

# DWR Based As-Built Schedule – Powerful But Highly Neglected Application of DWR Data

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## Abstract

Daily work report (DWR) is a very important data recorded by the inspectors during the construction projects. Although, a lot of time and effort is invested to collect this big amount of DWR data, its use has been limited mostly to the contractor payment and dispute resolution. This study presents the methodological details about utilizing the historical DWR data to automatically generate the schedule for future projects based on the bid data. As a proof of concept of concept, as-built schedules has been developed from the DWR data. The as-built schedule generated can be used as a tool for more detailed progress monitoring, validate the progress details presented by the contractors, and quantify the impact of the delay as it happens. Thus, the as-built and as-built to date can be a powerful decision making tool for successful project management.

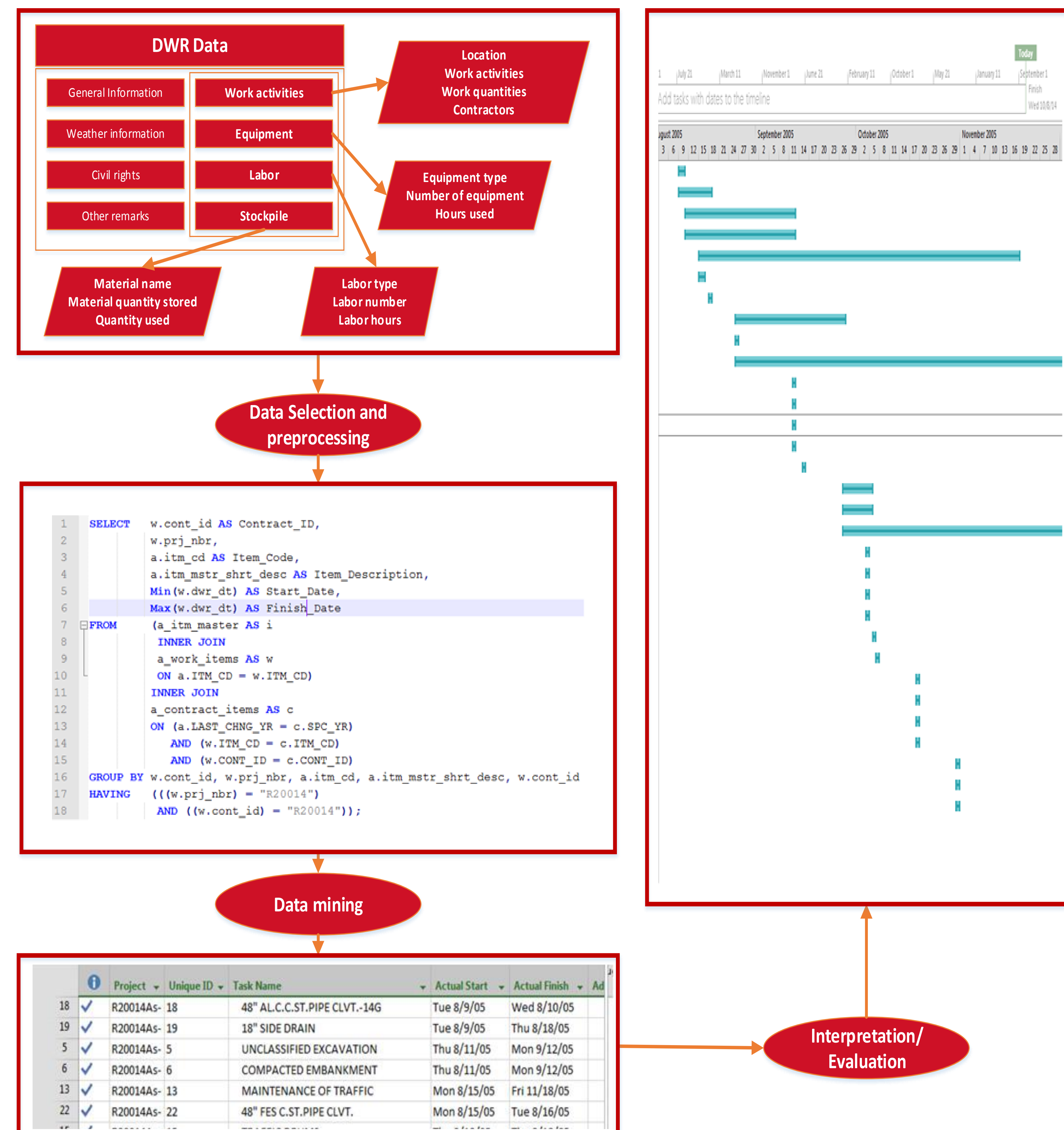
## Background

- Schedule delay in highway construction means road users will have limited to no access to the road for extended duration
- On larger projects contractors have to submit progress schedule which can be used to develop as-built – there is no such requirements in majority of the projects
- State DOTs collect a large amount of DWR data
- DWR data contains the data required for the schedule development but state DOTs have not used this data
- Managing the project schedule with work activities running concurrently becomes difficult
- Visual interface would make it easier for generating monitoring the progress
- This data can be used to generate visual as-built schedule which can further be used for the schedule delay analysis

## Objectives

- Generate the automatic schedule based on the DWR data
- Set up a milestone for further utilization of the DWR data
- Increase the benefit from the already available data

## Methodology



## Results

- Proof-of-concept as-built schedule generated
- Visual interface for the as-built schedule

## Limitations

- DWR data collected is messy – it is not collected every day
- There will be an error because of the data collection lag

## Further Research

- Pattern based schedule generation rather than the manual schedule generation in future using the same DWR data

## Conclusions

- Some efforts to systematically analyze the as-built in the vertical construction – no such effort in the highway industry
- Demonstration of the applicability of the DWR data to generate as-built schedule