

Transportation Services
Srivarshini Ankaiah Krishnappa

Problem Statement:

UW–Madison Transportation Services struggles to identify comparable historical days due to the lack of a unified, easy-to-maintain date-tag dataset. Key external factors—academic schedules, construction closures, major events, weather, and transit changes—are tracked separately, creating inefficiencies. A consolidated dataset is needed to improve analysis, forecasting, and decision-making.

Solution Statement:

This project will create a visual calendar interface and a consolidated date-tagged dataset for UW–Madison Transportation Services to streamline the identification of comparable historical days and enhance forecasting. Staff will be able to drag, drop, and apply recurring tags for academic schedules, closures, events, weather, and transit changes without coding. Deliverables include the interactive interface, initial dataset, MySQL/Tableau integration guidance, job aids, and a workflow diagram showing data flow and use cases.

Completed Tasks (Last 2 Week):

- Conducted project kickoff, defined scope, clarified requirements, and assigned team roles.
- Gathered requirements and identified key date tags: academic events, weather, construction, holidays, sports, and transit.
- Researched public and internal datasets necessary for integration.
- Sketched a preliminary structure for the database schema.
- Reviewed available construction data for campus locations.

Tasks for the Next Project Report:

- Request assistance from our partner to obtain the official parking dataset from Transportation Services.
- Search for and evaluate updated datasets for road construction, weather, academic schedules, and events to ensure comprehensive coverage.
- Decide on the development environment and programming language after reviewing the formats and data types of all collected datasets.
- Begin drafting a preliminary workflow diagram to map out data flow and integration steps.

Questions I have or Issues I'm running into:

- ❑ The available road construction dataset for Madison seems outdated—are there more recent or alternative data sources recommended by our partner or instructor?
- ❑ We are unsure if additional permissions or access methods are required to retrieve the official parking dataset.
- ❑ Coordinating team availability for meetings and task updates has been challenging due to differing schedules; exploring more efficient ways to streamline communication and ensure consistent progress.

Methodology Paragraph Summary:

Our methodology involves a systematic, phased approach to build the centralized date-tagging system. First, we gather and validate relevant data from internal Transportation Services sources and public datasets, then define a flexible tag structure that can capture recurring and one-off events. We will develop a MySQL database to store tagged dates and build a user-friendly calendar interface enabling drag-and-drop and recurrence functionality. The system will be integrated with Tableau for reporting, and its effectiveness will be evaluated by verifying tag coverage, data accuracy, and usability for non-technical staff, ensuring it meets the problem statement of enabling efficient analysis and forecasting.

References:

<https://www.cityofmadison.com/projects/completed>