

Education Development in Sustainable Transportation

Georgia Institute of Technology
School of Civil and Environmental Engineering
National Center for Sustainable Transportation (NCST)
Education Program

Presented to the Sustainability Research Subcommittee
Transportation & Sustainability Committee
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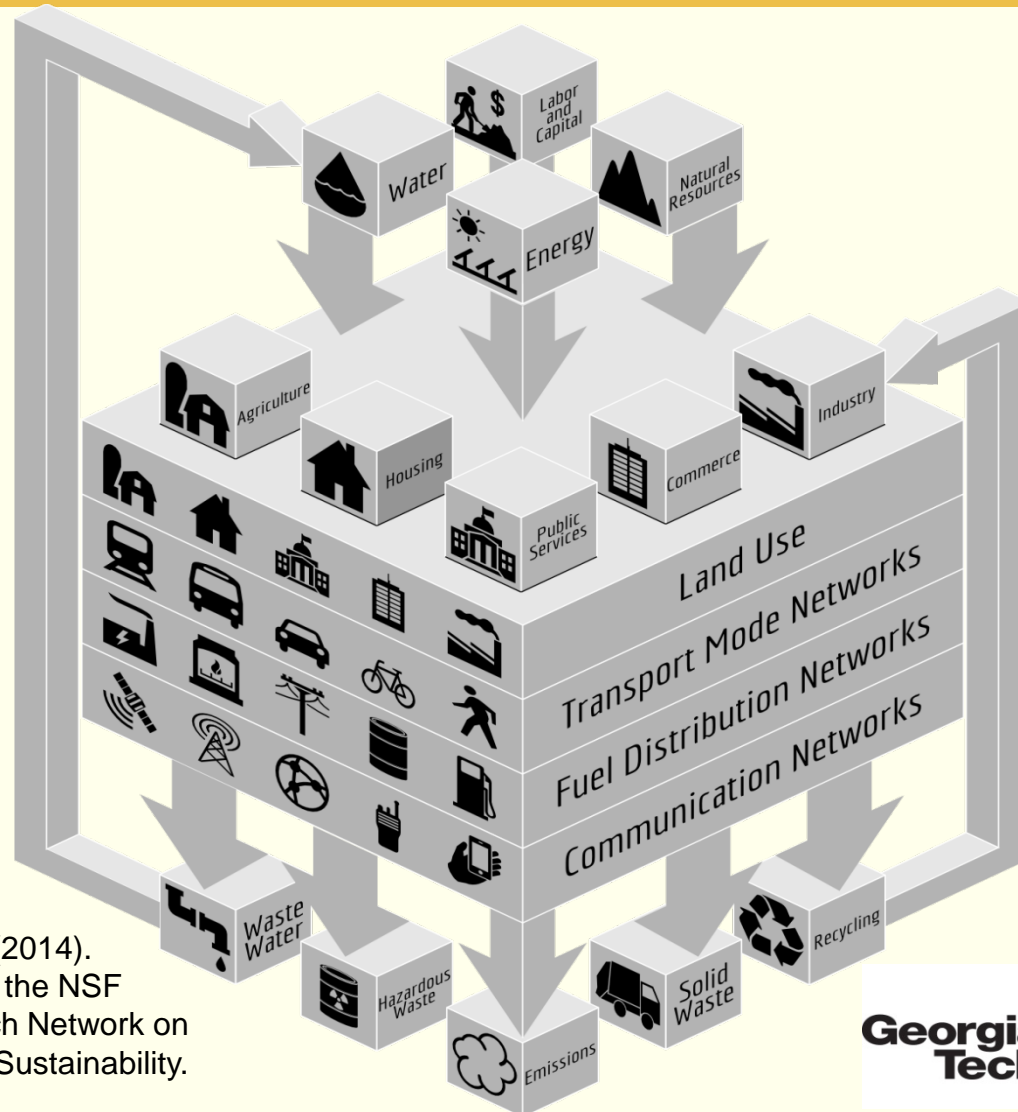
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NCST Education Plan

- **Develop a model curriculum of multi-disciplinary courses in sustainable transportation**
- **Four transportation sustainability courses (2014-16)**
 - **One undergraduate course,**
 - **One graduate course**
 - **Two professional education courses**
- **Each course is constructed in three 5-week modules**
 - **Course elements can be mixed and matched**
- **Course materials will be available for free to universities**

The Task...



Source: Guensler, R. (2014).
Proposal Materials for the NSF
Sustainability Research Network on
Urban Transportation Sustainability.
March 2014

Work Flow

- Review courses and programs
- Review textbooks and reference books
- Review tools and analytical frameworks
- Review research on sustainable transportation education
- Review related job announcements
- Conduct expert opinion survey
- Identify common topics and gaps
- Propose course modules

REVIEW RESULTS

Themes in Existing NCST Courses

	Economic	Environmental	Social
Policy and Planning	UCD ECN145	GT CEE6625	GT PUBP6314
	UCD ESP171	UCR ENSC002	UVM TRC312
	UCD ECN125	UCD ECI252	UVM CDAE102ZRA
	UCR ECON209	UCR URSTX421.6	USC CE579
	GT PUBP6327	UCR ECON/ENSC143	CSU-LB Module IV
	UVM TRC295	UCR URSTX421.9	USC PPD619
Design and Construction	UVM TRC316/NR 377	UCR ENSCX460	UCD TPP289 A
	USC CE469	UCR URSTX421.3	UCR URSTX421.2
	GT COA6120	UCR URSTX421.12	GT CEE3000
	UVM TRC314	UVM ENSC285Z2	USC CE515
	CSU-LB CEM47	UVM ENSC285Z4	GT CEE4803
	UCD ARE175	UCR URSTX421.4	UCR URSTX421.17
	GT CEE6651	UCD ARE275	CSU-LB Module VI
	GT CEE6641	UCR CEE132/232	
	CSU-LB Module II		
	Operations, Maintenance, and End-of-life		

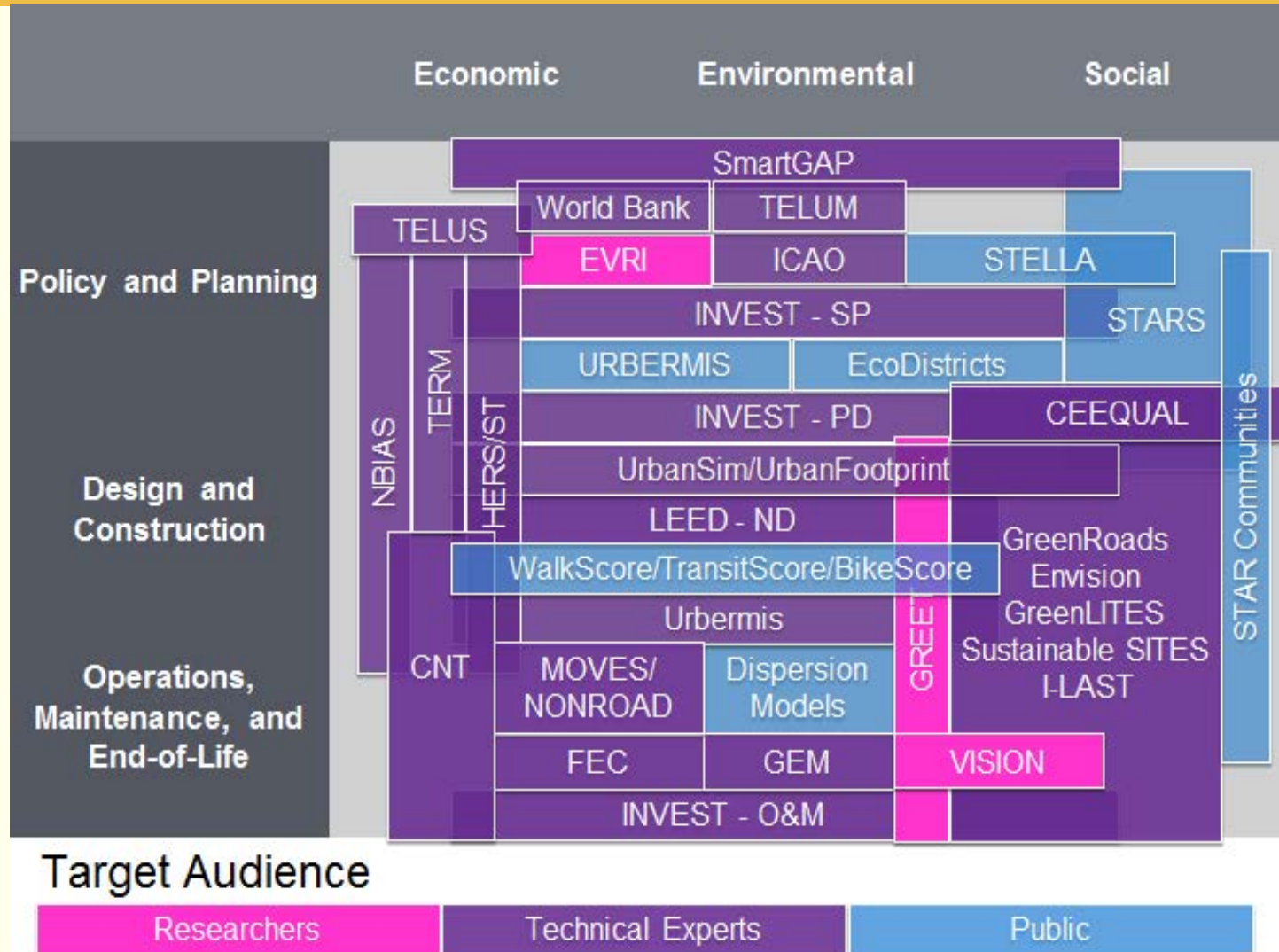
Target Audience



Topics in Existing NCST Courses



Tools for Sustainable Transportation

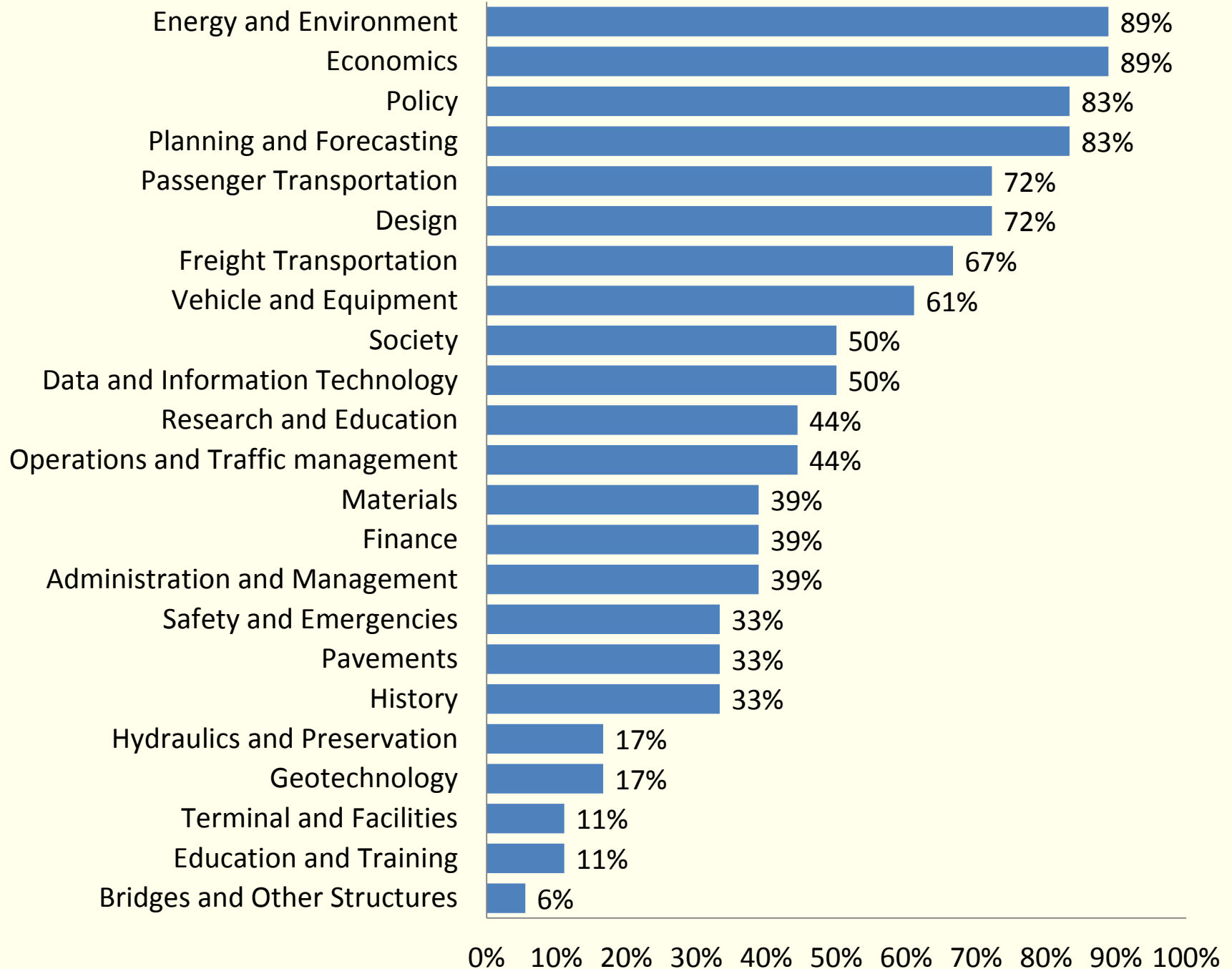


Which topics should be incorporated in a sustainable transportation curricula?

SURVEY RESULTS

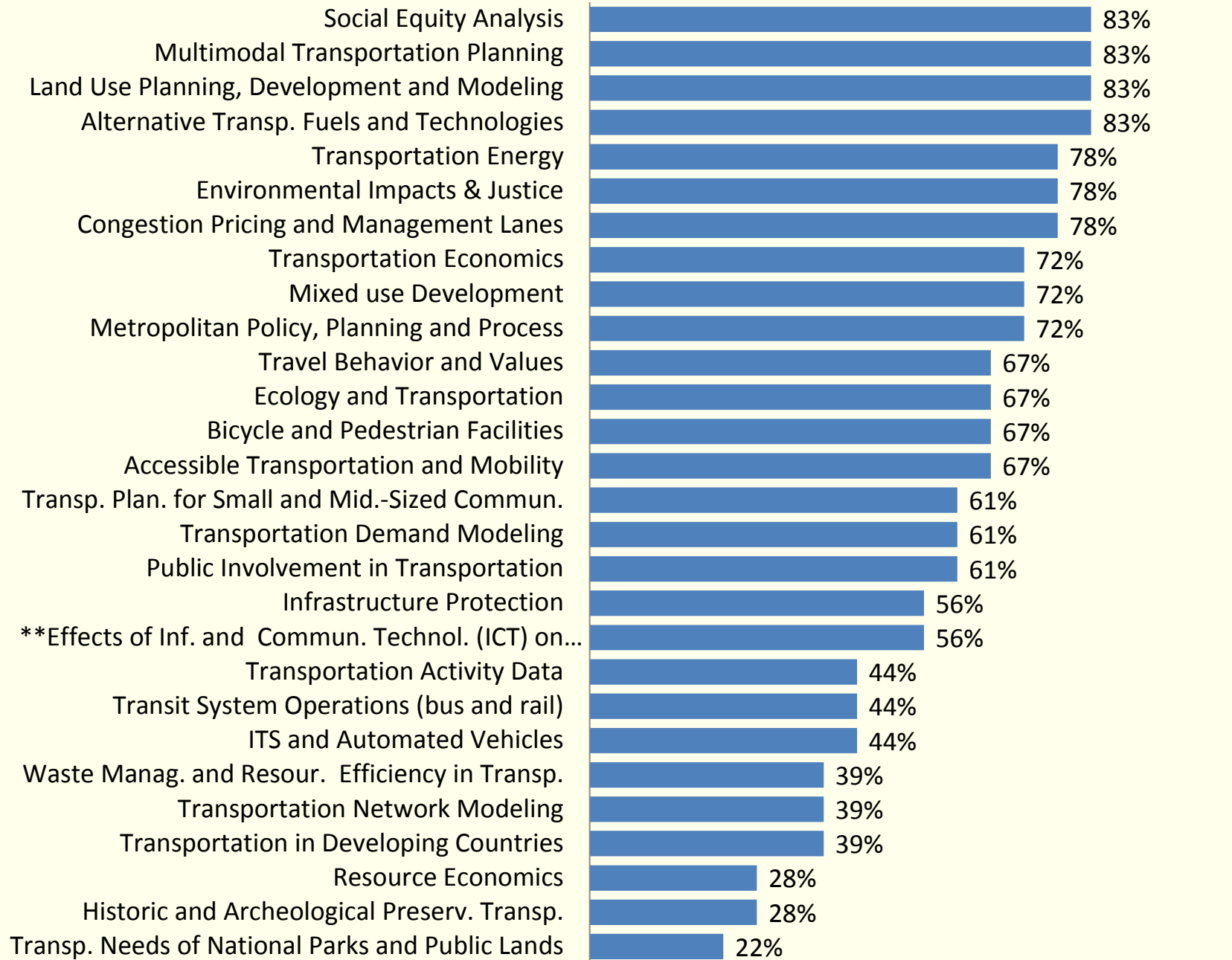
General Topics

Percentage (N=18)



Planning & Policy Topics

Percentage (N=18)



Concluding Remarks

- **A wide range of topics are offered through various delivery methods**
- **Significant room for growth in social and economic sustainability areas**
- **Need for integrated approaches**
- **Potential gap between education and practice**
 - **Sustainable transportation tools feature more integrative approaches**
 - **Sustainable transportation jobs emphasize quantitative and modeling skills**

Milestones

- The *Sustainable Transportation Curricula* white paper for NCST is in final review and approval stage
- The first of four new courses in sustainable transportation rolled out in Fall 2014
- First module will be ready for implementation in Fall 2015

Questions & Comments?

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