



FOCUS
PEDESTRIAN/BICYCLIST

Developing a bicycle-friendly community

a growing number of communities in Nevada are providing for the needs of bicyclists.

Most have adopted the "comprehensive approach." It includes four main elements:

1. Engineering and planning
2. Encouragement
3. Enforcement
4. Education and awareness

Engineering and planning

Uninviting roads and trails reduce people's tendency to ride, while bicycle-friendly facilities do just the opposite. Among the many possible physical changes to consider, the following are the most common:

1. Roadway improvements
2. Trails and structures
3. Bicycle parking

Roadway improvements. To encourage bicycling, a community can provide extra width on its roadways. In some cases it may choose to stripe this extra width as bicycle lanes. In others, it may leave them as wide outside lanes. Either way, the idea is to give bicyclists and motorists enough room to share the roadway.

All roads are candidates for some kind of bicycle treatment. Certain types of changes can be made on minor roads and other types on major roads. For example, traffic calming techniques may be used on residential streets by installing intersection barriers, road humps and other measures designed to discourage fast through motor traffic.

Bicycle boulevards can be created through the installation of barriers on residential streets that parallel major roads. On busier streets, agencies may provide wide outside travel lanes or striped bike lanes.

An important step to improving the community's bicycling environment is elimination of road hazards. Problems to consider include surface irregularities such as potholes, dangerous railroad tracks and drain grates.

Trails and structures. Another type of improvement often created for bicyclists is the multi-use trail that can serve a wide range of users from bicyclists to joggers to walkers to roller bladers. In some cases abandoned railroad rights-of-way or utility easements can be converted to trails.

Trails can function as part of a bikeway network. For example, the American River Trail Network in Sacramento provides bicyclists a scenic and direct route between the residential areas in the north end of town and the downtown core.

Constructed on a river flood plain, the 30-mile trail goes under most surface streets. As a result, it is possible for someone living in the northern suburbs to travel to work downtown without dealing with dense rush hour traffic.

Structures like bridges and underpasses allow bicyclists access over rivers or under interstate highways. The importance of eliminating such barriers is best understood when you keep in mind typical distances for bicyclists.

Surveys show that the vast majority of bike trips involve distances of under four miles. If a barrier forces a bicyclist to add an extra two miles to a trip, it may end up being done in a car.

Bicycle parking. Parking solves an important problem for bicyclists: what to do with your bike when you get where you're going. Bicycle theft is common, and the threat of having your bike stolen while shopping or working keeps a lot of people from riding.

At work places and transit stations, lockers are a popular choice for long-term parking. At shops and parks, simple bike racks tend to find favor.

Encouragement

While physical improvements provide the basic infrastructure for bicycling, programs play a critical role as well.

Some are recreation-oriented while others are designed to promote utilitarian riding. Some are

Continued on page 3

IN THIS ISSUE

- The spotlight is on bicycle issues such as safety and recreation in a bicycle-friendly environment (pages 1-5).
- You've probably seen the highly acclaimed movie "We Were Soldiers" starring Mel Gibson. Now read about the NDOT employee who fought in the bloody battle (page 7).
- Speaking of harrowing adventures, you won't want to miss hearing **L² on the Road** tell you about his treacherous and exhausting mountain bike ride in Southern Nevada (page 9).
- Keeping with movie themes, **Aunt Jenny** dishes up the dirt on the scandalous and seductive girlfriend of a notorious Las Vegas mobster. She was played by Annette Benning in the movie "Bugsy" (pages 10-11).

ROUTING SLIP

Don't file this Quarterly in your in-box. Please—read it, photocopy what you want, initial below, and send it on, especially to the frontline troops.

TABLE OF CONTENTS

Focus

Developing a bicycle-friendly community	1
Safety tips for cyclists	3
Crash analysis software	4
Selected pedestrian/bicycle on-line resources	4
A bicycle built for you	5
10 bicycle crash facts	5

In Nevada

Washoe County to reduce road sanding	5
Nevada issues new road map	6
Humboldt River headwater settlement	6
NDOT veteran fought in "We Were Soldiers" battle 7	
Las Vegas gives green light to new traffic signal diodes	7
Las Vegas Beltway makes "Top 10"	8

On the Horizon

Way to stop hijacked trucks	11
Chum of a car wags its tail	14

On the Job

Managing yourself will lessen stress	13
Volunteering can be gratifying	13

The Practical Man

Changing cutting edges. No sweat!	12
---	----

Recycle Michael

Where to find answers to your recycling/reclaiming questions	12
--	----

Safety

Reflectors may reduce wildlife highway deaths ...	8
More deaths on rural roads than urban freeways	8
What to do when they sting you	8

Training

Recycled Materials Resource Center	14
Getting the most from training sessions	14
Roadcalc training CD	14

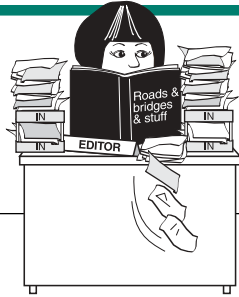
Trivia in Transit

New transportation publications	4
Cleaner air	9
Avoiding lightning strikes	10
Slow drivers are accident prone	11
Fatality estimates for 2000	13

Regular Features

From the Editor	2
L ² on the Road	9
Advice from Aunt Jenny ...	10
No-Brainer Mail-in Page ...	15
From the Director	16

FROM THE EDITOR



From the editor

All across the state, Nevadans are rediscovering the many benefits of bicycle riding.

Why all the renewed interest? First of all, cycling is fun.

There's nothing more enjoyable than gliding along on a beautiful, sunny day. And we're fortunate in Nevada to have many such days.

Cycling also is a great way to exercise. You can ride your bike to lose weight or to get into shape.

But bikes aren't just for exercise and recreation. They also are an efficient and convenient form of transportation. More and more Nevadans are using their bikes to run errands and to get to work and school.

They realize that owning a bicycle is a lot less expensive than owning another car—you don't have to pay for gas, insurance or parking fees. Riding a bike also can help reduce traffic congestion and the pall of air pollution in our state's urban centers.


Nonetheless, getting a bicycle system started can be an uphill battle at times. This can be especially true in rural areas where local officials are apt to be highly cost conscious.

But there are resources to help communities plan, design and install bicycle and pedestrian paths. Supported by matching funds from state and federal transportation budgets, communities nationwide are building more bikeways than ever before.

Sporting goods manufacturers are designing safer, more comfortable equipment and clothing. Clothing styles are varied and colorful and can even protect you in a downpour.

Wrinkled clothing and "helmet hair" used to be the bane of bicyclists. No more. Many businesses offer their employees changing rooms with showers and lockers to store extra sets of clothes.

Some motorists think that bicycles are dangerous and that cyclists are inconsiderate and cause accidents. We all know that accidents can happen. But the pointers in this issue of the *Milepost* will give you the knowledge and confidence to ride safely so that you, your friends, family and co-workers can enjoy the benefits of bicycle riding.

So, come along for the ride. Even if it's been years since you've ridden a bicycle, there's no better time to start than this summer. And there's no better place than here in Nevada. 



*This issue of the Milepost is dedicated to
Lezlee Johnson, a flagger who was killed on the
job in Las Vegas on May 8.
She was 42 and lived in Boulder City.
The accident happened at 2:20 p.m. at Smoke
Ranch Road and Jones Blvd.*



Safety tips for cyclists

Wear a helmet

It's just good sense. Helmets can prevent head injuries, the primary cause of death and disabling injuries resulting from cycling accidents. They also increase rider visibility.

Today's helmets are lightweight and comfortable, stronger and better looking. There are lots of styles from which to choose. Helmets are becoming a fashion statement. They are as much a part of the bicycle as are handlebars and tires.

Follow rules of the road

Bicyclists must obey traffic laws that apply to motor vehicles. For example, cyclists should always ride with traffic.

Be aware that county and town ordinances vary. For instance, many communities require both front and rear lights on bicycles to improve visibility at night. Contact your local government or bike club for requirements.

Be visible

Cyclists must take responsibility for being visible to motorists, pedestrians and other cyclists.


There are numerous ways to enhance your visibility. Wear light colored clothing; fluorescent colors such as bright orange or lime green and yellow are excellent.

Try not to ride at night. But if you must, wear special clothing made from reflective materials. Retroreflective vests, jackets, wristbands and triangular patches all increase rider visibility.

Remember that wearing bright clothing is not enough. You'll also need at least one light source, such as a bright headlight supplemented by bicycle reflectors specified by the Consumer Product Safety Commission. A red tail light also will increase your visibility.

Share the road

When you ride, consider yourself the driver of a vehicle and take your legitimate place in the lane. Be confident and assertive; ride in a predictable way.

Be considerate of motorists and pedestrians. Remember, pedestrians have the right of way. 

Developing a bicycle-friendly community *Continued from page 1*

aimed at young riders; others are designed for adults. But they all share a common purpose: to encourage people to ride their bicycles.

In some communities, employers actively promote bicycle commuting. Such programs include workshops on commuting techniques and safe riding, maps of the easiest routes and special discounts for helmets, lights and racks.

In addition, local bike programs often help employers set up secure bicycle parking, showers and lockers, and other physical improvements important to bicycle commuting.

Special events are another way to encourage bicycling. These could include "Bike to Work" day. Experienced riders may lead novices on specific routes to downtown. In some instances, bicyclists are served free breakfast at fast food outlets.

Enforcement

Because bicycle-motor vehicle crashes often involve basic errors on the part of either the bicyclist or the motorist, enforcement programs that target those errors and violations can help reduce the casualty rate.

One popular approach is called "Selective Enforcement." The idea is to analyze reported crashes


and concentrate on the violations most often responsible. For example, many car-bike crashes involve adults riding without lights at night.

Education and awareness

Education and training programs have been developed to teach a variety of skills to bicyclists of every age. For youngsters, the emphasis is on basic handling techniques and hazard avoidance. For older riders, programs cover a variety of applications from riding in traffic to emergency maneuvers to touring and racing.

A popular program encourages bicyclists to buy and wear helmets. Typically directed toward youngsters, the program often combines special discount pricing with media and literature publicity.

Another type of program is directed toward motorists. It encourages safe road sharing practices and tolerance of bicyclists and pedestrians.

Taken together, such programs play an important role in educating the public about bicycling. The combination of programs and facilities is a powerful mix that can make bicycle riding a safe and convenient option for more people. 

THE NEVADA T² CENTER ADVISORY BOARD

Scott T. Barnes
Poggemeyer Design Group

John Bartel
City of Henderson

Allen Bell
City of Mesquite

Randy Bellard
FHWA

Harvey Brotzman
Carson City RTC

Kevin Carnes
Carnes Engineering

Mike Glock
Nevada DOT, Elko

Richard Goecke
Las Vegas Public Works

Alan Hilton
Nevada DOT, Carson City

Gary Johnson
Clark County RTC

M.J. Manning
Clark County Public Works

Phil Marshall
Consultant

Bob Russell
Washoe County RTC

Rick Nelson
Nevada DOT, Reno

Greg Novak
FHWA

Jim Poston
Meyer, Mohaddes

David Roundtree
Washoe County Public Works

John Russum
Humboldt County

Gary Schaaf
Mineral County

Paul Solaegui
Solaegui Engineers, Reno

Bob Wickenden
Nye County

■ New transportation publications

The Bureau of Transportation Statistics has announced a series of new transportation publications which can be ordered from its Web site at www.bts.gov or by telephoning 202/366-3282. They include:

Pocket Guide to Transportation—A quick reference to the changes in the U.S. transportation system since 1970 and how they have affected the nation's economy, safety, energy use and the environment.

Journal of Transportation Statistics—It features a piece assessing the impact of speed limit increases on fatal interstate crashes.

Transportation Statistics Annual Report 2000—The latest comprehensive assessment of the nation's transportation system.

Crash analysis software

In 1998, 5,220 pedestrians and 761 bicyclists were killed, accounting for 14 percent of traffic fatalities. An additional 69,000 pedestrians and 53,000 bicyclists were reported to have been injured as a result of collisions with motor vehicles.

a software product has been developed to assist state and local pedestrian and bicycle coordinators, planners and engineers to take steps to reduce these fatality and accident rates.

The Pedestrian and Bicycle Crash Analysis Tool accomplishes this goal through the development and analysis of a database containing details associated with crashes between motor vehicles and pedestrians or bicyclists.

One of these details is the crash type, which describes the pre-crash actions of the parties involved. With the database developed, the software can then be used to produce reports and select countermeasures to address the problems identified.

Software features

PBCAT is designed with the following features:

- Ability to determine quickly the crash type through a series of on-screen questions about the crash, crash location and maneuvers of the parties involved.

- Ability to customize the database in terms of units of measurement, variables and location referencing as well as import/export data from/to other databases.
- Ability to produce a series of tables and graphs defining the various crash types and other factors associated with the crashes such as age, sex, light condition, etc.
- Recommended countermeasures linked to specific bicycle and pedestrian crash types and related resource and reference information.
- User-friendly, on-line instructions and help features, including examples, along with a user's manual.

To obtain the PBCAT software, visit the Pedestrian and bicycle Information Center web site at www.walkinginfo.org/pbcats. 

Selected pedestrian/bicycle on-line resources

Federal

- FHWA Bicycle and Pedestrian Program
www.fhwa.dot.gov/environment/bikeped/
- FHWA Pedestrian and Bicycle Safety
www.safety.fhwa.dot.gov/programs/ped_bike.htm
- FHWA Pedestrian and Bicycle Safety Research
www.tfhr.gov/safety/pedbike/pedbike.htm
- National Highway Traffic Safety Administration Pedestrian Safety Program
www.nhtsa.dot.gov/people/injury/pedbimot/ped
- U.S. Architectural and Transportation Barriers Compliance Board (Access Board)
www.access-board.gov

Other

- Association of Pedestrian and Bicycle Professionals
www.apbp.org
- National Center for Bicycling and Walking
www.bikefed.org
- National Safety Council Partnership for a Walkable America
www.nsc.org/walkable.htm
- Pedestrian and Bicycle Information Center
www.pedbikeinfo.org
www.walkinginfo.org
www.bicyclinginfo.org
- Trails and Greenways Clearinghouse
www.trailsandgreenways.org


A bicycle built for you

Planning this summer to dig out from the garage that old two wheeler with the banana seat and butterfly handlebars?

You will be engaging in a mode of exercise that's good for just about everyone. Because bicycling is a non-weight-bearing exercise—with the bike supporting body weight, keeping the stress off joints—even people who are extremely overweight, have bad knees or otherwise find exercise difficult can get a good workout.

Done correctly, you can burn an average of about 600 calories per hour and reach your target heart zone within a few minutes.

Here are some tips to get the most out of cycling:

- **Don't coast.** It can be very easy to glide through your workout, but that won't help your waistline or heart rate. Instead, work the gears and keep your legs moving. If traffic or other factors make steady riding impossible, try moving your bike indoors with special equipment designed to temporarily turn it into a stationary bicycle.
- **Mind your form.** If you're not positioned on the bike correctly, you'll tire more easily and have to cut your workout short. Proper position: Keep your back at a flat 45-degree angle. 

10 bicycle crash facts

5 crash types that result in 80 percent of all car-bike crashes

- **Motorist drive out (19 percent):** A motorist at a stop sign, signal or in a driveway pulls out in front of a passing bicyclist.
- **Bicyclist ride out at stop sign or signal (17 percent):** A bicyclist rides past a stop sign or red light without stopping.
- **Motorist unexpected turn (15 percent):** A motorist turns in front of a bicyclist without yielding.
- **Bicyclist unexpected turn (14 percent):** A bicyclist turns left in front of an overtaking car without looking back or yielding.
- **Bicyclist off-road ride out (14 percent):** A bicyclist rides onto the roadway without yielding.

5 major factors involved in most car-bike crashes

- **Bicyclist riding without lights:** Almost 50 percent of bike-related fatalities involve bicyclists riding without lights at night.
- **Bicyclist riding against traffic:** Riding against traffic accounts for about 20 percent of all car-bike crashes.
- **Bicyclist ignoring traffic control devices:** Running stop signs or yield signs is a major crash cause among young riders.
- **Motorist drinking and driving:** The inebriated motorist is a factor in many night-time cycling deaths.
- **Motorist failure to yield:** Motorists who don't watch for other road users are much more likely to hit cyclists.



Washoe County to reduce road sanding

Washoe County will cut road sanding by half in two years to improve air quality.

The county not only will restrict the amount of road sand that can be used during winter storms but also will require timely cleanup of the sand after roads are dry.

New technology will allow road crews to cut down on their use of sand without compromising motorist safety, according to Andrew Goodrich, director of the Air Quality Management Division.

To help meet the new requirements, NDOT plans to step up use of a brine solution which melts snow and ice on roads without putting dust in the air.

In 2000, the EPA downgraded Reno's air quality rating because of excessive amounts of particulate matter in its air. Unless local officials took steps to reduce particulates, the Reno area stood to lose millions in federal highway dollars.

Reno, Sparks and Washoe County governments will receive federal funds for new street sweepers to clean up the sand.

■ Nevada issues new road map

NDOT has printed 1.55 million copies of the 2002-2003 edition of Nevada's new official road map.

The tri-fold map is 22 inches wide, or about five inches wider than the 2000 edition.

Among the changes made this time by the NDOT's mapping division: A detailed chart showing distance between exits on Interstate 80 and Interstate 15. In addition the distance chart between key locations has been changed to include only miles.

More competitive bidding reduced this year's cost of producing the map to eight cents per copy.

To obtain a free copy of the map, mark the **No-Brainer Mail-In Page**.

Community Profile

Humboldt River headwater settlement

Just northwest of the town of Wells is a meadow that served as the main resting and camping place used by early settlers trekking along the Humboldt River on the California Trail. Dozens of natural springs are scattered over this meadow and create the headwaters of the river.

The early settlement was named Humboldt Wells. Humboldt was dropped from the name after a major fire in 1873. A railroad telegrapher in his haste to report the fire just tapped out, "Wells is burning!"

Wells is located at the headwaters of the Humboldt River in a small valley created by the East Humboldt Range, the Wood Hills and the Snake Mountains. The East Humboldt Range is spectacular with lofty summits exceeding 10,000-foot elevations. The highest point near Wells is Grey's Peak with an elevation of 10,674 feet.

Economy

Situated at the crossroads of Interstate 80 and U.S. Highway 93, Wells' economy is based on ranching, tourism, the railroad and mining.

Its municipal airport, Harriet Field, and an adjoining 160-acre industrial park are strategically located to benefit from multi-modal transportation opportunities that could greatly benefit manufacturing, shipping and distribution operations.

Climate

At an elevation of 5622 feet, Wells usually has hot, dry summers with temperatures reaching into the 90s followed by cool nights. Winters may be snowy with highs in the 30s.

The average high temperature in January is 37 degrees and the average low is 13 degrees. By contrast, in July the average high is 91 degrees and the average low is 50 degrees.

Attractions

Trail of the Forty-Niners Interpretive Center shows what it was like for the pioneers who came in covered wagons. Ten miles a day was making good time.

Angel Lake is located 12 miles from Wells and offers camping and picnic sites. Hiking trails are nearby and a number of local guides offer hunting, fishing and wilderness sight-seeing trips.

The nine-hole Chimney Rock Golf Course offers spectacular views of the Ruby Mountains. Cross-country skiing is at its best in the Wells area with excellent trails at the base of the Ruby Mountains.

Other attractions include Wells' historic downtown, ghost towns and the Ruby Lake National Wildlife Refuge.

Wells has two baseball fields, chariot race track, golf course, indoor arena park, soccer field, swimming pool, tennis court, and trap and skeet, rifle, pistol and archery range.

Local events include chariot races, high school and junior rodeos, "Fun Run Classic Car Show," "Race to Angel Lake" and "Holiday of Lights."

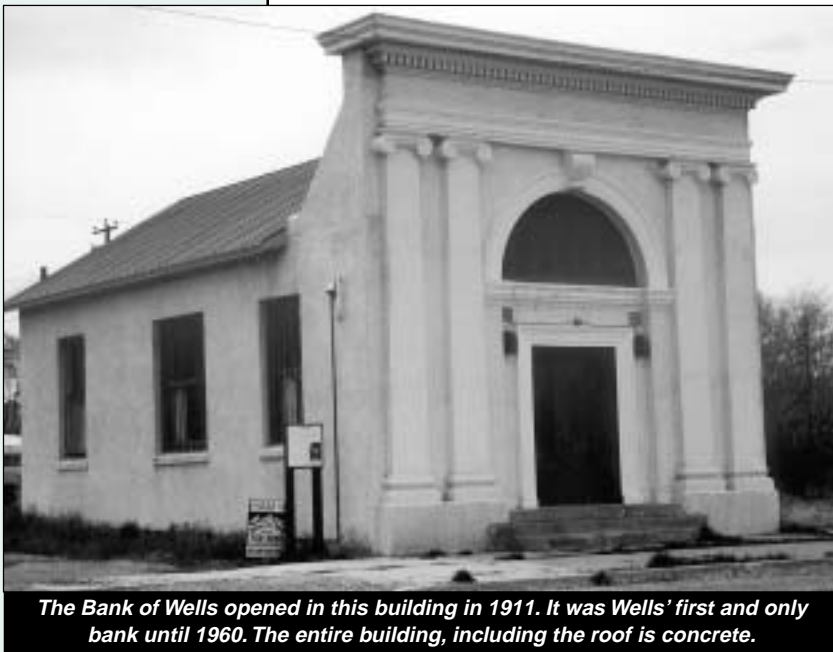
City Officials

Mayor, Rusty Typo

City Manager, Jolene Supp

City Clerk, Sue Smith

Public Works Director, David Linge



The Bank of Wells opened in this building in 1911. It was Wells' first and only bank until 1960. The entire building, including the roof is concrete.

Wells was established in 1869 with the construction of the Central Pacific Railroad. The town soon became a shipping point for Northeastern Nevada. Incorporated in 1927, it has a population of about 1,350 people.

A little known fact about Wells is that the famous 1920's boxer Jack Dempsey was discovered while a bouncer in a local bar.

NDOT veteran fought in “We Were Soldiers” battle

With his kind blue eyes, easy smile and gentle manner, it's hard to imagine that Norm Barron was in one of this country's most horrific battles. He survived 20 days of unrelenting war with several hundred 1st Cavalry (7th Battalion) soldiers surrounded in the Ia Drang Valley of Vietnam by more than 2000 North Vietnamese regular troops.

A highway lighting supervisor in Las Vegas and 20-year NDOT employee, Norm did not talk about the war for years. “I only spoke about it to people in the military. They understood, but no one else could understand how traumatic it can be.”

But the dark tale that was Ia Drang started to come to light a few years ago in a television documentary and a Time-Life book chronicling the Vietnam War. And now the world knows what happened, thanks to a faithful retelling in the movie “We Were Soldiers.”

The battle started on Nov. 14, 1965, before there were a lot of journalists in Vietnam. “I didn't think the story would ever come out,” Norm says.

The story came to be told because UPI reporter Joe Galloway hitched a ride on a helicopter and rode into a battle area that was earning its name as the “Valley of Death.” Galloway took photos, wrote down his experiences and even took up a rifle, as everyone tried desperately not to be overrun by a much larger force.

Lt. Col. Hal Moore, played by Mel Gibson, also was instrumental in getting the story told. He encouraged Galloway to write down the heroism of his men and somehow make sense of an almost incomprehensible stream of images of fierce battle.

As portrayed in the movie, Norm's squad was the one assigned to the creek area, set up to keep the enemy from outflanking the American troops. Norm was a 23-year-old squad leader, probably an “old man” to the even younger troops.

Similar to the other squads, Norm's sustained fatalities, and almost every man was wounded. Norm took fragments in his legs the first day of battle but was patched up and continued to fight.

“The heat from the napalm was burning our eyebrows off,” Norm says, “but that was a minor thing compared to everything else that was going on.”

Norm credits months of training at Fort Benning, Georgia, for keeping many men alive. Troops were trained in rappelling out of helicopters and penetrating through forest canopy.



Norm Barron proudly displays his Army uniform.

“We were experimenting on how to load and move troops, how to disperse troops after landing at the squad, platoon and even company and battalion level,” Norm says.

Norm calls “We Were Soldiers” the most accurate movie version of a battle he has ever seen. “I thought it would be an oxymoron to put Hollywood together with the truth, but from what I was able to tell, it was as close as possible to the truth.”


“We Were Soldiers” doesn't blink when it looks at the effects of war: the battlefield casualties, the devastating losses to families and the lack of understanding that civilians had for those who fought.

Since Vietnam, Norm has created a full life for himself. At age 60, he can take satisfaction in a long marriage that has produced three children and four grandchildren.

His military service did not end with his eight years in the Army, including two tours of Vietnam. In Las Vegas, he joined the Navy Seabees and served 14 years in the reserves.

Norm was an avid off-road racer who participated in the Mint 400 and races in Baja California as a motorcycle and four-wheel racer.

Norm gives back to his community and uses his construction skills building houses for Habitat for Humanity.

But like all war veterans of his era, part of him is still in Vietnam. “Not a day goes by that I don't think about it,” Norm says. “It's something I'll never ever forget. I don't see how you could. I wouldn't trade the experience for anything, but I wouldn't do it again for anything, either.” 

■ Las Vegas gives green light to new traffic signal diodes

Las Vegas is replacing incandescent bulbs in traffic lights with new energy efficient light-emitting diodes, or LEDs.

The cost of operating a traditional traffic signal light bulb is about \$35 a year, according to the Public Works Department. This compares to \$3.50 annually for a LED traffic light—a savings of 90 percent.

“The cost savings will allow us to convert all of the traffic lights to the new technology,” says Las Vegas Public Works Director Dick Goecke. He estimates the \$1.6-million program expenditure will be recouped in terms of energy savings and labor in a little more than two years.

The new diodes have a guaranteed life expectancy of 10 years. Currently, crews need to replace traffic signal lights every 12 months.

With more than 400 signalized intersections in the Las Vegas city limits, crews are in the process of replacing more than 17,000 traffic signal bulbs.

■ Las Vegas Beltway makes "Top 10"

The Las Vegas Beltway was selected by Roads & Bridges magazine as one of the "Top 10 Road Projects" for 2001.

The magazine's Top 10 Roads recognizes those projects which are changing the way we drive and honors the engineers, contractors and crews behind the construction.

Roads & Bridges wrote of the Beltway, "The gambling capital of the world likes to roll. The \$1.5-billion, 53-mile roadway will keep a booming population moving."

More deaths on rural roads than urban freeways

The road less traveled can be deadly. More Americans are killed on rural roads than crowded urban freeways, even though the two lanes carry less traffic. The rural roads also receive less federal money, and that has officials pressing for more funds for safety improvements.

"There seems to be a disconnect," says Bob Fogel, associate legislative director of the National Association of Counties. "Roads owned by local governments don't seem to be getting their share of federal highway dollars, even though statistics point out that those roads tend to have a higher rate of fatalities."


Taking two specific categories, urban freeways got \$80,900 in federal funds per lane mile in 1999,

while rural local roads, the lowest category, received \$100 per mile, according to Congress' General Accounting Office.

Those local rural roads recorded 4,758 deaths—a rate of 3.79 per hundred million vehicle miles traveled—compared with 1,354 deaths along urban freeways, a rate of 0.79 per hundred million miles.

Numbers covering all of the nation's streets, roads and highways show the same trend, the GAO reported.

In 1999, roads passing communities of at least 5,000 people carried 1.6 trillion miles of traffic and recorded 15,816 highway deaths, a rate of 0.97 per hundred million miles. Roads farther out in the country had 1.1 trillion miles of traffic and 25,107 deaths, a rate of 2.36.

In Nevada, daytime headlights are required as an extra safety precaution on a stretch of U.S. Highway 50 between Fernley and Fallon where seven people were killed last year. 

Bee-careful

What to do when they sting you


For everyone. 1. Skip bright-colored clothes and perfumes so bees don't think you're a flower. 2. Avoid loose clothes that can trap an insect. 3. Wear closed shoes. Don't go barefoot. 4. Move away quietly and slowly when you encounter a bee.

For a reaction. Most people get an itchy red welt when stung. If you get hives, go to an emergency room.

Kids and adults who develop hives (itchy elevated patches that are red or pale), tightness in the throat and chest, difficulty breathing or loss of consciousness may be in danger of fatal anaphylactic shock.

At the emergency room, doctors will give you a shot containing adrenaline, antihistamine and steroids that will stop the reaction.

For an allergy. A few weeks after the attack, see an allergist to get treatment for an allergy to insect venom.

For an untreated allergy. Stock injected epinephrine kits, available by prescription, in case you have an another encounter. One injection will stave off reactions for 20 to 30 minutes. 

IN NEVADA

Reflectors may reduce wildlife highway deaths



Warning reflectors have been installed on U.S. Highway 50 east of Dayton to make the highway safer for wildlife by scaring them away.

It's hoped the reflectors also will help save wild horses along the stretch of road where they often are hit and killed as they cross for water in drought months and feed in the winter.

"We know the system works with deer, but the horses are an unknown," says NDOT biologist Gail Bellenger.

Use of the reflectors dropped wildlife deaths in Illinois by 97 percent over a two-year period from 1998 to 1999, according to the Illinois Department of Transportation.

Activated by approaching headlights, the warning reflectors are mounted on galvanized posts and staggered along the highway on opposite sides of the road. The light bounces at angles, creating an unnatural moving red light along the shoulders of the road.

The warning reflectors cost \$18 each and manufacturers recommend placing 200 per mile of roadway. The \$20,000 project is being funded by NDOT. If found effective, the reflectors will be installed in other areas deemed high risk for wildlife.

8



Mountain bike ride not taken in stride

With the focus of this issue of the *Milepost* on cyclists, I was reminded of a mountain bike trip I took a few years ago in Lincoln County.

I spent a night at the motel in Caliente. Bright and early the next morning I put on my best mountain biking outfit—shorts, T-shirt and tennis shoes.

Jumping into my pickup, I headed north on U.S. Highway 93 to Panaca and then north on Fifth Street. I followed the dirt road for three miles to the cliffs past Big Spring. This would be my jumping off point.

As I pulled my bike out of the back of my truck, I noticed the chain was off of the sprocket. This quickly fixed, I started up the canyon.

The Condor Canyon Trail is four miles long and follows a spring fed stream along the Meadow Valley Wash. The trail route is the bed of the abandoned Pioche and Bullionville Railroad which hauled ore and passengers during Pioche's silver boom in the 1870s.

After peddling up a gentle climb for about a mile, the cliffs parted exposing broad, green meadows on both sides of the stream. Three miles later at the top of the canyon, the stream drops 25 feet forming a beautiful waterfall and pool.

As I started up the trail's long, steep grade in the afternoon, I changed gears and the bike's chain jumped off the sprocket. And I came to a screeching halt. Putting things right, I was soon on my way again.

Shortly, I came to a stream crossing where the bridge had been burned down. I had to go down a steep bank and ford the stream.

Wouldn't you know it, right in the middle of the stream when I tried to change gears, the darn chain came off again. Not only did I end up with wet feet but also had to push the bike up the other bank and back onto the trail.

But I had figured out the chain problem. As long as I didn't change gears, the bike worked fine.

So I fixed the chain and struggled on in one gear. Being out of shape, soon I was sweating like a horse and wishing I was riding one instead of the stupid bike. On second thought, maybe it was me who was stupid for not being able to fix the bicycle.

Finally, with burning leg muscles and sweat dripping from every pore in my body, I made it to the top of grade where there's a refreshing swimming hole. Quickly throwing off my clothes, I jumped into the water.

As I started back down I decided to ride like the wind. Only trouble was the wind was blowing 20 to 25 mph into my face, and I had a one-speed bicycle.

I'd ride until my legs gave out; then I'd push the bike for awhile. When I came to the steam crossing, I didn't even try to ride across. I just slogged through the water.

Climbing the steep bank my wet shoes turned into muddy ones. To top it off, I slipped and skinned a knee. I was a muddy, bloody mess!

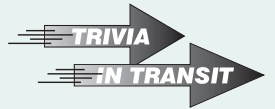


Beautiful though this waterfall-fed pool is, I would have enjoyed it more if I had been fording streams to get there in a Ford!

You may have seen the advertisement on TV where the mountain biker rides up to his truck all skinned up, takes out the first aid kit and tapes the front of the seat back on and then takes off again. Let me tell you, that wasn't me.

I took out the first aid kit, alright. But I put a couple of band aids on my scraped knee and then disgustedly threw the bike in the back of my truck.

As I took a long pull on a cold beer, I vowed never to mountain bike again. I'll stick with what I do best: hiking.



■ Cleaner air

A new report from the Federal Highway Administration concludes that the nation's air is noticeably cleaner than it was in 1970.

A major reason is that pollution from motor vehicles has been reduced below levels three decades ago. This is despite the fact that vehicle miles traveled more than doubled during the period.



■ Avoiding lightning strikes

Did you know that lightning can strike as far as 10 miles away from the cloud? Therefore, as soon as you hear thunder you ought to be thinking about finding a safe place.

Generally, any large building is a safe place to be, as long as you aren't leaning against an exterior wall and aren't using the phone or appliances.

Automobiles, as long as they aren't convertibles, are also quite safe. And it's not because they have rubber tires. The metal frame will carry the electrical charge of a strike around you and not through you.

Airplanes are also relatively safe for the same reason as cars. Airplanes are struck by lightning quite often without disastrous results.

Aunt Jenny's post-retirement job is to let you know what you should read and view from the T² Center library. No, we don't know how old she really is, but some say she knew the brazen and seductive girlfriend of Las Vegas gangster "Bugsy" Siegel.

Advice from Aunt Jenny

Sweeties, I'll bet you the name of Las Vegas legend Virginia Hill doesn't come right to mind. But you may recall the portrayal of her by Academy Award nominee Annette Bening in the movie *Bugsy*.

In her time my bosom buddy was as scandalous and intriguing as Mae West, Mata Hari or Madonna.

Virginia is best remembered as the girlfriend of dapper underworld figure "Bugsy" Siegel, who built the Flamingo Hotel on the Las Vegas Strip in 1946. It was in the living room of her home in Beverly Hills while reading the newspaper that Bugsy took a fusillade of cold lead from a gunman standing in the flower garden.

Virginia was believed to be a courier for organized crime figures. What I know is that she was one sex-crazed dame. She once whispered to me at a posh Hollywood party, "When I spot a handsome man, I have to have him, preferably within the hour."

But my friend had her admirable qualities. She was a survivor. Brazen, attractive and outspoken, Virginia was liked and admired by nearly everyone who knew her.

She reminded me a lot of Las Vegas. The dusty railroad stop that pushed its way up to the thriving metropolis of today.

Born in Bessemer, Alabama, in 1916 to a poor family with 10 children, Virginia left home for Chicago at age 16. Shortly after she hit the Windy City, she took up with a much older man who would look after her for the rest of her life, regularly mailing her large sums of money.

The moolah allowed her the freedom to travel at will and throw lavish parties in New York and Hollywood where we'd dance the rumba, flirt with movie stars and business tycoons. Overnight she became a much talked-about siren and darling of the media.

After flings with a Mexican general, mobster Joey Adonis and other intriguing characters, Virginia met Bugsy in 1942. We were both instantly drawn to his good looks and natty style. But I found him too hot to handle. Anyway, he was head over heels for Virginia.

The years Virginia and Bugsy spent together were stormy. Both were jealous and possessive. The availability of beautiful women for Bugsy in Las Vegas, and Virginia's constant pursuit by an assortment of suitors, kept the relationship unsteady.

Virginia had a Garboesque quality about her. Every now and again she'd surface in Hollywood,

and on a rare occasion in the casino at the Flamingo. But it always was with great fanfare. I think in some ways she hated all the attention. Yet she couldn't bear to go without it.

Hank Greenspun, the late publisher of the *Las Vegas Sun*, did public relations work for Bugsy for a short time. Hank said he saw Virginia two or three times. "She was one tough broad," he recalled. "I got the feeling Siegel was intimidated by her."

Although I'm not easily intimidated, I fear Maria and her staff will break my knees if I don't let you know about the publications and videos we have for you on bicycle and pedestrian issues. Take it from my gangster pals, it's an offer you can't refuse.

The first publication you may wish to consider is ***Safe Bicycling in Nevada***. This pocket guide summarizes the state's laws governing the interaction of bicycles and motor vehicles. ***National Strategies for Advancing Bicycle Safety*** provides specific guidance to agencies that want to take concrete and effective action to improve the bicycling environment.

The 319-page ***Highway Route Designation Criteria for Bicycle Routes*** comprehensively reviews bicycle facility literature and provides extensive conclusions and recommendations related to route alleviation, suitability factors and designation.

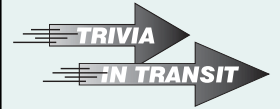
The just published FHWA's ***Pedestrian Facilities Users Guide: Providing Safety and Mobility*** is useful for transportation engineers, planners and safety professionals involved in increasing pedestrian safety and mobility. ***The Bicycle Advocate's Action Kit*** helps you make your community more "bicycle-friendly." It provides ideas on how to get started and what projects work best. It has post cards to request free copies of a few important publications.

Selecting Roadway Design Treatments to Accommodate Bicycles is a guide for agencies involved in bicycle route selection and designation. ***Improving Conditions for Bicycling and Walking*** provides information on some outstanding pedestrian and bicycle projects to increase walking and bicycling and to improve user safety in communities across the US.

Mountain Bikes on Public Lands: A Manager's Guide to the State of the Practice is a thorough review of issues and techniques involved

Continued on page 11





■ Slow drivers are accident prone

Does speed really kill? A recent study by the Federal Highway Administration revealed some surprising statistics. Contrary to popular logic, the slowest 5% of all drivers have the highest accident rates, while those who drive 10-15 mph above the speed limit have the lowest.

Slower drivers appear to be less attentive behind the wheel than faster drivers who are more aware of cars around them, more careful due to their high speed and more watchful of police cars.

Way to stop hijacked trucks

You may recall an 18 wheeler careening at 50 mph into the California state capitol building a little more than a year ago, killing the mentally ill driver.

Imagine that instead of condensed milk, the truck is carrying a more lethal load—jet fuel or gasoline—and barreling down the highway toward the Golden Gate Bridge.

That is the kind of horrifying scenario California Highway Patrol planners have feared for years. But like other ideas once considered more movie script than real life, a hijacked big rig filled with hazardous fuels is a realistic and urgent threat after September 11.

Recently, Lawrence Livermore Laboratories showed off a new technology, developed since the terrorist attacks, to stop commandeered trucks.

Although still in its initial testing phase, lab scientists say a relatively inexpensive device



ON THE HORIZON

mounted on a big rig's back bumper would allow CHP officers to stop the truck with little more than a firm bump.

The technology exploits a truck's safety system. Its air-filled brakes only work while pressure inside the brake lines remains high. If the air leaks out, the emergency brakes automatically bring the big rig to a halt.

The emergency stopping system cuts the brake line when a bar attached to the back of a big rig is bumped, letting the air out of its brakes.

The device will cost only about \$200—the price of the big rigs' massive rear view mirrors. To be accepted by the trucking industry, it also will need to be extremely reliable. It can't be accidentally deployed and must be able to be easily reset.

To stop deployments by contact such as fender benders, perhaps the bar would have to be tapped twice, or possibly deployed by remote control.



Advice from Aunt Jenny

Continued from page 10

in managing mountain bike use on public lands. The focus is on reducing user conflicts and environmental impacts and improving public safety.

Trails for Transportation describes how trails are used for transportation.

Now, listen up youse wise guys, or I won'ts continue the mobster episode from my somewhat sordid past. Now I gots yer attention, we can get on with it.

Now, listen up youse wise guys, or I won'ts continue the mobster episode from my somewhat sorted past. Now I gots yer attention, we can get on with it.

Virginia and I were on a summer romp through Europe in 1947 when Bugsy was murdered at her house. Her being away fueled speculation that she had set him up. But I knew it wasn't true. Bugsy was the only man she truly loved. The reason the two couldn't get along was because they were too much alike.

Four years after Bugsy's death, Virginia testified in nationally televised hearings before Congress on organized crime. Her dark beauty and aloof manner captivated the nation.

Dressed in black with a silver ermine stole draped around her shoulders, she flashed her photogenic smile from under a wide-brimmed hat and charmed the senators while offering them abso-

lutely nothing of substance.

Virginia later married a dashing champion skier from Austria. What a handsome devil. But she confided in me that she was not happy.

The IRS had put a lien on one of her homes prompting her to move to Austria. Her death there in 1966 was as controversial as her life had been. Although the official cause of death was an overdose of sleeping pills, a German magazine reported that suspicious looking Americans had been seen around her home in the days preceding her death.

I had been to visit her only a couple of months earlier, and she showed no signs of being tired of living. She often told me she looked forward to the day she could return to the United States.

Sweeties, although you won't find any tributes to Virginia or Bugsy in Las Vegas, they most certainly embody the glitter and glamour for which the city is famous.

*For any items mentioned in this column, call Aunt Jenny at 775/784-1433 or turn to the **No-Brainer Main-In Page**. When she's not hanging about with gangsters' girlfriends, auntie also is available to do a computer search for you on any transportation-related topic, or she'll hook you up with an expert.*



Lettin' the cat out of the bag is a whole lot easier'n puttin' it back.



The Practical Man tolerates no nonsense and minces few words. He doesn't stand on formality and isn't easily amused. Aunt Jenny's shenanigans annoy him, and he lets her know it in no uncertain terms. He grudgingly appears here to offer us hard-bitten practical advice to make your job easier.


Changing cutting edges. No sweat!

much of the time you're working alone when changing cutting edges on equipment. This chore requires a lot of lifting and strain.

You'll be happy to learn that when it comes to changing the cutting edges on the moldboard of motor graders, your job has just gotten easier.

A jack assembly has been designed that approaches the moldboard from the side rather than the front. The assembly has a one-ton jack to raise and lower the cutting edges. There is a turnbuckle assembly to make adjustments in the horizontal alignment when you're not on a level surface.

Six-inch in diameter swivel wheels are installed on the front to assist in the movement of the assembly. When cutting edges are removed they simply can be lowered into the framework below for later removal from the work site. Two cutting edges can be placed on the assembly at one time and then wheeled into place at the moldboard.

You can construct the jack assembly in about eight hours largely from scrap metal found around your shop. 

Adapted with permission from the North Dakota LTAP Center.

Recycle Michael is as tight fisted as his ol' buddy The Practical Man is tight lipped. He has the first dollar he ever earned and expects the government to be frugal as well. He's always on the lookout for ways to reuse things to save a little money while helping to preserve the environment.

Where to find answers to your recycling/reclaiming questions



Everyone likes to talk about recycling, but there are 75 or so contractors and just more than 30 suppliers who have made a commitment to refining the technology and communicating its benefits to highway professionals everywhere.

This is the core group that makes up the Asphalt Recycling and Reclaiming Association. They are supported by another small group of affiliate and honorary members, ranging from government agencies to other associations and magazines.

The activist members of ARRA have literally written the book on reclaiming and recycling in North America. Recently, the group released its 24-page *Full-Depth Reclamation Manual*, the most authoritative publication on the subject now available.

It also published last year the *Basic Asphalt Recycling Manual*. This definitive reference work explains each recycling discipline in great detail and gives expert advice on which technology best fits various pavement conditions, usage patterns and performance criteria.

Along with a growing library of publications, ARRA members conduct seminars for transportation agencies many times each year. And members answer dozens of technical inquiries that come through association headquarters.

The association's Web site is an easily accessible source of recycling information. It lists contact information for all members, including e-mail addresses and Web sites. It also answers frequently asked questions about each recycling technology.

The Asphalt Recycling and Reclaiming Association Web site address is www.arra.org. The organization's phone number is 410/267-0023.





Managing yourself will lessen stress

There's too much talk about eradicating stress, when the emphasis should be on managing yourself. Stress can be a healthy challenge for change, or it can be debilitating force.

Stress always will be part of life. That's why it's more important to focus less on stress and more on how to integrate your life. Here are ways to do that:

- **Get into holistic fitness.** The mind-body connection is a well-established system. So it's important to get into a fitness plan that includes cardiovascular work, strength training and flexibility exercises. Exercising each level of fitness helps you become more mentally and spiritually resilient and flexible.
- **Speak in the positive.** What we tell ourselves has a dramatic effect on what we do.

That's why you need to resist the temptation to focus on setbacks no matter how disappointed you may feel. Tell friends how the hardships are opportunities for growth and learning.

- **Do what you believe.** Get back in touch with your values by listing them. Choose the three most important core values. Now ask yourself if there's a gap between what you say you value and how you behave. If they aren't in sync, write down specific actions that reflect your values. Do one of those actions in the course of a week.
- **Exercise patience.** Like all change, making your life one that's more integrated is a process. It's a matter of continuous improvement through small, incremental steps. ➔

Volunteering can be gratifying

You're busy as it is, so finding time to volunteer seems counter to trying to build a balanced life. Yet volunteering for a cause you believe in may be just what you need to have a more fulfilling life. How do you fit philanthropic activity into a busy schedule? Here are some ways.

- **Look for flexibility.** Don't commit to a schedule that can't handle your occasional absence or need for adjustment. For example, if your time is limited, consider being involved in one special event rather than a long-term position.
- **Make sure you're passionate about the work.** Unless you really believe in the organization or the activity in which you're participating, don't get involved. And

choose just one organization to focus your energies on.

- **Learn to say "no."** Many people who volunteer end up taking on more than they bargained for simply because they're unable to turn down some requests that are made of them. Don't feel obligated to say "yes."
- **Consider donating money.** If you feel that volunteering your time will make life too complicated, donate money instead.
- **Know what's in store for you.** Before you commit to volunteering, make sure you know what will be required of you. Although that seems like a no-brainer, many do gooders end up taking on volunteer projects that require a talent they may be lacking. ➔



■ Fatality estimates for 2000

The National Highway Traffic Safety Administration reports that traffic fatalities rates for the year 2000 increased. Actual number of people killed rose from 41,611 in 1999 to 41,800 in 2000. Sixty-one percent of people killed were not belted into their vehicles.



■ Recycled Materials Resource Center

The Recycled Materials Resource Center is a national center created to promote the use of recycled materials (pavements, secondary waster, by-product materials) in the highway environment and will focus particularly on the long-term physical and environmental performance of recycled materials.

The center's Web site address is:


www.rmrc.unh.edu

Getting the most from training sessions

Training for new skills or refreshing old ones is essential to bolstering your career. When next your agency offers a training opportunity, make sure you make the most of it with these suggestions.

Don't be afraid to be social. Training isn't all work. Part of training's benefit is getting to know others in your work place. Interaction fosters relationships at work that helps nourish rapport with people on whom you can call.

Learn to unlearn. Open your mind to new possibilities. If the training shows you an alternative way of doing your job, leave your old habits behind and learn a way you can make the job easier.

Be self-directed. If there are particular areas you feel you need to know more about or need to improve, speak up. You're the best person to assess where your needs are. 

Roadcalc training CD

The Roadcalc Computer-Based Training CD contains 50 lessons demonstrating the use of the commands in the recently released Roadcalc module.

Lesson areas include alignments, cross-sections, profiles, typical sections, process and output.

The disk features step-by-step instructions in each lesson along with an explanation of why the steps are being completed to help the user under-

stand the concepts and thought processes behind them. The CD also includes an interactive graphics quiz and glossary.

Roadcalc is a roadway design, earthwork computation and drafting tool which runs with AutoCAD, IntelliCAD, MicroStation or as a stand alone.

The training CD can be ordered by calling 800/678-6565 or clicking online at:

<http://st2.yahoo.com/reicks/road99combas.html>



ON THE HORIZON

Chum of a car wags its tail



The "Pod"

Ever think you don't have enough of an emotional attachment to your car?

A new car developed by Toyota in partnership with Sony will smile, frown and cry, not to mention take your pulse and measure your sweat. Called the "Pod," it has been designed to show emotion and learn from driver experience.

The face of the four-seater, 1.5-liter engine car has U-shaped grooves that light up to express emotion, headlights positioned mid-way to look like eyes and side mirrors set to look like ears.

When its owner approaches, the Pod lights up a happy orange-yellow. Puncture a tire or run out of fuel, it lights up blue, complete with a display of tear drops. Swerve sharply or brake too hard and the color is an angry red.

The back of the car, similar in design to the front, has a tail-like wagging antenna. It's not quite KITT, the high-tech talking sports car in the 1980s "Knight Rider" TV series. The emphasis is more on cute.

The car is driven with a joy stick-type controller and does not have foot pedals. But it does have

sensors to detect a driver's emotional state and can give driving advice.

The Pod takes pre-recorded data of an expert driver, compares it with the current driver's style and displays words of praise or warning on a center monitor.

The car also can tell when the driver is in a hurry by measuring the degree of acceleration, the distance from the car in front and the pulse and perspiration of the driver. Not only will it display a warning but also will try to calm the driver down with relaxing music and by blowing cool air.

Memorizing its driver's driving style, the Pod automatically adapts operating characteristics to the optimal level for that person. For example, it might soften shock absorbers on rough roads and stiffen the suspension on winding ones.

Nor does it forget those special moments, taking photographs when the tone of the conversation indicates its a happy one.

A small portable terminal, called a mini-pod, will memorize the musical and TV program preferences of the driver and choose background music and provide shopping information. With all its endearing traits, you can put out the cat and bring in the Pod.

No-Brainer Mail-In Page

Your Name: _____

Phone: _____ FAX: _____

Company/Organization: _____

Address: _____

City: _____ State: _____ ZIP: _____

Circle Yes where appropriate

Do you want a free copy of the 2002-2003 Official State Road Map? Yes

Items from Aunt Jenny's advice column

Publications

Do you want a copy of *Safe Bicycling in Nevada*? Yes

Do you want a copy of the *National Strategies for Advancing Bicycle Safety*? Yes

Do you want a copy of the *Pedestrian Facilities Users Guide: Providing Safety and Mobility*? Yes

Do you want a copy of the *Bicycle Advocate's Action Kit*? Yes

Do you want a copy of the *Highway Route Designation Criteria for Bicycle Routes*? Yes

Do you want a copy of the *Selecting Roadway Design Treatments to Accommodate Bicycles*? Yes

Do you want a copy of the *Improving Conditions for Bicycling and Walking*? Yes

Do you want a copy of the *Mountain Bikes on Public Lands: A Manager's Guide to the State of the Practice*? Yes

Do you want a copy of the *Trails for Transportation*? Yes

Bumper sticker snickers

FAX this form to (775) 784-1429. Or fold it in three, close with tape and mail.

PLACE
STAMP
HERE

University of Nevada, Reno
T² Center/257
Reno, NV 89557-0179

Nevada Milepost

is published quarterly by the Transportation Technology Transfer Center at the University of Nevada, Reno. Its purpose is to provide the latest information on transportation in a way that is useful to local and county highway personnel.

Nevada Milepost contains original and rewritten material compiled from reliable sources. It assumes no responsibility for the correctness of the information.

The Nevada T² Center is part of the nationwide **Local Technical Assistance Program**. It is financed jointly by the Nevada Department of Transportation and the Federal Highway Administration.

Nevada Milepost
Nevada T² Center/257
University of Nevada,
Reno
Reno, NV 89557
Ph: 775: 784-1433
FAX: 775: 784-1429
<http://www.t2.unr.edu>



Staff: T² Center:

Director: Maria Ardila-Coulson
Associate Director: Peter Sebaaly
Staff Engineer: Edgard Hitti
Field Representative: Larry Lunz
Program Assistant: Lisa Cody

Nevada Milepost:

Editor: Maria Ardila-Coulson
Photojournalist: Larry Lunz
Graphic Designer: Syd Brown



From the Director

Maria Ardila-Coulson
T² Center Director

Take out a dollar bill and look at it. The current version of the one dollar bill you're looking at first came off the presses in 1957.

This so-called paper money is in fact a cotton and linen blend, with red and blue minute silk fibers running through it. It's actually material.

We've all washed a dollar bill without it falling apart. A special ink is used, the contents we will never know. It is overprinted with symbols, and then it is starched to make it water resistant and pressed to give it that crisp feel.

If you look on the front of the bill, you will see the U.S. Treasury Seal. On the seal you will see the scales for a balanced budget and a carpenter's square, a tool used for an even cut. There is also the key to the U.S. Treasury.

If you turn the bill over, you will see two circles. Taken together they comprise the Great Seal of the United States. The First Continental Congress requested that Benjamin Franklin and a group of men come up with a seal. It took them four years to accomplish this task, and two more years to get it approved.

If you look at the left-hand circle, you will see a pyramid. Notice the detached top is lighted, and the western side is dark. This country was just getting established. We had not begun to explore the West or decided what we could do for Western Civilization.

Inside the capstone you have the all-seeing eye, an ancient symbol for divinity. It was Franklin's belief that one man couldn't do it alone, but a group of men, with the help of God, could do anything. "IN GOD WE TRUST" is on this currency.

The Latin above the pyramid, "ANNUIT COEPTIS," means God has favored our undertaking. The Latin below the pyramid, "NOVUS ORD O SECLORUM," means a new order has begun. At the base of the pyramid is the Roman numeral for 1776.

If you look carefully at the right-hand circle, you'll see what's on every national cemetery in the

United States and is the centerpiece of most heroes' monuments. Slightly modified, it is the seal of the President of the United States, and it is always visible whenever he speaks. Yet, very few people know what the symbols in the seal mean.

The bald eagle was selected as a symbol for victory for two reasons. First, it is not afraid of a storm and is strong and smart enough to soar above it. Secondly, the bald eagle wears no material crown. We had just broken from the king of England.

The eagle holds an olive branch and arrows in his talons. This signifies that the nation wants peace, but we will never be afraid to fight to preserve peace. The eagle always wants to face the olive branch, but in time of war its gaze turns toward the arrows.

Also notice that the shield in front of the eagle is unsupported. The country can now stand on its own.

At the top of the shield you have a white bar signifying Congress, a unifying factor. We were coming together as one nation.

Above the eagle you have 13 stars representing the 13 original colonies, and any clouds of misunderstanding rolling away. Again, we were coming together as one.

There's a nearly worldwide belief that the number 13 is unlucky. You seldom see a room numbered 13 or any hotels with a 13th floor.

But think of the fortunate circumstance of the number 13 in the founding of our country. There were 13 original colonies, 13 signers of the Declaration of Independence and 13 stripes on our flag.

The back of the one dollar bill is based on that tradition with 13 steps on the pyramid, 13 letters in the Latin above the pyramid, 13 letters in "E PLURIBUS UNUM" on banners on each side of the eagle's head, 13 stars above the eagle, 13 bars on the shield, 13 leaves on the olive branch, 13 fruits and 13 arrows.



University of Nevada, Reno
Nevada T² Center/257
Reno, NV 89557-0179

NONPROFIT
ORGANIZATION
U.S. Postage
PAID
Reno, NV
Permit No. 26