

Yale 2011 Sustainable Transportation Survey Summary Report

Highlights of the Results

In November of 2011, for the fourth consecutive year, Yale Faculty, Staff, Postdocs, and Graduate/Professional Students were surveyed to track their commute behavior over time. The total population in 2011 was 19,080, which represented an increase of 244 from the total population in 2010 of 18,836. Working with a similar population for both years, a representative sample of 997 was taken again in 2011. The sample breakdown compared to 2010 is as follows:

University Affiliation	Total population	Total population	% of Total	% of Total	Number	Number
	2011	2010	2011	2010	2011	2010
Faculty	3,305	(3,183)	17%	(15%)	173	(151)
Postdoc	1,136	(1,107)	6%	(6%)	59	(61)
Clerical Tech	3,419	(3,342)	18%	(19%)	179	(187)
Manage Prof	3,987	(4,081)	21%	(23%)	208	(231)
Service Main	945	(931)	5%	(5%)	49	(49)
Graduate Student	<u>6,228</u>	(6,192)	<u>33%</u>	(32%)	<u>329</u>	(318)
	19,080	(18,836)	100%	(100%)	997	(997)

The 2007 survey established baseline data for the entire commuting population and the comparison chart above indicates the changes in population from 2010 to 2011. In 2011 there were only 1-2% changes to the employee categories as a percentage of the survey sample group. Since 2010 the overall total population only increased by ~~only~~ 1.3% or 244 respondents. The significance of a relatively stable population is that there is little effect on one-way trips to campus and thus car-related greenhouse gas emissions also remained rather stable.

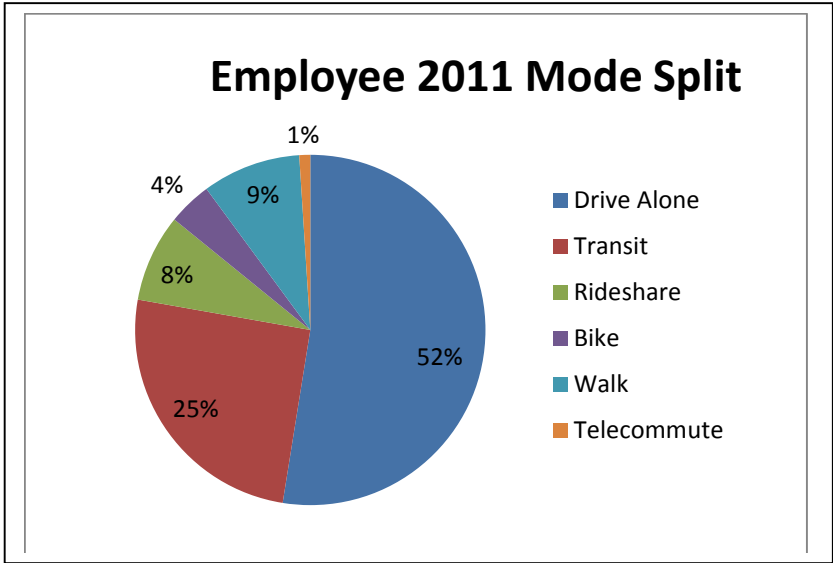
One of the goals of providing more sustainable transportation options on the Yale campus is to reduce car-related greenhouse gas emissions. Therefore, the more relevant target audience is Yale's faculty and staff because although they comprise 67% of the total population, they represent approximately 92% of the population parking in Yale's parking facilities. Because of this, the following survey results have been sorted to exclude graduate students. The total number of responses referenced from the chart above (997) was reduced to 668—representing employee responses only—in all charts and references below.

How Yale Employees Commuted to Campus in 2011 vs. 2010

The commuting habits of Yale's faculty and staff over the past year have altered slightly, with the most notable changes found in transit and ridesharing. As shown in the graph below, driving alone decreased slightly to 52%, public transit use increased to 25% up 3% since 2010, and walking increased slightly by 1%; however, ride sharing fell by 3% and bicycling decreased 1%. Teleworking also remained a small share of the mode split again in 2011 at 1%, with an official Yale policy to be announced in 2012 we should expect to see an uptick on next year's survey results.

The table below shows the 2010 mode split in comparison to 2011 mode split. And the graph illustrates the mode breakdown for Yale employees in 2011.

	2010	2011
Drive Alone	53%	52%
Transit	22%	25%
Rideshare	11%	8%
Bicycle	5%	4%
Walk	8%	9%
Telecommute	1%	1%



Graph 1

When we breakdown the employee modes further into the categories of staff, faculty, and medical/nursing, several differences arise. The largest difference to note in the chart below is that the medical/nursing population has a 12% lower drive alone rate which could be attributed to their higher transit and walking rates (31% and 15% respectively).

2011	Staff	Faculty	Med/ Nurse Nursing*
Drive Alone	52%	52%	40%
Transit	27%	20%	31%
Rideshare	7%	10%	7%
Bicycle	3%	8%	6%
Walk	9%	10%	15%
Telecommute	1%	3%	1%

*Medical/nursing as a category includes some grad students

According to the mode split specifically created for Medical/Nursing, the higher transit rate among this group as noted in the chart above can be attributed to the fact that the Medical/Nurse group uses the Yale Shuttle's at a higher rate (18% of the transit mode share), while only 6% faculty and 10% of staff use the shuttle for their commute. Medical/nursing employees and grad students also live closer to Campus with 21.4% indicating they live in New Haven.

It is interesting to note that according to the survey results faculty rideshares, bicycles and telecommutes more than their counterparts on staff and in medical/nursing. As far as telecommuting, we assume it is easier for faculty to telecommute than for staff and medical/nursing employees, due to the nature of their jobs that require them to be on campus. Why they are ridesharing and bicycling more remains unanswered.

Employee vs. Student Commute Modes 2011

It's no surprise that there is a 46% difference in the drive alone rate between Employees and students due to their lack of vehicles and parking spaces around campus. The large difference between the biking and walking rate is also expected due to students typically living in closer proximity to campus. However it is interesting to note that there is only a slight 2% difference between transit use by students and employees.

2011	Employees	Students
Drive Alone	52%	6%
Transit	25%	23%
Rideshare	8%	1%
Bicycle	4%	17%
Walk	9%	51%
Telecommute	1%	2%

Mode Split Variation between Central & West Campus

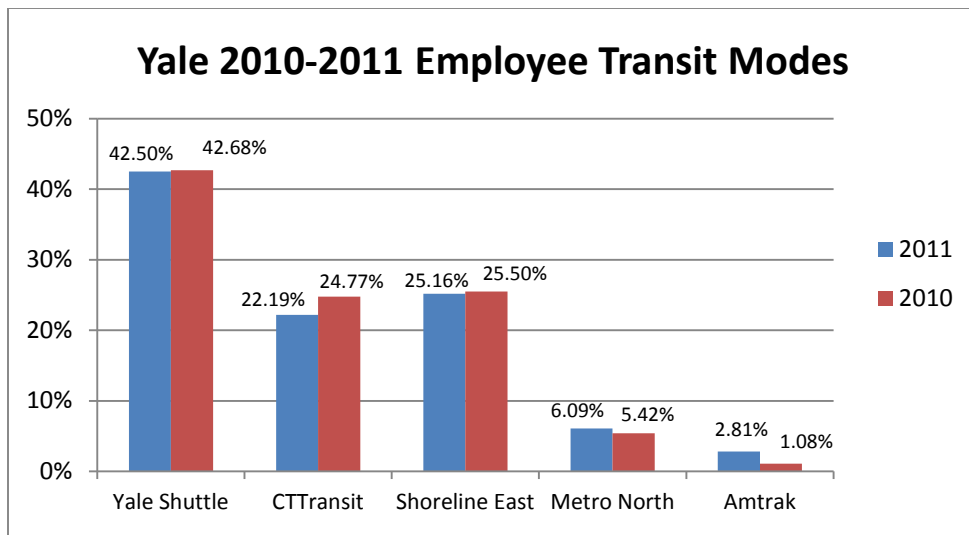
The first statistic that stands out from the analysis is that there is a 21% difference in the drive alone rate between those employees and students commuting to Central versus West Campus. This may indicate that these are the commuters that are pushing up Yale's overall drive alone rate. The higher drive alone rate for this area could also be contributed to the fact that the West Campus is underserved by public transportation and is very dangerous to walk or bike to. Without major changes to the transportation situation in this area (i.e. new train station, safe bike/walk route) the drive alone rate is unlikely to change.

2011	Central	West
Drive Alone	35%	56%
Transit	25%	27%
Rideshare	7%	4%
Bicycle	8%	5%
Walk	25%	8%
Telecommute	2%	0%

According to the mode split specifically created for the West Campus, the good news is, many employees and students use the Yale shuttle to get to West Campus which is reflected in the 27% mode share for Transit. In general, because parking is free and widely available, the drive alone rate is higher and rideshare rate is lower at West Campus than at Central Campus.

Public Transit & the Yale Shuttle

The Yale Shuttle has remained the most frequently used mode of transit over the past year with a solid 42.50% of employees choosing the Yale Shuttle over other modes of public transit. Below is the chart indicating the current transit mode breakdown compared to 2010. Metro North and Amtrak account for this year's rise in transit use, with increases of .67% and 1.73% respectively since 2010. The Yale Shuttle, CTTransit, and the Shoreline East train saw small decreases in use by employees in 2011.

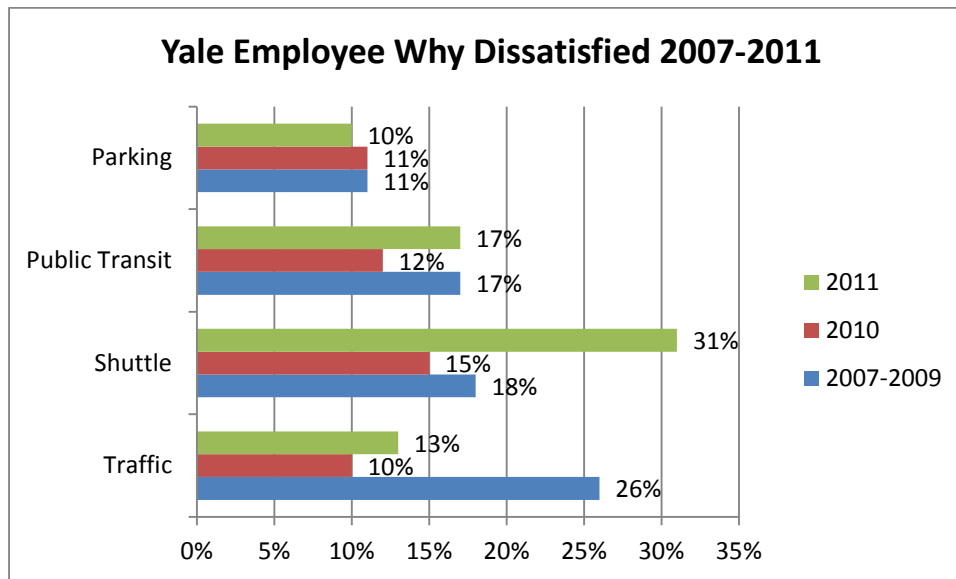


Graph 2

However, in 2011, 8.62% or 1,108 of all employees rode the Yale Shuttle as their primary mode of transportation, up from 7.33% in 2010. So although there was a slight decrease in use of the Yale Shuttle by transit riders this year, its use as a primary mode among employees increased in 2011.

Why Employees are Dissatisfied with Commute

The Yale transportation survey gives employees a chance to express issues with their current commute, and it provides data on how these trends are changing overtime. Employees have consistently been concerned about the Yale Shuttle, traffic, public transit, and parking from 2007 through 2011. The graph and tables below show the ranking of dissatisfied complaints over-time.



Graph 3

One important point to note about this graph is that data from 2007-2009 is combined and has been taken from last year’s comparison report. That makes the percentage of comments about the Yale Shuttle from the 2011 survey even more striking because it’s 13% higher than three years of complaints combined. And one might contribute this increase in complaints to higher employee ridership, but in actuality the use of the Yale Shuttle as a mode for employees who use public transit has dropped from its height in 2009 of 48.94%, down to 42.50% in 2011. Since the significant increase of shuttle complaints in 2011 cannot be attributed to a rise in ridership, it is imperative to look at this year’s shuttle comments more closely.

Yale Shuttle Comment Analysis

As was highlighted in Graph 3 above, the significant increase in comments regarding the Yale Shuttle is also apparent across all comment categories in the 2011 survey. Yale employees made 93 more comments regarding the Yale Shuttle service in this year's survey, a 134.78% increase from 2010.

2010-2011 Employee Shuttle Comments		
Write-In Category	# Comments 2010	# Comments 2011
<i>Explain Dissatisfied</i>	30	74
<i>General Concerns</i>	28	47
<i>Stop DA Suggestions</i>	6	34
<i>DA Reasons</i>	5	7
Total:	69	162

In order to go deeper into what issues might be causing employees to have more comments about the shuttle service, an analysis of the content of those comments was necessary. The charts below show the top five shuttle comments broken down by affiliation at Yale University.

2011 Total Other Staff Shuttle Comments		
Category	Number	Percent
<i>New route/stops</i>	39	16.12%
<i>West Campus</i>	33	13.64%
<i>Schedule</i>	32	13.22%
<i>Overcrowded</i>	24	9.92%
<i>Unreliable</i>	22	9.17%

2011 Total Faculty Shuttle Comments		
Category	Number	Percent
<i>New route/stops</i>	10	16.13%
<i>Unreliable</i>	9	14.52%
<i>Wait times</i>	8	12.90%
<i>Travel time</i>	6	9.68%
<i>West Campus</i>	5	8.06%

2011 Total Grad Student Shuttle Comments		
Category	Number	Percent
<i>Schedule</i>	29	21.64%
<i>New route/stops</i>	25	18.66%
<i>Overcrowded</i>	16	11.94%
<i>Travel time</i>	13	9.70%
<i>Unreliable</i>	11	8.21%

NEW ROUTE/STOPS: This topic falls within the top three shuttle comments for all three affiliations. It is the #1 concern among staff and faculty. Specifically, faculty respondents mentioned wanting new routes from Union Station to more campus locations (including the VA hospital and Medical Campus). Staff was looking for: additional West Campus shuttle stops on Central Campus to avoid transfers; use of the YNHH shuttle, a route from Hamden, and to reinstate the Long Warf Dr. route. Graduate students would like to see more service in East Rock and Wooster Square.

WEST CAMPUS: This subject was the 2nd most talked about issue regarding the shuttle service among the other staff making up 13.46% of all their shuttle comments, and it made the top five categories for faculty as well. The other staff was particularly concerned with the recent schedule change which ended the early morning departures from West to Central Campus. Although several people might have been parking on West Campus "illegally," there are some who were using it legitimately because their weekly work locations vary or they carpool with someone who works at West Campus and subsequently they need to travel to Central in time for their work shift. An example of the latter situation is shown below:

"I work at West Campus nearly all the time and my wife works at West Campus two days a week and on Main Campus three days a week. On the days she is at Main Campus we would carpool to West Campus and she would take the shuttle to arrive at work at 8:30am. When the shuttle schedule changed the 8:00am shuttle from West Campus was eliminated so we now drive to Main Campus and then out to West Campus." – (a staff comment regarding General Commute Concerns at Yale)

Staff also mentioned the need for more West Campus shuttle stops on Central Campus, and the need to have the Orange Train Station built so they have more public transportation options to commute to work.

SCHEDULE: This was a major issue for grad students (22%) and staff in particular. Both groups were concerned about the absence of the afternoon service (11am-4pm) on the Orange Line with 10 respondents asking for this change. Graduate students mentioned it would be helpful to add earlier morning shuttle service and bring back the 4:00pm stop at Amistad Building for both the Orange and Blue lines. Eight (8) staff respondents indicated issues with the termination of early shuttle service from West Campus, and it was also mentioned that the shuttle has been regularly off schedule since *First Transit* took over bus operations for Yale.

OVERCROWDING: This issue was mentioned most frequently by graduate students comprising 12% of all their shuttle comments, but also ranked within the top 5 for staff. Both the students and the staff complained of overcrowding in general on morning shuttles, and in particular on the Red and Orange lines during peak morning hours. The faculty had fewer comments about overcrowding than the staff and graduate students, however, some faculty members mentioned the Red Line as being problematic during evening rush hour.

NEW SERVICE PROVIDER: There were 10 comments specifically about *First Transit* in this year's survey. Yale introduced a new shuttle service provider during the summer of 2011. Staff made the majority of comments pertaining to the new shuttle provider, citing unprofessionalism, rude/bad drivers, and increased overcrowding and unreliability. The faculty and students talked about drivers ignoring passengers running to the stops, and sporadic scheduling with longer gaps between pick-ups than with the previous company.

Why Yale Employees Chose Commute

A new question on the Yale 2011 transportation survey was introduced in order to better understand what is motivating people to commute to campus by their chosen mode.

Why Chose Commute	Percent
Other	19.46%
For environmental reasons	17.37%
For health and exercise	16.17%
I live within walking distance of a transit stop	13.32%
I save money using pre-tax salary for my train or bus pass	7.34%
I carpool and get a discount on my parking permit	3.74%

The table above shows that 17% of Yale employees consider the environment and closely followed by health at 16% when choosing their commute mode. Although these are positive reasons, it will be interesting to see if this pattern continues and how the answers to this question might evolve in future surveys.

Since the top reason for why employees chose their current commute mode was "Other," it is necessary to analyze the comments associated with this question. The following are general categories representing the comments.

PARKING ISSUES: Twenty seven (27) of the comments concerned "parking issues". All of the employees attributed the cost of parking to their mode choice. This finding reinforces the theory that increasing parking rates and/or reducing the supply of parking spaces is an effective tool to motivate employees to switch to alternative modes of transportation.

FAMILY CONSIDERATIONS: Most of the comments discussed the issue of only having one car per household, saying that it affected their decision to carpool with their spouse or seek alternative modes. Many others simply mentioned that they carpool with another family member to campus, and one person in particular mentioned that they do not get any parking discount even though they carpool with their spouse.

COST: 42% of all the comments concerned the cost of the commute many referenced the price of gasoline as an influenced their mode choice.

Yale Employee Parking 2007-2011 Comparison

In 2007, the Yale transportation survey asked employees specific questions about where they park their car, what would motivate them to park off campus, and if they would pay more to park closer. In 2011, five years later, it was decided to ask the same questions to see if behaviors and/or attitudes have changed; the data is compared in the following charts.

The first chart of the series indicates that not much has changed since 2007 in terms of where Yale employees park, with only a very minimal increase in parking in Yale parking lots/garages, and smaller decreases in parking in non-Yale lots and parking somewhere else.

Where do you park?	2007	2011	% Change
Pay to park in a Yale Lot/garage	37.37%	38.02%	↑ 0.65%
Pay to park at a non-Yale lot/garage	12.55%	11.38%	↓ 1.17%
Park somewhere else?	16.64%	15.72%	↓ .92%
Park at West Campus	0.00%	3.59%	N/A

The second chart is much more telling of the fact that Yale employees seem to be less willing to park off campus than they were in 2007. The biggest change was seen in the 6.73% drop of employees that would be willing to “park off campus if it costs less than you pay now.” And of these three incentives in 2011, Yale employees are most willing to park off campus (29.19%) if their lot “were served by an express shuttle;” differing from the 2007 when the highest percentage of employees (33.58%) said they would park off campus if “there was a lot located on route.”

Park off campus if:	2007	2011	% Change
Cost less than you pay now?	29.78%	23.05%	↓ 6.73%
Were served by an express shuttle?	31.97%	29.19%	↓ 2.78%
There was a lot located on route?	33.58%	28.89%	↓ 4.69%

And lastly, Yale employees were also less willing in 2011 to “pay more for parking if it was closer to your campus location,” with a drop of 2.58% since the question was asked in 2007.

Pay more for parking if it was closer to your campus destination?	2007	2011	% Change
Yes	10.51%	7.93%	↓ 2.58%

The combined employee parking analysis above demonstrates that overall Yale employees would be less like to change regardless of what would be offered compared to when the same questions were asked in 2007.

Yale Faculty vs. Staff Parking Comparison

However, when comparing faculty to staff parking, there is a difference in attitudes about parking between the two types of employees at Yale.

Where do you park?	Faculty	Staff
Pay to park in a Yale Lot/garage	41.62%	36.77%
Pay to park at a non-Yale lot/garage	15.61%	9.90%
Park somewhere else?	21.39%	13.74%
Park at West Campus	2.31%	4.04%

From the chart above we can see that of the Yale employees that drive alone, in all cases except for the small number of staff parking at West Campus, faculty park at a higher rate in Yale lots, non-Yale lots, and in other non-specified locations.

The combined employee parking analysis chart below indicates that overall, Yale employees would be less like to change regardless of what would be offered compared to when the same questions asked in 2007.

Park off campus if:	Faculty	Staff
Cost less than you pay now?	16.76%	25.25%
Were served by an express shuttle?	23.12%	31.31%
There was a lot located on route?	25.43%	30.10%

And lastly, the final chart below shows that staff is slightly more willing to pay more for parking if it was closer to their campus destination.

Pay more for parking if it was closer to your campus destination?	Faculty	Staff
Yes	6.36%	8.48%

Subsequently, it seems that in all cases, Yale's staff is more willing to be flexible in terms of where they park to commute to campus.

Reasons for driving alone

Another factor to take a look at when trying to determine employee attitudes towards parking is why they are driving alone in the first place. A breakdown of drive alone reasons show that the top three reasons are similar between faculty and staff. However, the most significant divergence is the 19% difference in the number of faculty versus staff who say they are motivated by irregular hours to drive to campus.

What are your reasons for driving alone?

Faculty 2011	Percent
Hours on campus are irregular	42.20%
Driving alone takes less time	27.17%
Need car for errands or appointments	23.12%
Transit does not work with my schedule	19.08%
Take children to school or daycare	15.03%

Staff 2011	Percent
Hours on campus are irregular	23.03%
Need car for errands or appointments	22.83%
Driving alone takes less time	21.01%
Need car in case of emergencies	18.83%
Transit does not work with my schedule	15.96%

It seems that faculty is much more concerned about their irregular hours on campus and thus this concern could contribute to their inflexibility when it comes to changes in parking habits. If faculty members have more irregular hours, they are going to prefer a conveniently located parking space that doesn't involve a shuttle to get where they need to be.

Yale Employee Parking Comments Analysis 2007-2011

Yale employee comments and concerns regarding parking around campus have remained fairly stable over time from 2007 to 2011. Employees made a total of 101 comments about parking in the 2007 transportation survey. However the overall number of written concerns decreased 17% to 84 in the 2011 survey regarding the same issue.

While the number of comments may have declined, the categories of concern about parking have stayed consistent with employees discussing issues like cost, distance, flexible permits, commuter lots, and general availability of parking in their survey comments as shown in the charts below.

2007 Total Employee Parking Comments		
Category	Number	Percent
<i>Cost</i>	56	55.45%
<i>Distance</i>	10	9.90%
<i>Flex permits</i>	7	6.93%
<i>Commuter lots</i>	6	5.94%
<i>Availability</i>	4	3.96%

2011 Total Employee Parking Comments		
Category	Number	Percent
<i>Cost</i>	58	69.05%
<i>Distance</i>	8	9.52%
<i>Availability</i>	7	8.33%
<i>Flex permits</i>	6	7.14%
<i>Commuter lots</i>	4	4.76%

Cost was the top concern by a large margin among employees in 2007 and 2011. Many comments expressed a frustration with the high price of parking; some even expect to pay nothing for parking at Yale. However, it is very interesting to note again that employees were 6.73% less likely in 2011 to say they would be willing to park off campus if it cost less than they pay now. Also 2.58% less of Yale employees said they would pay more for parking if it was closer to their campus destination in 2011 than when surveyed in 2007 about parking. This analysis shows that employees are more concerned about parking costs in 2011, but they are also less likely to park off campus in order to save money on parking. With such incongruent views, it may prove difficult to construct a new parking policy that pleases all of Yale's parking population.

Distance was the 2nd most frequent parking concern among Yale employees in both 2007 and 2011, with concerns about distance dropping slightly in this year's survey. Concern or want of more flex permits remained stable in 2011, while concerns about availability of parking rose 4.37% since 2007.

Greenhouse Gas Emission Reduction From Sustainable Transportation

In order to further reduce Yale's greenhouse gas emissions it is critical that more of Yale's commuting population shift from driving alone to transit, carpooling, bicycling, walking and teleworking.

It is important to note that for every additional 100 people who choose to carpool, the university could reduce its carbon footprint by 13,200 pounds of CO₂ per year. For every 100 people who switch to transit, CO₂ emissions could be reduced by between 8,400 and 20,160 per year depending on the type of transit.

Employee use of transportation modes that cause no CO₂ emissions (walking, biking and teleworking) has remained constant from 2010 to 2011 at 14%. It will take additional employee incentives to motivate employees to switch to non-emission modes. Below are some of the results of what employees would consider as incentives that might shift more of faculty and staff who drive alone to work into less polluting

modes of transportation and shift employees into less CO₂ emitting modes such as walking, bicycling and teleworking.

Use of Alternatives to Driving Alone

The most frequently selected alternative choice in the 2011 survey for changing commutes from driving alone to alternatives were as follows:

#1) MONTHLY CASH ALLOWANCE IN EXCHANGE FOR PARKING SPACE: 13.48% of Yale employees who drive alone to campus indicated that they would likely change their mode of transportation if they could receive a monthly cash allowance in exchange for their parking space, compared to 9.95% in 2010. Using the rule of thumb for actual change, that only 10% of those who answer a “what if” choice question would change, could mean a potential of 90 employees. This is based on the current drive alone rate of 52% of all employees or 6,683 employees, and according to the survey results 13.48 % of those employees say they would change or 901 employees, recognizing the probability of 10% of those or 90 employees would actually convert from driving alone to using alternative modes of transportation.

#2) FLEXIBLE HOURS: 11.61% of Yale employees who drive alone to campus indicated that they would likely change their mode of transportation if they had flexible hours to accommodate transit, carpool or vanpool schedule, compared to 9.65% in 2010. Using the rule of thumb for actual change, that only 10% of those who answer a “what if” choice question would change, could mean a potential of 78 employees converting from driving alone to using the bus or train.

#3) \$45 DISCOUNT ON MONTHLY TRAIN/BUS PASS: 10.11% of Yale employees who drive alone to campus indicated that they would likely change their commute mode if they were give a \$45 discount on their monthly train or bus pass, that is compared to just 7.81% of employees in 2010. Using the rule of thumb for actual change, that only 10% of those who answer a “what if” choice question would change, could mean a potential of 68 employees converting from driving alone to using the bus or train. Below is a chart of the \$45 discount answers over 5 years.

A \$45 discount on monthly train or bus pass	2007	2008	2009	2010	2011
<i>Likely stop regularly driving alone</i>	7.49%	5.9%	11.74%	7.81%	10.11%

Over time, Yale employees continue to choose the same top three alternatives listed above to driving alone. The only difference is that this year compared to last year, a higher percentage of faculty and staff that chose these options. In addition, there seems to be a growing support for flexible hours. This increased support could coincide well with the announcement concerning the official Yale telework policy.

Reasons for Driving Alone

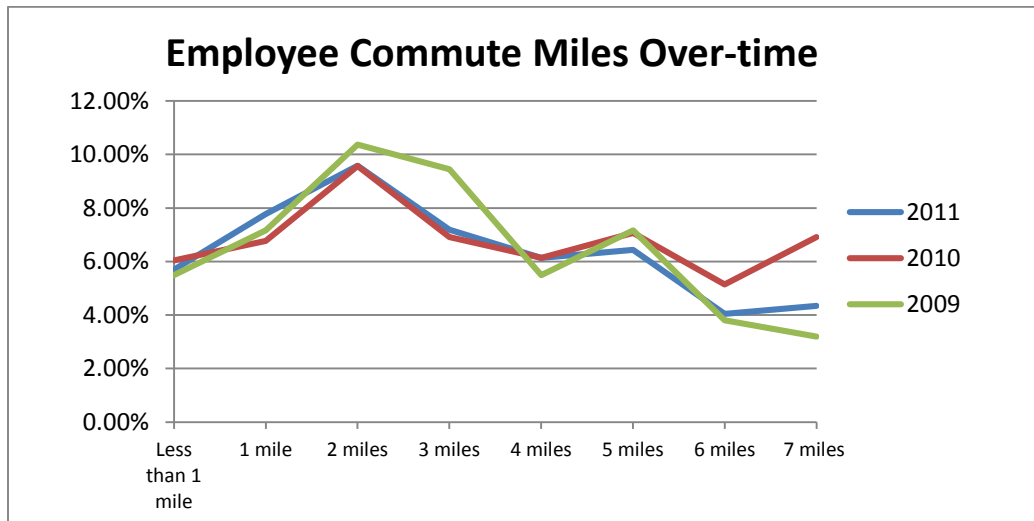
The top 5 ranked reasons for driving alone were interesting to compare over time because of its consistency. The reasons don’t change much with the same drive alone reasons ranked 1st, 2nd and 3rd respectively from 2009 through 2011. The only difference between 2010 and 2011’s drive alone reasons was that drivers in 2011 chose “Transit does not work with my schedule” as their 4th choice over “Enjoy my privacy”. This indicates that despite this year’s increase in transit use among employees, adhering to transit schedules is still an obstacle for commuters to switch to alternative modes.

What are your reasons for driving alone?	Num.	2011
Hours on campus are irregular	187	1
Need car for errands or appointments	153	2
Driving alone takes less time	151	3
Transit does not work with my schedule	112	4
Need car in case of emergencies	110	5

What are your reasons for driving alone?	Num.	2010
Hours on campus are irregular	127	1
Need car for errands or appointments	104	2
Driving alone takes less time	89	3
Enjoy my privacy	79	4
Need car in case of emergencies	78	5

Towns & Commute Miles

When the miles employees travel to work are examined we found that this metric has fluctuated over-time since 2009. For example, in the graph below, employees who said they commute less than a mile dropped slightly in 2011 from 2010, while those who said they traveled just 1 mile to campus in 2011 increased slightly by 1% over the previous year. The graph also shows that employees who commute 2 and 3 miles to work dropped since 2009, and in particular, 3 mile commutes have also dropped by slightly more than 2% since 2009.



Graph 5

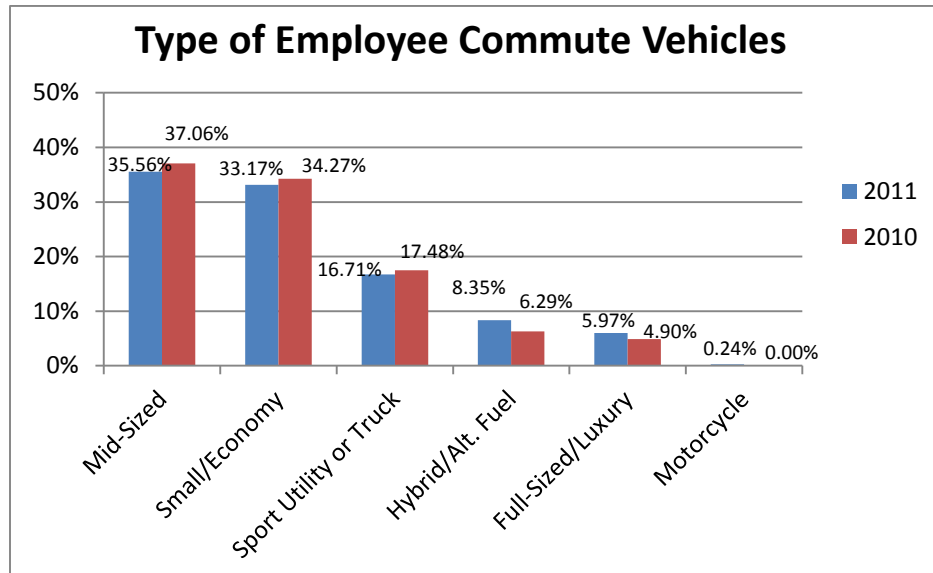
According to the results from the Towns and Zip Codes data in the chart below, close to a third of Yale employees live in New Haven (zip codes 06511, 06515) with the surrounding towns of Hamden and Branford rounding out the top three in 2011. The only change in geographic location of Yale employees is the inclusion of West Haven in the top 5 towns in 2011. It is also important to note that Guilford continues to rise on the list despite its longer mileage from campus.

Towns 2011	Number	Percent	Zip codes
New Haven	185	27.69%	06511, 06515
Hamden	82	12.28%	06517, 06518, 06514
Branford	43	6.44%	06405
Guilford	41	6.14%	06437
West Haven	34	5.09%	06516

Towns 2010	Number	Percent	Zip codes
New Haven	183	26.95%	06511, 06515
Hamden	93	13.70%	06517, 06518, 06514
East Haven	55	8.10%	06512, 06513
Branford	32	4.71%	06405
Guilford	31	4.57%	06437

Vehicle Type and Miles per Gallon

2011 saw two positive trends in employee vehicle type; ownership of “Hybrid/Alternative Fuel” vehicles increased by 2.06% and use of “Sport Utility or Truck” dropped slightly by a little over 1% since 2010. On the other hand, drivers of “Mid-Sized” and “Small/Economy” vehicles decreased slightly, while more employees commuted in “Full-Sized/Luxury” vehicles in 2011. The increase of Hybrid/Alternative Fuel vehicles is definitely a positive step considering the small decrease in their use from 2009 to 2010; however it is clear that the market and infrastructure for such vehicles needs to improve before more people will commit to buying them.



Graph 6

Summary

As a rule of thumb, when the ratio of students to employees increases, a concurrent decrease in the percentage of drive alone trips occurs. The good news for Yale this year is that there was a 1% increase in student population and also a 1% decrease in employees resulting in 2% decrease in Yale's overall SOV rate from 39% to 37%.

The following are a few highlighted facts from the 2012 survey review:

- Employee use of transportation modes that cause no CO₂ emissions (walking, biking and telecommuting) has remained constant from 14% in 2010 to 14% in 2011. It will take additional employee incentives to motivate more than 14% to switch to non-emission modes.
- Over the past five years the Yale Shuttle has remained the most frequently used mode of transit among Yale faculty and staff, however this year there was the most dissatisfaction express in 5 years
- The top two incentives that would encourage employees to use transit for 5 years in a row are:
 - A monthly cash allowance in exchange for parking space
 - Flexible hours
- Employee survey respondents for 5 years list their primary reasons for driving alone as:
 - Hours on campus are irregular
 - Need car for errands or appointments
 - Driving alone takes less time
- Employees are less willing to park off campus despite potential incentives to encourage change compared to 5 years ago
- Medical/nursing employees live closer to Campus with 21.4% indicating they live in New Haven, drive less, walk and use transit more than other categories (this includes some Grad Students)
- Faculty tend to rideshare, bicycle and telecommute more than staff and Med/Nursing employees
- There is a 21% difference in the drive alone rate between employees and students commuting to Central (35%) vs West Campus (56%)
- Staff are more willing to change their parking habits than Faculty