



GREEN FUND

Sustainability Through Student Innovation

•Green Fund Project Application

Green Fund Mission Statement: “The NAU Green Fund promotes student participation in and provides funding for projects that reduce NAU’s negative impact on the environment and create a culture of sustainability on-campus.”

Requirements for funding:

- We highly recommend meeting with a Green Fund member prior to submitting the application.
- Since the Green Fund distributes funding on a [reimbursement basis](#), project teams must partner with an administrative office to support implementation of the project. Once the project has met its agreed upon deliverables, the administrative partner will be reimbursed by the Green Fund.
- The person submitting the project must be an NAU student, faculty, and/or staff.
- Projects must provide all necessary documents, letters of support, and authorizations prior to review.
- The project must be implemented on campus.

Disclaimer: This application is preliminary; you may be asked to provide more information in order for your project to be considered for evaluation. Incomplete applications will not be considered; however, applications may be conditionally approved with certain stipulations. If your project is approved, you may be asked to provide more detailed information regarding specific deliverables corresponding to the milestones defined in your timeline. The Green Fund is not responsible for acquiring the necessary permits, permissions, or approvals for a project; though, we will help if assistance is needed. Additionally, the Green Fund does not provide any ongoing costs. The sponsoring department must take responsibility for operations and management. All applications must and will go through a vetting process.

Reviewal timeline: Once your application is submitted, the Green Fund will review your project within three weeks during the regular school semester. Incomplete applications *will not* be reviewed until all components are submitted. The application review may take one meeting or several months as additional questions may be asked or approval from administration may be needed.

Application Components: All components *must* be included for the application to be reviewed by the committee.

1. Project Overview
2. Green Fund Criteria
3. Application Information
4. Detailed budget
5. Project timeline, including milestone
6. Any and all necessary permits, permissions, or approvals
7. Operations & Maintenance Plan addressing:
 - a. Necessary maintenance schedule and duration
 - b. Individuals responsible for the maintenance
 - c. Any and all costs associated with the maintenance
 - d. Project Evaluation Plan

Project Overview

Contact Information

Project Leader 1 Name: Ryan Tsingine Phone: (928)-863-4554 E-mail: rct54@nau.edu
Project Leader 2 Name: Taylor Wyum Phone: (701)-680-9522 E-mail: tmw362@nau.edu
Project Advisor Name: Erik Nielsen Phone: (928)-523-4980 E-mail: Erik.Nielsen@nau.edu

Sponsoring Department: Parking Services

Project name: Free City Bus Pass Pilot Program

NAU Department/Unit for funding reimbursements (Attach letter of commitment from departmental representative): Parking Services

Does this project involve space needs or construction on campus (N)

If yes, have you reviewed the “Space Committee Document” located on our Get Involved page? (N)

Executive Summary

Please provide a brief overview of your proposal. Please address how this project will support the goals of the Green Fund (student involvement, creating a culture of sustainability, and lessening NAU’s impact):

This initial pilot program will provide free bus passes to 200 students in the Fall 2020 semester. Prior to getting the free passes students will need to take a survey about how they are getting to campus, how often they use different modes of travel, and what type of vehicle they use to commute. We will take this initial survey data and compare it to a survey that the students will be required to take at a couple points during the program. We hope to quantify changes in emissions stemming from behavioral changes due to these students having free city bus passes. To this end, we hope to identify participants that had a parking pass previously and are willing to take the bus instead. 100 passes will go to these students, and the rest to students in the general population that don’t get a parking pass. Once we are through with the surveys we will report on total emissions reductions and use the results to argue for setting up a Social Cost of Carbon fund at NAU that would then provide free bus passes to all students in the future. This pilot project will also serve as a proof of concept for expanding the EcoPass to students in January 2021, when we hope to submit again and provide 500 EcoPasses to students. This project aligns with NAU’s Sustainability Action Plan and will lead to an immediate reduction in commuter emissions with the potential to have great impact moving forward.

Green Fund Criteria

Please address with a short answer how your proposal meets the Green Fund criteria for funding a project. Your project does not need to fulfill each criterion, but your project should align with most.

Relationship to Carbon Neutrality/Green Fund Goals

1. Carbon Neutrality Goals - Please review [NAU's Sustainability Action Plan](#) and identify how your project aligns with the goals.

The goal of this pilot program is to assess student bus usage and the impacts associated with providing a free bus pass to commuters. Ultimately the goal is to implement a Social Cost of Carbon at NAU and use the Carbon fund to provide free bus passes to everyone. This pilot program will allow us to quantify the potential benefits at NAU and make a better argument for a Social Cost of Carbon.

This goal specifically aligns with Objective 1, Action 4: Continue to collaborate with the city, state, and intergovernmental agencies to improve public transportation infrastructure to allow better bus access to campus and throughout the region. For example, increase SafeRide stops, consider expanding EcoPass to students, collaborate with NAIPTA on designing routes with respect to known densities, etc.

Responsible Party: Parking Services, Parking and Shuttle Services, Office of Sustainability, President's Office/Community Relations.

2. Impact - What are the environmental costs and benefits associated with this project?

Increased bus usage, particularly by parking permit holders, will lead to reductions in emissions. This will also reduce congestion on campus and reduce emissions from vehicles waiting to get off campus. We plan to have an estimate of how much CO₂ we avoid emitting at the end of this project. Not only will we work towards mitigating climate change and NAU's contribution, we will also see public health benefits from the reduction of pollution.

3. Sustainable Development Goals: Describe how your project supports one or more of the United Nations Sustainable Development Goals (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>)

There is no doubt that climate change will have adverse effects on the economic health of NAU and Flagstaff. Implementing a Social Cost of Carbon will allow us to account for the future impacts of our emissions, and this project is an important first step towards bringing a Social Cost of Carbon to NAU. This project will specifically support Sustainable Development Goals 10, 11, and 13. Providing free bus passes to students will reduce inequalities, promote sustainability in Flagstaff, and reduce our carbon emissions. This will also prepare the University for future carbon regulations such as a carbon tax, and avoid the potential of sudden, large, budgetary constraints should NAU not be properly prepared. A catastrophic wildfire and subsequent flooding would cost orders of magnitude more than what we will pay to try to avoid this future. Not only will we benefit students, but the community as a whole as NAIPTA will have more money to expand bus infrastructure in Flagstaff.

Campus Community

4. Visibility – If applicable, is there a public outreach plan? How will faculty, staff, and students engage with the project?

In the study design it is important to reach both parking permit holders and the student body as a whole. To identify potential participants, we will work with Parking Services, the Graduate Student Government and the Office of Sustainability. This program will increase access to the University and provide flexibility to students, increasing educational opportunity.

5. Meets Student Priorities – Explain how your proposal fits into one or more of the following categories: (1) Renewable Energy, (2) Energy Efficiency, (3) Conservation & Education, (4) Water Use Reduction Efforts, (5) Alternative Transportation, (6) Sustainable Landscaping, Gardening, or Composting, (7) Waste Minimization or Recycling, or (8) Social Sustainability.

This proposal fits into both (5) Alternative Transportation, and (8) Social Sustainability. Providing free bus passes to all students supports social equity, social responsibility, community resilience, and equal access for underserved populations.

6. Campus Community Involvement – How are you working with other groups on and off campus?

We will work with the aforementioned groups to market and build support for free bus passes for students and the implementation of a Social Cost of Carbon. Part of the survey will address the barriers that students face when deciding to use public transport or not. We will be working with NAIPTA to try to increase bus access and usage through identifying routes that need more stops or increased frequency.

Project Parameters

7. Economic Feasibility - Is your project financially efficient? Is this a one-time expense or will you need future funding? Does the project have additional funding sources?

This project will have a one-time expense of \$20,790 to buy the 200 semester bus passes from NAIPTA, as well as \$4,000 to pay two students working on the project, \$10/hour, over the course of 200 hours/student. The project does not currently have additional funding sources.

8. Program Longevity – Who will run the program after you leave NAU? Will students continue to use the project in the future?
This project will continue under Jill Christensen, manager of biological sciences, Erik Nielsen, and Ryan Tsingine. The results of this pilot program will be used to continue to argue for a Social Cost of Carbon and free bus passes for all students until we achieve our goals.

9. Reasonable Timeline - How long will it take to implement your project? What is your timeline for when you will start and when you expect to begin to see results?

Implementation will not take long. This program would start in the Fall 2020 semester. We will have results at the end of the Fall 2020 semester and will resubmit with the intention of obtaining EcoPasses for students starting in January 2021.

Prior to the beginning of the fall semester the student will work with NAU Department of Transit Services to select students who will receive parking passes, and with NAIPTA to record how often bus passes are used. The students will also be creating a 3-part survey, to be administered when passes are distributed, half-way through the Fall 2020 semester, and at the end of the Fall 2020 semester. These surveys will help us to measure the success of the program, as well as the free bus-pass program's effectiveness in getting people out of their cars. Based on survey responses and pass-use data from

NAIPTA the student will be able to infer the success of the program and move forward with obtaining more bus passes for the future.

10. Outcome – Projects must have a defined outcome. If the outcome is quantifiable, what is your data collection strategy?

This project will help students by improving access to campus for 200 people and eventually the whole student body. We will reduce personal vehicle trips to campus, thereby decreasing both our emissions and pollution as well as commute times. We will help NAIPTA improve the city bus system by buying these passes and providing them with information to improve the locations and frequency of stops. We will work with Parking Services to connect us with participants and collect survey data at various points during the program. This data will be analyzed, and results will be provided. We will use this information to show NAU the benefits of providing bus passes to all students and continue to work towards a Social Cost of Carbon fee that would ultimately provide funding moving forward.

Preliminary Questions

Please answer the following questions:

1. Does your project require space or construction on campus? If so, where?
No

If yes, review the “Space Committee Document” located on our Get Involved webpage and follow the steps to begin requesting a location.

2. Have you obtained all necessary approvals for this project?
 - a. If Yes, please attach all letters of support. Letters of Support should include confirmation from the sponsoring department that they will cover all upfront expenses and work with the Green Fund manager to acquire reimbursement after project completion. If any ongoing operations and maintenance is required of your project, provide a Letter of Support from the entity that will be covering those costs and/or services. Please note that the Space Committee will not give a formal letter of support until the Green Fund has approved a proposal, so you do NOT need to include a Space Committee letter of support at this time.

A letter of support has been previously obtained from parking services, and we are awaiting administrative confirmation of continued support, contingent upon whether on-campus classes resume in Fall 2020 in light of the COVID-19 pandemic. Through personal communication with Erin Stam I have learned the Department of Transit Services would be willing to fund the project, provided that campus is open in the fall. Should the campus remain closed throughout the fall we ask that these funds be reserved to carry on the project when campus activity resumes. Ryan Tsingine will be a student on campus until Spring 2021, in the event that campus remains closed through 2020, Ryan will carry on the project in Spring 2021. I have contacted Erin Stam and am hopeful you will receive email communication from her.

- b. If No, please explain your progress and plan for attaining letters of support.

3. Will this project provide funding for student wages?
No

4. Please list all additional sources of funding you have asked. Include departments, grants, ASNAU, GSG, etc.

5. Has this project been submitted for consideration before?
Yes, however the student who previously submitted has graduated from NAU.
 - a. If Yes, please ensure that all requested revisions have been addressed in the narrative.
Yes

6. Have any of the Green Fund Committee members been involved in this project?
No
 - a. If Yes, please identify all committee members:

Detailed Budget

Item	Quantity	Rate	Amount
NAIPTA Semester Bus Pass	200	\$ 99.00	\$ 19,800.00
Wage (Split - 2 Students)	400	\$ 10.00	\$ 4,000.00
5% Contingency			\$ 1,190.00
Total Budget			\$ 24,990.00

Timeline

The timeline should include significant implementation dates for your project. Please add information such as shipping time and consider any holidays or breaks.

Item	Actions	Who	When
1	Identify program participants, create pre-program surveys, distribute passes, and administer surveys. Work with NAIPTA to establish data collection procedure	Taylor Wyum/Erik Nielsen	Summer 2020
2	Have participants take a mid-term & final survey, obtain and analyze final pass-use data from NAIPTA	Taylor Wyum & Ryan Tsingine/Erik Nielsen	Fall 2020
3	Compile survey results and analyze emissions reductions as well as behavioral change	Ryan Tsingine/Erik Nielsen	Winter 2020
4	Present final results and resubmit with the intention of obtaining 500 EcoPasses for Spring 2021/Fall 2021 semesters	Ryan Tsingine/Erik Nielsen	Spring 2021

Brief Contingency Plan:

Through personal communication with Erin Stam I have learned the Department of Transit Services would be willing to fund the project, provided that campus is open in the fall. Should the campus remain closed throughout the fall we ask that these funds be reserved to carry on the project when campus activity resumes. Ryan Tsingine will be a student on campus until Spring 2021, in the event that campus remains closed through 2020, Ryan will carry on the project in Spring 2021. I have contacted Erin Stam and am hopeful you will receive email communication from her.

Student Internship Position Descriptions:

Summer/Fall 2020 Intern - 200 hours @ \$10/hour

The intern will work with multiple members of the NAU faculty including Dr. Erik Nielsen, Erin Stam, and potentially others. The intern will also work with NAIPTA officials to collect and access data on the frequency of use of each pass.

The intern will be tasked with preliminary marketing of the program to students. This marketing will be done primarily through social media over the summer, with increased on-campus marketing such as fliers, posters, and emails throughout the fall to further inform the campus community about the program. Further community engagement outreach is likely when students return to campus, this may include talking to clubs and organizations on campus, speaking to classes, etc. This marketing will include notices as well as contact information. Should students be interested in the program they may contact the intern or another member of the project through a shared email, to see if they meet the criteria for one of our passes. The intern will also be tasked with drafting criteria for passes as well as a survey to identify the need of students who reach out from social media.

Prior to the start of the program the intern, working with the aforementioned groups, will identify 200 students to receive free bus passes. The students receiving passes will be a mix of students that previously purchased parking permits and those students that display financial need. Students will also have the option to contact us if they are interested in receiving a bus pass. They will be able to fill out a preliminary survey to determine their need and whether they typically purchase a parking permit.

The intern will also be tasked with creating a survey that meets the Institutional Review Board's standards for welfare of human subjects, the second intern position will also assist with survey development. This will ensure that our survey is not diminutive to a person or group of people, that all participants are treated fairly, and that this project is transparent. This survey will be administered when passes are distributed. Further surveys will be distributed in conjunction with the Fall 2020 intern as the program progresses.

Fall 2020/Spring2021 Intern - 200 hours @ \$10/hour

The intern will work with multiple members of the NAU faculty including Dr. Erik Nielsen, Erin Stam, and potentially others. The intern will also work with NAIPTA officials to collect and access data on the frequency of use of each pass.

The intern will be responsible for analyzing the data collected by NAIPTA to determine the success of the bus pass pilot project. This data will be analyzed alongside survey responses to infer if behavior changes were influenced by the program. If the program shows success the intern may work to secure funding for future bus passes in the Spring.

The intern will take collected data, and if it is determined the program is successful and behaviors were influenced, the intern will use this data to show the potential impacts a Social Cost of Carbon Fee, placed on parking permits, could have on NAU commuter behavior.

This intern will assist in the development and distribution of bus passes and surveys. Since this project takes place over many months it is important that both interns are familiar with all parts of the process.