other five categories, but will be evaluated on the merits demonstrated by the project as proven by the selected criteria and supporting documentation. These projects will be presented separately alongside the scored projects during the evaluation and awarding process.

Planning Factors

Criteria	Performance Measure
Sponsor Selected	The project sponsor demonstrates how the selected criteria apply to the project and provide supporting documentation.

Cost/Benefit Analysis

Project Type	Data	Source	Methodology
Other	Project related documentation	Project Sponsor	To be determined by sponsor and CAMPO based on project type

Appendix A: Additional Planning Factor Information

Roadway Projects

Planning – Projects should be identified in locally or regionally adopted plans, including city or county thoroughfare plans, city comprehensive plans, or CAMPO documents including the long-range Regional Transportation Plan (RTP). Provide the name of the plan(s) in which the project is included, its date of adoption or approval, and include any additional identifying information which may be needed to locate the corridor.

System Preservation – Describe how the project will maintain or modernize existing roadways or extend a road or bridge's expected design life. Provide data on the roadway's current age and deficiencies and describe how the project will address these.

Modification – Describe how the project will modify an existing roadway in order to enhance its functioning. Note the current roadway configuration, any deficiencies, the proposed changes, and the expected outcomes to make more efficient use of existing infrastructure.

Congestion and Mobility – Provide detail on the current and forecast levels of congestion in the corridor and how this project will improve or manage congestion. Include documentation of the proposed design section and its context in the corridor and region in addressing bottlenecks, gaps, or redundancy.

Safety – Refer to regional crash rates to document problems with safety in the corridor. Describe how the project would be expected to improve safety. Include information on vehicular, pedestrian, and bicycle safety and provide information on proven safety countermeasures that will be included in the project.

Regional Impact – Note if the project is designated on the National Highway System or if it is a Principal Arterial in CAMPO's 2040 RTP. If the corridor is an identified or proposed designated route (evacuation, truck, etc.), include information on any related study or analysis for this designation.

Social and Environmental Impacts – Refer to CAMPO's map of Environmental Justice traffic analysis zones and note if the project is in or connects to one of these zones. Provide information from the corridor's study that details how the project will minimize environmental impacts or improve current conditions.

Multimodal Elements – Refer to CAMPO's Regional Active Transportation Plan and note how the project advances its goals. Alternatively, if a project is not on the regional plan but is included in a locally-adopted plan, provide the plan name and date of adoption or approval. If the roadway corridor serves existing or proposed transit routes, include information on the route(s) from the transit provider.

Economic Development – Describe how the project relates to economic development plans. Include information on new developments, redevelopments, key industries, or commercial and freight interests that the roadway would be expected to serve.

Funding – Describe how the project's local cost share goes beyond the funding match requirements. Provide documentation that identifies committed funding for the project.

ITS/Operations Projects

Planning – Projects should be identified in locally or regionally adopted plans, including city or county thoroughfare plans, Regional ITS Architecture plans, and city, county or state ITS master or implementation plans. Provide the name of the plan(s) in which the project is included, its date of adoption or approval, and include any additional identifying information which may be needed to locate the project. Identify conformity to the Regional ITS Architecture.

Redundancy – Describe how the project will provide redundancy to the existing or proposed transportation system in order that traffic operations can be continued in the event of an incident including special events, crashes or other disruption. Provide data on current operational deficiencies, including delays and crashes and describe how the project will address these.

Expandability – Describe how the project will adapt to and expand the regional transportation ITS network as defined in the Regional ITS Architecture Update (June 2015) or other ITS master plan document that references the regional architecture. Describe how the functional requirements and operational concepts will coordinate with existing systems and the overall transportation network.

Integration – Describe how the project will integrate with existing and proposed equipment and technology including field devices, communications, and traffic management center(s). Provide information on how data collected will provide benefit and how it will be shared with the public.

Incident Management – Identify if the project will be part of an overall existing or proposed incident management plan, including short and long-term incidents and special events, and describe the function provided as part of the plan. Cite the incident management plan the project will be part of.

Lifecycle – Identify the expected lifecycle of the project including the technology and equipment proposed. Provide information that supports the expected lifecycle and identify when updates, if required, may be needed. It is important that technology and equipment is functionally compatible with existing and proposed systems and to understand the lifetime of the functionality.

Maintenance – Identify if a formal ITS maintenance plan exists and provide a brief explanation of the plan and how the project will be included and whether current maintenance funds can support the project or new funds will be required.

Funding – Describe how the project's local cost share goes beyond the funding match requirements. Provide documentation that identifies committed funding for the project.

Transit Projects

Planning – Projects should be identified in locally or regionally adopted plans, including city comprehensive plans, long-range transit plans, or CAMPO documents such as the Regional Transportation Plan (RTP). Provide the name of the plan(s) in which the project is included, its date of adoption or approval, and include any additional identifying information which may be needed to locate the project.

Interagency Coordination – Provide documentation that coordination has occurred with other agencies to ensure the project can be implemented. Include information on studies undertaken with partner agencies, inter-local agreements, or official communication between the various agencies.

Connections – Note how the project enhances the current transit system through new or enhanced connections. Include route information from other transit providers if applicable. Provide data on expected outcomes through new connections.

ITS – Provide details on the project's Intelligent Transportation System (ITS) elements, such as dynamic signs providing real-time information to customers, route monitoring technology for operations centers, or other enhancements.

Safety – Note specific safety enhancements that the project will include to reduce the potential for crashes and create a safer, more secure experience for customers. If specific safety deficiencies exist on the corridor today, provide documentation to describe how they will be addressed.

Service – Describe the current service deficiencies which the project is intended to address. Provide current route information and documentation which explains how the project will improve transit service in the corridor or study area.

Innovation – If the project provides a new kind of service through technological advances, new types of vehicles or modes of travel, expansion of transit through pioneering partnerships, or other means, describe this innovation, any supporting studies or analyses, and the expected results.

Land Use – Provide references to comprehensive plans, zoning ordinances, site-specific or large-area plans, or other documents which explain the connection between land use and this transit project. Include a description of the project's role in furthering transit-supportive land use and reducing vehicular travel.

Economic Development – Describe how the project relates to economic development plans. Include information on new developments, key industries, or commercial interests that the project would be expected to serve. Include information on new access to employment that the project would allow.

Ridership – Provide documentation of expected ridership improvements due to the project. Include references to studies or analyses used to determine ridership figures and a description of the method or model used to forecast ridership.

State of Good Repair – Refer to the state of good repair guidelines established by the Federal Transit Administration. Document how the project is expected to meet or exceed all relevant guidelines and make the most efficient use of the existing transit system through robust maintenance procedures.

Social Impact – Refer to CAMPO's map of Environmental Justice (EJ) traffic analysis zones and note if the project is in or connects to one of these zones. Provide information from the project's study that details how the improvement will enhance transit access to or within EJ zones by making new connections, reducing travel time, increasing employment or educational opportunities, or other measures.

Funding – Describe how the project's local cost share goes beyond the funding match requirements. Provide documentation that identifies committed funding for the project.

Active Transportation Projects

Planning - Project should be identified in locally or regionally adopted plans, including city comprehensive plans, Regional Active Transportation Plan (RATP), or CAMPO documents such as the 2017 Regional Active Transportation Plan (RATP) or 2040 Regional Transportation Plan (RTP). Provide the name of the plan(s) in which the project is included, its date of adoption or approval, and include any additional identifying information which may be needed to locate the project.

Distribution – Provide map or other visual image such as an aerial screen capture with supporting dimensioning or scale, with 5-mile buffer and jurisdiction boundary represented or approximated graphically. Completed preliminary planning documentation referencing that the project is the first facility of its type within the jurisdiction or 5-mile radius also applies.

Innovation – If the project is a pilot project, or includes new and innovative design elements. Describe this innovation, any supporting studies or analyses, and the expected results.

Connectivity (10) – Project provides new connections or connections that increase access connectivity and reduce the functional network distance between two points for non-auto transportation. Project allows users to travel between points faster or overcome a barrier such as a river, roadway, or elevation change. Provide the distance of the shortest, safe alternative route compared to the distance with the project.

Connectivity (10) – Provide list of existing school, community facilities, residential cluster/neighborhood or employment center name along the project alignment (directly affected) and that would peripherally benefit from the project (within 0.25 mile).

Connectivity (10-20) – List transit service or station served within 0.25 miles, or 0.5 miles. Provide map or other visual image such as an aerial screen capture with supporting measurement, along with graphical location of the transit line, service or station noted. Physical barriers, such as water crossing, fence, or building, should be avoided in measurement. Planned future transit improvements should be noted, with reference to the plan or estimated service start date.

Safety – Project provides additional separation from travel lanes, illumination, all-weather surface treatment. Project demonstrably serves both pedestrians and cyclists, or separates the two modes through its implementation in a way that similar projects have documented safety improvement.

Social and Environmental Impact – Underserved Populations - Refer to CAMPO's map of Environmental Justice (EJ) traffic analysis zones and note if the project is in or connects to one of these zones. Provide information from the project's study that details how the improvement will enhance active transportation access to or within EJ zones by serving low income, minority, elderly, disabled, students, or limited English proficiency households.

Social and Environmental Impact – Environment - Provide information from the project study documentation that details how the project will minimize environmental impacts or improve current conditions.

Funding – Describe how the project's local cost share goes beyond the funding match requirements. Provide documentation that identifies committed funding for the project.

Other Projects

Projects that do not readily fit the five traditional project categories will be provided opportunity to apply, however these projects will not be scored traditionally. The sponsor must detail how the project will benefit the region, how it meets applicable criteria, and provide supporting documentation for all criteria selected.

From the criteria outlined above in the five traditional categories, sponsor will determine which criteria apply to their projects. Using these selected criteria, the sponsor will demonstrate how the project addresses the criteria and provide supporting documentation.

Projects submitted under this category will not be scored as the other five categories, but will be evaluated on the merits demonstrated by the project as proven by the selected criteria and supporting documentation. These projects will be presented separately alongside the scored projects during the evaluation and awarding process.

Below are two sample criteria that are mixed and matched from criteria in the four categories above. These examples demonstrate how a sponsor can use the criteria that best fit the project.

Example Criteria A

Criteria*	Performance Measure**
Planning	The project sponsor demonstrates how the project has undergone a comprehensive planning process.
Congestion and Mobility	The project sponsor demonstrates how the project address mobility and congestion.
Safety	The project sponsor demonstrates how the project will address safety.
Regional Impact	The project sponsor demonstrates how the project will impact the region.
Social and Environmental Impacts	The project sponsor demonstrates how the project address social and environmental impacts.
Multimodal Elements	The project sponsor demonstrates how the project has multimodal elements
Economic Development	The project sponsor demonstrates how the project enhances economic development.
Funding	The project sponsor demonstrates how the project is overmatched.

Example Criteria B

Criteria*	Performance Measure**
Planning	The project sponsor demonstrates how the project has undergone a comprehensive planning process.
Incident Management	The project sponsor demonstrates how the project is part of an incident management system.
Safety	The project sponsor demonstrates how the project will address safety.
Connectivity	The project sponsor demonstrates how the project will enhance connectivity.
Social and Environmental Impacts	The project sponsor demonstrates how the project address social and environmental impacts.
Innovation	The project sponsor demonstrates how the project is innovative.
Economic Development	The project sponsor demonstrates how the project enhances economic development.
Funding	The project sponsor demonstrates how the project is overmatched.

*Criteria is selected by the project sponsor as appropriate for the project.

**There are no specific performance measures for the other category. The sponsor must demonstrate how the criteria applies to the project and provide supporting documentation.

Appendix B: Additional Cost/Benefit Analysis Information

The CBA analysis for roadway projects includes three travel-savings based measurement categories and one safety based category. One of the three travel savings based evaluations, as appropriate to the general project type, will be calculated using a generally accepted transportation practice of estimating travel time savings. The resulting value will be input in to an excel spreadsheet with average, assumed values for regional travel characteristics considered equal among all project evaluation calculations using the same methodology. The resulting value will be combined with the safety evaluation for the combined 50% of project scoring.

The scoring of projects from the travel time savings will be normalized across all candidate projects submitted, such that the highest ranked project will result in a total of 25 points, and the lowest scoring project ranked a 1. In this way, projects are ranked for the purposes of overall travel time savings among projects submitted, and resulting scores to not outweigh the CBA for the safety criteria or vice-versus.

Additional guidance on cost-benefit analysis for transportation projects can be found here[1] and here[2].

INPUT

Project	
Name:	
Application ID Number:	
Sponsor ID Number (CSJ, etc.):	
Year Open to Traffic? **(Must be >=2020)**	2021

Daily Travel Demand	*With Project*	*Without Project*
2020 VHT	115	130
2020 Volume	6,707	
2020 Capacity	21,766	
2040 Volume	10,948	
2040 Capacity	50,904	

OUTPUT

Benefit Results	
Discounted Delay Benefits @ 7% (2015 $, '000s)	$940
Discounted Delay Benefits @ 3% (2015 $, '000s)	$1,667

1 Example CBA assumptions and output tab.

[1] https://www.transportation.gov/sites/dot.gov/files/docs/mission/office-policy/transportation-policy/284031/benefit-cost-analysis-guidance-2017_0.pdf

[2] http://www.dot.state.mn.us/planning/program/benefitcost.html

Added Capacity – Projects that quantifiably add capacity will use this method.

Projects represented in the regional travel demand model will be evaluated both with and without the project improvement for the 2020 model run to determine the Vehicle Hours Traveled for the project reach, as well as the Average Daily Travel for the 2020 and 2040 output, and capacities for the project consistent with the 2040 CAMPO TDM documentation for project and area type. It is worth noting that the majority of projects noted in the 2040 Regional Transportation Plan should already be coded in the 2040 model network.

The VHT with and without the project is input in to the CBA savings calculator, along with the ADT and capacity from the proposed project reach. The year projected to open to traffic marks the beginning of the cost stream of benefits, up until the point the facility reaches capacity. Each year's travel savings benefit is calculated, and summed up, with a net present value of the total calculated. If the project is projected to exceed capacity in the TDM results, only years below a volume/capacity ration of 1 will be included in the valuation.

Roadway – Transportation System Management (TSM) Project examples include auxiliary lanes, grade separated intersections, access management projects, intersection capacity improvements)

For projects smaller than a corridor scale, or that are not represented in the regional travel demand model, or when TDM is not an appropriate tool to evaluate project benefits, for example grade separations, turn lanes or other similar capacity-adding or access enhancing projects, will be evaluated using other appropriate analysis tools such as synchro or HCS utilizing the methodologies of Highway Capacity Manual to evaluate the project benefits. Depending upon the type of project, the measure of effectiveness used to calculate the project benefit would be travel time savings or reduction in delay to calculate a quantifiable benefit of the project on average day operations, extrapolated to the service life of the project or with a 20-year horizon, whichever is lower. Whenever opening year or future year traffic volumes to be used for project analysis are not available from the CAMPO TDM or are not appropriate for use in the analysis, Current peak-hour turning movement counts will be utilized where needed. Future traffic volumes will be calculated using CAMPO TDM growth rates for one or more corridors near the location of the TSM project.

Assumptions	
Base Year	2015
Vehicle Occupancy	1.32
Value of Travel Time (VoTT), 2015 $	$16.10
Real wage growth rate	1.2%
Annual Days of Travel	260
Years to include in BCA Analysis	20

2. Example input and output tab

The base and future conditions are then entered in to the CBA value calculator and a net present value determined. Proxy methods to evaluate travel time savings may also be considered to estimate order of magnitude savings for the project, and the project sponsor is welcome to nominate a calculation method that was developed during the project preliminary planning, alternatives analysis or project development stage.

Any project-specific synchro analysis created by sponsors for the project that is submitted to CAMPO for the purposes of evaluation will be considered.

Roadway – TSM (Railroad Grade Separations) Project that proposes grade separation of roadway from a rail line along a corridor.

Similar to the Roadway TSM projects, rail delays are not currently coded in to the 2040 CAMPO TDM. A proxy calculation will be used. The existing ADT will be grown over a 20 year period using the growth rates from the 2040 CAMPO TDM for the corridor. Observed delay based on number of trains per day, with delays assumed[3].

The following assumptions are implied:

```
Time a train occupies a crossing is 5 minutes, or 5/60 hour
Vehicles per hour = 1/24 x AADT
Vehicles stopped per train = 5/60 x 1/24 x AADT
Vehicles stopped per day = 5/60 x 1/24 x trains per day x AADT.
Therefore:
Vehicles stopped per year = 365 x 5/60 x 1/24 x trains per day x AADT
Vehicles stopped per year = 1.26736 x trains per day x AADT.
```

The grade separation project is assumed to provide the travel time savings as calculated.

Safety

This Safety Cost/Effective ranking methodology combines steps of Need, Effectiveness, and Cost, then normalizes or ranks the result across only the projects submitted for the individual project call. This results in ranking the projects based on these combined elements, rated against only the other projects being considered.

Step 1. Needs base

Lookup crash rate for facility type, by county.

Rates are between .0006, .0029 crashes per VMT.

Crash rate Calculation*:

$$\frac{\text{Total crashes, by functional class, by county}}{\text{Sum of 2015 VMT by functional class, by county}}$$

*Note: Only CRIS data and existing functional classifications were used.

GIS data merge layer, calculation reviewable by jurisdictions with access to CRIS data. Data includes CRIS data, current functional classification. Please note, the CRIS database is not considered public by TxDOT. Also, for accuracy, roadway classifications below principal arterial were combined to smooth some classification conflicts. Local roads are omitted from this analysis due to their not being eligible for funding with this mechanism, and due to incomplete or insufficient data in the sample set.

[3] TxDOT Rail Highways Manual 2015, assumed values for train delay
http://onlinemanuals.txdot.gov/txdotmanuals/rho/railroad_grade_separation_program_rgs.htm

Step 2. Effectiveness base

Estimate for reduction in crash rates due to project design.

Lookup description of project work description. Reference the Highway Safety Improvement Program work code combinations for **CMF (Crash modification factor) and service life (years)**, that describe the design features of the roadway project type, generally.

Resulting value between .02 and 27

Step 3. Cost base

Multiply Cost category of project

X < $1,000,000	= 3 value (Higher weighting for least cost projects)
$1,000,000 < X <$10,000,000	= 2 value (middle weighting)
$10,000,000 < X	= 1 value (lowest weight for highest cost projects)

Step 4. Multiply the above three base values, to determine a composite score.

Step 5. Normalized across TIP projects submitted.

Resulting values of the above calculation will then be normalized, based on range of projects submitted for TIP project call across the category, with the highest scored project being awarded 25 points, and the lowest 1 point, with intervening projects awarded based on their ranking. In this way, no two projects will be rated the same in the category.

Results in a value between **1 and 25%** of project total score.

ITS/Operations

For the purposes of differentiating between projects nominated under the ITS/Operations category, the Federal Highway Administration Office of Operations TOPS B/C tool will be used to calculate travel time-saving based values for projects with operations and management strategies.

The Tool for Operations Benefit/Cost (TOPS-BC) is a spreadsheet-based tool designed to assist practitioners in conducting B/C analysis by providing four key capabilities, including a framework and suggested impact values for conducting simple B/C analyses for selected strategies noted below.

The tool and its manual are available on the FHWA OPS website:
https://ops.fhwa.dot.gov/publications/fhwahop13041/index.htm

To reduce application processing time, where optional, the tool will be used to focus primarily on travel savings and travel time reliability benefits. Crash reduction values are considerably more detailed and may require data at the link level that are not readily available to consider across disparate projects with the sketch-level screening purpose of the CAMPO-specific project call evaluation, but sponsors are encouraged to consider as much detail in the development of their projects as practicable.

The TOPS B/C tool can be used for the following project types.

Summary of Guidance on Various ITS/Operations Strategies
Arterial Signal Coordination
Arterial Transit Signal Priority
Ramp Metering
Traffic Incident Management
Pre-trip Traveler Information
En-route Traveler Information
Work Zone Management
HOT Lanes
Speed Harmonization
Road Weather Management
Hard Shoulder Running
Travel Demand Management
Traffic Surveillance
Traffic Management Centers
Communications

Resulting values of the submitted and scored projects will then be normalized, based on range of benefit value for projects submitted across the category, with the highest scored project being awarded full points, and the lowest 1 point, with intervening projects awarded points based on their ordinal ranking.

Transit

Estimated reduction in vehicle miles traveled from mode choice model if appropriate.

Differentiating between projects in the transit category under the CBA analysis consists of the performance measure of reduced vehicle miles traveled. Sponsors, in development of their proposed projects, develop ridership estimates for new transit projects or modifications to existing services and programs. Projects that are significantly sized or comprehensive are also represented in the CAMPO 2040 Travel Demand Model, which can be used to calculate the reduction in vehicle miles traveled through conversion of trips to the transit mode or other non-auto mode from the addition of the project. Sponsors, in their project nomination materials, will present the resulting estimated reduction in vehicle miles traveled from the representative travel demand model run comparison with and without the project, or through project documentation sufficient to satisfy their project development, which would then be subject to verification.

The intent of this method step is to differentiate between transit eligible projects on a screen level or an order of magnitude, and not over-rely on one aspect of the regional model, nor specifically forecast the ridership of the transit project or program.

Resulting values of the presented projects will then be normalized, based on range of VMT travel savings for projects submitted across the category, with the highest scored project being awarded full points, and the lowest 1 point, with intervening projects awarded based on their ordinal ranking.

Active Transportation

For the purposes of differentiating between projects nominated under the active transportation category, a proxy measure for general density and barriers will be used. The project limits will be mapped out and buffered in GIS or similar spatial tool. The buffered zone will be overlaid on the 2040 TDM Traffic Area Zones layer, and affected TAZs will be summed up.

Currently, the 2040 Travel demand model contains over 2000 TAZs distributed across the plan area. The TAZs are approximately comparable with US Census tracts. The Census tracts form the basis of the demographic updates for base year conditions and validation. In general, Census block groups also correlate roughly to concentrations of residences and jobs, and their boundaries align with natural community and travel barriers such as rivers, elevation changes and major roadways. As such, the proposed project buffer overlapping a higher number of TAZs could be said to have the potential to attract or serve more active transportation opportunities. This straightforward and simple measurement will assist in ranking projects that have the potential to serve a greater number of people.

Should the rare project be tied with another project for overall scoring, an additional step of comparing a combined, existing population density plus employment density for the highest density-value TAZ the project touches will be used to determine which of the two projects is proximate to the greater combination of potential users, and the greater value will be ranked the higher of the two.