

# **Senior Capstone and Environmental Studies Seminar**

## **“Transportation and Environmental Policy”**

This Seminar is designed especially for advanced students who are majoring in Environmental Studies and students in Planning. The instructors believe it is important for students in these fields to be able to synthesize their four years of undergraduate education and deal with applied research related to land use and planning and transportation demand management.

“On Spaceship Earth, there are no passengers: everyone is crew.”  
-R. Buckminster Fuller

ENVD 4420/ENVS 4800; Section 001  
Wednesday mornings 9:00 – 11:50 am.  
ENVD Building, Room 122

Instructors: Spenser Havlick, Professor, College of  
Architecture and Planning

Will Toor, Director, CU Environmental  
Center

# SPRING 2002

## Introduction

One of the best models for creative learning and collaborative problem solving is when a diverse team of advanced students are brought together under the guidance of dedicated faculty who themselves represent different but related disciplines. This spring 2002 seminar provides that unusual opportunity whereby students and instructors from two colleges combine their efforts in exploring some of the most vexing problems of the built environment, the challenges of excessive automobile use and increasing greenhouse gas emissions from transportation. We will grapple with these issues in seminar discussion, review of the literature, field experiences, written analysis and critiques, and with team or group projects.

### Objectives and Expectations

Because the topics of wise land use management and transportation planning are extremely complex, students will be expected to devote more time and talent to this seminar than one might with a more traditional course. One objective will be to observe and critically analyze “wicked” or difficult problems in a comprehensive and integrated manner. Each student is expected to be very well informed about either ecological phenomena or planning theory and practice. It will be through the integration of these and other areas of expertise that the seminar participant will have a rich learning experience.

Lively class discussion, probing questions, and enthusiastic, well-informed debate are all required of each participant. Written assignments are all to be proofread, typed and turned in at the beginning of class on the due date. No late papers will be accepted. Attendance is required at all classes.

### Basic Requirements

It is expected that seminar members will carry most of the responsibility of the class discussions. Participation in these discussions is central to the success of the seminar. It is expected that assigned readings will be completed prior to the appropriate class meeting.

From time to time there will be written requirements. Some written reviews or analysis will be required from attendance at public hearings and from assigned readings. There are six or seven “trigger paper” possibilities to select from. You need to do no more than three (3) but one of them must be one on your first reading assignment which

is due Jan. 23, 2002. Please confer with the syllabus calendar for the due dates of all assignments.

The required texts are Sustainability and Cities: Overcoming Automobile Dependence, by Newman and Kenworthy (Island Press 1999), The Vanishing Automobile and Other Urban Myths, by Randal O'Toole (Thoreau Institute, 2001) and No Place Distant: Roads and Motorized Recreation on America's Public Lands, David G. Havlick, (Island Press, 2002).

### Grading and Course Mechanics

Grades will be determined on the basis of a midterm examination, graded assignments, a team project, active class participation and a personal checklist that is attached. It is expected that all seminar members know all the rules of ethical behavior pertaining to academic honesty, copyright violations, etc. and therefore we will not dwell on them here. If anyone has a question about this, please confer with either instructor during the first week of the semester.

All assignments must be typed and handed in at class time on the due date. There will be no late work accepted except in case of a serious illness or a family tragedy. Grades will be based on the following ranges: 93-100 (A), 82-92 (B), 70-81 (C), etc. The final examination time and date is Tuesday, May 7, 2002 7:30-10:00am. Please do not make any plans to depart before that time. You are expected to be present at this final exam period.

Several of the required assignments are designed to produce work product that will contribute to improving transportation planning in the United States. The campus TDM case studies may be used in a book on campus transportation planning that the instructors are writing. The review of the TDM chapters will be used to improve this book. The community project will be a team research effort designed to produce information of real value to transportation planning efforts.

### Teaching Staff

Dr. Will Toor brings a rich background of environmental policy analysis and transportation planning expertise to the Seminar including his directorship of the University of Colorado Environmental Center. His Ph.D. in physics is from the University of Chicago and B.S. in physics is from Carnegie Mellon. Will has been mayor of Boulder since 1998 and has served on the Denver Regional Council of Governments, and the City Council's Environmental Sustainability and Transportation Committees.

Dr. Spense Havlick has been a Professor of Environmental Design since 1975, as well as Dean of the college. He has been on the Boulder City Council since 1982 and has served on the Boulder Urban Renewal Authority, the National League of Cities Energy and Land Use Policy Committees. His Ph.D. from the University of Michigan is in Environmental Planning and he has an M.A. from the University of Colorado in Zoology.

Spense has helped design new towns with Doxiadis Associates in Athens, Greece and has studied land use and transportation during his two different worldwide terms on the Semester at Sea.

Both instructors live with their families in Boulder, commute daily on their bicycles, and are working on a new book that deals with transportation demand management in communities with college campuses. Their office hours will be posted for your convenience the first week of class.

### Course Assignments and Proposed Check List Scores

1. Prepare a professional resume, and a personal autobiography (no less than 10 typed pages) that describes important people, places and events from as far back as you can remember to January 2002. (10 points)
2. Select three (3) special topics or readings which you select from a larger list related to this course and write a (3 page typed) “trigger paper”, including a thoughtful analysis of each. (15 points)
3. Complete at least three research forms (to be provided) describing your case studies of campus community transportation demand management programs. This involves at least three different cities (15 points)
4. Midterm Exam (20 points)
5. Review of TDM chapters (10 points)
6. Community Project – a team effort (25 points)
7. Lively Class Discussion and perfect attendance (5 points)

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Total 100 points

## Tentative Schedule of Seminar Meetings and Topics

\*Wednesdays 9:00 – 11:50 am Room 122 ENVD Bldg.

### **Jan. 16, 2002 (Wednesday) Topics: Seminar Startup and Overcoming Auto Dependency**

Objectives of the Seminar, Procedures, Grading Policy, Class introductions. Survey of topics and issues to be covered in the course. Sign up sheets for semester “nutrient needs.”

(Will - powerpoint on Boulder/CU transportation

Spense - talk on BART and Perth)

Resume, autobiography due Jan. 16 – please bring to the first day of class.

Read the first four chapters of the Newman/Kenworthy text. Prepare a 3-page “trigger paper” which provides an analysis of this reading. (Due Jan. 23)

This is the only “mandatory” trigger paper which is to be done by all students in the class. Besides this one, you may choose two others from many that are listed.

### **Jan. 23 Topic: Is an automobile independent community feasible?**

Discussion of readings from Newman and Kenworthy (first four chapters in Sustainability and Cities.) Presentation of trigger papers on these four chapters. Your trigger papers on Newman and Kenworthy are due at this class.

Read by January 30: The Vanishing Automobile and Other Urban Myths, pp 257-444

And "The Smart Growth/Climate Change Connection"

<http://www.tlcnetwork.org/SmartGrowthClimateChangeConnection.html>

You may write one of your trigger papers on this reading.

### **Jan. 30 Topic: How Smart is Smart Growth?**

Class discussion of "The Vanishing Automobile".

Selection of academic emphasis research topic; due Feb. 13. (This assignment is for Planning majors only.)

Reading by Feb. 6: *Easing the Burden: A Companion Analysis of the Texas Transportation Institute's 2001 Urban Mobility Study* at

<http://www.transact.org/Reports/tti2001/> Please be sure to read both the analysis by the

Surface Transportation Policy Project and the original analysis by the Texas Transportation Institute. Also read *Generated Traffic and Induced Travel: Implications for Transport Planning* at <http://www.vtpi.org/gentraf.doc> by Todd Litman, *Victoria Transport Policy Institute*

You may write a trigger paper on this reading.

**Feb. 6 Does roadway expansion cause or cure congestion?**

Selection procedure for team projects. Nomination for topics; team formation, timetable for projects

Reading by February 13: deRaismes, Gehr, Hoyt and Pollock, *Growth Management In Boulder, Colorado: A Case Study* at [www.ci.boulder.co.us/cao/x-bgmcs1.html](http://www.ci.boulder.co.us/cao/x-bgmcs1.html). You may write one of your trigger papers on this reading.

**Feb. 13 Topic: Case Study of Boulder Land Use and Transportation History**  
**Guest speaker: Tracy Winfree, Boulder transportation director** on Boulder transportation planning.

-Tracy confirmed

Read by February 20: Report on Boulder Transit Village; articles on TOD; article on RTD Fastracks proposal. You may write one of your trigger papers on this reading.

**Feb. 20 Field trip to Englewood Town Center. Meeting Time 8:00 am.!**

Please read the handout articles: "The High Cost of Free Parking" by Professor Don Shoup, "The Going Rate: What it Really Costs to Drive" by Mackenzie et al; "The Car and the City" by Alan Durning, and "The Economics of Traffic Congestion", by Arnott and Small. before class on Feb. 27. You may write one of your trigger papers on this reading.

Tom Burns: 770-6004. I also have 761-3686 as a home number  
Englewood - 9-11AM; Community development director +

**Feb. 27 Topic: The Economics of Transportation**

Transportation Subsidies  
Congestion Pricing  
The Economics of Parking

Parking Cash Out  
The policy of transportation demand management (TDM)  
Discussion of articles

Read before March 6. :“Finding a New Way” by Poinsette and Toor, and draft chapters of "Calming Campus Cars" by Havlick and Toor. You must prepare a detailed review of one of the draft chapters, and bring this to class on March 6.

**March 6** Topic: Carrying out research on TDM practices.

Assignment of cities and campuses to be investigated for innovations in TDM. Review of TDM practices on North American college and university campuses. Critique of chapters of forth-coming book on traffic calming and other auto-related impacts.

**March 13** Topic: Federal laws and transportation

The role of federal law in shaping transportation in America. NEPA, the Clean Air Act, CAFÉ, TEA-21, and ISTEA.  
And: Clean Air and Transportation Planning  
A case study of Atlanta Air Quality

**Guest Speaker: Attorney Bob Yuhnke**

Midterm exam (20% of grade)

Reading by March 20: Scientific American article (to be listed). Amory Lovins: “The future of wheels”. You may write one of your trigger papers on this reading.

**March 20** Topic: The role of automobile technology in improving environmental quality.

Reports coming out of data from March 6 assignments. Discussion of exemplary findings. What applications, if any, to the University of Colorado at Boulder including Williams Village expansion.

Advanced vehicles, alternative fuels, hybrid electric vehicles, hypercars.

**Guest speaker:TBA**

**Field Trip: Boulder or CU fleet manager takes us on a tour of the Prius.**

Spring Recess (March 25-March 29)

**April 3** Topic: Transportation Modeling

Basics of traffic modeling.

DRCOG regional traffic model

**Guest Speaker: Bill Vidal, Executive Director, Denver Regional Council of Governments (DRCOG)**

**April 10** Topic: What Makes a City Sustainable?

Critique of pre-assigned panels at the Conference on World Affairs. Each student is asked to select three panels related to this seminar and after attending the session, write a critical analysis of the three panels.

Read by April 17: first four chapters in No Place Distant and prepare to have a lively discussion on April 17. You may write one of your trigger papers on this reading.

**April 17** Topic: what should be the guidelines for motorized use on public lands?

Conversations with the author. of No Place Distant

Review highlights and provide discussion critique of chapters from the book “No Place Distant.” Field trip to Shanahan Ridge and Boulder Open Space via the SKIP.

Also this week: Attendance at the Campus Earth Summit – Transportation session(s).

**April 24** Topic: What is your plan for mobility/transportation options in your future?

Final Edit of Team report, Copy ready for printers. Teams must create a timetable to work back with dates to meet this crucial deadline.

**May 1**

Last day of class – Final Seminar Team Projects to be presented. Final reports turned in at class time.

**May 7, 2002 (Tuesday)**

Final Examination Period

7:30am – 10:00am

\*Note: This is a fixed date. Do not plan for premature departures or alternative exam dates, please.

**May 10**

*Friday – Commencement Folsom Stadium 9:30am*

The following dates and topics of written (typed) assignments are provided as a checklist to be sure all work is turned in at class time on the dates shown below:

- Jan. 16 Resume, Autobiography (in some cases Jan. 23)
- Jan. 23 “Trigger paper” on first four chapters of Newman/Kenworthy
- Jan. 30 Optional trigger paper on The Vanishing Auto
- Feb. 6 Optional trigger paper on induced traffic
- Feb. 13 Optional trigger paper on Boulder planning; Academic emphasis paper for planning majors
- Feb. 20 Optional trigger paper on TOD improvements.
- Feb. 27 Optional trigger paper on Shoup article
- March 6 Critique of new book chapters
- March 20 Should have Interview Responses due
- April 3 Optional trigger paper on Scientific American due
- April 10 Optional trigger paper on CWA panels
- April 17 Optional trigger paper on Chapters from No Point Distant
- April 24 Final Draft of Final Team Report
- May 1 Turn in Final Team Report