**Project Name:** Reducing automobile use for short workday trips by Yale employees

**Organization Name:** Yale Office of Sustainability

**Preceptor Name(s) and Contact Information:**
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**Brief Description of Organization:**
Established in 2005, the Office of Sustainability’s mission is to advance sustainability within the Yale community by acting as a catalyst for information exchange and facilitating capacity building, innovation, streamlined operations, and preparation of tomorrow’s sustainability leaders. The vision of the Office is a Yale where sustainability is seamlessly integrated into the values and practices of the university, contributing to the social, environmental, and financial excellence of the university and positioning Yale as a global sustainability leader.

**Project Description:**
According to the Office of Sustainability’s 2015 transportation survey, more than 40% of employees traveled between various campus locations. About half of these employees traveled between campus locations about once per week, and almost 30% traveled between campus locations at least once per day. At least some of the time, almost half of the employees who traveled between campus locations drove their own or a Yale automobile for such travel. The survey did not query about Yale business travel to local off-campus locations.

Using an automobile for these often short local trips has several negative impacts. Short automobile trips are inefficient because the engine doesn’t operate efficiently until it has warmed up. In addition, automobile travel in downtown New Haven involves frequent stopping for traffic, stop lights, stop signs, and pedestrians, further reducing fuel efficiency. Thus, these trips generate an outsized amount of air pollution and carbon dioxide emissions. These trips also contribute to traffic congestion and potential hazards associated with this congestion. Encouraging employees to use the Yale shuttle or active transportation modes, such as biking and walking, for their local business travel would reduce these negative impacts. Furthermore, increased active transportation would also having a positive impact on individual health through increased physical activity. Finally, some of these trips might be avoided altogether by using teleconferencing.

The project will have four aims:

**Aim 1:** To review approaches used by other urban universities and similar institutions to reduce automobile use for short workday trips.

The team will review the peer-reviewed and gray literature, as well as university websites, and will interview key staff at other universities.

**Aim 2:** To describe automobile use for short workday trips by Yale employees by employee type, employee school and departmental affiliation, trip distance, trip starting location, and trip destination, and to determine barriers to and facilitators of substituting active transport, Yale shuttle, or teleconferencing for these trips.

The team will analyze Office of Sustainability transportation survey data from 2015 and earlier years and will then conduct a new survey focused on the topic of short workday trips. The employee target population will also be focused, based on the findings of the analysis of existing
data. The team will also conduct focus groups and key informant interviews about barriers and facilitators.

**Aim 3: Based on the Aim 2 findings, to determine the impacts of short workday trips by Yale employees with respect to air pollution, carbon dioxide emissions, congestion, physical activity, and work time.**

After using the Aim 2 results to estimate total automobile miles per year attributed to short workday trips by Yale employees, the team will estimate the carbon dioxide emission, air pollution, and congestion generated by these trips, as well as the adverse health impacts of the air pollution generated and the potential health benefits of substituting active transport for automobiles. The team will also compare average door-to-door trip times using different transportation modes between various locations.

**Aim 4: To make recommendations about how to reduce automobile use for short workday trips by Yale employees.**

The team will use the Aims 1-3 results to develop recommendations.

**Expected Work-Product and Deliverables:**

A final report that includes 1) a review of approaches used by other institutions to reduce automobile use for short workday trips; 2) a methods section that describes survey and focus group methodology, impact assessment methods, and any other methods used; 3) Aim 2 and 3 results, including a detailed descriptive analysis of automobile use for short workday trips by Yale employees; an analysis of barriers to and facilitators of using active transport, Yale shuttle, or teleconferencing in place of automobile trips; and an analysis of the environmental, health, and work time impacts of automobile use for short workday trips; and 4) overall conclusions and recommendations about how to reduce this automobile use.

The Office of Sustainability and the Yale Sustainable Transportation Framework Study Committee will review the report and incorporate its recommendations into Yale’s Sustainability Transportation Framework.