

# **SWATeam Recommendation**

Name of SWATeam: SWAT Transportation Team

SWATeam Chair: Yanfeng Ouyang

Date Submitted to iSEE: February 1, 2016

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## **Specific Actions/Policy Recommended (a few sentences):**

**Travel demand analysis on reducing air travel emissions.** It was proposed that a travel demand study be conducted to find out quantitatively how university business travelers select air travel against other alternatives (such as web-conference, train, driving). The outcome will then be used to develop incentives or policies to reduce air travels and emissions. This study could be conducted in two phases:

Phase 1. Collect 1-2 years of data on individual travel decisions, including travelers' socio-economic characteristics, and the alternatives they have. This includes analysis of the current Travel and Expense Management (TEM) database (e.g., the reported travel purpose and funding source) to collect basic information about current air travel. Part of the effort can involve adding new questions to the current TEM reimbursement process. An additional survey to the general public might be necessary to account for those who choose not to travel.

Phase 2. Statistical/econometric models (e.g., discrete choice models) will be developed based on the data collected in Phase 1. The outcome will inform us what factors contribute to air travel versus other available options, and what it takes to change the travelers' decisions. Based on the findings, the researcher could recommend programs to (i) provide incentives for campus units to reduce their annual air travel emissions; and (ii) educate/support the campus community on alternatives to air travel, such as trains and video conferencing.

## **Rationale for Recommendation (a few sentences):**

Air travel consistently accounts for over 70% of the total campus transportation eCO<sub>2</sub> emissions. Data from FY08-14 reveal that our campus' transportation emissions have increased by 30% in this 7-year period, mainly due to a 52% increase in air travel emissions. The 2015 iCAP report has correctly identified this problem and made the following statement: "Given the centrality of air travel to the academic mission of the university, it is unlikely that GHG neutrality can be achieved for transportation, without resorting to the purchase of carbon offsets to adjust for air travel emissions."

## **Connection to iCAP Goals (a few sentences):**

The goal on reducing air travel emissions will be very impactful on a number of sustainability objectives (e.g., emissions reduction, financial cost reduction, promotion factor, resource conservation, behavior change). The proposed actions/policies directly address objectives listed in the 2015 iCAP report, and they are also relatively easy to implement.

## **Perceived Challenges (a few sentences):**

It is perceived that the campus community would be willing to share additional business-related information on air travels. The campus has sufficient faculty members with suitable statistical/policy modeling skills to conduct the analysis. The remaining challenges might lie in the long duration of data collection and campus-level administrative support.

**Suggested unit/department to address implementation:**

Urban Planning, Civil & Environmental Engineering, Travel and Expense Management (TEM).

**Anticipated level of budget and/or policy impact (low, medium, high):**

For Phase I: a faculty member, a student intern, and a TEM staff could possibly get this done in six months (e.g., Spring and Summer 2016). Data collection may take at least a year (e.g., 2016-2017). For Phase II, an experienced faculty member and a graduate student could possibly conduct the study in a following year (e.g., 2017-2018 academic year). The total budget will approximately cover two months of faculty summer salary and one graduate student for 1.5 years.

**Individual comments are required from each SWATeam member (can be brief, if member fully agrees):**

Team Member Name	Team Member's Comments
Yanfeng Ouyang	I believe the proposed study will be highly cost-effective in reducing campus transportation emissions.
Pete Varney	Information is necessary in order to formulate any action to reduce this significant contributor to University eCO2 emissions. I believe this is a relatively low-cost effort that could have significant impact on future emissions.
Bumsoo Lee	This is the most critical study that should be conducted prior to any further actions to reduce transportation emissions on campus. I agree this will be a relatively low-cost project.
Claire Dodinval	As previously mentioned, air emissions are the largest contributor to UIUC transportation emissions, and as such, I have faith that this project could make a big impact.
Zhaodong Wang	I think this project is promising to reduce campus transportation emissions.

**Comments from Consultation Group (if any; these can be anonymous):**

**Explanation and Background (can be supplied in an attachment):**