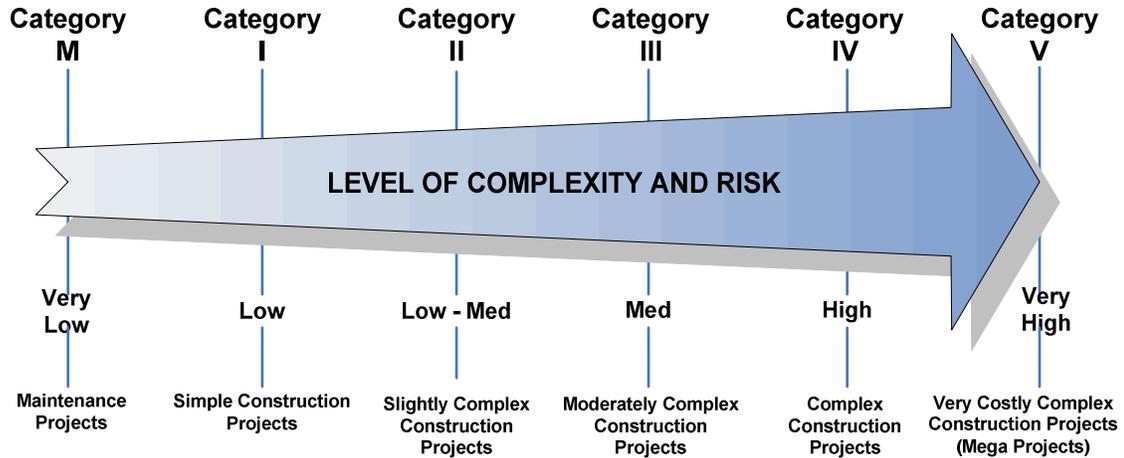


PROJECT CATEGORIES

Projects undertaken by VDOT vary in size, complexity, and risk; therefore, a one-size fits all approach to project management is unsuitable. Hence, a project ranking system has been defined to group projects by category based primarily on level of complexity and risk. The categorization of projects allows for a statewide consistent approach to scheduling and to ensure that the appropriate scheduling provision is applied. This is necessary to ensure that the appropriate level of scheduling efforts needed to establish and maintain schedule control on the project is applied.



Project Category – Level of Complexity and Risk

The VDOT project ranking system consists of six categories representing varying levels of complexity and risk ranging from very low to very high. Category M is the lowest, which represents typical maintenance projects and schedule type work. Categories I through V represent typical construction projects ranging from simple to very complex. Characteristics of each project category are described as follows:

- 1. Category M** – Category M is the lowest level of the project ranking system, which represents typical maintenance contracts and seasonal schedule type work of very low complexity and risk. For such projects, specific timeframes for accomplishing the work is not a major constraint. Generally, a full construction season is given to allow for flexibility in planning and scheduling the Work. Therefore, Category M projects do not require the level of scheduling efforts typically needed for construction projects.

A. Criteria for Category M Projects – Category M projects must generally meet the following criteria:

- i) Typical seasonal maintenance and schedule type work generally with contract duration of one construction season or less (Time is not a major constraint); or
- ii) Simple repairs or straight-forward maintenance work; and
- iii) Minimal traffic impact or limitations to the Work; and

iv) No involvement with other major construction or improvement projects.

B. Examples of Category M Projects – The following are typical Category M projects:

- Pavement schedules (Asphalt overlay, surface treatments & slurry seals);
- Bridge joint repairs;
- Bridge painting (minimum traffic impact);
- Guardrail improvements;
- Curb and gutter repair/replacement;
- Raised pavement marker installation, lens replacement;
- Pavement marking schedules;
- Minor Bridge repair (District wide, minor miscellaneous);
- Rumble strip installation;
- Slope slide repair, scour repair;
- Ground mounted sign maintenance/replacement;
- Incidental concrete repair;
- Pipe culvert rehabilitation;
- Bridge cleaning;
- Retaining wall/ Sound wall repair;
- Signal maintenance & repair (District wide).

C. Category M Scheduling Requirements – Category M scheduling requirements are based on the basic scheduling information necessary for the Department to coordinate all work required to complete the Contract and to communicate with the public. The schedule information will also be used to plan for and manage the Department's cash flow, resources, and traffic. The Category M Schedule of Operations submission requirements are as follows:

- i) An Initial Plan of Operations in the form of a written narrative to provide a description of the overall plan and intended sequence of progress.
- ii) An Initial Schedule of Operations showing in a tabular format, the period of time within which work at each location, route, or segment of Work as delineated in the contract will be accomplished. A bar-chart or CPM schedule may be substituted, at the contractor's option.
- iii) Every week, on a day agreed to by the Contractor and the Engineer, the Contractor is required to provide a Two-week Look-ahead (TWLA) schedule to show the detailed

schedule of work planned for the following two weeks. The TWLA schedule may be provided in a tabular or bar-chart format.

2. **Category I** – Category I is the lowest level of the project ranking system for typical construction projects, which represents small, simple, low risk, and short duration construction projects. Such projects involve limited and straight-forward operations with limited project constraints and minimal or no traffic impact.

A. Criteria for Category I Projects – Category I projects must generally meet the following criteria:

- i) Contract duration of one construction season or less (typically short durations); or
- ii) Estimated contract value of \$1 million or less; and
- iii) Limited items of work; and
- iv) Simple operations in familiar and favorable conditions; and
- v) Minimal traffic impact or limitations to the Work; and
- vi) Does not include utility adjustments or relocations; and
- vii) Contract does not contain any Special Provisions for special time-related conditions, such as Interim Contract Milestones, A+B Bidding, Insensitive/Disincentive, or Lane Rental; and
- viii) Project has no major materials delivery restrictions, environmental impacts, delayed right-of-way acquisitions or access, or other similar constraints and restrictions.

On a case by case basis, certain single-season simple and low risk projects with estimated contract value greater than \$1M that generally meet the criteria listed above may qualify as Category I, as determined by the Area Construction Engineer (ACE);

On a case by case basis, certain Federal Oversight (FO) maintenance projects or time sensitive maintenance projects with traffic impact may qualify as Category I, as determined by the ACE. Such projects may include concrete pavement repairs or overlay work on major corridors or certain relatively complex time sensitive maintenance projects that are involved with major construction or improvement projects. In such cases, the ACE should consult with the State Construction Scheduler for concurrence.

B. Examples of Category I Projects – The following are typical Category I projects:

- Rural grade, drain, & pave of unpaved roads (may include minor horizontal & vertical alignment changes and rural rustic projects with drainage work);
- Minor bridge deck repair & concrete overlay (may include multiple bridges);
- Break, seat, & overlay concrete pavement;
- Spot improvements (multiple locations any of: incidental concrete, minor widening, enhanced pavement marking, & sign installation);
- Building demolition in advance of construction projects;

- Retaining wall installation or extensive repair;
- Minor bridge substructure repairs (with traffic impact);
- Bridge painting (multiple locations or with traffic impact);
- Minor urban reconstruction & improvement (could include curb & gutter and sidewalks; new or extended turn lanes);
- Surface reclamation, sub-grade stabilization & overlays;
- Bridge steel repair (with traffic impact);
- Signal installation – Site specific (w/o intersection improvements, no regional on-call installations);
- Overhead sign installation & lighting installations (multiple locations & or significant amount of lighting);
- Simple concrete pavement repair and/or asphalt overlay (major corridor, minimum traffic impact).

C. Category I Scheduling Requirements – Category I scheduling requirements are based on the basic scheduling information needed to communicate the Contractor’s work plan and to assess progress of the Work. The schedule information will also be used to plan for and manage the Department’s resources, expenditures, traffic, as well as to communicate with the general public. The Category I Progress Schedule submission requirements are as follows:

- i) A written Baseline Progress Schedule Narrative describing the contractors initial proposed sequence and work plan.
- ii) A Baseline Progress Schedule showing in a tabular format, the times within which the individual activities that make up the project will be accomplished. A bar-chart or CPM schedule may be substituted, at the contractor’s option.
- iii) A Progress Earnings Schedule (Form C-13C) to show the planned progress for each month in terms of percent complete. Percent complete is based on cumulative anticipated earnings relative to the total contract value.
- iv) A two-week look-ahead schedule due every week to show the detail schedule for work planned for the following two weeks.
- v) A revision of the Baseline Progress Schedule is required when the schedule has been significantly impacted by a change in the Work or condition or the contractor has deviated significantly from his baseline plan or schedule.

3. Category II – Category II represents slightly complex and relatively small to medium size construction projects that are typically completed in one or two construction seasons. Category II projects typically involve a limited number of straightforward contiguous, linear, or repetitive operations with typical project constraints and minimal traffic impact. Category II may also include certain multi-season low risk projects with minimal constraints or traffic impact. Such projects may involve simple repetitive or linear operations performed at multiple locations. They

may also involve typical low risk widening projects in a rural setting, involving a limited number of straightforward contiguous or linear operations.

A. Criteria for Category II Projects – Category II projects must generally meet the following criteria:

- i) Contract duration of one construction season or less (may be two construction seasons, but involve simple linear or repetitive operations); or
- ii) Estimated contract value generally less than \$3 million; and
- iii) Limited number of straightforward contiguous or linear operations; and
- iv) Low to medium traffic impact; and
- v) Typical conditions and limitations to the work; and
- vi) May include minimal utility adjustments; and
- vii) Contract does not contain Special Provisions for special time-related conditions, such as Contract interim milestones, Incentives/Disincentives, A+B bidding, or Lane Rental, etc.; and
- viii) Project has no major materials delivery restrictions, environmental impacts, right-of-way acquisitions, or other similar constraints and restrictions.

On a case by case basis, certain slightly complex and low to medium risk projects with estimated contract value over \$3M that generally meet the criteria listed above may qualify as Category II, as determined by the ACE.

On a case by case basis, certain high-volume Federal Oversight (FO) maintenance projects or relatively complex maintenance projects that involve multiple items of work, multiple schedule constraints, or significant traffic impact may qualify as Category II, as determined by the ACE. Such projects may include concrete pavement repairs or overlay work on major corridors or certain relatively complex time sensitive maintenance projects that are involved with major construction or improvement projects. In such cases, the ACE should consult with the State Construction Scheduler for concurrence.

B. Examples of Category II Projects – The following are typical Category II projects:

- Urban grade, drain, & pave projects of low to medium complexity;
- Rural new construction or reconstruction grade separation roadway and bridge projects (low to medium size and complexity);
- Complex reconstruction and improvements, including widening and multiple turn lanes that may include utility adjustments;
- Major bridge substructure repairs (with low to medium traffic impact);
- Bridge deck replacements, such as multi-span or over railroads;
- Major bridge deck repair & concrete overlay (multi-span or over railroads);
- Intersection improvements with lighting and/or signal installation;

- Bridge & drainage structure replacements (frequently single span with limited approach work);
- Major drainage improvements;
- Complex concrete pavement repair and/or asphalt overlay (major corridor, significant traffic impact);
- Multi-season bridge painting (with low to medium traffic impact).

C. Scheduling Requirements for Category II – As the amount of work, project duration, or level of complexity and associated risks increases, a scheduling tool that can graphically depict the sequence and timing of the activities in a time-scale format is required to effectively communicate the Contractor's plan of operations and the intended sequence of progress. The Category II Progress Schedule submission requirements are as follows:

- i) A written Baseline Progress Schedule Narrative describing the contractor's initial proposed sequence and work plan.
- ii) A Baseline Progress Schedule showing in a bar-chart format, the times within which the individual activities that make up the project will be accomplished. A CPM schedule may be substituted, at the contractor's option.
- iii) A Progress Earnings Schedule (Form C-13C) to show the planned progress for each month in terms of percent complete. Percent complete is based on cumulative anticipated earnings relative to the total contract value.
- iv) A monthly update of the Progress Schedule and Progress Earnings Schedule is required to show the actual progress and the current plan to complete the remaining work.
- v) A revision of the Baseline Progress Schedule is required when the schedule has been significantly impacted by a change in the Work or condition or the contractor has deviated significantly from his baseline plan or schedule.

4. Category III – Category III represents moderately complex, medium risk, and medium-size projects that are typically completed within two or three construction seasons. Category III projects typically involve a limited number of concurrent operations with typical project constraints and/or traffic impact. Category III projects may also include certain medium to large size multi-season low risk projects of relative complexity. Such as limited span bridge widening or interchange projects in a rural setting with typical constraints and minimal traffic impact.

A. Criteria for Category III Projects – Category III projects must generally meet the following criteria:

- i) Med-size projects with contract duration generally spanning 2-3 construction seasons; or
- ii) Estimated contract value generally between \$3M and \$10M; and
- iii) Limited number of concurrent work-paths; and

- iv) Medium limitations to the work and traffic impact; and
- v) Limited number of utility adjustments; and
- vi) Contract does not contain Special Provisions for special time-related conditions, such as Contract interim milestones, Incentives/Disincentives, A+B bidding, or Lane Rental, etc.; and
- vii) Project has no major materials delivery restrictions, environmental impacts, right-of-way acquisitions, or other similar constraints and restrictions.

On a case by case basis, certain moderately complex and medium risk projects with estimated contract value over \$10M that generally meet the criteria listed above may qualify as Category III, as determined by the ACE.

On a case by case basis, certain high-volume Federal Oversight (FO) maintenance projects or relatively complex maintenance projects that involve multiple items of work, multiple schedule constraints, and/or significant traffic impact may qualify as Category III, as determined by the ACE. Such projects may include major concrete pavement repairs or overlay work on major corridors or certain relatively complex time sensitive maintenance projects that are involved with major construction or improvement projects. In such cases, the ACE should consult with the State Construction Scheduler for concurrence.

B. Examples of Category III Projects – The following are typical Category III projects:

- Intersection improvements, including widening and multiple turn lanes with utilities, lighting and/or signal installation (with medium complexity and traffic impact);
- New roadway/bridge construction or extension projects (medium size, complexity, and traffic impact);
- Bridge deck replacements (multi-span, medium traffic impact);
- Bridge & drainage structure replacements (limited span with approach work);
- Bridge reconstruction/widening projects (medium size, complexity, and traffic impact).

C. Scheduling Requirements for Category III – As the number of operations or level of complexity and associated risks grow a scheduling tool that allows for adequate planning and scheduling of multiple concurrent activities with considerations for associated project constraints is needed to execute and control the Work. Such scheduling method will require that sufficient details and activity relationships are added to establish inter-dependencies between related activities to form network paths, with which the activities are scheduled. This is necessary to aid the project staff in efficiently planning and managing the Work and available resources. It is also necessary that the project critical path and the minimum time needed to complete the project are established. The Category III Progress Schedule submission requirements are as follows:

- i) A Preliminary Progress Schedule to provide a start-up schedule to execute and monitor the Work for the first sixty (60) calendar days.
- ii) A written Baseline Progress Schedule Narrative describing the contractors initial proposed sequence and work plan.

- iii) A Baseline Progress Schedule showing in a CPM format, the times within which the individual activities that make up the project will be accomplished.
- iv) A Baseline Progress Earnings Schedule (Form C-13C) to show the planned progress for each month in terms of percent complete. Percent complete is based on anticipated earnings relative to the total contract value.
- v) A monthly update of the Progress Schedule and Progress Earnings Schedule is required to show the actual progress and the current plan to complete the remaining work.
- vi) A revision of the Baseline Progress Schedule is required when the schedule has been significantly impacted by a change in the Work or condition or the contractor has deviated significantly from his baseline plan or schedule.

5. Category IV – Category IV represents complex, high risk, and medium to large size projects that are typically completed within three or more construction seasons. Category IV projects typically involve multiple concurrent operations with substantial project constraints and/or traffic impact. Such projects include, but are not limited to new, reconstruction, extension, or widening/improvements of medium to large roadway/bridge projects with substantial constraints and/or traffic impact. Category IV projects may also include certain med-size high-risk projects of relative complexity that include provisions for special time-related constraints or conditions as described below.

A. Criteria for Category IV Projects – Category IV projects must generally meet the following criteria:

- i) Medium to large size projects with contract duration generally spanning 3 or more construction seasons; or
- ii) Estimated contract value generally between \$10M and \$75M; or
- iii) Contract contain Special Provisions for special time-related conditions, such as Contract interim milestones, Incentives/Disincentives, A+B bidding, or Lane Rental, etc.; and
- iv) Multiple concurrent work-paths; and
- v) Complex construction staging, phasing, or MOT issues; and
- vi) Complex constructability issues; and
- vii) Substantial traffic impact and limitations to the work; or
- viii) May include major utility relocation/adjustments; and
- ix) Project has no major materials delivery restrictions, environmental impacts, right-of-way acquisitions, or other similar constraints and restrictions.

On a case by case basis, certain relatively complex and high risk projects with estimated contract value less than \$10M that generally meet the criteria listed above may qualify as Category IV, as determined by the ACE. In such cases, the ACE should consult with the State Construction Scheduler for concurrence.

On a case by case basis, certain relatively complex and high risk projects with estimated contract value over \$75M that generally meet the criteria listed above may qualify as Category IV, as determined by the ACE.

B. Examples of Category IV Projects – The following are typical Category IV projects:

- Major urban intersection improvements, including widening and multiple turn lanes with utilities, lighting and/or signal installation (medium to large size, complex, and significant traffic impact);
- Rural/Urban new construction or reconstruction grade separation roadway and bridge projects (medium to large size, complex, major corridor);
- Major bridge deck replacements (substructure repairs, multi-span, multi-lane, major corridor, with significant traffic impact);
- Major bridge & drainage structure replacements (multi-span with extensive approach work);
- Major widening projects (medium to large size and complexity, major corridor, with significant traffic impact).

C. Scheduling Requirements for Category IV – As the size, complexity, and associated risks grow, a scheduling tool that allows for adequate planning and scheduling of multiple concurrent operations is needed to execute and control the Work. For such projects, a tool that allows for an accurate assessment of the reasonableness of the schedule and current status of the activities and the project based on costs is also needed to control the project and to manage schedule-related risks on the project. The Category IV scheduling and Progress Schedule submission requirements are based on the Category III requirements with additional requirements as described below:

- i) A Preliminary Progress Schedule to provide a start-up schedule to execute and monitor the Work for the first ninety (90) calendar days.
- ii) A written Baseline Progress Schedule Narrative describing the contractors initial proposed sequence and work plan.
- iii) A cost-loaded Baseline Progress Schedule showing in a CPM format, the times within which the individual activities that make up the project will be accomplished. The cost-loaded schedule will be used to generate the time-distributed cost data on which the Progress Earnings Schedule is based.
- iv) A Baseline Progress Earnings Schedule (Form C-13CPM) based on time-distributed cost data generated from the cost-loaded schedule to show the planned progress for each month in terms of percent complete. Percent complete is based on anticipated earnings relative to the total contract value.
- v) A 30-day look-ahead schedule to depict work planned for the next period.
- vi) A monthly update of the Progress Schedule is required to show the actual progress and the current plan to complete the remaining work.

- vii) A revision of the Baseline Progress Schedule is required when the schedule has been significantly impacted by a change in the Work or condition or the contractor has deviated significantly from his baseline plan or schedule.

6. Category V – Category V is the highest level of the project ranking system for typical construction projects, which represents very complex and very costly mega-projects that are typically completed within four or more construction seasons. Category V projects typically involve very large multiple multi-phased contracts with substantial project constraints and/or significant traffic impact. Such projects typically involve major roadway/bridge construction/widening, very complex multiple-span bridges, tunnels, or major interchange work on major corridors.

A. Criteria for Category V Projects – Category V projects must generally meet the following criteria:

- i) Very large projects with contract duration generally spanning 3 or more construction seasons; or
- ii) Estimated contract value generally greater than \$75M; and
- iii) Contract contain Special Provisions for special time-related conditions, such as Contract interim milestones, Incentives/Disincentives, A+B bidding, or Lane Rental, etc.; and
- iv) Considerable number of concurrent work-paths; and
- v) Complex construction staging, phasing, or MOT issues; and
- vi) Complex constructability issues; and
- vii) Substantial traffic impact and limitations to the work; and
- viii) Substantial number of right-of-way acquisitions and/or relocations; or
- ix) Major material delivery restrictions; or
- x) Significant utility relocation/adjustments; or
- xi) Major environmental or community impact.

On a case by case basis, certain relatively complex and very high risk projects with estimated contract value less than \$75M that generally meet the above listed criteria may qualify as Category V, as determined by the ACE. In such cases, the ACE should consult with the State Construction Scheduler for concurrence.

B. Examples of Category V Projects – The following are typical Category V projects:

- Major rural/urban new construction or reconstruction grade separation roadway and bridge projects (large size, complex, major corridor, significant traffic impact);
- Major widening projects (large size, complex, major corridor, significant traffic impact);
- Major interchange projects (large size, complex, major corridor, significant traffic impact);

- Major bridge deck replacement projects (large size or multiple bridges, complex, major corridor, significant traffic impact);
- Individual Category III or IV level projects that are included in multiple-contract mega-projects like Woodrow Wilson, Springfield Interchange, etc.).

C. Scheduling Requirements for Category V – As the size, complexity, and associated risks grow, a scheduling tool that will allow for adequate planning and scheduling of multiple concurrent operations, projects, manpower, equipment, and expenditures is required to accomplish the Work. Such scheduling tool should also allow for an accurate assessment of the status of the individual activities and the project; as well as progress of selected major operations that will have the greatest influence on the schedule.

The Category V scheduling and Progress Schedule submission requirements are based on the Category IV requirements with additional requirements as described below:

- i) A qualified and dedicated project scheduler/coordinator to coordinate all scheduling meetings and issues.
- ii) Contractor's working on a Category V project will be required to develop and maintain their schedules in a collaborative environment within the VDOT scheduling database.
- iii) A written Baseline Progress Schedule Narrative describing the contractors initial proposed sequence and work plan.
- iv) A Preliminary Progress Schedule to provide a start-up schedule to execute and monitor the Work for the one hundred and twenty (120) calendar days.
- v) A cost-loaded and resource-loaded Baseline Progress Schedule showing in a CPM format, the times within which the individual activities that make up the project will be accomplished. The cost-loaded schedule will be used to generate the time-distributed cost data on which the Progress Earnings Schedule is based.
- vi) A Baseline Progress Earnings Schedule (Form C-13CPM) based on time-distributed cost data generated from the cost-loaded schedule to show the planned progress for each month in terms of percent complete. Percent complete is based on anticipated earnings relative to the total contract value.
- vii) A Commodity Progress Report (Form C-13COM) to show the anticipated progress of selected items of work, whose rate of progress will have the greatest influence on the schedule.
- viii) A weekly four-week look-ahead schedule detailing work planned for the next four weeks.
- ix) A monthly update of the Progress Schedule is required to show the actual progress and the current plan to complete the remaining work.
- x) A revision of the Baseline Progress Schedule is required when the schedule has been significantly impacted by a change in the Work or condition or the contractor has deviated significantly from his baseline plan or schedule.