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# Transportation Academies As Catalysts for Civic Engagement in Transportation Decision-Making

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1 **Transportation Academies as Catalysts for Civic Engagement in Transportation Decision-**  
2 **making**

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31

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37 Planning and Transportation; and the Portland Bureau of Transportation.  
38

1 **ABSTRACT**

2

3 Citizen planning academies, which became popular in the 1990s, are increasingly being used in  
4 transportation planning and decision-making contexts. By making use of a longer-term, multi-  
5 week educational format, transportation academies have the potential to reduce barriers and  
6 enhance community capital leading to more meaningful and sustained government-community  
7 interaction. This paper tracks the rise of transportation academies in North America, and  
8 provides a detailed look at two academies: one in Portland, Oregon with a 30-year history, and  
9 another recently launched in the Salt Lake City, Utah region. Post-academy surveys of  
10 participants provide data that illuminate whether the transportation academy model is effective in  
11 fostering greater, and longer-term community engagement. Using an evaluation framework  
12 developed for assessing citizen planning academies, the data indicate positive outcomes and  
13 provide a basis for further expansion of the use of academy-type engagement initiatives.

14

15 **Keywords:** transportation academy, community engagement, civic engagement, education

16

## 1 INTRODUCTION

2  
3 Communities should be designed and built for the people who live in them, and they work best  
4 when people participate in the planning and decision-making processes that affect them. Citizen  
5 planning academies, which became popular in the 1990s, are increasingly being used to advance  
6 community engagement efforts in transportation planning and decision-making contexts. By  
7 making use of a longer-term, multi-week educational format, it is hoped that transportation  
8 academies can reduce barriers and enhance community capital leading to more meaningful and  
9 sustained government-community interaction. This paper tracks the rise of transportation  
10 academies in North America, and provides a detailed look at two academies: one in Portland,  
11 Oregon with a 30-year history, and another recently launched in the Salt Lake City, Utah region.  
12 Using post-academy surveys of participants, the paper provides a preliminary assessment of  
13 whether the transportation academy model is effective in fostering greater, and longer-term  
14 community engagement. Employing an evaluation framework developed for assessing citizen  
15 planning academies, the survey data from the Portland and Salt Lake courses indicate positive  
16 outcomes and provide a basis for further expansion of the use of academy-type engagement  
17 initiatives.

## 18 BACKGROUND

19  
20 The desire for greater community engagement in government decision-making is taken as a  
21 shared objective by both government officials and community members (1). This was not always  
22 the case, however. At the turn of the 20<sup>th</sup> century, Progressive Era reformers campaigned for  
23 increased professionalism among government decision-makers, with greater reliance on  
24 scientific data and less input from non-governmental sources (e.g., 2). This shift, sourced in a  
25 desire to reduce crony-ism in government decision-making, led to the rise of a professional  
26 administrative corps that was intentionally independent of outside influences (3). In planning,  
27 this professionalism gained traction in the substantial growth of administrative agencies during  
28 the New Deal Era of the 1930s (4).

29  
30 In the second half of the 20<sup>th</sup> century, however, the independence of agency decision-making  
31 morphed from being a virtue to a cause of distrust and anger at decision-makers who were  
32 painted as not caring about community interests (5). In transportation, this effect was amply  
33 demonstrated in battles over the location of segments of the Interstate Highway System (6).  
34 These and similar experiences led to changes in federal laws (e.g., the National Environmental  
35 Policy Act of 1970) that mandated some level of community engagement. State and local laws  
36 quickly added their own engagement requirements (7). Over time, the mandates for greater  
37 community participation evolved from being a burden (8) to something to be sought after (9).  
38 The problem: people weren't showing up, at least for less-controversial, more routine types of  
39 decisions (e.g., plan adoptions). Representatives from Salt Lake City area governments involved  
40 in the Wasatch Transportation Academy (the subject of this paper) report that public hearings on  
41 plan adoptions frequently attract few (and sometimes no) participants. These plans (e.g.,  
42 federally required long-range transportation plans) often involve tens of millions of dollars and  
43 affect millions of people, and yet attract little community attention. The experiences of these  
44 officials are representative of a broader lack of community engagement, particularly on  
45 government spending decisions (10).

## 1 Citizen Guides

2 One of the early efforts to coax community members to participate was the production of  
 3 “citizen guides.” In general terms, these guides are designed to de-mystify governmental  
 4 processes, decode acronyms and technical terms, and educate community members on ways to  
 5 become effective participants in decision-making processes. Herbert Smith, a prolific author of  
 6 guides to planning, wrote his first Citizen’s Guide to Planning in 1961 (11), the purpose of which  
 7 was to “set forth the meaning of planning in terms understandable by all interested laymen (sic)”  
 8 and to move planning away from “mere academic exercises undertaken by professionals, and  
 9 understood—if at all—only by other professionals” (p. 5). A limited search of three hundred  
 10 entries in three research databases (Google Scholar, ProQuest, TRID) shows that no fewer than  
 11 24 citizen guides to planning related processes were published from 1962 onward (Table 1).  
 12  
 13

**Table 1 Citizen guides to planning**

Title	Authors	Date
The Citizen's Guide to Planning	Herbert Smith and Emily Palacios	1962
A Citizen's Guide to the Future.	Skip Everett and Claire Dyckman	1976
Citizen's Guide to Transportation Planning	Urban Transp Dept	1981
Neighborhood Planning: A Guide for Citizens and Planners	Bernie Jones	1990
Participation Empowerment Guide: A Guide to Public Involvement in the Public Transportation Decisionmaking Process	NA Parker and MN Kim	1997
A Citizens' Guide to Transportation Planning in Southeast Michigan	Caleb Brokaw	2001
Regional Government Innovations: A Handbook for Citizens and Public Officials	Roger L. Kemp	2003
Guide to Winning the Transportation Your Community Needs	Transp and Land Use Coalition	2004
Preserving and Enhancing Communities: A Guide for Citizens, Planners, and Policymakers	Hamin et al.	2005
A Citizen’s Guide to Transportation Planning in the East Central Michigan Region	East Central Michigan Planning & Development Regional Commission	2007
The ABCs of MTC: Your Guide to the Bay Area's Transportation Planning, Financing and Coordinating Agency	Metropolitan Transp Comm	2007
The Boston Region Metropolitan Planning Organization Public Participation Program	Boston Metro Planning Org	2007
MDT's Guide to Public Involvement	Montana Dept of Transportation	2007
Pulling Back the Curtain and Showing of the Wizard. . . Design by Charrette	Ellen Fitzsimmons	2008
A Citizens Guide to Transportation Decision Making in the Metropolitan Washington Region	National Capital Region Transportation Planning Board	2008
A Citizen’s Guide to Better Streets: How to engage your transportation agency	Toth, Volk and Walljasper	2008
Michigan Planning Guidebook: for Citizens and Local Officials	Mark Wyckoff	2008
Michigan Zoning Guidebook: for Citizens and Local Officials	Mark Wyckoff	2008
The Citizen's Guide to Planning	Duerksen et al.	2009
A Guide to Transportation Decisionmaking	Federal Highway Administration	2009
The Great Neighborhood Book: A Do-it-Yourself Guide to Placemaking	Jay Walljasper	2010

Title	Authors	Date
Becoming an Urban Planner: A Guide to Careers in Planning and Urban Design	Bayer et al.	2010
The Oxford Handbook of Urban Planning	Randall Crane and Rachel Weber	2012
Building Cities to LAST: A Practical Guide to Sustainable Urbanism	Jassen Callender	2022

1  
2 By translating decision-making processes designed by government professionals into lay-  
3 friendly language, the citizen guides work to overcome impediments to community participation  
4 and to create community capital. The effect of the guides, however, has not been persuasively  
5 measured. Moreover, the guides' strength of providing accessible information to a broad  
6 audience also means that they provide little depth. As such, citizen guides appear to fall on the  
7 more passive end of Arnstein's ladder of civic participation (12), and seemingly have only a  
8 modest impact in overcoming extant barriers and distrust in government (13).

### 9 10 **Citizen Academies**

11 One way to provide greater depth has been to create courses—"Citizen Academies"—that over  
12 the span of multiple sessions provide participants with greater granularity on the finer points of  
13 government decision-making. By delving further into the issues, procedures, criteria, budgetary  
14 capacity, and political limitations of government decision-making, citizen academies have the  
15 potential to grow human capital in communities and thereby reduce alienation from and  
16 skepticism in government decision-making (14, 15). Morse (16) noted that the appearance of  
17 these academies is relatively recent—first emerging in the late 1990s—and that they were, at  
18 least initially, mostly conceptualized as a method for onboarding governmental advisory  
19 committees (e.g., planning commissions).

20  
21 A smaller, but growing, number of academies are aimed at broadening participation by general  
22 members of the community. A limited internet search using "citizen planning academy" as the  
23 search term identified 180 entries that fit the general description outlined above, with 52 (29%)  
24 indicating they were open to participation by community members (Table 2). As demonstrated in  
25 Table 2, most of these "open-enrollment" academies have been founded during the past decade,  
26 and their appearance is beginning to draw research attention. In an analysis of the Surrey, BC  
27 Transportation Lecture Program—one of the transportation citizen academies profiled below—  
28 Yan (17 p. 60) found mixed results on the program's effectiveness, noting that while it "does not  
29 completely resolve the problems of citizen participation, it may be part of a broader constellation  
30 of actions cities might undertake to reach their goal of collaborative governance or something  
31 close to it." Hochshtein (18) found that while the participants in the six citizen academies she  
32 studied were already involved in government processes before they participated in an academy,  
33 nearly all of them reported significantly higher levels of engagement afterward. Mandarano (19)  
34 analyzed survey data collected from former participants of five citizen academies, looking for  
35 evidence of the seven "community capitals" posited by Emery and Flora (14)—natural capital,  
36 cultural capital, human capital, social capital, political capital, financial capital, and built  
37 capital—across three tiers relating to the participants' personal attitudes, civic engagement  
38 activities, and community-level outcomes. Mandarano concluded that the academies were  
39 "successful at improving a broad spectrum of individual-level capacities that enable participants

1 to become more active in their communities by taking actions that may result in long-term  
 2 improvements in quality of life in the communities represented” (19 p. 185).

3  
 4

**Table 2 Citizen planning academies**

<b>Academy Name</b>	<b>Location</b>	<b>Founded</b>
Portland Traffic and Transportation Class	Portland, OR	1991
Citizen Planner Training Collaborative	Boston, MA	1995
Citizen Planning Academy	Hanover County, VA	1997
Citizen Planning Academy	King George County, VA	1997
Citizen's Planning Academy	Franklin County, VA	2004
Civic Academy	Denver, CO	2007
Citizen Planning Academy	Savannah, GA	2008
Citizens Planning Academy	Wake Forest, NC	2009
Transportation Talks Program	Surrey, BC	2009
Citizens Planning Institute (CPI)	Philadelphia, PA	2010
Rockingham County's Citizens' Academy	Rockingham County, NC	2012
Edmonton Planning Academy	Edmonton, Alberta	2013
Land Use Academy of Utah	State of Utah	2014
ARC Community Planning Academy	Atlanta, GA	2015
Citizen Planning Academy	Elk Grove, CA	2015
Citizen's Planning Academy	Denver, CO	2015
Durham Planning Academy	Durham, NC	2016
Free Urban Planning Academy for Everyone	Honolulu, HI	2016
Citizens Planning Academy	State of Idaho	2017
PlanHoward Academy	Howard County, MD	2017
Citizen's Planning Academy	Lexington, KY	2017
Citizen Planning Academy	Jonesboro, AR	2017
People's Planning Academy	Indianapolis, IN	2017
Transportation 101	Baltimore, MD	2017
Citizens Planning Academy	Aurora, CO	2018
Citizen Planner Program	East Lansing, MI	2018
Citizen's Planning Academy	San Ramon, CA	2018
Santa Barbara Citizen's Planning Academy	Santa Barbara, CA	2018
Novato Planning Academy	Novato, CA	2018
Horry County Citizen Planning Academy	Conway, SC	2019
Lakewood Citizen's Planning Academy	Lakewood, CO	2019
Baltimore Planning Academy	Baltimore, MD	2019
Citizen Planning Academy	Sioux Falls, SD	2020
Tampa Bay Citizen Academy on Transportation	Tampa Bay, FL	2021
Citizens Planning Academy	Greenville, SC	2021
Citizen Planner Academy	Orange County, FL	2021
Citizen Academy	St. Mary's County, MD	2021
The Planning Academy	Central Coast, CA	2022
Wasatch Transportation Academy	Salt Lake City, UT	2022
Raleigh Planning Academy	Raleigh, NC	2022
City of Sacramento Planning Academy	Sacramento, CA	2022
Woodland Park Citizens Academy	Woodland Park, CO	2022
Community Development Academy	Glenwood Springs, CO	n/a
Las Vegas Citizens' Academy	Las Vegas, NV	n/a
Columbus Planning Academy	Columbus, OH	n/a

Academy Name	Location	Founded
One Region Forward Citizen Planning School	Buffalo, NY	n/a
New Hampshire Citizen Planner	Durham, NH	n/a
Community Planning Academy	Charlotte, NC	n/a
Citizen Planning Academy	Roanoke County, VA	n/a
Planning Academy I for Neighborhoods	Bellingham, WA	n/a
Citizen Academy	Cape Girardeau, MO	n/a
Citizen's Planning Academy	San Luis Obispo, CA	n/a
Citizen's Planning Academy	Ventura, CA	n/a
Citizens' Planning Academy	Auburn, AL	n/a

1

2 **Transportation Academies**

3 A close relative to the planning academy is the transportation academy which, as the name  
4 suggests, focuses on transportation related issues. Though there is some variation between the  
5 examples, the transportation academies highlighted in this paper generally share the following  
6 attributes: community members can enroll, and classes generally meet weekly over the course of  
7 several months, and feature a series of guest lectures from transportation practitioners and  
8 decision-makers, a class project examining a transportation problem or question, and a tour or  
9 site visit of local transportation facilities. Focusing on transportation-related citizen academies,  
10 the authors have identified five from Table 2 that meet the definition criteria of (a) being open to  
11 the broad public (i.e., not limited to members of appointed bodies) and (b) containing a broad  
12 curriculum aimed at multi-level governmental decision-making processes. Table 3 outlines the  
13 topics covered in four academies for which we were able to obtain class syllabi, including those  
14 in Portland, Oregon, Surrey, British Columbia, Tampa Bay, Florida, and Salt Lake City, Utah.  
15 The remainder of this paper will explore in greater depth the Portland and Wasatch academies  
16 and assess their relative effectiveness.

17

18 *Portland Traffic and Transportation Class*

19 The Portland Traffic and Transportation Class (PTT) was conceived to connect the knowledge  
20 and experience of transportation leaders at agencies throughout the city with interested  
21 community members. The course is a partnership between the Portland Bureau of  
22 Transportation, which manages community enrollment and hires the instructor, and Portland  
23 State University, which provides meeting space and teaching assistant. Now in its 30<sup>th</sup> year, the  
24 PTT was designed to help community members to understand the complexities of the  
25 transportation system, humanize and demystify the work of government agencies and  
26 transportation practitioners, build a community of transportation-informed community members,  
27 and foster engagement in finding solutions to transportation problems and needs. In an  
28 assessment of former participants, McNeil (20) found that course graduates reported being more  
29 civically involved in a range of transportation measures, such as attending neighborhood  
30 association meetings, planning open houses, reaching out to government agencies about  
31 transportation concerns, and submitting comments or feedback as part of a planning process.

32

33 *Surrey Transportation Talks Program*

34 The City of Surrey, Canada, has previously offered a citizen transportation course with Simon  
35 Fraser University called "Surrey Transportation Talks Program." Per the course's 2018 overview  
36 document, "Transportation Talks is a citizen academy program which explores how  
37 transportation shapes our city" (21). Similar to other such courses, this course began at the



1 regional Vancouver level, scaling inward to more local topics and modes and taking a  
 2 comprehensive and analytical approach to understanding and assessing Surrey's current  
 3 transportation conditions. As noted above, Yan's assessment of the course indicated that it could  
 4 be an effective adjunct to other community engagement efforts (17).

#### 6 *Tampa Bay Citizens Academy on Transportation*

7 In the fall of 2021, the Tampa Bay Citizens Academy on Transportation was launched by the  
 8 University of Southern Florida and the City of Tampa to provide community members with  
 9 knowledge on methods for transportation project planning and development and to prepare them  
 10 for community involvement (22). Through this process, the class seeks to create a corps of  
 11 "community ambassadors" who can spread knowledge about transportation decision-making in  
 12 their local neighborhoods. Post-course evaluations indicate that participants have a better  
 13 understanding of transportation decision-making, a greater degree of confidence in advocating  
 14 for their community, and a higher level of commitment to participating in future government  
 15 decision processes (22).

#### 17 *Wasatch Transportation Academy*

18 The Wasatch Transportation Academy (WTA) was initiated by the University of Utah, and  
 19 included a stakeholder advisory group consisting of representatives of key state, regional, county  
 20 and local transportation agencies. The class met virtually, and ran for eight weeks between  
 21 January and March 2022 and was designed to engage citizens in the Salt Lake City, Utah region  
 22 in gaining a better understanding of transportation decision processes through lectures provided  
 23 by local officials and through the experience of developing their own ideas into project  
 24 proposals.

26 **Table 3 Topics covered in the four transportation academies**

Topic	Wasatch	Portland	Tampa	Surrey
Transportation History	x	x	x	x
Statewide Planning	x	x		
Regional Planning	x	x	x	x
Municipal Planning	x	x	x	x
Transit Planning	x	x	x	x
Walking and Biking	x	x	x	
Site Visit	x	x		x
Transportation Equity	x	x		
Advocacy	x	x	x	
Environmental Justice				
Theory and Design	x	x		x
Land Use				x
Zoning				
Housing				
Group Activity	x	x		
Public Services/Works				
Economic Growth				
Final Project	x	x	x	x

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## **PROJECT AND METHODS**

### **Documentation of PTT**

In 2015, McNeil developed a Course Curriculum and Implementation Handbook (20) based on the PTT, which laid out a step-by-step process to launch a transportation academy, including a sample syllabus and course assignment. 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.

### **Planning the Wasatch Transportation Academy**

Using the established Portland Traffic and Transportation class as a template, and drawing from the 2015 Handbook and input from the PTT instructor, course planning for the Wasatch Transportation Academy (WTA) began with a series of stakeholder assessments to help develop a course vision, topics, and logistics. The course aimed to give participants the transportation background, tools, and vocabulary to understand and participate in planning processes and discussions. Compared to the focus of the PTT on the City of Portland, the WTA took a more regional approach, with the Wasatch Front region providing both the frame for the course and the geographical scope for drawing participants. As with the PTT, a major component of the course, and of each class session, involved working on a class project. WTA classes were held online on Monday evenings, and ran for eight weeks during January-March 2022, reaching a total of 49 participants and concluding with a suite of 18 participant-led project presentations and an in-person field trip of a local transportation project in the process of being implemented.

### **Surveying Course Participants**

As outlined by Morse (16) and Mandarano (19), the primary method for assessing citizen academies is through post-hoc surveys of academy graduates. The findings presented here draw from a 2014 survey of PTT graduates, and a 2022 survey of graduates of the inaugural WTA class. The surveys sought to assess why participants chose to enroll in the transportation course, what topics they learned about in the course, and how the course may affect their involvement in transportation decision making related activities.

The 2014 PTT survey was broken into several components, with opportunities for respondents to provide concrete feedback (in the form of Likert ratings) along with ample opportunity to provide narrative feedback in an attempt to elicit stories about their experiences. The survey was presented in the following sections:

- Survey overview and informed consent
- Motivations for taking the course
- Experience taking the course
- Involvement in community and transportation activities
- Travel behavior and demographics

The WTA graduate survey was developed based on the PTT survey, along with input and advice from the project advisory group. Some aspects of the survey were simplified, and questions

1 focused on participants' activities in the years after they had taken the course were removed (as  
2 the survey was administered immediately upon completing the course).

### 3 4 *Survey Implementation*

5 The surveys were administered online, and both were reviewed and approved by the Portland  
6 State University Human Subjects Research Review Committee. The Portland survey was  
7 deployed in November and December 2014. Working with the Portland Bureau of  
8 Transportation and the PTT course instructor, the contact information was obtained for graduates  
9 who participated between 2002 and 2014. Approximately 388 course enrollees were included in  
10 the lists. Prior to sending out a link to the online survey, the course liaison at the Portland Bureau  
11 of Transportation emailed past course enrollees with the goal of informing them about the study  
12 and making them aware that they would soon be receiving the survey request. As a means of  
13 reaching some course participants who either had no email addresses or had changed email  
14 addresses, an additional appeal was sent out to local transportation related listservs. To  
15 encourage participation in the survey, everyone who completed the survey was able to enter a  
16 drawing for one of ten prizes worth \$25 each. We received 111 completed PTT surveys, and  
17 another 15 participants answered some but not all questions.

18  
19 For the WTA, all 43 participants who were accepted into the 2022 class were invited to take the  
20 survey. The surveys were sent the day after the final class. We received responses from 22  
21 participants, of which 19 indicated that they had attended most or all of the class sessions.

### 22 23 *Participant demographics*

24 Survey respondent sociodemographic characteristics for both the PTT and WTA are shown in  
25 Table 4, along with comparable area data, which is the City of Portland for the PTT, and the Salt  
26 Lake Metro area for the WTA. WTA respondents were more likely to be male, while PTT  
27 respondents were closer to an even split. For the PTT, white respondents accounted for 94% of  
28 the course participants but only 82% of city residents, while the WTA had a more diverse  
29 participant group, with 74% identifying as white (compared to 83% of the region), along with  
30 19% Hispanic or Latino/a and 7% Asian. Note that the PTT has, in the years since the survey  
31 was deployed, has explicitly made efforts to improve the representation of the class makeup by  
32 holding some seats out of the general class lottery for geographic diversity and for people who  
33 are Black, Indigenous, and People of Color (BIPOC). Although WTA respondents were more  
34 likely to be younger and on the lower end of the income level than PTT respondents, this may be  
35 partially due to the fact that, for at least some PTT respondents, the survey could have been up to  
36 12 years after they took the course.

1 **Table 4 Participant sociodemographic data**

Age	PTT	City of Portland (18+)*	WTA	Salt Lake Metro (18+)**		
18-34	25%	35%	64%	36%		
35-54	50%	37%	28%	36%		
55+	25%	28%	10%	29%		
n (respondents to survey)	108	490,880	22	882,656		
Gender Identity	PTT	Portland Residents (18+)*	WTA	Salt Lake Metro (18+)**		
Male	52%	49%	62%	50%		
Female	46%	51%	38%	50%		
Provided Other response	2%					
n	107	490,880	21	882,656		
Race/Ethnicity	PTT	Portland Residents (all)*	Respondents	Salt Lake Metro (all)**		
Black or African American	0%	7%	0%	3%		
White or Caucasian	94%	82%	74%	83%		
Hispanic or Latino/a	3%	10%	19%	18%		
Asian	3%	9%	7%	5%		
Other	5%	5%	4%	9%		
n	111	603,047	43	1,215,955		
Educational Attainment	PTT	Portland Residents (25+)*	WTA	Salt Lake Metro (25+)**		
Four-year college degree or more	89%	44%	91%	36%		
n	111	436,489	43	767,530		
Home Ownership	PTT	Portland Households*	WTA	Salt Lake Metro (HHs)**		
Own	64%	56%	56%	68%		
n	111	251,027	43	404,471		
HH Income	PTT	Portland Households*	WTA	Salt Lake Metro (HHs)**		
Less than \$49,999	34%	48%	Less than \$59,000	48%	Less than \$49,999	30%
\$50,000 to \$99,999	27%	29%	\$60,000 to \$89,000	26%	\$50,000 to \$99,999	34%
\$100,000 or more	31%	23%	\$90,000 or more	26%	\$100,000 or more	37%
Declined	9%					
n	110	251,027	42	404,471		

2 \*2013 ACS City of Portland 3-year data; \*\*2020 ACS Salt Lake Metropolitan Region 5-year data

3

4

## 5 SURVEY RESULTS

6

7 Respondents were asked about factors influencing their decision to enroll in the course. (see

8

Table 5 and Figure 1). They were asked “why did you decide to enroll in the class?”, with

9

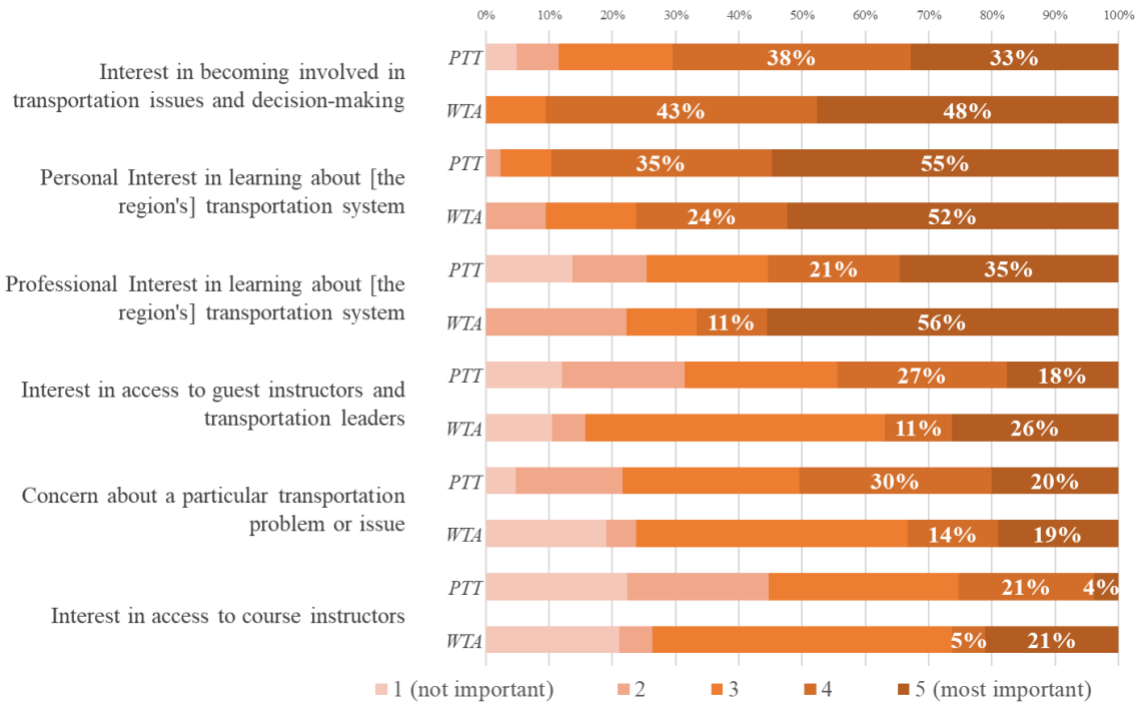
instructions to rate each of a set of factors based on how important they were in their decision to

1 take the class, from “not important” (1) to “most important” (5), a series of factors potentially  
 2 influencing their decision to enroll. Each factor was rated independently, meaning that a  
 3 respondent could potentially rate all factors as “most important” (i.e., this was not a ranking  
 4 question). Participants clearly were interested in the topic of transportation generally, either as a  
 5 personal interest or professional interest, rather than motivated by specific transportation issues or  
 6 a desire to gain access to the course instructors or lecturers. The professional interest in the topic,  
 7 and in becoming involved in decision-making, was higher for WTA respondents than for PTT  
 8 respondents, which may be partially related to WTA respondents being younger on average.

9  
 10 **Table 5 Decision to enroll in the course**

Factor	PTT Respondents		WTA Respondents	
	Mean (1 to 5 scale)	n	Mean (1 to 5 scale)	n
Interest in becoming involved in transportation issues and decision-making	3.9	122	4.4	21
Personal Interest in learning about Portland's transportation system [Personal interest in learning about the transportation system in the Wasatch region]	4.4	126	4.2	21
Professional Interest in learning about Portland's transportation system [Professional interest in learning about the transportation system in the Wasatch region]	3.5	110	4.0	18
Interest in access to guest instructors and transportation leaders	3.2	108	3.4	19
Concern about a particular transportation problem or issue	3.4	125	3.1	21
Interest in access to course instructors	2.6	103	3	19

11



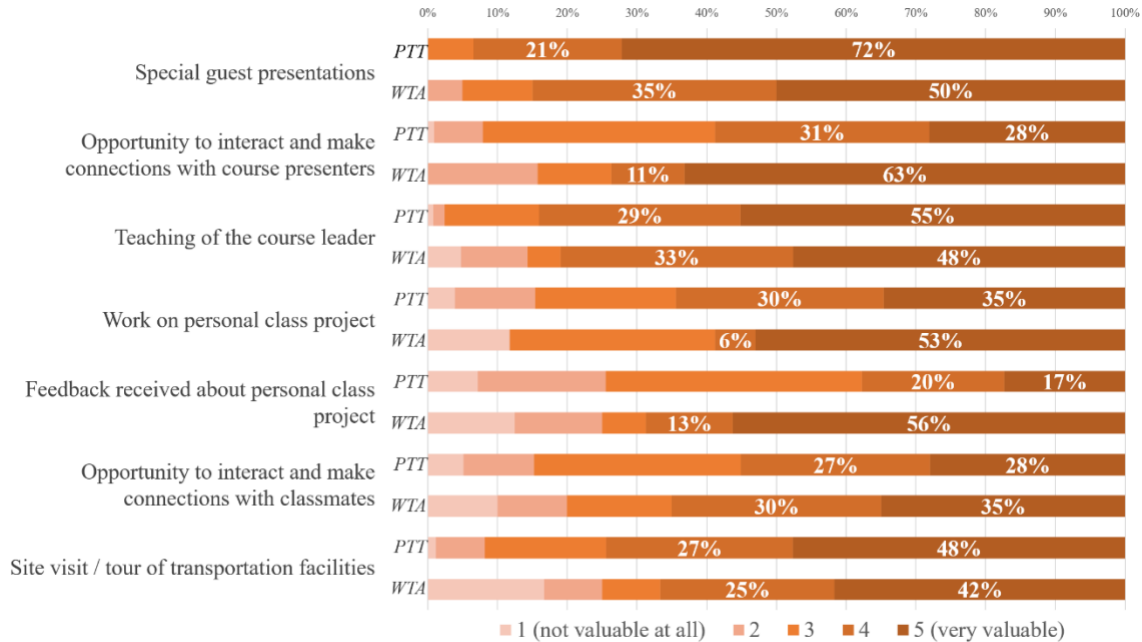
1  
2 **Figure 1 Participant rating of importance of different factors on decision to enroll in the course**

3  
4 Asked to indicate which aspects of the course were most valuable (Table 6 and Figure 2),  
5 participants indicated that the guest lectures, opportunities to interact with the presenters, and the  
6 teaching of the course instructor were the most valuable aspects.

7  
8 **Table 6 Value of different elements of the course**

Factor	PTT Respondents		WTA Respondents	
	Mean (1 to 5 scale)	n	Mean (1 to 5 scale)	n
Special guest presentations	4.7	122	4.3	20
Opportunity to interact and make connections with course presenters	3.8	114	4.2	19
Teaching of the course leader	4.4	125	4.1	21
Work on personal class project	3.8	104	3.9	17
Feedback received about personal class project	3.2	98	3.9	16
Opportunity to interact and make connections with classmates	3.6	118	3.7	20
Site visit / tour of transportation facilities	4.1	86	3.7	12

9



1  
2 **Figure 2 Participant rating of value of different elements of the course**

3  
4 The survey included a self-reported rating of knowledge gained on a set of transportation related  
5 sub-topics, asking “How much did you learn about each of the following topics?” Participants  
6 were asked to rate each “based on how much [they] learned about each topic in the course, from  
7 1 (Did not learn about this) to 6 (gained a deep understanding of this topic). Mean responses are  
8 shown in Table 7, along with the percentage of those rating their knowledge gained at each point  
9 on the 6-point scale (Figure 3). In terms of what participants reported they learned in the course,  
10 the class effectively conveyed the roles of different agencies and organizations involved in  
11 transportation planning in the region, along with factors the agencies consider when making  
12 decisions about transportation issues.

13

1 **Table 7 Knowledge gained on transportation and related topics**

Topic	PTT Respondents		WTA Respondents	
	Mean (1 to 6 scale)	n	Mean (1 to 6 scale)	n
The roles of different agencies and organizations involved in transportation planning in [Portland / the Wasatch region]	4.6	120	5.1	21
Factors that agencies consider when making decisions about transportation issues	4.0	118	4.7	21
Factors that planners consider when making decisions about transportation issues	4.0	118	4.5	21
The fiscal and policy constraints that agencies face when making transportation related decisions	4.1	120	4.4	21
The evolution of the Portland transportation system over time [The evolution of the transportation system in the Wasatch region over time]	4.9	120	4.4	21
The available tools that agencies can implement to address transportation and traffic issues.	4.1	120	4.3	21
Giving testimony or framing an argument to effectively be heard by decision makers	3.7	116	4.3	21
Collecting evidence or data to strengthen a request or argument about a transportation concern	3.9	118	3.9	21
Effective language and dialogue to engage community members and agency employees around transportation issues	3.2	119	3.9	21
Use of technology/media to campaign/document/broadcast/etc.	2.5	119	3.7	21

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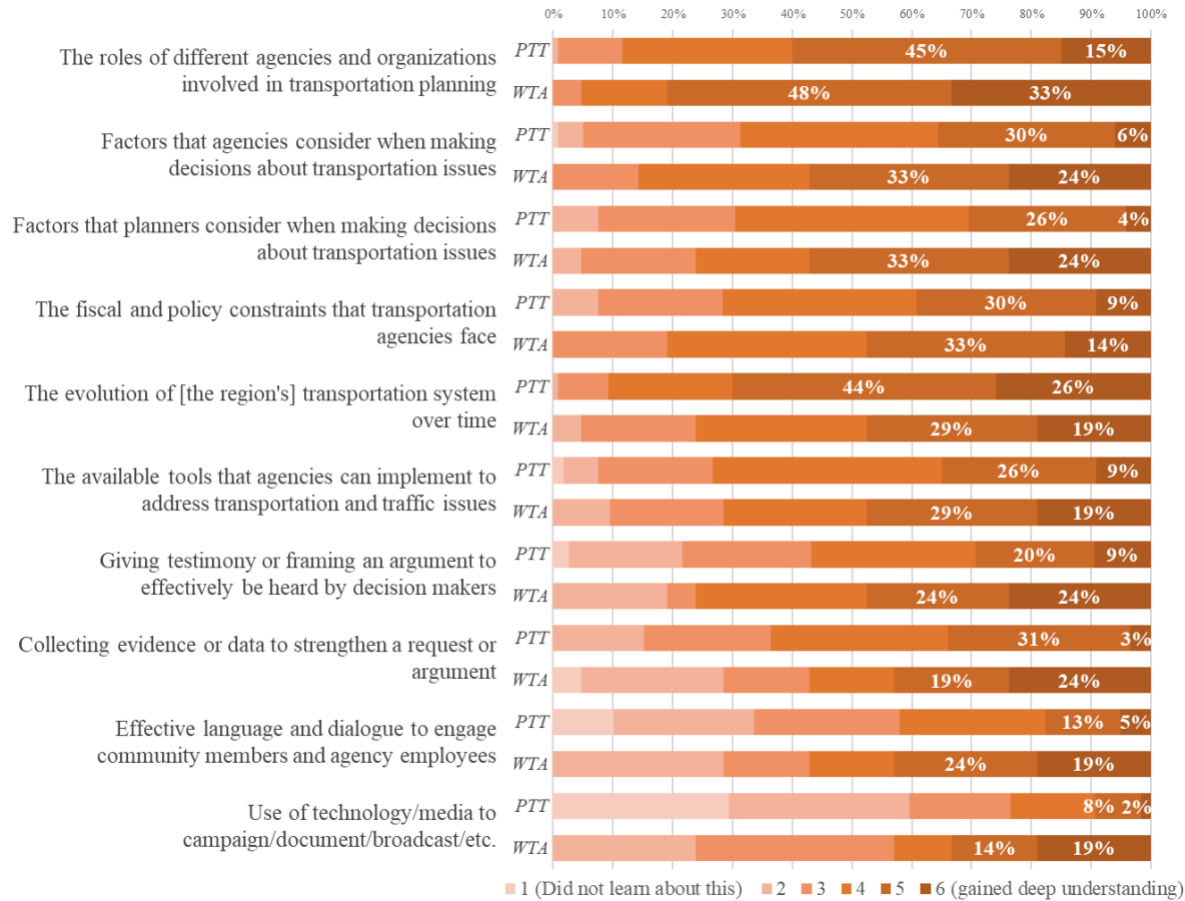


Figure 3 Participant self-rating of knowledge gained on transportation and related topics through the course

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Several questions sought to assess how valuable respondents felt their participation in the academy was, in terms of helping them become more personally enriched and participating more in the community (Table 8). The questions were presented as statements, and respondents were asked to indicate their agreement on a scale of 1 (strongly disagree) to 5 (strongly agree). Nearly two-thirds of both PTT and WTA participants strongly agreed that the course was valuable for their personal self-enrichment, while around 37% to 40% strongly agreed the academy helped them (or would inspire them) to get more involved in their community and transportation decision-making.

**Table 8 Level of Agreement with Statements on the Impact of the Transportation Academy**

Statement	PTT Respondents			WTA Respondents		
	Mean agreement (1 to 5 scale)	n	% rating 5/5	Mean agreement (1 to 5 scale)	n	% rating 5/5
The course was valuable for my personal self-enrichment	4.5	121	62%	4.5	20	65%
The course was valuable as a catalyst for increasing my role in the community [Due to the WTA, I am inspired to get personally involved in public process around transportation decision-making]	3.9	118	37%	4.2	20	40%
I plan to take steps to pursue implementing my class project idea				4.0	15	40%
Due to the WTA, I am inspired to find ways to get professionally involved in transportation				3.8	19	42%

For WTA respondents, the prospective questions about participating in transportation decision making (Table 8) are one way to gauge the potential impact of the course. For PTT respondents, many of whom had taken the course a number of years prior to the survey, we asked about their participation in various transportation community engagement activities before and since taking the course. As shown in Figure 4, the percentage of respondents participating in each activity at least once a year just about doubled from prior to taking the course. Of course, this does not imply a purely causal relationship. Some participants may have wanted to increase their participation, and therefore sought out and enrolled in the course, while others may have increased their civic participation as they aged or lived in their community longer.

Of Portland course graduates, 68% reported that they had contacted a government agency or official with a transportation-related concern at least once per year. By comparison, civic engagement polling has found that the percentage of American adults who had contacted a government official about an issue within the past year to be 30%, according to a 2009 poll (23) and 19% according to a separate 2018 poll (24). By another metric, 60% of Portland course graduates reported participating in a campaign to address a transportation concern, which compares to 28% of Americans who reported working with fellow citizens to solve a problem in their community according to the 2009 poll, and 14% who report volunteering for a group or cause according to the 2018 poll (23, 24). Other civic involvement rates from the polls, which may compare roughly with measures shown in Figure 4, include: attending a political meeting on local, town or school affairs in the past year (24% in 2009 and 12% in 2018, compared to over 40% of course graduates, depending on the type of meeting); and, contributed money to a political candidate or party or any other political organization or cause (18% in 2009 and 19% in 2018, compared to 43% of course graduates).

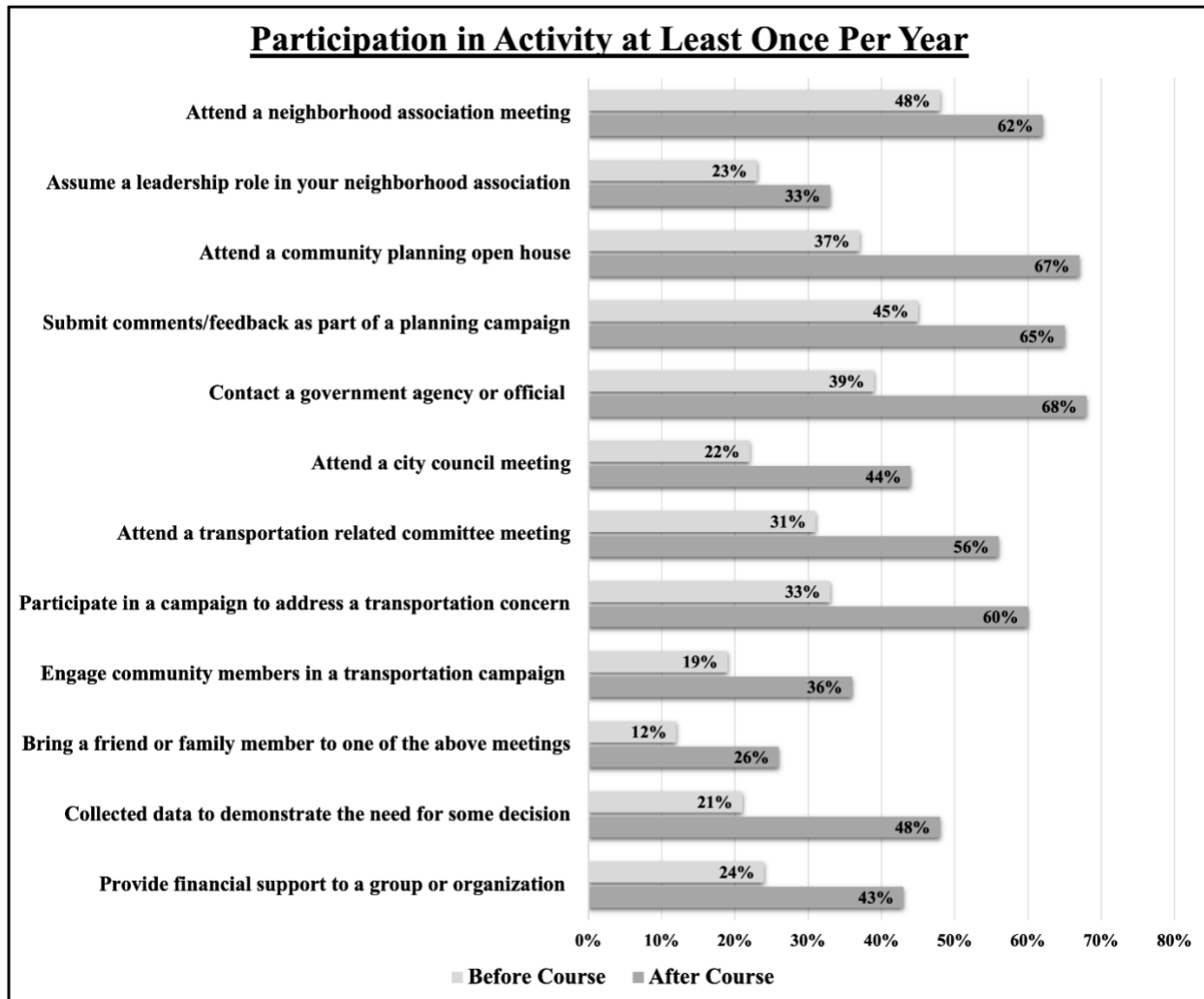


Figure 4 Self-reported community engagement participation of PTT participants before and after taking the course

**DISCUSSION**

In her study, Mandarano (19) tracked participants’ acquisition of four community “capitals”—human capital, social capital, cultural capital, and political capital—at a “first-tier” or individual scale. In ways somewhat similar to Mandarano’s study, the data in Tables 6-8 suggest an enhanced presence of the same four capitals in the participants from both the Portland and Wasatch academies. Knowledge acquisition, leadership development, and awareness of community issues are all badges of increased human capital (13, 25), and Table 7 shows that participants expanded their human capital by gaining personal knowledge of transportation planning processes and the issues facing planning agencies, and by tapping into leadership pathways. Participants’ use of the academies to gain access to decision makers and to connect with other participants on transportation-related issues and concerns (Tables 5 & 6) demonstrate the course’s strength in elevating the participants’ levels of social and political capital, as those terms are defined by Emery and Flora (14). The respondents’ agreement that the courses were “valuable as a catalyst for increasing my role in the community” (Table 8) shows the academies’ potential for fostering participants’ sense of commitment to serve and improve their communities, thereby indicating a measure of enhanced sense of cultural capital (25).

1  
2 Mandarano also measured planning academies for their impacts on participants' post-academy  
3 community engagement activities. In this "second-tier" of her analysis, she sought to discover  
4 whether participants went beyond enhanced personal capacities to take actions that made actual  
5 use of those capacities. For the twelve community engagement actions listed in Figure 1,  
6 respondents from the Portland course have amply demonstrated such effects, with post-academy  
7 engagement rates nearly double pre-academy levels. Similar to participants in Mandarano's  
8 study, Portland academy participants' increased actions to "lead/engage other community  
9 members in a campaign to address a transportation concern" and to "bring a friend or family  
10 member" to a public meeting demonstrate enhanced levels of human, social, and cultural  
11 capitals. Their increased record of providing "financial support to a group or organization to  
12 support a transportation cause" evidences a measure of increased financial capital. The elevated  
13 degrees to which the participants submitted comments on the proposed government decision,  
14 contacted a government official about an area of concern, participated in public meetings, and  
15 collected data to support a particular planning outcome all show evidence of increased political  
16 capital and, to the extent those actions led to changes in their communities, increased built and  
17 natural capitals. These changes may also indicate the presence of increased community capitals  
18 in Mandarano's third tier—concrete changes in community conditions tied to participants'  
19 participation in the PTT.

## 20 21 **CONCLUSIONS**

22 The data from the Portland and Wasatch academies suggest that the courses are having positive  
23 impacts in enhancing community engagement outcomes and in assisting agencies seeking to  
24 connect more effectively with their constituents. Participants have noted a number of ways in  
25 which they have benefitted from the academies at the individual scale, along with their increased  
26 levels of post-academy engagement in various transportation related community activities.  
27 Limits in the data inhibit producing the analytical depth that Mandarano was able to achieve in  
28 her study, particularly around how these first and second tier outcomes translate into community-  
29 level capital. However, the preliminary outcomes outlined here are sufficient to encourage the  
30 sponsors of the two courses to develop more rigorous analytical tools for the future.

31  
32 Documenting change in community level capital is a significant challenge. With more than 30  
33 years of history and with well over 1000 graduates, it seems plausible that the Portland course  
34 could have had a significant impact, as the available survey data suggests. Anecdotally, we have  
35 also heard many transportation advocates and practitioners in Portland state that the PTT was a  
36 springboard for their involvement in transportation. One significant challenge for evaluating the  
37 community impact of a course such as a transportation academy is that each city or region is  
38 unique, with many other contributing and confounding factors, such that isolating the longer-  
39 term impact of the academy is very challenging.

40  
41 It is also important to acknowledge the importance of building community capital for  
42 communities that have traditionally lacked access to capital and power, including BIPOC and  
43 lower-income communities, and people with disabilities. For the benefits of the academy model  
44 to make such an impact, people from these communities need to be participating. Academies  
45 need to be promoting and recruiting class participants from these communities, to ensure that  
46 classes are held in locations that are accessible to these individuals, that the logistics of

1 participation are not unduly burdensome, and that people are able to fully participate in class  
2 activities.

3  
4 Finally, we find that there are opportunities to better document the impact of transportation  
5 academies. The complex nature of a civic academy focusing on a complicated topic in a dynamic  
6 social and political environment may benefit from the real-time evaluation approach of  
7 “developmental evaluation” (see 26), which could seek to embed evaluation activities into the  
8 transportation academy, including the refining of evaluation assumptions, questions and  
9 approaches as the course proceeds. This approach could provide a more nuanced understanding  
10 of the mechanisms affecting what and how people learn in the transportation academy setting. As  
11 new academies begin and existing ones mature, there is also an opportunity to understand if they  
12 are successfully spreading community capital and power to underserved communities. For  
13 individual level impacts, following graduates in the years after they take the course can help to  
14 understand what topics and lessons were most impactful and how they applied those lessons in  
15 their communities. Establishing a control group may help to clarify the impact of the course on  
16 graduates; the PTT currently manages admission in part on a lottery basis, which could help  
17 establish a meaningful control group.

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## 26 27 **AUTHOR CONTRIBUTIONS**

28 The authors confirm contribution to the paper as follows: study conception and design: McNeil;  
29 Bartholomew; data collection: McNeil; Ryan; analysis and interpretation of results:  
30 Bartholomew, McNeil; draft manuscript preparation: McNeil, Bartholomew, Ryan. All authors  
31 reviewed the results and approved the final version of the manuscript.

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