

# DNR Green Tier: 2014 Report

## Union Cab Cooperative - Madison, WI

Submitted: December 14, 2015

### EXECUTIVE SUMMARY

We the owners-operators of Union Cab Cooperative are happy to report on the progress that we have made so far since our Report of Functional Equivalency dated August 24, 2014. Our participation in the Green Tier program closely aligns with our seventh core value:

"We are dedicated to operating our business in an environmentally responsible way."

Our goals each year are modest, designed to gradually implement the very large and important project of defining our Environmental Management Plan (EMP). As a transportation company, most of our actual business takes place on the streets, in taxicabs, and our focus must be on their support and profitability. Pressing financial concerns include:

- Maintaining our fleet as vehicles are replaced due to age and high mileage, especially our wheelchair accessible vans,
- Purchasing, installation and configuration of a new taxi dispatch software/system and supporting hardware,
- Adapting to the changing taxi market dynamics with the advent of Transportation Network Companies (TNCs; i.e., Uber and Lyft), and
- Continued internal administrative austerity measures due to the financial setbacks of the Great Recession.

Our goal and accomplishment for the past year has been to get each functional area of the cooperative to do an audit report about where they see their role in the EMP. Most of the work on the EMP was initially performed by two very dedicated members of our Green Team. The audit report serves to broaden the group of people participating in developing the EMP and creates internal supports for reporting on our Green Tier status. See Appendix A for the results of that audit. We received these reports from the Fleet Maintenance shop, the Operations Team, Waybill, Finance, and Human Resources. Lacking was an audit of Facilities (facilities are managed by Fleet Maintenance), though components of Facilities was covered in other areas (especially, Information Technology).

For the coming year, we propose several Green Tier action items:

1. Request an audit of our facilities from the Business Manager, including more specific documentation of the functions of each department within the Cooperative and tasks assigned to individual job descriptions.
2. Develop a detailed EMP for our Information Technology and its maintenance with focus on decreasing power usage, installation of higher efficiency devices, and upgrade of the atmospheric controls of the IT department.

3. Continue research and outreach efforts to replace minivans with higher mpg alternatives either through alternative fuel vehicles or hybrid vehicles.
4. Evaluate water usage including waterless urinals, improving our toilet technology for more efficient flushing, and rainwater collection repurposing.
5. Increase our Union Cab stakeholder Involvement through the Cool Choices program with the City of Madison in competition for the Georgetown University Energy prize.

## ENVIRONMENTAL PERFORMANCE

As Tier 1 participants, the information provided comes from an internal audit by members of our company's Green Team and/or the manager of each functional area.

### Transportation

As a transportation provider, 80% of our carbon footprint comes from our fleet, and most of our efforts focus on that. Our primary concern is selecting vehicles appropriate for the taxi industry that still allow us to reduce our fleet's footprint. Economic concerns require that these vehicles be fuel efficient, easy to maintain and mechanically sound, comfortable to drive and ride in, and durable for fleet usage up to as high as 500,000 miles. Current options in fleet vehicles that fit these criteria are limited, and Union Cab eagerly awaits automakers' introduction of hybrid powered minivans as new possibilities.

By looking solely at the numbers (see Appendix B) one might come to the conclusion that we have failed to meet our goals of improving the efficiency of our vehicles since we used about 5% more gasoline. Increase in gasoline usage, however, was due to driving over 1,000,000 more miles, a 22% increase over the previous year. We also increased our fleet size from 71 to 82 vehicles. On the other hand, when comparing the fleet mpg from last year to the year previous, we averaged 25.3 miles per gallon last year compared to 24.7 in 2013. Our strategic goal was a 3% reduction, and we achieved 2.4%. We feel that comparing our CO<sub>2</sub> between years would be more accurate for our business if we average CO<sub>2</sub> per vehicle. For 2014, we show an 8.2% increase in CO<sub>2</sub> over 2013.

We know that our maintenance shop takes excellent care of the fleet mechanically. Looking at the model-specific data, we found that the Prius have decreased their fleet efficiency the most due to vehicle aging, driver complacency about fuel usage, and broken air dams diminishing aerodynamic efficiency. Our expectation and experience of driving each vehicle for 500,000 miles before retiring it may need to be revisited if fleet efficiency continues to decline. Vehicles that are retired by our mechanics are stripped down to recycle and reuse every possible component and minimize the waste stream going to landfills. Ongoing training regularly reminds drivers about the importance of good driving habits and to practice hypermiling to conserve fuel. See Appendix B for the history of our fleet mileage since replacing our sedans with Prius.

We have developed an internal process that automatically alerts drivers when the air pollution reaches unsafe levels. At this time, it is done manually: the Fleet Manager receives an alert that high fine particulate matter or ozone levels are at the orange or higher alert level, and he sends an email [all@unioncab.com](mailto:all@unioncab.com). Dispatchers are asked to make radio announcements at intervals throughout the time period with reminders about minimizing idling (FPM alerts) or refraining from refueling (ozone alerts) until the alert period is over. Thankfully those conditions happen very infrequently at this point. The specific steps on how to do this are available to our membership in Google Drive.

We are working with the Clean Cities Smart Fleet program (of which we are a 3-star member), and considering an electric vehicle option in our fleet. We expect to have a Nissan Leaf at our facilities for a week, sometime in the next several months, to “kick the tires” and evaluate its potential as a short-range fleet vehicle.

In regard to member impact when traveling to work, we have not done an audit of member methods of travel. However, we know from a Wisconsin RIDESHARE audit in 2007 that an unusually high number of members live within a two-mile radius of the cooperative, relative to other businesses in the city. We have not determined how this translates to more walkers, bikers, or bus riders. We encourage alternative means of transport:

- Madison Metro passes are available through payroll deduction on pre-taxed income.
- Bike to Work Week is a kick-off to the summer biking season and is promoted.
- Bike barns and racks are available.

## Stakeholder Involvement

In addition to encouraging member biking, Union Cab participates in the Wisconsin Bike Federation's annual Bike to Work Week by sponsoring a coffee and baked goods stand on the John Nolen bike path.

As members of Sustain Dane's Sustainable Business Network and sponsors of their quarterly meetings and annual Bioneers conference, we have the opportunity at each quarterly meeting to remind other local businesses of our commitment to our reduced carbon footprint, and a clean environment for the community. We also sponsor the annual Badger Bioneers.

Our participation in the Wisconsin State Energy Office's Clean Cities Smart Fleet program has resulted in a 3-star rating (out of 4 stars). In this federally-funded organization, we are ranked among much larger transportation fleets including over-the-road trucking, school and passenger buses, government (city, county, and state) worker and transit fleets, and campus fleets across the state.

Union Cab also reached out to members of the Sustainable Business Network community, members of the Wisconsin Business Alliance and MGE in September 2014, co-sponsoring (with

Isthmus Engineering, TDS Construction, and RePower Madison) a conversation about MGE's (at that time) proposed rate increase to the Public Service Commission. About 50 individuals from about 40 organizations attended the event at the Goodman Community Center. We heard from MGE's Commercial Account Manager and their Vice President of Energy Planning. As a result of overall public pressure, they lowered their initial rate increase request, and initiated Community Conversations throughout Madison. Our concern is partly about the cost increase, but more importantly two-fold: 1) how the costs of bad decisions for coal contracts is being passed on to the consumer, and 2) perceived lack of MGE support for renewable energy options despite consumer support through the Green Power Tomorrow program.

## DNR Relationship

We value our relationship with the DNR, though we have not had a specific need to request assistance from the agency. When we were first accepted into the agency, we had the opportunity to attend a full-day networking meeting of all Green Tier participants. This proved to be incredibly useful as we made good connections and got helpful ideas. We hope such a networking opportunity can be arranged again.

We would like to see continued support by the agency for monitoring of our environment quality, especially clean air and clean water. As a transportation service that impacts the air quality in particular, we want to take action to reduce our carbon footprint. The more we can be kept up-to-date on monitoring reports, the better we can communicate to our cooperative membership about the need to improve.

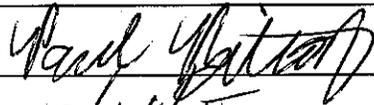
## Conclusion

Working on an EMS is hard work outside the primary scope of our normal business operations. Nonetheless, we recognize the importance of a clean environment, for the health of our community, and remain committed to showing progress within the Green Tier program. We appreciate your patience as we try to improve our turnaround time for the annual report.

Prepared by Union Cab Green Team members, Kate Schachter and Michael Grandkoski.  
Edited by Business Manager Paul Bittorf

Reviewed and Approved by Union Cab Green Team and Steering Team

Signed by

Union Cab Business Manager, Paul Bittorf	
Date: December 14, 2015	12/14/15

# APPENDIX A

## Mechanic Shop

### Vehicle improvements:

- we switched from Crown Victorias to Priuses
- we switched from Caravans to Siennas

### Waste management:

- we turn half of the lights off during the evening
- we use T8 fluorescent bulbs
- we heat the shop in the winter with used engine oil
- we recycle our oil filters with an oil filter recycling service
- we use an eco-friendly cleaning process to soak up fluids/oil with a washable mat
- we use less air compressor energy to pump used oil to the Black Gold heater during the winter by switching from plastic to steel oil barrels.

### Fleet maintenance:

- at every oil change we check air filters, tires, steering and suspension
- we have mpg reports, routine maintenance reports, and maintenance history reports

## Human Resources

- when possible using electronic media to distribute and track various member needs (we are required to keep a significant amount of information on paper for several years)

## Information Technology

### Server decommissioning

- We recently retired four servers and two pieces of network hardware with a total reduction in electricity of roughly 446 kWh/mo, or approximately \$757 annually.
- Additionally, the retirement of these systems reduces load on our cooling systems in the computer rooms by roughly 2000 BTU.
- We intend to retire several additional servers before the end of the calendar year which should result in an additional estimated 200-400 kWh/mo and 1500-2500 BTU reduction.

### HVAC maintenance

- The shop recently engaged our HVAC support vendor to perform repairs and maintenance on our cooling unit in the main computer room. While it is hard to estimate improved performance from this work, it will certainly have an impact on

our energy consumption as the unit does not need to work nearly as hard as it used to.

#### UPS replacement

- Earlier in the calendar year IT worked with the shop and our electrical vendor to replace our existing UPS system with a new unit from Eaton. The previous unit was quite old and the batteries were not able to maintain charge, resulting in higher loads on our electrical system.
- Additionally, we have adjusted our cooling unit in the radio room after the UPS replacement as it does not need to work nearly as hard to maintain temperature.

#### Waybill Office

- we buy environmentally friendly paper
- we recycle paper and other office products
- we use low energy lighting
- we turn down the heat in the winter when nobody is around
- we turn up the air conditioning temperature when nobody is around

#### Accounting Office

- we recycle all recyclable materials
- we print on both sides of the paper
- we use natural ventilation when possible
- we use fluorescent lighting
- we turn off lights when no one is in the room

## APPENDIX B: Fleet data

YEAR	OVERALL	PRIUS	CHRYSLER	SIENNA	ATS	SHUTTLE	CHARTER	FORD	FLEET	
	MPG	MPG	MPG	MPG	MPG	MPG	MPG	MPG	GALLON	MILES
2010	16.8	43.5	16.5		16.4			16.5	223,856	3,758,544
2011	18.4	43.7	17.1		17.3			17.1	200,211	3,677,728
2012	26.0	46.0	18.7	21.2	18.7			16.5	136,461	3,552,338
2013	24.7	38.6	16.2	17.4	16.0	7.2	12.6		158,170	3,905,809
2014	25.3	37.3	17.9	17.2	16.1	--	--	--	197,642	5,005,173

CO2/gallon gas = 19.56#						
YEAR	CO2 footprint - lb	CO2 footprint - tons	# Fleet Vehicles	CO2/ vehicle	% Change/vehicle	
2010	4,378,623.4	2,189.3	70	62,551.8	-3.94%	
2011	3,916,127.2	1,958.1	71	55,156.7	-11.82%	
2012	2,669,177.2	1,334.6	72	37,071.9	-32.79%	
2013	3,093,805.2	1,546.9	71	43,574.7	17.54%	
2014	3,865,877.5	1,932.9	82	47,144.8	8.19%	

<b>WISCONSIN DNR GREEN TIER SUSTAINABILITY METRICS</b>				
Period Covered		CY 2014		
Company Name:	Union Cab Cooperative			
Facility Name:	Administration Offices and Maintenance Shop			
Address:	2458 and 2470 Pennsylvania Ave			
City, State, Zip:	Madison, WI 53704			
Environmental Coordinator:	Michael Grandkoski			
Coordinator Phone:	262-910-1681			
Coordinator E-Mail:	michael_grandkoski@unioncab.com			
Metric	Not Collected/ Not Available	Quantity	Units	Period - if not Calendar Year
<b>DEMOGRAPHICS</b>				
Sales		7,231,867	\$	
Money saved because of material or process improvement	NA		\$	
Profit or Loss		2.09%	%	
Employees		253	Each	
Multiple between highest paid and lowest paid employee		2.7	%	
Alternative Transportation Support		2,628	\$	
Total Purchases		2,652,780 [1]	\$	
In-State Purchases		2,652,780	\$	
% of Purchases Made from Companies that participate in Green Purchasing Program	see Detail	36.90%	%	
<b>LAND</b>				
Total Land		1.31	Acres	
Paved/Covered Land		1.21	Acres or sq ft	
<b>ENERGY</b>				
Electricity		159,298	kWh	
		8.21%	% increase	
Natural Gas		5,816	btu	1.97% reduction in lp use
Renewable Energy		100 [2]	%	
<b>WATER</b>				
Total Water Used		124,733	gallons/year	
		15.80%	% increase	
Water Recycled/Reused	rainwater info	0	gallons/year	
			% reduction	
Regulated Pollutants Discharged	n/a	0	lbs/ year	
	n/a		% reduction	

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Metric	Not Collected/ Not Available	Quantity	Units	Period - if not Calendar Year
<b>AIR</b>				
Total Air Emissions	n/a		lbs/ year	
	n/a		% reduction	
Ozone-Depleting Substances	n/a		lbs/ year	
	n/a		% reduction	
Greenhouse Gas Emissions		3,865,878	lbs/ year	
		24.96%	% increase	
% change in fleet mpg would be a better indicator of improvement				
<b>WASTE</b>				
Hazardous Waste Disposal	n/a		lbs/ year	
	n/a		% reduction	
Non-Hazardous Waste Disposal		4,050	lbs/ year	
		25.00%	% reduction	
Material Recycled/ Reused	See Detail	59,992	lbs/ year	
		-0.96%	% decrease	
Recycled/ Reused Content	small amount not easily availa		% of product	
<b>TRANSPORTATION</b>				
Hybrid Vehicles		47	Each	
Gasoline Used		197,642 [3]	Gallons	
Diesel Used		0	Gallons	
Alternative Fuels Used		0		
<b>ADDITIONAL METRICS</b>				
Please list all other certifications (for example: LEED, Energy Star, ISO 14001):			2014 Green Masters	
			2014 Sustainable Large Busin	
			2014 Inaugural Partner with W	
			2013 Clean Air Award, May	

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Metric	Not Collected/ Not Available	Quantity	Units	Period - if not Calendar Year						
				2013 Green Professionals						
				2013 In Business Eco-Efficiency Award						
				2012 GreenMasters						

[1] not including labor, taxes, capital

[2] We buy renewable energy credits and have 5kWh PV solar

[3] number is from JWaybill