ASCE Intermountain Southwest Student Symposium

April 16-18, 2026

Transportation

ISWS 2026 Local Competition

ASCE
STUDENT CHAPTER
University of Utah

ISWS 2026
Transportation
April 16th - 18th, 2026

Objective

The objectives of this year's transportation competition are to introduce real world applications of transportation planning, traffic operational analysis, and conceptual traffic design to student teams. Student teams will prepare a document that shows the impacts of future traffic in Orem, Utah and contains recommended system improvements to mitigate the identified impacts. Teams will identify improvements to four Orem, UT Center St. intersections including: Geneva Rd, 1500 W, 1330 W, and the I-15 SPUI. Teams are encouraged to be creative and exercise their engineering judgment.

Participant Rules

- Each university may enter only one team.
- Each team must consist of a minimum of three members and a maximum of eight
- members.
- All team members must be present during the poster presentations.
- All team members must be a registered participant of ISWS 2025

Background

Each student team has been hired by the city of Orem to determine the traffic impacts and associated roadway improvements for Orem Center St. from Geneva Road to I-15 Orem, UT in the year 2050. A kmz file indicating the study intersections is included in the project folder. Baseline Traffic Counts and Signal Timing Files are provided in the project folder.

Scope of Work

Orem City has asked your firm to provide a traffic impact analysis and solutions to the challenges of future growth and associated traffic that contain the following information:

1. Project Description
2. Perform a more detailed analysis for the 4 intersections identified below:
    a. Center Street and Geneva Road
    b. Center Street and 1500 West
    c. Center Street and 1330 West
    d. Center Street and I-15 SPUI

Include Existing Conditions and Future Conditions (2050) for the following:

    a. Lane Configurations
    b. Traffic Volumes
    c. Left turn lane storage lengths
    d. Right turn lane storage lengths
    e. Thru lane storage lengths
    f. Intersection level of service

3. Recommended Mitigation Measures (i.e., develop innovative solutions for transportation infrastructure and operational improvements)
4. Estimated Public Transportation Ridership in the corridor
5. Recommended Active Transportation improvements in the corridor
6. Pedestrian Connectivity Analysis
7. Transportation Demand Management Strategy recommendations

Project Requirements

Written / Design Report

Submit an electronic version of your report (in PDF Format) via email to isws2026.uofu@gmail.com with the subject line “Transportation Report – [YOUR SCHOOL NAME]” by no later than 11:59 PM on Thursday, March 26th 2026. A hard copy submission is not required.

Formatting Requirements

Report Cover Page: Must include name of institution, names of all team members, title of report: “2025 ASCE ISWS Student Transportation Competition”, and the date submitted.

Table of Contents: Must have a page number assigned to the following sections. Subsections can be made and included if you choose to do so.

Introduction: This section should include a brief description and purpose of your project, design constraints, and parameters affecting your planning process associated with it.

Design: Provide a conceptual exhibit of the proposed intersection and roadway network improvements. The design should follow UDOT and Orem City standard requirements and guidelines where appropriate. Include any striping and signing in design. Keep in mind that existing structures and plans can be incorporated in the team's proposal; however, the team may make recommendations to alter the existing design (i.e. access, circulation, structure locations). Design shall accommodate modes of transportation not limited to buses, trucks, motor vehicles, and any other modes of transportation accounted for in your design, etc. A submission of the plan view is recommended.

Level of Service Analysis: Teams will provide a level of service analysis. Teams will explain the process used to complete the analysis. Teams should also include how their design improved traffic congestion and compensated for increasing growth in traffic.

Pedestrian/Transit analysis: Provide an analysis and discussion of transit and active transportation options and accommodations. Estimated ridership and design elements should be included.

References: List all references utilized throughout the design and analysis process in this section.

Technical Appendices: Provide results that must be displayed through figures, tables, hand calculations, or software output with reference to the appropriately utilized manuals in the Technical Appendices section of the report before the team's filter loading phase.

Presentation Requirements

Time and Schedule

Teams are required to present for a minimum of 15 minutes and a maximum of 20 minutes, followed by 5 minutes of questions from the judges. Presentations that are significantly shorter than 15 minutes may receive a penalty, at the discretion of the judges. Any presentation that exceeds 20 minutes will receive a score of zero for the presentation portion of the overall evaluation.

Presentation order and assigned presentation times will be randomly determined prior to the start of the competition and will be communicated to teams no later than check-in.

Presenters

Presenters include those with speaking parts and individuals operating the computer. Presenters must meet the requirements listed under the "Participants" section. A minimum of two people must speak during the presentation. The use of videos will not be permitted. Teams must not pre-record any speaking parts. No handouts or other materials are to be given to the judges as part of the oral presentation. All team members participating in the presentation must be on stage and available for the judge's questions.

Scoring Summary Table

Category	Sub-Category	Maximum Points
Written Design Report	Cover Page	/5
	Table of Contents	/5
	Introduction	/10
	Recommendations	/20
	Design	/30
	Level of Service Analysis	/35
	Pedestrian / Transit Analysis	/20
	Innovation	/5
	References	/5
	Technical Appendices	/5
	Clarity and Quality of Technical Writing	/5
	Neatness of Formatting	/5
	Subtotal	**/150**
Presentation	Quality of Presentation Delivery and Aesthetics	/15
	Quality of Presentation Content	/20
	Quality of Judge Question Answers	/15
	Subtotal	**/50**
	Total	/200

Suggested References

1. ITE Trip Generation Manual, 10th edition
2. ITE Traffic Engineering Handbook, 7th edition
3. UDOT standard drawings
    a. https://connect.udot.utah.gov/business/standards/
4. UDOT Roadway design manual, 2021
    a. https://drive.google.com/file/d/1tz6gCuriPX0mfr6FeTZ6k7AmbNu3Iikh/view

5. A Policy on Geometric Design of Highways and Streets, 7th Edition (AASHTO Green Book)
6. UDOT Traffic Analysis Guideline
    a. https://drive.google.com/file/d/1RqeJoszkDLbxkEF_67Cth1epskFhPkik/view
7. NACTO Urban Street Design Guide
    a. https://nacto.org/publication/urban-street-design-guide/
8. UDOT Traffic Modeling Guidelines
    a. https://connect.udot.utah.gov/business/design/traffic-modeling-guidelines/
9. Traffic impact study guidelines
    a. https://drive.google.com/file/d/1m0VFiDgARxXxHVXnT2yYWN86nY5DzvmV/view
10. City of Orem Supplemental Document to the 2017 APWA Standard Construction Specifications and Drawings April 2024
11. ATSPM Data
    a. https://atspm.udot.utah.gov/performance-measures

Request for Information

Requests for information (RFI) are to be directed via email to isws2026.uofu@gmail.com, with the subject line: RFI_Transportation Design - [School Name]. Official responses will be sent to the individuals requesting the information and uploaded onto the ISWS 2025 website for further viewing leading up to the day of the event. The final cut-off date for submitting an RFI is Thursday March 13th 2026. All RFI responses are considered part of the competition rules, and it is the responsibility of the participating teams to check for RFI responses.

Required Project Information

1. Intersections KMZ File
2. Baseline Traffic Study Volumes
3. Signal Timing Files

**Please see the project folder with all project information.*