

# The big Orange Green Guide



Tips and resources for treading lightly in our community and on the Earth

# About this Guide

August 2011

Dear Friends:

Welcome to campus! The Big Orange Green Guide (BOGG) was created during 2010-11 by the University of Tennessee, Knoxville (UT Knoxville) Office of Sustainability. The guide is intended to inspire you and others to adopt sustainable practices into your everyday routine. That means taking steps to ensure that the quality of life and the natural beauty of our region is preserved for generations to come.

One of the principles of sustainability is that human and natural systems are intricately connected. The BOGG suggests practical ways that you can not only protect the Earth, but also save money and support East Tennessee businesses and organizations. Sound too good to be true? Read on and let us prove you wrong!

I would like to recognize all of those who contributed to the BOGG, while acknowledging that any errors or omissions remain my responsibility. I especially want to thank graduate assistants Katie Kimsey and Sara Malley for their tireless help with preparing the guide.

Thanks for helping to Make Orange Green!

Best wishes,

GB

Gordie Bennett



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# Table of Contents

- 1 *Why Go Green?*
- 2 *Campus Initiatives*
- 3 *Reduce, Reuse, Recycle*
- 4 *Saving Energy*
- 5 *Green Cleaning*
- 6 *Sustainable Food*
- 7 *What's Fresh in TN*
- 8 *In the Bathroom*
- 9 *Doing Laundry*
- 10 *On the Go*
- 11 *Get InVOLved!*
- 12 *In Our Community*



# Why Go Green?

The term “going green” means taking personal action to ensure our ecological, social and economic resources are available to future generations. In East Tennessee, our economy, culture and quality of life are dependent upon a healthy environment. For example, consider how the Smoky Mountains continue to bring job opportunities and housing to our region. From any point of view, it makes sense to conserve and protect our cultural and natural resources!

Here are a few more reasons to go green:

## ***1. It makes a difference***

In an increasingly connected world, your everyday decisions add up to make a large impact. We all have the ability to make a positive impact in our community and on the Earth.

## ***2. It's good for your health***

Did you know that 25 percent of pharmaceuticals are derived from plants native to the Amazon rainforest? Restoring and preserving rainforests and other ecosystems may be the key to preventing and curing diseases of the future.

## ***3. It saves you money***

By conserving resources, you can save your hard-earned money for things other than paying utility bills. For example, using compact fluorescent light bulbs instead of incandescent bulbs can save you more than \$30 over the life of each bulb.

## ***4. It protects the planet***

If everyone in the world used as many resources as the average American, we would need five planet Earths! To ensure prosperity for future generations, we must learn to live within our means, and those of the Earth.

## ***5. It shows school spirit***

UT Knoxville faculty, staff and students have demonstrated strong support for conservation and environmental stewardship (see next page). Show your support for these campus-based efforts by reducing your environmental impact as much as possible.

# Campus Initiatives

## Academics and Research

UT Knoxville hosts a number of distinguished environmental centers and institutes, including the Center for Renewable Carbon, Institute for a Secure and Sustainable Environment, Environmental Law Clinic, and the Institute for Smart Structures. The university offers over 200 courses related to sustainability, as well as a minor in sustainability, and graduate certificates in sustainable design and sustainability science.

## Green Building

In 2007, Chancellor Loren Crabtree adopted Leadership in Energy and Environmental Design (LEED) standards for campus construction and renovation projects costing over \$5 million. These standards help to reduce the environmental and economic impact of campus growth, while improving indoor air quality for building occupants.

## Energy & Climate Change

As a signatory of the American College and University Presidents' Climate Commitment, UT Knoxville is committed to reducing its energy use and greenhouse gas (GHG) emissions. Faculty, staff and students are helping to reduce campus' carbon footprint by incorporating energy conservation practices into their everyday routine. These efforts are paying off: between 2007-08 and 2009-10, campus GHG emissions decreased by 11 percent. That's like taking 20,715 personal vehicles off the road for a year!

## Stewardship

UT Knoxville actively encourages consideration of environmental impacts in all decisions made by faculty, staff and students. The Friends of Switchie program engages employees with Switch Your Thinking, the campus energy conservation campaign (see page 4). In the residence halls, Eco-Vols engage their fellow students with activities that encourage environmental stewardship and sustainable living practices. Since 1999, the Committee on the Campus Environment has advanced campus sustainability policies and programs.

## Transportation

UT Knoxville was recognized with a "Green Spirit Award" for its active use of alternative transportation during the 2010 Smart Trips Commuter Challenge. The university encourages alternative transportation by providing discounted transit passes and free campus shuttle service for faculty, staff and students with a valid UT Knoxville ID. In addition, the university's tour buses run on B20 biodiesel, and Transportation Services uses E85 fuel in all of its flex-fuel vehicles.

## Waste Reduction

UT Knoxville is nationally recognized for its recycling and waste reduction efforts. In 2010, students and community members volunteered approximately 1,500 hours of service towards various activities such as staffing a recycling booth, and collecting litter, and recyclables from outside of Neyland Stadium.



*Established in 2006,  
Make Orange Green (MOG) is the  
official UT Knoxville  
sustainability program.*

*Learn about current MOG  
initiatives and how to help:  
[environment.utk.edu](http://environment.utk.edu)*

# Reduce, Reuse, Recycle

Since the early 1990s, UT Knoxville has made tremendous progress at reducing the campus “wasteline.” During 2009-10, UT Recycling diverted over 1,200 tons of materials - nearly nine percent of the waste stream - from the landfill. By weight, campus recycling and composting has increased 60 percent since 2005-06!

Please support UT Recycling by following the “3Rs” of waste prevention: Reduce, Reuse, and Recycle:

## Reduce

Cut down on how much stuff you use and throw away. If you carry a backpack or messenger bag, use it for shopping! Also, purchase bulk items when possible. This will greatly reduce the amount of packaging you throw away. Plus, buying bulk is cheaper and means fewer trips to the store (thus saving you time and money).

## Reuse

If you’re stuck with broken or unwanted stuff, fix or find new uses for it. For example, old T-shirts make great cleaning rags, and unwanted CDs can be reused as beverage coasters. If something you own seems past its useful life, offer it to friends or donate it to charity. As the old saying goes, “One person’s trash is another person’s treasure.”

## Recycle

When something you own can’t be reused, make every effort to recycle it. Recycling turns materials that would otherwise become waste into valuable resources. For instance, recycling one ton of aluminum saves the energy output of 1,655 gallons of gasoline.

Don’t forget to close the recycling loop by purchasing products made from recycled materials. Buying recycled supports recycling collection programs as well as reducing energy use and pollution.

## Where Can You Recycle?

On campus, recycling bins are located in all academic, residential, and administrative buildings. You are likely to encounter one or more of the following recycling bins *inside* campus buildings:



**Deskside Bins:**  
Mixed office paper

**Three-Section Bins:**  
Cans/plastic,  
paper and trash

**95-Gallon Bins:**  
Cans/plastic  
or paper

In addition, *outdoor* recycling facilities (see photo below) are available between Volunteer Boulevard Parking Garage and Apartments Residence Hall and behind Fraternity Row in the F1 parking area accessed from Todd Helton Drive.



Learn more about UT Recycling:  
[www.recycle.utk.edu](http://www.recycle.utk.edu)



# Green Cleaning

Many conventional cleaning products contain substances that are toxic and can burn skin or eyes on contact. Without proper ventilation, their use can also cause injury from harmful fumes.

“Green cleaning” is the use of cleaning products and practices that safeguard human health while minimizing impact to our environment. Whether you live on campus or off campus, follow these green cleaning tips to ensure that your home is clean and environmentally safe:

## Choose green products

Before using any cleaner, carefully read the product label to learn what’s in the cleaner, as well as how to safely use and store it.

**Avoid** products with labels that list any of the following properties:

- Warning Corrosive
- Danger
- Poison
- Harmful if swallowed
- Flammable
- Reactive
- Toxic

**Favor** products with the following properties:

- Non-toxic
- Phosphate free
- Renewable resource
- Biodegradable
- Hypoallergenic
- Chlorine free

For information about specific chemicals and products, check out the [NIH Household Products Database](#).

## Make your own green cleaners

Green cleaners need not be bought. At home, old standards such as vinegar and baking soda can be used for most cleaning. For more information, see the recipes in the sidebar of this page.

## Leave toxins at the door

Keep animal waste, pollen, motor oil, dust, and other toxins out of your home by using a doormat and adopting a ‘no-shoes indoors’ policy. Remember, less dirt brought into your home means less time and money spent cleaning!

## Clean the air with plants

Rather than purchasing expensive air purifiers, use common houseplants such as spider plants and ferns to naturally freshen the air inside your home.

## Safely store all cleaning products

Keep all cleaners (green or conventional) sealed, labeled, and in their original containers. Don’t store cleaning products near food or in food containers. Also, avoid storing incompatible cleaning products (e.g., bleach and vinegar) together. And, be sure to keep cleaners away from children and pets.

## Carefully dispose toxic cleaners

When replacing your cleaning products, please don’t throw the old ones in the trash. Knoxville and Knox County residents may dispose up to 20 gallons of household hazardous waste per day at the City of Knoxville Solid Waste Facility at 1033 Elm Street. For more information call 215-6700.

# DIY Cleaning Supplies!

## All-Purpose Cleaner

Ingredients:

- 2 tbs baking soda
- 1 tbs white vinegar
- 1 pint warm water
- 1 spray bottle

Instructions:

1. Put water into spray bottle.
2. Add baking soda and vinegar.
3. Screw the top on tightly and shake to mix.

## Glass and Window Cleaner

Ingredients:

- 1/4 cup white vinegar
- 4 cups water
- 1 spray bottle

Instructions:

1. Put vinegar and water into spray bottle.
2. Screw on the top and shake.
3. Spray on glass, then wipe with newspaper.

## Tub and Toilet Scrub

Ingredients:

- 1/2 cup baking soda
- Few drops of oil soap (Murphy’s or similar)
- Empty shampoo bottle

Instructions:

1. Put baking soda into the shampoo bottle.
2. Add oil soap and enough water to make a paste.
3. Make sure your bottle is only half full to allow for chemical reaction and expansion.
4. Stir with a spoon.
5. Spoon some of the paste onto a sponge and scrub sink and tile. Rinse well with water.

(Source: [Oberlin College Green Living Guide](#))

# Sustainable Food

Since the 1940s, changes in agriculture have allowed farmers to produce large harvests with minimal labor. Although these changes have had some positive effects, they have also come with significant costs. For example, the shift towards monoculture has contributed to soil depletion and made crops less resistant to disease. As a result, many farmers use synthetic fertilizers and pesticides to protect their crops. Improperly managed, these chemicals can harm fish and wildlife and contaminate food sources.

Fortunately, there is a growing movement to grow, raise and produce food that tastes good and supports local communities while protecting our natural resources. Unlike conventional agriculture, “sustainable farming” is not dependent on chemicals. Instead, it relies on renewable resources and symbiotic relationships with nature and the surrounding community. Read on to learn how we can eat our way to a more sustainable future.

## ***Eat lower on the food chain***

It takes 2,500 gallons of water to produce one pound of beef, compared to 60 gallons for a pound of potatoes. If you eat meat, try cutting out a serving each week. Also, when possible, select meat that is produced using humane methods and without the use of antibiotics or added growth hormones.

## ***Choose seasonal and regional food***

On average, the food we purchase from grocery stores travels 1,500 miles from farm to table. Buying food in season and from our region (see page 7) helps to reduce the transportation and energy costs of eating while supporting local farmers and artisans. Plus, in-season food is fresher and may even taste better!

## ***Take only what you need***

The UN reports that global food production may be as much as 25% short of demand by 2050. Minimize food waste by preparing and taking only the food you expect to eat. If unsure about how much you will eat, grab a small portion at first and then return for seconds. Also, take any leftover food home with you and enjoy it the next day.

## ***Grow your own***

Plant a garden and enjoy the fruits and vegetables of your labor. No place to garden? Grow herbs like basil, thyme and mint in small pots and use them for home cooking!

## ***Skip processed and packaged food***

Choose healthy food that is nutrient rich and minimally processed, with low sugar and zero trans fats. When you need a snack, eat fresh local fruit and small quantities of nuts or seeds rather than high-calorie, low-nutrient junk foods like soda, chips and candy.

## ***Buy organic***

Organic food is grown, raised, or produced without the use of synthetic pesticides, hormones, or fertilizers. Although organic food can be expensive, in season, its cost is comparable to conventionally-grown food.

## ***Select ocean-friendly seafood***

Nearly 75% of the world’s fisheries are fished to capacity or overfished. If you eat seafood, choose fish listed in the green or yellow columns of the Monterey Bay Aquarium [Seafood Watch Guide](#). Also, favor grilled or broiled fish, as frying can trap PCBs, dioxins and other chemicals that might be in the fish’s fat.

## ***Coffee drinkers, unite!***

Did you know that coffee is the second most valuable traded good in the world, next to petroleum? If you enjoy a good cup of joe, choose coffee that supports sustainable practices like water conservation, wildlife protection, and fair treatment and good working conditions for workers. Most groceries carry Fair Trade Certified and other sustainably grown coffee - if not, ask for it!

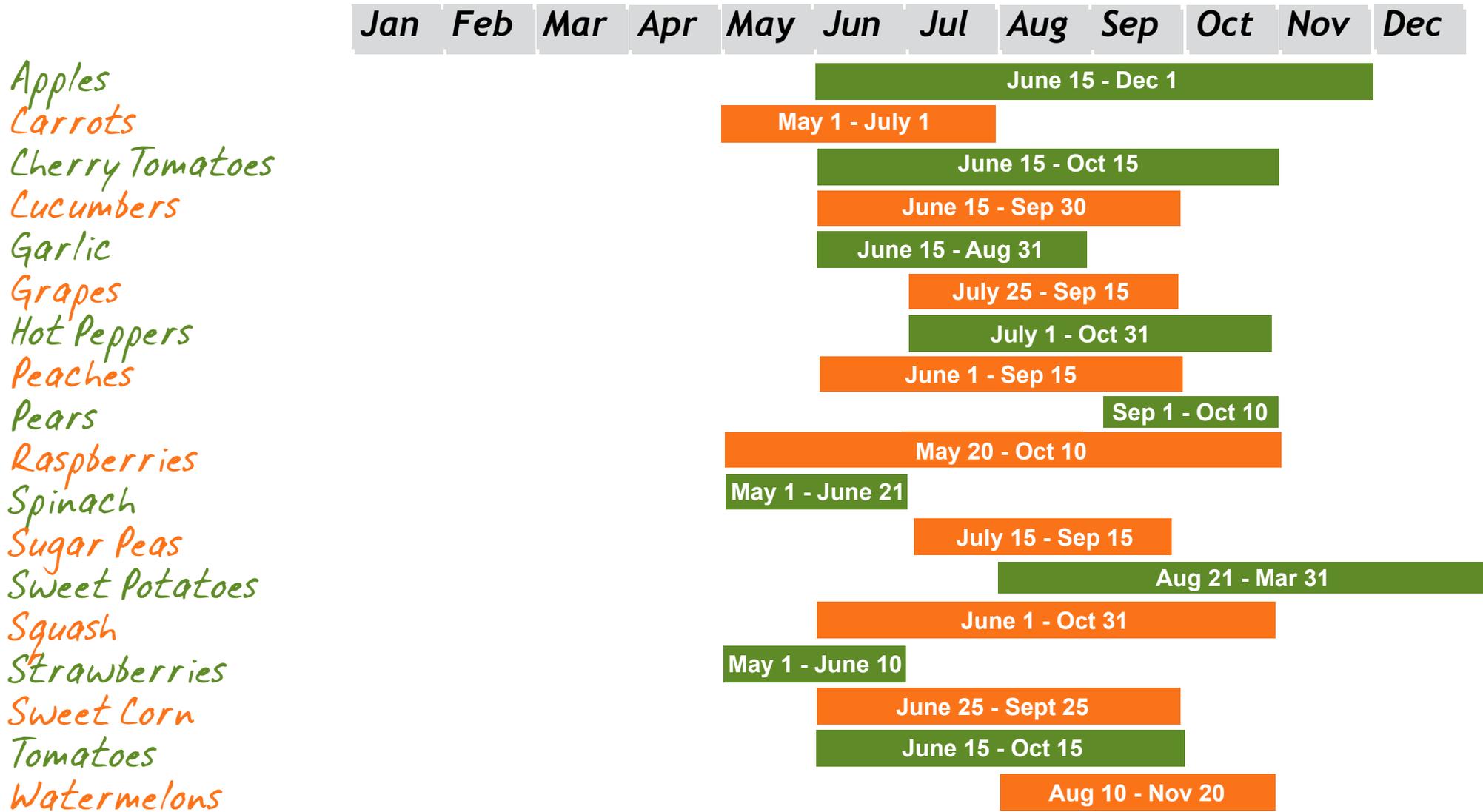
## ***Hit the farmers market***

At a typical grocery store, farmers receive just over 15 cents for every dollar spent on food. Support local farmers and artisans by shopping at farmers markets. Near campus, the [UT Farmers Market](#) and [Market Square Farmers’ Market](#) feature many products grown or made in East Tennessee.

## ***Support community-based farming***

Join a community supported agriculture (CSA) to help local farmers and artisans. In exchange for their financial support, CSA members share a portion of the harvest, which may include fruits, vegetables, meat and other food. For more information, check out the Local Harvest [website](#).

# What's Fresh in TN



In season year round: herbs, honey, indian corn, and mushrooms (depending on type).

# In the Bathroom

Many of us do something unmentionable in the bathroom: consume large amounts of resources and generate needless waste. For example, one person taking a warm 10-minute shower every day can consume up to 18,250 gallons of water and 5,400 kWh of electricity per year. If taken on campus during 2009-10, this amount of water and electricity would have cost approximately \$565!

For the typical U.S. household, water use is greatest in the bathroom. Moreover, after air conditioning, water heating represents the largest source of energy use in our homes. Whether you live in a residence hall, apartment, or single-family house, the following tips will help you to save money and conserve natural resources in the bathroom.

## **Ditch the rubber ducky**

A filled bathtub holds about 30 gallons of water, while a five-minute shower uses 25 gallons or less, depending on the shower head. To save water, take showers rather than baths and turn off the water when lathering up to shampoo, shave, etc.

## **Brush more efficiently**

Turn off the faucet while brushing your teeth. This simple act can save over five gallons of water per day, twice the average daily per capita amount used in rural Kenya.

## **Go 'low-flow'**

If you have the means and ability, install a low-flow toilet in your bathroom. Doing so can save 7,500 gallons per year per person. Alternatively, make your own low-flow toilet by filling a two-liter plastic bottle with sand and placing it in the toilet tank. This will prevent the tank from completely filling up, saving around 1,300 gallons of water per year per person.

## **Reduce toilet flushing**

Consider flushing your toilet only for solid waste (#2) and every other liquid waste (#1). Also, avoid using the toilet as an ashtray or waste basket. Every time you flush a cigarette butt, facial tissue or other small bit of trash down the toilet, gallons of water are wasted.

## **Dry with cloth towels**

Use washable cloth towels rather than paper towels or hand dryers. Used paper towels cannot be recycled, and hand dryers require electricity to dry your hands.

## **Report waste**

Report any leaky faucets or continually running toilets to your building's Facilities Services representative. A leak of one drop per second wastes seven gallons per day, or 2,500 gallons per year.

## **Lower water temperature**

Don't waste energy to heat water only to use additional energy to cool it down! At home, water heaters should be set to no higher than 120 degrees Fahrenheit. Doing so will help prevent water scalds, conserve energy and save you money.



*During the October 2010 MOG POWER Challenge, students and staff living in UTKnoxville residence halls reduced their water use by 268,000 gallons - enough to fill Shields-Watkins Field seven inches deep!*



# Doing Laundry

Conventional clothes washers and dryers use tremendous amounts of water and energy. The good news is that small changes to your laundry routine will help conserve natural resources and save you money.

## Do laundry less often

The simplest way to 'green' your laundry routine is to reduce the need for washing clothes. When possible, wear your clothes more than once before tossing them into the dirty pile.

## Load 'em up!

Laundry machines use the same amount of energy no matter how many clothes you put in. Always wash and dry full loads, while ensuring that air is able to circulate freely around the dryer. If necessary, combine your clothes with those of friends or family members to create a full load.

## Choose concentrated detergent

Concentrated laundry detergents have reduced packaging and a smaller carbon footprint. Plus, they stretch your dollar further. Just be sure to use the right amount of detergent!

## Go soft on softeners

To soften clothes, use white vinegar or dryer balls rather than fabric softeners or dryer sheets, which often contain toxins and may damage your clothes.

## Clean with cold water

About 90 percent of the energy used for washing clothes is for heating the water. Fortunately, with advancements in laundry detergents, cold water cleans clothes just as well as hot water. What's more, cold-water washing can actually increase the lifetime of your clothes.

## Use green detergent

Conventional detergents can contain ingredients that aren't good for you, your clothes, or our environment. Buy or make detergents with ingredients that are plant-based, biodegradable and phosphate-free.

## Hang your clothes to dry

Use drying racks rather than a clothes dryer. Hang-drying just one load of clothes per week for a year saves approximately \$70 in electricity! Clothes can be hung indoors as well. Students who live in campus residence halls may check out drying racks for free at the front desk of their hall.

## Maximize your dryer efficiency

If you must use a dryer, adopt these practices to reduce drying times and minimize the need for ironing:

- Set dryer to shortest drying cycle
- Clean the dryer's lint screen
- Use moisture sensor if available
- Dry similar fabrics together
- Remove clothes while slightly damp
- Dry two or more loads in a row



# On the Go

Why fuss with traffic and parking? A spring 2010 survey indicates that 32 percent of UT Knoxville faculty, staff and students travel to campus using alternative transportation. Save time, money and improve your health with these smart and sustainable alternatives to driving alone:

## Walking

Walking is a great way to get around town! Sidewalks, bridges and the Joe Johnson & John Ward Pedestrian Mall provide safe and convenient access to much of campus. In addition, many popular attractions, including the restaurants and shops along Cumberland Avenue, and the City of Knoxville's Third Creek Greenway and Neyland Greenway, are within walking distance of campus.

## Bicycling

For trips shorter than five miles, bicycling can be faster than driving - and it's much easier to find a parking place! Just remember

to wear a helmet and follow the rules of the road. Knoxville has been recognized by the League of American Bicyclists as a Bicycle Friendly Community for its extensive greenway system and comprehensive bicycle program and policies.

To get started, visit the UT Outdoor Program's Bike Shop in the TRECS building for maps and information about biking around town. The Bike Shop offers long- and short-term bike rentals, as well as free access to bike stands and tools, to UT Knoxville faculty, staff and students. Not handy with a wrench? Student mechanics on hand can provide basic bike tune-ups for a nominal fee.

Ready to take your bicycling skills to the next level? The Knoxville Regional Bicycle Program's Traffic Skills 101 course will teach you how to bike safely and effectively in traffic.

## Ride sharing

Walking or bicycling not for you? Try sharing the ride with a co-worker or friend! The Knox Smart Trips program offers free online ridematching for its participants.

Alternatively, post and find rides via the ride board at the University Center.

## Riding the bus

The Knoxville Area Transit (KAT) bus system can get you to campus, downtown, and around town. Several KAT routes travel along Cumberland Avenue, and T buses offer free rides across campus. What's more, all KAT buses are equipped with fold-down bike racks. Students, faculty and staff can purchase a semester KAT bus pass at the Central Ticket Office in the University Center. In addition, freshmen receive a free bus pass for use during their first semester on campus.

## Smart Trips

To encourage alternatives to driving alone, Knox Smart Trips offers a variety of incentives. Participants receive gift cards when they log at least 30 alternative commutes per quarter. In addition, UT Knoxville employees who participate with Smart Trips are eligible for the Emergency Ride Home program.



# Get InVOLved!

UT Knoxville faculty, staff and students: If you are interested in helping to make campus a cleaner, greener place, consider volunteering your time to one or more of the following groups. Click on the organization names to find out how you can get involved.

## [Eco-Vols](#)

Student environmental education program designed to increase environmental awareness and promote sustainable living habits in campus residence halls.

## [Students Promoting Environmental Action in Knoxville](#)

Student environmental organization established to promote environmental awareness on campus and in our community.

## [Campus Beautification Committee](#)

SGA committee that organizes campus clean-ups, promotes litter awareness, and coordinates the Adopt-a-Spot program.

## [Environmental Law Organization](#)

Graduate student organization seeking to connect its members with the broader environmental law community, inform them of environmental law and policy issues, and empower them to confront such issues.

## [UT Outdoor Program](#)

Offers outdoor rental equipment, a full service bike shop, training courses, and a variety of trips to the great outdoors.

## [Committee on Campus Environment](#)

Advises campus administration on institutional policies and behaviors that promote environmental stewardship at UT Knoxville.

## [Progressive Student Alliance](#)

Student club dedicated to promoting values of social justice on campus and in our community.

## [Project VEGGIE](#)

Through on-campus gardening, this student club provides a catalyst for community development, social interaction, self-reliance, resource conservation, and healthy eating.

## [UT Game Day Recycling](#)

Volunteers are needed to coordinate recycling efforts before, during and after every UT football home game.

## [Alternative Break](#)

TeamVOLS program intended to increase students' awareness of social issues through regional and international community service trips taken during academic breaks.

## [Nourish International](#)

Involve students in eradicating poverty through fundraising ventures and awareness events that support sustainable development projects in communities around the world.

## [Environmental Studies Club](#)

Provides activities and resources for students interested in environmental issues and "green" careers.



*In 2009-10, UTKnoxville students logged over 8,600 community service hours with TeamVOLS, the volunteer organization for the university.*

*Find out more at:  
[activities.utk.edu/teamvols](http://activities.utk.edu/teamvols)*

# In Our Community

There are numerous opportunities to volunteer with Knoxville-area community organizations. The organizations listed below seek volunteer help all year-round. Click on the organization names to find out how you can make a difference.

## [Adopt-A-Stream Program](#)

Monitoring and litter prevention initiative intended to protect the health and serenity of local waterways.

## [Beardsley Community Farm](#)

Urban demonstration farm that grows organic produce and houses bee colonies and free-range chickens. Harvested food is donated to local individuals and groups in need.

## [Foothills Land Conservancy](#)

Collaborates with landowners to protect and preserve farms and forests in East Tennessee.

## [Fort Loudoun Lake Association](#)

Works to protect and enhance water quality in Fort Loudoun Lake and its four-county watershed.

## [Ijams Nature Center](#)

Wildlife sanctuary and environmental education center encompassing 160-plus acres of protected land.

## [Young-Williams Animal Center](#)

Animal shelter striving to serve the community through innovative approaches to sheltering, adopting, and spaying/neutering animals and public education about animal welfare.

## [Keep Knoxville Beautiful](#)

An affiliate of Keep America Beautiful. Mission is to promote a cleaner, greener, more beautiful community.

## [Knoxville Bicycling Ambassadors Program](#)

Promotes bicycling and bike safety by participating in community events like festivals, safety fairs, and farmers markets.

## [Knoxville Habitat for Humanity](#)

Builds simple, decent, and affordable homes in partnership with those in need. Nearly 400 homes built in the Knoxville area over the past 25 years!

## [Knoxville Recycling Coalition](#)

Forms partnerships and develops programs to make Knoxville a recognized leader in recycling and waste reduction.

## [Legacy Parks Foundation](#)

Works to assure that our community enjoys exceptional recreational opportunities, natural beauty and open spaces, and that those assets exist for generations to come.

## [Nature Conservancy - Tennessee Chapter](#)

Helps preserve plants, animals and natural communities by protecting the lands and waters they need to survive.

