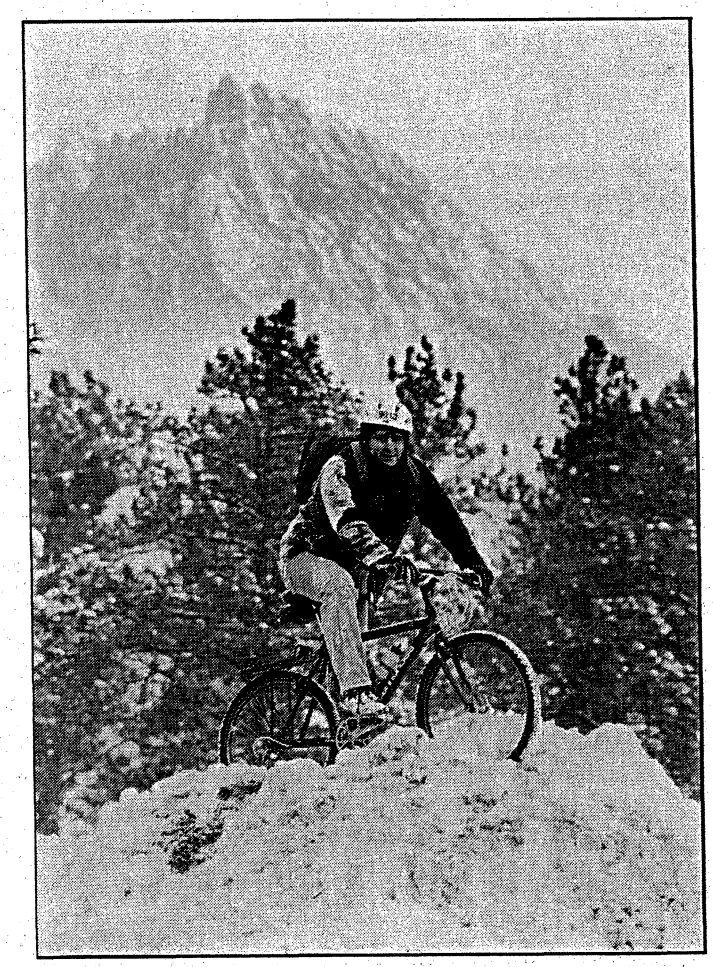
EASY RIDER

TAP NCAR/UCAR TRANSPORTATION ALTERNATIVES PROGRAM

February 1993 | A Newsletter of the Transportation Alternatives Program | Vol. 3, No.1

Winter Bicycling: A Different Experience

by Steve Massie



David Erickson. (Photo by Carlye Calvin.)

For those who wish to ride their bicycles to work during the Winter months, some advice from ACD's David Erickson may be helpful. Dave lives in the Sugarloaf area and frequently rides to the Table Mesa shuttle stop via some deer trails, the Boulder Canyon bike trail, the University of Colorado bike path, and the bike path near the Department of Commerce building on Broadway.

The most dangerous part of Dave's journey is not in the hills, it is along the CU bike path. Especially in winter, when car windows can be fogged up, motorists turning right and crossing over into the bike paths pose a hazard. Dave says to assume that these motorists cannot see you. Since roads can be icy, choose a line of travel carefully and turn in a smooth arc. For those who choose to ride up and down the NCAR hill, going down the hill can be tricky. The deer hear cars more easily than they do bicycles, and they can dart into your path, so go slowly down the hill.

Personal comfort can be enhanced by wearing a cap or headband under your helmet. A bicycle ride without a bicycle helmet is an invitation to disaster. Keep the ears warm. Gloves or mittens are very necessary.

Sometimes a water bottle's contents can freeze, so place warm water in the bottle at the start of the ride if you anticipate wanting a drink. Toe clips, useful during the summer and spring, are not recommended during winter, since you want to have your feet ready to help steer. Finally, a handkerchief will help the inevitable runny nose.

Well, let's get to the "good" of Dave's journey, and possibly your journey. Each of us collects a handful of prized experiences in our lives, and Dave's winter bicycle riding has given him some excellent moments. Dave has experienced times of exceptional quiet on winter rides. He's seen deer, elk, red fox, and eagles along the way, and signs of mountain lion and black bear. In contrast to summer congestion, there are many fewer bicylists on the road. Exercise clears the mind and does the body good during months in which most of us become lethargic. Even on his path from Sugarloaf to Table Mesa, he finds that the exercise is not that taxing. In fact, he says the experience imparts "eclectic karma."

A Look at Energy Efficiency

by Steve Massie

This essay reflects on how our nation has progressed during the last decade or so, in terms of energy efficiency. The facts and figures were obtained from reading several articles contained in the September 1990 Scientific American special issue, "Energy for Planet Earth."

Energy used in civilization is derived from several different sources; fossil fuel (78%), hydropower and biomass (18%), and nuclear power (4%). The international trade of fossil fuel transports 44, 14, and 11 percent of the total locally harvested fossil fuel in the forms of oil, natural gas, and coal, respectively. It takes a fleet of roughly 2,600 ocean tankers, 85 liquid natural gas vessels, and 1.5 billion kilometers of pipes to transport these commodities. These activities have financial, ecological, and political-military impact. During the last decade, however, there have

A Look at Energy *(continued on page 2)*

A Look at Enegy *(from page 1)*

been efficiency gains in the use of energy, and these positive changes are discusssed below.

In the United States, the use of energy goes roughly 25% to the operation of cars, 40% to industrial production, and 35% to the energy requirements of buildings and homes. In all three areas, there have been noticeable improvements in energy efficiency in the last decade.

With a population of roughly 5 billion people, the world attends to the operation of 500 million cars. Roughly half of the world's harvested oil is used by cars. During the past 15 years, the average car's consumption of fuel has fallen by a quarter in Germany, and by half in the U.S. These oil-saving steps have been due to refinements in car design. The substitution of mass transit for car travel could slow energy consumption per capita. In the U.S., Germany, and Japan, roughly 6, 15, and 47 percent of the population uses mass transit.

Improvements during the 1970s and 1980s cut energy use in U.S. buildings by a third. It is estimated that the use of automated-control systems, compact fluorescent lights, and superwindows could reduce building energy bills by half. Nearly 25% of all building and cooling costs corresponds to the energy draining out of windows. This effective energy loss matches the amount of energy flowing through the Alaska pipeline in one year. Compact fluorescent lamps consume 50 to 75% less energy than older incandescent lamps. Retrofitting of these lamps typically costs less than $130 per fixture, saves $50 in long-term maintenance costs, and pays for itself in one to two years. To quote one of the articles: "This is not a free lunch; it is a lunch you are paid to eat."

During 1971–1986, efficiency improvement in industry, and changes in the mix of products bought by consumers, led to (i) a decline of 1%/year in industrial energy consumption, and (ii) an increase of 2%/year in the annual growth of manufactured output. These improvements are possible because most industrial processes consume 4 to 6 times as much energy as the theoretical thermodynamic energy minimum required to make an industrial material. As one example, more efficient and newer processes involved in the making of polyethylene, have decreased this product's energy costs by a factor of 8 between 1940 and the late 1970s.

Recycling also has had an impact. It generally takes one-half the energy to make a product based on a recycled material than to make the item from scratch. Some notable examples include aluminum cans. It takes 1 unit of energy to make a can from recycled aluminum, and 5 units of energy to do it from scratch. Roughly 20% of paper, plastic, glass, and metal goods are recycled. The challenge is to create recycle systems that produce high-value products from scrap materials. Improvements in motor design (for both industrial and in household application) have also been impressive. Many household appliances and industrial motors have efficiencies over 50% better than older designs. Typically, U.S. industry has been adopting more efficient technology if the capital investment can pay for itself in 2 to 4 years.

Energy efficiency, however, is only half of the energy consumption equation. Between 1970 and 1990, the world population increased from 3.6 to 5.3 billion, and the world energy use increased from 8.4 to 13.7 terawatts. An increase in world population will place continuing strain upon each nation's ability to satisfy and meet its citizens' energy demands.

A Visit to SF: Do the crosstown buses run all night?

by Chuck Carlentine

On a recent trip to San Francisco, one thing that was most noticeable while commuting on BART (Bay Area Rapid Transit) and Muni (Municipal Railways), was the graffiti. The only one I could read was "CRAZE," scrawled in blue across the side of Mission High School. At first I thought they had misspelled "CRAZY." As you may have heard, most of the graffiti seems to be in gang language, which to me looked like a combination of nonsensical acronyms and unfamiliar symbols.

I lived in San Francisco in the 1960s and 1970s; this was my first time back since moving from there in 1980. I recall my favorite bit of graffiti: "Do the crosstown buses run all night?" Under which someone added, "Do da! Do da!"

There were other obvious changes as I glanced at familiar streets from the Muni cars which started their journey underground and then leaped into drizzly days. The homeless were always evident. I avoided the Haight/Ashbury back in the 1960s because of the panhandlers. On this trip I wore headphones loud enough to almost drown out, "Spare change?", but not so loud I couldn't hear someone ask for my wallet.

When I used to ride the Muni, they kept track of transfers so we couldn't travel in the opposite direction. Now transfers can be used in any direction until the time expires. I had a pleasant surprise while fiddling with the change machine to catch a ride on the Muni: someone offered me their transfer which saved me a buck. That almost made up for the fright I

A Visit to SF: *(continued on page 4)*

The Case of the Excruciating Expressway (or: When a Shortcut Might Not Be So Short)

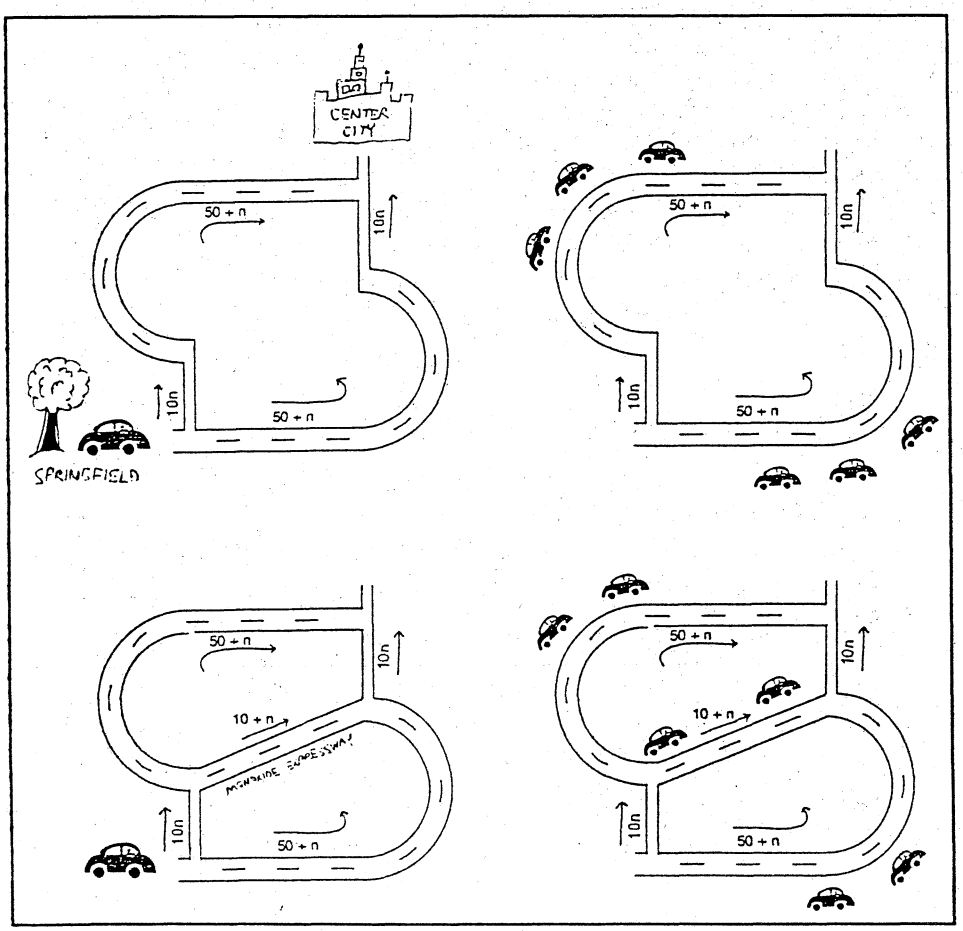
by Bob Henson

Have you ever wondered how a city's automobile traffic can become more and more congested, even when the highway department puts in more bypasses than a cardiac patient has? Before you blame such congestion on increased traffic alone, take a look at Braess's paradox. Discovered in 1968 by German operations researcher Dietrich Braess, this finding shows that adding to the capacity of a network of any kind—whether it carries communication or cars—can actually slow the average travel time for all participants in the system.

The diagram (below) shows how this strange phenomenon works. Top-left shows the travel time for a single motorist (we'll call her Tammy Toyota) driving either of two routes from Springfield to Center City in scenic Monoxide County. The algebraic formulas for travel time are tied to the carrying capacity of each stretch of road. On the narrow, two-lane portions, each additional motorist lengthens the trip for all by 10 minutes (thus the time for each is [10n], where n is the number of motorists). The four-lane highways are less affected by extra traffic, so that the total time to complete these longer but faster stretches is [50 + n]. If Tammy is driving solo, either route will take her [10(1) + (50 + 1)] = 61 minutes.

On the top right, Tammy is joined by a squadron of five fellow automobile commuters (to make matters worse, they're all driving single-occupant vehicles!). If we assume that half of the group takes one route and half the other, then the total driving time for all motorists on either route is now [10(3) + (50 + 3)] = 83 minutes. This is the natural state of equilibrium for the six-car system, because if people gravitate toward either route, then it, in turn, becomes slower and the other route faster—which will attract people back to the slower route.

Dismayed by the traffic tie-ups, the officials of Monoxide County come up with a truly autocentric solution: build a shortcut four-lane between the west and east routes. When Tammy is by herself (lower-left), this works beautifully. By taking the shortcut, her solo travel time is cut nearly in half, to [10(1) + (10 + 1) + 10(1)] = 31 minutes. However, the real trouble comes when all six motorists vie for the road. Not everyone will take the shortcut, because some drivers realize that this would leave the old routes free and clear. So the system ends up in an equilibrium with two cars taking each of the three possible routes. Amazingly, though, the time for each route comes to 92 minutes! For example, the easternmost route is [(50 + 2) + 10(4)], because the two cars initially heading east meet up with the two shortcutting cars near the end.



Braess's paradox has been found to apply in all kinds of systems, from telephone exchanges to airline routes. This example (which came from an article in *DISCOVER* magazine's May 1992 issue) gave me pause. It highlights the futility of assuming that more and more highways will solve our transportation woes. Even when you don't have more people populating an area when a new highway is built, you still could have an occurrence of this paradox of networks that Braess so cannily recognized.

How to Get Mugged on the Shuttle: The TAP "Express Yourself" Challenge

by Chris Ennis

Have you recently found yourself driving to a midday meeting at another NCAR site? Perhaps even grumbling to yourself that "there must be a better way . . . ?" Well, there is—the NCAR shuttle. We designed the schedule with you meeting-goers in mind: service every half-hour, with Express runs during the midday hours to whisk you to your destination. We think this service is grossly underutilized—that too many people drive back and forth in their own cars. Frankly we're mad (well, not really, just peeved). So, we're going to do something about it! We asked ourselves: "What could get people to use the shuttle?" Minutes went by, then days, then weeks. Suddenly, the idea hit: Bribes! Oops, rewind: Prizes! Another fabulous TAP event was on the drawing board.

To entice you to "leave the driving to us," we launched a new program in January. The "Express Yourself" challenge works this way: The shuttle driver will give you a "Frequent Rider Card." Each time you use the shuttle to get to or from a meeting, you will get a punch (rather, the card will get punched); after 5 punches, you can turn your card in for a free travel mug; or, keep your card and turn it in after 10 punches for a free t-shirt. For you Olympics-caliber meeting goers, you can win one of each type of prize. Thus, you can get mugged on the shuttle while wearing your new t-shirt. And you thought the shuttle service couldn't get any better!

We'll run the new program for a few months, to give the meeting-deprived among us a fighting chance to build up the punches. So, beat the winter doldrums and go for the goodies!

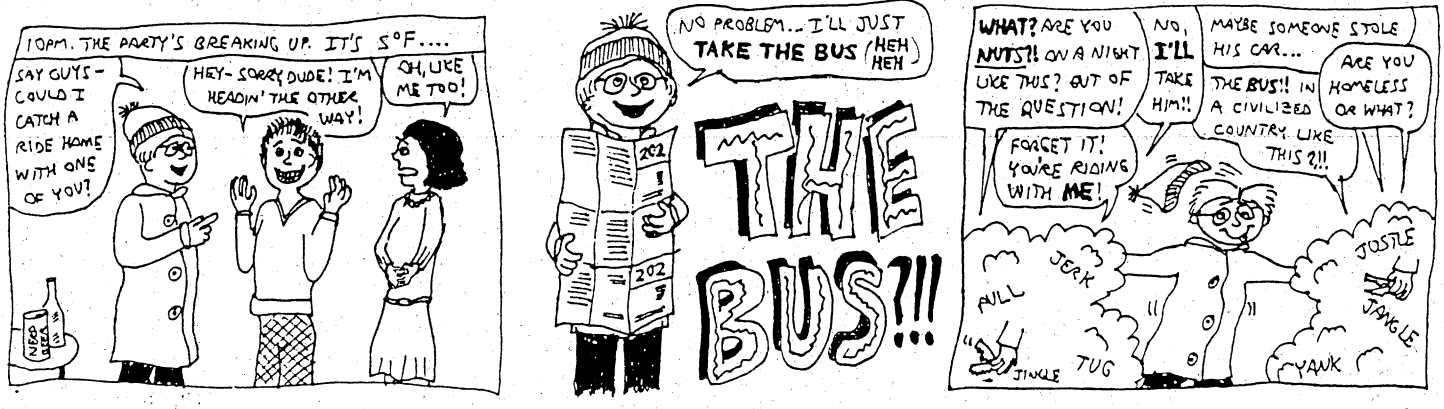
P.S. Contact John Owen (ext. 8219) if you want more information. Remember, the Express Yourself challenge is for times when you use the shuttle to attend meetings, not for your commuting rides to/from work. We'll have rewards for commuters another time!

A Visit to SF: *(from page 2)*

had on another occasion when I thought I only had twenty dollar bills and no safe place to ask for change. Part of my fears were the result of reading a newspaper article: the day before a man had been stabbed in the chest at a bus stop near the neighborhood in which I was staying.

This recent trip has helped me grow more fond of Boulder and more content with our transportation system. What would we think if we could see Boulder and Denver's mass transit 20 years from now? Will we have our own version of BART or Muni? For now, I don't care if the crosstown buses don't run all night because for the most part, at least for me, I feel safe enough to walk our streets and sing "Do da! Do da!" all the way home.

getting there by Bob Henson



TAP Pop Quiz: The EcoPass and the Guaranteed Ride Home Program

by Dean Lindstrom and Chris Ennis

1. What in the world is an "EcoPass"?
   - ☐ a. A hippie commune near Nederland.
   - ☐ b. I don't know but it's probably green.
   - ☐ c. A groovy kind of love.
   - ☐ d. It is a bus pass that is good for unlimited use of the regional, express and local routes of the Regional Transportation District (RTD). This means every (!) bus that RTD operates (Boulder, Denver, Longmont, etc.), with only one exception: special use buses to Bronco games, ski areas etc. are not included. (Route N to Nederland/Eldora Ski Area is included in the program, because that is not a special use bus.) All NCAR/UCAR employees, plus visitors who will be here for at least one month, are eligible for the bus pass. In 1992, the bus pass became a part of our new NCAR/UCAR access/ID cards.

2. How do I get one of these highly sought-after items?
   - ☐ a. You can get anything you want at Alice's Restaurant (exceptin' Alice).
   - ☐ b. It's not what you know, it's who you know.
   - ☐ c. Hard work and perseverance.
   - ☐ d. The EcoPass can be obtained from Liz Kriete at the FL2 reception desk on Thursdays from 3 pm to 4 pm or Fridays from 8:30 am to 9:30 am. If you already have an access card, you must bring it with you. Employees should bring a pay stub or other item containing their employee number. Visitors need to get written authorization from their division administrator. Do smile for your picture; you're getting something for free!

3. Will it save NCAR any money if I decide not to get my EcoPass?
   - ☐ a. You must be new here.
   - ☐ b. Almost enough for the next Cray.
   - ☐ c. Through a complicated formula involving our newest federally-mandated cost accounting procedures, we could recoup what is known as a "negative refund." (In plain Texas talk, we'd owe RTD an additional $1.37).
   - ☐ d. No. It has already been paid for, whether you pick it up or not.

4. If I never exchanged my old bus pass for the new one on the NCAR access/ID card, can I still get a new 1993 EcoPass?
   - ☐ a. By the way, did you hear about the Berlin Wall?
   - ☐ b. Badges!! I don't know nothin' 'bout no stinkin' badges.
   - ☐ c. Yes, but the paperwork won't go through until December, so you might as well wait for '94.
   - ☐ d. But of course. See answer to number 2.

5. If I use my EcoPass instead of the Airporter to get to Stapleton Airport for my business trips, how soon would I recover the cost of the EcoPass for NCAR/UCAR?
   - ☐ a. Hey!! You didn't tell me there would be any math on this.
   - ☐ b. $2\pi r$
   - ☐ c. Albert Einstein on line two, sir.
   - ☐ d. $25/$9.50 = 2.6 one-way trips

6. If I use any mode of alternative transportation to get to work, and I become ill and need to leave early, how can I get home?
   - ☐ a. Click your heels three times and say "there's no place like home."
   - ☐ b. It's a trick question; you can never go home.
   - ☐ c. The world is full of risks, and you want a guaranteed ride home???
   - ☐ d. Use the Guaranteed Ride Home (GRH) program. Call the Mesa Lab receptionist at ext. 1140. The receptionist will use a priority phone number to call a cab for you. The GRH can also be used if your child gets sick and you need to get to his/her school, if your carpool partner unexpectedly needs to leave early or work late, or if you unexpectedly need to work late. (Note: Do not call the cab company yourself. If you do, be prepared to get 50 lashes with a wet noodle. And to pay the bill yourself.)

(for more fun turn the page)

NCAR Shuttle Schedule

Is provided for your riding pleasure. Morning runs are on this page and Afternoon runs are exactly opposite on the next page. Cut and save!

LV	ML	TM	PR	CU	P	XR	Ar FL	Lv	FL	XR	P	CU	PR	S	TM	Ar ML
7	:03	:10	-	-	-	-	-	7		-	-	-	-	-	:10	7:17
7	-	-	-	-	-	-	-	7	:03	:08	:13	:17	-	-	:21	:30
7	:31	:38	-	-	-	-	-	7	-	-	-	-	-	-	:38	:45
7	:03	:09	-	:14	:19	:24	:30	7	:33	:38	:43	:47	-	-	:51	8:00
8	:03	:10	-	-	-	-	-	8	-	-	-	-	-	-	:10	:17
7	:33	:39	-	:44	:49	:54	8:00	8	:03	:08	:13	:17	-	-	:21	:30
8	:31	:38	-	-	-	-	-	8	-	-	-	-	-	-	:38	:45
8	:03	:09	-	:14	:19	:24	:30	8	:33	:38	:43	:47	-	-	:51	9:00
8	:33	:39	-	:44	:49	:54	9:00	9	:03	EX	-	-	:10	-	:13	:20
9	:03	:09	:11	EX	-	-	:20	9	:33	EX	-	-	:40	-	:43	:50
9	:33	:39	:41	EX	-	-	:50	10	:03	EX	-	-	:10	-	:13	10:20
10	:03	:09	:11	EX	-	-	10:20	10	:33	EX	-	-	:40	-	:43	:50
10	:33	:39	:41	EX	-	-	:50	11	:03	EX	-	-	:10	-	:13	11:20
11	:03	:09	:11	EX	-	-	11:20	11	:33	:38	:43	:47	-	54*	:51	12:01
11	:33	:39	-	:44	:49	:54	12:00	12	:03	:08	:13	:17	-	-	:21	:30
11	:46	:55	-	-	-	-	-	11	-	-	-	-	-	:53	:55	12:02
12	:03	:09	-	:14	:19	:24	:30	12	:33	:38	:43	:47	-	-	:51	1:00
12	:33	:39	-	:44	:49	:54	1:00	1	:03	EX	-	-	:10	-	:13	:20

TM=Table Mesa/Bwy PR=ParknRide (TM) P=Pearl XR=Crossrds S=So. Boulder Rec

* The 11:33 run from FL stops at SBRC only if requested by passengers

(we're baaack . . from page 5)

7. If I work at Foothills Lab, do I still need to call the Mesa Lab receptionist in order to use the Guaranteed Ride Home program?
   - ☐ a. No. You are out of luck.
   - ☐ b. No. Due to equality between the sites, the receptionist at FL is the receptionist at ML. (Figure that out. Hint: it's like an Escher print)
   - ☐ c. Yes, then call the cafeteria to get hors d'oeuvres for the ride.
   - ☐ d. Yes.

8. If I work at Jeffco or Marshall, do I still need to call the Mesa Lab receptionist in order to use the Guaranteed Ride Home program?
   - ☐ a. What are the odds of this happening, any way?
   - ☐ b. Yes, but the taxi will go to the Mesa Lab first, find out you're not there, and leave.
   - ☐ c. No. At Marshall you stand on top of the radar dome and holler real loud, "TAXI!!" At Jeffco you hitch a ride on the Electra.
   - ☐ d. Yes.

9. If I drive alone to work and my car gets a flat during the day, can I use the Guaranteed Ride Home program to get a free taxi?
   - ☐ a. Run that by me one more time.
   - ☐ b. That would fall under our Guaranteed Car Mechanic program.
   - ☐ c. Ask Mr. Goodwrench.
   - ☐ d. Heavens, no! This program is for people who have used alternative transportation to get to work. This does not include SOVs (Single Occupant Vehicles).

10. Does the Guaranteed Ride Home program pay for the tip for the taxi driver?
    - ☐ a. The driver is sufficiently paid and does not need or want tips.
    - ☐ b. The best tip: Avoid Keoghs, invest in a short-term vehicle with a heavy portfolio in blue chip (preferably in high tech), keep relatively liquid and watch for a sharp increase on the Tokyo exchange.
    - ☐ c. Go for the jugular with a humiliating comment like: "TIP??!!! For what? Miss Daisy could drive better than you."
    - ☐ d. No. It is up to you to tip the driver.

11. I tried to take the NCAR shuttle home from work, but it was full. Can I use the Guaranteed Ride Home if this happens again?
    - ☐ a. No . . . you're a fly-by-the-seat-of-your-pants kind of person—you don't plan—so we would not dream of minimizing any potential adventure you might have trying to wing it! Good luck!
    - ☐ b. What do you think those bicycle carriers are REALLY for, anyway?
    - ☐ c. Brush up on your car-stuffing skills from your old fraternity/sorority days.
    - ☐ d. Yes. If the last NCAR shuttle of the day is full, this is a valid use of the GRH program. *(Note: the shuttles have been full on one or two occasions. We're sorry for the inconvenience this caused.)*

Quiz Answers

1.) d 2.) d 3.) d 4.) Hmmm, I think I see a pattern; 5.) d; 6-11.) You get the picture.

Scoring:

9-11: You should be running TAP.
6-8: Not bad!
3-5: Take a re-test and score yourself again.
0-2: Totally clueless. Time to get with the program.

NCAR Shuttle Schedule

Is provided for your riding pleasure. Afternoon runs are on this page and Morning runs are exactly opposite on the next page. Cut and save!

LV ML	TM	PR	CU	P	XR	Ar FL	Lv FL	XR	P	CU	PR	S	TM	Ar ML
:00	:06	-	-	-	-	-	-	-	-	-	-	:10	:06	:17
1* :03	:11	:13	EX	-	-	:22	1 :33	EX	-	-	:40	-	:43	:50
1 :33	:39	:14	EX	-	-	:50	2 :03	EX	-	-	:10	-	:13	2:20
2 :03	:09	:11	EX	-	-	2:20	2 :33	EX	-	-	:40	-	:43	:50
2 :33	:39	:41	EX	-	-	:50	3 :03	EX	-	-	:10	-	:13	3:20
3 :03	:09	:11	EX	-	-	:20	3 :33	:38	:43	:47	-	-	:51	4:00
3 :33	:39	-	:44	:49	:54	4:00	4 :03	:08	:13	:17	-	-	:21	:30
4 :03	:09	-	:14	:19	:24	:30	4 :33	:38	:43	:47	-	-	:51	5:00
4 :16	:23	-	-	-	-	-	4 -	-	-	-	-	-	:23	4:30
4 :33	:39	-	:44	:49	:54	5:00	5 :03	:08	:13	:17	-	-	:21	5:30
4 :45	:52	-	-	-	-	-	4 -	-	-	-	-	-	:52	5:00
5 :00	:06	-	-	-	-	-	5 -	-	-	-	-	-	:06	:15
5 :03	:09	-	:14	:19	:24	:30	5 :33	:38	:43	:47	-	-	:51	6:00
5 :20	:27	-	-	-	-	-	5 -	-	-	-	-	-	:27	5:34
5 :33	:39	-	:44	:49	:54	6:00	-	-	-	-	-	-	-	-
5 :46	:53	-	-	-	-	-	5 -	-	-	-	-	-	:53	6:00
6 :05	:12	-	-	-	-	-	6 -	-	-	-	-	-	:12	:30

TM=Table Mesa/Bwy PR=ParknRide (TM) P=Pearl XR=Crossrds S=So. Boulder Rec

* 1:03 shuttle from ML stops at SBRC at 1:09

****

Easy Rider is published approximately twice yearly as part of the TAP program. This edition of the newsletter was produced by a subcommittee of the Transportation Alternatives Group: Bob Henson (Editor), Lee Fortier (Production/Layout), Steve Massie, Chuck Carlentine, Chris Ennis and Dean Lindstrom. Other members of TAG: Wayne Adams, Linda Croom, Joanne Dunnebecke, John Owen and Chris Snyder.

****

TAP Rap

The Bike Lockers Are Coming! The Bike Lockers Are Coming?

Due to delays on the part of the vendor, the bicycle lockers still have not made their appearance at NCAR. We do expect them soon, probably by the end of February. In case you haven't seen one, a bicycle locker is a secure, totally-enclosed storage unit which houses one bicycle per compartment. Each locker will have a coin-operated lock similar to the ones used in ski resorts and airports. (One exception: ours will return the quarter to you when you replace the key, so that the locker use will be free.) There will be lockers for 72 bikes installed at the Foothills Lab and for 28 at the Mesa Lab. They will be available for day use only, on a first-come, first-served basis.

Black Bag Service Saves on Intersite Travel

In case you haven't already discovered it, the Traffic Services "Black Bag" Service lets you send mail to the ML or FL via any of the crosstown or express shuttles. These leave each site at 3 minutes after the hour and 3 minutes after the half-hour, from 7:03 am until 5:33 p.m. Bring your delivery to the ML or FL reception desk, where you will receive the proverbial black bag to place it in. It will be whisked away to your destination. This service is provided for urgent items that would otherwise be handled via an interoffice mail envelope; please, no large packages or live animals.

Phone Survey Results

One day last May, you may have been one of 100 lucky employees/visitors who received a friendly phone call from the Regional Transportation District, a.k.a. the bus company. If so, you answered a few questions about how you got to work that day, whether you ride the bus, etc. One of the goals of the survey was to determine how much ridership has increased due to the EcoPass bus pass program (general answer: about 20%, depending on whether there is great bus service or lousy bus service where the company is located). Here are some other results of that random survey. NCAR results are listed first; average results for all similar organizations surveyed by RTD are given in brackets [ ].

1. How did you get to work today?
(NCAR sample size = 100 employees/visitors)

drove to work alone	66%	[70%]
carpool	2%	[9%]
walked	7%	[4%]
bicycled	19%	[11%]
rode bus	6%	[5%]

2. Are there any aspects of the EcoPass program, positive or negative, that you would like to share with us? (sample size = 63)

program is good (general)	36.5%	[41%]
bus takes too long	15.9%	[16%]
lack of bus service	7.9%	[12%]
RTD doesn't meet my needs	6.3%	[4%]
saves money	6.3%	[7%]
convenience of pass	6.3%	[6%]
access to entire system	6.3%	[4%]
carpool/vanpool/walk/bike instead	6.3%	[5%]
need car before/after work	3.2%	[2%]
reduces pollution	1.6%	[1%]
drivers weren't aware of program initially	1.6%	[1%]
other	11.1%	[11%]
don't know/no comment	6.3%	[4%]

3. How frequently do you use alternative transportation of any kind to get to work? (walk, bus, shuttle, bike, carpool) (sample size = 99, NCAR question only)

none or very rarely	37.4%
few (1-3) times per month	7.1%
1 day/week	8.1%
2 days/week	11.1%
3 days/week	8.1%
4 days/week	5.1%
5 days/week	23.2%

4. Have you ever ridden the NCAR shuttle to get to work? (sample size = 100)
Yes- 48% No- 52%

5. Have you ever ridden the NCAR shuttle to attend meetings at other NCAR sites? (n=100)
Yes- 45% No- 55%

Notes added by Transportation Alternatives Group: It is encouraging that, assuming the survey responses are accurate, 34% of our staff used an alternative mode of transportation on the survey day (question 1 above). Bicycling is by far the preferred alternate mode; probably even more so, now that the move to Foothills Lab is completed. Can it really be true that almost one quarter of the staff uses an alternate mode to get to work every day of the week (question 3)? This is fantastic! About half of us have used the NCAR shuttle to get to work . . . that's a lot. We note the need for improvement in the matter touched on by question 5—using the shuttle to get to meetings at other NCAR sites. TAG is sponsoring a promotion (complete with free prizes) to get you to "Express Yourself" and use the shuttle for those meet-

(continued on next page)

(from page 7)
ings. Watch your mailbox and see page 4 of this newsletter for details...

The Evolving TAG Committee

TAG, TAP, what's the difference, right? Aficionados of the program know that TAG is the Transportation Alternatives Group (TAG), which consists of the folks who bring you the Transportation Alternatives Program (TAP). Whatever . . . TAG welcomes new members Lee Fortier (DIR) and John Owen (DIR) and thanks them for volunteering! Lee is now a member of the steering committee that produces this newsletter, plus he is the one to contact if you have an interest in vanpooling. John is a whiz at promotions and is helping us with the Express Yourself campaign. Rachel Jones, a founding member of TAG/TAP, retired from the committee and from UCAR. Barb McDonald (also a founding member of TAG/TAP) is taking a break from TAG, as she is a victim of committee-itis. We miss both of them greatly and thank them for contributing their vision and ideas to making the program happen.

TAG is always on the lookout for new members. If you'd like to volunteer, please call Chris (ext. 1469) or Dean (ext. 1141). Make more than suggestions—make things happen!

Vanpooling, Anyone?

The City of Boulder has a new program for vanpooling. Members of a vanpool contribute a monthly amount, with the driver riding for free in exchange for certain responsibilities. The vehicle is provided by the program. If there is sufficient interest, an all-NCAR vanpool from Denver, Longmont or Nederland might be feasible. Or, you may be able to piggyback into an existing vanpool from another nearby company. Contact Lee Fortier (ext. 1159) if you're interested in the details.