

MOUNTAIN-PLAINS CONSORTIUM

RESEARCH BRIEF | MPC 22-469 (project 654) | July 2022

Guidelines for Developing and Reviewing Baseline Schedules for Wyoming Transportation Projects



the **ISSUE**

Because of the short construction season in Wyoming, contractors must complete many transportation projects on a tight schedule. Inaccurate baseline schedules can be problematic for progress monitoring and can lead to costly construction delays and inconvenience and delays for surrounding landowners and the traveling public.

the **RESEARCH**

The focus of the research is to determine the delay causes and their significance for Wyoming transportation projects. Researchers investigated the current practices of the schedule standards used by DOTs to improve baseline schedules and project control. The research team evaluated the accuracy of the selected baseline schedules provided by Wyoming DOT against daily work reports, U.S. Government Accountability Office (GAO) best practices for project schedules, and a questionnaire survey. Researchers determined several inconsistencies in this baseline schedule compared with the daily work report data, such as unrealistic durations for activities, missing information, and missing relationships between construction activities. The research team also found inaccuracies in the selected baseline schedules by comparing them with the GAO best practices for project schedules. None of the baseline schedules fully captured all activities, sequencing, assigning resources, and establishing the duration of all activity requirements. A lack of float management, critical path management, and horizontal and vertical traceability verification in the baseline schedules was also found. The research team also conducted a questionnaire survey to collect responses from the residents and district construction engineers regarding the challenges, root causes of schedule delays, and the inaccuracy of the baseline schedules. Moreover, the research team also determined the significant delay factors affecting project schedule delay through the daily work report analysis and the questionnaire survey.



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Project Title

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the **FINDINGS**

This research identified 22 factors, divided into four main groups, that often lead to construction delays and cost overruns for public transportation projects in Wyoming. These groups are management, exogenous, technology, and labor. The main weaknesses were the failure to meet schedule requirements. The research also suggested eight recommendations to mitigate the impact of the schedule delay factors.

the **IMPACT**

By identifying the root causes of schedule delay, WYDOT and general contractors can work together to mitigate the impact of schedule delays and deliver projects on schedule. The study presents clear recommendations on how to improve baseline schedules submitted by contractors, which will facilitate tracking and controlling transportation projects.

For more information on this project, download the main report at <https://www.ugpti.org/resources/reports/details.php?id=1091>

For more information or additional copies, visit the Web site at www.mountain-plains.org, call (701) 231-7767 or write to Mountain-Plains Consortium, Upper Great Plains Transportation Institute, North Dakota State University, Dept. 2880, PO Box 6050, Fargo, ND 58108-6050.



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