

Equity in Learning Opportunities for Middle School Students: Connecting Communities and Transportation Through GIS

Tom O'Brien, PhD

Ben Olson



California State University
Transportation Consortium

CALIFORNIA STATE UNIVERSITY
LONG BEACH

Mineta Transportation Institute

Founded in 1991, the Mineta Transportation Institute (MTI), an organized research and training unit in partnership with the Lucas College and Graduate School of Business at San José State University (SJSU), increases mobility for all by improving the safety, efficiency, accessibility, and convenience of our nation's transportation system. Through research, education, workforce development, and technology transfer, we help create a connected world. MTI leads the [Mineta Consortium for Transportation Mobility \(MCTM\)](#) funded by the U.S. Department of Transportation and the [California State University Transportation Consortium \(CSUTC\)](#) funded by the State of California through Senate Bill 1. MTI focuses on three primary responsibilities:

Research

MTI conducts multi-disciplinary research focused on surface transportation that contributes to effective decision making. Research areas include: active transportation; planning and policy; security and counterterrorism; sustainable transportation and land use; transit and passenger rail; transportation engineering; transportation finance; transportation technology; and workforce and labor. MTI research publications undergo expert peer review to ensure the quality of the research.

Education and Workforce

To ensure the efficient movement of people and products, we must prepare a new cohort of transportation professionals who are ready to lead a more diverse, inclusive, and equitable transportation industry. To help achieve this, MTI sponsors a suite of workforce development and education opportunities. The Institute supports educational programs offered by the

Lucas Graduate School of Business: a Master of Science in Transportation Management, plus graduate certificates that include High-Speed and Intercity Rail Management and Transportation Security Management. These flexible programs offer live online classes so that working transportation professionals can pursue an advanced degree regardless of their location.

Information and Technology Transfer

MTI utilizes a diverse array of dissemination methods and media to ensure research results reach those responsible for managing change. These methods include publication, seminars, workshops, websites, social media, webinars, and other technology transfer mechanisms. Additionally, MTI promotes the availability of completed research to professional organizations and works to integrate the research findings into the graduate education program. MTI's extensive collection of transportation-related publications is integrated into San José State University's world-class Martin Luther King, Jr. Library.

Disclaimer

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the information presented herein. This document is disseminated in the interest of information exchange. MTI's research is funded, partially or entirely, by grants from the California Department of Transportation, the California State University Office of the Chancellor, the U.S. Department of Homeland Security, and the U.S. Department of Transportation, who assume no liability for the contents or use thereof. This report does not constitute a standard specification, design standard, or regulation.

Report 23-20

Equity in Learning Opportunities for Middle School Students: Connecting Communities and Transportation Through GIS

Tom O'Brien, PhD

Ben Olson

August 2023

A publication of the
Mineta Transportation Institute
Created by Congress in 1991

College of Business
San José State University
San José, CA 95192-0219

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. 23-20	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Equity in Learning Opportunities for Middle School Students: Connecting Communities and Transportation Through GIS		5. Report Date August 2023	
		6. Performing Organization Code	
7. Authors Tom O'Brien, PhD Ben Olson		8. Performing Organization Report CA-MTI-2247	
9. Performing Organization Name and Address Mineta Transportation Institute College of Business San José State University San José, CA 95192-0219		10. Work Unit No.	
		11. Contract or Grant No. ZSB12017-SJAUX	
12. Sponsoring Agency Name and Address State of California SB1 2017/2018 Trustees of the California State University Sponsored Programs Administration 401 Golden Shore, 5th Floor, Long Beach, CA 90802		13. Type of Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplemental Notes			
16. Abstract Geographic information systems (GIS) is part of an in-demand career skillset that can lead to safer streets in California communities. This project included a three-session bootcamp that introduced middle school students to transportation via GIS and gathered assessments on their awareness of transportation as a career pathway. The project built upon CSUTC TRANSPORTS' Year 4 project, "K-12 Special Investigation Project: Mapping E-Commerce Locally and Beyond." The bootcamp for this project was coordinated in partnership with Rio Hondo College, which provided the instructor and connection to the students at the Mountain View Unified School District in El Monte, CA. The bootcamp focused on developing safer communities and transportation systems as a context for the students to become familiar with GIS. The student feedback reported on student awareness of transportation and GIS prior to the bootcamp and how the curricular tools and activities impacted that awareness. Gathered data and feedback will inform the development of future middle school GIS curricula, an area that is underdeveloped.			
17. Key Words Middle school, Education, Technology, GIS, Transportation workforce		18. Distribution Statement No restrictions. This document is available to the public through The National Technical Information Service, Springfield, VA 22161.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 24	22. Price

Form DOT F 1700.7 (8-72)

Copyright © 2023

by **Mineta Transportation Institute**

All rights reserved.

DOI: 10.31979/mti.2023/2247

Mineta Transportation Institute
College of Business
San José State University
San José, CA 95192-0219

Tel: (408) 924-7560
Fax: (408) 924-7565
Email: mineta-institute@sjsu.edu

transweb.sjsu.edu/research/2247

ACKNOWLEDGMENTS

The authors acknowledge the time, expertise, and thoughtfulness that our partners contributed to the development of this project. CITT would like to thank Rio Hondo College Career and Technical Education (CTE) Division's Claudia Romo; Rio Hondo College GIS Coordinator and Professor, Warren Roberts; Mountain View School District Direct of Pupil Personnel Services, George Schonborn; and CITT staff for all of their valuable insights and technical expertise.

CONTENTS

Acknowledgments	vii
List of Figures.....	viii
List of Tables.....	ix
Executive Summary	1
1. Introduction.....	2
1.1 Project Background	2
1.2 Project Motivation	2
2. Bootcamp Design and Coordination	5
3. Bootcamp Execution and Content.....	6
4. Follow-Up Teacher Webinar	9
4.1 Benefits and Opportunities to GIS in Middle School.....	10
4.2 Barriers to Implementing to GIS in Middle School	10
4.3 Participant Insights	10
5. Summary & Conclusions.....	12
Endnotes.....	13
About the Authors.....	14

LIST OF FIGURES

Figure 1. Instructor Warren Roberts During the First Day for the Bootcamp.....	4
Figure 2. Drone and Remote Controller Used for Instruction that Students Piloted.....	4
Figure 3. Screenshot from a Storymap Shown As Part of the Bootcamp	7
Figure 4. Bootcamp Days Two and Three	8
Figure 5. Promotional Flyer for the Follow-Up Teacher Webinar.....	9

LIST OF TABLES

Table 1. Project Partners	5
---------------------------------	---

Executive Summary

This project included the development, coordination, and execution of a three-session bootcamp that introduced middle school students to transportation via geographic information systems (GIS) and gathered assessments over the course of the bootcamp on their changing awareness of transportation as a career pathway, as well as on the acquisition of key skills that are increasingly demanded by employers. Providing access to these skills to students of all socioeconomic backgrounds is an important part of the development of transportation as a component of STEM for All education. The bootcamp for this project was coordinated in partnership with Rio Hondo College, which provided the instructors and connection to the students at the Mountain View Unified School District in El Monte, CA. There were three four-hour sessions held over three Saturdays in April and May 2022. The students completed pre- and post-bootcamp surveys on their awareness of transportation, GIS, and career opportunities, and how the curricular tools impacted that awareness after the bootcamp. Survey results reported that most students had not heard of GIS prior to the bootcamp, but all were interested in learning more afterward.

Middle school is not too soon for students to expand their awareness of different skills and career opportunities connected to them. Working with research, funding, and K–12 education partners to create and implement accessible and viable curricula for middle school students will encourage them to explore new skills and start to consider their career pathways. Using GIS, students can learn skills to advocate for safer and better managed streets in their communities (SB-1 Objective 4).

1. Introduction

This project was a three-session bootcamp that introduced ten (10) middle school students to transportation via geographic information systems (GIS) and gathered assessments over the course of the bootcamp on the students' changing awareness of and interest in transportation as a career pathway. GIS and related skills are increasingly in demand by employers. Providing access to these skills to students of all socioeconomic backgrounds is an important part of the development of transportation as a component of STEM for All education. GIS technology remains a skill largely taught at the college and university level. The authors' prior work in both researching and introducing GIS to high school classrooms revealed the potential benefit of introducing the topic to middle school classrooms as well.¹ The objective of this project was to better understand the opportunities and constraints surrounding "GIS for Middle Schools" which include the institutional support needed for administrators and teachers. The bootcamp itself had two other key objectives:

- Students will demonstrate an understanding of their community transportation systems by integrating them into a GIS StoryMap using data, images, and text.
- Students will respond to pre- and post-bootcamp surveys to demonstrate their changing awareness of career pathways in transportation and GIS.

1.1 Project Background

The bootcamps built upon CSUTC TRANSPORTS' Year 4 project, "K-12 Special Investigation Project: Mapping E-Commerce Locally and Beyond," which developed a blueprint for teaching middle school teachers how to incorporate GIS into the classroom with an e-commerce focus. The blueprint was successfully piloted in summer 2021 in a one-day train-the-trainer workshop that middle school instructors attended.

1.2 Project Motivation

GIS skills are increasingly relevant in the workforce. Introduction to the technology and basic skills in K-12 allows for students to explore potential career opportunities and pathways, but training and awareness resources are underutilized. The bootcamps for this project were informed by previous research that has identified best practices for designing and implementing GIS curricula with the right organizational partners.²

The bootcamp for this project was coordinated in partnership with Rio Hondo College, which provided the instructor and connection to the students at the Mountain View Unified School District in El Monte, CA. There were three four-hour sessions held over three Saturdays in April and May 2022. Students filled out pre- and post-bootcamp surveys about their awareness of

transportation and GIS prior to the bootcamp and how the curricular tools impacted that awareness.

The weekend bootcamp approach allowed for longer sessions and self-selected participation by motivated students. The bootcamp was advertised as a “geographic information systems and drones” bootcamp at the recommendation of Rio Hondo College because drones are familiar and exciting to middle school students.

A follow-up webinar was held with teachers and administrators involved in integrating GIS in the classroom. The webinar served as a way for the project team to discuss observations from the bootcamp with middle school teachers, gather ideas and challenges, and to share GIS curricular resources from the project and other sources.

Figure 1. Instructor Warren Roberts During the First Day for the Bootcamp

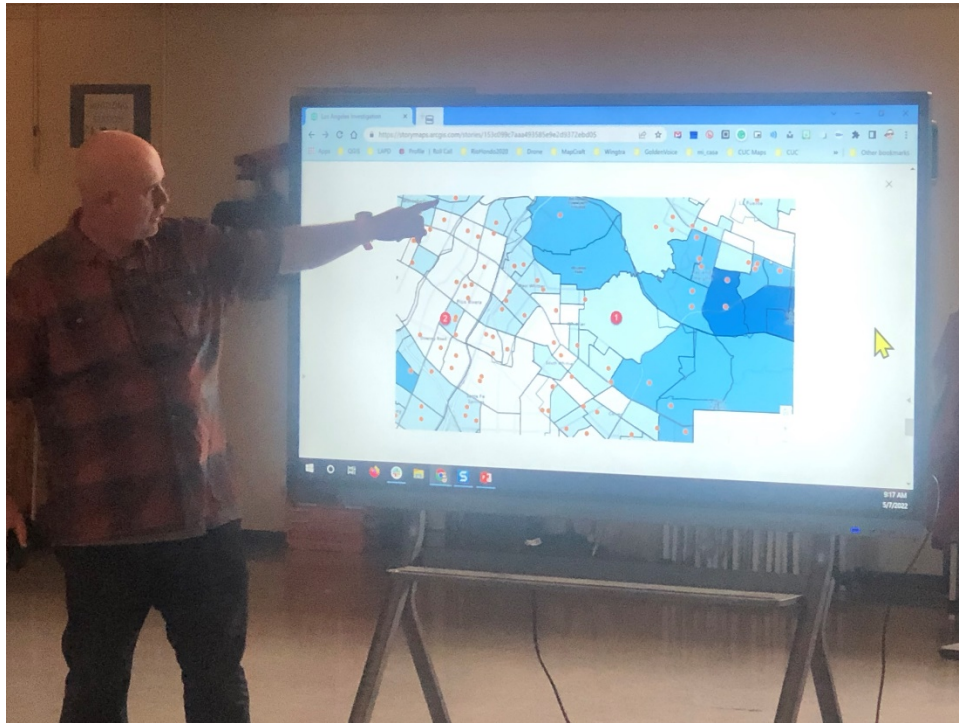


Figure 2. Drone and Remote Controller Used for Instruction that Students Piloted



2. Bootcamp Design and Coordination

The bootcamp was designed with coordination between four organizations and many team members. Each played a unique role that was critical to the success of the project. The table below outlines the names of the organizations involved in this project, as well as their contributions.

The partners included California State University, Long Beach (CSULB), Rio Hondo College (RHC), and the Mountain View School District in Los Angeles County. Team instructors Warren Roberts and William Chesher were provided by RHC. Roberts was the primary instructor that led the bootcamp, and Chesher was his partner in developing some of the course materials. Coordination was made possible by RHC's Career and Technical Education and guided pathways professional, Claudia Romo. CSULB offered GIS (Ben Olson) and transportation (Tom O'Brien) expertise and conducted bootcamp observations and assessments. The Mountain View School District hosted the bootcamp (George Schonborn) and facilitated the follow up instructor webinar.

Table 1. Project Partners

Partner Organization	Type	Role
Center for International Trade and Transportation at California State University, Long Beach (CSULB)	University research center	Project management; curriculum advisement; assessment
Rio Hondo College (RHC)	Community college CTE and guided pathways division	Provide instructors; curriculum design; curriculum delivery
Mountain View School District (MVSD)	K–12 school district	Provide student audience; advertise and promote the bootcamp; provide facility
California State University Transportation Center CA Senate Bill 1 Funding (CSUTC)	Funding source	Provide funding for the program

3. Bootcamp Execution and Content

The bootcamp was held over three consecutive Saturdays. Each session was four hours and included classroom-based work as well as drone demonstrations and piloting which took place outdoors on the school campus. The students had laptops for hands-on activities. The students self-selected their participation in the bootcamp from a number of topics. The instructor, Warren Roberts from Rio Hondo College, brought prior experience with middle school students to curriculum design and delivery. The bootcamp started by introducing mapping to the students (without mention of “GIS” specifically). The pre-bootcamp survey results revealed that most students had heard of robotics prior to the bootcamp but not GIS, so subtly introducing GIS helped with the initial learning curve associated with GIS terminology and acronyms. The instructor discussed concepts of direction and scale, as well as governance and political jurisdictions (e.g., city vs. county vs. state), which are concepts the students were familiar with beforehand.

Various technologies and platforms kept the students engaged throughout the four-hour sessions. As mentioned, drones were used to demonstrate how to capture images that can be turned into data to better understand the students’ surroundings. In the classroom, use of the Kahootz live quiz platform and interactive maps visualizing interesting or offbeat topics kept the lesson portions engaging. The Map Craft resources linked below were used as instructional tools during the bootcamp lessons. Map Craft is a “spatial detective” GIS curriculum developed at Rio Hondo College.³

- London's Deadly Disease Epidemic
- Investigating LA
- Investigating San Francisco Poop Problem
- New York Investigation

Figure 3. Screenshot from a Storymap Shown As Part of the Bootcamp



The individual sessions allowed the students to move from observation to application. O'Brien provided an overview of transportation careers in the first session so that the students were able to begin visualizing workplace applications of the transportation-related tools they were going to be using. Lead instructor Roberts began by presenting data on a map that showed community environmental hotspots which led to an exercise where students connected data to mapping tools as the first step in building a StoryMap.

The drone demonstrations first involved an instructor-led presentation on operations as well as the restrictions and regulations concerning the use of drones. This included a discussion of FAA regulations. By the end of the third session, students were using the drones to capture aerial images and navigating them around an obstacle course. The bootcamp was designed with the end goal of providing the students with an understanding of the language of GIS and providing base knowledge to understand maps and problem solving. These skills better prepare students for GIS courses at the college level, which are more technical and software-focused, or any field of study or training.

The surveys found that students' awareness of transportation concepts and careers was limited both before and even after the bootcamp. When asked about career interests, students reported what might be considered traditional responses: engineer, lawyer, teacher, and veterinarian. Students were also varied on their reported post-high school plans. Some plan on working immediately, some plan on attending a community college, and some plan on applying to universities.

The bootcamp was successful in generating interest in transportation and GIS. All students expressed an interest in learning more about GIS in the post-bootcamp surveys, and more than half felt comfortable creating a StoryMap, a narrative-mapping hybrid GIS product, after participating in the bootcamp.

- Pre-bootcamp survey questions
- Post-bootcamp survey questions

Figure 4. Bootcamp Days Two and Three

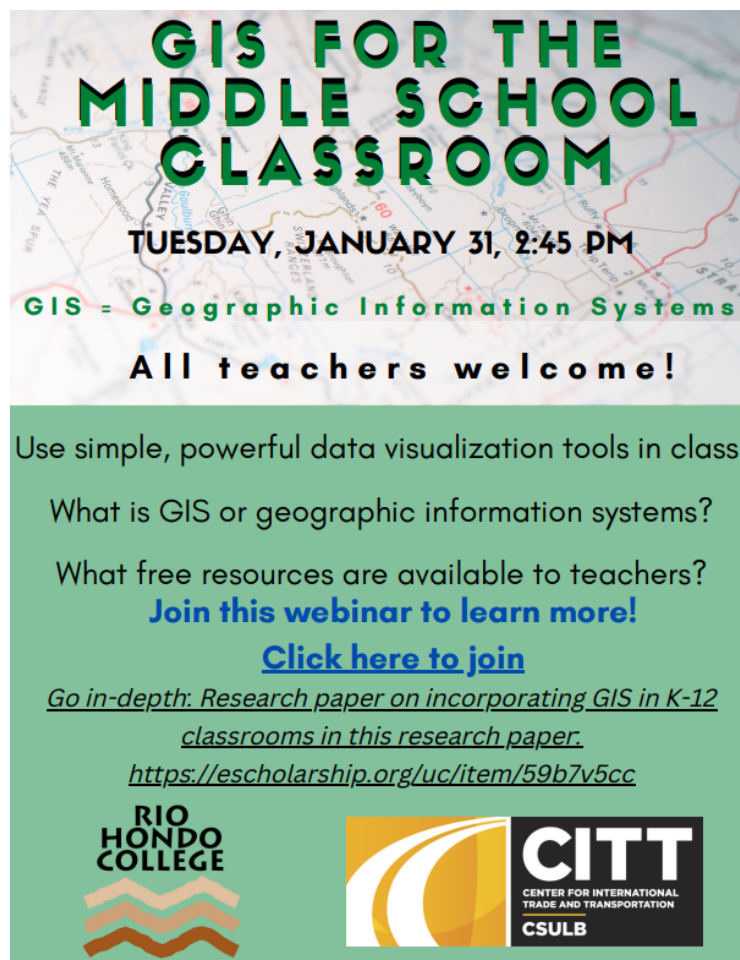


4. Follow-Up Teacher Webinar

While the observations of the bootcamp itself and the student surveys contributed to our understanding of the potential for GIS in middle school classrooms, the research team was interested in the response teachers had to the class's content. We were also interested in better understanding possible opportunities to incorporate the content into a regular class, in particular in the Mountain View School District, as well as any institutional barriers.

As a result, we held a follow-up one-hour webinar promoted through the Mountain View School District and Rio Hondo College. There were five total participants, including instructors and administrators from the Mountain View School District and others representing community colleges. It was held on January 31, 2023. The small participation allowed for a more in-depth discussion. Project P.I. Tom O'Brien and project manager Ben Olson, hosted the webinar. The hour started with a review of the course materials, introducing GIS to the participants in the process. The agenda also included student responses to the experience, a discussion of the benefits involved with bringing GIS to middle school classrooms, and creative approaches to any barriers.

Figure 5. Promotional Flyer for the Follow-Up Teacher Webinar



4.1 Benefits and Opportunities to GIS in Middle School

Participants said that they saw the benefits of GIS for bringing real-world examples to the classroom. Many of these examples plug into contexts that students understand, such as Amazon deliveries or mapping fast food locations around town. Young people understand why it matters to see locations related to these and other common examples on a map. Participants also shared that GIS provides a “guaranteed and viable curriculum,” which is a broad education goal that means the skill is part of curriculum that is essential and necessary for students.⁴ Finally, GIS is a tangible post-high school career goal: one participant, a community college instructor who teaches GIS, shared that students take her class because they see job postings asking for it as a skill.

4.2 Barriers to Implementing to GIS in Middle School

Despite teacher, administrator, and student enthusiasm, there are some barriers to implementing GIS more broadly in middle school classrooms. Webinar participants shared that teachers may be interested and enthusiastic about the content, but they are busy and stretched thin; many are still weary from the challenges of teaching during the COVID-19 pandemic quarantine. Motivated teachers may bring GIS to their curriculum themselves, but broad adoption will likely require direct curriculum and/or standardized score requirements. GIS is hard to introduce because it is pathway-adjacent, rather than a pathway itself. There is, however, a benefit to this in that it can plug into any other career and technical education (CTE) pathway.⁵

Given these problems, introducing GIS in after-school activities may be more feasible than doing so in the core classroom. Webinar participants also shared that after-school programs can be good when they work, but many are difficult because students are very busy with other activities. Participants shared that the problems are not necessarily funding and facilities. Finally, administrative personnel are often excited about opportunities for teaching technology skills, such as GIS, but do not always see an opportunity for students as young as middle school.

4.3 Participant Insights

Webinar participants were active in the discussion and shared some novel ideas. Administrator participants suggested that to work around teacher overwork and exhaustion, curriculum researchers and designers could interface with curriculum vendors about integrating GIS into their products. There are also existing state programs into which GIS instruction could possibly be integrated. One is Career and Technical Student Organizations (CTSOs) which align with the 16 career clusters and 79 career pathways recognized as part of the National Career Cluster Framework.⁶ Another are the Advanced Via Individual Determination (AVID) programs, which are electives geared toward the average student.⁷

Another idea mentioned was that there is an apparent difficulty with a didactic introduction to GIS as a concept, so perhaps it may be easier to introduce geographic and spatial concepts without

using the term “GIS.” A way to hook students could be to ask “Are you visual? Do you like solving problems?”, both of which can be satisfied by learning and using GIS. Starting with acronyms and multi-syllabic definitions can be less engaging. This approach mirrors the one taken by the lead instructor in the bootcamp.

Finally, some other ideas shared as ways to engage students were to introduce GIS by showing job postings that ask for GIS as a skill and also by tying GIS into their interests such as sports and social media.

5. Summary & Conclusions

The bootcamp and follow-up webinar were successful as a pilot to gauge the impact and potential of introductory GIS and drone instruction, and activities on student awareness of transportation and career opportunities. All student participants reported interest in learning more about GIS, despite "drone marketing" being the primary reason for enrollment in the bootcamp.

The teacher webinar held after the bootcamp gave insight into how to best engage students. Some ideas shared during the session were tying the skill into sports or social media, or introducing basic concepts before bringing in the term "GIS." Teacher participation in the webinar demonstrated that there is a willingness from educators to bring in new skills, but many teachers are overburdened with teaching and testing requirements and need to see the connection between the technology being taught and student assessment. There was discussion that there may be potential to implement GIS as a requirement or perhaps more easily as an elective.

The partner infrastructure that was developed as part of this project and outlined earlier in this report can be repeated and replicated. The curriculum can be refined via this process. Future iterations of this bootcamp would benefit from surveying teachers as well as students. Teacher understanding of GIS, transportation, and career concepts is important for the success of the curriculum. There was, however, potential to tie the skill more explicitly to transportation concepts and career opportunities.

GIS is a skillset that is needed in the workforce to support current and future transportation systems. This leads to advocacy for safer and better managed streets in California's communities, addressing CA SB-1 Objective 4. The outcome of this pilot and the earlier SB1-funded teacher-focused training is a series of ready-to-go lesson plans and exercises that, if implemented, extend the reach of the project to additional classrooms, students, and teachers.

Middle school is not too soon for students to expand their awareness of different skills and career opportunities connected to them. Working with research, funding, and K-12 education partners to create and implement accessible and viable curricula to deliver to middle school students will encourage them to explore new skills and to start to consider their career pathways.

Endnotes

¹ Orr, M., Olson, B., Carballo, A., Garcia, A., and O'Brien, T. (2021). Building a GIS Workshop for High School Students. *UC Davis: National Center for Sustainable Transportation*. <http://dx.doi.org/10.7922/G20G3HF9> Retrieved from <https://escholarship.org/uc/item/59b7v5cc>.

² Orr, M., Olson, B., Carballo, A., Garcia, A., and O'Brien, T. (2021). Building a GIS Workshop for High School Students. *UC Davis: National Center for Sustainable Transportation*. <http://dx.doi.org/10.7922/G20G3HF9> Retrieved from <https://escholarship.org/uc/item/59b7v5cc>.

³ Roberts, W. and Chesher, W. (2020). Welcome to #MapCraft. *Rio Hondo College*. <https://arcg.is/0T1vjT>.

⁴ A Guaranteed and Viable Curriculum (GVC). (2023). Arlington Public Schools. *Intrado Corporation*. https://www.asd.wednet.edu/administration/teaching___learning/guaranteed_and_viable_curriculum.

⁵ CTE Model Curriculum Standards. (2022). CTE Model Curriculum Standards—Standards & Framework. *California Department of Education*. <https://www.cde.ca.gov/ci/ct/sf/ctemcstandards.asp>.

⁶ Career Technical Student Organizations (CTSO). (2012). CTSO. *California Department of Education*. <https://www.cde.ca.gov/fg/fo/profile.asp?id=2330>.

⁷ Advancement Via Individual Determination (AVID). (2008). AVID. *California Department of Education*. <https://www.cde.ca.gov/fg/fo/profile.asp?id=1226>.

About the Authors

Thomas O'Brien

Dr. Thomas O'Brien is the Executive Director of the Center for International Trade and Transportation (CITT) at California State University, Long Beach (CSULB) and the Deputy Director of Long Beach Programs for the METRANS Transportation Consortium, a partnership of CSULB and the University of Southern California. He also serves as the Director of the FHWA Southwest Transportation Workforce Center (SWTWC). He previously served as CITT's Director of Research. Dr. O'Brien is an instructor in CSULB's Master of Science in Supply Chain Management (MSSCM). Dr. O'Brien is a member of the Executive Committee of the Council of University Transportation Centers (CUTC) where he served as President, is a member of the CUTC Workforce Development Taskforce, and Chair of the oversight committee of the National Science Foundation's National Center for Supply Chain Technology Education. He is a member of the Transportation Research Board's Intermodal Freight Transport Committee and Urban Freight and Operations Committee. He also serves on the Boards of the Southern California Roundtable of the Council of Supply Chain Management Professionals, Los Angeles Transportation Club, Foreign Trade Association, and National Transit Institute. Dr. O'Brien has a master's degree in Urban Planning and Development and a PhD in Policy, Planning, and Development from the University of Southern California. He is both an Eno and Eisenhower Transportation Fellow.

Ben Olson

Ben Olson is the GIS and Data Manager at the Center for International Trade and Transportation (CITT) at California State University, Long Beach (CSULB). At CITT, Ben manages the center's GIS projects and research responsibilities. He leads the development of GIS applications and their integration into training programs for working professionals and K-12 audiences. Ben received his master's in Geographic Information Science from CSULB and bachelor's in Statistics and Spanish from the University of Illinois, Urbana-Champaign (UIUC).

Hon. Norman Y. Mineta

MTI BOARD OF TRUSTEES

Founder, Honorable Norman Mineta***
Secretary (ret.),
US Department of Transportation

**Chair,
Jeff Morales**
Managing Principal
InfraStrategies, LLC

**Vice Chair,
Donna DeMartino**
Retired Transportation Executive

**Executive Director,
Karen Philbrick, PhD***
Mineta Transportation Institute
San José State University

Rashidi Barnes
CEO
Tri Delta Transit

David Castagnetti
Partner
Dentons Global Advisors

Maria Cino
Vice President
America & U.S. Government
Relations Hewlett-Packard Enterprise

Grace Crunican**
Owner
Crunican LLC

John Flaherty
Senior Fellow
Silicon Valley American
Leadership Forum

Stephen J. Gardner*
President & CEO
Amtrak

Ian Jefferies*
President & CEO
Association of American Railroads

Diane Woodend Jones
Principal & Chair of Board
Lea + Elliott, Inc.

Will Kempton
Retired Transportation Executive

David S. Kim
Senior Vice President
Principal, National Transportation
Policy and Multimodal Strategy
WSP

Therese McMillan
Retired Executive Director
Metropolitan Transportation
Commission (MTC)

Abbas Mohaddes
CEO
Econolite Group Inc.

Stephen Morrissey
Vice President – Regulatory and
Policy
United Airlines

Toks Omishakin*
Secretary
California State Transportation
Agency (CALSTA)

Marco Pagani, PhD*
Interim Dean
Lucas College and
Graduate School of Business
San José State University

April Rai
President & CEO
Conference of Minority
Transportation Officials (COMTO)

Greg Regan*
President
Transportation Trades Department,
AFL-CIO

Rodney Slater
Partner
Squire Patton Boggs

Paul Skoutelas*
President & CEO
American Public Transportation
Association (APTA)

Kimberly Slaughter
CEO
Sysra USA

Tony Tavares*
Director
California Department of
Transportation (Caltrans)

Jim Tymon*
Executive Director
American Association of
State Highway and Transportation
Officials (AASHTO)

Josue Vaglienty
Senior Program Manager
Orange County Transportation
Authority (OCTA)

* = Ex-Officio
** = Past Chair, Board of Trustees
*** = Deceased

Directors

Karen Philbrick, PhD
Executive Director

Hilary Nixon, PhD
Deputy Executive Director

Asha Weinstein Agrawal, PhD
Education Director
National Transportation Finance
Center Director

Brian Michael Jenkins
National Transportation Security
Center Director

