



ITE Western 2022 Data Fund Request for Proposals Response - STEM Outreach

Submitting Party: University of Southern California ITE Student Chapter

Friday, December 17, 2021

University of Southern California ITE Student Chapter

Dear ITE Western Technical Committee,

Transportation affects us all; it allows us to access our education, workplace, loved ones, and sustenance. Access to reliable, efficient, and affordable transportation has a huge impact on available opportunities and overall quality of life. In this way, careers in the transportation industry are highly rewarding and can provide a meaningful route to make a difference in people's lives. We at the USC ITE Chapter believe that exposing high school students to the possibility of a career in transportation and providing a new lens through which to view their surroundings is a highly valuable experience. We think that our chapter would be a great fit for this program and we'd like to share why.

Our team is made up of students from a variety of backgrounds who share a common interest in all things transportation. Some of us have always had this interest, and others have found it more recently. We all enjoy the perspective that being a part of ITE and interacting with transportation issues and projects has brought us. Because we recognize the value of viewing transportation as a fascinating and critical aspect of society, we want to share this with younger students to foster a sense of curiosity about the built environment and the role it plays in our lives.

Because our team comprises engineering, planning, and policy students, we are well-positioned to provide a holistic view of the transportation industry. This is important because there are many pathways to a career in transportation, and we want students to be able to explore different aspects of the field. Even if students decide that transportation is not for them, they will be exposed to broader concepts of engineering, planning, and policy that could open the door to other career paths. Our primary goal is to offer students a chance to think about what they might like to pursue after graduation, and we believe that an introduction to the transportation industry is a great opportunity to showcase a variety of specialties in a career path that offers a chance to have a huge impact on our society.

We find reaching out to students about transportation careers important for the vitality and diversification of the transportation workforce. In high school, many of us didn't know of possible career paths in transportation. Workshops like these can help a wider range of students find their love of transportation, and help inspire students to solve local transportation related issues. Our chapter wants to broaden the reach of transportation specialists in the community, and we would appreciate your support to continue such initiatives.

Thank you for your time and consideration,

USC ITE Chapter

ITE 2022 Student Projects – STEM Outreach Request for Proposal Response

Submitting Party: USC Institute of Transportation Engineers

1. Project Proposal Scope

We propose to leverage our interest and experience in equity and sustainable streets to educate and expose high school students in the local community around USC to local transportation. The goal of this outreach project would be to engage students with the practice of transportation planning, while also leveraging their lived experience to empower students to make meaningful changes to the transportation within their community. To achieve this goal, our proposal focuses on educating students about traffic safety and traffic safety issues within their neighborhood, with a focus on their walk, drive, bike, or bus ride to school. The cross-functional, interdisciplinary nature of this outreach program means that our proposed modules can be integrated into a larger curriculum, or function as stand-alone sessions. For example, a class introducing traffic counting and the idea of level of service or VMT could be integrated into a math class, while a workshop on transportation planning could be incorporated into a Government class. Sessions could also be conducted after school, with the series of workshops culminating in a field trip exposing students to a behind the scenes look of transportation planning.

To ensure that students remain engaged and interested in our outreach, we hope to encourage them to use the information they have learned from our technical and informational workshops to think critically about the transportation issues in their communities, whether it is lack of sidewalks or unsafe driving habits in front of their schools (Safe Routes to School). Additionally, we hope to leave them with a “transportation planning” toolkit that will encourage them to begin thinking about how they can reimagine their community for a more sustainable future. AN example of integrating this transportation planning mindset would be our proposed workshop on tools such as Streetmix, which will encourage students to rethink the rights of ways they use in their neighborhoods.

Activities Conducted:

Four workshops will cover various aspects of transportation safety and planning, with a focus on the community.

- Workshops could be held after school, or during “advisory” periods if any. We will also market this as an opportunity to learn more about their community and think critically about how they can improve it.
- Workshops are interactive, there is a short lesson or video (10 minute) followed by a hands-on activity or project.
- Each session, students will complete one part of an overall project

Workshop topics (tentative):

1. Introduction to Transportation and Mobility: How do YOU Get to School? Survey students. Is your bus busy, what problems are there?
2. Traffic congestion impacts, specifically environmental impact of traffic, safety, traffic counting and How We measure Transportation?

3. What are some tools for reimagining my neighborhood, and field trip (location TBD)
 - Introduce to easy to use tools such as Streetmix
 - Ask them to critically analyze the routes they take to get to school
 - Presentation of their projects
 - 1 field trip to a transportation facility close to their community, with an inside look thanks to firms and agencies we have connections with (LADOT, Metro Los Angeles, or a smaller transportation agency).
 - A chance for students to see where the backbone of planning happens
 - Outreach to transit partners and consulting firms to bring in teachers/professionals with a passion for teaching to assist us in providing the best teaching experience.
4. Wrapping up session, with students presenting their ideas for how they can improve their transportation to school. Also, a brief overview of different college degrees that lead to careers in transportation.

Deliverables:

- 5-10 Page report detailing efforts and documenting progress made to achieving goals mentioned above
- Student projects and critical analysis papers; could be sent to local DOTs with the potential to use these as data points for implementing safe routes for students

2. Mentoring:

Eric Shen will be serving as our mentor for this project. He has had experience in engaging younger students with transportation as an active mentor in Boy Scouts/Scouting Club. He also serves as our faculty advisor. He will also be helping us connect to local high schools.

3. Schedule:

January 14th, 2022: Notice to Proceed is sent out.

Week of January 17th: Reach out to USC and USC Magnet school to formalize the details of the program and coordinate logistics.

Week of February 13th: 1st workshop

Week of February 20th: 2nd workshop

Week of March 6th: 3rd workshop and field trip (TBD)

Week of March 20th: 4th workshop

April 1st- April 15th: Draft summary report

Week of April 15th: Submit Draft Summary Report

May 1st-7th: Review feedback from Draft Summary Report and resubmit

May 11th: Semester End

4. Level of Effort:

The effort for the outreach program will be split by five USC ITE members. There will be one project manager and the other four ITE members will each be a leader of one of the workshops.

2 hours preparation/section * 5 people = 10 hours prep time per session

2 hours/session (including travel and set-up) = 10 hours per session

3 sessions + 1 nearby field trip (4 sessions total)

80 hours

5. Key Personnel:

Faculty Advisor and Professional Mentor: Eric Shen, shen.eric@gmail.com, (626) 429-9004, 890 San Simeon Road Arcadia, CA 91007

Student Project Manager: Allison Fischer, agfische@usc.edu,

6. Project Partners:

We plan to partner with the nearby "LAUSD/USC Media Arts and Engineering," which already has a longstanding relationship with USC. This school's curriculum includes STEAM integration, and offers extensive after school and developmental programs. With a motivated student body, and its proximity to USC and its facilities, we hope to leverage the geographic convenience and long standing partnership between the school and the university to provide a seamless curriculum and experience for the students participating in our program.

7. Agreement to Hold Harmless:

The USC Institute of Transportation Engineers holds harmless and indemnifies the ITE Western District from any and all liability associated with the conduct and completion of this proposal, STEM outreach projects and associated activity.