NITC
NATIONAL INSTITUTE for TRANSPORTATION and COMMUNITIES

Final Report 1518
August 2022

Launching the Wasatch Transportation Academy

Nathan McNeil, MURP
Keith Bartholomew, JD
Matthew Ryan

Portland State UNIVERSITY

THE UNIVERSITY OF UTAH

Launching the Wasatch Transportation Academy

Final Report

NITC-TT-1518

by

Nathan McNeil
Portland State University

Keith Bartholomew
Matthew Ryan
University of Utah

for

National Institute for Transportation and Communities (NITC)
P.O. Box 751
Portland, OR 97207

August 2022

Technical Report Documentation Page

1. Report No. NITC-TT-1518	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Launching the Wasatch Transportation Academy		5. Report Date August 2022
		6. Performing Organization Code
7. Author(s) Nathan McNeil, Portland State University; https://orcid.org/0000-0002-0490-9794 Keith Bartholomew, University of Utah; https://orcid.org/0000-0003-1468-1110 Matthew Ryan, University of Utah		8. Performing Organization Report No.
9. Performing Organization Name and Address National Institute for Transportation and Communities (NITC) P.O. Box 751 Portland, OR 97207		10. Work Unit No. (TRAIS) 11. Contract or Grant No. 69A3551747112
12. Sponsoring Agency Name and Address U.S. Department of Transportation Office of the Assistant Secretary for Research and Technology 1200 New Jersey Avenue, SE, Washington, D.C. 20590		13. Type of Report and Period Covered 14. Sponsoring Agency Code
15. Supplementary Notes		

16. Abstract

The "Community Transportation Academy" model seeks to break down the barriers for community members to participate in transportation decision-making processes. Since 1991, the Portland Traffic and Transportation Course has held at least one course each year, connecting Portland residents with top planners, engineers, and decision-makers from agencies working on transportation in the region, with the goal of conveying the factors professionals consider, ranging from technical considerations, legal and policy mandates, other tradeoffs, and how the community can engage with and influence decisions. This project sought to implement a transportation academy in the Salt Lake City region inspired by the Portland course, using a handbook and report developed as part of a prior NITC-funded study. This report details the implementation of the Wasatch Transportation Academy.

Using a curriculum handbook developed in 2015 based on the Portland course, this project sought to adapt the curriculum for the Salt Lake City region. The project brought in partners from the region's municipalities and regional and state transportation agencies to create the first of what is hoped to be a continuing community-based course in transportation planning and decision-making.

The course ran for eight weeks during January-March 2022, reaching a total of 49 students and concluding with a suite of 18 student-led project presentations and a field trip of a local transportation project in the process of being implemented. Student feedback from a post-course survey showed a high degree of satisfaction across a number of pedagogic factors, with a strongly positive net promoter score, indicating a likelihood of continued success for the course in future years.

Experiences from the first run of the course suggest improvements to course structure and curriculum that would extend the course to a 10-week format (like Portland's), and a shifting geographic focus to capture differing substantive foci and engage a broader set of students and stakeholders.

17. Key Words	18. Distribution Statement No restrictions. Copies available from NITC: www.nitc-utc.net

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	51	

ACKNOWLEDGEMENTS

This project was funded by the National Institute for Transportation and Communities (NITC; grant number 1518), a U.S. DOT University Transportation Center, and with additional support from Salt Lake City Transportation Division; Wasatch Front Regional Council; Utah Department of Transportation; Utah Transit Authority; University of Utah; Salt Lake County, Regional Planning and Transportation; and the Portland Bureau of Transportation.

DISCLAIMER

RECOMMENDED CITATION

McNeil, Nathan; Bartholomew, Keith, and Ryan, Matthew. *Launching the Wasatch Transportation Academy*. NITC-TT-1518. Portland, OR: National Institute for Transportation and Communities, 2022.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 EXECUTIVE SUMMARY

The “Community Transportation Academy” model seeks to break down the barriers for community members to participate in transportation decision-making processes. Since 1991, the Portland Traffic and Transportation Course has held at least one course each year, connecting Portland residents with top planners, engineers, and decision-makers from agencies working on transportation in the region, with the goal of conveying the factors professionals consider, ranging from technical considerations, legal and policy mandates, other tradeoffs, and how the community can engage with and influence decisions.

This tech transfer project consisted of implementing a transportation academy in the Salt Lake City region – the Wasatch Transportation Academy – inspired by the Portland course, using a handbook and report developed as part of a prior National Institute of Transportation and Communities (NITC)-funded study (NITC-ED-541 Transportation Leadership Education; https://trec.pdx.edu/research/project/541/). The project also included updating the curriculum handbook so that other cities or regions can start their own transportation academies.

Using the curriculum handbook developed in 2015 based on the Portland course, this project sought to adapt the curriculum for the Salt Lake City region. At its core, the objective of the class is to get community members and transportation professionals speaking the same language so that community members can play a role in decision-making and transportation agencies can better serve their communities. The project brought in partners from the region’s municipalities and regional and state transportation agencies to create the first of what is hoped to be a continuing community-based course in transportation planning and decision-making.

The course ran for eight weeks during January-March 2022, reaching a total of 49 students and concluding with a suite of 18 student-led project presentations and a field trip of a local transportation project in the process of being implemented. Student feedback from a post-course survey showed a high degree of satisfaction across a number of pedagogic factors, with a strongly positive net promoter score, indicating a likelihood of continued success for the course in future years.

Experiences from the first run of the course suggest improvements to course structure and curriculum that would extend the course to a 10-week format (like Portland’s), and a shifting geographic focus to capture differing substantive foci and engage a broader set of students and stakeholders.

Overall, the original handbook offered a very effective roadmap for launching a transportation academy. However, some adaptations and opportunities for improvement were identified. The updated curriculum handbook serves as a guide for starting a community transportation academy in your city or region. The handbook is accessible here: https://trec.pdx.edu/research/project/1518/Implementing_a_Community_Transportation_Academy

2.0 BACKGROUND

For over 30 years, the Portland Bureau of Transportation has partnered with Portland State University to offer the Portland Traffic and Transportation Course – a 10-week course designed to provide local residents with the skills and knowledge to understand and effectively participate in transportation decisions affecting their neighborhoods. The course guides students through the history of transportation in Portland, connects them with transportation planners and decision-makers across various local and regional agencies, and helps them navigate how they can be involved. The course has hundreds of alumni, many of whom have gone on to be engaged transportation advocates, become professional transportation planners or engineers, and entered local appointed and elected leadership positions. However, at it its core, the objective of the class is to get community members and transportation professionals speaking the same language so that citizens can play a role in decision-making and transportation agencies can better serve their communities.

2.1 PORTLAND TRAFFIC AND TRANSPORTATION COURSE

The Wasatch Transportation Academy was developed in the model of the Portland Traffic and Transportation (PTT) course, which has been teaching the basics of transportation to Portland residents since 1991. The course was conceived as a way to connect the knowledge and experience of transportation leaders at agencies throughout the city with interested community members.

As outlined in a 2015 NITC report on the PTT (pages 7-8), key goals and motivations for the class include:

- Helping community members to understand the complexities of the transportation system, including addressing misconceptions and seeing how people's personal experiences with transportation fit within the greater transportation system.
- Humanizing and demystifying the work of government agencies and transportation practitioners. Providing an open forum and learning environment in which community members can engage in discussions with transportation decision-makers provides a contrast to the potentially contentious settings in which community members only interact with a government agency when reacting, often in opposition, to a project or plan.
- Building a community of transportation-informed community members. A long-term goal of the course was to build up the level of community knowledge and proactive engagement around transportation issues.
- Foster engagement in finding solutions to transportation problems and needs. Often transportation professionals and decision-makers don't find solutions to community problems because they don't know about them or spend time considering solutions. Community members, who are deeply familiar with how transportation works on their street, in their neighborhood, and on their commute, are the best candidates to find solutions to problems in those areas.

- Sharing top agency talent with the community. Many of the most accomplished transportation professionals work in local and regional transportation agencies. The course offers the opportunity to connect them with people interested in learning more about transportation.
- Fostering connections between the university and city. By serving as a host and intermediary, the university serves the city and community by helping to make the connection between community members and transportation professionals.

As noted in the 2015 report, the course originated when then Portland City Council member (and current U.S. Congressman) Earl Blumenauer sought to start a community transportation class. The PTT course was held twice a year between 1991 and 2008, and then each fall in the years since. There are a number of useful resources for going deeper on the PTT, including:

- The City of Portland webpage for the current class: https://www.portland.gov/transportation/walking-biking-transit-safety/traffic-transport-class
- Video recordings of the class meetings from 2019 , 2020, and 2021. The 2019 class was held in a classroom on the Portland State University campus, while the 2020 and 2021 classes met virtually due to the COVID-19 pandemic: https://www.youtube.com/playlist?list=PL8npY70YmmhTIH6Ab-6P-i7dFcj-jdmCM
- The “Portland Transport” blog documented student presentations from 2005 to 2015: https://portlandtransport.com/archives/category/psupdot-class
- The “BikePortland” blog has documented student presentations from 2016 to 2019: https://bikeportland.org/tag/portland-state-university-traffic-and-transportation-class

The 2015 PTT study found that course graduates reported being more civically involved on a range of transportation measures, such as attending neighborhood association meetings, planning open houses, reaching out to government agencies about transportation concerns, and submitting comments or feedback as part of a planning process (McNeil, 2015). Whether the course encouraged people to get more involved, gave them the tools to be more involved, or simply was a step along a personal pathway to greater involvement, it played some role for increased engagement for many survey respondents.

The study found that the student projects were an important part of the overall course impact by creating a venue in which students grappled with transportation problems, engaged with agencies on what could be done to address the problem, and what tools and levers a concerned community member could use to make an impact. Some student projects resulted in actual improvements being made by local transportation agencies, while others fostered interactions between students and local transportation planners or engineers. Some students also felt frustrated or disappointed that their proposed solutions encountered roadblocks.

Founding course instructor Ric Gustafson retired from leading the course prior to the 2019 class. PBOT hired a new instructor, Thuy Tu, who has been the instructor since 2019. As the class transitioned to a new instructor, the course also revamped the approach and syllabus to include a focus on equitable transportation. As noted in Figure 1, the course sought to consistently tie the week's lessons back to a set of theme and questions, including:

- Equity, Diversity and Inclusion
- Livability and Affordability
- Community Engagement
- Sustainability and Resilience
- Innovative Technology

Due to interest in the class being greater than the 30 available slots each year, a lottery is used to fill most seats. As noted on the course website, "Some seats are held to ensure class diversity with representation from all geographic areas of Portland and our BIPOC (Black, Indigenous, and People of Color) community" (https://www.portland.gov/transportation/walking-biking-transit-safety/apply-10-week-portland-traffic-transportation-class). One finding from the 2015 PTT report was that the class participants were more likely to be white and more highly educated than the general population of Portland (McNeil, 2015).

The class will be broken into three phases:

1. The History of Portland's Transportation Systems
2. Portland's Current Transportation System
3. Planning for Portland's Future Transportation System

Five main themes that will emerge each week include:

1. Equity, Diversity, and Inclusion
2. Livability and Affordability
3. Community Engagement
4. Sustainability and Resilience
5. Innovative Technology

Woven throughout the Course

- Social Justice & Equity
- Sustainability
- Climate Change
- Community
- Interdisciplinary
- Integration
- Cultural Landscape & Diversity
- Commitment to Ethics

Retooling Transportation and Urban Planning for Equitable Systems

- Equity & Social Justice
- Sustainability & the Triple Bottom Line
- Complexity
- Being an **Individual** within the context of **Community**
- Infrastructure Development
- Livability
- Passion & Purpose

Each week, these questions will be asked:

1. ***Equity***. How can we equitably distribute resources so everyone has what they need, recognizing historical and present disparities?

2. ***Diversity***. Who is affected by our decisions and especially who might be disproportionately harmed by our 'solutions'?

3. ***Inclusion.*** How can we include disproportionately harmed people into our process early and often as possible?

Figure 1 Phases and Themes of the course, as described in this section of the 2019 syllabus

2.2 DEVELOPMENT OF CURRICULUM AND IMPLEMENTATION HANDBOOK

As a component of the project that evaluated the PTT course in 2015, McNeil developed a Course Curriculum and Implementation Handbook (2015) based on the Portland course, which laid out a step-by-step process to replicate such a course in other cities, including a sample syllabus, course assignment, and collected wisdom on how to make the course valuable and effective. The handbook includes collected wisdom from the longtime Portland course instructor gleaned through interviews, feedback from graduates based on survey responses, feedback from experts in public participation and citizen involvement based on a set of interviews, operating principles to make the course a success, suggestions to maximize the value of the course to participants and the broader community, and more.

The full Course Curriculum and Implementation Handbook is available as part of the full project report, or as a standalone document. Both can be downloaded from the project page on the NITC website: https://nitc.trec.pdx.edu/research/project/541.

2.3 LITERATURE REVIEW

A literature review focused on community engagement concerning transportation planning. Journals and scholarly articles were consulted to identify dynamic and effective techniques to engage the public in transportation services and transportation planning topics. The amount of literature dedicated to community engagement is vast and the ideas surrounding effective citizen engagement are broadly applicable, so applying this to the frame of transportation was necessary to better understand how these important ideas translate to the Wasatch Transportation Academy's vision, topics, and goals for students taking the course.

Relationship building between transportation agencies and the community is a recurring and important theme that emerged from the consulted literature. Some benefits cited in these sources attribute robust community engagement to solidifying public trust, better relationships between policymakers and the public, and bilateral accountability between agencies and the community. Creating a meaningful dialogue between these two groups is vital to increasing the likelihood of everyday people becoming more than short-term participants in transportation planning and policymaking.

Stakeholder interviews are crucial to understanding the current conditions and needs of the community. The qualitative research these interviews provide serves as a comprehensive collection of public perceptions regarding transportation planning (Wellman, 2015). Along with stakeholder interviews, consulting grassroots organizations in the relative area helps identify a target audience, helps communicate to the public, and can encourage greater participation from the public (Smith Hanson and Jackson, 2001). These stakeholders should be in tune with their constituents, helping develop successful relationships and possess local sensitivity (Wagner, 2013). The valuable qualitative information gained through stakeholder interviews is vital to building a successful and genuine community engagement effort.

Another prime component of this relationship-building process begins with early outreach. A comprehensive community engagement approach should engage the public in a plan's earliest stages (Smith Hanson and Jackson, 2001). Approaching community engagement in this way yields several positive results which can solidify these relationships. Not engaging early on runs the risk of an ineffective community engagement process altogether, compromising the trust between community members and policymakers (Wellman, 2015). Approaching the community early and with authenticity about community issues is vital to maintaining and increasing community engagement around transportation planning and policy issues.

Community engagement education intends to prepare community members with the tools they need to advocate and engage on their own need to have the resources to do so. Time spent to teach community members how to effectively help their communities

starts with time dedicated to the topic, known as “contact hours” (Apaliyah and Martin, 2013). The knowledge and expertise gained from community-driven education allow students to exercise their new skills by building networks within their circles (Spector and Leard, 2020). An added benefit to an effective community engagement design was relationship building between participants and professionals in a given field, improving public comprehension of more technical subjects (Spector and Leard, 2020).

The efficacy of the virtual course format and student engagement to achieve personal and educational outcomes depend on various parameters. The relationships between program design, structure, and indices of community leadership are significant (Apaliyah and Martin, 2013). In a virtual setting, engagement is bolstered by performance and expected class outcomes (Young and Bruce, 2011). An important aspect of a well-thought-out leadership education program is its ability to serve as a vehicle for training future advocates for future opportunities to help their communities thrive (Apaliyah and Martin, 2013). In contrast, a lack of clear goals for engagement may reduce the ability of students to evaluate their experiences (Wagner, 2013). Simple feedback mechanisms and overall convenience are vital to obtaining feedback from students.

Interaction with policymakers and planning professionals is necessary, and soliciting involvement before agencies make decisions is paramount. To have meaningful discourse with local governance, community members must have a voice and clear access to these decision-makers (Wagner, 2013). Community engagement and bilateral communication between community members and planning professionals increase the legitimacy of engagement, public accountability, and help transit agencies meet their goals for authentic participation (Wellman, 2015).

The transportation academy model fits into the landscape of other citizen academy models, including citizen police, fire, government and planning academies (Morse, 2014). A study of 74 such academies found that most are effective public relations tools for the city or agency that presents them; however, those that focus on building capacity in the community hold the most promise to most effectively improve citizen leadership and participation (Morse, 2014). Another study of citizen academies found that they can touch on four key points – they “enabled participants to acquire new civic skills,” “build more extensive boundary spanning and resource-rich networks,” and “support establishing new norms,” which resulted in “changes in civic behavior” – more active engagement to address community needs and problems” (Mandarano, 2015, p 12). An in-depth study of three planning academies noted that while they can improve citizen understanding of how government agencies work, they “face an inherent conflict” between “capacity building” and “allegiance building” (Marcus, 2007, p2).

2.4 OTHER TRANSPORTATION ACADEMIES

Portland Traffic and Transportation Class

Precedents such as the Portland Traffic and Transportation Class provided a valuable template for a new class and venue to cover transportation planning. In response to the ongoing COVID-19 pandemic, the 10-class Portland course transitioned to online

learning through Zoom. Starting at a regional level, class sessions and the focus became more local and granular as the class moved forward. The course concluded with two separate student presentation sessions with a panel of local and regional planning professionals.

This course challenged students by preparing vision plans, researching commonly practiced planning techniques, and various guest presentations. Project-based learning and open discussions help put principles into practice. Meeting times are on Thursdays from 6:40 p.m. to 8:40 p.m., virtually on Zoom.

The sample schedule of this class is as follows (courtesy of PBOT: https://www.portland.gov/transportation/walking-biking-transit-safety/traffic-transport-class):

- Week 1, Sept. 30th: Transportation, Equity and Community in Portland
- Week 2, Oct. 7th: Planning and Policy at the Regional and Local Levels
- Week 3, Oct. 14th: Regional Transit Planning and Equitable Contracting
- Week 4, Oct. 21st: Sharing the Road with Freight
- Week 5, Oct. 28th: Effective Community Engagement and Advocacy
- Week 6, Nov. 4th: Human Connections through Storytelling and Design
- Week 7, Optional In-person field trip Saturday
- Week 8, Nov. 18th: Visions for the Future, Honoring the Past
- Week 9, Dec. 2nd: Class presentations I
- Week 10, Dec. 9th: Class presentations II

Tampa Bay Citizens Academy on Transportation

In the fall of 2021, Tampa Bay Citizens Academy on Transportation was launched as a virtual learning opportunity for Tampa Bay, FL, residents free of charge. Partnerships with the University of Southern Florida and professionals from the City of Tampa participated as facilitators to help guide students to create a project and prepare them for community involvement. Class sessions were recorded and made available to registered students only, and class meeting times were from 5 p.m. to 7 p.m. on Wednesday evenings. Registration was limited to 25 students total.

The ambassadorship was the prime focus of the course. The goal of this citizen transportation course was to create community ambassadors and continue the conversation around transportation issues in their local neighborhoods.

The sample course overview of this class is as follows (courtesy of NICR: https://nicr.usf.edu/2021/09/02/tampa-bay-citizens-academy-on-transportation/):

- Introduction and History of Transportation in the City
- Transportation Decision-Making, Planning, and Management
- Solving Congestion – Travel Time Reliability and Impacts
- Improving Public Transportation
- Increasing Bicycle and Pedestrian Safety
- Taking Action – How can you get involved?

Surrey Transportation Talks Program
The City of Surrey, Canada, has previously offered a citizen transportation course with Simon Fraser University called “Surrey Transportation Talks Program.” Per the course’s 2018 overview document, “Transportation Talks is a citizen academy program which explores how transportation shapes our city.” Similar to other such courses, this course began at the regional Vancouver level, scaling inward to more local topics and modes. In its most recent iteration in 2018, this course was conducted in person on Thursdays from 6 p.m. to 9 p.m., with the first 30 minutes allocated to light conversation and refreshments. The course concluded with class presentations, certificates, and networking.

This course took a comprehensive and analytical approach to understanding and assessing Surrey's current transportation conditions, covering land use and transportation relationships and managing transportation demand. An emphasis on on-site visits and city tours of transit systems and planning processes were used as learning tools.

The sample course overview for this class is as follows (courtesy of the City of Surrey and SFU: https://www.surrey.ca/sites/default/files/media/documents/TransportationTalksProgram2018.pdf):

- Setting the Stage (regional vision and history)
- Redefining Surrey: Land Use and Transportation
- Transit and City Shaping
- City Tour: From Theory to Practice
- Shifting the Focus: Transportation Planning
- Paying for Transportation
- Actively Managing the System
- Emerging Trends
- Applying Learnings

3.0 PLANNING THE WASATCH TRANSPORTATION ACADEMY

Planning for the Wasatch Transportation Academy began in the first half of 2021, and continued through to the inaugural class in January 2022. The WTA derives its name from the name for the Wasatch Front metropolitan region, which runs north/south in Utah, roughly from Ogden to Provo and containing Salt Lake City. From the very beginning of the planning process, transportation agencies and leaders from around the Wasatch region were brought into the planning process. Details of the planning for the WTA are provided in this section.

3.1 SUPPORTERS AND FUNDING

Researchers from Portland State University and the University of Utah teamed up to bring the model of the PTT class to the Salt Lake region in the form of the Wasatch Transportation Academy. The National Institute for Transportation and Communities supports projects that translate prior NITC-funded research into applications or practice – in other words, projects that help to realize the potential in past research. Nathan McNeil, of Portland State University, was the Principal Investigator on the 2015 PTT study, including the course curriculum and implementation handbook. McNeil proposed the idea of seeking NITC support to help launch a PTT-modeled course in Salt Lake City to Professor Keith Bartholomew of the University of Utah, who had considered pushing for such a course in Salt Lake in the past. Bartholomew was enthusiastic about the prospect, and arranged for meetings with transportation decision-makers at key local, regional and state transportation agencies. Among the represented agencies were the Utah Transit Authority, Wasatch Front Regional Council, Salt Lake City Transportation Division, Utah Department of Transportation, Utah Governor's Office of Planning and Budget, and Salt Lake County. All expressed support for the idea, and offered in-kind support in the form of help planning and promoting the course, as well as helping to present guest lectures and supporting class students.

With the backing of the agency supporters, the project team applied for and received NITC funding that would help cover the cost of the first year of the class that would become the Wasatch Transportation Academy.

3.2 CLARIFYING COURSE GOALS AND OBJECTIVES

Using the established Portland Traffic and Transportation class as a template, course planning began with a series of stakeholder assessments to help develop a course vision, topics, and logistics. Stakeholders consisted of transportation planning professionals on various state, regional, and municipal scales. These agencies include:

- Utah Governor's Office of Planning and Budget
- Utah Department of Transportation

- Utah Transit Authority
- Salt Lake County
- Salt Lake City
- Wasatch Front Regional Council

The stakeholder interviews and the information they provided were then synthesized into a memorandum shared with the stakeholders for review. This quality assurance measure helped refine the vision further. Two separate meetings were conducted with the stakeholder group leading up to the class to review course documents and marketing material to be distributed and promote the class.

These meetings were fruitful and vital in determining the critical elements of the upcoming class. These elements included class modality, essential topics, and prospective students. Further, the discussions helped to identify and solidify important overarching aspects such as articulating a vision for the course, course goals and objectives, and definitions of what near-term and longer-term success for the WTA would look like.

An added benefit of these stakeholder relationships was the snowballing effect on identifying other valuable connections. Through these discussions, community engagement professionals associated with Salt Lake City, Wasatch Front Regional Council, Utah Transit Authority, and the University of Utah were consulted on reaching prospective students.

3.2.1 Vision for the Wasatch Transportation Academy

The vision for the course that emerged from these structured interviews centered around helping community members understand how the transportation system works, particularly around how and where they can get involved in the different steps of transportation planning processes. The course aimed to give students the transportation background, tools, and vocabulary to understand and participate in planning processes and discussions. Students were directed to sources of additional information on their topics of interest to harness deeper understandings of transportation decision-making processes. It is hoped that this expanded skill set can, over time, empower students to serve as ambassadors to other interested community members. Ultimately, the course sought to increase the number of residents in the greater Wasatch region who are comfortable engaging on the topic of transportation, both directly through course graduates and indirectly through the people they interact with in the community.

Among the many insightful comments we heard in our interviews was that we should seek to foster an “engaged not enraged” community of “successful transportation influencers.”

3.2.2 Course topics

The stakeholder interviewees identified a wide range of possible course topics, including:

- The scales and types of transportation planning, including on a neighborhood, city, regional and state level.
- The role of agencies, planning documents, statutes, etc. in controlling transportation planning and decision-making.
- The relationship between land use and transportation.
- Basics of transit planning.
- Effective communication, how and when to engage in planning discussions.
- What is a transportation master plan?
- How to find and interpret planning documents.
- Transportation funding and how it applies to transportation plans.
- Understanding the tradeoffs involved at all different levels and stages, from funding choices, transit service, speed, safety, roadway allocation, and more.
- Travel behavior and demand management, and potential levers for agencies to affect change.
- A glossary of planning vocabulary, the definition of terms and acronyms used in planning discussions.

3.2.3 WTA students

The interviewees also emphasized that the course's student body should be diverse and consist of a variety of perspectives. It should include people who interact with the transportation system in a variety of ways, from regular public transportation users to those who walk, bike or roll, and ranging from community advocates and those actively engaged in city or community councils to the curious or concerned. In addition to community members, the class was open to University of Utah students as a one-credit course. The stakeholder group set a target class size at 30 people: 20 community members and 10 university students (Note that when this report refers to "students" of the WTA, it includes any students of the class, whether from the general community or current University of Utah students, unless otherwise noted). A certificate of completion should be awarded at the end of the class.

Ideally, students would take away from the class a working knowledge and personal interest in engaging others on issues regarding transportation, along with a perspective on how the different parts of the transportation system serve different purposes and users. They would possess the tools to seek out new information and understand what they've learned from it. They would be able to start a conversation with others in the community and have the opportunity to become ambassadors and seed that interest in others. Further, students should have a conception of transportation planning processes, and where there are opportunities to engage with those processes and affect change.

3.2.4 Course delivery and logistics

The stakeholder interviewees wrestled with whether the class should be delivered in person or online. While all understood the immediacy of in-person classroom experiences and the advantages of peer-to-peer collaborations, the interviewees acknowledged a number of factors that might inhibit in-person participation, including childcare, scheduling, and transportation constraints (plus COVID issues). Having an online platform would also facilitate expanding the geographic range of the class beyond the presumed primary focus on the Salt Lake City region. Online delivery would also work to reduce emissions of carbon and other air pollutants (which is especially important during the region's mid-winter inversion season). In the end, the group settled on having most class sessions online, with one in-person field trip at the end of the course.

The interviewees emphasized the importance of good marketing strategies to get interested parties to attend the class. They noted that community organizations, citizen advisory groups, and community councils should be informed and included in the outreach effort, utilizing email lists, digital flyers, mentions in established organization newsletters, and (of course) social media posts. These media pushes would need to be backed up with a class website to provide more information and to give interested potential students a vehicle to sign up.

3.2.5 Regional approach

One of the features that selecting an online format facilitated was the adoption of a regional approach to the course. The Portland course is intentionally focused on Portland residents and issues due to the city's central role in course funding, staffing, and hosting. The WTA, however, did not share this history, and without specific financial or institutional ties to Salt Lake City the interviewees indicated that the Wasatch Front region should provide both the frame for the course and the geographical scope for drawing students. This approach also made sense from a population perspective as the City of Portland has more than three times as many residents as Salt Lake City.

3.3 INFORMATION SHARING BETWEEN PORTLAND AND UTAH

The class instructor of the Portland Traffic and Transportation course, Thuy Tu, along with the manager of the class for the Portland Bureau of Transportation, Michael Espinoza, agreed to meet with the WTA project team periodically throughout the course planning. The teams met in September and October 2021, and again January 2022 prior the class launch. In addition, Keith Bartholomew served as one of the panelists who reviewed the student project presentations for the Portland course.

The meetings with the Portland team yielded important resources and wisdom. Among many other things, the Portland team shared course syllabi and application materials; suggestions on how to most effectively mentor community "students" in class meetings

and on projects; how to guide guest presenters in creating great presentations; how to manage time in class sessions; how to make the (pandemic-related) virtual nature of the course most effective; the importance of the "offseason" in terms of getting the partners, agreements, and everything else in place; and more.

3.4 COURSE PARAMETERS

After the broad vision and goals of the course were identified, the day-to-day needs for starting the course needed to be determined. This section details these logistics and planning efforts.

Once WTA funding was identified, Keith Bartholomew agreed to serve as the course facilitator and instructor. Matthew Ryan, a University of Utah graduate student in City and Metropolitan Planning, was hired to serve as the project graduate research assistant, including serving as the teaching assistant for the course.

Bartholomew developed a class syllabus, following several parameters developed by the project team (McNeil, Bartholomew, and Ryan). The first of these parameters was brevity. Being the first time offering the course, the project team was sensitive to the possible inhibiting effects on student registration that might come from a course perceived as running for a substantial period of time. Eight weeks was deemed to be the "sweet spot" of providing enough time to accomplish something substantively, without seeming like too much of a time commitment. In addition, each class session should not run too long. The Portland course's experience of approximately two-hours per session seemed about right to the project team.

The second parameter that informed syllabus content was having a focus on student-created projects. A syllabus that relied too heavily on "talking head" presentations by experts or academics would seem to violate one of the prime tenets of the course, which is to have community members generate, hone, and communicate their ideas for what should happen with transportation in their communities. To nurture the creation and crafting of these projects, the team felt it was necessary to allocate at least 50% of each regular class session to student project mentoring. It was also necessary to allocate at least two full sessions at end of the course for presentations of the projects.

The third parameter was the necessity of having a field trip to observe some transportation project in process. This was especially important because the rest of the course was going to be online. Just as important to the project team was the insight and "reality check" that the students might gain from seeing a project in process, and to hear from the project planners and engineers about the constraints, complications, and opportunities associated with project planning, development, and implementation – things normally hidden from public view.

The last parameter was providing a variety of perspectives at a range of scales from state, to region, to local. Many community members (mis)understand transportation facilities and services as being provided by only one or two governmental entities.

Because of branding, most people know that transit is provided by a different institution, but everything else appears to be undifferentiated. Moreover, the public tends to see the values and purposes being achieved by transportation as, more or less, a unified whole – transportation is transportation. One of the things the project team wanted to achieve with the course was to raise awareness among the students about the variety of purposes, motivations, jurisdictional authority, and scales being pursued by local governments, regional governments, the transit agency, and the state.

Combining all of these parameters resulted in a syllabus containing the following features: An overall course length of eight weeks, with the last week being the field trip and the two weeks prior to that being allocated to presentations of student projects. This left five weeks for the “regular” class sessions. For those no more than half of the two-hour class sessions could be used for presentation by experts. Given the standard length of professional presentations running in the 20- to 30-minute range, and wanting to leave sufficient time for Q&A, this meant that we could have only one presentation per class session. Spread out over the five weeks of regular sessions, this meant that we could have one session each for the three scales of state, regional, and local, plus two modal sessions for transit and walking/biking.

With this structure, Bartholomew started making contact with possible presenters, using the stakeholder network the team had already established.

4.0 IMPLEMENTING THE WASATCH TRANSPORTATION ACADEMY

Based on the planning phase, the following details about the course implementation were set:

Scheduling: The course would consist of two-hour sessions on Monday evenings, starting on January 24th, 2022, and concluding on March 28th, 2022. Except for the federally mandated holidays of Martin Luther King Day, Presidents' Day, and the University of Utah's spring break, classes were held every Monday evening. There would be five weeks of guest lectures, two weeks of presentation, and a field trip or a transportation facility/project for the eighth week.

Meeting format: It was determined that a virtual format would be best for the inaugural offering of the Wasatch Transportation Academy. Such parameters as the COVID-19 pandemic and vehicle miles traveled to attend class sessions were definite reasons for this modality. Zoom was determined to be the hosting platform for class sessions, and a recurring Zoom link was used to hold the sessions from week to week. The two-hour sessions would be broken into approximately one hour of lectures, including a discussion portion, a short break, and one hour to engage in project-related work, often in small groups.

Group meetings: The use of breakout rooms, a feature of the Zoom platform, allowed the instructor, teaching assistant, and guest presenters to engage in smaller groups designed for project mentoring. Students were grouped determined by their transportation-related interests so that they could discuss and collaborate ideas among themselves.

Documenting class sessions: These class sessions were recorded and uploaded to YouTube (https://www.youtube.com/channel/UCuOJWtEccEIqWVhKS5NgciQ) for public viewing and for students who wished to keep up or refresh themselves with the class. These recordings now serve as a class catalog and are available to anyone who wishes to view them. Additionally, these recordings were published on the course's website (http://cta.cap.utah.edu/), accompanied by a brief synopsis of the week's class.

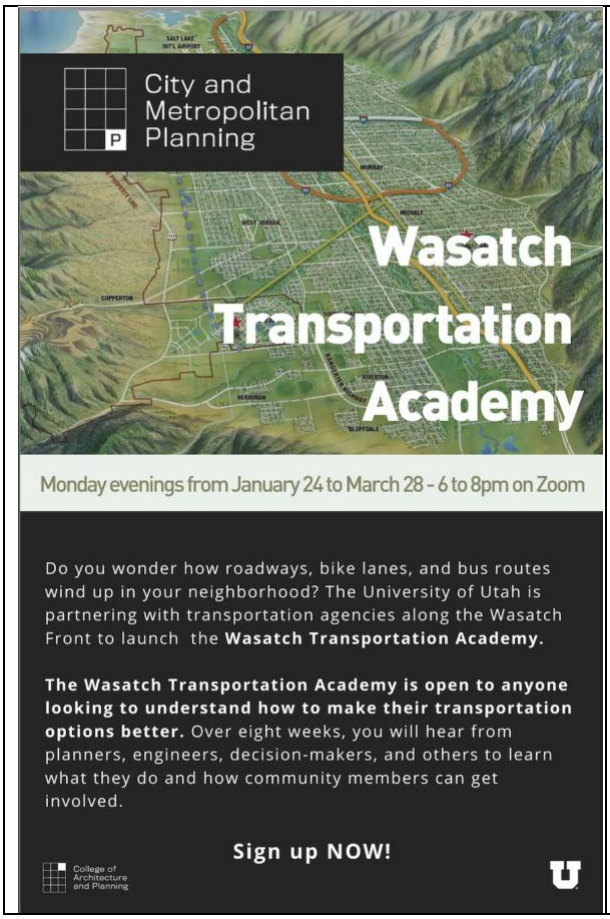
Student support: The course instructors and class teaching assistant each held office hours. A Zoom meeting room was created and shared with students, who could drop in or make an appointment. The instructors and teaching assistant also provided feedback and advice via email in addition to in-class support.

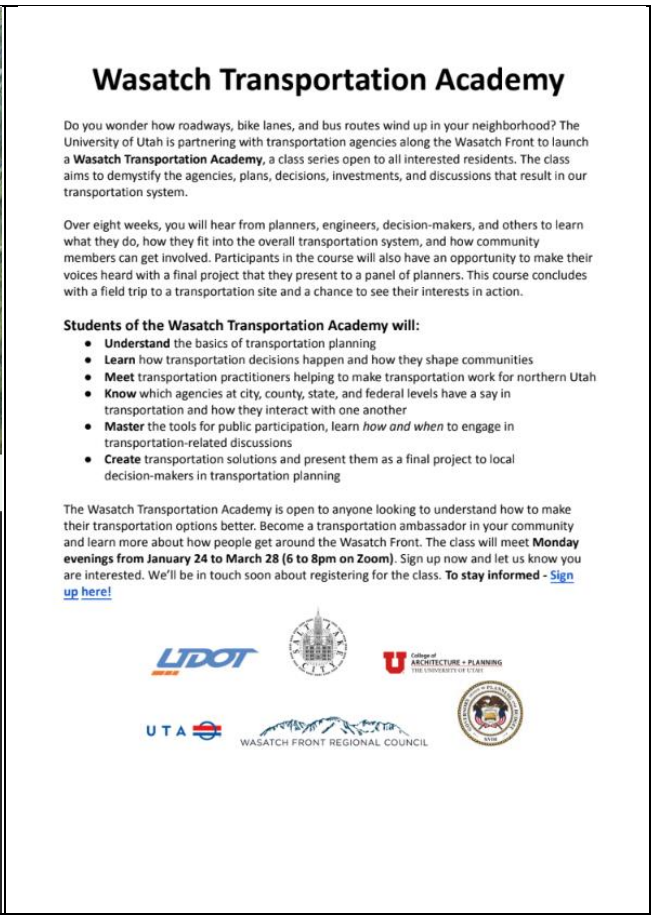
Credit options: University of Utah students had the option to take the course for one credit, with some added requirements, including writing a reflection paper at the end of the class. AICP credit was also made available to students upon request.

4.1 PROMOTING THE COURSE AND SEEKING STUDENTS

In collaboration with the University of Utah City and Metropolitan Planning department, marketing language and materials were developed to promote the class. A flier created for the academy is shown in Figure 2. The language and flier were shared with agency partners with the request that they help promote the class. The class was promoted on various social media platforms including Twitter (see Figure 3), Facebook (see Figure 4), LinkedIn, and through other avenues such as newsletters.

In addition, project team members connected to a number of networks geared toward reaching historically under-represented populations, with the objective of creating a student body for the course that racially, ethnically, and economically matched the Wasatch area population. These networks included those curated by the University Neighborhood Partners, Utah Transit Authority, and Salt Lake City.





Wasatch Transportation Academy

Do you wonder how roadways, bike lanes, and bus routes wind up in your neighborhood? The University of Utah is partnering with transportation agencies along the Wasatch Front to launch a **Wasatch Transportation Academy**, a class series open to all interested residents. The class aims to demystify the agencies, plans, decisions, investments, and discussions that result in our transportation system.

Over eight weeks, you will hear from planners, engineers, decision-makers, and others to learn what they do, how they fit into the overall transportation system, and how community members can get involved. Participants in the course will also have an opportunity to make their voices heard with a final project that they present to a panel of planners. This course concludes with a field trip to a transportation site and a chance to see their interests in action.

Students of the Wasatch Transportation Academy will:

- **Understand** the basics of transportation planning
- **Learn** how transportation decisions happen and how they shape communities
- **Meet** transportation practitioners helping to make transportation work for northern Utah
- **Know** which agencies at city, county, state, and federal levels have a say in transportation and how they interact with one another
- **Master** the tools for public participation, learn *how and when* to engage in transportation-related discussions
- **Create** transportation solutions and present them as a final project to local decision-makers in transportation planning

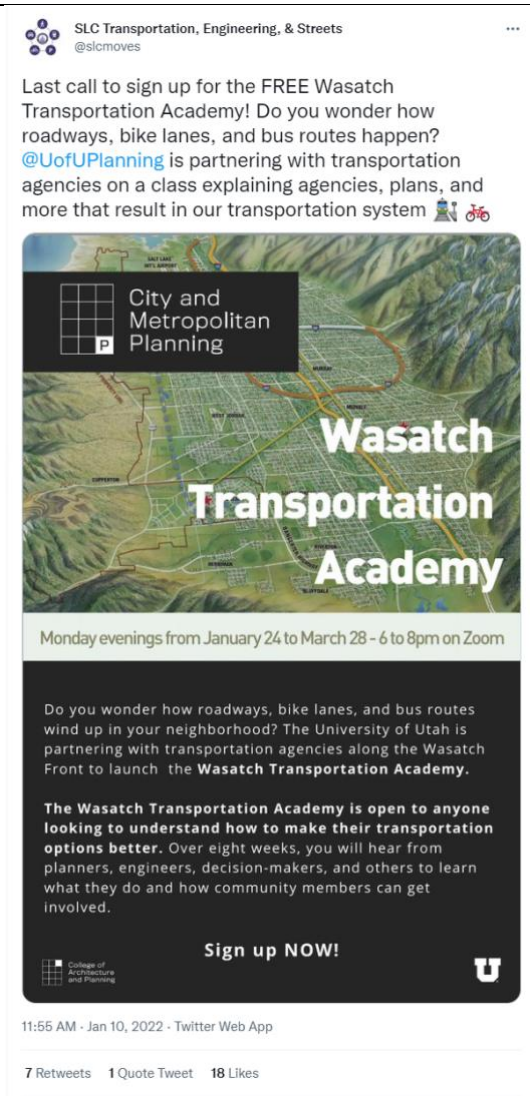
The Wasatch Transportation Academy is open to anyone looking to understand how to make their transportation options better. Become a transportation ambassador in your community and learn more about how people get around the Wasatch Front. The class will meet **Monday evenings from January 24 to March 28 (6 to 8pm on Zoom)**. Sign up now and let us know you are interested. We'll be in touch soon about registering for the class. **To stay informed - Sign up here!**

UDOT UTA WASATCH FRONT REGIONAL COUNCIL

Figure 2 Fliers created and distributed for the Wasatch Transportation Academy

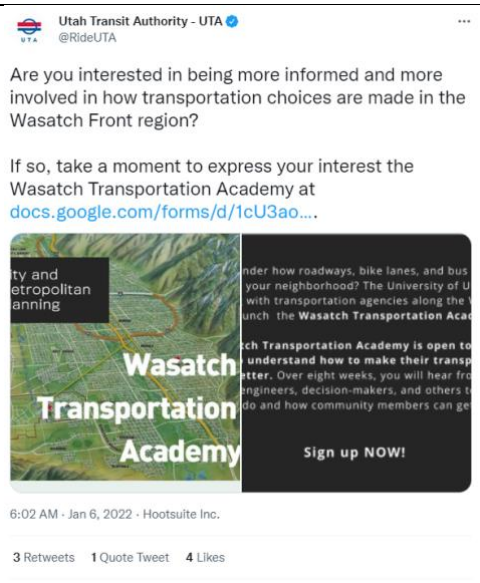
Salt Lake City: https://twitter.com/SLCgov/status/1469343010466971649

Wasatch Front Regional Council: https://twitter.com/WasatchCouncil/status/1478873511510700035And https://twitter.com/WasatchCouncil/status/1460701266045145088



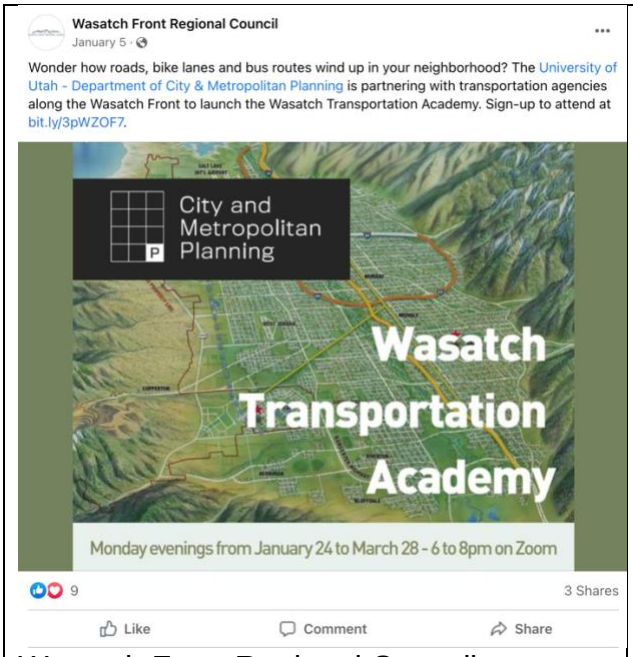
SLC Divisions of Transportation, Engineering, & Streets https://twitter.com/slcmoves/status/1480629339922173952, also: https://twitter.com/slcmoves/status/1469336235344859142

EDCUtah: https://twitter.com/edcutahorg/status/1478418019319754754

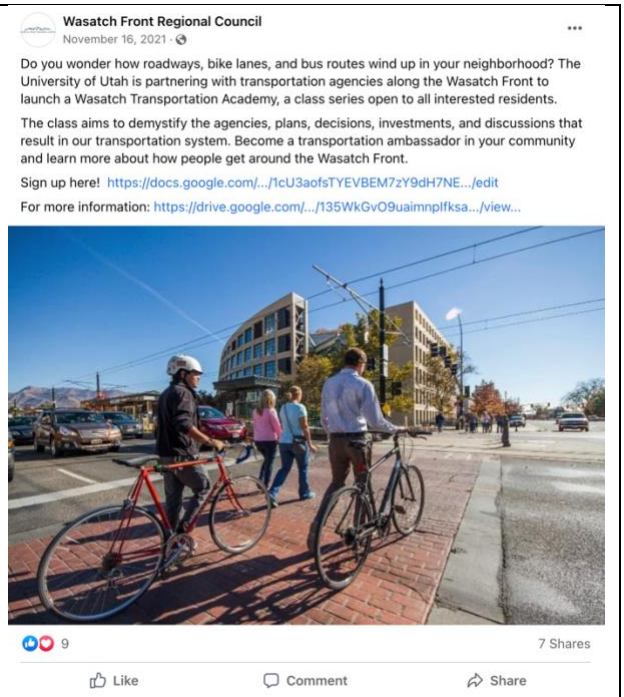


Utah Transit Authority: https://twitter.com/RideUTA/status/1479090982381670403

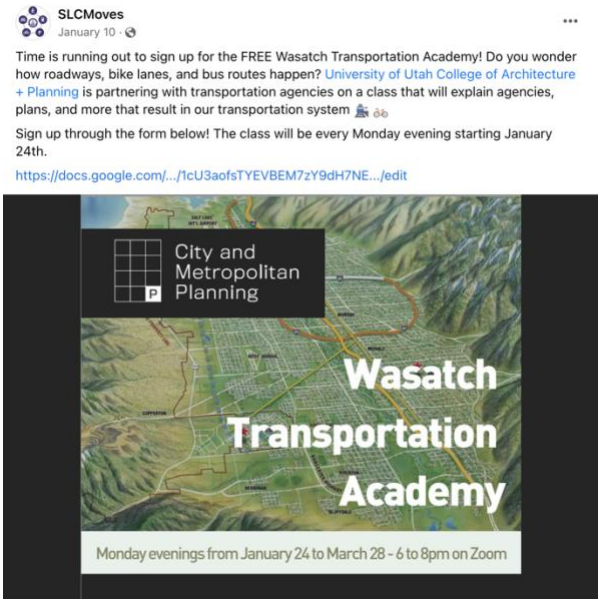
Figure 3 Sample Tweets promoting the WTA



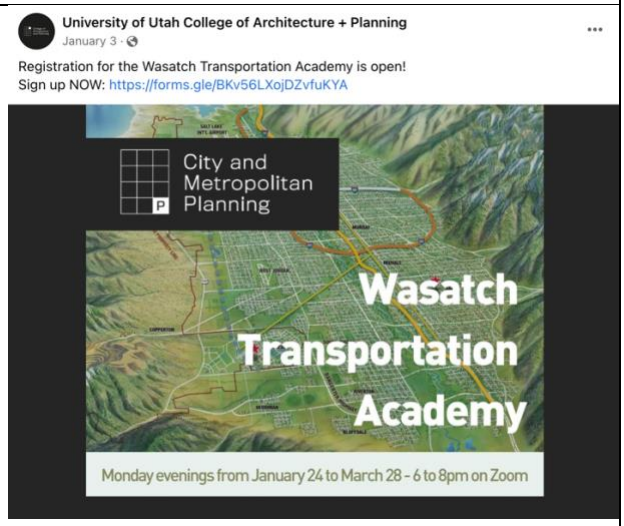
Wasatch Front Regional Council: https://www.facebook.com/permalink.php?story_fbid=4837873082917351&id=111293782241995



Wasatch Front Regional Council: https://www.facebook.com/permalink.php?story_fbid=4660007480703913&id=111293782241995



SLC Divisions of Transportation, Engineering, & Streets: https://www.facebook.com/permalink.php?story_fbid=5011510982203450&id=949007511787171



University of Utah, College of Architecture and Planning: https://www.facebook.com/UofUCAP/posts/4694891007215012

Figure 4 Sample Facebook posts promoting the WTA

All of the outreach materials directed people to sign up to get more information about the class via an online form. In total, 103 people filled out the form, with 32% indicating that they definitely planned to enroll, 62% saying they might enroll, and the remainder generally indicating interest in staying informed about the class. All people on this list were invited to fill out an application. In the course student survey (n=22), slightly over two-thirds of the class students said that they heard about the WTA from a social media post, with 59% saying they saw a post from a transportation agency account, and 9% saying they saw a social media post from a friend about the class. Just over a quarter (27%) said they heard about the class from an email or newsletter, and 14% said they heard about it through word-of-mouth.

All people who expressed interest in the class via the online form were invited to fill out an application to join the class. In the end, 43 people filled out the course application. Although the goal was to have 30 students in the class, the decision was made to invite all 43 applicants to attend with the assumption that there would be some attrition over the course of the class.

5.0 COURSE CONTENT

5.1 OVERVIEW

As noted above, the course instructor sought to curate a set of guest lectures by transportation experts, ranging from state and regional foci down to local government leaders and experts. Guest presenters were asked to focus on how, when, and where citizens can and should engage in transportation planning processes.

5.2 SUMMARY OF LECTURES

Beginning at a regional scale and ending on a local scale, the Wasatch Transportation Academy lectures focused on the many scales on which transportation services, infrastructure, and issues are found. Instructors provided a project mentoring session to students who wished to explore project ideas to present after the guest presentation.

5.2.1 Class One: The Role, History, Context, and Regional Planning

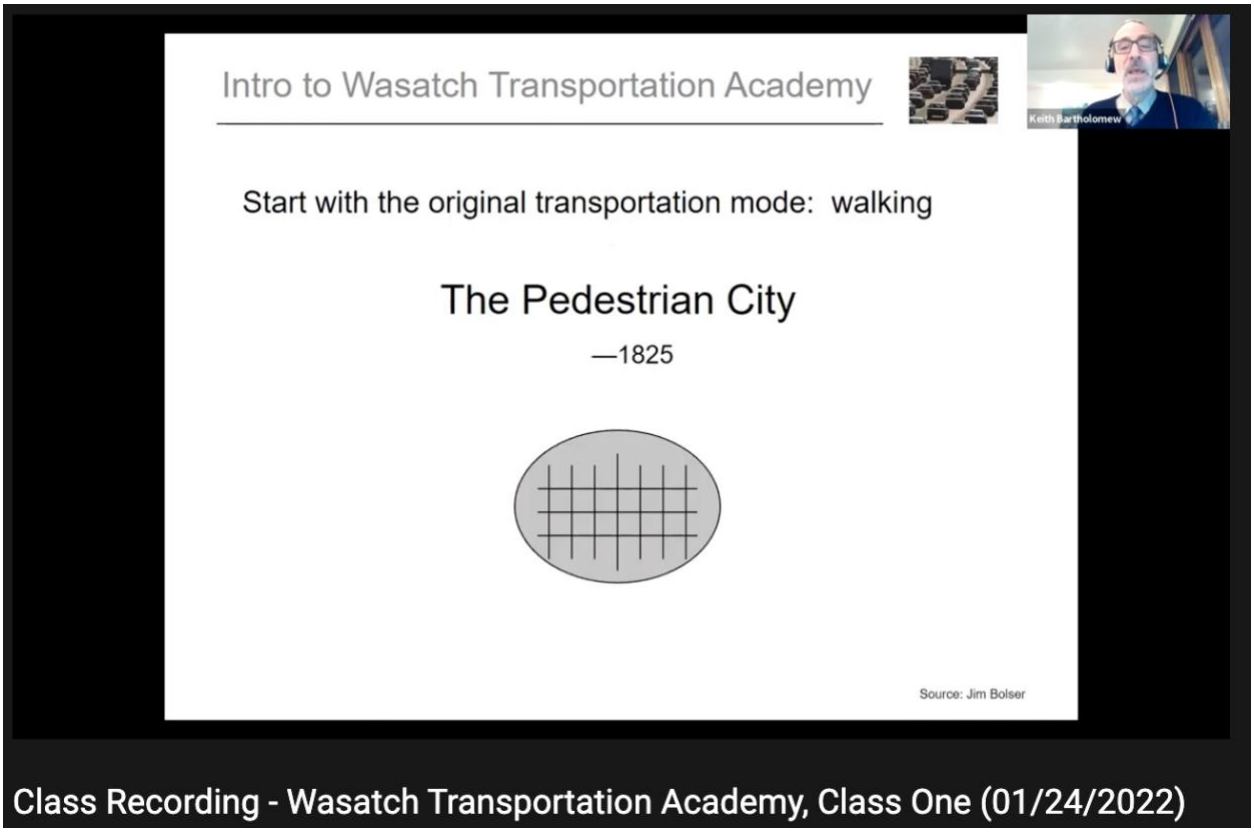


Figure 5 Screenshot from WTA Introductory class

The inaugural class (Figure 5) for the Wasatch Transportation Academy was attended by 47 students, with presentations from the instructor, Keith Bartholomew, the State

Planning Coordinator in the Governor's Office of Planning and Budget, Laura Hanson, and the Deputy Director of Wasatch Front Regional Council, Ted Knowlton. The topics explored in this initial class touched on the importance of citizen involvement in transportation planning and what constitutes effective citizen involvement. Developing a well-informed citizenry with the empowerment to participate in the decision-making process is critical in creating lasting relationships between citizens and planners.

Much has happened since the Golden Spike completed the Trans-Continental Railroad. Transportation options have historically followed the capabilities of technology at the time. This technology aided in accessing more land and the subsequent usage changed and influenced the next cycle of transportation activity. Much of what has evolved into our current transportation options is facilitated by a metropolitan planning organization (MPO). Wasatch Front Regional Council handles the planning processes regionally for Salt Lake County and five neighboring counties in Utah. While the 30-year transportation plan is critical for creating direction for transportation processes, updates in four-year increments keep the plan dynamic. Transportation improvement plans manage and adapt financing.

Some insights from students:

"Could you all please speak to the 'chicken-and-the-egg' issue? Which has more pull, transportation networks or land use? I'm thinking about freeway expansions during the mid-20th century and its negative effect on communities of color… which was the driver of that transportation development?"

"Can't judge the demand for a bridge by how many people are swimming across the river"

Link to recording of class session one:
https://www.youtube.com/watch?v=_MBJ_Y56WR8

Reading assignment for class one: Wasatch Choice 2050 (https://wfrc.org/vision-plans/regional-transportation-plan/2019- 2050-regional-transportation-plan/)

5.2.2 Class Two: State Transportation Planning

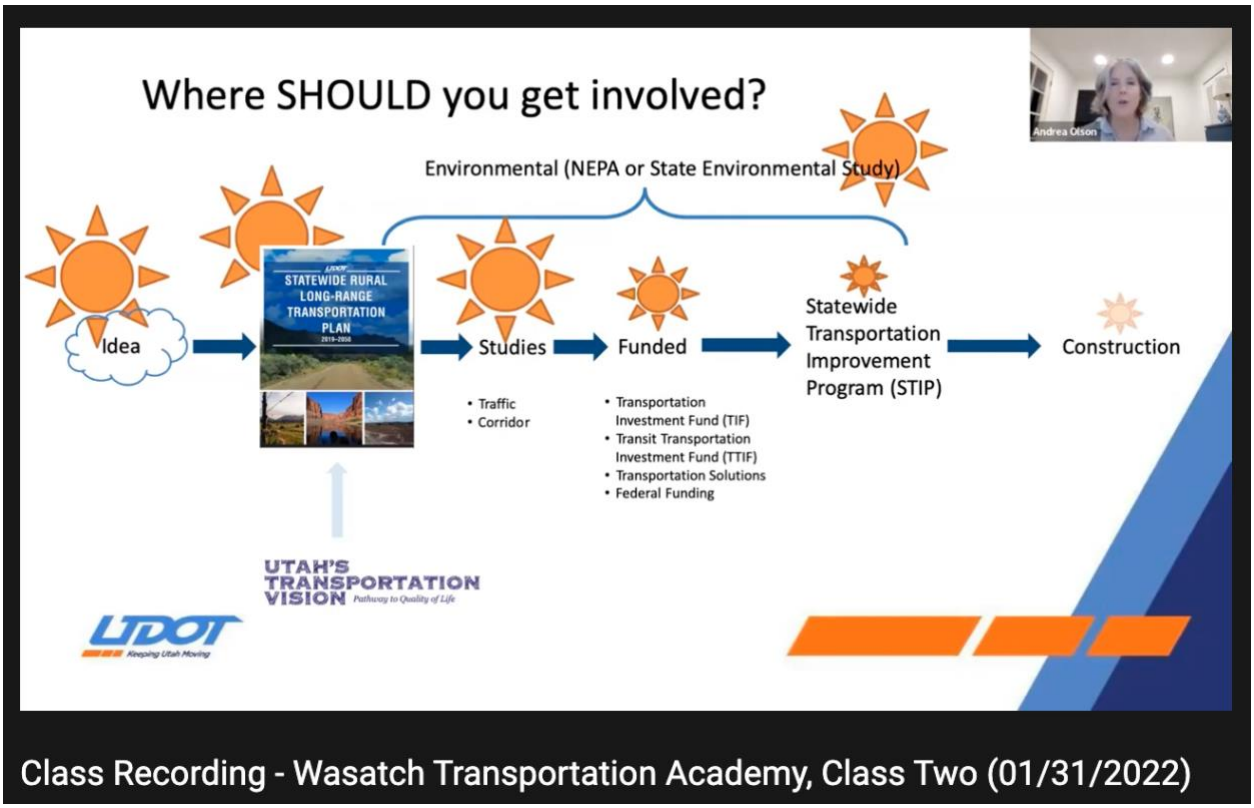


Figure 6 Screenshot from WTA State Transportation Planning class

WTA week two (Figure 6) began with a presentation from Andrea Olson, the Planning Director at the Utah Department of Transportation (UDOT). We learned about UDOT's role in the state and its vital role in moving people throughout the region. The agency plays two critical roles in transportation planning. One is the state's transportation department, and the other is the transportation planner for areas of Utah that do not have a dedicated MPO. One of UDOT's primary focuses is future transportation needs throughout the state. Efficiency and safety are paramount and incorporate all modes and users. UDOT is responsible for implementing a statewide transportation vision under a Unified Transportation Plan.

A valuable takeaway from this guest presentation was the importance of citizen involvement in the planning process. While people can participate in a transportation plan, getting involved early on in a project is crucial. Thinking of it as a lever, getting involved early gives you more leverage to participate effectively.

Link to recording of class session two:
https://www.youtube.com/watch?v=mrrEIJ4Z0WQ

Reading assignments for class two:

- Utah's Transportation Vision (https://uvision.utah.gov/)

5.2.3 Class Three: City Transportation Planning

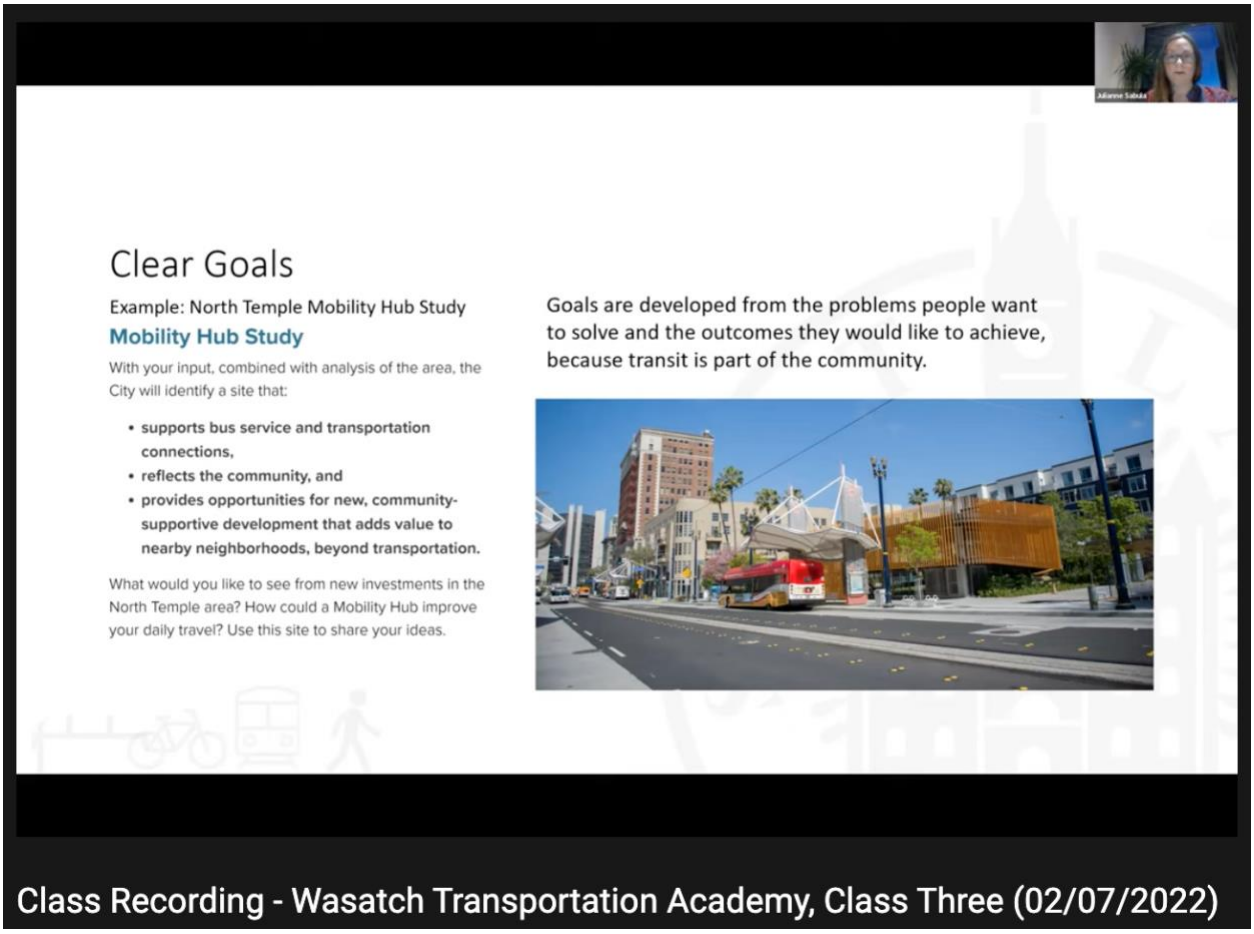


Figure 7 Screenshot from WTA City Transportation Planning class

Julianne Sabula, the Strategic Planning and Programming Manager for Salt Lake City's Transportation Division, joined the class and gave a presentation about the state of local transportation (Figure 7). The City's Division of Transportation handles the operation, design, and maintenance of all streets not under the authority of UDOT. Along with private automobiles, the City has initiatives to promote walking, bicycling, local transit, and trail networks. There is a transportation master plan in the works, "Connect SLC." Among the topics covered, mindfulness of goals and public participation throughout the process were critical takeaways. We also discussed disruptions to the transportation climate in Salt Lake and the proliferation of new mobility forms like electric scooters that have become part of the mode shares in recent history.

Following Sabulas's presentation, Professor Alessandro Rigolon of the Department of City and Metropolitan Planning at the University of Utah joined us for a brief presentation regarding equitable access to green space and green gentrification.

Link to recording of class session three:
https://www.youtube.com/watch?v=bmER3HJDN_c

Reading assignments for class three:

- Connect SLC Transportation Master Plan (https://www.slc.gov/transportation/plans-studies/tmp/)

5.2.4 Class Four: Public Transit

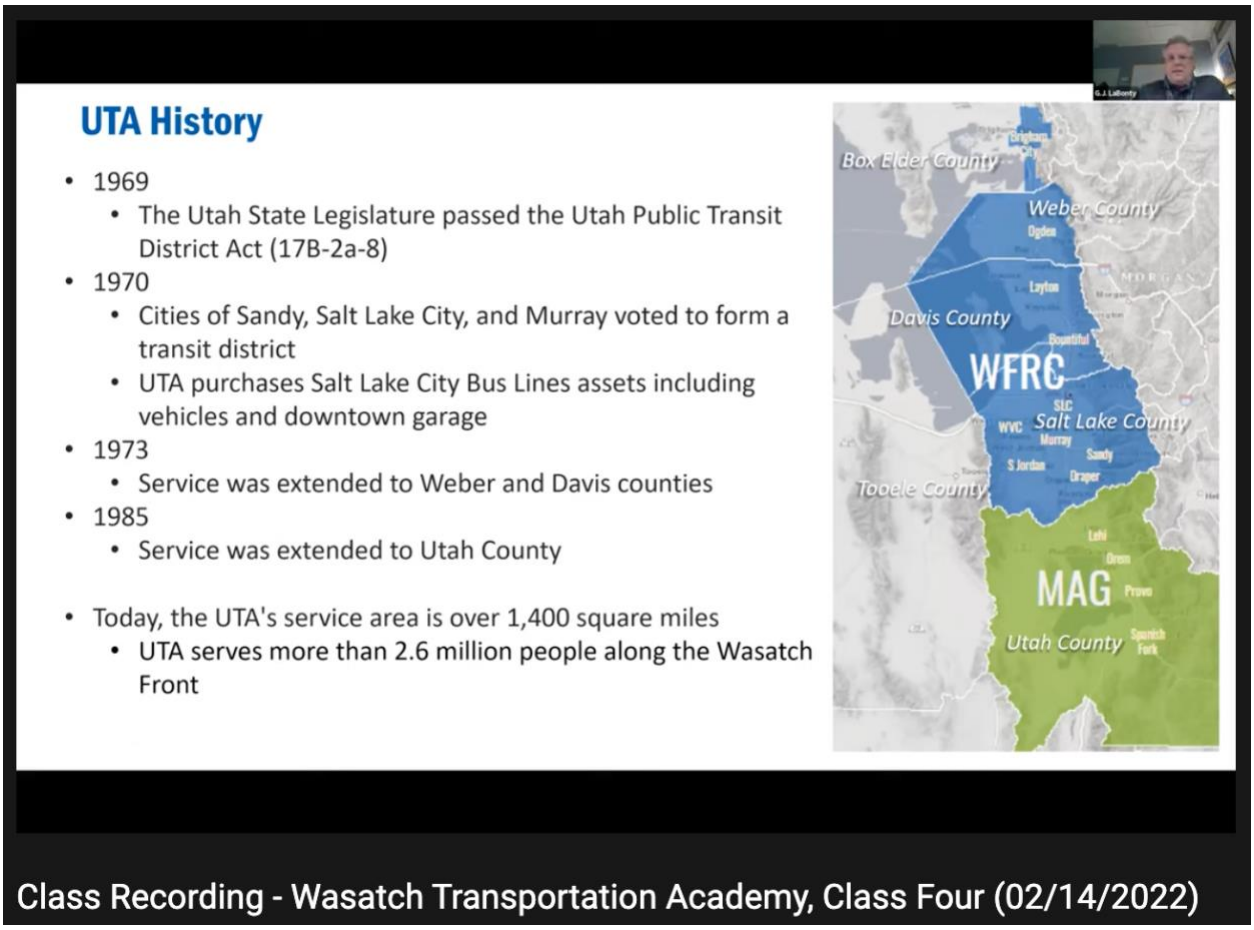


Figure 8 Screenshot from WTA Public Transit class

This week's guest presenter was GJ LaBonty (Figure 8), Customer Experience Manager at Utah Transit Authority (UTA). UTA focuses on three categories of planning, strategic planning, service planning, and customer experience. From long-range goals to everyday processes, UTA uses these scales of focus to create a functioning transit system. Partnerships with WFRC and UDOT are critical for providing reliable transit services throughout several Utah cities and counties. Community engagement is another valuable activity which UTA engages in and helps understand the needs of the transit users. Critical takeaways include the need for integrated mobility and equitable access to public transportation. UTA has three different advisory committees covering

local issues and conditions, a citizen panel, and a group focused on transportation accessibility.

After LaBonty's presentation, students rejoined their small groups from last week to continue working on their final projects. Many students pursue their individual ideas while others work collaboratively towards a shared vision.

Link to recording of class session four:
https://www.youtube.com/watch?v=nQ__FsUhBNo

Reading assignment for class four:

- UTA Five Year Service Plan (https://drive.google.com/file/d/1qAk_Xv71imOTqzlBF_u9fkRbVn3_gQNF)
- Salt Lake City Transit Master Plan (http://www.slcdocs.com/transportation/Plans/SLC_TMP_FULL_FINAL.pdf)

5.2.5 Class Five: Walking and Biking

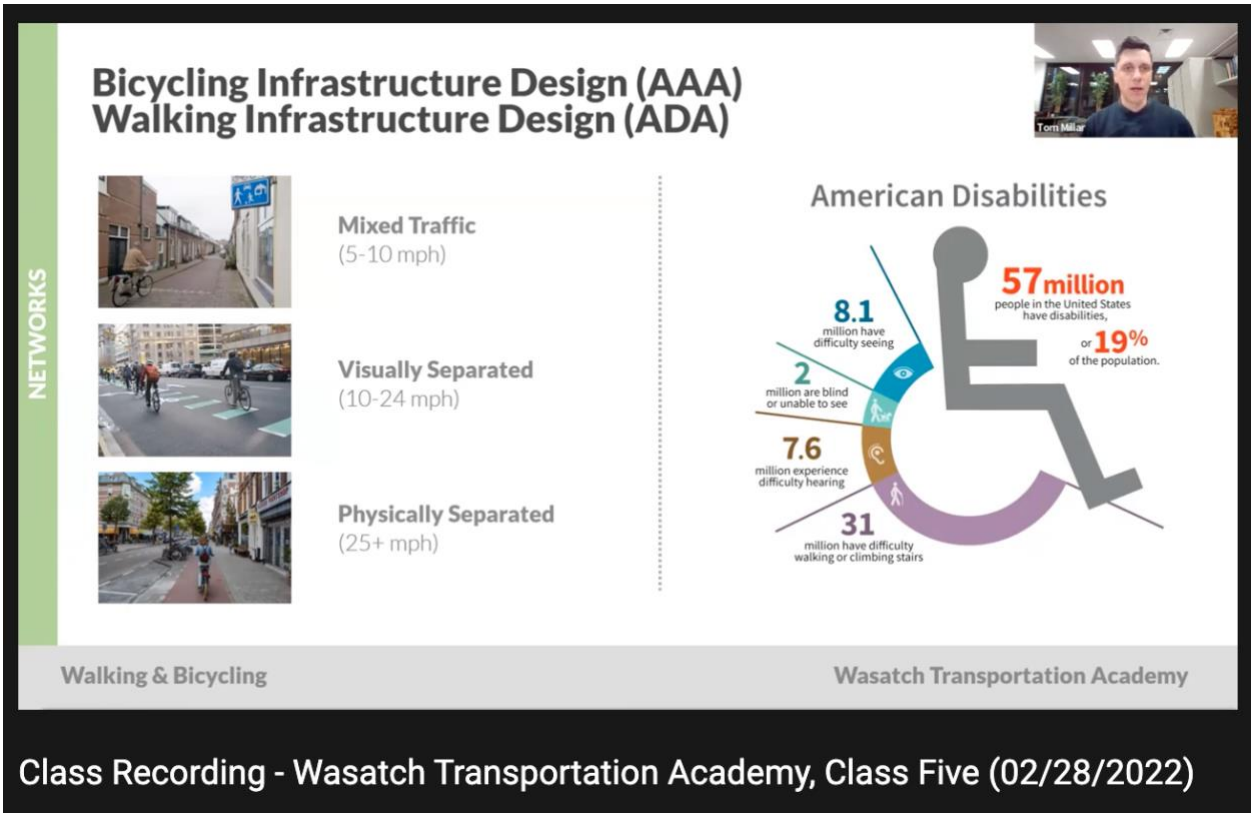


Figure 9 Screenshot from WTA Walking and Biking class

Tom Millar was this week's guest presenter, focusing on planning for walking, biking, and the importance of equitable street design (Figure 9). Within Salt Lake City's Transportation Division, walking and biking have their own distinct importance. This

class was an exploration into how plans are implemented, namely plans which include walking and biking. A Bicycling Master Plan (2010) and a Complete Streets Ordinance (2015) have been adopted in recent history. How these plans influence implementation and their impacts on residents and commuters alike is discussed. We discussed the essential themes regarding street design: they must be human scale, have gentle density, and be walkable. They must be planned with the needs of a neighborhood. Effective language and communicating the need for active transportation are equally important. It is not enough to encourage people to adopt walking and biking as reputable forms of transport. We need to have people visualize it, too.

After Millar's presentation, the course instructor gave students a crash course in storytelling to prepare them for their upcoming projects. Being able to communicate a story and why changes to our transportation choices are needed are enhanced by a good story. Like the street design, these changes happen at the ground level.

"All politics is local, and all local politics is parking."

Link to recording of class session five: https://www.youtube.com/watch?v=vv-WbnI5-80

Reading assignment for class five:

- SLC Pedestrian & Bicycle Master Plan (https://www.slc.gov/transportation/plans-studies/pbmp/)

5.2.6 Class Six: Presentation Night 1

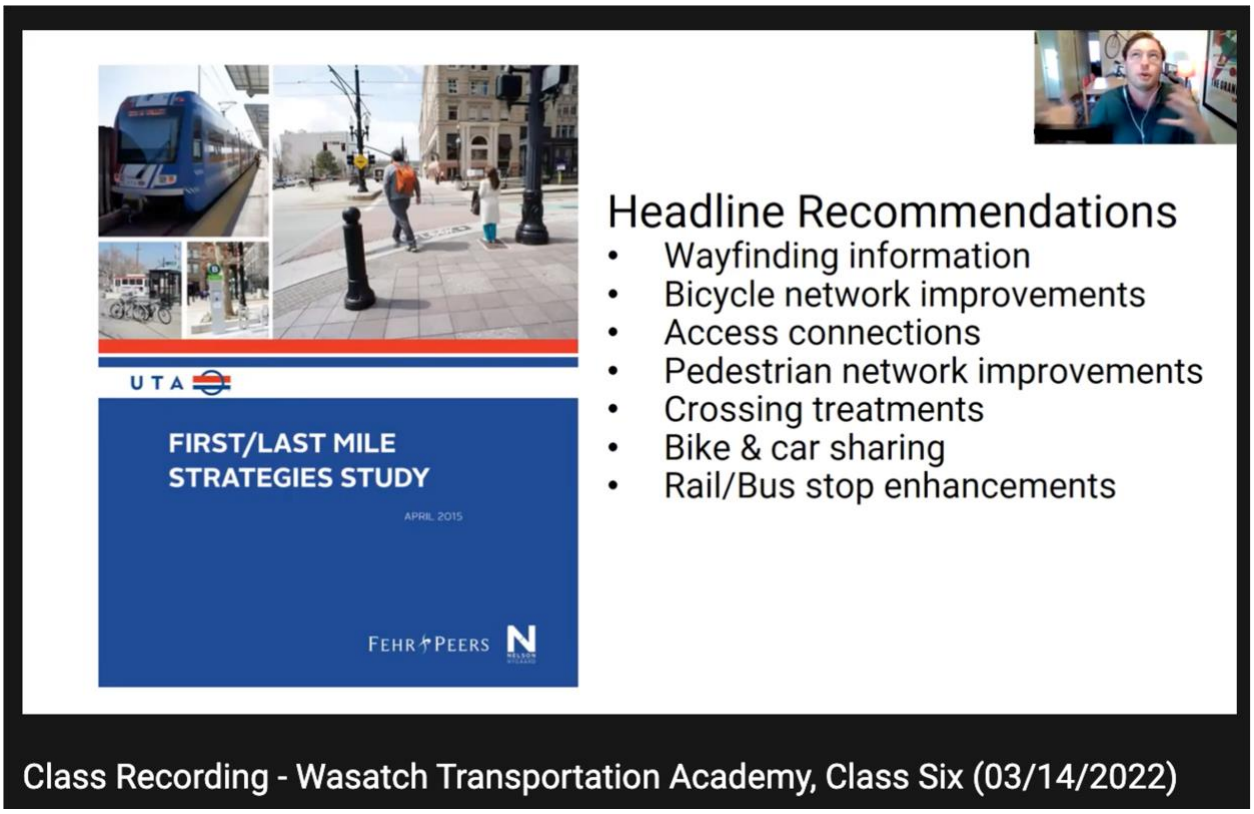


Figure 10 Screenshot from WTA Presentation Night 1 class

The last two class sessions were dedicated to student presentations (Figure 10 and Figure 11). Facilitated by the instructor, presentations and a brief guest panelist feedback session following the presentation gave students an idea of where they excelled and what they could do to take their project to the next phase. The chosen medium for most presentations was slide decks, with a handful of interactive approaches like video recordings and audio narration included.

The first round of student presentations touched on various topics, including regional rail networks, biking and walking safety, transit-oriented development, and a curriculum for public schools to teach children about the wonders of public transportation. Encouraging the adoption of active transportation initiatives in a local municipality and improving first and last mile solutions for bicyclists focused on human-powered choices in transportation. The prospect of a statewide commuter rail network was explored in depth. Youth education about public transportation and the importance of complementary land uses through transit-oriented development concluded this class session. Guest panelists for night one were prior presenters Hanson and Knowlton, who provided excellent feedback and advice for students who wish to take their projects to the next level.

Link to recording of class session six: https://www.youtube.com/watch?v=EuUt4nw91s8

5.2.7 Class Seven: Presentation Night 2

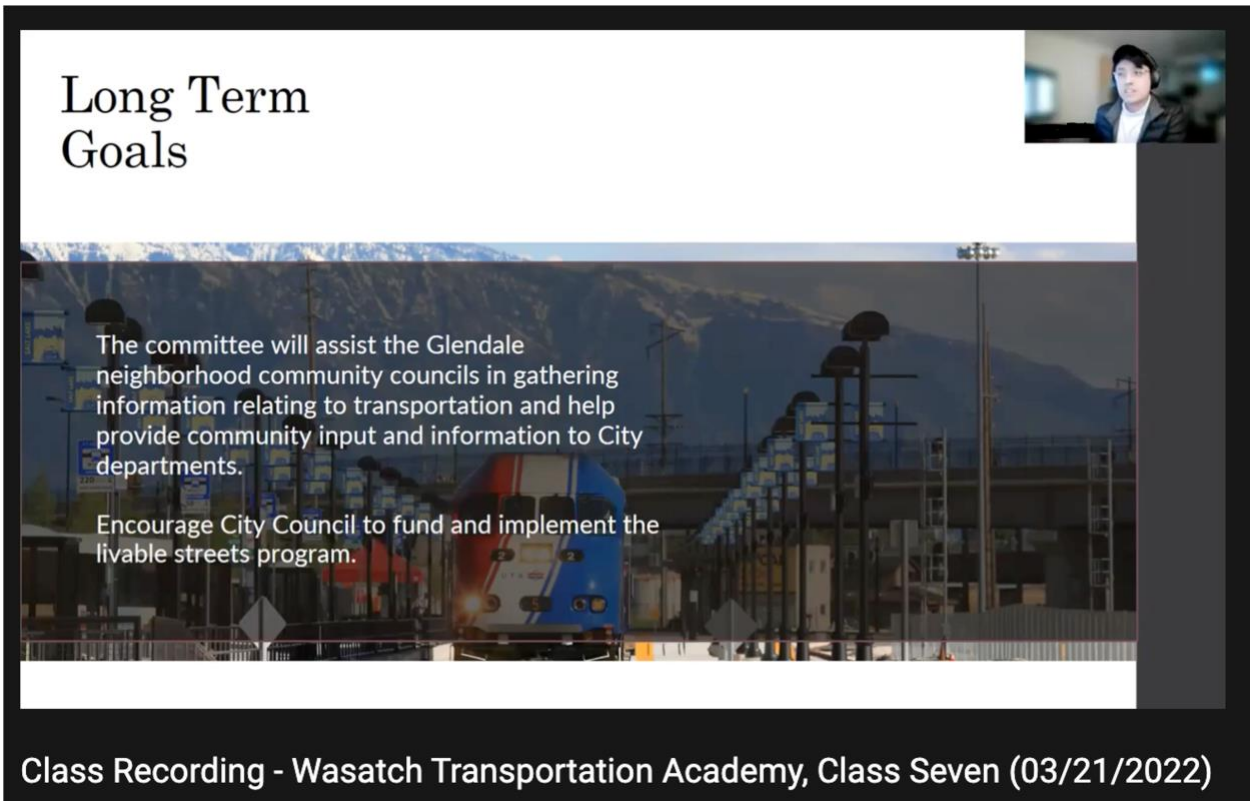


Figure 11 Screenshot from WTA Presentation Night 2 class

The final student presentations were jam-packed with incredible ideas to improve accessibility along the Wasatch Front. Nine presentations covered a wide array of transportation topics. The guest panel for the presentation featured LaBonty, Sabula, and Millar, who participated as guest presenters during earlier class sessions. Salt Lake City Council member Ana Valdemoros was our fourth panelist representing Salt Lake City's District 4. The panelists made for a great discussion and provided advice on how to take students' projects to the next level.

Topics for this iteration of student presentations focused on improving safety for motorists, bicyclists, and pedestrians. Pedestrian safety was a recurring theme, focusing on crossing safety and improving access to community resources around the valley. Transit projects focused on improving bus stop shelters, transit access to Salt Lake's plentiful trailheads, and a statewide volunteer driver voucher system to help mobilize older people and populations experiencing disabilities. Roadway projects included the burying of major arterials and improving roadway lane visibility during storm events. Lastly, bike lane improvements along busy corridors and a neighborhood-wide transportation inventory and improvement were explored to improve quality and safety.

Link to recording of class session seven:
https://www.youtube.com/watch?v=dYCDqT8CNvg

5.2.8 Class Eight/Field Trip: Life on State

The conclusory class of the Wasatch Transportation Academy was a field trip to view the site for an upcoming redesign of State Street, a large arterial route within Salt Lake City. Students gathered at the Salt Lake City and County Building for presentations from UDOT, UTA, and Salt Lake City representatives. After these introductory presentations, the class and guest attendees from local transportation agencies walked to the project site. Viewing the site in person afforded students a look into how the busy arterial was to be modified. A mid-block crossing, bus bulb-outs, and placemaking goals were discussed within this two-block stretch of the street. Students then had a chance to ask questions about the site and discuss their interests and concerns in the project.

Figure 12 WTA field trip information flier

Figure 13 Students and guest speaker at WTA field trip

5.3 STUDENT PROJECTS

A major component of the course, and of each class session, involved working on a class project. Details on the project, including guidance and assignments, are described in this section.

The question: What type of transportation improvement would class participants like to see made in their communities?

The purpose of the project is to learn more about transportation decision-making by focusing on something that will improve the student's community or the region. In a "learning by doing" style framework, the instructor and teaching assistant work with students each week during the course to:

- Identify an area of interest or concern.
- Explore how to gather information about that subject.
- Discover where decisions about that subject are made, who is responsible for that area, and how they make those decisions.
- Develop effective methods to communicate ideas to those decision-makers.
- Facilitate a connection between the student and that agency/decision-maker.

Each week's assignment is designed to take the student one step further along the process. Weekly assignments for the project are summarized below:

- January 31: Describe your transportation interest or concern. Your description can be a single sentence or up to a page in length.
- February 7: Gather background information on your topic and identify possible solutions or opportunities for your transportation interest or area of concern.
- February 14: Prepare a map or physical representation of your project.
- February 28: Outline what agency or decision-maker is responsible for your project subject area. What criteria do they use to make decisions? What are the ways to be involved in their decision-making processes? What will be your next steps to pursue your idea?
- March 14 & 21: Class project presentations.

6.0 STUDENT SURVEY AND COURSE REFLECTIONS

6.1 STUDENT SURVEY

All students were asked to complete a survey about their experience taking the class, including what they liked about it and what they would like to see changed or improved. The survey was developed by the project team, with input and advice from the project advisory group. The survey and methodology was reviewed and approved (Exempt status) by the Portland State University Human Research Protection Program (#227636-18). We invited all 43 students who were accepted into the class (via completing the course application) to complete the survey. We received responses from 22 students, of which 19 indicated that they had attended most or all of the class sessions.

Feedback received from the student survey provided some valuable information on why students decided to enroll in the class (Table 1). Overall, the factor ranked most important in why people decided to enroll in the WTA was their interest in being more involved in transportation issues or decision-making, with half the respondents stating that it ranked as a most important factor. It was followed by personal interest and professional interest in learning more about transportation in the region.

Table 1 Why did you decide to enroll in the class?

Please rate the following factors based on how important they were in your decision to take the class from 1 (not important at all) to 5 (most important)	Mean (1 to 5 scale)	N	Std. Deviation
Interest in becoming involved (or more involved) in transportation issues and decision-making	4.41	22	0.666
Personal interest in learning about the transportation system in the Wasatch region	4.23	22	1.020
Professional interest in learning about the transportation system in the Wasatch region	4.00	19	1.247
Access to guest instructors and transportation leaders	3.35	20	1.226
Concern about a particular transportation problem or issue	3.14	22	1.320
Access to course instructor	3.00	20	1.338

Asked to indicate which aspects of the course were most valuable (Table 2), students indicated that the guest lectures, opportunities to interact with the presenters, and the teaching of the course instructor were the most valuable aspects. The relatively low ranking of the opportunity to interact and make connections with classmates is not surprising given the online nature of the course, including not seeing classmates in person. However, it also points to the need to find ways to provide creative opportunities for engagement with classmates.

Table 2 How much value did you receive from the following aspects of the course?

Please rate each item from 1 (not valuable at all) to 5 (very valuable)	Mean (1 to 5 scale)	N	Std. Deviation
Special guest presentations	4.30	20	0.865
Opportunity to interact and make connections with course presenters	4.21	19	1.182
Teaching of the course instructor	4.10	21	1.179
Work on class project	3.88	17	1.409
Feedback received about personal class project	3.88	16	1.544
Opportunity to interact and make connections with classmates	3.70	20	1.342
Site visit/tour of transportation facilities	3.67	12	1.557

In terms of what students reported they learned in the course, the class effectively conveyed the roles of different agencies and organizations involved in transportation planning in the region, along with factors the agencies consider when making decisions about transportation issues (see Table 3). In general, the topics that students indicated they learned more about include how transportation agencies interact and make decisions. However, the bottom four topics, in terms of what students felt they learned a lot about, were more directly related to how they could get involved, including giving testimony or framing an argument about transportation issues, collecting evidence or data to support a transportation concern, effective language and dialogue to engage community members around transportation issues, and use of technology and media to get a message across. Given that the top-rated reason for enrolling revolved around becoming more involved in transportation issues and decision-making, this result provides an area to focus improvement.

Table 3 How much did you learn about each of the following topics?

Please rate each based on how much you learned about each topic in the course, from 1 (Did not learn about this) to 6 (gained a deep understanding of this topic)	Mean (1 to 6 scale)	N	Std. Deviation
The roles of different agencies and organizations involved in transportation planning in the Wasatch region	4.91	22	1.192
Factors that agencies consider when making decisions about transportation issues	4.50	22	1.263
Factors that planners consider when making decisions about transportation issues	4.36	22	1.399
The fiscal and policy constraints that agencies face when making transportation-related decisions	4.27	22	1.202
The evolution of the transportation system in the Wasatch region over time	4.23	22	1.343
The available tools that agencies can implement to address transportation and traffic issues	4.14	22	1.424
Giving testimony or framing an argument to effectively be heard by decision-makers	4.14	22	1.552
Collecting evidence or data to strengthen a request or argument about a transportation concern	3.77	22	1.744
Effective language and dialogue to engage community members and agency employees around transportation issues	3.77	22	1.631
Use of technology/media to get your message across	3.59	22	1.563

Although the class had only just wrapped up when students were asked to take the survey, we wanted to get their first impression of what they were taking away (Table 4). A total of 90% agreed that the WTA was valuable for their personal self-enrichment (65% strongly agreed). Many indicated they felt inspired to get involved in transportation decision-making, either on a personal level (81% agreed) or on a professional level (65% agreed). On the latter, 45% strongly agreed. Finally, nearly three-quarters indicated they plan to take steps to pursue implementing their class projects.

Table 4 What did you get out of the Wasatch Transportation Academy (WTA)?

Please indicate your level of agreement with these statements about the impact of the WTA on you.	% Agree (strongly)	N	Std. Deviation
The WTA was valuable for my personal self-enrichment	90% (65%)	20	0.999
Due to the WTA, I am inspired to get personally involved in public process around transportation decision-making	81% (38%)	21	0.854
I plan to take steps to pursue implementing my class project idea	73% (40%)	15	1.134
Due to the WTA, I am inspired to find ways to get professionally involved in transportation	65% (45%)	20	1.252

We asked an open-ended question about the most important things the respondents learned in the course. Two themes rose to the top from the responses, with the first relating to understanding the role of and coordination between transportation agencies, and the second relating to how transportation projects are planned, funded and implemented along with when people can and should get involved. Other themes included how transportation works and changes over time in the Wasatch region, the importance and value of public transit, and the opportunity to network. Responses from the students are included below:

- The division of labor between different transportation agencies and the timelines for projects/master plans.
- I found the explanation of the roles of various agencies to be extremely helpful. As a community leader I have found it hard to understand which agency is responsible for the issues that are raised by residents in my community.
- Key people to contact in the different agencies the variety of issues that our classmates are passionate about. Between the guest lecturers and fellow classmates, I learned more about SLC and Utah than I ever would on my own – I am a new resident to Utah.
- Learning about all the various agencies and departments involved in the transportation landscape in Salt Lake City and Utah was incredibly important to understanding how decisions are made and at what point input is most impactful.
- The role of a state transportation agency in planning/funding and some additional tools/resources to gather information about transportation/infrastructure planning.
- The influence of local government in decisions.
- The role of the Wasatch Front Regional Council in our region.
- Who many of the transportation actors are.

- Wasatch front transport plans.
- How projects make it into plans before they are implemented.
- The complexity of selecting, researching and funding transportation projects on the Wasatch Front.
- The biggest takeaway for me was the level of coordination between agencies that is required for these projects, especially when different agencies may have different goals or metrics for success. It was also helpful to learn that getting involved earlier in the planning process can have a greater impact on the final form a project takes on than just responding to plans that have been put out.
- I think the evolution of the transportation industry and the planning for its future was most important to me. It helps me be more conversational about the broader evolution of transportation planning.
- That many people care about transit. Additionally, that the professionals are willing to share their knowledge.
- The most important thing I learned was that the needs of transit users need to be balanced with existing land use.
- The Utah perspective on transit.
- The opportunity to network was the most important aspect of the class for me.

6.2 STUDENT PROJECTS

Among the 22 students who completed the student survey, eight completed and presented a class project and another four did a class project but chose not to present.

Among the 10 students who did not complete a class project, seven indicated that they did not feel they had the time to complete a project and two indicated that they could not think of a good project idea.

The project team chose to make the student project optional because we did not want it to be intimidating to potential students and cause them to avoid signing up for the class (or to drop out once signed up). That said, more should be done to find ways to support students in understanding what a student project could entail, identifying project ideas, and making the project tasks and assignments seem manageable for participants who might otherwise feel they don't have time to complete a project.

6.3 NET PROMOTOR SCORE

The Net Promoter Score (NPS) concept seeks to simplify customer satisfaction into a simple number by asking people how likely they would be, on a scale of 0 to 10 to recommend something to a friend or colleague (Reichold, 2003). Typically, ratings of 9 to 10 are deemed to be very enthusiastic, or "promoters," while ratings of 0 to 6 are deemed to be "detractors." Ratings in between, of 7 to 8, are "passive." The NPS subtracts the percentage of detractors from the promoters to yield a score. Although there are varying notions of what makes a good NPS, Reichold notes that across 28

industries and 400 companies, a median NPS was 16, while the very best companies might receive NPS of 75 to 80. NPS has been less extensively applied in education settings, and has generally been used to improve student recruitment and marketing, although in a recent study of three business school programs, NPS ranged from 33 to 43 (Kara et al., 2021).

We included a NPS question on the student survey, asking “How likely are you to recommend the Wasatch Transportation Academy to your friends?” Half the student respondents responded with a 10, or that they would be very likely to recommend the course, while 36% were in the passive range (7 or 8), and 14% in the detractor range (3 ratings, one at a 4 and two sixes). Using the NPS rubric, these result in a score of 36 (50% minus 14%). However, when looking just at students who attended most or all of the classes (19 of the 22 respondents), the NPS score goes up to 47.

6.4 IMPROVING THE COURSE

Several questions sought to understand how the course could have better served students, including what topics should have been covered, and other suggestions.

When asked what topics the WTA should have covered (or covered more), responses covered a broad range of suggestions. Several students touched on more opportunities to go in depth on specific projects, including more site visits or in-depth case studies looking at a project from conception to completion. Others mentioned hearing more about funding options for projects, the role of the state legislature in transportation projects, more details on transportation engineering, and the connection between jobs and transportation. One requested hearing from someone on the topic of transit advocacy.

Focus on equity and justice: Several mentioned wanting to learn more about matters relating to transportation equity and justice, including the importance of transit in this regard. One noted that the course could be improved by “Focusing on the most marginalized and how empowering such individuals and learning from them can allow design to be beneficial for all and not only the top half of the population. Also, language justice and federal laws like Title VI.” Another noted that increased diversity in the speaker pool would help.

Building connections among students: When asked if they had any other suggestions for improving the class, many focused on wanting more opportunities to interact and engage with their fellow students, whether via more site visits or other in-person meetup opportunities, or finding ways to reach out to classmates during or after the course. One suggested that, if the course is held online again, students could be connected through some online network such as Slack or Canvas.

Guidance on project selection: Several students noted, here or elsewhere in the survey, that it would be helpful to provide more guidance for how students should select student projects, either by providing examples of projects or themes from which to work.

As noted in section 6.2, providing further guidance and making the course project manageable for more people would help more students to be able to participate in this important part of the course. As noted in the discussion of which topics students felt they learned the most about (see Table 3), the topics focused on effectively getting involved in the transportation decision-making process were among those students felt they learned the least (e.g., collecting evidence and data, effective language and dialogue, and use of technology/media to get your message across). Finding ways to improve learning around these topics could make academy graduates more effective participants in transportation decision-making.

6.4.1 Reaching a broader student base

Although the project team made efforts to recruit students from a broad base of Utahans and was successful in many respects, more can be done to make sure that people and communities who may not have much voice in transportation decision-making can be involved in the future.

In terms of who did attend, some results from the student survey are provided in Table 5. The goal of reaching a regional audience was partially achieved – while 64% of the survey respondents were from Northern Salt Lake County, in which Salt Lake City sits, over a third came from other parts of the region. In terms of age, 59% fell in the 25 to 34 age range, 62% were male, and 91% indicated that they are currently employed.

From the course application (n=43), 74% of the students identified as white, 19% as Hispanic or Latinx, 7% as Asian, and 4% as other. The applicants were highly educated, with 51% having a college degree and 40% having a graduate degree.

Table 5 Participant demographic information from student survey

Where do you live?	**Percentage**
the Brigham City area	5%
Northern Davis County	9%
Southern Davis County	5%
Northern Salt Lake County	64%
Southeast Salt Lake County	9%
Southwest Salt Lake County	5%
Other	5%
n	22
What is your age?	**Percentage**
18 - 24	5%
25 - 34	59%
35 - 44	14%
45 - 54	14%
55 - 64	5%
65 - 74	5%
n	22
What is your gender identity?	**Percentage**
Female	38%
Male	62%
n	21
What is your employment status?	**Percentage**
Currently employed	91%
Student	9%
Other	5%
n	22

The course attracted a relatively young, educated and professional crowd, including many people who were already interested in working in transportation or currently working in transportation. It will take effort and more directed targeting to reach beyond these groups, but it is important to realize the potential of the WTA to expand the base of community members who are comfortable engaging in transportation decision-making processes. In future offerings, further outreach through community councils, University Neighborhood Partners, and other nonprofits should be conducted to try to tap into their networks and expand the base of WTA students.

7.0 CURRICULUM HANDBOOK: REPLICATING AND IMPROVING THE TRANSPORTATION ACADEMY

Since the initial Course Curriculum and Implementation Handbook was released in 2015, the Portland Traffic and Transportation (PTT) Course has undergone a "new evolution," transitioning to a new instructor and working to build in a focus on making transportation equitable (https://www.portland.gov/transportation/walking-biking-transit-safety/traffic-transport-class). Meanwhile, the Wasatch Transportation Academy (WTA) (http://cta.cap.utah.edu/index.php/about/) successfully held its inaugural course, and a comparable class in Tampa Bay (the Tampa Bay Citizen Academy on Transportation, or TB-CAT) held its inaugural offering in fall 2021 (https://nicr.usf.edu/2021/09/02/tampa-bay-citizens-academy-on-transportation/).

Overall, the original handbook offered a very effective roadmap for launching a transportation academy. However, some adaptations and opportunities for improvement were identified. These are discussed in broad strokes below, and reflected in an updated version of the handbook.

7.1 UPDATING CURRICULUM AND COURSE DELIVERY

Flexibility in how and where the course is offered:
Flexibility in number of class offerings – While the initial curriculum offered a 10-class syllabus based on the Portland course, the WTA offered an eight-class offering, which made the course more manageable to get off the ground for the project team, who had to recruit guest speakers who had never presented to the (new) class before. In future offerings, the team will be able to build off the current roster of guest lecturers and presentations, recruit new presenters, and consider whether more class offerings are warranted.

Remote/virtual offerings:
Outside of an in-person site visit, the PTT, WTA, and TB-CAT were all held virtually in 2021/2022. While this occurred, at least in the case of the WTA, because of uncertainties around meeting in person during the COVID-19 pandemic, it also offered several benefits that will need to be considered in future offerings. The remote option is less disruptive to the daily lives of students since it does not require travel or being away from home. As the WTA sought to recruit a more regional group of students, being online was an attractive benefit. Regardless of where people live in the region, being able to attend from home could help those who would not be able to attend due to transportation barriers, childcare needs or other challenges related to being away from home.

Moving forward with future course offerings in what one hopes will be a post-pandemic environment naturally begs the question about whether the course should stay online, shift to being in person, or pursue some sort of hybrid format. The reduction in

time/distance inhibitors with online formats augers for continuing with at least some level of online learning options. Yet, the immediacy of person-to-person settings and the degree to which they facilitate cross-peer collaborations make in-person formats more attractive. Given the deep experience that educators across the country now have with finessing a variety of formats, the project team envisions that path forward will likely involve a hybrid format that blends online and in-person delivery and seeks to optimize for the advantages of each.

Refining content:
Through the student survey and other feedback, we have identified several areas where refinements can be made to improve the WTA. These include:

- Providing more guidance on student projects, including helping students to conceptualize project ideas and see projects through to completion (presentations).
- Provide more learning opportunities for students to focus on skills needed for engaging in transportation discussions, including effective dialogue and engagement.
- Helping current WTA students and graduates to make connections and build networks.
- Reaching out to diverse community groups and recruiting speakers who both reflect and speak to efforts to make transportation in the Wasatch region more equitable and diverse.

7.2 START A TRANSPORTATION ACADEMY IN YOUR CITY OR REGION

The updated curriculum handbook serves as a guide for starting a community transportation academy in your city or region. The handbook is accessible here: https://trec.pdx.edu/research/project/1518/Implementing_a_Community_Transportation_Academy.

In addition to utilizing the curriculum handbook to guide the launch of the WTA, the project team found the input, guidance and peer-mentoring from the Portland instructor and support team to be very valuable (as noted in Section 3.3). We recommend formal or informal outreach to peer cities or regions that have existing or in development transportation academies for mutual aid and advice.

8.0 VISION FOR THE FUTURE OF THE WTA

Overall, the inaugural offering of the Wasatch Transportation Academy was a successful launch that benefited from having a committed champion and instructor, support from area transportation agencies, and funding to get started. The next few years will be critical to maintaining inertia for the class, which will be needed to realize the potential benefit of the impact of WTA graduates on transportation discourse in the Wasatch region.

With the Portland course now turning 30, we are naturally thinking long term for the WTA. The whole idea of using a limited enrollment, multi-week academy to help increase and improve community engagement in transportation planning is embedded with long-arc logic. The course's benefits can only be realized, at a meaningful scale, over the course of many years as its graduates proliferate and as they influence other people in their own respective networks. While every authentic educational endeavor is rewarding, no matter how small the scale, the societal value of a community transportation academy only starts to become apparent with time.

Central to the WTA's longevity is a stable source of funding. Thankfully, the budgetary requirements for running the WTA are modest. The bare-bone basics for running the course are funds to pay a stipend for an instructor/coordinator and to provide stipend and tuition support for a graduate assistant. At current rates, this amounts to about $25,000. The administrative demands of running the course are not insignificant, however. Adding in support for administrative work, plus a budget for food and childcare (if the class is delivered in person), plus benefits and university overhead increases the budget to $55,000.

Funding for the Portland course comes principally from the City of Portland. Funding for the WTA could, similarly, come from a single government entity (e.g., Salt Lake City), or from a cluster of governmental sources. The obvious advantage of the former mode is the ease of administration and the reduced amount of time dedicated to fundraising. Using the latter approach, however, allows the course to have a broader degree of buy-in from a wider range of interests. This could also help diversify the course content by encouraging a focus that might shift over time to incorporate different geographies. For example, the local component of the 2022 WTA syllabus focused, geographically, on Salt Lake City. Future versions of the class could focus more on Salt Lake County (outside SLC), Utah County, Davis/Weber counties, or rural portions of the state.

This broadening of geographic coverage could open up new opportunities for recruitment of both students and course presenters. If the course geography shifts each year, the course content could, potentially, be customized to highlight issues, challenges, and opportunities unique to the particular areas covered. Certain background principles of transportation planning, particularly at state and regional levels, would likely stay constant in this model. However, the application of those principles at the local scale would likely change to reflect the geographic focus for a

particular year. To a limited extent, the course would mimic the way in which the University of Oregon's Sustainable City Year program shifts its geographic focus, year to year, to make the program fresh, relevant, and immediate (https://sci.uoregon.edu/sustainable-city-year-program-0).

To take advantage of making the WTA more relevant to specific places, the course would need to expand from the 2022 model of limiting it to only eight class sessions. As described above, eight sessions allows for only five substantive course presentations. Maintaining a consistent structure of providing sessions that focus on state, regional, transit, and walk/bike planning, this leaves only one session for local/geographic-specific material. Borrowing from former House Speaker Tip O'Neil's adage that "all politics is local," most transportation issues are local, too. Though, as with politics, transportation issues have to get translated into larger regional and state planning structures. Hence, maintaining the state and regional materials makes sense, as do the modal-specific sessions for transit and walk/bike. The logical way, therefore, to extend and expand the local component of the class is to expand the number of sessions. Going up to 10 sessions – which is the number used in the Portland course – makes sense.

Extending to 10 sessions would also facilitate extended mentoring of student projects. In 2022, 18 of the course's initial 43 registrants completed and presented projects. The projects that students did produce were exceptionally well-conceived and presented. However, the fast-paced schedule driven by the limited number of class sessions likely inhibited some students from fully participating in crafting and presenting project ideas. With a format extending to 10 weeks, course instructors would have more time to work with students, particularly those who perhaps are less familiar or comfortable with project ideation, conceptualization, and presentation.

9.0 CONCLUSIONS

It is a trope to say that the machinery of government is impenetrable to the average citizen. Answers to the perennial questions of how decisions get made, by whom, based on what criteria, for whose benefit, and at what costs to whom, are customarily shrouded in mystery. Things just happen (or do not). The fact that such things are often referenced in the passive voice is indicative of the situation. To move to active-voice constructions, we would need to know who is the actor, what they are doing, and why.

The impacts of these disconnections between actor and constituent is no more immediate than in the area of transportation. Virtually all of us are transportation users-consumers every day of our lives. Yet, as regular participants in the act of transportation, we are not in control of the apparatus that facilitates our movement. The stuff just works, or doesn't.

Moreover, these transportation networks and systems innervate our communities and neighborhoods. They comprise the dominant environment that exists just outside our front doors. As Donald Appleyard (1982) demonstrated so compellingly, transportation infrastructure and operations define our front yards; they influence how we use space not just when we are out and about, but also when we are at home; and they determine our social relationships. There are few if any governmental functions that impact our lives more than transportation.

And yet, very few of us feel connected or empowered to help guide what happens to the transportation systems in our communities. Transportation is complicated. Its simultaneous local immediacy and global reach make it the perfect realm of the expert. From the planning and construction of the Lincoln Highway in 1913 to the launch of the Interstate Highway System in 1956, transportation decision-making increasingly became the domain of the professional planner-engineer. The accretion of more than a half-century of additional layers has only increased transportation's complexities. A measure of this increase is the FAST Act of 2015 –Congress's most recent transportation-specific statute – which required more than 490 pages just to tweak existing transportation policies.

Is it any wonder that efforts by transportation agencies at engaging the public in planning processes have been stymied? The stakeholders we interviewed during the opening phases of this project told us that they were begging for citizens to be involved in their agency's planning activities. Some spoke of sometimes having *no* audience for hearings on proposed new transportation plans. That's right: the programming of millions of dollars in transportation spending drew zero public participants.

The Portland version of the transportation academy – the Portland Traffic and Transportation Course – was instituted, in part, to counter this narrative. The creators of that class realized that just posting a notice of an upcoming hearing was insufficient to draw in significant numbers of participants – the inhibitions generated by the perception

that government decision-making was the realm of those with knowledge and power privileges were too great. The only way to overcome those perceptions (and the realities they represent) was to dethrone the places of privilege created by knowledge inequities. The Portland leaders had a hunch that a multi-week course focused on decision-making structures and methods for influencing planning outcomes might be effective. As McNeil (2015) outlines, they were right. Though not the only way to overcome barriers to meaningful public engagement, the Portland course over its 30-year run has demonstrated that payback from investing in community education can result in significant successes.

These lessons were the inspiration for our Utah-based group to start the Wasatch Transportation Academy. Though during its first year, the WTA, naturally, had many differences from our Portland progenitor, the core mission and basic functions were the same – to demystify decision-making and empower community-based participation. As we have outlined in this report, our first run achieved significant success, and we are already outlining how the WTA might change and grow in future years. With some luck, we will in 30 years be celebrating some of the same things we see today coming from the Portland course – community members effectively engaged with their governmental leaders in steering decisions that affect their lives and neighborhoods. But the lessons from our experience and those of Portland do not stop with just two communities. As we outline in this report, there are similar courses springing up in other North American communities, and members of our team are presently responding to inquiries from still other communities interested in pursuing their own transportation academies. Though it operates at a relatively small scale, the transportation academy idea demonstrates that making long-term investments in community education can be an effective strategy to overcoming knowledge-based barriers to citizen participation in governing. Former House Speaker Tip O'Neil's quip that "all politics is local" seems to have an apt analog in how to instrument communities to be involved decision-making – that too, it seems, is local.

10.0 REFERENCES

Apaliyah, Godwin & Martin, Kenneth. (2013). An analysis of the effects of community leadership education program content on six outcome indices of community leadership. *Community Development*. 44. 456-468. 10.1080/15575330.2013.795991

Appleyard, D. 1982. *Livable Streets*. Berkeley, CA: University of California Press

Kara, A., Mintu-Wimsatt, A., & Spillan, J. E. (2022). An application of the net promoter score in higher education. *Journal of Marketing for Higher Education*, *0*(0), 1–24. https://doi.org/10.1080/08841241.2021.2018088

Mandarano, L. (2015). Civic Engagement Capacity Building: An Assessment of the Citizen Planning Academy Model of Public Outreach and Education. *Journal of Planning Education and Research*, *35*(2), 174–187. https://doi.org/10.1177/0739456X14566869

Marcus, Adam Scott. (2007). *Local Government Citizen Academies: Is Knowledge Power? Master's Thesis*. Massachusetts Institute of Technology.

McNeil, N. (2015). *Transportation Leadership Education: Portland Traffic and Transportation Course. A Case Study and Curriculum*. NITC-ED-541. National Institute for Transportation and Communities. (Note – included in the report is the "Course Curriculum and Implementation Handbook", which is also available as a standalone document). Both are available at https://trec.pdx.edu/research/project/541/Transportation_Leadership_Education

Morse, R. S. (2012). Citizens Academies. *Public Performance & Management Review*, *36*(1), 79–101. https://doi.org/10.2753/PMR1530-9576360104

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46–55.

Smith Hansen, J., & Jackson, M. C. (2001a). St. Louis Redefines Community Engagement. *Transportation Research Record: Journal of the Transportation Research Board*, *1780*(1), 140–144. https://doi.org/10.3141/1780-14

Spector, B., & Leard, C. (2020). Emergent model for community engagement: Developing courses and programs. *Journal of Global Education and Research*, 4(1), 80–95. https://doi.org/10.5038/2577-509X.4.1.1055

Wagner, J. (2013). Measuring performance of public engagement in transportation planning: Three best principles. *Transportation Research Record: Journal of the Transportation Research Board*, *2397*(1), 38–44. https://doi.org/10.3141/2397-05

Wellman, G. (2015). Citizens or customers? Transit agency approaches to community engagement. *Journal of Public Transportation*, *18*(1). https://doi.org/http://doi.org/10.5038/2375-0901.18.1.8

Young, S., & Bruce, M. A. (2011). Classroom community and student engagement in online courses. *Journal of Online Learning and Teaching*, 7(2), 219-230.