THE DAILY CLIPS

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Medical emergency causes wreck

Minor injuries are associated with Thursday's bus accident.

By Kathryn Kennedy and Michael Abramowitz
The Daily Reflector

An East Carolina University student grabbed the wheel of an ECU Transit bus after the driver lost consciousness and it veered into oncoming traffic on 10th Street between Charles Boulevard and Evans Street on Thursday, a Greenville Police Department official said.

A student passenger attempted to steer the bus away from danger after the driver, Nathan James Rennels, also an ECU student, lost consciousness at the wheel.

Despite those efforts, the bus created a block-long swath of destruction as it crashed into cars, destroyed two traffic utility boxes, downed power lines that ignited grass fires and snapped four wood and concrete utility poles before coming to a halt on the sidewalk, police spokesman Cpl. Kip Gaskins said.

Despite the material destruction that required a massive cleanup effort by city, state and private workers, only four people suffered minor injuries in the wreck, Gaskins said.

Rennels and the two passengers were transported to Pitt County Memorial Hospital with minor injuries. The passengers and Rennels were later released, university and hospital officials said.

"He piled into something like eight cars coming from the other direction," said ECU sophomore Lauren Veal, whose westbound car was stopped at 10th and Charles when the bus passed her. "I'm guessing his foot was still on the gas because he was going pretty quick down this road."

Gaskins said 10 vehicles were struck by the bus, and four people were transported to Pitt County Memorial Hospital for treatment.

Hours after the incident, Gaskins walked down the middle of 10th Street, which was still cordoned off to traffic, and retraced the sequence of events.

The bio-diesel bus was trav-

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...ing from Christenbury Gym to the Curry Court park-and-ride lot off Charles Boulevard. Rennels intended to turn the bio-diesel bus left onto Charles from 10th Street to head south to the lot, Gaskins said.

Instead, he lost consciousness as he approached the intersection and the bus continued forward on 10th Street toward Evans, Gaskins said.

At that point, the student passenger grabbed the wheel with Rennels seated unconscious behind it. The bus veered across the dividing line into oncoming eastbound traffic, Gaskins said.

The bus crashed into 10 cars between Charles and Evans before riding up onto the shoulder and sidewalk near Starbucks, narrowly missing two utility poles, Gaskins said.

It collided with a sports utility vehicle in the Starbucks driveway, continued west on the grass and sidewalk, shredded a stainless steel signal transformer box and crumbled a concrete utility pole on the southeast corner of 10th and Evans streets.

The bus crossed Evans Street. At the intersection's southwest corner, it snapped cement and wooden utility poles five feet above their bases, knocking down and disabling traffic signals and transformer boxes at the intersection, coming to a halt in front of Scott's Cleaners.

Store employees Nancy Dunn and Pauline Garris witnessed the bus' final approach.

"When the bus came across the intersection, the driver was already lying across the steering wheel," Dunn said.

It appeared to be headed for the storefront, but suddenly turned away, she said.

"We just knew it was coming through our building, but it turned to the right in the intersection and hit the poles," Garris said.

The driver continued to lie across the steering wheel after the bus stopped, Dunn said.

Motorcycle police officer T. M. Hathaway was at the intersection when the crash occurred and ran to the bus and boarded it, Dunn said.

Greenville Fire-Rescue personnel arrived at the scene within minutes, Lt. Dalvin Jackson said.

"Upon arrival, we found the bus covered with power lines and signal lights, and were not able to get on board immediately to provide patient care," Jackson said.

EMS personnel had to assess the driver's condition from a distance, Jackson said, while they waited for workers to disconnect the power. Rescuers then stabilized and removed the driver and the passengers.

Greenville traffic officers cordoned off a one-block area, redirecting traffic to allow emergency vehicles easier access:

Four EMS units — two engines from Stations 1 and 6 and a Rescue 1 vehicle with extrication equipment — were at the 10th and Evans Street intersection. Units from Station 4 were dispatched to Sadie Saulter Elementary School to attend to a bus load of students there. The bus was near the accident scene and swerved to miss traffic during the commotion, said Heather Mayo, Pitt County Schools spokeswoman.

Mayo said the bus returned to Saulter where the EMS workers initially evaluated the children before they were transported to Pitt County Memorial Hospital for further evaluation and care. Information about their condition was unavailable Thursday.

Pitt Community College student Peter Herring was in a car with his mother Catherine at the intersection of 10th and Evans streets.

"(The bus) was driving on the sidewalk coming toward us," Herring said.

"As it went by, the light fixture went down over the intersection and all the concrete from the sidewalk came up onto my vehicle and a vehicle next to us," Catherine Herring said. "I put my hands over my face and I thought, 'Please don't let that windshield (break)."

Electrical service to the area was unaffected and businesses along the strip had power.

Repair work was expected to be completed sometime near midnight Thursday, said Wes Anderson, Greenville's director of public works, who spoke by phone from his office.

"We're trying to minimize the impact on the public," Anderson said.

Jimmy Ryals contributed to this report.

Kathryn Kennedy can be contacted at kkenney@coxnc.com and 329-9566.

Michael Abramowitz can be contacted at mabramowitz@coxnc.com and 329-9571.
Thursday’s wreck an anomaly

By Jimmy Ryals
The Daily Reflector

The East Carolina University bus fleet’s safety record is better than those at most public transit agencies, a university official said Thursday.

ECU buses have about 15 collisions per year, interim student transit director Wood Davidson said. Driving more than 500,000 miles a year, their wreck rate is better than those at comparable transportation systems, he said.

“When we have compared ourselves to other city agencies, other public transit agencies, we are below their averages,” he said.

ECU drivers are at fault in about half their wrecks, Davidson said.

An ECU bus crashed Thursday morning after its driver, a student, had a medical emergency at the wheel. The bus swerved into oncoming traffic, striking several vehicles and utility poles and closing traffic on a stretch of 10th Street near Evans Street. Two passengers, both ECU students, were treated and released at Pitt County Memorial Hospital.

See ECU, A11

Continued from A1

The driver, an ECU student named Nathan Rennells, was also treated at the hospital for minor injuries and released.

All 125 drivers in the ECU transit system are students, Davidson said. Prospective drivers go through 48 hours of training for the state’s commercial drivers license exam, he added. After getting a license, each driver has to practice all 18 university bus routes.

The average driver stays with the university for three years, Davidson said. Rennells was hired in June 2007.

Privacy laws prevent ECU from checking medical backgrounds before hiring drivers, Davidson said. The N.C. Department of Motor Vehicles requires some medical screen-

ECU BUSING

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Source: Wood Davidson, interim director of student transit, ECU

ing before it issues a commercial license, he added.

“If they’re clear through N.C. DMV to drive a commercial vehicle, then that’s the standard that we go by,” Davidson said.

There are 37 buses in the ECU fleet, and 25 of them are on the road at peak times, Davidson said.

Two passengers were on Rennells’ bus when the crash occurred shortly after 10 a.m. Thursday.

“It was a time right after classes had gone into session, so it was the best situation for low numbers on the bus,” Davidson said. “If it had been 30 minutes earlier or 45 minutes later, you probably would have seen numbers closer to 30 or 35 students.”

Jimmy Ryals can be contacted at jryals@coxnc.com and 329-9568.
Businesses experience slow day after wreck

By Kathryn Kennedy
The Daily Reflector

Yellow crime tape stretched taut around a block of 10th Street after Thursday's bus wreck did more than keep out onlookers. For several local businesses, it banished customers.

Sheetz Manager Linda Wood said they were experiencing a slower day than usual, in part because their 10th Street entrance was closed off.

"It wasn't too long ago that they got the last car towed," she said just after noon. "Hopefully they'll get it cleared up and those tapes down soon."

Employees of nearby businesses said no one told them how long their work would be disrupted.

"It's surprising," said Wood. "Especially when there are about 50 police cars out there."

Cpl. Kip Gaskins of the Greenville Police Department said it was a matter of resources.

"Our personnel were all stretched to the point of investigating the accident."

At the intersection of 10th and Evans streets, where the bus came to rest, customers could access only a few small businesses on foot.

"We can't get any customers for today," lamented Tamika Shafau, president of Cartridge Plus. "All our entrances are blocked off ... I can't even get my truck out."

Officials said late Thursday electrical repairs would continue into the night.

"I'll try to stay open, because people downtown can walk," Shafau said Thursday afternoon, "but if it goes on like this I might have to close the doors."

Next door at Computer Peripherals Unlimited, employee Jonathan Joyner said they had a couple of walk-ins. He said he hopes the clean-up crews work quickly, but added he's "glad to hear there were no casualties."

The wreck didn't affect electrical service in the area, said Roger Jones, director of electric systems for Greenville Utilities. GUC crews were on the scene helping city of Greenville employees repair the city's damaged poles, Jones said.

Joyner said it will be business as usual at their store regardless of how long the street remains closed.

"If someone needs to fix their computer, they don't let anything stop them."

Starbucks also had an entrance blocked but kept serving coffee. Employees said they were unable to comment.

Kathryn Kennedy can be contacted at 329-9566.
Public safety at expense of mentally ill

My letter is in response to comments made by Attorney General Roy Cooper recently at a statewide campus safety symposium sponsored by ECU in Greenville.

He stated that the campus safety task force panel recommended new restrictions on the sale of guns to people who have been involuntarily committed for mental illness, and suggested this information be listed in a national database for gun sales when background checks are done.

He said people with serious and violent mental illnesses shouldn't be able to buy a gun, period.

HIPPA covers the rights of everyone to have their personal health information protected, including individuals with mental illness.

Entering this information in a database for this population is another form of discrimination and stigmatization. Many people should not be able to purchase guns, but who has the ultimate right to determine who is worthy or unworthy of the right?

Perhaps our school campuses could put into place a system to identify students at risk for severe academic or behavioral difficulties early on and create services and supports that address risk factors and build protective factors for them. It is important that staff be trained to recognize early warning signs and make appropriate and timely referrals.

I agree that there should be more information sharing between entities to promote safety, but not at the expense of a population continually portrayed in the negative.

KIMBERLY TALBOT
Greenville
Other Voices

Textbook shenanigans

The Washington Post
Tuition isn't the only expense keeping many recent college graduates insolvent. Textbooks are also to blame. Textbook prices increased at more than 2 1/2 times the rate of inflation from 1986 to 2004, according to a Government Accountability Office report. There are several reasons textbooks are so costly. For one, even though there have been no major advances in fields such as calculus and elementary physics in decades or even centuries, publishers still churn out new editions of textbooks on these subjects every three or four years. Publishers also frequently bundle unwanted additional materials such as CD-ROMs and study guides with textbooks. Professors rarely assign these extra materials, which drive up costs. Publishers can get away with these shenanigans because there's a fundamental disconnect in the textbook marketplace: The people paying for the books (the students) are not the ones choosing them (the teachers).

Several state lawmakers in Maryland have recently introduced bills to correct this market failure. A broader bill on higher education would require publishers to disclose pricing in any promotional materials they send to professors. Other proposals for lowering textbook prices include school-run textbook rental programs and the assignment of online, open-source textbooks.

While these plans have potential, they are best left up to individual institutions. On a regulatory level, the best that lawmakers can do is to ensure that both students and professors are able to make informed choices.
ECU grad designs costumes for 2008 production

By Kelley Kirk-Swindell

When performers take the stage for tonight’s production of East Carolina University’s Dance 2008, some will be outfitted by one of their peers.

Michael Mullies, a Winston-Salem native and recent ECU graduate, designed the costumes for 12 dancers and six understudies for Tommi Overcash Galaska’s dance piece “Silent Command.”

Nightly shows beginning at 8 are scheduled through Tuesday at McGinnis Theatre featuring 62 performers.

While it’s rare for dancers to wear a student’s designs in ECU productions, Jeff Woodruff, managing director of the School of Theatre and Dance, says there is some precedent.

“It’s not like it’s never happened before, but you’ve got to be more than pretty good to have a design go on our main stage,” Woodruff said.

Mullies asked associate professor of costume design Jeffrey Phipps if he could create costumes for an ECU production prior to his graduation. When the fall 2007 semester started, Phipps asked Mullies if he would design costumes for the Dance 2008 production.

Accepting the challenge, Mullies met with choreographer and faculty member Galaska — a School of Theatre and Dance professor — who said she wanted something futuristic for the costumes to complement her piece.

“I met with Jeffrey in October, when I had the first designs done,” Mullies said. “Jeffrey said they would be all right to present to Tommi. She really liked them.”

Because of his pending graduation, Mullies didn’t sew the costumes himself. “But I did pick the materials,” he said.

Mullies graduated in December with a bachelor of fine arts in costume design. Originally an art major, Mullies changed his major to costume design in his third year.

“I took a summer class with Jeffrey and I loved it,” Mullies said by phone from Asheville. “He taught me how to sew and how to design.”

Mullies had never sewn before, but he did “the home-ec thing” in high school. Through a lot of hard work and a lot of frustration, I learned how to design and sew,” he said.

The piece for which Mullies designed the costumes is one of seven dance productions in Dance 2008.

In addition to other faculty-choreographed works, there is a piece by New York-based choreographer Monica Bill Barnes.

Contact features writer Kelley Kirk-Swindell at 329-9596 or kkirkswindell@coxnc.com.
Health symposium planned

The needs of rural residents and their health will be the main topic of the fourth annual Jean Mills Health Symposium Feb. 15-16 at the Hilton Greenville.

The keynote speaker will be Dr. Thomas C. Ricketts, professor of health policy and administration and social medicine and director of the health policy analysis unit in the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. His talk begins at 9 a.m. Feb. 15.

In conjunction with the symposium, a community health fair will be held from 10 a.m. to 2 p.m. Feb. 16 in the Greenville Convention Center. The fair will feature free exercise and cooking demonstrations, health screenings and education. Register online at www.eahec.ecu.edu or call 744-5231.
Knee brace captures pedestrian power

BY RANDOLPH E. SCHMID
THE ASSOCIATED PRESS

WASHINGTON — Call it the ultimate power walk.

Researchers have developed a device that generates electrical power from the swing of a walking person's knee.

With each stride the leg accelerates and then decelerates, using energy both for moving and braking.

Max Donelan and colleagues reasoned that a device that helps the leg decelerate could generate power without requiring much additional energy from the person.

It's sort of like the way that some hybrid-electric cars produce electricity from braking.

With the device, a minute of walking can power a cell phone for 10 minutes, Donelan, of Simon Fraser University in Burnaby, British Columbia, said in a telephone interview. Other potential uses include powering a portable GPS locator, a motorized prosthetic joint or implanted drug pumps.

Donelan and colleagues at the University of Pittsburgh and the University of Michigan report development of the new device in today's edition of the journal Science.

AT A GLANCE

WHAT IT IS: The energy-capturing knee brace includes an aluminum chassis and generator mounted on a customized orthopedic brace.

WEIGHT: about 3.5 pounds

POSSIBLE USES: Powering a cell phone, a portable GPS locator, a motorized prosthetic joint or implanted drug pumps.

The first practical use for the generator is likely to be in producing power for artificial limbs, said Donelan, who with his co-authors has founded a company to develop the device commercially.

A boost to the brakes

The generator weighs about 3.5 pounds, so users do burn energy carrying it on their knee, but they don't notice whether it is switched on or off when walking on a treadmill, he said.

However, they miss it when it's removed because they get used to its extra braking action, he added.

With one generator on each knee, people walking on a treadmill were able to generate about 5 watts of power.

Lawrence C. Rome of the University of Pennsylvania called the development "extremely clever."

"Other people have thought of rotational devices around joints, Rome said, "but what's really clever is these guys only turn on resistance when the person is trying to brake, so it helps you."

Rome, who was not part of the research team, previously developed a backpack that generates electricity from the movement of the person carrying it.

"The backpack was comfortable, so it was an easy sell, he said. Whether the new knee generator is practical will depend on it being comfortable so people will want to wear it, he said in a telephone interview.

Arthur Kuo, an associate professor of mechanical engineering at the University of Michigan and a co-author of the report, called the device a "cocktail-napkin idea."

"There is power to be harvested from various places in the body, and you can use that to generate electricity. The knee is probably the best place," Kuo said in a statement. "During walking, you dissipate energy in various places, when your foot hits the ground, for example. You have to make up for this by performing work with your muscles. ... We believe that when you're slowing down the knee at the end of swinging the leg, most of that energy normally is just wasted."

The prototype is bulky, he said, but the energy generation part itself has very little effect on the wearer.

"We hope to improve the device so that it is easier to carry, and to retain the energy-harvesting capabilities," he said.

The research was funded by the National Sciences and Engineering Research Council of Canada, Michael Smith Foundation for Health Research and the Canadian Institute of Health Research.
UNC's in-state hikes cool off.

Tuition expected to go up average 1.2%, fee hikes 4.5%

BY JANE STANCILL
STAFF WRITER

CHAPEL HILL - North Carolina students attending UNC system campuses could get a break on tuition increases in the 2008-09 academic year, mainly because of significantly higher appropriations from the legislature last year.

Across the system, tuition is expected to rise by 1.2 percent on average, and general required fees are slated to increase by an average of 4.5 percent. A committee of the UNC Board of Governors approved the rates Thursday and the full board is expected to vote on them today.

Increases vary based on how much money each campus received from the legislature for growth, operations of new buildings and new programs. Campuses that received more money are limited in the amount of increases they can implement, according to the UNC board's four-year plan for tuition.

Overall tuition and fees for North Carolina undergraduates are expected to rise 2.8 percent at N.C. State, 2.4 percent at N.C. Central and 1 percent at UNC-Chapel Hill.

Proposed combined tuition and fees for state residents are $5,143 at NCSU, $5,590 at NCCU and $5,228 at UNC-CH. Out-of-state students will pay a proposed $17,441 at NCSU, $13,434 at NCCU and $22,126 at UNC-CH. These are annual rates and do not include costs of dorm rooms, food and books.

Students at Thursday's meeting said they were relieved with the proposed rates but cautioned that rough times are ahead for families during an economic recession. Parents and students could face job losses, said Cody Grasty, the student member of the board and a graduate student at Appalachian State University.

"We urge the board to think long-term — for a couple of years, anyway," he said.

UNC President Erskine Bowles pointed out that the proposed increases are below inflation.

"That can only happen because we have a very generous legislature and we're working to control costs," Bowles said.

According to the board's current tuition policy, tuition is capped at 6.5 percent, but that ceiling is lowered if a campus receives appropriations greater than the historical average of 6 percent. Fees are also capped at 6.5 percent.

This year, NCCU and UNC-CH were not allowed to raise tuition for North Carolina undergraduates because of higher appropriations. N.C. State's cap was set at 6.5 percent, but the university asked for only a 2.7 percent increase in tuition.

Peter Barnes, an NCSU freshman from Raleigh, said he was happy his university was not pushing the increase to the limit.

"It's a matter of controlling the fire," he said. "It's always going to go up."

The board-mandated caps apply only to state residents.

UNC-CH Student Body President Eve Carson said the heavy annual increases in out-of-state tuition worry many students.

"That is an area of concern in terms of thinking about accountability and predictability in tuition increases," she said.

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Tobacco could kill 1 billion this century, WHO says

By Edith M. Lederer
The Associated Press

NEW YORK — Tobacco use killed 100 million people worldwide in the 20th century and could kill 1 billion people in the 21st unless governments act now to dramatically reduce it, the World Health Organization said in a report Thursday.

Governments around the world collect more than $200 billion in tobacco taxes every year but spend less than one-fifth of 1 percent of that revenue on tobacco control, it said.

"We hold in our hands the solution to the global tobacco epidemic that threatens the lives of 1 billion men, women and children during this century," WHO Director-General Dr. Margaret Chan said in an introduction to the report.

The WHO Report on the Global Tobacco Epidemic 2008 calls on all countries to dramatically increase efforts to prevent young people from beginning to smoke, help smokers quit and protect nonsmokers from exposure to secondhand smoke.

Chan announced the report Thursday at a news conference with New York Mayor Michael Bloomberg, whose foundation, Bloomberg Philanthropies, helped fund it with a $2 million grant. The report examines the tobacco policies of 179 countries for the first time, Bloomberg said.

According to the report, nearly two-thirds of the world's smokers live in 10 countries: China, which accounts for nearly 30 percent; India, with about 10 percent; Indonesia; Russia; the United States; Japan; Brazil; Bangladesh; Germany; and Turkey.

It forecast that more than 80 percent of tobacco-related deaths will be in low- and middle-income countries by 2030.

Dr. Douglas Bettcher, director of WHO's Tobacco Free Initiative, said WHO estimates 5.4 million smoking-related deaths a year, rising to more than 8 million a year by 2030 if nothing is done. That adds up to 175 million between 2005 and 2030. Beyond that, he said, deaths will continue to rise, and statistical projections put the death toll at near 1 billion by the end of the century.

Tobacco use is growing fastest in low-income countries, the report said, "due to steady population growth coupled with tobacco industry targeting, ensuring that millions of people become fatally addicted each year."

SUGGESTED POLICIES

The WHO Report on the Global Tobacco Epidemic 2008 urges governments to adopt six "tobacco control policies":

- Raise taxes and prices of tobacco.
- Ban tobacco advertising, promotion and sponsorship.
- Protect people from secondhand smoke.
- Warn people about the dangers of tobacco.
- Help those who want to quit smoking.
- Monitor tobacco use to understand and reverse the epidemic.

THE ASSOCIATED PRESS
Flu hard on collegians

It's back. Winter's flu virus is in full swing. State public health officials say it's hammering children and young adults. College students are hit worst of all this year. Student health directors are reporting droves of college students coming their way for a quick cure to the season's worst enemy, said Dr. Jeff Engel, state epidemiologist for the Division of Public Health. The flu bug forces body temperatures to 100 degrees or more and inflicts a nagging cough and raw throat.

If you're sick, health officials urge you to lie low and keep your germs to yourself. For those still healthy, there is a silver lining on this Kleenex cloud: It's not too late for a flu shot.

The shot

Public health officials say this year's vaccine is doing a good job shielding patients from the flu. But it takes about two weeks to set in. Shots are still in good supply at local doctors' offices and public health departments.

Be gone, germs

Wash your hands often, and don't share cups or glasses. Avoid elevators and planes, where the virus is more easily passed. If you have a house full of infected relatives, you could ask your doctor for a round of anti-viral medicine as a preemptive strike.

When to call the doctor

If you act on the flu early — within the first 48 hours of onset — a doctor can prescribe antiviral drugs that ease the worst flu symptoms. If you've missed that window, the best remedies are staying home to rest and drinking lots of fluids.

Compiled by Staff Writer Mandy Locke
Biofuels’ benefits challenged

Study suggests use of ethanol from corn would do more harm than good

THE ASSOCIATED PRESS

WASHINGTON — The widespread use of ethanol from corn could result in nearly twice the greenhouse gas emissions as the gasoline it would replace because of expected land-use changes, researchers concluded Thursday. The study challenges the rush to biofuels as a response to global warming.

The researchers said that past studies showing the benefits of ethanol in combating climate change have not taken into account almost certain changes in land use worldwide if ethanol from corn — and in the future from other feedstocks such as switchgrass — become a prized commodity.

“Using good cropland to expand biofuels will probably exacerbate global warming,” concludes the study published in Science magazine.

Plowing up forests

The researchers said that farmers under economic pressure to produce biofuels will increasingly “plow up more forest or grasslands,” releasing much of the carbon formerly stored in plants and soils through decomposition or fires. Globally, more grasslands and forests will be converted to growing the crops to replace the loss of grains when U.S. farmers convert land to biofuels, the study said.

The Renewable Fuels Association, which represents ethanol producers, called the researchers’ view of land-use changes “simplistic” and said the study “fails to put the issue in context.”

“Assigning the blame for rainforest deforestation and grassland conversion to agriculture solely on the renewable fuels industry ignores key factors that play a greater role,” said Bob Dinneen, the association’s president.

There has been a rush to developing biofuels, especially ethanol from corn and cellulolic feedstock such as switchgrass and wood chips, as a substitute for gasoline. President Bush signed energy legislation in December that mandates a sixfold increase in ethanol use as a fuel to 36 billion gallons a year by 2022, calling the requirement key to weaning the nation from imported oil.

The new “green” fuel, whether made from corn or other feedstocks, has been widely promoted — both in Congress and by the White House — as a key to combating global warming. Burning it produces less carbon dioxide, the leading greenhouse gas, than the fossil fuels it will replace.

During the recent congressional debate over energy legislation, lawmakers frequently cited estimates that corn-based ethanol produces 20 percent less greenhouse gases in production, transportation and use than gasoline, and that cellulolic ethanol has an even greater benefit of 70 percent less emissions.

The study released Thursday by researchers affiliated with Princeton University and a number of other institutions maintains that these analyses “were one-sided” and counted the carbon benefits of using land for biofuels but not the carbon costs of diverting land from its existing uses.

“The other studies missed a key factor that everyone agrees should have been included, the land use changes that actually are going to increase greenhouse gas emissions,” said Tim Searchinger, a research scholar at Princeton University’s Woodrow Wilson School of Public and International Affairs and lead author of the study.

More greenhouse gases

The study said that after taking into account expected worldwide land-use changes, corn-based ethanol, instead of reducing greenhouse gases by 20 percent, will increase it by 93 percent compared with using gasoline over a 30-year period. Biofuels from switchgrass, if they replace croplands and other carbon-absorbing lands, would result in 50 percent more greenhouse gas emissions, the researchers concluded.

Not all ethanol would be affected by the land-use changes, the study said.

“We should be focusing on our use of biofuels from waste products” such as garbage, which would not result in changes in agricultural land use, Searchinger said. “And you have to be careful how much you require. Use the right biofuels, but don’t require too much too fast. Right now we’re making almost exclusively the wrong biofuels.”