

Glossary of Terms

GLOSSARY OF TERMS

The primary source of information for this glossary is the *AASHTO Transportation Asset Management Guide: A Focus on Implementation* (AASHTO 2011)

Asset: The physical transportation infrastructure (e.g. travel way, structures, other features and appurtenances, operations systems, and major elements thereof); more generally, can include the full range of resources capable of producing value-added for an agency: human resources, financial capacity, real estate, corporate information, equipment and materials, etc.; an individual, separately-managed component of the infrastructure (e.g. bridge deck, road section surface, streetlight).

Asset Management (AM): A strategic approach to managing transportation infrastructure. It focuses on business processes for resource allocation and utilization with the objective of better decision making based upon quality information and well-defined objectives.

Asset Management System: An integrated set of procedures, tools, software, and data intended to support proactive management decision making regarding the preservation, improvement, and replacement of assets.

Capital Investment: A type of investment that generally involves construction or major repair; includes the construction of new assets, reconstruction or replacement of existing assets, structural and functional improvements to existing assets, and rehabilitation of existing assets; when precision is required, capital refers to work that is funded under the agency's capital budget according to agency policy.

Deterioration Model: A mathematical model to predict the future condition of an asset or asset element, if no action, or only un-programmed maintenance, is performed.

Direct Costs: Costs of an agency activity that are directly related to the quantity of work (e.g. labor, material, equipment usage, contract pay items).

Equivalent Uniform Annual Cost (EUAC): Net present value, converted to an annuity (uniform annual monetary amount) or perpetuity.

Expected Outcomes: These are forecasted outcomes based on predictive modeling.

Gap Analysis: A tool for drilling down into the detail of the transportation asset management processes which uses the maturity model as its scale.

Health Index: Weighted average computed over the elements of an asset and a set of condition criteria, of the percent of each element that satisfies each criterion. It may be described by terms such as bridge condition rating or index, or pavement condition rating or index.

Indirect Costs: The cost of implementing a programmed activity, including direct and indirect costs. In capital budgeting analyses, initial cost is interpreted as the direct reduction in available budget as a result of a commitment to the activity.

Level of Service (LOS): Qualitative measures related to the public's perception of asset condition or of agency services; used to express current and target values for maintenance and operations activities.

Life Cycle: A length of time that spans the stages of asset construction, operation, maintenance, rehabilitation, and reconstruction or disposal/abandonment; when associated with analyses, refers to a length of time sufficient to span these several stages and to capture the costs, benefits, and long-term performance impacts of different investment options.

Life-Cycle Cost: Net present value (or equivalent uniform annual cost) of the sequence of monetary costs and benefits in a life-cycle activity profile. In the context of a life-cycle cost analysis, LCC should be defined as to the types of costs it includes; for example whether un-programmed maintenance or user costs (or both) are included, as well as inflationary assumptions about the cost stream.

Maturity Model: A concept used to specify the relative position of the agency for each transportation asset management process.

Performance: Characteristic of an asset that reflects its functionality or its serviceability as perceived by transportation users; may be related to condition.

Performance Gap: The gap between an asset's current condition/performance and a defined target or threshold value; implies need for work.

Performance Measure: An indicator, preferably quantitative, of service provided by the transportation system to users; the service may be gauged in several ways (e.g. quality of ride, efficiency and safety of traffic movements, services at rest areas, quality of system condition, etc.).

Periodic Maintenance: Maintenance or repair activity that is conducted on a fixed schedule according to manufacturer recommendations, research recommendations, or a maintenance intervention strategy (e.g. light bulb replacement, vehicle maintenance).

Plan Outcomes: These describe performance outcomes that are consistent with MnDOT financially constrained spending priorities. *Targets* and *Plan Outcomes* are not mutually exclusive.

Preservation: Actions to deter or correct deterioration of an asset to extend its useful life; does not entail structural or operational improvement of an existing asset beyond its originally designed strength or capacity.

Preventive Maintenance: Proactive maintenance approach that is applied while the asset is still in good condition; extends asset life by preventing the onset or growth (propagation) of distress.

Prioritization: Arrangement of investment candidates in descending order according to their importance to the agency mission (usually represented by an objective function or benefit measure) in relation to their initial cost.

Reactive Maintenance: Emergency or other un-programmed time-sensitive maintenance or repair that arises as a response to observed defects or performance problems (e.g. small bridge deck repairs, traffic signal repairs, incident response).

Rehabilitation: An event consisting of multiple treatments intended to correct physical or functional defects that impair the satisfaction of a level of service standard that the asset may previously have satisfied. It may include replacement of parts of the asset but not the entire asset, and is generally understood to be more significant in scale than a repair.

Repair: Treatment applied in order to correct a physical or functional defect that impairs the satisfaction of a level of service standard that the asset may previously have satisfied. Repairs are usually understood as intermediate in scale between maintenance and rehabilitation. Specific instances of repairs may be programmed or un-programmed according to agency policy.

Replacement: Disposal of an existing asset and substitution of a new asset serving the same functional requirements and possibly additional requirements in the same location; replacement-in-kind is a type of replacement where the new asset is substantially similar in function to the old asset, following the principle of modern engineering equivalence.

Risk (of an asset): The possibility of adverse consequences related to an asset from natural or man-made hazards. Generally consists of the likelihood of the hazard, the consequences of the hazard to the asset, and the impact of asset damage or malfunction on the mission of the asset or on life, property, or the environment.

Routine Maintenance: Un-programmed, non-urgent maintenance activities undertaken by crews that are scheduled on a daily, weekly, or monthly basis (e.g. street cleaning, drainage inspection and maintenance, bridge washing).

Strategic: A view of assets that is policy-based, performance-driven, long-term, and comprehensive.

Targets: A fixed benchmark against which MnDOT evaluates past, present, and future performance.