Faculty & Staff Transportation Survey

June 20

2015

This survey was done at the request of President Barry Mills to support Karen Topp and Keisha Payson in their efforts to advocate for better public transportation for the Bowdoin College and Brunswick community.

Institutional Research, Analytics & Consulting

Bowdoin Faculty & Staff Transportation Survey Summary

As Bowdoin College looks to reduce its own carbon footprint, it recognizes that transportation is a key contributor to the carbon footprint of its faculty and staff.

In May 2015, 998 faculty and staff were invited to participate in an online transportation survey. The goals of the survey were to:

- Collect data on current faculty and staff commuting methods for the STAR survey, which Bowdoin will be submitting in the Fall 2016
- Understand factors that influence decisions on using particular modes of transportation and public transportation
- Gauge level of interest in local and regional public transportation
- Identify specific locations where Bowdoin faculty/staff would like to be picked up or dropped off
- Determine times of day when Bowdoin faculty/staff would use public transportation locally and regionally

During the two weeks of collecting data in the middle of May, 519 faculty and staff responded; however, some responses were blank. In the end, we received 510 valid responses, yielding a 51% response rate.

Our survey presents data from over half of Bowdoin's employees, and the numbers reported in the detailed results also represent anticipated family and household usage. We hope that by presenting this data to local officials, as well as Portland Metro and the Brunswick Explorer, we will support their proposals to make public transit convenient for more people. Details of the survey results include ridership interest, preferences for bus stop locations, and especially route timing, all of which are useful to transportation planners in the area.

Survey respondents optionally answered the sections on public transportation serving local and regional areas depending on their interest. Results of these sections are summarized below.

Local transportation

Over one-third of the respondents knew about the Brunswick Explorer but said its route and schedule did not meet their needs. The Brunswick Explorer already stops at five of the top six preferred locations suggested in this survey. The other highly preferred stop is the Topsham shopping area (e.g. Target). As much as the locations seemed to match responders' interests in bus stops, however, the **current usage of the Explorer bus by the Bowdoin employee community is negligible**. From the data we gathered, this seems to strongly suggest that **the timing of the local bus schedule does not meet our respondents' interests**. According to survey results, the two most important factors in deciding to use a local bus is "how frequently the bus runs" and "location of the bus stops." The possibility that the bus "runs on weekends" and "runs in the evening/night" also are key influencing factors on potential usage.

Regional transportation

A high demand for regional public transportation exists at Bowdoin with **60% or respondents interested in regional service**. In addition to the **expected demand for Portland residents who want to commute to Bowdoin** during the week during the "rush hours" (i.e., northbound in the morning and southbound in the evening), a **demand for Brunswick residents heading southbound in the morning and northbound in the evening during the week was uncovered**. On the weekend, the travel demands were clearly heading southbound in the morning and throughout the day and northbound in the evening, for shopping, entertainment, and further travel connections. **The largest demand for bus-stop locations for a regional bus include the JetPort, the Old Port/Ferry Terminal, and the Portland Train Station, as well as Freeport downtown**. The detailed results should be useful information to Portland Metro. The **occasional regional travelers showed preference for a train** rather than a bus.

Commuting Locations

Respondents were asked to provide the zip code where they lived. Overall, 392 respondents provided 52 unique zip codes. Of those who provided their zip code, 47% reside in Brunswick. Portland had the second highest number of respondents at 37 (9%).

The 19 towns with three or more respondents are listed below.

Town	Faculty/Staff
Brunswick	185
Portland	37
Topsham	28
Bath	18
Harpswell	15
Freeport	13
Falmouth	7
Yarmouth	7
Bowdoinham	6
Durham	5
Woolwich	5
Scarborough	4
Georgetown	4
Phippsburg	4
Sabattus	4
South Portland	4
Westbrook	3
Bowdoin	3
Lewiston	3

Current Transportation Modes and Influencing Factors

Respondents could provide a primary and secondary mode of transportation when asked about their commute to and from Bowdoin College (see Figure 1). The primary mode of transportation was defined as the mode they use 75% or more of the time. For their primary mode, 76% of respondents (392) drive a car/truck, 15% (78) walk, 5% (25) bicycle, and 2% (11) use a carpool or vanpool.

All of the walkers were from Brunswick with the exception of one Topshamite. The eleven respondents who indicated carpool/vanpool as their primary mode of transportation were from Brunswick, Portland or South Portland, with one person from central Maine and one person undesignated. The 25 bicyclists were predominantly from Brunswick (56%), though 40% did not share their zip code.

Figure 1. Primary and secondary transportation modes for Bowdoin faculty and staff
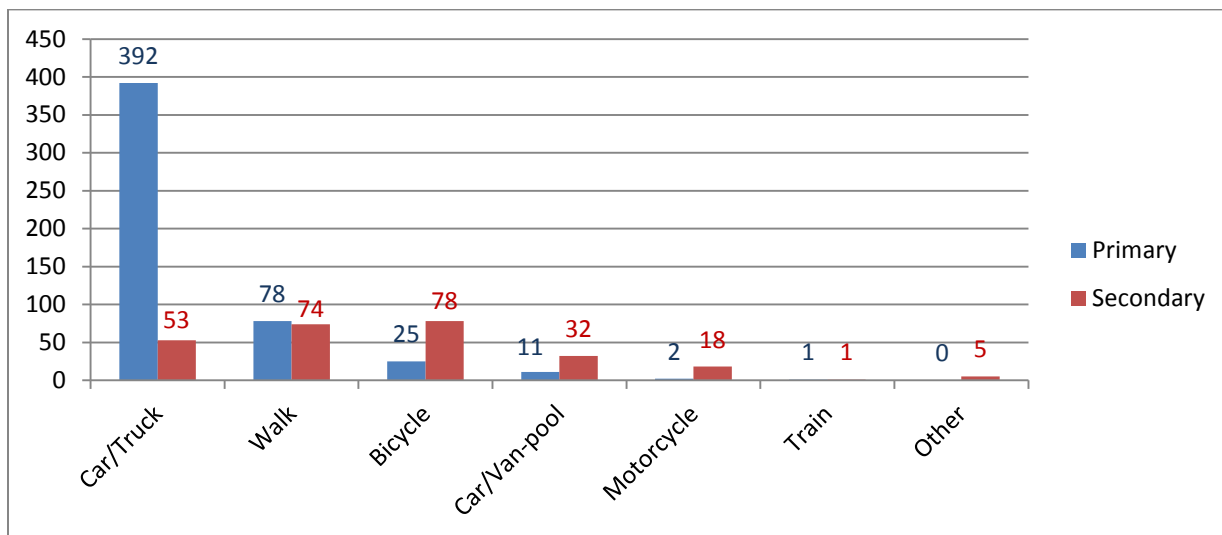
Only half of the respondents use a secondary mode of transportation, defined as a mode used less than 25% of the time. The table below shows the secondary mode of transportation used for each of the primary mode selections. Of those who drive a car/truck as their primary form of transportation, the secondary mode was predominantly walking and bicycling.

Figure 2. Secondary mode of transportation used with primary mode

|		Secondary Mode							
		Car/Truck	Bicycle	Car/Van-pool	Motorcycle	Walk	Train	Other	Total
	Car/Truck	0	52	29	18	58	1	4	162
	Bicycle	8	0	0	0	15	0	0	23
Primary Mode	Car/Van-pool	5	4	0	0	1	0	0	10
	Motorcycle	2	0	0	0	0	0	0	2
	Walk	38	22	3	0	0	0	1	64
	Train	0	0	0	0	0	0	0	0
Total		53	78	32	18	74	1	5	261

Respondents were asked to select the top three factors that influenced their mode of transportation. Those who selected "other" primarily commented that their decision was influenced by their family responsibilities, errands before or after work, materials they need to transport to work, specific hours of the day they work, and that public transportation was not available. One person mentioned that a bike route was not available and another person noted they wanted "quiet space/solitude."

Factors Influencing Transportation Mode	Bar	Number	%
Home location		368	73%
Flexible travel schedule		300	59%
Travel time		254	50%
Weather		199	39%
Carbon footprint or Energy consumption		68	13%
Health or Fitness		67	13%
Cost		66	13%
Other		46	9%
Parking availability		38	7%
Do not have access to a car		11	2%
Total		1,417	100%

Brunswick Explorer

Given that the Brunswick Explorer is a local public transportation service that has pamphlets at the Smith Union, we asked respondents about their knowledge and use of the Brunswick Explorer. While one person regularly uses the Brunswick Explorer, **35% of the respondents stated the Explorer did not meet their needs**.

More than half of those who selected "other" do not reside in Brunswick and thus, do not expect to use the Explorer. Two others commented about the Brunswick Explorer stops. One said, "the closest stop is halfway to work and even with the discounted tickets, it would cost a lot more than gas." Another said that though the Explorer stops in front of his/her house, the drivers are not permitted to make "special" stops making it less convenient.

Brunswick Explorer Awareness & Usage	Bar	Number	%
Have used the Brunswick Explorer (Note: only 1 respondent uses regularly)		16	3%
Brunswick Explorer's route and schedule do **not** meet transportation needs		176	35%
Aware of the Brunswick Explorer but do **not** know route or schedule		102	20%
Not aware of the Brunswick Explorer		57	11%
Do not plan to use a local bus in Brunswick		141	28%
Other		16	3%
Total		508	100%

Local Public Transportation

Of the 510 respondents, **124 (24%) were interested in local public transportation routes**. Of those interested 73% were from Brunswick and 15% from Topsham.

To get an estimate of ridership, we asked respondents to report how many members of their household would consider using public transportation in the Brunswick/Topsham area. Multiplying the frequency of responses for each number in household who would consider public transportation, there is **a potential for 256 local public transportation riders among the Bowdoin faculty, staff and their households**.

Bowdoin faculty and staff were asked to indicate how important factors were in deciding whether a member of their household would use a local bus. The responses were weighted with "not important" given a 0, "somewhat important" given a 1 and "very important" given a 3 to calculate an importance measure. **The two most important factors were how frequently the bus runs and the location of the stops**.

Table 1. Important factors influencing decision to use local bus

| Factor	Importance Measure
How frequently the bus runs	294
Location of the bus stops	291
Bus runs on the weekend	181
Bus runs in the evening/night	179
Duration of the trip	124
Amenities like a bike rack	79
Comfort of the bus	53
Other	11

The respondents selected which locations they would get on or off the bus. Not surprisingly, Bowdoin College was selected most frequently, by 87% of those interested in local public transportation. The shopping and dining areas of downtown Brunswick, Topsham shopping center, and Cooks Corner were selected by the majority of respondents. Individuals wrote in some specific locations, such as Topsham Main Street, Mr. Sud's Laundromat, and the intersection of Church Road & McKeen.

Potential Bus Stop	Bar	Number	%
Bowdoin College		101	87%
Brunswick downtown		82	71%
Topsham Shopping Center (i.e.,Target)		80	69%
Cooks Corner		67	58%
Brunswick - Station Ave (train station)		57	49%
Mid Coast Hospital		41	35%
Other		22	19%
Brunswick Junior High School		19	16%
Brunswick High School		18	16%
Parkview Hospital		10	9%
Total		497	100%

As Cooks Corner has an array of shops and services, specific locations were offered for those who expressed interest in Cooks Corner. The TJ Maxx/Sears shopping center was of interest to 50 respondents and 30 or more respondents were interested in Merrymeeting Plaza, Walmart, and Regal Cinema. Twenty four respondents would like to have a stop at Brunswick Landing.

The respondents estimated how many rides each week their household would likely take during particular time segments on Monday-Friday and on the weekend. A conservative estimate using the responses is shown below, comparing the weekend and weekday rides. For all time slots, ridership during the week is higher. **The weekday highest peak is in the evening from 4-8pm with an estimated 181 riders; the morning 8am-12pm was a close second at 159 riders**. On the weekend, the highest ridership is 8am-12pm with an estimated 73 riders.

Figure 3. Estimated number of rides on local Brunswick bus during different times of day on the weekend and weekdays.
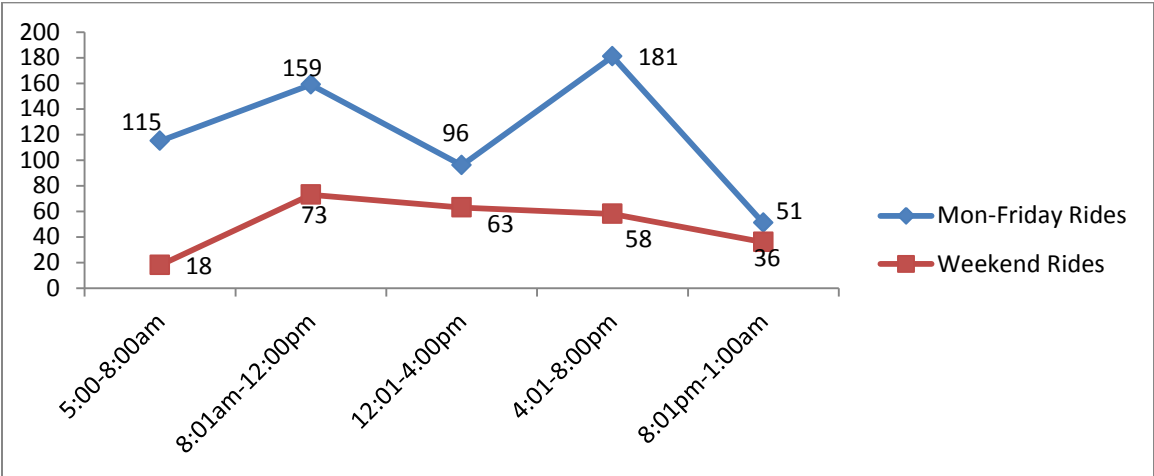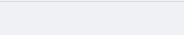
The last run of the Brunswick Explorer is 5pm Eastbound and 6pm Westbound. While the survey did not ask respondents to provide hourly details for desired travel, the high demand between 4-8pm and the fact that the Brunswick Explorer does not run past 6pm may account for why 35% of faculty and staff stated that the Explorer does not meet their transportation needs.

Regional Public Transportation

Of the 510 respondents, **60% were interested in regional public transportation routes**. Of the 304 individuals interested in regional public transportation, 55% of them were from Brunswick, 17% from Portland and South Portland, 8% from Falmouth, Yarmouth and Freeport.

To get an estimate of ridership, we asked respondents to report how many members of their household would consider using public transportation to travel between Brunswick, Freeport, Yarmouth, Falmouth and Portland. Multiplying the frequency of responses for each number in household, there is **a potential for 538 regional public transportation riders among the Bowdoin faculty, staff and their households**. Specifically, respondents identified which stops their households would use. Connections to regional transportation show high with 53% of respondents wanting to go to the Jetport and 52% wanting to go to the Portland Transportation Center.

Potential Bus Stop	Bar	Number	%
Brunswick - Station Ave		213	76%
PWM JetPort		149	53%
Portland Old Port/Ferry Terminal		147	53%
Portland Transportation Center (train and bus station)		144	52%
Freeport downtown -- LL Bean		136	49%
The Maine Mall		96	34%
METRO Pulse (Elm St, near the Portland Public Library)		90	32%
Portland Park & Ride (I-295 Exit 7, Marginal Way & Preble St.)		46	16%
Falmouth downtown (Rte. 1)		28	10%
Yarmouth Village at Rte 1 & Maine St.		15	5%
Freeport Park & Ride (Rte. 1 near Desert Rd.)		14	5%
Yarmouth Visitor Center Park & Ride (I-295 Exit 17)		12	4%
Yarmouth Park & Ride (I-295 Exit 15)		11	4%
Freeport LL Bean Corporate Headquarters		9	3%

Regional respondents were asked how likely members of their household actually would be to use a public bus with the stops above. While 24% were undecided, **198 respondents (71%) indicated that members of their households were likely or very likely to use a bus with the stops above**.

The bus stop locations identified above align with the selected purpose of regional trips, shown in the table below. Respondents could select more than one purpose for their household's regional travel. **The most frequent purpose for regional travel is transportation beyond Portland (61%), yet over half of the respondents would travel regionally for shopping along with arts, music, dining and entertainment.**

Purpose of Regional Travel	Bar	Number	%
Transportation beyond Portland (e.g., Amtrak, Concord Trailways, airport)		171	61%
Shopping		157	56%
Arts, music, dining and entertainment		157	56%
Commuting to work		116	41%
Visit family or friends		57	20%
Medical services		21	8%
Other		11	4%

Respondents were asked to select what time of day they would travel northbound and southbound Monday-Friday and on the weekends, if at all. On the weekend (see ride lines in Figures 4 and 5), we see demand for southbound travel to Portland in the morning or early afternoon and returning in the evening. The travel pattern during the week (see blue lines in Figures 4 and 5) is more complex. We see high demand for commuters from Portland who would like to head north 5-8am and south 4-8pm. Additionally, we see a demand for Brunswick residents who would like to travel to Portland in the morning, some between 5-8am but more between 8am-12pm, and return between 4-8pm. **During the weekday Bowdoin faculty and staff are interested in traveling both northbound and southbound throughout the day, with 12-4pm being somewhat of a lull.** They indicated traveling for shopping, entertainment as well as a few specific comments, such as research at archives or historical societies and physical activities, if bikes could be transported on the bus.

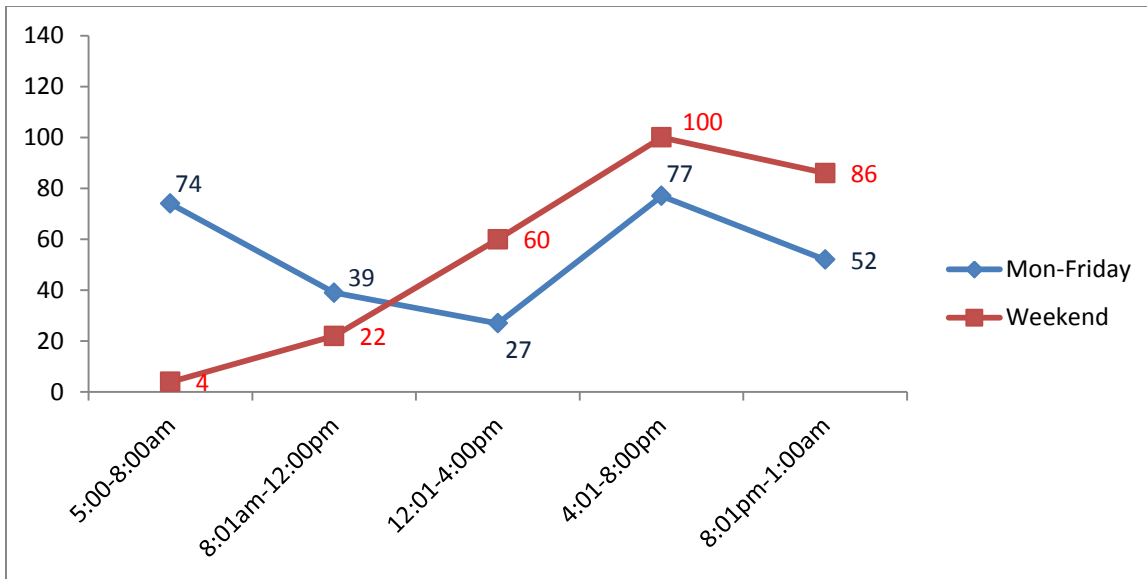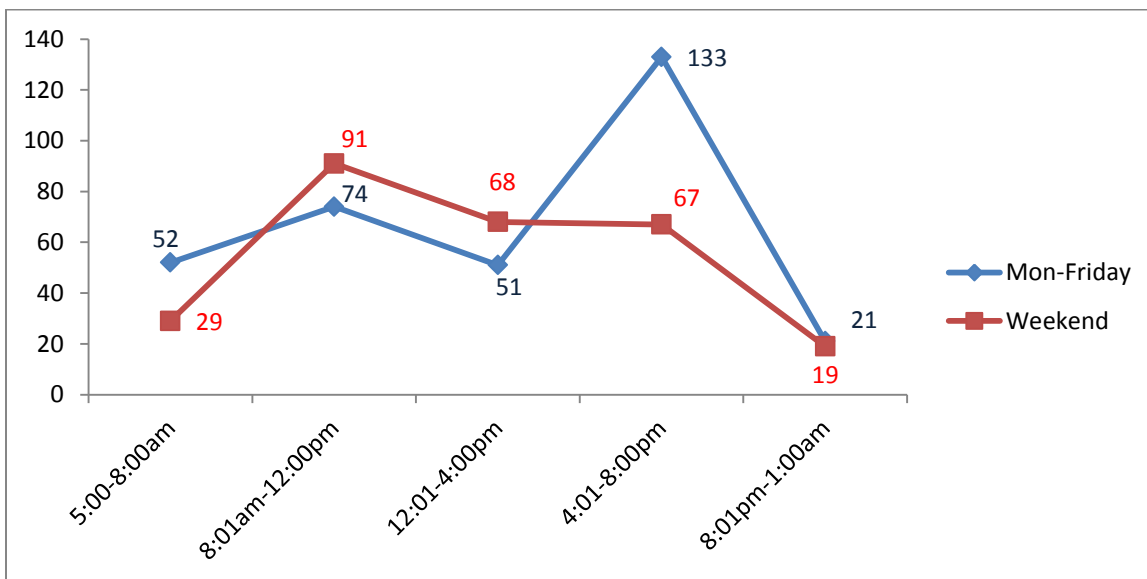**Figure 4. Northbound trips by time of day and day of week.**

Figure 5. Southbound trips by time of day and day of week.

When asked how frequently members of their household would use a regional bus or train, as the frequency of the trips declined, the train ridership surpassed the bus ridership. **Occasional riders seem to prefer using a train.**

Figure 6. Frequency of using a public bus or train to travel regionally
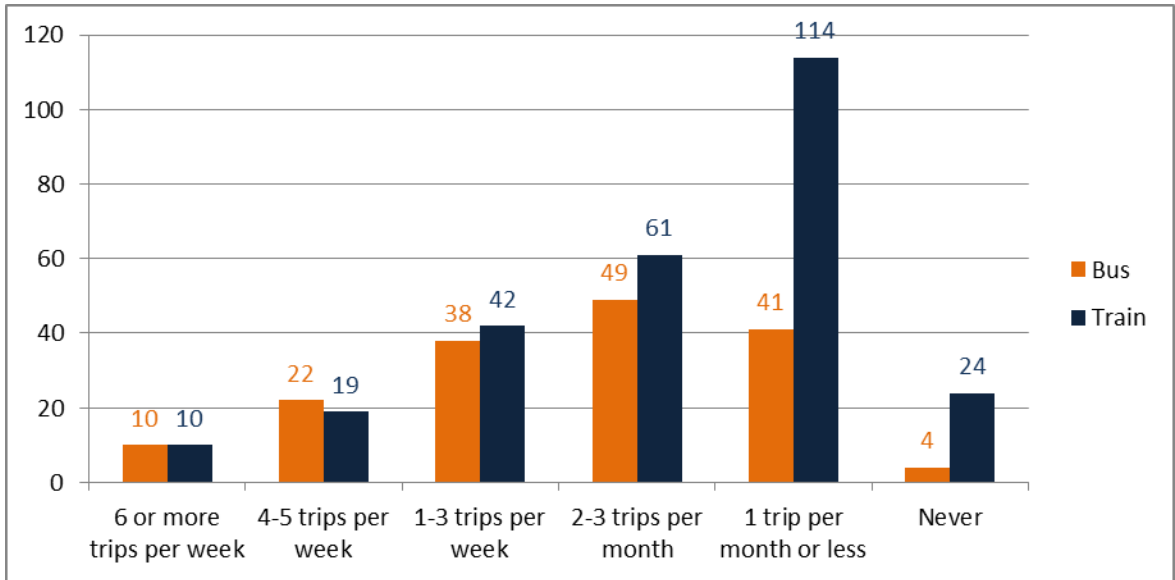
Bowdoin faculty and staff were asked to indicate how important factors were in deciding whether a member of their household would use a regional bus or train. The responses were weighted with "not important" given a 0, "somewhat important" given a 1 and "very important" given a 3 to calculate an importance measure. **The two most important factors were the location of the stops and how frequently the bus runs**. These two factors are the same as for the local travelers yet for regional travelers the location of stops is slightly more important than frequency of trips.

Figure 7. Important factors influencing decision to use a regional bus or train

Factor	Importance Measure
Location of the stops	654
Frequency of trips	634
Runs in the evening/night	473
Cost	453
Duration of the trip	410
Runs on the weekend	401
Comfort of the bus or train	217
Amenities like wifi	180
Other	19