

PAVING THE WAY: RECRUITING STUDENTS INTO THE TRANSPORTATION PROFESSIONS

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The transportation industry faces a growing shortage of professional engineers and planners. To solve this problem, one key strategy will be to encourage more civil engineering and urban planning students to specialize in transportation while completing their degrees, so that employers have a larger pool of likely recruits. However, very little is known about how these students choose a specialization and what might be done to recruit more of them to the transportation professions during their studies. To help fill that gap, this study investigated the factors that lead civil engineering undergraduates and planning masters students to specialize in transportation, as opposed to other sub-disciplines within the two fields.

Study methods

This study used focus groups, a review of university curricula, and web-based surveys of 1,852 civil engineering undergraduates and 869 urban planning masters students to explore ways to interest more students in transportation. In particular, we investigated the following key questions:

- What factors do students prioritize in their future careers?
- What factors do students consider when choosing a specialization?
- What sources of information do students use to choose a specialization, and how helpful are these sources?
- How do students perceive the transportation specialization at their school and transportation careers?

Students place high priority on the content of the work

The survey found that when students choose a specialization, they place as much or more importance on the content of work as they do on factors such as pay or prestige. Therefore, employers can successfully help attract new students into the field without necessarily having to make major shifts within the workplace, such as dramatically increasing salaries (although such steps doubtless would have impact, as well).

Better information could attract more students

The study found that with more education about the profession, more students would likely choose transportation as a specialization. A key reason for this optimism is that the surveys found that many students who don't choose transportation are ignorant of the field, more than being actively opposed to it. For example, many civil engineering students do not understand the "human" side of transportation engineering, thinking that it does not involve much personal in-

teraction or the work of leading and persuading others. As for the planning students, many did not make connections between transportation planning and factors important to them such as transit, bicycling, pedestrians, or environmental protection.

The surveys also revealed that substantial percentages of the students who had selected a specialization other than transportation were ignorant about various opportunities for transportation students (see table). For example, 39% of the engineering students and 55% of the planning students said they didn't know if there are good internships in transportation, and about half of both groups of students were unaware of the research in which their transportation faculty were engaged.

Many Students “Don’t Know” About Transportation Opportunities*

	% of Students Who “Don’t Know”	
	Civil Engineering	Planning
Transportation classes are interesting	26%	60%
There are good internships for students in transportation	39%	55%
There are scholarships targeted at transportation students	51%	67%
The faculty teaching transportation classes are doing interesting research	48%	51%
Transportation planning/engineering uses skills at which I excel	27%	58%

* Responses from students specializing in a field other than transportation.

These limited or incorrect impressions about transportation careers can be corrected through education and outreach. The transportation profession thus faces the relatively easier task of educating students about the merits of the transportation field, not the more difficult task of overcoming negative feelings toward the profession.

What can the profession do to recruit more transportation students?

Working in concert, transportation employers, professional organizations, and university faculty all have important roles to play in outreach and education activities that will attract more students to the transportation field. Critical messages to convey will be:

- The opportunities for transportation professionals to engage in a wide range of topical areas that are appealing to many of today’s students, including the role of transportation in improving the quality of life in cities and towns and in improving the natural environment;
- The opportunities that transportation professionals have to work across all modes;
- The “people” side of the transportation profession, including the opportunities to work in the public policy arena and to work directly with residents and other stakeholders;
- The opportunities for intellectually challenging research into transportation systems and modeling.

For more details about the study, including detailed recommendations about what transportation professionals and faculty can do to recruit students into the transportation professions, download the full report at www.transweb.sjsu.edu. Click on “Research,” then “Publications.” Scroll down to the report. There is no charge.