

Students For Future Mobility Guidelines



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Students for Future Mobility Program

[Envisionride.org](https://envisionride.org)

INTRODUCTION

We believe that there is something better behind the horizon. What is out there that can make a considerable change in how we get around in everyday life that is safer, more convenient and available for all? The “What If?” conferences are a series of gatherings looking into short- and long term ideas in collaborations with students of the world!

Many of today’s mobility options are based on solutions that are incredibly wasteful and impact Earth’s resources and energy in negative ways. During production, distribution, infrastructure build and daily use, these methods are unsustainable. We are at a moment, now, on Earth, when there is more need than ever for a new paradigm of living.

The **Students for Future Mobility** is a global program by Envisionride to promote substantial innovation in public transportation and related issues. The program is focused on students and provides the opportunity to design your own urban future using advanced software and planning techniques. Work is completed in several selected cities, regions, or urban areas which are focusing on implementing novel mobility technologies. The idea is to create something substantially better in all aspects – energy, materials, economy, capacity, safety, personal mobility and architecture. The program is supported by a series of agencies and institutions in Europe and USA.

STUDENT REQUIREMENTS

- A. The Program is open to students of Urban Planning, Urban Design, Architecture, Landscape Architecture, Engineering, Psychology Behavioral, Financing and other relevant disciplines that globally supports the idea of innovation in shared mobility and resource management.
- B. Students must be not less that 18-years-old and in one of three categories:

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- a. Professional School
 - b. University in their second year of university or beyond, such as interning
 - c. Master students
- C. Students enroll as teams. It is recommended that the team size is 2-4 participants. Exceptions must be reviewed and confirmed in writing from the envisionRide team.
- D. Teams should plan on spending a combined 80-250 working hours on their project.
- E. Each team shall collaborate with a sponsor such as a city, transportation authority, airport etc; however, only students count as official members of the team. There must be a clear recipient of the work done by the team.
- F. Sponsor staff and other external parties can be interviewed and engaged in discussions, but are not allowed to do modeling or make direct changes in the report.
- G. It is recommended that the Team meets with the sponsor a minimum of three times and at the final meeting to ensure approval of the written report.

KEY ISSUES TO BE ADDRESSED

In collaboration with the sponsor, each student team shall select an urban development project in need of sustainable transit or mobility solutions and present how autonomous shared mobility can be implemented.

TEAM SPONSORS

Each team must have a sponsor. The sponsor can be a city, transportation authority, harbor, hospital, airport or any other entity that has interest and need in the implementation of a shared, innovative, sustainable, autonomous transportation system. Teams may use more than one sponsor, e.g. a City, agency and a local ATN/SAV vendor.

NOTE: Teams can apply while locating potential sponsors. Should a team need support, the Envisionride organization can help in finding sponsors.

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COLLABORATION & PROJECT SELECTION

Student teams and sponsors are obliged to collaborate to identify a suitable project area. The area should be selected based on real-life transit challenges and must have a shared innovative sustainability component. It is recommended scheduling a start-up or kick-off meeting early in the process for the students to get an understanding of obstacles and opportunities of the chosen project area.

DIGITAL TOOLS AND MODELS

Use of 4D visual graphic models, GIS data and similar technologies is mandatory. To some extent the Envisionride organization provides maps and 4D tools for the team to be used. We provide free tools such as BeamEd, Podaris, SUMO, Xithalis and from other vendors you can get tools such as Sketchup, Blender, QGIS, and more.

SPONSOR REQUIREMENTS

The sponsor can be a city, transportation authority, harbor, hospital, airport or any other entity that has interest in the implementation of a shared, innovative, sustainable, autonomous transportation system. To assist the students, the sponsor is required to provide:

- A. A contact person for project interviews and discussions. It is recommended to meet with the students at a minimum of three times.
- B. Information about one or more local development projects in need of sustainable transit solutions.
- C. Critical data such as development plans, maps, policy documents on environmental goals, ridership data, long term transportation plans, etc.

ASSESSMENT CRITERIA

Submissions will be assessed based on:

- A. Academic quality - Is the report academically written and clearly structured? Has prior research and experiences been used and referenced? Etc.

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- B. Relevance - Has the team successfully collaborated with the sponsor to address an actual need?
- C. Feasibility - Is the proposed solution suitable for the project area?
- D. Usability - Is the study practical and solution oriented? How can the results be used?
- E. Visual representation - How well is the visualization executed? Does the visualization create interest and help explain the scope and feasibility of the project?

All projects must have a transportation, energy and a built environment component. The transportation component must include either an Automated Transit Network (ATN) or a Shared Automated Vehicle (SAV) system. Students are free to use additional transportation systems should they find it suitable, especially if you have intermodal solutions in mind.

THE REPORT

The report shall:

- A. Be written in an academic manner and consist of pages on A4 or Legal, portrait orientation, including front page, table of contents and references.
- B. Be based on needs identified from meetings with the city/area proposed.
- C. Include:
 - a. An ATN (Automated Transit Network) or public SAV (Shared Autonomous Vehicle) system (additional transportation systems may be added)
 - b. A front page stating the name of the project, city, team name and team members, and also a link to the video presentation
 - c. Abstract with mentioning the focus of the study - environment, earth resources, financing, real estate development, new transportation technology, human interaction etc.
 - d. Project and purpose description
 - e. Motivation – why this project was chosen

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- f. Images from the 3D model
- g. Effects on the built environment
- h. Effects on social and environmental sustainability and earth resources
- i. A rudimentary energy analysis
- j. A basic financing proposal
- k. Reference list

THE 4D MODEL AND VIDEO

The 4D models are used to showcase each team's vision in a virtual replica of the project area. Students are free to choose whichever software they are comfortable with. When the model is completed, each team will produce a short video (2-4 minutes) to show the model for the judges. The visualizations should be designed both to attract interest and help evaluate the scope and feasibility of the project. In some cases the Envisionride organization can provide a 4D model for the team.

REGISTRATION COST

The registration cost for sponsors is \$490/€490 per team excluding possible development of a 4D model or hardware needed. The money is used for student support, project management and prize money. The fee can be paid by a city, a city agency, an external sponsor or a foundation. If a team wants to go ahead but can't find a team willing to sponsor, the Envisionride organization can sometimes help in finding a sponsor. An external entity is allowed to cover the registration on behalf of the sponsor such as real estate or other external organization. In some cases the use of 4D models are needed for a study of the selected area. The cost of those models are handled separately with help from the Envisionride organization.

Universities and students pay no fee.

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PRIZE AND AWARD CEREMONY

In some cases the best submissions are eligible for a prize award. The winning teams will share a cash prize decided by the Envisionride organization before taxes. The team winning first place will also be invited to present their project at the What if? Conference scheduled to take place in the spring every year.

UPDATED INFORMATION January 2023: Due to the ongoing Covid-19 pandemic and global travel restrictions, we allow teams to do their work online and we also support teams online.

Prior to the conference, the team can get assistance to upgrade their 3D model to include traffic simulations of their chosen transit system.