KLESS PROPOSAL EXAMPLE - CARGO BIKE PROPOSAL (UM DINING)

Project Title Campus Dining Cargo Bikes

Name(s) and email contact for those submitting proposal:

Location of project including, if applicable, building name and room number: UM Mountain Campus

Is the project one that will have quantifiable energy savings, quantifiable resource conservation, or plausible energy savings or research conservation (SEE KLESS OVERVIEW PAGE FOR INFORMATION ON EACH) : Quantified Resource Conservation

Loan amount? (Indicating the total amount of funds requested to be paid back) $15,000

Grant amount? (Indicate the total amount requested as a grant (not to be paid back)) $0.00

Match amount? (Indicate the amount of matching funds (do not count volunteer labor) to be provided from non-Kless Sustainability sources. $0.00

If there is match funding, please provide the source. n/a

Goals: Please provide a description of what you hope to achieve and learn through this project.

There are multiple goals associated with this project. The first is to reduce fuel consumption at UM Catering, saving the department money, reducing greenhouse gas emissions, and reducing air pollution. The second goal is to make catering deliveries safer and more efficient. A third goal is to leverage sustainable business practices to enhance student employee experiences and in turn market sustainability initiatives to the UM community and any campus visitors.

Abstract: Please provide a brief summary of your project using approximately 100 words.

This proposal is a request to provide funding for the purchase of three-wheeled cargo bikes which can be used to transport food and supplies from the University Center to various event sites across campus. UM Catering is reliant on a fleet of large gas-powered vehicles to deliver supplies, food and staff from their kitchen and offices in the University Center to event locations around UM's main campus and beyond. These vehicles are large, cumbersome and fuel inefficient. Three-wheeled cargo bikes would provide UM Catering with the ability to move food, supplies and people without fossil fuels. The routes the bikes could take would be more direct than what the current vehicles can accomplish, adding to potential fuel savings. Additionally, the bikes would also be safer to operate than the current vehicles for both staff and pedestrians,

helping avoid costly repairs resulting from incident reports. UM Catering estimates that cargo bikes could be used for one third of their events.

Describe this project in greater detail, including how it will be implemented and by whom.

UM Catering has been in conversation with Coaster Cycles, a local custom cargo bike company. UM Catering employees have visited the company's production warehouse in Bonner and demoed several of their bikes. Coaster Cycles then brought two models to the UM campus to look at and test on-site with their catering equipment. The goal is to purchase, or rent-to-own, two to three cargo bikes. Once the bikes are acquired, staff will be trained in the safe operation of the bikes and UM Catering will immediately start using them for all applicable events. The bikes will also provide excellent mobile marketing space which can be used to promote KRELF and sustainability at UM.

Bike Model Example (https://www.coastercycles.com/freighter/)

Energy Savings: Identify the type and estimate the amount of annual energy savings of your project. All calculations and assumptions should be shown or explained. NOTE: This may require working with the ASUM Sustainability Coordinator, building managers, Facilities Services, or even outside energy auditors.

In calendar year 2018, UM Catering logged 4,886 miles with their vehicle fleet, which is primarily made up of large 15-passenger style vans, each of which averages about 11 miles per gallon.

Using those figures we can calculate that UM Catering went through approximately 444 gallons of gasoline. The average cost of gasoline in 2018 was $2.72 per gallon, meaning UM Catering spent approximately $1,207 on fuel in 2018. UM Catering estimates that cargo bikes could be used instead of vehicles for about one third of all events. If we assume using bikes for one third of events would also reduce overall mileage by one third, then cargo bikes can reduce catering's annual mileage by 1,628, which translates into 148 gallons of gasoline. Another important consideration is that cargo bikes can travel on pedestrian paths that vehicles cannot, meaning straighter delivery routes for bike supported events. A final consideration is that using mileage to calculate fuel use likely underestimates the total potential savings as delivery vehicles often sit idle while warming up or during loading and unloading.

Environmental Benefits and Impacts: Identify the benefits and impacts this project will have on the environment and the university's carbon footprint.

The 148 gallons of gasoline that cargo bikes could potentially offset annually is equal to 1.3 metric tons of CO_2. Not only would this result in a reduction of the University's Scope 1 Emissions, but it would also decrease air pollution on campus, a problem especially pronounced in Missoula. Other environmental benefits would result from the decrease in maintenance requirements for UM Catering's vehicle fleet. Less use of these vehicles would result in reduced maintenance needs, including the replacement of parts and fluids. The bikes have the potential to increase awareness of sustainability and programs such as KRELF as each bike cargo container has large blank sides which can be used for advertising.

Costs: Provide an itemized project budget describing each item and suppliers. This budget may include the cost of materials, construction costs, design costs, management costs, auditing costs, and inspection fees. Costs over $5,000 may need to be put out for a competitive bid. Attach material spec sheet and written estimates. Include written estimates from contractors or suppliers, if applicable.

Item	Unit Cost	# Of Units	Total
Coaster Cycles Freighter Model	$5,000-$7,000	2	$10,000 - $14,000
Bicycle Helmets	$50	5	$250
			$10,250-$14,250

Payback Schedule: Calculate the anticipated annual savings and the anticipated time for the payback of the loan through project savings. (This question is only for LOAN proposals).

Annual Fuel Savings	$402
Annual Maintenance Savings	$1,000
Savings from Decreased Incident Reports	$5,00
	$1,902

Annual Payback Payment	$1,500
Number of Annual Payments	10
Total Payback	**$15,000**

Timeline: Include a project implementation schedule (e.g., for design and construction), which must be completed by mid-May of the current academic year.

April 26, 2019: Pending KRELF committee decision, purchase two cargo bikes to be delivered ASAP.

May 6, 2019: Conduct staff safety training.

May 7, 2019: Begin use of bikes in catering operations.

Ongoing: track metrics on bike usage, including trips taken and miles ridden.

August 12, 2019: Survey catering staff to gather reactions to bike usage.