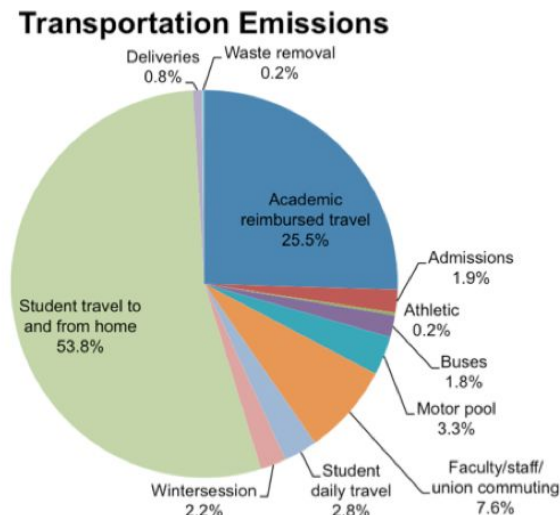


# Transportation

Transportation accounts for 39% of Massachusetts's greenhouse gas emissions (Executive Office of Energy and Environmental Affairs, 2014). This includes gasoline and diesel fuel burned for road, rail, air and marine transportation. Transportation is also responsible for a significant portion of Wellesley

College's carbon emissions. An earlier student analysis found that transportation produced over one third of all the College's emissions in the year studied: 17,000 metric tons of carbon dioxide equivalents (MT eCO<sub>2</sub>) (Environmental Studies 300 Capstone Course, 2008).



As can be seen in the figure at left, student travel to and from school contributes over half of the transportation emissions (54%), and college-funded travel contributes another quarter of the transportation emissions (Environmental Studies 300 Capstone Course, 2008). The next largest contributors are faculty/staff commuting (7.6%) and motor pool (3.3%).

The factors that contribute most heavily to emissions are the focus of the transportation sector. Accordingly, transportation at Wellesley is divided into three sub-sections: 1) Air travel, 2) Faculty/staff commuting and 3) Fleet vehicle use (Chase, Gaglini, & Willoughby, 2013). The first two subsections, air travel and commuting, fall under Scope 3 of the EPA's classification of GHG emissions, whereas fleet vehicles fall under Scope 1 (US EPA, n.d.). Student travel to and from home is, by far, the single largest contributor to transportation emissions. Wellesley is proud of its geographic diversity; Wellesley students hail from all 50 states and 55 countries. As it is a goal of the College to encourage a culturally and geographically diverse student body, student travel will remain a dominant emissions factor.

Our recommended strategies focus on the remaining significant emissions factors: college-funded academic travel, the college-owned fleet of vehicles, and faculty/staff commuting.

## Main Issues/Primary Goals

1. Introduce systematic tracking of college-funded travel type (air, rail, auto) and associated miles and investigate carbon offsets.
2. Increase the efficiency of the Wellesley Motor Pool fleet with new purchases and replacements.
3. Reduce single-occupant personal vehicle use for commuting from 80% to 60% of trips by 2020 (207,600 miles or 114 MT eCO<sub>2</sub>).

## How We're Doing

### 1. Air Travel

#### *Student Travel*

Wellesley does not calculate or report emissions from student travel to and from the College throughout the year. We have a diverse student body from 50 states and 55 countries. The most popular home state for our student body is California (>14%, n=326); Massachusetts is second (Office of Institutional Planning and Assessment, Wellesley College, 2015). About 10% of our students (about 230 students) also participate in study abroad programs each academic year. Student air travel to and from the College is an inevitable by-product of the college's mission to maintain cultural and geographical diversity. Our challenge is how to mitigate air travel emissions while supporting student diversity and study abroad.

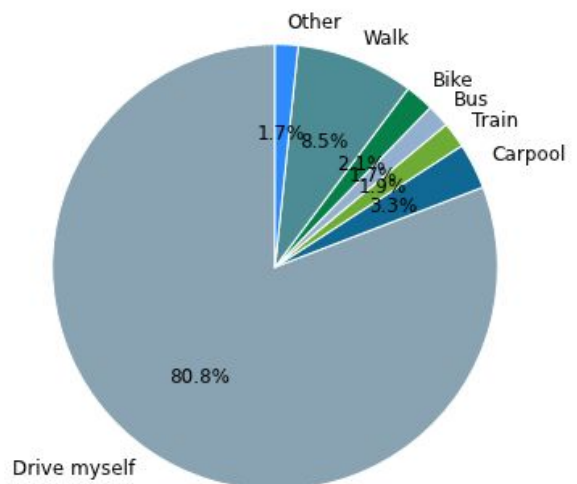
#### *Faculty/Staff Travel*

Wellesley does not currently collect direct data about air travel that is college-funded. Documentation of college-reimbursed travel exists on paper, but air travel is embedded within each individual travel expense report. It is prohibitively time-consuming to collect that data. The Purchasing Department is exploring working with a select group on campus to pilot software that would potentially allow for us to better store and retrieve information about air travel more efficiently (M. Fletcher, Controller's Office Wellesley College, personal communication 2015).

### 2. Faculty/Staff Commuting

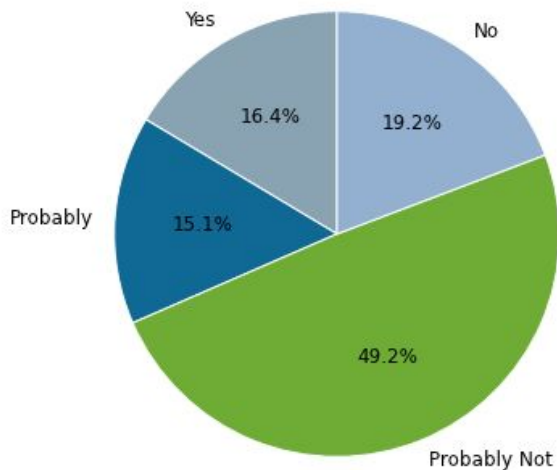
Wellesley employs approximately 1,260 faculty and staff. In 2015, commuters travel an average of approximately 12 miles (with the range of commutes spanning 0-216 miles each way). During 2008 (the last year for which we have commuting emissions data (Environmental Studies 300 Capstone Course, 2008)), faculty/staff commuting accounted for about 8% of college transportation-related emissions. For this report, we collected commuting data from over 500 participants that allows us to assess the average number of days that people commute to campus, the average distance traveled, and mode(s) of transportation used and the likelihood of carpooling. Of those 500 responses, roughly 60% were staff and 38% were faculty (the remaining 2% classified

Figure 2.  
How do you get to work?



themselves as “other”). The responses mirror the actual composition of the College’s faculty/staff ratio, which is about 38% faculty and 62% staff.

**Figure 3.**  
Would you consider carpooling?



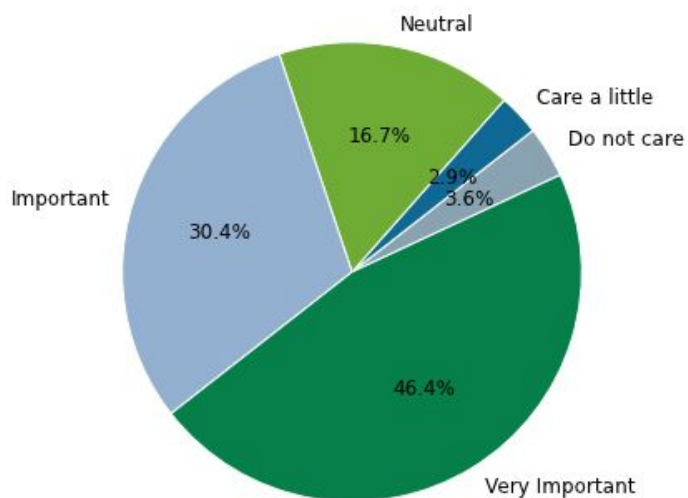
Our survey indicates that over 80% of faculty/staff drive to work by themselves (Figure 2).

Commuters travel an average of 12 miles (one way) to get to work at Wellesley. Most employees (63.3%) commute to work 5+ days/week, with 21.4% commuting 4 days/week, 11% commuting 3 days per week and less than 4% commuting less than 2 days per week.

Of the employees who drive themselves to work, approximately 16% said they would consider carpooling and about 15% said they would probably consider carpooling (Figure 3). About half (49%) said probably not and about 19% indicated they would not carpool (mostly due to erratic schedules and shuttling their children back and forth). These statistics are not surprising, considering Wellesley’s suburban location and the

limited public transportation infrastructure linking it to neighboring towns.

**Figure 4.**  
Rank Importance of On-Campus Electric Chargers



The College currently has two electric car charging stations that are capable of servicing a total of four vehicles. The charging stations are free for Wellesley students, faculty, staff, and visitors. The charging stations are located in the Davis parking lot (Chase et al., 2013). This has enabled the College to purchase electric vehicles and has influenced several college community members to purchase electric vehicles (J. Olmsted, Manager of Landscape & Motor Pool Operations Wellesley College, personal communication 2015).

In our survey, among the 138 drivers who are considering purchasing an electric car, about three-quarters (76.8%) indicated that it was very important or important to have charging stations on campus (Figure 4).

Wellesley College offers an incentive for faculty and staff to use public transportation via a payroll deduction to pay for transit and parking expense (Human Resources, Wellesley College, n.d.). Many of our survey participants suggested discounted commuter rail passes.

For getting around on campus, the college created a Bike Share Program in 2012 with generous funding from the Class of 1957 Green Fund. Currently, 25 bicycles are available for pick up at two locations on campus for free 24-hour rentals. The Office of Sustainability sells bike helmets below cost (Office of Sustainability, Wellesley College, n.d.). At the February 2015 Sustainability-sponsored IdeaFest on campus, 32% of the submitted Transportation ideas revolved around promoting biking on campus (e.g. sponsor more bike repair workshops, offer more covered bike storage, publicize bike trails in town).

### 3. Fleet Vehicles

In 2015, Wellesley's fleet contains 116 pieces of equipment, including 97 vehicles. This includes maintenance vehicles, police cars, escort vans, waste recycling haulers, athletic vehicles, departmental vehicles, boats, etc. The service fleet vehicles are overseen by Motor Pool. In recent years, the fleet has been reduced by 20% (J. Olmsted, personal communication 2015). Sixteen percent of the vehicles use biodiesel fuel (J. Olmsted, personal communication 2015).

Wellesley also has a passenger fleet that is operated by three different campus organizations: Department of Faculty Housing & Transportation, Disability Services and Campus Police. The Department of Faculty Housing & Transportation oversees 7 different passenger shuttles for off-campus transportation. These modes of transportation will be described from highest volume to lowest volume (P. Eastment, Director of Housing & Transportation Wellesley College, personal communication 2015).

- Two MIT exchange buses that both run 17 hours a day, 5 days a week. Free for students; faculty/staff are charged \$3 each way (started in 2008).
- Senate bus runs Friday night from 6pm to 3:45am and runs all day Saturday until 3:45am and Sunday until 12am. There are typically 2 buses during the day and 3-4 at night. \$3 each way. On Sundays, there is one bus every other hour.
- Natick shuttle runs from campus to the Natick Collection Mall, the AMC Framingham theater and Target. Runs Saturday 11am-9pm. \$3 round trip.
- Babson-Olin-Wellesley (BOW) shuttle runs Monday-Friday, 7am-9:30pm and Saturday from 3pm until 12midnight.
- Thursday night orchestra shuttle to Brandeis
- Fall and Spring semesters: buses for crew team athletes to Charles River (at 4:00am)
- Student teachers (Education majors), for transportation to their teaching assignments, use zipcars (total of 7; 4 are hybrids) or taxis.

Wellesley employees also have access to MetroWest Regional Transit Authority shuttle from Alumnae Hall to MBTA commuter rail.

There are two more modes of transport available for students on campus: 1) Disability Services oversees the Access van (for long-term disabilities, serves between 100-200 students per semester) and 2) Campus police provides rides via the Rides List (short-term disabilities).

**Recommended Strategies**

Phase 1 = Within 2 years of plan being adopted  
 Phase 2 = Within 5 years of plan being adopted  
 Phase 3 = Within 10 years of plan being adopted

**1. Introduce systematic tracking of college-funded travel type (air, rail, auto) and associated miles and investigate carbon offsets.**

Issue	Strategy	Responsible Party	Status	Phase
TR1.1	Conduct survey of faculty/staff air travel as first step in creating an improved system	Office of Sustainability	Not Started	1
TR1.2	Run a college-wide awareness campaign environmental damage caused by air travel. Promote rail or bus trips for trips < 500 miles	College, Office of Sustainability	Not Started	1
TR1.3	Collect accurate data about college-funded air travel	Department of Faculty Housing & Transportation; Human Resources; Dean's office	Not Started for Current Data	2
TR1.4	Research carbon offset companies and establish a partnership with one	Department of Faculty Housing & Transportation; Human Resources	In Progress	3
TR1.5	Educate all students about the carbon-emissions impact of flying to and from campus; emphasize alternative modes of transportation (here is <a href="#">a great resource for carbon ONsetting</a> ).	The Office of International Study, The Office of Sustainability	In Progress	1

**2. Increase the efficiency of the Wellesley Motor Pool fleet with new purchases and replacements.**

Issue	Strategy	Responsible Party	Status	Phase
TR2.1	Administer annual commuting survey	Office of Sustainability	In Progress	I
TR2.2	Consider adapting policies that charge parking rates for students/faculty/staff	Department of Faculty Housing & Transportation; Campus Police	Not Started	2
TR2.3	Consider introducing a parking opt-out incentive (pay employees who do not park on campus, e.g. \$100 for < 1 mile from campus and \$400 for < 5 miles)	Department of Faculty Housing & Transportation; Campus Police; Human Resources	Not Started	2
TR2.4	Encourage the 30+% of commuters who say they would carpool or probably carpool by facilitating communication and organization among those interested.	Department of Faculty Housing & Transportation; Campus Police	In Planning	1
TR2.5	Provide more subsidies for taking public transportation and promote those benefits more aggressively.	Human Resources; Department of Faculty Housing & Transportation	Not Started	2
TR2.6	Analyze Zipcar usage data and, if needed, adjust the number of vehicles on campus (students are then less likely to have their own cars on campus)	Department of Faculty Housing & Transportation; Campus Police	In Progress	2
TR2.7	Improve biking and walking on campus (suggestions from our IdeaFest indicate a strong support for more biking on campus, specifically, bike storage/coverage in the winter, more workshops, repair accessibility and resources on where to buy a bike)	Department of Faculty Housing & Transportation; Campus Police; Landscape and Facilities Maintenance	In Progress	3

**3. Reduce single-occupant personal vehicle use for commuting from 80% to 60% of trips by 2020 (207,600 miles or 114 MT eCO<sub>2</sub>).**

Issue	Strategy	Responsible Party	Status	Phase
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TR3.1	Implement and enforce no idling rule for all vehicles on campus	Motor pool, campus police, Department of Faculty Housing & Transportation	ongoing	1
TR3.2	Consider merger of Campus Police and Disability services with respect to the RidesList and the Access vehicle	Disability services, Campus police, Health Services	Not Started	1
TR3.3	Replace outdated vehicles with fuel-efficient/hybrid alternative fuel vehicles	Motor Pool	In Progress	3
TR3.4	Periodically re-evaluate contracts with Peter Pan bus companies	Department of Faculty Housing & Transportation	In Progress	2
TR3.5	Improve the GPS tracking of the Peter Pan buses. Reliable GPS allows riders to better plan their time-sensitive trips and prevents students from using Uber or cabs when bus arrival is imminent	Department of Faculty Housing & Transportation	In Progress	3
TR3.6	Add more electric charging stations (limiting access to Wellesley College users would require retrofitting existing stations to track via OneCard)	Motor Pool, Department of Faculty Housing & Transportation	Planned	3

### **Financial Implications**

Although air travel is the largest contributor to transportation-related emissions and a large expense, it is also one which is impossible to eradicate. Simply put, many of our students must fly to and from college and faculty/staff must attend key conferences in their field. Best practices would include encouraging alternative transportation whenever possible, and introducing carbon offsets when travel is necessary.

### **Climate Implications**

Reducing the amount of air travel, solo commuters, and the average mpg of the Wellesley fleet will yield substantial carbon reductions. Implementation of carbon offsets for air travel will contribute to renewable energy, forest protection and reforestation.

### **Potential Student Involvement**

- Include a student representative on the Department of Faculty Housing & Transportation Committee to inject student perspective into transportation policies (in conjunction with the Office of Sustainability).

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