

# Fresno County Afterschool Transportation Education

Project 2355

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## Introduction

As the world navigates through an era of rapid transformation in transportation technologies and infrastructure, the imperative to integrate transportation education into K–12 curricula has never been more critical. Afterschool programs present a viable solution, offering the necessary flexibility and quality to enhance transportation education. These programs not only provide opportunities for transportation-related activities but also often offer quality learning experiences that extend beyond mere supervision. Online education technology complements this by offering interactive, student-centered learning experiences catering to individual needs and fostering essential 21st century skills. This comprehensive research delves into the imperative integration of transportation education into K–12 curricula through the lens of the Madera Unified School District’s afterschool programs. Addressing the existing engagement gap and the necessity for future-ready skills, the study explores the strategic integration of transportation concepts with a dual focus on afterschool programs and online educational technologies. The primary goal is to understand how these elements collectively enhance learning, career readiness, and societal awareness.

## Study Methods

This study employed a qualitative methodology centered around the experiential knowledge of educators and facilitators within the Madera Unified School District’s afterschool programs. Through a literature review, observations, journals, and interviews with students, educators, and an experienced facilitator and former principal working in the afterschool programs, the research captures the nuanced impact of transportation education on students, educators, and the broader educational landscape.

## Findings

Key findings from the study’s investigation through the lens of the Madera Unified School District’s afterschool programs reveal that the integration of transportation education into K–12, combined with the leveraging of afterschool programs and online education technologies, creates a comprehensive approach to preparing students for the future. This strategy not only enhances individual learning and career readiness but also contributes to broader societal goals of economic growth and sustainable development. This holistic approach is crucial for integrating transportation education with innovative

learning methods, thereby preparing students for the complex challenges and opportunities that the future holds. Many students are unaware of transportation-related careers. Also, educators and parents generally aren't informed about the vast number of transportation-related careers and thus tend to not speak to youth about these opportunities.

The study specifically highlights the transformative power of collaborative lesson creation, real world application, and the pivotal role of contextual education in fostering student ownership and relevance. The incorporation of transportation education within afterschool programs in the Madera Unified School District has yielded significant advancements in igniting passion, fostering engagement, and enhancing problem-solving skills among middle and high school students, indicating the potential of similar programs as avenues for integrating this curriculum and empowering students.

### Limitations

Firstly, the predominantly rural setting may limit the applicability of the study's results to more urbanized areas due to the unique challenges and opportunities presented by rural environments, such as limited access to advanced technological resources and direct exposure to transportation infrastructure projects. Additionally, the reliance on afterschool programs as the primary delivery mechanism introduces complexity, as afterschool environments vary widely in terms of resources, student engagement levels, and educator expertise. While the study emphasized the importance of facilitation in self-regulated learning, the degree of independence with which students engage with the material may differ across settings and age groups. Despite these limitations, the chosen content provided a robust test for transportation education in a context that reflects the target population, aiming to increase equitable access to transportation education and careers. However, the study underscores the need for adaptive strategies when implementing transportation education curricula across diverse educational landscapes. Future research should explore the efficacy of transportation education in urban settings and its impact on different student demographics to address these limitations and further enhance understanding in the field.

### Policy/Practice Recommendations

Recommendations include advocating for policies that support the integration of transportation education in K–12

curricula and afterschool programs. An understanding of the policies and research that shape these educational strategies provides invaluable insights into their potential and challenges, thereby guiding effective implementation and development. Emphasis is placed on collaborative partnerships, innovative program designs, and the use of online education technologies to foster engaging and future-ready learning environments.

The study also suggests five self-managed transportation lessons designed to support and enhance student understanding of transportation, its impact, and its relevance to various aspects of society and the environment. The lessons cover Urban Planning and Transportation Design, the History of Transportation, Global Transportation Networks, Technology in Transportation, and Transportation and Society. These lessons can be directly implemented or serve as models for the general integration of transportation education in K–12 curricula and afterschool programs. The lessons are also flexible enough to localize them and make them relevant to the local context of the students.

### About the Authors

**Dr. Christian Wandeler** is an associate professor in research methods and statistics at the Kremen School of Education and Human Development at California State University, Fresno.

**Dr. Felipe Mercado** at California State University, Fresno has expertise in resilience, mental wellness, and social justice that guides this study's direction and impact.

### To Learn More

For more details about the study, download the full report at [transweb.sjsu.edu/research/2355](https://transweb.sjsu.edu/research/2355)



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