

## Field Report about the research stay at the University of California, Davis

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### General impression of my research stay abroad

My research stay at the University of California, Davis was very productive for my PhD due to the support of my supervisor Professor Susan Handy, her collaborative network, available datasets and inspiring lectures and workshops at the university and conferences. Prof. Handy connected me to other collaborators who contributed datasets and knowledge to my projects. Since most of the datasets were made accessible to me it was possible to quickly start my project. Regular feedback from Prof. Handy and Deborah Salon, Assistant Professor at the Arizona State University, ensured constant progress of my project. Major challenges lied in the reliability of secondary data sources that I used to calculate energy intensities (BTU per passenger mile) for public transit agencies and specific modes. Instead of using a transport land use model, we conducted a sensitivity analysis to assess the impact of spatial granularity of built environment characteristics on transport-related energy consumption. Since the California Household Travel Survey does not provide any information on residential preferences we did not include residential self-selection in our analysis. In my project, it was fascinating to study transport-related energy consumption and accessibility in California since this state has ambitious fuel and vehicle emission standards, but its urban areas are sprawled challenging accessibility and the provision of public transport. I participated in several classes and workshops that made it easy to connect to other students and staff at the Institute of Transportation Studies (ITS). Guest speakers (e.g. from Uber, Lyft, the Department of Transportation in California) discussed exciting topics such as autonomous vehicles and the use of big data in transport modeling in Friday seminars at ITS. These seminars were very personal, and it was always possible to have a discussion with the guest afterwards.

### Quality of the host institution

A lot of my good experience at UC Davis is due to my supervisor Prof. Handy. I was able to regularly discuss my projects with her and she provided excellent feedback. She is a well renowned researcher and it was great to work with her. In general, colleagues at UC Davis and in Prof. Handy's network seemed more inclined to collaborate compared to my previous experience in Austria. The Institute of Transportation Studies (ITS) was a great place to study transportation problems for a year in the US.

Researchers at ITS collaborate with the automobile industry advancing automotive vehicle technologies, transportation service providers and the California Department of Transportation. The director of ITS, Daniel Sperling, is also a member of the California Air Resources Board that translates laws into regulatory rules. These collaborations enrich the research at ITS by providing good datasets and test sides for new technologies. ITS also provided a platform to discuss the impacts of autonomous vehicles on urban sprawl, energy consumption and the effect of transportation network companies (e.g. Uber, Lyft) on public transportation. For example, ITS organized a conference on the “Three Revolutions on shared, automated and electric vehicles” that staff, students and visiting scholars could freely attend. In addition, my VISA process at UC Davis was handled well.

#### Contacts within the host institution and inclusion in the organization

My main supervisor was Prof. Handy but I also collaborated with Assistant Professor Deborah Salon at the Arizona State University and Calvin Thigpen, post-doc at the Arizona State University. At the beginning of my research stay, I presented research projects that I would like to conduct at UC Davis and Prof. Handy’s research group provided feedback and information about available datasets. Workshops with Prof. Handy’s research groups provided great opportunities to discuss colleagues’ work and transport issues. Colleagues prepared for their job interviews in our research group. These workshops highlighted the great teamwork and support in Prof. Handy’s research group and I learned how to prepare for academic job interviews. In addition, researchers in the network of the National Center for Sustainable Transportation (NCST) presented their findings via skype conferences and we discussed their results and provided inputs. I participated in the Three Revolutions Conference, Friday seminars at ITS, audited Prof. Jallers class on transportation modeling and took a research methods class with Prof. Handy. Social events such as the ITS barbecue provided great opportunities to get to know other researchers.

#### Recommendations for future Marshall Plan students and fellows

Future scholarship recipients may ask the international office at their host university for advice which insurance to pick and call the insurance before departure. They may purchase a third-party liability insurance for a car if they stay longer since insurances of car rental companies are expensive. It is helpful to clarify the research proposal as much as possible with the supervisor even before starting the research stay. I participated in a workshop how to present my research in 30 seconds, 1 minute, 5 minutes. I highly recommend such workshops since US researchers often have excellent communication skills. All my US colleagues were able to summarize their research in a convincing way and a very short time to lay and professional persons.