

**Cost Participation and Maintenance Responsibilities with
Local Units of Government Manual**

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I. Introduction

The *Cost Participation and Maintenance Responsibilities with Local Units of Government Manual (Manual)* is a technical complement to the *Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities between MnDOT and Local Units of Government Policy*.

The [Policy](#) and Manual documents must be used together in order to fully understand the internal policy and procedures for such cooperative projects. Like the [Policy](#), the Manual is for internal purposes only and is not intended to provide any claim or expectation of legal entitlement to financial participation except where MnDOT has specifically contracted at its sole discretion for such participation.

The Manual includes details for applying the Policy to projects, methods for computing cost shares, and relevant procedures including agreements and permits.

Project Managers are encouraged to coordinate with MnDOT's Municipal Agreements Engineer and District Maintenance staff early in the project development process to determine cost participation and maintenance responsibilities in accordance with the [Policy](#) and this companion Manual.

II. Application of Policy

II.A. Determination of MnDOT Participation

MnDOT participation, in accordance with the [Policy](#) and this Manual, is determined by applying three considerations.

1. Activities or items funded with Trunk Highway or State Road Construction account funds must be eligible under the Minnesota Constitution and a variety of other contributing statutes and case law. Primarily, eligibility is governed by the constitution which says that trunk highway funds can only be used to construct, improve, and maintain the trunk highway system.
2. Where activities or items to be constructed on the Trunk Highway System have multiple purposes, resulting in both Trunk Highway system benefits and local community benefits, the costs for those activities or items are appropriately shared between MnDOT and local agencies. The level of MnDOT participation should be commensurate with the amount of benefits accruing to the trunk highway system with due respect given to the restrictions in law, applied engineering principals and the context in which the project is located.
3. Activities or items to be funded are limited to the project scope necessary to address the trunk highway needs as determined by the MnDOT district and approved as required. The project scope must be consistent with investment priorities established in the [20-year Minnesota State Highway Investment Plan](#) (MnSHIP). MnSHIP investment priorities help to guide programming and project selection and are based on MnDOT policy goals and objectives, technical information on system conditions, system needs, performance management, revenue projections, consideration of key risks, and public outreach. Consistency with MnDOT investment priorities and limited funds may prevent MnDOT from participating fully in an otherwise eligible cost.

The [Policy](#) and this Manual are written for application to MnDOT projects. MnDOT participation will be applied at the amount identified in this policy for MnDOT projects. Costs for items requested by local units of government, beyond those determined as within the scope and necessary by the district, will typically be the responsibility of the local unit of government.

MnDOT's cost participation identified in the [Policy](#) and this Manual may also be applied to a locally-initiated project, with eligible trunk highway items. However, trunk highway funding is not available to address all trunk highway system needs or opportunities presented by locally-initiated projects. MnDOT determines the priority, scope, and extent of participation in a locally-initiated project during development of the district transportation improvement program. This project programming process is guided by MnSHIP investment priorities and completed in cooperation with Area Transportation

Partnerships and Metropolitan Planning Organizations. Details of the MnDOT project programming process are addressed in *Guidance for the Development of the State Transportation Improvement Program*.

MnDOT participation amounts, as identified in the [Policy](#) and this Manual, are maximums, and actual MnDOT participation may be less than the stated maximum for any project element. The willingness of a local agency to participate in excess of cost participation identified in the [Policy](#) and this Manual may influence MnDOT programming priorities because of the opportunity to address recognized needs at a reduced cost to MnDOT.

Cost participation from local units of government will be required for locally requested project elements, for design beyond what MnDOT has determined as necessary for the trunk highway project scope, and for designs beyond applicable standards. Local cost participation is also likely for locally requested replacement of the existing trunk highway infrastructure in advance of obsolescence. Locally owned utility relocation costs are determined in accordance with applicable Minnesota statutes and rules.

It is recognized that many projects will have both trunk highway and local purposes. In many situations, those purposes may not be easily assigned as either MnDOT or local responsibility. In these cases, costs are assigned on the basis of jurisdictional ownership or as a cooperative construction item as identified in Section II.C Application of Policy to Projects.

Trunk highway improvements directly necessitated by a specific development adjacent to the trunk highway, by other projects, or by locally-initiated projects, may be required by MnDOT at 100% local unit of government cost responsibility. Refer to Appendix C for Cooperative Agreement Process steps. In the case of special funding programs, further clarification of cost participation will be provided in the program criteria, as approved by the Transportation Program Investment Committee (TPIC).

Existing cooperative construction agreements are to remain in effect under the terms and conditions specified in those agreements, unless specifically superseded by reference in a new agreement. The procedures within this document apply only to the development of new cooperative construction agreements with local units of government.

Wherever practical, MnDOT's cost participation responsibilities should be developed using a holistic approach that includes all items required for the particular project, in accordance with the [Policy](#) and this Manual.

II.B. Funding

MnDOT biennially requests an appropriation of funds from the legislature based on the estimate of state funds dedicated to the trunk highway fund and federal aid formula funds for each of two fiscal years. The appropriation which consists of MnDOT's portion of funds from these sources comprise MnDOT's State Road Construction (SRC) account. SRC account dollars may be expended only on projects or those elements of projects that are necessary for trunk highway purposes and for the actual construction, reconstruction, and improvement of trunk highways, including design-build contracts and consultant usage to support these activities. This includes the cost of actual payment to landowners for lands acquired for highway rights-of-way, payment to lessees, interest subsidies, and relocation expenses.

Funds apportioned to MnDOT outside of the SRC account may not be governed by the same statutes and rules that apply to SRC account funds.

Projects or project elements not eligible for Trunk Highway funds or SRC account funds are identified by the [Policy](#) and this Manual as the responsibility of local units of government. The local units of government are responsible for identifying funding to be used for local shares of cooperative construction projects.

MnDOT should make project scope and cost participation estimates and maintenance scenarios available to local units of government as soon as possible in the project development process. This information should be available early enough to enable local governments to seek other funding sources to assist in paying their share of the project costs.

II.B.1. Federal Aid Formula Funds used by MnDOT

Federal funds used by MnDOT include Federal funds allocated directly to MnDOT by MnDOT's current resource distribution method and those Federal funds selected by an Area Transportation Partnership for MnDOT projects.

State appropriation laws authorize spending of Federal funds on the Trunk Highway system through the State Road Construction (SRC) account. Thereafter, all Federal funds so authorized carry the same limitations as state funds from the SRC.

MnDOT may not apply federal aid funds from the SRC account towards the local share of cooperative construction projects. Such expenditures violate State law, which limits expenditure of SRC account funds to trunk highway purposes.

Federal funds used by MnDOT must also be spent in accordance with Federal laws. In most cases, federal aid funds may be spent only on roadways classified as rural major collectors,

urban collectors, or higher functional classifications, and federal aid funding eligibility varies by specific federal funding source.

II.B.2. Federal Aid Formula Funds used by Local Units of Government

In most cases, federal aid funds may be spent only on roadways classified as rural major collectors, urban collectors, or higher functional classifications. In general, federal aid funds may pay for almost anything that is eligible under the state trunk highway or state aid programs. However, federal aid funding eligibility varies by specific federal funding source.

Federal aid funds applied toward the local share of a cooperative construction project are identified through the ATP process. MnDOT and local units of government are strongly encouraged to develop traffic control signal and other cooperative construction projects as a single project and jointly pursue any federal aid funds that may be applied.

II.B.3. Advance Construction Funds

Advance Construction is a federal financing tool that allows MnDOT or a local government to fund a project with their own funds and be reimbursed with federal funds at a later date when those federal funds are available. The project must be treated as a federal project from its inception and must receive all federal approvals/authorizations prior to letting. MnDOT projects utilizing Advance Construction must also treat the advanced funds as coming from the SRC account. Use of Advance Construction is addressed in the [Advance Construction policy](#).

II.B.4. Debt Management Funds

Debt Management is another financing tool that is used to advance project construction. Debt Management is used where a local government constructs a project in advance of the projects' scheduled date in MnDOT's program. MnDOT pays back the local government during the fiscal year in which the project was scheduled to be let for construction in MnDOT's program. Use of Debt Management is addressed in the [Debt Management policy](#).

II.B.5. State Funds – SRC

State funds include all state trunk highway funds constitutionally dedicated for trunk highway purposes and identified in the SRC account. The [Policy](#) and this Manual may also apply to other state funding sources, such as bonds or general funds appropriated by the legislature for transportation purposes. However, these funding sources may have greater or reduced flexibility for application due to statutory requirements for their use.

II.B.6. State Funds – non-SRC

Trunk highway funds not from the SRC, sometimes referred to as operating dollars, must still be spent on trunk highway purposes, but do not have the restrictions of dollars in the SRC. Operating dollar uses include maintenance activities and non-project related planning studies.

II.B.7. Local Funds

Local funds include all federal aid funds made available for a local unit of government project or for a portion of a cooperative construction project through ATP procedures, county and municipal state aid funds, and other local funds provided by a local unit of government.

II.C. Application of Policy to Projects**II.C.1. Studies, Preliminary Engineering, and Design**

The commissioner's ability to undertake studies for the location and design of highways and to cooperate with local units of government is defined in [Minnesota Statutes § 161.21 "Studies,"](#) subdivision 1 "Location and design of highways" and subdivision 2 "Cooperation with other government units."

MnDOT will typically be responsible for all study, preliminary engineering, value engineering, and design costs for MnDOT-initiated projects, except that local units of government will be responsible for all study, preliminary engineering, value engineering, and design costs for project elements that do not have a trunk highway purpose.

Studies, preliminary engineering, and design are usually not included in a cooperative agreement, but project-specific circumstances may warrant joint MnDOT and local participation in a study, preliminary engineering or design. The extent of MnDOT cost participation will be decided by the district on a case-by-case basis relative to trunk highway needs and priorities. For further information regarding agreement procedures for studies, preliminary engineering, and design, contact MnDOT's Consultant Agreements Office.

II.C.1.a. Cooperative Construction Agreement

Project-specific circumstances may warrant inclusion of studies, preliminary engineering, and design costs in the cooperative construction agreement for subsequent trunk highway construction. These costs are paid for with construction program funds. Project-specific circumstances may include:

- MnDOT reimbursement of all direct costs for studies, preliminary engineering, and design by local units of government staff, provided they are preparatory to subsequent trunk highway construction that is included in the same agreement.
- Costs for studies, preliminary engineering, and design prepared by a consulting firm retained by a local unit of government when such costs are relatively small and incidental to the cost of the subsequent trunk highway construction, and preparation of a separate agreement for these costs is not cost-effective. The district must ensure that selection of the consultant was conducted in a fair, open and competitive process in accordance with applicable federal and state laws and regulations.

Justification for use of construction program funds for such costs must be documented by the district, concurred with by the director of the Operations Division, and submitted to the director of the Engineering Services Division for approval on a case-by-case basis. Any reimbursement for studies, preliminary engineering, or design costs will be included in the cooperative construction agreement as a lump sum amount.

II.C.1.b. Joint Powers Agreement and Master Partnership Contracts

Cooperative cost sharing for studies, preliminary engineering, and design costs typically are administered through MnDOT's Consultant Services Unit by development of a Joint Powers Agreement between MnDOT and the participating local unit of government. As an alternative to a Joint Powers Agreement, a work order to a Master Partnership Contract can be written. Master Partnership Contracts are administered by MnDOT's Contract Management Section. Joint Powers Agreements or work orders to Master Partnership Contracts should be in place prior to requesting studies, preliminary engineering, or design.

II.C.2. Right-of-Way Acquisition

For MnDOT-initiated projects, MnDOT will typically acquire all necessary right-of-way for the entire portion of the cooperative construction project. MnDOT participation in such right-of-way costs will be in the same ratio as the construction work requiring the right-of-way acquisition if such work is necessitated by locally-requested construction beyond the project scope, such as additional lanes or width. The local unit of government will acquire and fund necessary right-of-way for any portion of construction in which MnDOT has no cost participation. Project-specific conditions may warrant MnDOT acquisition of such right-of-way. In such cases, the local unit of government is responsible for right-of-way costs associated with construction work in which MnDOT has no participation.

For locally-initiated projects, the local unit of government will acquire the necessary right-of-way. The width of trunk highway right-of-way necessary for a cooperative construction project is subject to MnDOT approval. The local unit of government will obtain all locally acquired, permanent right-of-way, fee title, permanent easements, and temporary easements and permits, including the right to discharge drainage, in the name of the local unit of government. The documents showing that the local unit of government has obtained the property rights needed for the project must be transmitted to MnDOT when the plan and other documents are submitted for preparation of the cooperative construction agreement. Information as to form and acceptability can be obtained from the district. It is advised that the local unit of government contact and coordinate with the district Right-of-Way Office prior to right-of-way activities, especially when it is necessary to relocate residences or businesses. Where MnDOT deems it appropriate, MnDOT may incorporate all or portions of such locally-acquired right-of-way into the trunk highway system. MnDOT may also participate in acquisition of right-of-way required for frontage road construction. MnDOT may reimburse the local unit of government for right-of-way conveyed to MnDOT in the same ratio as MnDOT's participation in the construction work requiring the trunk highway or frontage road right-of-way acquisition.

Project-specific circumstances may warrant local unit of government acquisition of the cooperative construction portion of a MnDOT-initiated project. MnDOT may reimburse the local unit of government for such right-of-way conveyed to MnDOT. Acquisition of right-of-way by local units of government will be on a case-by-case basis. The amount, location, acquisition process, and cost of right-of-way to be acquired by a local unit of government must be approved by the district right-of-way engineer and the Director of the MnDOT Office of Land Management prior to acquisition. The local of unit of government may not conduct right-of-way condemnation on behalf of MnDOT. Similarly, project-specific circumstances may warrant MnDOT acquisition of right-of-way for a locally-initiated project. Such situations will be addressed on a case-by-case-basis.

The local unit of government will be responsible for 100% of the right-of-way costs for right-of-way not acquired for frontage road construction or incorporated into the trunk highway right-of-way.

The Environmental Due Diligence (EDD) process guides decisions regarding property transactions as a means to address project needs and manage environmental costs and risks. The risks are generally associated with historical chemical use at the property and adjacent properties (potential for historical chemical use to have impacted soil and groundwater on the property). The goal of the process is to identify potential contamination issues early so that informed decisions can be made regarding the acquisition and appropriate actions can be completed in a timely fashion. Acquisitions that will become MnDOT property will not be approved until the EDD process has been completed.

The EDD process requires early involvement with Environmental Investigation Unit (EIU) personnel in the MnDOT Office of Environmental Stewardship and should be initiated during project planning and scoping. This early involvement helps to identify property acquisitions with environmental conditions (contaminated and regulated materials), especially properties that present a high risk to MnDOT and to the project budget. See the [MnDOT Regulated Materials Management document](#) for information about the soil/groundwater contamination and regulated material review process for state aid projects. The EDD process is initiated through completion of the form, EDD-1.

Following is a summary of the [three EDD forms](#):

- EDD-1: project proposer provides general project area information.
- EDD-2: project proposer provides specific parcel information as soon as it is known.
- EDD-3: only used for parcels that present a high environmental risk to the department. The document summarizes benefits and risks of the acquisition, all feasible and practicable risk reduction options (such as property avoidance and/or project design changes), and available regulatory agency program liability protections.

Completion of various investigations may be necessary to assess risk associated with proposed acquisition of contaminated parcels. Most projects will end after completion of EDD-2.

The outcome of the EDD process will be a recommendation on acquisition and liability protection:

- Don't acquire the property
- Acquire the property
- Acquire the property after obtaining liability protection.

Right-of-way acquisition for projects which include any local federal aid funds, SRC funds, or any property that will be conveyed to MnDOT must be reviewed and certified by MnDOT. This certification is to ensure that all property needed for any portion of the project was acquired in accordance with applicable state and federal statutes and policies. This certification must be completed prior to approval of the construction plan by the director of the Office of Land Management and the State Design Engineer, and is a condition for payment of construction costs by MnDOT.

II.C.3. Cooperative Construction Costs

The [Policy](#) and this Manual apply to all construction items included in cooperative construction projects.

Unless otherwise stated in this Manual, MnDOT funding participation on local roadways, including frontage roads and bridges, is limited to the applicable design criteria, as determined by MnDOT, in coordination with the local unit of government. All costs for project elements beyond what is required for these design criteria will be 100% the responsibility of the local unit of government.

Construction cost responsibility for cooperative construction projects are determined in accordance with the procedures outlined below regarding roadways; interchanges and grade separations; drainage; lighting, traffic control signal systems, and intelligent transportation systems; sidewalks, bikeways, and shared use paths; aesthetic elements; and utilities owned by local units of government.

II.C.3.a. Roadways

II.C.3.a.1. Background

MnDOT may participate in roadway projects on the trunk highway and on roadways under the jurisdiction of a local unit of government if the projects directly improve the safety, operation or maintenance of the trunk highway system through access control or trunk highway intersection improvements, or if the projects effect changes in the local roadway design, location or operation required by other trunk highway improvements.

II.C.3.a.2. Application

For the purposes of this section of the Manual, roadway costs include all items necessary for construction of the roadway.

II.C.3.a.2.i. Trunk Highways

MnDOT will be responsible for up to 100% of all roadway costs for MnDOT-initiated and programmed trunk highway improvements to applicable design criteria as determined by MnDOT. Additional items requested by a local agency beyond the applicable design criteria for the trunk highway must be approved by MnDOT, and all associated costs, except for aesthetic elements in accordance with section II.C.3.f Aesthetic Elements, will be the responsibility of the local unit of government.

II.C.3.a.2.ii. Trunk Highway Parking

MnDOT will participate in the perpetuation of existing parking along the trunk highway. Parking lane construction includes pavement, aggregate base, borrow items and removals. If milling and overlaying, then participation includes the mill and overlay. Participation will be in accordance with the following:

- Where parallel or angle parking currently exists, and the local agency wishes to perpetuate parking, the commissioner must approve continued parking along the trunk highway in writing in accordance with [Minnesota Statutes § 169.04 “Local Authority”](#) and [Minnesota Statutes § 169.35 “Parking.”](#)
 - For reconditioning projects, such as mill and overlay or other preservation improvements, MnDOT will participate up to 100% for the roadway width from outside edge of the traffic through-lane to the edge of curb.
 - For reconstruction projects, MnDOT participation will be limited to 90% of the parking lane reconstruction, up to 12 feet for parallel parking, and up to 22 feet for angled parking as measured from the outside edge of the traffic through-lane. All other costs will be local costs.
- Curb and gutter, when required for the project, will be up to 100% MnDOT responsibility.
- This cost participation will also apply to parking lanes where parking is restricted during peak hours. Costs will be prorated based upon restricted versus non-restricted hours.
- MnDOT will be responsible for up to 100% of all construction costs related to the removal of parking from the trunk highway. MnDOT may also provide

additional funding for construction costs for relocating an equal number of parking spaces off the trunk highway. MnDOT funding to relocate parking off the trunk highway will be handled on a case-by-case basis.

- Where parking does not currently exist, MnDOT will not participate in costs associated with creation of parking on the trunk highway.

II.C.3.a.2.iii. Local Roadways

MnDOT will be responsible for up to 100% of local roadway construction costs, including frontage roads and right-of-way costs, required as a result of trunk highway construction. MnDOT's participation will be in the same ratio as the trunk highway improvement necessitating the local roadway construction in accordance with the following:

- [Minnesota Statutes § 161.24 “Changes Required by Construction of Trunk Highway,”](#) subdivision 1 “Grade at intersections,” for costs associated with reconstruction of local roadway as necessitated by a change of grade at an intersection with a trunk highway to the original geometric and structural section, to a reasonable touchdown point.
- [Minnesota Statutes § 161.24 “Changes Required by Construction of Trunk Highway,”](#) subdivision 2 “Relocation of Highway,” for costs associated with changing the location of a highway or street, and any damages occasioned thereby, when the change in location is due to the establishment, construction, or reconstruction of a trunk highway.
- [Minnesota Statutes § 161.24 “Changes Required by Construction of Trunk Highway,”](#) subdivision 3 “Detours during construction,” for costs associated with improvements necessary to adequately accommodate trunk highway traffic detoured onto a local roadway during trunk highway construction.
- [Minnesota Statutes § 161.24 “Changes Required by Construction of Trunk Highway,”](#) subdivision 4, “Access to isolated property,” for costs associated with relocation and construction of portions of the local roadway system to provide for its continuity and operation at a level that approximates its condition prior to construction. This includes costs for new local roadways, frontage roads, and improvements necessary to adequately accommodate diverted traffic when a MnDOT trunk highway project modifies traffic patterns on local roadways.

- For costs to improve local roadways to adequately accommodate traffic turning from the trunk highway onto a local roadway due to the addition of turn lanes on the trunk highway.
- MnDOT may participate in the costs to close a local access on to the trunk highway.

Participation by MnDOT and a local unit of government in other local roadway construction costs, not required as a result of trunk highway construction, will be in accordance with the following:

- If a local roadway intersecting a trunk highway is to be reconstructed to a design different from that of the existing roadway, such as the adding of medians, turn lanes, through-lanes or other additional width, the local unit of government may be responsible for 100% of those costs.
 - MnDOT may participate in costs for reconstruction of local roadways at intersections with trunk highways to a design different from that of the existing roadway. MnDOT participation will be limited to those situations where the local roadway project directly improves the operation or safety of the trunk highway. MnDOT participation will be limited to costs associated with local roadway construction beyond the existing condition that result in net benefits to the trunk highway system. The benefits will be limited to crash reduction and delay reduction on the trunk highway that directly result from the local road improvement. MnDOT participation may not exceed 100% of the local roadway improvement cost.
- MnDOT will participate in costs for roadway construction on local roadways necessitated by frontage road construction in the same proportion as MnDOT's responsibility for participation in the frontage road construction.
- The local unit of government will be responsible for 100% of the costs to improve the trunk highway to adequately accommodate the traffic turning from the local roadway onto a trunk highway due to the addition of turn lanes on the local roadway or due to the addition of a new local roadway accessing the trunk highway, except as noted in the bullets above.

The local unit of government will be responsible for 100% of all local roadway construction costs not identified above.

II.C.3.a.2.iv. Non-traditional Intersection Modifications

- Costs for roundabouts will be shared by MnDOT and local units of government follows (see Appendix A for diagram):
 - Single lane roundabouts: MnDOT will be responsible for the cost of the roundabout circle to the line defined by the outside edge of the pavement (up to the curb.) Beyond the outside edge of the pavement, each agency will be responsible for the construction of its leg(s) from midway radius drawn from the middle of the circle through the midway point of the radius (for 90 degree roundabouts) or from the intersection point of the entering and departing legs (for skewed roundabouts.). The lighting, drainage, sidewalk, and shared use path costs are included in the cost splits.
 - Multi-lane roundabouts: The cost splits will be the same as the single lane roundabout with the outside edge of the pavement (up to the curb) being defined by the outer lane of the roundabout.
 - MnDOT may participate to a higher amount in the following situations:
 - Where one leg of approach to the roundabout does not contribute more than 5% to the entering traffic volume, costs for that leg will be divided among the other legs of approach.
 - When approach grading and surfacing costs are disproportionately located on the local approach legs to reduce the need for alignment change on the Trunk Highway legs, the cost of the approach legs will be split equally.
- MnDOT will be responsible for up to 100% of costs for Reduced Conflict Intersections (RCI), including Restricted Crossing U-turn (RCUT) intersections, on the trunk highway right-of-way.
- Cost participation for other non-traditional intersection modifications will be determined on a case-by-case basis.

II.C.3.a.2.v. Frontage Roads

MnDOT's ability to participate in the construction and maintenance of frontage roads as part of trunk highway improvements is defined in [Minnesota Statutes § 161.38 "Special Agreements for Highways in Municipalities,"](#) subdivision 3 "Frontage Road." MnDOT may participate in frontage road costs for improvements to the operation and safety of the adjacent trunk highway by

appropriately limiting access to the trunk highway and accommodating predominately local traffic on the frontage road.

The jurisdiction of frontage roads included in cooperative construction projects should be addressed early in the project development process. New frontage roads, and any frontage road under MnDOT jurisdiction in which MnDOT participates in construction, will be released to the local unit of government upon completion of construction activities, either as part of the cost sharing agreement or as part of a separate turnback agreement that must be in place prior to the beginning of the construction project.

MnDOT's participation in frontage road construction on a locally-initiated project will not exceed the cost of acquiring access control for the adjacent trunk highway.

MnDOT will participate up to 100% of the frontage road costs, including right-of-way costs in accordance with section II.C.2 Right of Way Acquisition, when the access to the trunk highway is being eliminated, the improvements provide safety and operational improvements to the trunk highway, and the access spacing is in compliance with the [MnDOT Access Management Manual](#). MnDOT's base participation is 90% and may be increased up to 100%, based on compliance with the [MnDOT Access Management Manual](#), in the following fashion:

- Total MnDOT frontage road participation = MnDOT base participation + (Access Ratio x .10)

The Access Ratio is the number of trunk highway access points that do not meet applicable access spacing guidelines, but are determined by the district to be necessary for the project, divided by the total number of access points that do not meet provisions in the [MnDOT Access Management Manual](#).

- Frontage roads required as a result of other trunk highway improvements, such as interchange construction that may have a local participation, will be cost shared in the same ratio as the interchange.
- For new frontage roads, MnDOT participation will be limited to the applicable design criteria for the traffic projection factor applied to the opening day traffic forecast, up to a maximum roadway width of 32 feet.

MnDOT may participate in additional frontage road capacity width when diverted traffic from permanent access closure or other changes in the local roadway system, required by trunk highway construction, increases the capacity needs beyond the anticipated background traffic needs. The additional

width determination is calculated after the design for the existing local road system is determined for the projected background traffic.

- MnDOT will not participate in frontage road construction where full access control already exists, or in the reconstruction of an existing frontage road that does not provide safety or operational improvements to the trunk highway system, except for improvements to a frontage road on trunk highway right-of-way necessary for release of the frontage road to a local unit of government.
- In the absence of other frontage road improvements, MnDOT participation will be up to 100% for costs necessary to improve frontage roads, currently under MnDOT jurisdiction, to applicable design criteria and satisfactory structural integrity, prior to release of the frontage road to the local unit of government.

The local unit of government will be responsible for 100% of frontage road costs, including all parking costs, not identified as MnDOT participation above.

II.C.3.a.2.vi. Park-and-Ride/ Park-and-Pool Lots

MnDOT may contribute to the construction of park-and-ride/park-and-pool lots that are determined to improve operation of the trunk highway system by reduction of single occupancy vehicle (SOV) use on the trunk highway system through the use of car pool, van pool, or ride-share sites. The lot may be located on MnDOT right-of-way or on property owned by the local unit of government, provided that the same trunk highway improvement is achieved.

MnDOT participation is limited to the right-of-way and construction of the parking necessary for these facilities. MnDOT participation in costs for utilities, shelters, structures, lighting, security, and other above-ground elements will be determined on a case-by-case basis.

The jurisdiction or the operation, maintenance and security responsibilities of lots included in cooperative construction projects should be addressed early in the project development process and documented in the cooperative construction agreement. Lots that are constructed on MnDOT right-of-way will either be constructed with a limited use permit, an agreement, or will be released to the local unit of government upon completion of construction activities, either as part of the cost sharing agreement or as a separate agreement that must be in place prior to the beginning of the construction project.

II.C.3.a.2.vii. Transit Facilities

MnDOT recognizes the need for transit facilities as an element of the trunk highway system. Varying degrees of safety and operational improvement to the trunk highway result from inclusion of these facilities. MnDOT participation in construction of transit facilities will be considered based on each facility's function and on the anticipated safety and operational improvements and the multimodal accessibility to the trunk highway system that will result from the facility. This section is not intended to address independent bus stop shelters and associated signing.

MnDOT participation is limited to the right-of-way and construction of the roadways, and to the parking necessary for these facilities. MnDOT participation in costs for utilities shelters, structures, lighting, and other above-ground elements of these facilities will be determined on a case-by-case basis.

The jurisdiction or the operation, maintenance and security responsibilities of transit facilities included in cooperative construction projects should be addressed early in the project development process and be documented in an agreement. Any transit facility that is constructed on MnDOT right-of-way will require an agreement (not a permit) for a limited use of the highway right-of-way, or will be released immediately to the transit authority upon completion of construction activities. An agreement for release of a facility to a transit authority must be in place prior to the beginning of the construction project.

II.C.3.b. Interchanges and Grade Separations

II.C.3.b.1. Background

Interchanges or grade separations must be warranted and consistent with federal, regional or local policies applicable to interchanges and grade separations. MnDOT Interchange and Bridge Warrants are documented in [Chapter 6 of MnDOT's Road Design Manual](#).

This section of the Manual assigns cost participation to roadway and bridge costs as part of interchange and grade separation projects on an overall project cost basis. Participation in traffic control signal systems, additional sidewalk, additional multimodal facilities, and aesthetic elements are identified elsewhere in this Manual.

II.C.3.b.2. Application

This section of the Manual applies to the construction, replacement and improvement of interchanges, and modifications that change the interchange design. This includes grade separations with and without access between the roadways. The bridge may carry either the trunk highway or the local road.

II.C.3.b.2.i. Trunk Highway-to-Trunk Highway Interchanges and Grade Separations

MnDOT will be responsible for up to 100% of costs associated with trunk highway-to-trunk highway interchanges and grade separations.

Construction costs for specific local actions or for development that creates new or expands existing traffic generators that directly necessitate the need for such improvements will be viewed as cooperative construction items on a case-by-case basis.

II.C.3.b.2.ii. New Local Road Interchanges or Grade Separations on New Freeways or Expressways on New Alignments

MnDOT is responsible for up to 100% of the costs associated with those interchanges or grade separations supported by MnDOT as a necessary element of the trunk highway project. The local unit of government is responsible for 100% of roadway, right-of-way, and bridge improvement costs beyond those needed to accommodate the traffic forecast based on the applicable state-aid 20-year traffic projection factor.

The local unit of government will be 100% responsible for all other interchanges and grade separations approved by MnDOT for inclusion in the project.

II.C.3.b.2.iii. New Local Road Interchanges or Grade Separations on Existing Freeways

New interchanges and grade separations on existing freeways are frequently requested by local units of government to enhance local access and transportation systems. The addition of interchanges can be detrimental to freeway operations because they introduce traffic conflicts along the trunk highway. Therefore, all costs associated with a new interchange or grade separation on an existing freeway must be approved by MnDOT and will typically be 100% local responsibility. These costs will include any improvements, such as auxiliary lanes on the existing

freeway deemed necessary by MnDOT to accommodate the new interchange or grade separation.

It is recognized that in some situations, an additional interchange or grade separation may improve operation of the freeway by relieving trunk highway congestion or safety issues at adjacent interchanges. In these situations, MnDOT may participate up to the amount of net benefits directly attributable to the safety and operational improvements to the trunk highway system. The net benefits calculation must account for any reduction in safety or operation of the trunk highway system caused by the addition of the new interchange or grade separation. MnDOT participation will not exceed the total cost of the new interchange or grade separation.

II.C.3.b.2.iv. New Local Road Interchanges or Grade Separations on Expressways

For the purposes of this section of the Manual, it is assumed that the new interchange or grade is consistent with the [MnDOT Access Management Manual](#) and replaces one or more existing at-grade intersection of a local road with a trunk highway. The term expressway includes current expressways that are being converted to freeway design.

MnDOT will participate in construction costs associated with those interchanges supported by MnDOT, in recognition of the safety and mobility benefits to both the trunk highway and local roadway.

MnDOT participation on cost prudent interchange designs will begin at 50% unless the local unit of government has not developed an adequate supporting local roadway system or unless the interchange is proposed primarily to serve local development, as described later in this section.

For interchanges or grade separations where MnDOT participation begins at 50%, MnDOT may participate up to 85%, based on the criteria below. Ten percentage points may be added to MnDOT's share for each of the criteria met below, up to a maximum of 85% if the proposed interchange:

- Is on a National Highway System (NHS) route;
- Is on an underperforming NHS route;
- Reduces or consolidates local roadway access to the trunk highway, consistent with the [MnDOT Access Management Manual](#);

- Eliminates one of the intersections that meets the requirements of a sustained crash location at the time of programming;
- Eliminates a traffic control signal or a future planned and warranted signal on the trunk highway.

Districts may reduce their participation from the level calculated above if the local unit of government has not developed an adequate supporting local roadway system, or if the interchange is proposed primarily to serve local development.

- Local contributions of right-of-way necessary for project construction may be counted toward the local share of costs, as determined to be appropriate by MnDOT. The local unit of government must provide documentation to MnDOT for review and certification to ensure that the right-of-way was acquired in accordance with applicable federal and state statutes and regulations and environmental due diligence. If the local unit of government received the property as a donation, or if the property has been owned by the local unit of government for a considerable amount of time, MnDOT will determine the contributing value of the property based on the appraised market value of that property. The donated property must be dedicated for street and highway purposes by resolution of the governing entity.
- Right-of-way contributed by local units of government to accelerate a project as part of a MnDOT special funding program will not be credited toward the local unit of government's share of costs.

The local unit of government is responsible for 100% of roadway, right-of-way, and bridge improvement costs beyond those needed to accommodate the traffic forecast based on the applicable state-aid 20-year traffic projection factor.

The local unit of government will be 100% responsible for all interchanges or grade separations that do not replace existing at grade intersections or access as required above, but are approved by MnDOT.

II.C.3.b.2.v. Reconstruction of an Existing Local Roadway Interchange or Grade Separation with Trunk Highway Bridge Construction

For the purposes of this section of the Manual, it is assumed that MnDOT is the owner of any interchange or grade separation bridge(s) and that reconstruction includes replacement of, or modifications to, these bridge structures.

MnDOT cost participation in the reconstruction of an interchange or grade separation with trunk highway bridge construction, including replacement of existing local roadways disturbed by such construction to their original geometric and structural condition, to a reasonable touchdown point, is comprised of two components: structural and functional participation. MnDOT's participation in the reconstruction of an interchange or a grade separation with trunk highway bridge construction is the sum of these components.

MnDOT's structural cost participation percentage is expressed by the equation:

$$\text{Participation \%} = 143 * (\text{Current Age} / \text{Expected Life}) - 28.6$$

The structural cost participation component is based on the premise that MnDOT will pay the full cost of replacing the existing bridge, to applicable design standards to accommodate the existing number of through lanes, at the end of its structural life. However, if the bridge is replaced prior to the end of its structural life, MnDOT will participate at a reduced level based on the present value of the replacement cost minus the current depreciated (remaining) value of the bridge.

If the structural cost participation percentage calculated with the above equation is less than zero, then the participation is 0%, and if greater than 100, the participation is up to 100%. A chart showing the results of this equation is included in Appendix B. For further information regarding the derivation of MnDOT structural cost participation, contact MnDOT's Office of Transportation System Management.

The functional cost participation component addresses widening or lengthening of the existing bridge beyond the structural replacement width on the premise that the local unit of government will be responsible for the relative cost of roadway widening as part of the bridge widening or lengthening necessary to accommodate the local road widening. MnDOT participation will be limited to the additional width necessary to accommodate the design criteria for the applicable State Aid projection factor, as follows:

- For local roadways under the trunk highway, MnDOT will be responsible for up to 80%, and the local unit of government will be responsible for at least 20%, of additional bridge costs associated with the bridge lengthening necessitated by the local roadway widening; and,
- For local roadways over the trunk highway, MnDOT will be responsible for up to 80%, and the local unit of government will be responsible for at least

20%, of additional approach panel costs and bridge costs associated with the bridge widening necessitated by the local road widening.

The remaining MnDOT and local unit of government cost participation for the interchange due to geometric revisions may be determined using the composite percentage for structural and functional elements.

The local unit of government will be responsible for 100% of approach panel costs and of bridge widening and bridge lengthening costs associated with widening local roadways beyond the design necessary to accommodate the design criteria for the applicable State Aid projection factor.

Costs for widening and all other improvements to local roadways at interchanges and grade separations with trunk highway bridges beyond the touchdown point will be 100% the responsibility of the local unit of government.

II.C.3.b.2.vi. Improvements to Roadways, Ramps and Loops at Interchanges or Grade Separations That Do Not Require Bridge Reconstruction

Improvements to existing roads at local road interchanges or grade separations at a trunk highway typically improve the operation and safety of both the local roadway and the trunk highway. For the purpose of this section of the Manual, the improvements are considered to accrue predominately for the roadway system on which they are made. Therefore:

- MnDOT will be responsible for up to 100% of the costs of improvements to trunk highways and for the costs of ramps and loops at interchanges or grade separations, including improvements to local roads necessary to accommodate the addition of turn lanes on the trunk highway, ramps or loops.
- The local unit of government will be responsible for 100% of the costs for improvements of local roadways at interchanges or grade separations, including improvements to the trunk highway, ramps or loops necessary to accommodate the addition of turn lanes on the local roads.
- When a new ramp or loop is added to an existing interchange or grade separation, the following cost responsibilities will be applied:
 - MnDOT will be responsible for up to 100% of costs for a new ramp or loop from a trunk highway onto a local roadway.

- The local unit of government will be responsible for 100% of costs for a new ramp or loop from a local roadway onto a trunk highway.
- MnDOT's participation in modifications to an interchange design, such as converting an existing interchange to a diverging diamond, will be in the amount of net benefits directly attributable to the safety and operational improvements to the trunk highway system.

II.C.3.c. Drainage

II.C.3.c.1. Background

There is a general rule of law that a landowner is obligated to perpetuate existing drainage. For purposes of this section of the Manual, drainage benefit is defined as accommodating flow beyond the existing drainage condition, or enhancing the water quality treatment of storm water. MnDOT is responsible for costs to perpetuate existing drainage and to drain the trunk highway right-of-way. The local unit of government is responsible for costs necessitated by local roadway improvements, local drainage improvements such as increased drainage capacity beyond the existing condition, or other drainage improvements not required for a trunk highway improvement.

II.C.3.c.2. Application

II.C.3.c.2.i. Drainage Cost Participation

- MnDOT will be responsible for up to 100% of the cost for perpetuation of existing drainage affected by, or required for, a trunk highway improvement, in the most effective manner as determined by MnDOT in cooperation with local and regulatory agencies. This includes drainage work needed to reach the grading touchdown point or to a drainage outlet off of the trunk highway.
- Costs for drainage associated with local roadway improvements, improvements to local drainage systems such as additional capacity needs for the local system over the existing condition, or other drainage improvements not required for a trunk highway improvement, will be 100% the local unit of government's responsibility. This includes drainage work needed to reach the grading touchdown point or to a drainage outlet within the trunk highway right-of-way.

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- If the roadway, interchange or grade separation work necessitating the drainage work is a shared construction cost, the drainage cost eligibility will be split in the same proportion as the construction cost eligibility.
 - Items related to, and necessary for, the drainage system construction, such as the removal of existing pipes and structures, rip-rap, culvert markers, and sod at pipe outlets, are considered part of the drainage system and will have the same cost participation as the rest of the system.
 - Cost responsibility for storm water drainage system will extend to an adequate outlet necessary to accommodate drainage as mutually agreed to by the responsible parties.
 - Costs for a storm sewer drainage system in lieu of a rural drainage system, for strictly aesthetic purposes, except as provided for in section II.C.3.f Aesthetic Elements, will be 100% the local unit of government responsibility.
 - Drainage improvements that alter or divert drainage from the existing drainage condition will be documented in the cooperative construction agreement as the responsibility of the agency diverting or altering the drainage with regard to future costs associated with the drainage system.
 - The cooperative construction agreement will state that no party may direct any additional runoff into the storm water drainage system that was not included in the runoff for which the system was designed, without first obtaining permission to do so from the other party. The map of drainage areas served by the storm water drainage facilities constructed for the project and the design models and calculations must be provided to and kept on file in the office of MnDOT District Hydraulics or Water Resources Engineer and referenced in the cooperative construction agreement as the existing condition.

II.C.3.c.2.ii. Stormwater Treatment and Other Drainage Ponds

Stormwater treatment features may have multiple purposes, including volume and rate control as well as water quality treatment. MnDOT promotes the opportunity to work with local units of government to enhance storm water treatment in conjunction with trunk highway projects that affect drainage.

For MS4 purposes (Municipal Separate Storm Sewer Systems); if feasible, the practice for design of treatment features is to construct the feature on the agency's

right of way that has the majority of the contributing CA as determined by multiplying the runoff coefficient (C) and contributing area (A). Treatment features should reside entirely in one agencies right-of-way.

- Cost participation will be determined by the ratio of contributing CA as determined by multiplying the runoff coefficient (C) and contributing area (A) of each party.
- Costs associated with the cooperative construction of storm water treatment facilities include construction and right-of-way costs. The costs to the local unit of government for acquisition of right-of-way required for the storm water treatment facility may be applied to, but may not exceed, the local share of cooperative construction costs for storm water treatment facilities. Right-of-way acquisition should be in accordance with the applicable state statutes and regulations.
- The local unit of government must provide documentation to MnDOT for review and certification to ensure that the right-of-way was acquired in accordance with applicable federal and state statutes and regulations and environmental due diligence. If the local unit of government received the property as a donation, or if the property has been owned by the local unit of government for a considerable amount of time, MnDOT will determine the contributing value of the property based on the appraised market value of that property. The donated property must be dedicated for street and highway purposes by resolution of the governing entity.

II.C.3.d. Lighting, Traffic Control Signal Systems, and Intelligent Transportation Systems

II.C.3.d.1. Background

This section of the Manual assigns cost participation to traffic control signal systems, lighting, or to ITS construction costs that may be part of a roadway, interchange, grade separation, or an independent project. Any new or revised traffic control signal systems or lighting systems must be approved by MnDOT.

II.C.3.d.2. Application

II.C.3.d.2.i. Lighting

MnDOT will be responsible for up to 100% of the costs of those lighting units which it deems necessary for the trunk highway system, including lighting along

the main traveled roadways, in-place ramps and loops, the intersections of ramps with cross streets at interchanges, and non-traditional intersections such as Reduced Conflict Intersections (RCI), including Restricted Crossing U-turn (RCUT) intersections.

MnDOT may pay up to 100% of the cost of standard lighting system at an isolated intersection and will be responsible for maintenance, unless otherwise stated in the agreement.

MnDOT may participate in only those lighting systems that are justified in accordance with the [MnDOT Traffic Engineering Manual](#), meet recommended light levels, and are approved by the MnDOT District Traffic Engineer. Lighting systems will be comprised of standard MnDOT lighting equipment unless otherwise approved by the MnDOT District Traffic Engineer. A limited number of standard pole and fixture types that provide illumination with lighting intensities and uniformity ratios in accordance with the [MnDOT Traffic Engineering Manual](#) have been approved for trunk highway use. MnDOT participation is based on standard MnDOT lighting equipment.

See section II.C.4 Maintenance for lighting system maintenance and power cost responsibilities.

Cost participation for other lighting system construction will be as follows:

- MnDOT participation in costs for lighting roundabouts at trunk highway intersections or lighting at trunk highway interchanges will be shared in the same ratio as the roundabout or interchange construction costs. MnDOT participation will be based on MnDOT standard lighting equipment. If a non-standard system is installed, the local agency will be responsible for all costs over the standard and will own the system.
- MnDOT will be responsible for up to 100% of costs for those lighting units it deems necessary for the bridges that carry trunk highway traffic. The local unit of government will be responsible for lighting local roadways on the bridges.
- The local unit of government is responsible for illuminating local roads under trunk highway bridges. MnDOT may participate in the cost for underpass lighting when the length of a single bridge underpass exceeds 50 feet and underpass lighting is requested by the local unit of government.

- The lighting of frontage roads will be 100% the responsibility of the local unit of government. In the situation where the frontage road connects the trunk highway entrance or exit ramps, such as a split diamond interchange, MnDOT will be up to 100% responsible for lighting.
- If a local unit of government desires to install a continuous or intersection lighting system on the trunk highway within corporate city limits and the MnDOT District Traffic Engineer agrees with the installation, MnDOT participation may be up to 50% of the MnDOT standard construction costs for continuous or intersection lighting systems on trunk highways, or up to 100% of the construction costs for trunk highway intersections with trunk highways. The lighting system must be approved by the MnDOT District Traffic Engineer prior to installation and meet minimum lighting levels. MnDOT participation will be determined on a case-by-case basis, as determined by district lighting priorities and funding made available for lighting systems in the district construction program. The lighting system plan preparation will be determined on a case-by-case basis. The local unit of government must obtain a [utility permit Form 2525](#), will become the owner of the system in the corporate city limits, and will be responsible for maintaining, locating, and ongoing electrical costs.

Additional costs for non-standard, decorative, or aesthetic lighting will be distributed in accordance with section II.C.3.f Aesthetic Elements, where applicable, or where they are 100% the responsibility of the local unit of government. Non-standard, decorative, or aesthetic lighting must meet minimum illumination guidelines and be approved by the MnDOT District Traffic Engineer, for inclusion in trunk highway lighting systems. Additional maintenance costs may also be incurred by the local unit of government for those lighting systems with non-standard MnDOT lighting equipment.

See the [MnDOT Utility Accommodation on Highway Right of Way Policy](#) for guidance when utility permits are required for installation of lighting on MnDOT right-of-way. If a local unit of government owns a lighting system on MnDOT right-of way, they must obtain a [utility permit Form 2525](#).

Unless otherwise agreed upon by the MnDOT District Traffic Engineer, any lighting system installed on the right-of-way by MnDOT or a local unit of government, with less than 100% MnDOT participation, requires the local unit of government to apply for a [utility permit Form 2525](#). The local unit of government will be the owner of the system and will provide maintenance in accordance with section II.C.4.e Lighting, Traffic Control Signal System and Markings

Maintenance, and in accordance with [Minnesota Statutes § 161.45 “Utility on Highway Right-of-Way; Relocation.”](#) The local unit of government will be responsible for locating underground utilities and for future electrical costs. The cost for the source of power, including electrical hook-up, will be paid by the initiating agency.

If a local unit of government is the owner of a lighting system on a trunk highway, and the reconstruction of the trunk highway requires relocation of all or part of the lighting system, the local unit of government will be required to relocate the system at their own expense.

II.C.3.d.2.ii. Traffic Control Signal Systems

An Intersection Control Evaluation (ICE) Report must be prepared for each proposed traffic control signal installation or revision, and must be concurred with by the MnDOT District Traffic Engineer. Highway traffic control signal justification criteria set forth in the [Minnesota Manual on Uniform Traffic Control Devices](#) and the MnDOT Intersection Control Evaluation (ICE) Manual, as interpreted by MnDOT, will be used in the preparation of an ICE Report.

MnDOT will enter into an agreement with the local units of government responsible for the roadway legs intersecting the trunk highway at the intersection to be signalized.

Traffic control signal system construction costs will be distributed as follows:

- MnDOT will not participate in traffic control signal installations or revisions where MnDOT determines the traffic control signal is not warranted.
- At trunk highway intersections with local roadways or pedestrian crosswalks, where MnDOT determines a traffic control signal system is warranted, the construction and state furnished material costs will be pro-rated in the same ratio as the number of roadway legs of the intersection, under each jurisdiction, to the total number of roadway legs of the intersection. This applies to all new traffic control signal systems and signal system revisions. If a leg is split by a local government boundary, that leg is equally pro-rated between bordering local governments. Private entrances are considered as a local unit of government leg.

Legs under MnDOT jurisdiction include trunk highways, and ramps and loops at trunk highway interchanges. The combination of a ramp and loop at folded diamond interchanges will be considered as two legs. The cost for a traffic

control signal system at a diverging diamond will be equally split between MnDOT and the local unit of government.

- MnDOT will be up to 100% responsible for the costs for interconnected system equipment, including the master controller, related equipment, and interconnect (hardwire, fiber optic, or wireless) for systems on a trunk highway corridor. If both trunk highway and local corridors are being served, costs will be pro-rated to each agency sharing the interconnect as stated in the [MnDOT Traffic Engineering Manual](#).
- Local units of government will be 100% responsible for costs of initial and ongoing painting of traffic control signal systems.
- Costs of conventional signs necessary for the traffic control signal system will be proportioned in the same ratio as the signal system. The local unit of government will be 100% responsible for costs of internally lit signs.
- Enforcement lights may be added to a traffic control signal system, per the [MnDOT Traffic Engineering Manual](#). For a new traffic control signal system, the cost for enforcement lights will be pro-rated in the same ratio as the traffic control signal system. For an existing system, the costs for the enforcement lights will be 100% the responsibility of the agency requesting the lights.
- Costs for battery backup systems installed on new or revised signal systems will be pro-rated at the same ratio as the traffic control signal system. Battery backup systems must be installed at new or revised signals with railroad interconnect.
- MnDOT may participate in up to 50% of costs for pedestrian hybrid beacons or pedestrian flashers on a trunk highway where the MnDOT District Traffic Engineer determines it meets the pedestrian volume warrant or the school crossing warrant. A pedestrian hybrid beacon may be installed on a trunk highway if it meets [Minnesota Manual on Uniform Traffic Control Devices](#) guidelines for a pedestrian hybrid beacon. MnDOT participation will be determined on a case-by-case basis, as determined by district priorities and available funding.
- The costs for temporary (wood pole/span wire type system) signal systems, or revision of in-place signal systems that are needed during roadway construction activities (traffic rerouting, detours and bypasses) will be 100%

the responsibility of the agency causing the roadway construction activities that require the temporary signals.

- MnDOT will be 100% responsible for costs for Accessible Pedestrian Signals (APS) that are added to an existing traffic control signal system for the purpose of conducting an ADA improvement to that system. Costs for APS and ADA curb ramp improvements that are added as a part of a planned stand-alone traffic control signal system construction or replacement will be prorated in the same ratio as the traffic control signal system.

II.C.3.d.2.iii. Intelligent Transportation Systems (ITS)

ITS is the application of advanced technologies, information systems, and management techniques to improve the safety and operation of transportation systems.

Some elements of ITS may include traffic signal control, electronic fare payment, freeway management, railroad crossings, transit management, emergency response, incident management, regional and state wide multi modal traveler information, electronic toll collection, or intelligent vehicle initiatives. These elements continually change with technology.

For projects with other cooperative construction costs, cost participation for individual components of ITS projects should, to the extent possible, be pro-rated to each agency involved, in the same proportion as cost responsibility for the element of the project to which the ITS elements are being applied.

Stand-alone ITS projects that involve participation by a local unit of government will be handled on a case-by-case basis.

II.C.3.e. Sidewalks, Bikeways, and Shared Use Paths

II.C.3.e.1. Background

MnDOT recognizes sidewalks, bikeways, and shared use paths as important elements of the transportation system. MnDOT will participate in costs associated with these items when they are affected by a trunk highway project, or to promote the safe and efficient operation of these facilities as part of the trunk highway system. The [*Complete Streets policy*](#) requires that the principles of Complete Streets are to be considered at all phases of planning and project development in the establishment, development, operation, and maintenance of a comprehensive, integrated, and connected multimodal transportation system. Complete Streets considers the needs of

motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that the needs vary in urban, suburban, and rural settings.

II.C.3.e.2. Application

II.C.3.e.2.i. Sidewalks

When determining MnDOT cost participation, the standard sidewalk width will be as specified in the [MnDOT Road Design Manual](#) or the [MnDOT Load and Resistance Factor Design \(LRFD\) Bridge Design Manual](#).

a) New Sidewalk (where none currently exists):

- MnDOT will be responsible for up to 100% of the construction costs of new, standard-width sidewalk and pedestrian ramps where MnDOT determines that a new sidewalk is necessary for the safe operation of the trunk highway and accommodation of pedestrians. Costs for additional width beyond standard will be 100% responsibility of the local unit of government.
- The local unit of government will be responsible for 100% of the construction costs for a new sidewalk where MnDOT determines that the sidewalk is not necessary for the safe operation of the trunk highway or the safe accommodation of pedestrians.
- MnDOT will participate in costs for sidewalk on bridge replacement and new bridge projects in the same ratio as MnDOT participation in the rest of the bridge project when MnDOT, in cooperation with the local unit of government, determines that the sidewalk on the bridge is necessary.
- The local unit of government will be responsible for 100% of the construction costs of new sidewalks along frontage roads and local roadways

b) Reconstruction of Existing Sidewalk:

- MnDOT will be responsible for costs to reconstruct existing sidewalks and pedestrian ramps disturbed as a result of a project, with MnDOT participation being in the same ratio as MnDOT's participation in the work that disturbed the existing sidewalk. MnDOT participation in

sidewalk reconstruction will be limited to the existing-width or standard-width sidewalk, whichever is greater.

- The local unit of government will be responsible for 100% of costs to reconstruct existing sidewalks and pedestrian ramps disturbed as a result of local improvements.
- MnDOT will be responsible for 100% of the construction costs of sidewalk and pedestrian ramps that are constructed within the trunk highway right-of-way where MnDOT determines they are not compliant per the [MnDOT ADA Transition Plan](#).
- Costs for replacement of ADA compliant sidewalk and pedestrian ramps within MnDOT right-of-way not impacted by MnDOT construction will be 100% responsibility of the local unit of government.

II.C.3.e.2.ii. Bikeways and Shared Use Paths

When developing a trunk highway improvement project, MnDOT will determine what facilities are necessary to safely accommodate bicycles and other non-motorized transportation modes in accordance with the [MnDOT Bikeway Facility Design Manual](#). The width of the facility will be determined as outlined in the [MnDOT Bikeway Facility Design Manual](#) or the [MnDOT LRFD Bridge Design Manual](#).

MnDOT recognizes that other state, regional, and tribal agencies may be sponsors of bikeways and shared use paths crossing MnDOT trunk highway right-of-ways. This section of the Manual may be applied to those situations.

- MnDOT will be responsible for up to 100% of costs of facilities which MnDOT determines are necessary to accommodate bicycle and other non-motorized transportation modes within the trunk highway right-of-way as part of its planning, scoping, and design procedures of a MnDOT project.
- MnDOT will be responsible for costs to reconstruct an existing bikeway or shared use path disturbed as a result of a project, with MnDOT participation being in the same ratio as MnDOT's participation in the work that disturbed the existing facility. MnDOT participation in reconstruction will be limited to the existing-width or standard-width, whichever is greater.
- MnDOT may participate in construction costs for a reasonable number of shared use bridges, as determined by MnDOT, to replace at-grade pedestrian or shared use access severed by conversion of an expressway to a freeway.

MnDOT participation in such shared use bridges will not exceed MnDOT participation in adjacent interchange or grade-separation construction required to convert the expressway to a freeway.

- MnDOT may participate in costs for a shared use bridge constructed in lieu of an at-grade crossing improvement, at the request of the local agency. MnDOT participation will be limited to the cost of a safe and compliant at-grade crossing improvement, as determined by MnDOT. All remaining costs will be local agency costs.
- When constructing a roadway bridge, MnDOT may participate in a future shared use facility that is included in a published plan.
- MnDOT participation in locally-initiated bikeway projects, or other bikeway or shared use path facilities not covered above, will be limited to the use of trunk highway right-of-way. Such use must be arranged with the appropriate MnDOT district and must be documented through execution of a limited use permit or an agreement.

II.C.3.f. Aesthetic Elements

II.C.3.f.1. Background

It has been the “continuing responsibility” of both federal and state governments “to use all practical means...to...assure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings” since the National Environmental Policy Act of 1969 (NEPA) was signed into law. In response to the law, the U.S. DOT and subsequently the FHWA issued policies and guidance that incorporated aesthetics and visual quality management into their programs and their environmental documentation process as required by NEPA. In recent years, the importance of transportation design that is sensitive to the surrounding environment has been brought to the forefront with increased emphasis and strengthened direction. MnDOT’s context sensitive solutions (CSS) approach to project development is intended to preserve and enhance the state’s environmental, scenic, historic and cultural values while addressing transportation objectives.

II.C.3.f.2. Application

This section of the Manual is intended to establish a reasonable and equitable limit for MnDOT participation in aesthetic elements of projects, depending on the project setting, type of project, and specific project elements.

MnDOT cost participation identified herein should not be interpreted as a required level of spending on a particular project. Aesthetics are an integral component of a highway corridor. However, expenditures for aesthetic elements must be balanced with funding available to meet the growing construction and maintenance needs of the trunk highway system. MnDOT districts, in consultation with coordinating agencies, local units of government, and the public, need to balance aesthetic needs with all other needs of the project, and in consideration of the transportation needs of the district. Aesthetic participation levels applicable to a project will be determined on a project-by-project basis by the district and the MnDOT Office of Bridges and Structures. When programming the project, aesthetics will be included in the project budget as a component of the project. Aesthetic allowance is not an additional component beyond the total project budget.

Aesthetics and visual quality management concerns should be considered early in the project development process, beginning with initial project scoping and budgeting. When impacts on visual quality are likely to be widespread, substantial, or adverse, MnDOT's six-step Visual Impact Assessments (VIA) process is used as the threshold criteria for guidance in project development. MnDOT's VIA process is consistent with FHWA's guidance including the January 2015 issuance of updated "[Guidelines for the Visual Impact Assessment of Highway Projects](#)". With regards to regulatory context, MnDOT VIAs should normally be conducted as part of a project's environmental review process to comply with NEPA. VIA is a tool and methodology to inform visual resource inventory, analysis and design, for the purposes of mitigating and enhancing the affected visual resources associated with transportation projects. The VIA process guidance is included on MnDOT's [Highway Project Development Process Website: Subject Guidance - Visual Quality](#).

Aesthetic elements must have a substantial relationship to the trunk highway system to warrant MnDOT participation. The relationship can be one of proximity and function, or one of proximity and impact, but not one of proximity alone.

- Proximity is a relationship that enhances the immediate view shed of the trunk highway corridor or the view of the trunk highway corridor from adjacent properties.
- Function is a relationship that facilitates the transportation needs of the trunk highway system, such as planned pedestrian facilities.
- Impact is a relationship that improves the interrelationship between the transportation user and the surrounding environment, such as signing or improvements to a scenic overlook.

MnDOT will allow the installation of art in its right of way, in accordance with the MnDOT Art on Trunk Highway Right of Way Policy. Art will not be eligible as an aesthetic component on cooperative construction projects, and all costs for art will be 100% responsibility of the applicant.

II.C.3.f.2.i. Items Considered as Aesthetic Elements

Items considered as aesthetic elements for application of MnDOT aesthetic cost participation include, but may not be limited to:

- Design elements, such as highway location, alignment, and profile and cross sectional elements to minimize impacts on the surrounding environment and to maximize opportunities for improvements to the roadside environment, where such design elements are chosen for strictly aesthetic purposes. This would include additional costs to upgrade a rural trunk highway design to an urban design strictly for aesthetic purposes.
- Aesthetic treatments, such as surface finishes and pavement coloration, that enhance the appearance of necessary elements of the transportation project beyond the aesthetic features included as a standard component of a project element, such as standard rustication on retaining walls, as identified in MnDOT standard plans and specifications.
- Aesthetic features, such as facades, pilasters or items in addition to the necessary structural elements, enhancements to structural elements, decorative landscaping (only if it solely serves a beautification function rather than any of the numerous ecological services and green infrastructure functions that can be provided by highway landscaping), lighting units other than MnDOT standards, special utility relocation and other items incorporated into a project to enhance visual and social quality beyond the basic items and features necessary to address the safety, operation and maintenance needs of the project, consistent with the VIA process.

MnDOT reserves the right to decline the use of aesthetic elements when safety or durability is compromised.

II.C.3.f.2.ii. Items Not Considered as Aesthetic Elements

For the purpose of this section of the Manual, those items that are necessary for the project, aside from any aesthetic considerations, are not attributable to MnDOT aesthetic funding participation for a project. Project items required for these purposes are included as part of MnDOT or local cost participation responsibility,

as specified in this Manual, as a non-aesthetic cost of the project. Items not considered as aesthetic elements include, but may not be limited to:

- Design elements, such as highway location, alignment, and profile and cross sectional elements are influenced by many factors, including aesthetics. Design of the trunk highway will not usually be attributable to MnDOT cost participation for aesthetic purposes unless aesthetic considerations were the primary basis for the choice of a design element.
- Basic aesthetic treatments and features included as a standard component of a project element, such as standard rustication on retaining walls and abutments, and standard surface treatment for wood or concrete noise walls, as identified in MnDOT standard plans and specifications.
- Legally-required or formally committed and documented mitigation.
- Landscaping elements that function to provide blowing and drifting snow control, erosion and sedimentation control, storm water infiltration and retention, safety buffers and delineations, headlight glare screening, air/soil/water pollution abatement, noise buffers, wildlife habitat, ecological restoration and services, energy conservation, and traffic-calming.
- Warranted lighting, included on the project for safety and operation of the trunk highway, using standard MnDOT lighting equipment.
- Independent landscape and site development projects that are eligible to compete for federal and state highway project funding and programming based upon purpose and need and substantial relationship to the trunk highway system.

II.C.3.f.2.iii. Level of Impact

The level of impact of the project on the existing setting will be determined as one of the following three levels:

- **LEVEL A:** For a limited number of projects that are of major state or federal aesthetic significance. The project has a high level of visual impact on an existing setting that clearly exhibits unique or sensitive features. Aesthetic features may substantially control the design of these projects or project elements. This level includes projects that are located in highly sensitive, social, economic, environmental or historic locations, or may affect items that

are historic themselves. The aesthetic impacts of these projects are often addressed in partnership with other federal and state agencies.

- **LEVEL B:** For projects that have a moderate visual impact on the surrounding setting. Aesthetic treatment may be appropriate, but not to the extent that it may substantially control the design. These projects often involve trunk highway corridors that have had substantial prior development on the adjacent land. This level includes projects in urban settings, and settings near recreation areas, parks or other waterways not categorized as unique or sensitive. The aesthetic impacts of these types of projects are often addressed in coordination with state agencies and local units of government.
- **LEVEL C:** For projects that have little or no negative impacts on the surrounding setting. The existing setting is not unique or sensitive. The aesthetic impacts of these types of projects can often be addressed without coordination with other agencies.

II.C.3.f.2.iv. Specific Item Categories

Specific item categories apply to bridges, retaining walls, and noise walls due to their prominent aesthetic impact on a project. Participation factors and limits have been established for these specific items. These factors are applied to MnDOT's share of the estimated cost of the specific item to determine MnDOT aesthetic cost participation limits for that item. The aesthetic cost participation is for treatments beyond the basic aesthetic features included as a standard component of the element, as identified in MnDOT standard plans and specifications.

II.C.3.f.2.v. Project Type Categories

The project type category is determined based on the type, the intent and the program funding category of the project in the following fashion:

- **Project Type Category 1: Major Construction**
The intent of major construction projects is to improve or increase the capacity and the operational characteristics of a highway by adding lanes, by building new roadways or bridges, or by converting at-grade intersections to interchanges.

These projects typically involve grading, base, surfacing, bridge replacement and additional right-of-way. The MnDOT program category is Major Construction (MC).

○ **Project Type Category 2: Reconstruction**

The intent of reconstruction projects is to reconstruct segments of the highway system to an accepted standard. These projects involve grading, base, resurfacing, and bridge replacement. They usually do not include the addition of through-lanes, but may involve auxiliary lanes, turn lanes, increased shoulder width, bridge widening and access management improvements. The reconstruction of freeway or controlled access facilities with lane additions substantially within existing right-of-way and with limited modification to access locations would be included in this category. Right-of-way acquisition is common. Replacement of lighting, signals, and other infrastructure is also common. The MnDOT program categories include Reconstruction (RC), Bridge Replacement (BR), and Safety Capacity (SC).

○ **Project Type Category 3: Preservation, and Safety, Maintenance**

The intent of preservation, safety, and maintenance projects is to repair or preserve the roadway infrastructure or to address specific safety issues. Minor grading in the form of shoulder widening, grade corrections and turn lanes may be undertaken with these projects, but do not involve major changes to the roadway cross section. They may also involve the replacement of roadway infrastructure such as culverts and guardrail. These projects usually have minimal impact on the surrounding environment and involve little or no right-of-way acquisition. The MnDOT program categories include Reconditioning (RD), Resurfacing (RS), Road Repair (RX- BARC), Highway Safety Improvement Program (SH), Safety Rail (SR), Traffic Management (TM), and Bridge Improvement and Repair (BI).

II.C.3.f.2.vi. Aesthetic Participation Factors

MnDOT aesthetic participation factors for eligible aesthetic elements of a trunk highway project are determined by the level of impact, specific item, and project type categories according to Table 1.

Table 1: Maximum MnDOT Aesthetic Participation Factors and Limits as a Percentage of Estimated MnDOT Project Construction Costs

	Level of Impact		
	Level A	Level B	Level C
Specific Item Categories:			
*Bridges	15% not to exceed \$3,000,000 per bridge	7% not to exceed \$300,000 per bridge	5% not to exceed \$200,000 per bridge
Retaining Walls	10%	5%	1% or standard treatments
Noise Walls	7%	4%	1%

Project Type Categories:			
Category 1 - Major Construction	5%	3%	2%
Category 2 - Reconstruction	3%	2%	1%
Category 3 - Preservation, Safety & Maintenance	0%	0%	0%

*The MnDOT Office of Bridges and Structures has sole discretion to determine aesthetic level for bridges.

Preservation, safety, and maintenance projects and associated funding sources are intended to address specific infrastructure and safety needs of the trunk highway system. These types of projects and associated funding are not used for aesthetic enhancements of a trunk highway corridor. Therefore, participation factors for these types of projects have been identified as 0%. However, aesthetics should be considered during development of these projects and should be consistent with other corridor design features or any applicable corridor design guidance.

II.C.3.f.2.vii. MnDOT Aesthetic Participation

MnDOT limits for participation in eligible aesthetic elements of a trunk highway project are determined by application of the appropriate participation factor to MnDOT's share of estimated project costs.

More than one aesthetic participation factor and/or more than one level of impact may be used on a project. For example, one bridge may be of greater significance than another bridge and could have a higher level of impact for determination of MnDOT aesthetic participation. Similarly, one segment of a project may fall within an area that warrants a different level of impact than the rest of the project, such as an urban area on a longer rural project, or a specific, environmentally-sensitive location along a longer project. In these cases, the project may be segmented to determine the level of impact and project type in order to arrive at the appropriate MnDOT cost participation factors to address specific project settings and features. In these cases, participation factors and costs are considered on a segment-by-segment basis.

- The amount of MnDOT participation for bridge aesthetic costs is determined on a structure-by-structure basis and is not transferable to other project elements. Bridges within the same level of impact category may be considered in aggregate to allow for uniform treatments of these bridges. Aesthetic considerations on bridge rehabilitation projects are evaluated on a case-by-case basis, but should be consistent with other corridor design features or with applicable corridor design guidance.

- The amount of MnDOT participation for retaining wall and noise wall costs is determined on the total estimated cost of these items for the project to allow uniform treatment in consideration of cost variability based on height and structural requirements and is not transferable to other project elements.
- MnDOT's aesthetic participation for the remaining project cost will be based on the application of the appropriate project type category participation factor to the remaining estimated project cost. The remaining project cost equals the total estimated cost of MnDOT participation in the project, less estimated bridge, retaining wall, and noise wall costs, and non-MnDOT costs.
- MnDOT's aesthetic participation for the remaining project cost may be applied to aesthetic participation for bridges, retaining walls and noise walls included in the project.

Costs for aesthetic elements beyond those established as eligible for MnDOT participation, or beyond MnDOT's maximum participation as specified in this Manual, will be 100% local responsibility. Participation percentages for aesthetic elements will not be modified or adjusted based on bid prices of the successful bidder.

See Appendix C for an example of how to determine MnDOT and local aesthetic participation on a project.

II.C.3.g. Utilities Owned by Local Units of Government

In conjunction with a trunk highway construction project, the most frequently encountered utilities owned by local units of government include, but are not limited to:

- Sanitary sewer systems;
- Water mains and associated hydrants, gate valves and manholes; and,
- Locally-owned street lighting.

These utility items may be included in a cooperative construction agreement rather than a utility agreement. [Minnesota Statutes § 161.45 "Utility on Highway Right-of-Way; Relocation,"](#) [Minnesota Statutes § 161.46 "Reimbursement of Utility,"](#) and [Minnesota Administrative Rules 8810.3100 – 8810.3600 "Utilities and Equipment"](#) determine which agency is responsible for the cost of the adjustment or relocation of utilities owned by a local unit of government. Relocations will be performed pursuant to the [MnDOT Utility Accommodation on Highway Right of Way Policy](#) and the [Utility Accommodation and Coordination Manual](#).

II.C.4. Maintenance

Cooperative construction projects often result in infrastructure that serves multiple purposes and provides benefits to both trunk highway users and to local communities. Local units of government are engaged by MnDOT in the project development process, to provide input on the local context and to communicate needs and preferences. Because the infrastructure resulting from a cooperative construction project has shared uses and benefits, some responsibilities for maintaining the resulting infrastructure are shared with local units of government after construction, as documented in an agreement.

Maintenance needs for cooperative construction items should be considered early in the project development process. The maintenance responsibilities of the local unit of government for cooperative construction projects will be documented in the cooperative construction agreement or in a separate maintenance agreement. Maintenance responsibilities specified in this Manual apply to cooperative construction projects and to construction projects in which MnDOT is responsible for 100% of the cost. If MnDOT is 100% responsible for construction costs, a separate maintenance agreement is required because a cooperative construction agreement would not be created. Maintenance responsibilities documented in cooperative construction agreements and in separate maintenance agreements will include all necessary costs, including but not limited to personnel, equipment, and materials.

Maintenance responsibilities not incorporated into a cooperative construction agreement as identified in this Manual, included but not limited to continuation of pre-existing agreement conditions, or ongoing cost reimbursement for maintenance activities will require a separate maintenance agreement.

II.C.4.a. Roadway and Shoulder Maintenance

- MnDOT will be responsible for maintenance activities associated with all trunk highway roadway and shoulder items, ramps and loops at interchanges, concrete bridge approach panels, and other portions of the trunk highway right-of-way.
- Local units of government will be responsible for maintenance activities associated with all roadways and shoulders under local jurisdiction, including local roadways constructed or reconstructed due to impacts associated with trunk highway construction, in accordance with [Minnesota Statutes § 161.24 “Changes Required by Construction of Trunk Highway,”](#) subdivision 5 “Maintenance of roads outside trunk highway.”
- Local units of government will also be responsible for maintenance activities on trunk highway right-of-way associated with:

- Approach legs to intersections to the outside edge of the shoulder line or outer radius of roundabouts (see Appendix A for roundabout diagram);
 - Approach roadways to interchanges and grade separations up to the bridge approach panels. In instances where there is no bridge approach panel, local units of government will maintain the roadway up to the bridge joint.
 - Frontage roads, unless otherwise documented in an existing maintenance agreement;
 - All other portions of the local road right-of-way.
- Local units of government will also be responsible for removal of snow from parking lanes. As a part of an agreement, MnDOT may share in the cost of snow removal from the parking lane in cooperation with the local agency.

II.C.4.b. Bridge Maintenance

- For interchange or grade separation bridges under MnDOT jurisdiction, MnDOT will be responsible for bridge inspection, all structure-related maintenance, including painting, re-decking and rehabilitation of the bridge, including the deck, rails, sidewalk and supporting structural elements, concrete bridge approach panels, and structurally-supported signing on the bridge, unless addressed differently in an agreement. The local unit of government will be responsible for such items if the bridge is under local jurisdiction.
- If the approach roadways to a bridge are under local jurisdiction, the local unit of government will be responsible for all non-structural maintenance activities on the bridge, including but not limited to, keeping the roadway, bridge deck, shoulders, medians, gutters, sidewalks, and shared use paths clear of ice, snow, litter and debris, appropriate disposal of such material, pavement markings, guardrail, and non-structurally supported signing. MnDOT will be responsible for such items if the approach roadway is a trunk highway, unless addressed differently in an agreement.
- Lighting and aesthetic items that may be included on bridges will have maintenance and cost responsibilities in accordance with applicable sections of this Manual.

II.C.4.c. Retaining Wall and Noise Wall Maintenance

- Local units of government are responsible for routine maintenance on the side of a retaining wall that faces away from the highway. Routine maintenance of the non-highway side of the retaining wall includes graffiti removal, and any other maintenance activities necessary to perpetuate the walls in a safe, usable and aesthetically acceptable condition.

- Local units of government are responsible for routine maintenance on the side of a noise wall that faces away from the highway. Routine maintenance of the non-highway side of the noise wall includes vegetation control, graffiti removal, and any other maintenance activities necessary to perpetuate the walls in a safe, usable and aesthetically acceptable condition.
- MnDOT is responsible for repairs, replacement, and painting necessary for the lifelong integrity of the noise walls and retaining walls.

II.C.4.d. Drainage Maintenance

Maintenance of Storm Sewer Systems and Culverts:

Routine storm sewer system maintenance is defined as removal of sediment, debris, vegetation, and ice from the grates and catch basins. When local units of government are conducting the routine drainage maintenance, this also includes informing the District Maintenance Engineer of any needed repairs.

Non-routine storm sewer system maintenance is defined as removal of sediment from the pipes, replacement, reconstruction, rehabilitation, or improvement of portions of storm water drainage infrastructure such as castings, manhole or catch basin structures, and pipe segments or aprons, including rip-rap..

- MnDOT is responsible for routine drainage maintenance of drainage elements including culverts carrying trunk highway water located on controlled access trunk highway right-of-way, on partially-controlled access trunk highway right-of-way not within corporate city limits, freeway right-of-way, or as determined by the District if safety is a concern. This includes all portions of trunk highway-to-trunk highway interchanges and other interchange ramps and loops, and all trunk highway right-of-way outside incorporated cities not covered by previous permit or agreement.
- MnDOT is responsible for non-routine drainage maintenance of all storm water drainage system elements, including culverts, carrying trunk highway water located on trunk highway right-of-way, unless documented in a permit, or agreement.
- Local units of government are responsible for routine drainage maintenance of storm sewer system elements, not including culverts, located on uncontrolled or partially controlled access trunk highway right-of-way within incorporated cities, frontage road right-of-way, local road approaches, and local roadway right-of-way or private property.

- Local units of government are responsible for non-routine maintenance of storm sewer system elements of local road approaches at intersections, interchanges, or grade separations located on trunk highway right-of-way that carry only local water.

Maintenance of Storm Water Ponds and Drainage Treatment Features:

Routine maintenance of storm water ponds and infiltration and filtration features includes removing litter, clearing ice, mowing, vegetation management, minor erosion repairs, fencing repairs, and sediment removal from structural pollution control devices

Non-routine maintenance includes but is not limited to sediment removal, major erosion repair, and replacement of filter media.

MnDOT owns and performs routine maintenance for ponds and drainage treatment features on MnDOT right-of-way. The local agency owns and performs routine maintenance for ponds and drainage treatment features on local agency right-of-way.

The owner of the pond or drainage feature will determine when non-routine maintenance is required and is responsible for performing the non-routine maintenance and notifying the other contributing agencies in advance of performing the maintenance for planning purposes.

Costs for non-routine maintenance of water quality treatment features, will be determined by the ratio of contributing CA as determined by multiplying the runoff coefficient (C) and contributing area (A) of each party at the time the non-routine maintenance is needed. Percentages are estimated at the time of construction and recalculated before non-routine maintenance is performed and included in a new agreement.

II.C.4.e. Lighting, Traffic Control Signal Systems, Signing, and Markings Maintenance

II.C.4.e.1.i. Lighting Maintenance

- Maintenance of electrical lighting systems includes everything within the system, from the point of attachment to the power source or utility, to the last light on the feed point, including but not limited to, re-lamping of lighting units or replacing of LED luminaires, repair or replacement of all damaged luminaire glassware, loose connections, luminaires when damaged or when ballasts fail, photoelectric control on luminaires, defective starter boards or drivers, damaged fuse holders, blown fuses, knocked down poles including wiring within the poles, damaged poles, pullboxes, underground wire, damaged foundations, equipment pad, installation of approved splices or replacement of wires, repair or extending of conduit, lighting cabinet maintenance including

photoelectric cell, electrical distribution system, Gopher State One Call (GSOC) locates, and painting of poles and other equipment.

- Maintenance of lighting at diverging diamond interchanges will be shared between MnDOT and the local unit of government. MnDOT will be responsible for all lighting on MnDOT ramps, and the local unit of government will own, maintain, and operate all lighting on the local roadway, including the lighting within the diverging diamond interchange. Lighting on the traffic control signal system will be maintained as specified in section II.C.4.e.1.ii Traffic Control Signal Systems Maintenance.
- Maintenance of lighting at roundabouts, including all legs and within the roundabout, will be shared between MnDOT and the local unit of government. The local unit of government will be responsible for all power costs and relamping or LED luminaire replacement for the entire system and for all of the maintenance at the local legs of the roundabout. MnDOT will be responsible for the remainder of the lighting maintenance within the main roundabout and at the trunk highway legs of the roundabout, when a standard lighting system is installed. For non-standard lighting, the local unit of government will own, maintain, and pay power costs for the entire lighting system. MnDOT will have full maintenance responsibilities for a standard lighting system on roundabouts located at the intersection of two trunk highways.
- Power costs include all energy costs associated with the lighting system after the system has been turned on.
- The local unit of government will own and be responsible for 100% of the maintenance and power costs for all lighting systems without 100% MnDOT participation unless otherwise agreed to by the MnDOT District Traffic Engineer and documented in an agreement, for lighting systems installed at the local agency's request, and for all non-freeway lighting systems installed on the trunk highway within corporate city limits of the local unit of government.
- If MnDOT pays 100% of the cost of a lighting system and if the local unit of government is identified as the owner of the system in an agreement, the local unit of government is 100% responsible for maintenance of the system.
- The local unit of government will own and be responsible for 100% of the maintenance of all non-MnDOT standard, aesthetic, and decorative lighting equipment, including structure enhancement lighting.

- When LED lighting is used and the local agency is responsible for LED maintenance and replacement, the luminaire must be replaced when it, or any part of it, fails or if light levels drop below AASHTO-recommended light levels for the given installation.

II.C.4.e.1.ii. Traffic Control Signal Systems Maintenance

The division of maintenance and operational responsibilities of traffic control signal systems located on trunk highway will be divided into two classes: cities of the first class, and all other local units of government. Maintenance and operational responsibilities are shared throughout the life of the traffic control signal system.

Non-routine maintenance of traffic control signal systems consists of maintaining all components and needs of the traffic control signal system, including the control equipment, electrical wiring, signal hardware, replacing equipment knockdowns, interconnect, cameras, utility locations, structural inspection, asset management, and operations.

Routine maintenance of traffic control signal systems consists of relamping, LED indication replacement, LED luminaire replacement, cleaning and painting, and payment responsibility for the electrical energy to operate the traffic control signal system.

- MnDOT will provide non-routine maintenance and routine maintenance of the traffic control signal system and will operate the system at trunk highway intersections with a trunk highway.
- For traffic control signal systems on trunk highway intersections with local roads within cities of the first class, the city will provide traffic control signal system non-routine maintenance, routine maintenance and operation and will be documented in an agreement.
- For all other traffic control signal systems on trunk highway intersections, including those on diverging diamond interchanges, MnDOT will provide traffic control signal non-routine maintenance and operation. The local unit of government will provide routine maintenance.
- Relamping of a traffic control signal system with LED indications consists of replacing the LED indication when it reaches end of life per the MnDOT Traffic Engineering Manual or fails to no longer meet Institute of Traffic Engineers (ITE) standards for light output.

-
- LED intersection roadway lighting must be replaced when it fails or light levels drop below recommended AASHTO levels for the installation.
 - In certain larger local units of government, MnDOT may elect to have the local unit of government, by mutual agreement, maintain and operate the traffic control signal system. The local unit of government must have a qualified traffic engineer in its employ. The local unit of government must have proven capabilities to the satisfaction of MnDOT, including maintenance facilities, service equipment, standby equipment, and capable service personnel. MnDOT will reimburse the local unit of government for the actual cost of MnDOT's share of the non-routine maintenance work as specified. A separate reimbursable maintenance and operation agreement must be executed.
 - In the case of coordinated traffic control signal systems, the maintenance and operation of these systems will be determined on a negotiated basis. The coordinated traffic control signal system should be maintained and operated by one agency, especially in the case of computer-monitored systems. The agency that is responsible for the most intersections in the coordinated system will typically be the agency responsible for the maintenance, operation, timing and coordination of the coordinated traffic control signal system.
 - When the local unit of government is responsible for maintenance and operation of the coordinated traffic control signal system, it must have a qualified traffic engineer in its employ. The local unit of government must have proven capabilities to the satisfaction of the MnDOT including maintenance facilities, service equipment, standby equipment, and capable service personnel. Either MnDOT or the local unit of government will be reimbursed for the actual cost of maintaining the traffic control signal system for which the other agency is responsible. A separate reimbursable maintenance agreement will be prepared for these situations.
 - When a battery backup system is installed at an intersection where a trunk highway intersects a local roadway, MnDOT will be responsible for purchasing and installing new batteries and discarding of the old batteries when they fail. Local units of government will be billed for 100% of the actual cost of this work and material. If MnDOT approved the system and participated in the installation cost or if the battery backup system is warranted by railroad preemption, MnDOT will maintain the remainder of the system at its cost. If the installation was 100% local unit of government cost, the local unit of government will be billed for 100% of the actual cost of maintenance.

Maintenance of battery backup systems installed at the intersection of two trunk highways will be 100% MnDOT responsibility.

- Local units of government will be responsible for maintenance and power of internally lit signs.
- Maintenance of enforcement lights will follow the same maintenance as the rest of the traffic control signal system.
- Local units of government are responsible for all non-routine maintenance and routine maintenance and operation of hybrid beacons and pedestrian flashers. MnDOT may perform non-routine maintenance at a reimbursable cost to the local unit of government if agreed upon in a separate maintenance agreement. If the system is coordinated with adjacent signals, the agency responsible for the signal coordination will also coordinate the pedestrian hybrid beacon.

II.C.4.e.1.iii. Signing Maintenance

- MnDOT will be responsible for maintaining all signs installed by MnDOT at the following locations:
 - On MnDOT roadways
 - On local roadways:
 - All signs between the ends of ramps at interchanges
 - Advance Junction Signs for the trunk highway (green background guide signs)
 - Stop and Yield Signs
- Local units of government will be responsible for maintaining signs installed on local roadway right-of-way and on MnDOT right-of-way by permit.
- Trail blazing signs installed on local streets will be installed and maintained by the local unit of government.

II.C.4.e.1.iv. Markings Maintenance

- At intersections, local units of government will be responsible for maintenance of markings on local roads and MnDOT will be responsible for maintenance of markings on MnDOT roads, regardless of right-of-way boundaries. The extension of the trunk highway curb face (urban design) or the extension of the trunk highway pavement surface edge (rural design) will be the defining line for the responsibility.

- Local units of government will be responsible for maintenance of markings installed on MnDOT roadways by permit or agreement.
- Local units of government will be responsible for maintenance of parking-related markings installed on MnDOT roadways.
- Local units of government will be responsible for maintenance of the Shared Lane Pavement Marking on the trunk highway if the marking is installed at the local unit of government's request.

II.C.4.f. Sidewalks, Bikeways, and Shared Use Paths Maintenance

- Routine maintenance of all sidewalks and shared use paths, including but not limited to patching, snow and ice control/removal, sweeping, debris removal, vegetation control, signs, and pavement markings will be the responsibility of the local unit of government, as assigned in an agreement or limited use permit.
- Maintenance of bikeways located on a trunk highway roadway or shoulder will be MnDOT's responsibility, unless specified in an agreement. If bikeway lane pavement markings are installed per a local unit of government's request, maintenance of said markings will be the local unit of government's responsibility.
- Costs for non-routine maintenance such as resurfacing, seal coating, and bridge rehabilitation, will be proportioned to MnDOT and the local unit of government in the same ratio as the initial cost of construction, unless documented otherwise in an agreement.

II.C.4.g. Aesthetics Maintenance

- For cooperative construction projects with aesthetic elements, maintenance will be in accordance with this section of the Manual. Aesthetic improvements made under other programs or agreement types, such as Landscape Partnerships, may have different maintenance responsibilities. MnDOT will be responsible for maintenance activities for aesthetic elements located within the roadway and shoulder portion of trunk highways and within the trunk highway right-of-way for freeways, expressways, and rural trunk highways outside of incorporated cities, except for:
 - Benches, planters, landscaping, non-standard pavement, surface treatments, non-standard lighting, non-standard ornamental railings, artwork, and aesthetic features and treatments under or on top of trunk highway bridges where maintenance can be conducted outside the control of access.

- Lighting, traffic control signal systems, signing, and markings in accordance with section II.C.4.e Lighting, Traffic Control Signal Systems, Signing, and Markings Maintenance.
- Local units of government will be responsible for all other maintenance activities for aesthetic elements of cooperative construction projects.

III. Procedures

III.A. Agreement Procedures

See Appendix D for a flowchart of the Design and Construction Process for locally-administered MnDOT Cooperative Agreement Projects. For MnDOT-administered projects, see documentation at [Pre-letting Services Project Coordination for MnDOT Administered Projects](#). Early coordination and communication as to the scope of the construction project and the potential cost sharing elements is essential.

MnDOT considers the MnDOT-funded portion of a locally-administered cooperative construction project to be a trunk highway project and must review and approve the construction plan and right-of-way acquisition procedures. This approval must be provided before the cooperative construction agreement can be completed.

III.A.1. District Responsibilities

The district will assign a project manager to facilitate development of locally-administered project. The district project manager will guide the preparation of plans and special provisions and will arrange for MnDOT programming of locally-administered projects. The district will furnish the local unit of government's engineer and/or their consultant with a copy of these procedures early in the project development stage.

The District functional areas will review and provide comments on the plan, specifications and estimate at 30%-60% complete. As needed, the project manager may request the following offices to provide review and comments: Central Office Environmental Stewardship for environmental due diligence, Traffic, Bridge, Freight and Rail, Geometric Design, Transit, Pre-Letting Services and ADA.

At a 90% complete plan, the District project manager will review the plan to ensure that all comments have been addressed. See section III.A.3 Project Turn-in to MnDOT Central Office for district responsibilities related to project turn-in to MnDOT Central Office.

III.A.2. Cost Estimates during Project Development

Responsibility for project cost should be determined by MnDOT's project manager, in coordination with MnDOT's Municipal Agreements Engineer and in cooperation with local unit of government representatives, early in the project development process. Consider developing pre-agreement letters that outline potential cost share elements. Responsibilities for local cost participation must be kept current during project development. Local responsibility and associated costs for cooperative projects will be provided to each local unit of government by MnDOT's project manager each time project cost estimates are updated, in accordance with

MnDOT’s “Cost Estimating Procedures during Project Development.” A document outlining items and their associated costs for each local unit of government will also be included with the information provided when municipal approval is requested by MnDOT. Copies of cost estimate information provided to the local unit of government will also be provided to the Municipal Agreements Engineer. Care must be taken to clearly establish that cost estimates during project development, including the share identified as local responsibility, are preliminary and are subject to change until actual contract prices are established in the successful bid and award of contract.

III.A.2.a. Pro-Rata Items

The cost of the following pay items will be pro-rated among participating agencies in the same ratio as their share of the project to the total project cost.

2221.501	Mobilization	Lump Sum
2031.501	Field Office, Type____	Each
2031.503	Field Laboratory, Type____	Each
2563.601	Traffic Control	Lump Sum

The pro-rata value assigned to each cost split (including bridge costs, if applicable) shown in the plans is determined by dividing the dollar value of work associated with that split by the total dollar value of the contract (including bridge costs), less the pro-rata items. The pro-rata percentage assigned to each cost split is established using estimated quantities and estimated prices, and does not change following bid opening, contract approval, or throughout the life of the contract. The actual dollar amount paid by each split is adjusted by applying the split percentage to the actual contract bid price for the pro-rata items.

III.A.2.b. Construction Engineering

III.A.2.b.1. Design-Bid-Build Construction Engineering

Construction engineering for design bid-build projects consists of inspection, materials testing, surveying and staking, and contract administration of a construction project. The cost share for this work will be 8% of the construction cost share amount and the following items will have the following values:

- Contract Administration 3%
- Construction Inspection 2%
- Surveys and Staking 2%
- Materials Inspection 1%

If any of these construction engineering tasks are not completed by the local agency, the construction engineering costs paid by MnDOT will be reduced by the indicated amount.

III.A.2.b.2. Design-Build Construction & Engineering

Engineering for design-build projects consists of design, project management, bonds and insurance as well as contract administration. The cost share for this work will be 23% of the Design-Build cost share amount and the following items will have the following values:

- Design Engineering 8%
- Project Management, Bonds & Insurance 10%
- Contract Construction Engineering 5%

In general, the Design Engineering will be the responsibility of the party administering the design-build project. The following are 3 options for determining the construction and engineering costs that will be charged to the non-administering party:

Option 1 (Preferred Option): Payments Based on percent of Design-Build Bid Cost

Payment Percent = Cost Share / Total Project Cost
(Costs from engineering construction cost estimate)

Payment =

Design-Build Bid (A+B+C) x Payment Percent minus
Total Project Cost x Payment Percent x 8% (8% for Design Engineering Deduction)
plus
Design-Build Bid x Payment Percent x 5% (5% for State Contract Construction Engineering)

Where A+B+C is contract management + design + construction

Option 2: Payments Based on Engineering Construction Cost Estimates

Payment =

Cost Share (Determined from an engineering construction cost estimate) plus
10% x Cost Share (10% for Project Management, Bonds and Insurance) plus
5% x Cost Share (5% for State Contract Construction Engineering)

Option 3: Payments Based on Design-Build Line Item Bid Costs**Payment =**

Line Item Cost (From design-build bid) plus
10% x Line Item Cost (*10% for Project Management, Bonds and Insurance*) plus
5% x Line Item Cost (*5% for State Contract Construction Engineering*)

III.A.2.c. Methods for Computing Cost Shares

Agreements may be written using one or a combination of any of the methods below. In some instances, it may be difficult to identify or keep track of a portion of an agency's participation based on pay items. For that portion, a lump sum amount or a percentage of construction costs may work, for the other portion, a schedule I might fit the situation.

III.A.2.c.1. Composite Percentage

Each agency's participation in the cooperative construction project is determined in accordance with section II.C Application of Policy to Projects. Under a separate worksheet, the estimated quantities and the estimated unit prices are used to compute the preliminary cost of each agency's participation. Each agency's cost participation is then converted from a dollar amount to a preliminary percentage of the total project cost.

After bids are received, each agency's percentage will be revised using the estimated quantities, and the contract unit prices of the successful bidder and any addenda. These revised final percentages will not change throughout the life of the project. All supplemental agreements and change orders that are written to the project must identify the appropriate cost participation, as determined in section II.C Application of Policy to Projects, for the work contained therein.

After completion of the project, each agency's final cost participation amount will be determined using the final percentage applied to the final project costs, plus any applicable supplemental agreements and change orders. The difference between the advanced amount and the final amount will be computed and paid to the appropriate agency.

This method greatly reduces the amount of record keeping which is required of construction personnel to document the "schedule I" method.

III.A.2.c.2. As-built Quantities (Schedule I)

Each agency's participation in the cooperative construction project is determined in accordance with section II.C Application of Policy to Projects. Each agency's costs

are identified as a group or column in the construction plan. Estimated quantities and the estimated unit prices are used to compute the preliminary cost of each agency's participation. These preliminary costs are used to prepare the cooperative construction agreement. After bids are received, each agency's cost will be revised using the estimated quantities and the contract unit prices of the successful bidder including any addenda. All supplemental agreements and change orders that are written to the project must identify the appropriate cost participation, as determined in section II.C Application of Policy to Projects, for the work contained therein.

After completion of the project, each agency's final cost participation amount will be determined using the actual final as-built quantities and the contract unit prices, plus any applicable supplemental agreements, work orders, change orders, "back sheet" adjustments and construction engineering charges. The difference between the advanced amount and the final amount will be computed and paid to the appropriate agency.

III.A.2.c.3. Lump Sum

Each agency's participation in the cooperative construction project is determined in accordance with section II.C Application of Policy to Projects. Lump sum agreements are written for a specific dollar amount that is based on the estimated cost of their construction and construction engineering. This type of agreement is most appropriate when the division of quantities or costs by another method is not practical or where the scope of the work is well defined and the chance of significant changes in quantities or the need for supplemental agreements is minimal. It should also be considered when an agreement is being prepared for a small dollar amount.

III.A.2.c.4. Bid-priced Lump Sum

Each agency's participation in the cooperative construction project is determined in accordance with section II.C Application of Policy to Projects. Under a separate worksheet, the estimated quantities and the estimated unit prices are used to compute the preliminary cost of each agency's participation and is then revised based upon unit item bid prices. No adjustment in the cost participation is made to reflect contract final quantities. If the scope of the contract work changes significantly, a lump sum agreement may be supplemented or another agreement written to reflect the revised scope of work.

III.A.2.d. Cost Share Information in Construction Plans

Cooperative construction cost participation must be identified in the construction plan. Quantities on the estimated quantities sheets must be split into as many columns as there are separate funding groups; the factors that determine funding groups are funding source, project number, and percentage of participation. Specific funding information should be included at the top of each group column in the following manner:

Federal aid participation should be indicated by showing the percentage of federal aid participation for each group. When there is more than one Federal Project Number, each separate federal aid funding source is shown as a separate group and the appropriate Federal Project Number should be indicated.

MnDOT participation should be indicated by showing the percentage of MnDOT participation for each group. When there is more than one State Project Number, each separate state funding source is a separate group and the appropriate State Project Number should be indicated.

Local participation should be indicated by showing the percentage of local participation, and if applicable, the State Aid Project Number. Lump sum agreements should be identified with a note at the top of the column for the items applied. The notes on the SEQ sheet should state "See Lump Sum Agreement # with local governmental agency."

The funding percentages must total 100% for each column.

When space is limited at the top of the column, footnotes may be used.

The tabulation sheets need to support the quantities for each funding group shown on the estimated quantities sheets.

The Federal Project Number, State Project Number, State Aid Project Number, and Cooperative Agreement Number must be shown on the construction plan title sheet.

For further information regarding cost participation information required in the construction plan, see the "Metro Sample Plan," MnDOT Design Scene, or contact MnDOT's Design Service Engineer, the Funding Program Coordinator in the MnDOT Office of Transportation System Management, or MnDOT's Municipal Agreements Engineer.

III.A.3. Project Turn-in to MnDOT Central Office

The following documents must be submitted for a locally administered project a minimum of 11 weeks before project letting to begin preparation of the cooperative construction agreement and allow sufficient time for execution of the agreement:

1. An Agreement Submittal Checklist;
2. Original plan with a velum title sheet signed by the District (and an original bridge plan) and four copies of the plan;
3. Two copies of the proposal;
4. A colored layout which shows MnDOT and local cost participation;
5. A schedule of quantities and an estimate of construction costs, if a lump sum, then include justification for the lump sum amount;
6. Environmental Due Diligence documents, if not previously submitted to Office of Environmental Stewardship;
7. Right of Way documentation;
8. Utility Certification;
9. Quality Management Process Checklist; and,
10. A scheduled bid opening or letting date.

Project turn-in for MnDOT administered projects will be in accordance with present procedures for project turn-in and pre-letting activities.

The cooperative construction agreement is written by the Cooperative Agreements Unit, forwarded to the project manager for review and then sent to the local unit of government. The agreement is signed by each agency and agreed to by resolution from each local unit of government. The construction contract will not be awarded and the Contractor will not be allowed to commence construction activities prior to complete execution of the cooperative construction agreement and concurrence by all parties in that award.

III.A.4. Payment

III.A.4.a. By a Local Unit of Government to MnDOT

After award of the construction contract, MnDOT will revise the Schedule "I" cost estimates based on actual bid prices per the applicable method of computing cost shares, and will forward the fully-executed agreement to the local unit of government with a notice that an invoice from MnDOT will be forthcoming. MnDOT's Department of Finance will invoice the local unit of government per the terms of the agreement.

III.A.4.b. By MnDOT to a Local Unit of Government

Advance payment by MnDOT to a local unit of government is made after the award of the construction contract, per the terms of the agreement, and upon receipt of an invoice from the local unit of government.

Final payment is made after completion of all the work in the contract, final payment to the contractor, and acceptance of the work by the District Engineer.

III.B. Other Types of Agreements

III.B.1. Maintenance

A maintenance agreement is written with a local unit of government to transfer maintenance responsibilities of elements that are constructed as part of the road construction project. Maintenance agreements can also provide payment to a local unit of government for performing maintenance responsibilities that MnDOT operations would normally perform, such as snow and ice operations, patching and sweeping of the trunk highway. These agreements may be referred to as technical assistance, routine maintenance, or biennial maintenance agreements. Each District office writes maintenance agreements. If payment is required, funds are encumbered and paid by each district.

III.B.2. Detour

This type of agreement is written with another road authority for a local roadway that the district has decided to use as an official detour route, in accordance with [Minnesota Statutes §161.25 “Temporary Trunk Highway Detour; Haul Road.”](#) The districts involve all appropriate road authorities in the selection of an official detour route. Once established, the detour will become a temporary trunk highway for the duration of the detour. The detour route and payments are determined in accordance with the [1991 Detour Management Study Report](#) and updated by [Technical Memorandum No. 10-09-TS-03](#) and as follows:

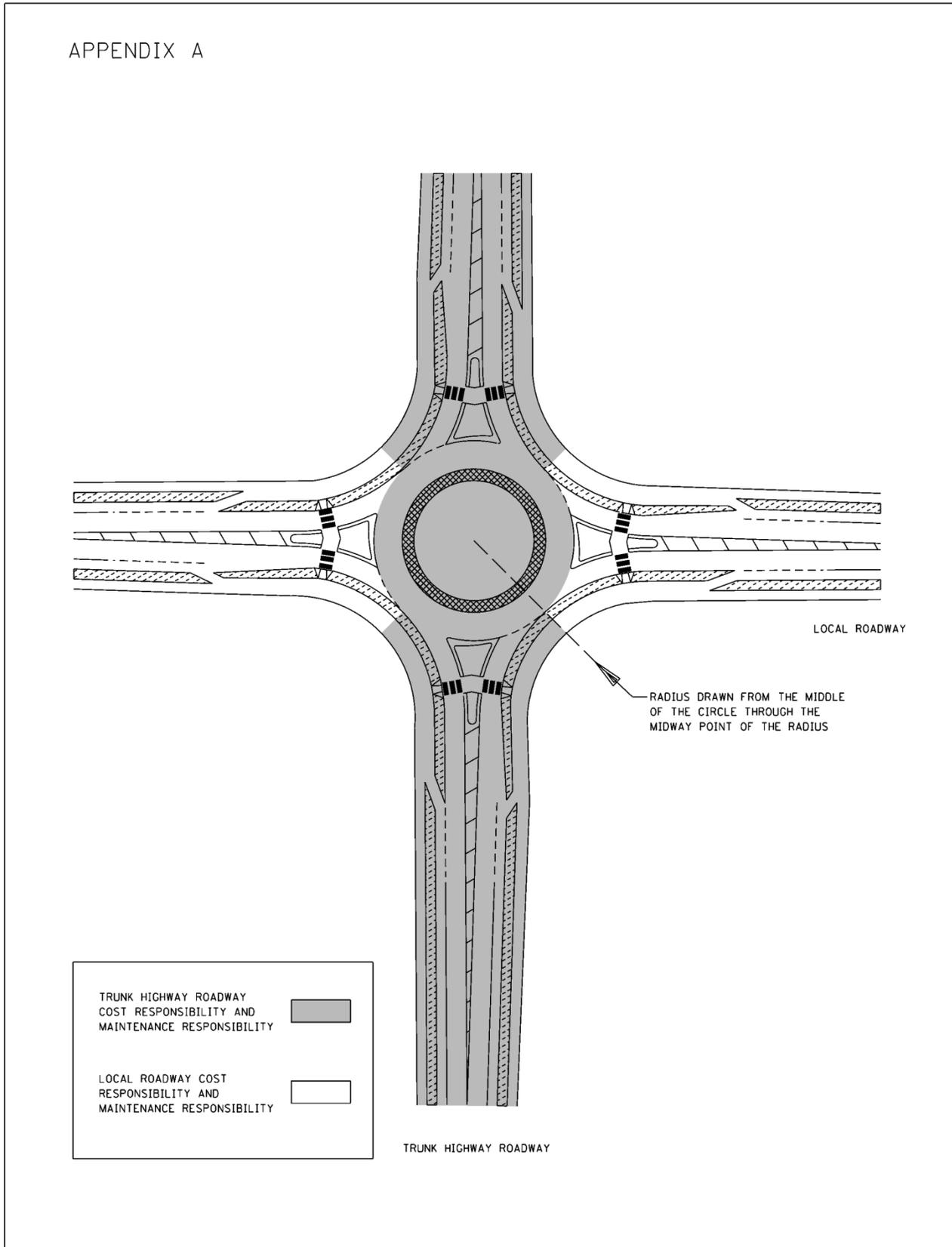
$$\text{Gas Tax Income Generated by the Detour} = \text{ADT of traffic diverted} \times \text{Length of detour (miles)} \times \text{Duration (days)} \times 0.00513$$

The District will write simple detour agreements. The Cooperative Agreements Unit will write complex detour agreements. The Cooperative Agreements Unit will encumber the funds and make the payment for all detour agreements. The District will inform the local unit of government of the removal of detour signing and the duration of the detour. No agreement is written for less than \$500.

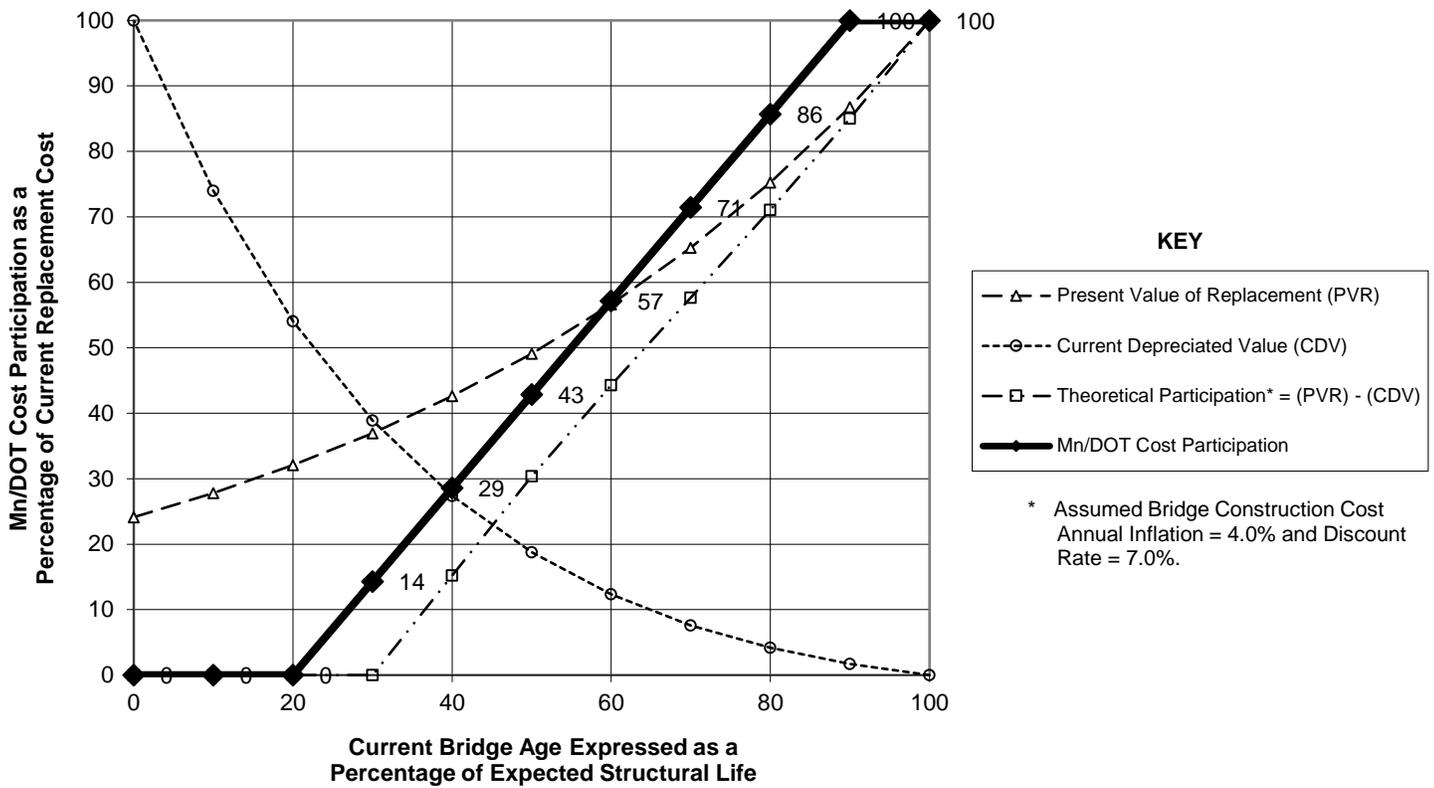
III.B.3. Unofficial Detour

This type of agreement is written with a local unit of government, most often a township, to allow MnDOT to compensate them for increased maintenance costs, over and above the average expenditures, associated with local or through-traffic using local roads rather than an official detour route that was established as part of a construction or reconstruction project. Increased costs of maintenance on the local roadway, not including improvement costs, are documented by the local road authority and submitted to the MnDOT district for payment consideration. If the district concurs in the additional costs, an unofficial detour agreement is written to provide payment to the local road authority. If MnDOT and the local road authority cannot agree upon the amount of additional maintenance costs that should be paid, the "Gas Tax Method," used for determining payment for a detour placed on paved roadways, may be used. The average daily traffic volume is used in the Gas Tax Method calculation and is limited to 25% of the traffic volumes diverted from the detoured trunk highway. An agreement or payment will not be written for less than \$500. Unofficial Detour Agreements are written by either the District or the Cooperative Agreements Unit in MnDOT's Office of Project Management and Technical Support.

Appendix A: Diagram of Cost and Maintenance Responsibilities at Roundabouts



Appendix B: MnDOT Cost Participation in Bridge Replacement Before End of Structural Life



Appendix C: Aesthetic Participation Example

The following is an example of how to determine MnDOT and local aesthetic participation on a fictitious project.

The example project is a two-mile-long project in an urban setting. It is the primary entrance into the community. The first mile is reconstruction in an area with several historic elements and properties. There is a small bridge that will be reconstructed, and small retaining walls, in the first mile of the project. The second mile of the project is major construction expansion from two lanes to four lanes. There are no unique environmental or historic elements or properties along this segment.

The estimated costs of the project prior to inclusion of costs associated with aesthetic elements are:

	<u>Cost</u>
Bridge cost	300,000
Retaining wall cost	150,000
Other MnDOT project costs	4,000,000
Local project costs	600,000
Total project costs	5,050,000

The aesthetic participation factors were determined to be:

Bridge: Considered as Participation Level A	15%
Retaining Walls: Considered as Participation Level A	10%
Other MnDOT project costs:	
Mile 1; Participation Level A, Category 2; Reconstruction	3%
Mile 2; Participation Level B, Category 1; Major construction	3%

The limits of MnDOT aesthetic participation were determined as follows:

	<u>Cost</u>	<u>MnDOT Factor</u>	<u>MnDOT Aesthetic Participation Limit</u>
Bridge	300,000 x	15%	45,000
Retaining wall	150,000 x	10%	15,000
Other MnDOT project costs	<u>4,000,000 x</u>	3%	<u>120,000</u>
Total MnDOT Aesthetic Participation costs			180,000

The visual assessment process and corridor design guide for the project identified the following aesthetic elements and associated estimated costs for the project:

Bridge aesthetic treatments	60,000
Retaining wall aesthetic treatments	40,000
Sidewalk and Median Surface Treatments	50,000
<u>Decorative roadway lighting</u>	<u>60,000</u>
Total Cost of Aesthetic Elements	210,000

For this project, the costs for the desired aesthetic elements were distributed as follows:

Aesthetic Elements	MnDOT Specific Item Participation	MnDOT Participation from Other Project Costs	Local Participation
Bridge	45,000	15,000	0
Retaining Wall	15,000	25,000	0
Sidewalk and Median	0	50,000	0
Decorative Lighting	0	0	60,000
Total	60,000	90,000	60,000

This agreement was written to reflect that all items associated with the aesthetic treatments for the bridge, retaining walls, sidewalk, and median are 100% MnDOT participation, and items associated with decorative lighting 100% local participation.

**COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES
WITH LOCAL UNITS OF GOVERNMENT**

Appendix D: Design and Construction Process for MnDOT Cooperative Agreement Projects

Cooperative Agreement Process for Work on Trunk Highway

What Kinds of Funds are Being Used?

Locate the row that indicates the funds you will be using. Click on the link under "The Process is:" column to find the correct process to follow.

T.H. Funds	T.H. Federal Funds	Local Funds	State Aid Funds	State Aid Federal Funds	* Who is Letting?	Plan/Proposal is submitted to "?" Refer to the process listed under (Note 2) for details	Federal Authorization responsibility	Comments	(Note 2) The Process is:
Yes	No	Yes	Yes	Yes	MnDOT	Central Office – Pre Letting	Pre-Letting	State Aid - signature required; Send a copy of plan to Cooperative Agreements	Defined on HPDP web site
Yes	Yes	Yes	Yes	No	MnDOT	Central Office – Pre Letting	Pre-Letting	DSAE signs (Note 1) Send a copy of plan to Cooperative Agreements, copy to State Aid	Defined on HPDP web site
Yes	No	Yes	Yes	No	MnDOT	Central Office – Pre Letting	none	DSAE signs (Note 1) Send a copy of plan to Cooperative Agreements, copy to State Aid	Defined on HPDP web site
Yes	Yes	No	Yes	Yes	MnDOT	Central Office – Pre Letting	Pre-Letting	State Aid - signature Required; Send a copy of plan to Cooperative Agreements	Defined on HPDP web site
Yes	Yes	No	Yes	No	MnDOT	Central Office – Pre Letting	Pre-Letting	DSAE signs (Note 1), Send a copy of plan to Cooperative Agreements	Defined on HPDP web site
Yes	No	Yes	No	No	MnDOT	Central Office – Pre Letting	none	Send a copy of plan to Cooperative Agreements (Note 1)	Defined on HPDP web site

* Delegated Contract Process (DCP) allowed only with Local Agencies that have approved DCP Agreement.

(Note 1) if a local bridge will be funded with bond dollars, the plan must be approved by CO State Aid.

**COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES
WITH LOCAL UNITS OF GOVERNMENT**

T.H. Funds	T.H. Federal Funds	Local Funds	State Aid Funds	State Aid Federal Funds	* Who is Letting?	Plan/Proposal is submitted to "?" Refer to the process listed under (Note 2) for details	Federal Authorization responsibility	Comments	(Note 2) The Process is:
Yes	No	Yes	Yes	No	Local Let	Central Office - Cooperative Agreements Office	none	Full MnDOT approval required. District State Aid Engineer Signs plan - for funding and approval (Note 1)	Page 68 Non-federal funds
Yes	No	Yes	Yes	Yes	Local Let	Central Office – State Aid	State Aid	State Aid - CO signature required; Send a copy of plan to Cooperative Agreements for Full MnDOT approval	Page 70 Federal funds
Yes	Yes	Yes	No	No	Local Let	Central Office - Cooperative Agreements Office	Case by Case	Full MnDOT approval required. DSAE does not sign.	Page 70 Federal funds
Yes	Yes	Yes	Yes	No	Local Let	Central Office - Cooperative Agreements Office	Case by Case	Full MnDOT approval required. DSAE signs the plan (Note 1)	Page 70 Federal funds
Yes	No	No	Yes	No	Local Let	Central Office – Cooperative Agreements Office	none	Full MnDOT approval required. District State Aid Eng. Signs plan - for funding and approval (Note 1)	Page 68 Non-federal funds
Yes	Yes	No	Yes	Yes	Local Let	Central Office – State Aid	State Aid	State Aid - CO signature Required; Send a copy of plan to Cooperative Agreements for Full MnDOT approval	Page 70 Federal funds

**COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES
WITH LOCAL UNITS OF GOVERNMENT**

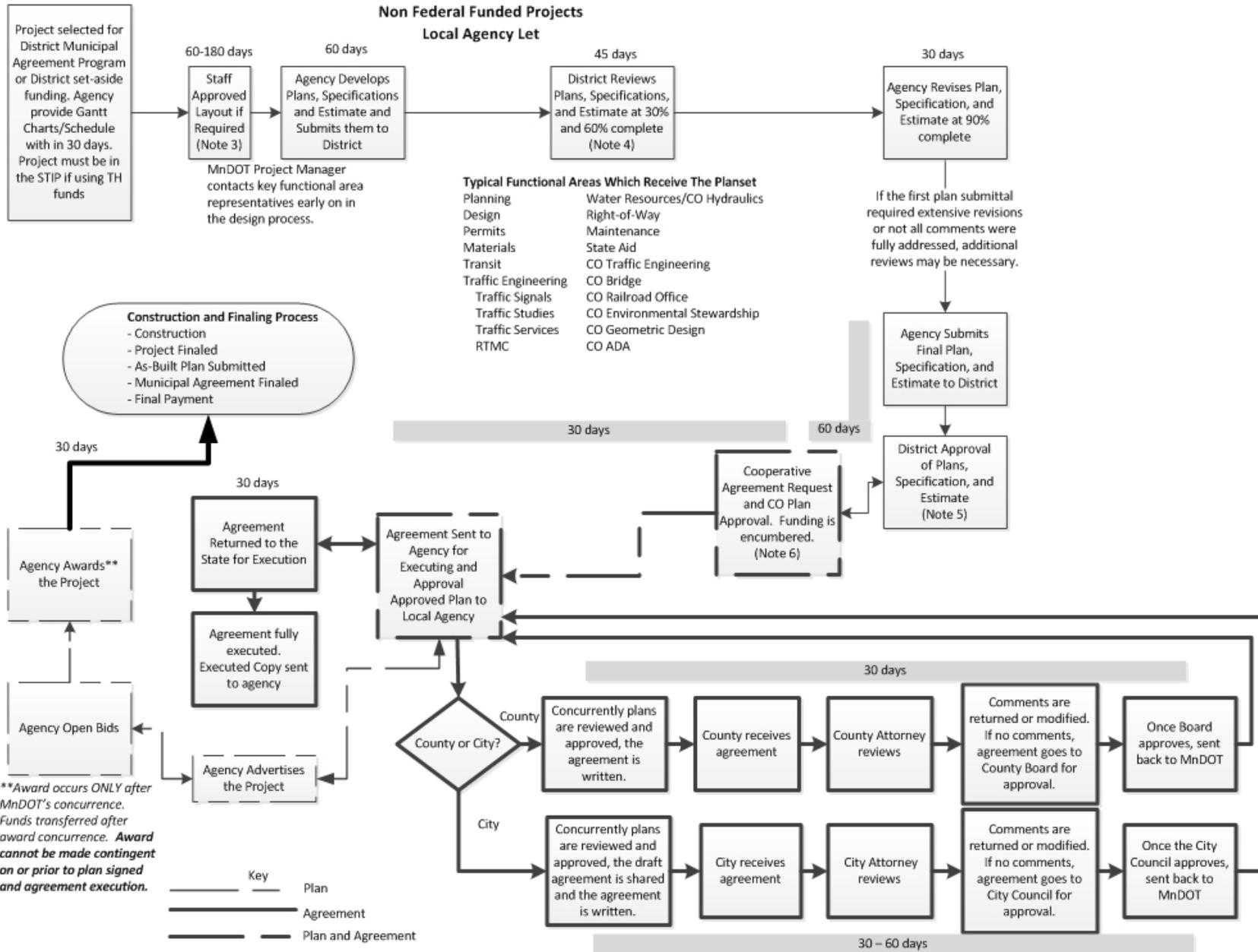
Yes	No	No	No	No	Local Let	Central Office- Cooperative Agreements Office	none	Full MnDOT approval required. DSAE does not sign	Page 68 Non-federal funds
No	No	Yes	Maybe	No	Local Let	Central Office – Cooperative Agreements Office	none	Full MnDOT approval required for all plans involving Level 1 Geometric Layout and all Bridges or tunnels to the TH only	Page 68 Non-federal funds

* Delegated Contract Process (DCP) allowed only with Local Agencies that have approved DCP Agreement.

(Note 1) if a local bridge will be funded with bond dollars, the plan must be approved by CO State Aid.

COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES WITH LOCAL UNITS OF GOVERNMENT

DESIGN AND CONSTRUCT PROCESS FOR MNDOT COOPERATIVE AGREEMENT PROJECTS



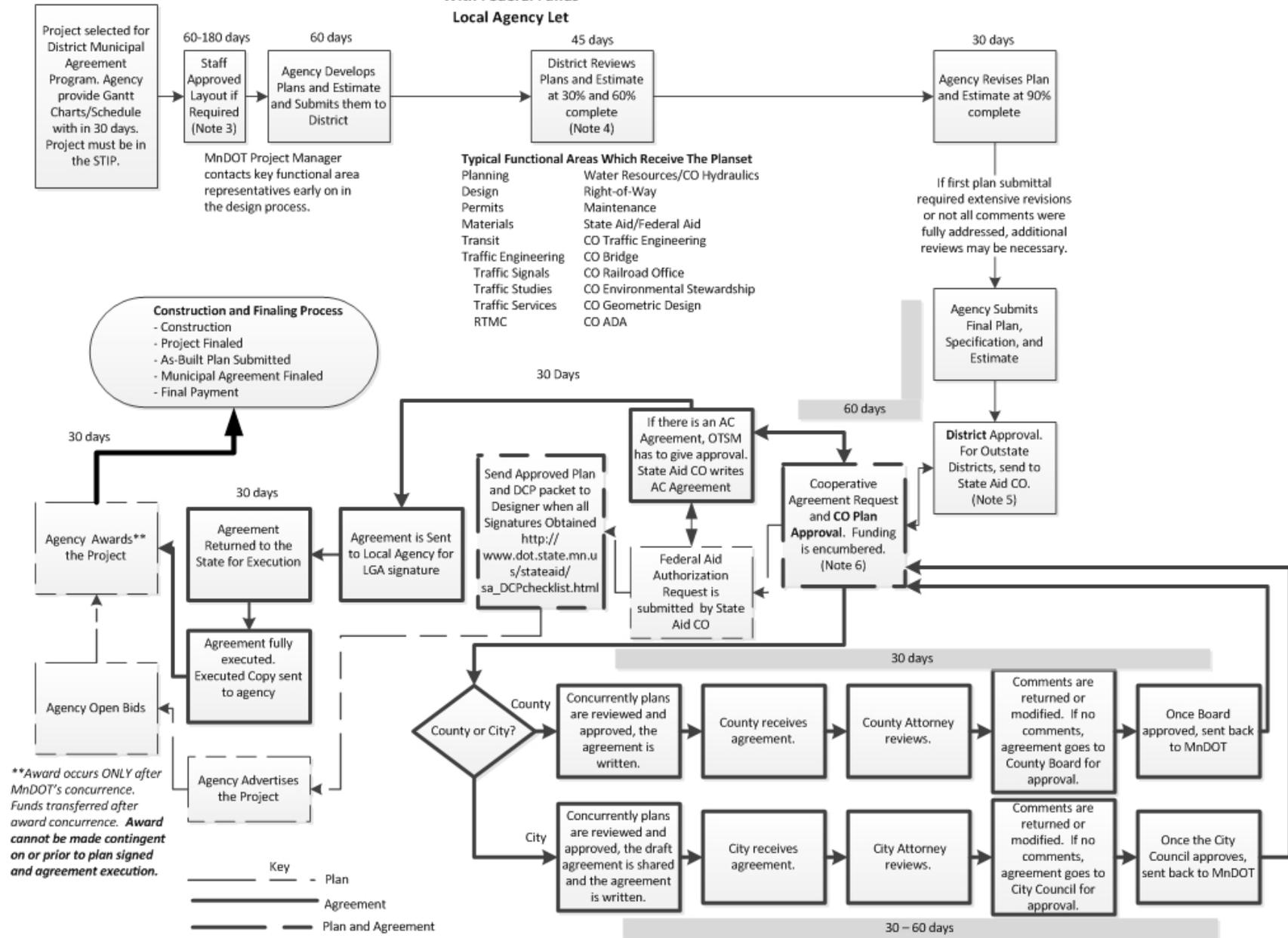
**COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES
WITH LOCAL UNITS OF GOVERNMENT**

(Note 3)	(Note 4)	District Plan Review (Note 5)	Central Office Plan Review (Note 6)
<p>Review of Layouts is first done by the District. It varies by District who does the Layout. In the Metro District there is a Layout Advisory Committee (LAC).</p>	<p>The District Project Manager has responsibility over routing the plans for review, coordinating the comments (and responding back to the Local Agency to act on the comments), and resolving disagreements with Functional Areas. The plan is signed by the District Engineer, Materials Engineer, Water Resources Engineer and Traffic Engineer. The plan is approved and signed by the State Design Engineer.</p>	<p>Transportation Engineer (signature) District State Aid Engineer* (signature) – for rules Traffic Engineer (signature) Materials Engineer (signature) Water Resources Engineer (signature) <i>* Only necessary if project uses State Aid Funding</i></p>	<p>State Pre-Letting Engineer (signature) State Design Engineer (signature) Director, Land Management (signature) State Bridge Engineer (signature)+ CO State Aid for funding (signature) - on federally funded project <i>+ If a bridge is part of a project</i></p>
<p>For simpler projects the District usually does the initial review on their own. For more complex projects it is advisable to get the CO Geometric Design Support Group (GDSU) involved.</p>			
<p>Once the Layout is approved by the District it is sent to the CO GDSU for final approval.</p>			
<p>The District’s Project Manager acts as the contact with the Local Agency.</p>			
<p>http://www.dot.state.mn.us/design/geometric/layout/index.html</p>			

COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES WITH LOCAL UNITS OF GOVERNMENT

DESIGN AND CONSTRUCT PROCESS FOR MNDOT COOPERATIVE AGREEMENT PROJECTS

**With Federal Funds
Local Agency Let**



**COST PARTICIPATION AND MAINTENANCE RESPONSIBILITIES
WITH LOCAL UNITS OF GOVERNMENT**

		District Plan Review	Central Office Plan Review
(Note 3)	(Note 4)	(Note 5)	(Note 6)
<p>Review of Layouts is first done by the District. It varies by District who does the Layout. In the Metro District there is a Layout Advisory Committee (LAC).</p>	<p>The District Project Manager has responsibility over routing the plans for review, coordinating the comments (and responding back to the Local Agency to act on the comments), and resolving disagreements with Functional Areas. The plan is signed by the District Engineer, Materials Engineer, Water Resources Engineer and Traffic Engineer. The plan is approved and signed by the State Design Engineer.</p>	<p>Transportation Engineer (signature) District State Aid Engineer* (signature) – for rules Traffic Engineer (signature) Materials Engineer (signature) Water Resources Engineer (signature)</p> <p><i>* Only necessary if project uses State Aid Funding</i></p>	<p>State Pre-Letting Engineer (signature) State Design Engineer (signature) Director, Land Management (signature) State Bridge Engineer (signature)+ CO State Aid for funding (signature) - on federally funded project</p> <p><i>+ If a bridge is part of a project</i></p>
<p>For simpler projects the District usually does the initial review on their own. For more complex projects it is advisable to get the CO Geometric Design Support Group (GDSU) involved.</p>			
<p>Once the Layout is approved by the District it is sent to the CO GDSU for final approval.</p>			
<p>The District’s Project Manager acts as the contact with the Local Agency.</p>			
<p>http://www.dot.state.mn.us/design/geometric/layout/index.html</p>			

GLOSSARY

Auxiliary Lane

An auxiliary lane is the portion of a roadway that is adjacent to a through-lane and is used for passing, weaving, truck climbing, or other purposes that promote the safe and efficient movement of through-traffic. A parking lane is not an auxiliary lane.

Cities of the First Class

Cities of the first class are those cities having more than 100,000 inhabitants.

Commissioner

The Commission of Transportation or the duly appointed Deputy Commissioner, or other designee of the Commissioner.

Cooperative Construction Agreement

A cooperative construction agreement is an agreement between MnDOT and a local unit of government pursuant to [Minnesota Statutes § 161.20 “General Powers of the Commissioner,”](#) [Minnesota Statutes § 161.38 “Special Agreements for Highways in Municipalities,”](#) and [Minnesota Statutes § 161.45 “Utility of Highway Right-of-Way; Relocation,”](#) concerning construction and/or maintenance in which both parties have an interest.

Cooperative Construction Project

A cooperative construction project is a construction project that includes trunk highway and local road improvements in which costs and/or maintenance responsibilities are shared between MnDOT and local units of government.

Cooperative Construction Items

Cooperative Construction items are items in a cooperative construction project that have cost-sharing responsibilities, as identified in accordance with this Manual.

Coordinated Traffic Control Signal Systems

Coordinated traffic control signal systems consist of interconnected signal systems timed to maximize the efficiency of the whole system.

Design

Design includes, but is not limited to, the preparation of detailed construction plans, construction specifications and an engineer's cost estimate.

District

A district is one of the eight organizational subdivisions of the Minnesota Department of Transportation.

Enforcement Light

An enforcement light is a light placed on a signal system to allow law enforcement officers to verify a red indication from a vantage point that is safe to pursue a vehicle that runs a red light.

Expressway

An expressway is a trunk highway of four or more through-lanes with a divided median, at-grade intersections, or a combination of interchanges and at grade intersections, with partial or full access control.

Federal Funds

Federal appropriations for transportation purposes received on a reimbursable basis through the Federal Highway Administration.

FHWA – Federal Highway Administration

“The Federal Highway Administration (FHWA) provides leadership, guidance, and direction to State Departments of Transportation in the planning, construction and maintenance of transportation projects. Working collaboratively with State partners, FHWA Division Offices ensure that the nation's roads, bridges and tunnels are safe and continue to support economic growth and environmental sustainability. Additionally, to ensure accountability, the FHWA Division Offices work with the State to develop, track and analyze activities and recommend innovative techniques and strategies to improve the performance of the transportation system. FHWA and its Division Offices are responsible for working with State Departments of Transportation to ensure that the nation's strategic investments preserve and modernize the U.S. highway system - and ultimately to save lives.” [Federal Highway Administration Minnesota Division website](#).

Freeway

A divided arterial highway with full control of access (23 CFR § 645.207)

Frontage Road

A frontage road is a roadway that provides for local traffic circulation while controlling access to the trunk highway. In accordance with [Minnesota Statutes §161.38 “Special Agreements for Highways in Municipalities,”](#) subdivision 3 “Frontage road,” a frontage road may be directly adjacent to the main traveled lanes of the trunk highway or may be constructed a reasonable distance from the limits of the trunk highway right-of-way if, in the judgment of the commissioner, such location is necessary to eliminate unreasonable circuitry of travel or to provide access to properties otherwise denied access to public highways by construction of the trunk highway. Such frontage roads will connect at least at one end with the trunk highway or with another public highway.

Grade Separation

A grade separation is any bridge or structure that vertically separates modes of travel, such as bridges carrying a roadway over/under another roadway, or bridges carrying a trail over/under a roadway.

Highway

A general term denoting a public way for the transportation of people, materials, goods, and services but primarily for vehicular travel, including the entire area within the right of way.

Interchange

An interchange connects two roadways that are grade-separated. A system of ramps and/or loops provides for turning movements between the roadways. An interchange may include frontage roads, auxiliary lanes, signals, signs, lights and other items.

Intersection

An intersection connects two roadways that are not grade-separated. An intersection may include turn lanes, auxiliary lanes, signals, signing, lighting and other items.

Intelligent Transportation System (ITS)

ITS is the application of advanced technologies, information systems and management techniques to improve the safety and operation of transportation systems.

Legs of an Intersection

Legs of an intersection are the physical roadways of the intersection, including interchange ramp legs which require a signal. A leg may carry two-way traffic, one-way traffic going either direction or may be exclusively pedestrian traffic (e.g., mid-block pedestrian crossing).

Local Roadway

A local roadway is a roadway under the jurisdiction of a local unit of government.

Local Unit of Government

A road authority other than MnDOT, including but not limited to a municipality including cities, counties or townships in accordance with [Minnesota Statutes §161.38 “Special Agreements for Highways in Municipalities,”](#) subdivision 5 “Definition of municipalities” or other governing authorities, such as park boards, other state agencies or other states.

Locally-administered Project

A locally-administered transportation project is a project in which a local unit of government performs the construction contract administration.

Locally-initiated Project

A locally-initiated project is a transportation project in which the need, scope, or means to accomplish the project is predominantly a determination of, and priority for, the local unit of government, regardless of who is administering the project.

MnDOT-administered Project

A MnDOT-administered project is a transportation project in which MnDOT performs the construction contract administration.

MnDOT-initiated Project

A MnDOT initiated project is a transportation project in which the need, scope, or means to accomplish the project is predominantly a determination of and priority for MnDOT.

Parking Lane

A parking lane is the portion of a roadway adjacent to a through-lane and is used for on street parking.

Pedestrian Hybrid Beacon

A pedestrian hybrid beacon is a special type of hybrid beacon (a beacon that is intentionally placed in a dark mode, with no indication displayed, between periods of operation and, when operated, displays both steady and flashing traffic control signal indications) used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.

Right of Way

Real property or interests therein, acquired, dedicated or reserved for the construction, operation, and maintenance of a highway.

Road

See highway.

Roadway

Roadway is that portion of a highway improved, designed, or ordinarily used for vehicular travel, exclusive of the sidewalk or shoulder. During periods when the commissioner allows the use of dynamic shoulder lanes as defined in [Minnesota Statutes § 169.011 “Definitions,” subdivision 25 “Dynamic shoulder lanes.”](#) roadway includes that shoulder.

Shoulder

Shoulder is that part of a highway which is contiguous to the regularly traveled portion of the highway and is on the same level as the highway. The shoulder may be pavement, gravel, or earth.

State Road Construction

State road construction is the actual construction, reconstruction, and improvement of trunk highways, including right-of-way.

State Road Construction Account

The State Road Construction (SRC) account is the biennial appropriation of funds by the legislature which may only be expended for trunk highway purposes. This appropriation is comprised of federal aid funds made available to MnDOT and state funds dedicated to the trunk highway fund. All funds allocated to the State Road Construction account are subject to requirements and restrictions of the account, specifically that funds may only be expended for trunk highway purposes, regardless of the original source of the funds.

State Transportation Improvement Program (STIP)

The STIP is a federally required document that provides a list of transportation projects that are expected to be funded with federal transportation dollars within a four-year window. This list of projects includes state and local transportation projects funded with federal highway or federal transit funds. Minnesota also includes most projects on the state trunk highway system regardless of funding source (federal or state). Rail, port, and aeronautic projects are included for information purposes. Refer to the website for details, [State Transportation Improvement Program](#).

Street

See highway.

Studies and Preliminary Engineering

A process of research and fact-finding that includes, but is not limited to, traffic analysis, needs analysis, alternative development and evaluation, geometric design layouts and environmental documents, and associated mapping, visualization, surveys, traffic counts, public and agency involvement, soil boring and other necessary data gathering prior to commencing a roadway design.

Surfacing

Surfacing consists of roadway pavement, including aggregate, bituminous, and concrete base courses, but does not include curb and gutter.

Through-lane

A through-lane is that portion of a roadway available for the movement of vehicles, excluding shoulders, turn lanes, auxiliary lanes and parking lanes.

Touchdown Point

A touchdown point is the limit of construction necessary to match trunk highway improvements with the existing alignment, grade, and geometric design of the intersecting street.

Traffic Control Signal System

A type of highway traffic control signal by which traffic is alternately directed to stop and permitted to proceed. Integral components of the traffic control signal include the control equipment, interconnect hardware, fiber, or wireless equipment, camera systems, electrical wiring, signal hardware, Accessible Pedestrian Signal (APS) equipment, intersection roadway lighting, intersection roadway signs, and emergency vehicle preemption, and other minor construction, such as curb, sidewalk, pedestrian curb ramps and minor surfacing considered to be a necessary element of the traffic control signal system. Also included within this definition are pedestrian signals, pedestrian hybrid beacons, and flashing beacons at intersections.

Traffic Control Signal System Operation

Traffic Control Signal System Operations consists of all aspects of timing, timing studies and optimization, monitoring, responding to inquiries, field review, and functional checks of a traffic control signal system.

Trunk Highway Fund

This fund is the principal operating fund for MnDOT, and to some extent for the Department of Public Safety. It is a governmental fund that accounts for public monies used to construct, maintain, and operate Minnesota's trunk highway transportation infrastructure. Annual transfers of funds to the Minnesota Management & Budget (MMB) debt service account in the state debt service fund are also made from this fund.

Trunk Highway System

All roads established or to be established under the provisions of Article XIV, Section 2 of the Constitution of the State of Minnesota. This system includes highways that are constructed, improved, and maintained as public highways under the jurisdiction of the Commissioner of Transportation, including highways on the Interstate system.