

NDOT

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NEWS

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Building For The Future



The Director's Corner

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Director

Growing State Needs Strong Transportation System

Nevada's robust economy and continued growth demand a transportation system to match. Sunny southern Nevada has a climate that allows construction year around, and it may seem at times that orange cones are as common as highway stripes. Northern and rural Nevada also have their share of large projects under way.

Inconvenient at times, highway construction is a vital investment for all Nevadans. Not only do we owe our residents and visitors a swift and efficient highway system, transportation is vital to all types of endeavors. Investing in our infrastructure:

- increases safety along our highways,
- reduces traffic congestion,
- improves quality of life.

But even those who know these advantages would probably be surprised to learn how important transportation is to the state's economic well being.

In the past few years NDOT has invested \$250 million on new infrastructure and transportation improvements statewide. Currently, there is more than \$250 million in new construction under way. In the next few years we anticipate spending almost \$500 million. This billion-dollar investment translates into thousands of jobs directly and indirectly.



Nevadans are also realizing a huge economic benefit by selling bonds on several large projects, allowing NDOT to complete the projects years earlier. With the current low interest rates, bond costs are low and we can avoid some of the rising costs in construction materials and labor, while providing motorists with earlier benefits of the project.

Funds for all these projects come from the users themselves through fuel taxes. Federal, state and county taxes totaling up to 52.205 cents per gallon for gasoline and 52.150 cents for diesel are collected at the pump.

Federal taxes, 18.4 cents per gallon for gasoline, go into the Federal Highway Trust Fund. This money comes back to the states in several forms. For instance, construction of the Hoover Bridge linking Arizona and Nevada is a Federal Highway Administration project, assisted by the two state departments of transportation. About three cents per gallon of the federal tax goes to transit projects. Most of this money goes directly to the regional transportation commissions. A few of the Nevada bus programs supported in part by federal transit funds are explained on page 12.

At the state level, NDOT receives 18.455 cents per gallon of gasoline, 17.650 cents of which is used to build and maintain highways within Nevada. A small portion of the State Highway Fund comes from vehicle registration.

The department is charged with maintaining 5,472 miles of roadway including 562 miles of interstate routes. Most roads maintained by NDOT, and some maintained by other agencies, are federal-aid highways, which carry the most traffic.

Counties collect at least 6.35 cents per gallon for bond service, maintenance and repair. Up to nine more cents per gallon can be collected as an option by commission approval of the individual counties.

Fuel taxes are a significant portion of the total amount of highway funds, totaling more than half a billion dollars a year in Nevada alone. We pledge to use that money prudently in construction and maintenance projects to create safe, delay-free, travel.

On The Cover: *Dramatic highway projects are being built in several parts of Nevada. Reconstruction of the I-215/I515 Interchange in Henderson and extension of the I-215 Southern Beltway is being done at a cost of \$82 million.*

Henderson, Hoover and Fast All Parts of Road Improvements

While widening of US-95 in northwest Las Vegas is the largest road construction project in Nevada, work continues on several fronts in the Las Vegas area:

- Construction of the I-215/I-515 Henderson Interchange,
- Building the approaches to the Hoover Bridge from Nevada and Arizona
- New facilities for FAST are being built for traffic monitoring, incident management, road condition reporting and advisories.



HOOVER APPROACH—The Nevada and Arizona bridge approaches are under construction, with the Nevada approach costing \$32 million and the Arizona construction to cost \$22 million.



CORRIDOR IMPROVEMENT—Widening of US-95 from 18 miles north of Searchlight to Railroad Pass is nearing completion. The \$23.7 million project was preceded by widening of a stretch of highway from Searchlight to the new project in 2003.

Clark County is working on rapid transit solutions to traffic, including MAX, a high-tech express bus line aimed at reducing the area's dependence on autos and a light rail line, and "CAT Rail" linking downtown Las Vegas to Henderson and North Las Vegas.

FAST, the Freeway and Arterial System of Transportation, will soon have new facilities in Las Vegas. Now under construction, the \$15 million complex will be home to the Nevada Highway Patrol and the Traffic Management Center.



FULL INTERCHANGE—I-15 at Lamb Boulevard will be upgraded to a full interchange at a cost of \$17.5 million. The contract was awarded in November and is scheduled for 300 working days.

Las Vegas U.S. 95 Widening Project Faces Delay

While current construction projects are not affected, a suit by the Sierra Club could create delays in the completion of the US-95 widening project through Las Vegas.

At more than \$400 million and five construction phases, the widening of US-95 is more than Nevada's largest freeway project, it is NDOT's highest priority and arguably the state's most important.

Improvements such as storm drain and sound wall construction will continue while the suit is



RAINBOW CURVE—NDOT is widening US-95 in northwest Las Vegas. The \$42 million project will include the freeway from four to six lanes from Rainbow Boulevard to Craig Road.



WORK IN PROGRESS—Piers for the flyover at the I-215/515 Interchange show the promise of leaving signal lights and cross-traffic behind. Reconstructing the interchange and extending the Southern Beltway is an \$82 million project pending. Actual freeway widening is on hold.

The club's contention is that FHWA should have studied potential health risks associated with exposure to air pollution emitted from motor vehicles.

While NDOT is not a participant, it is supporting U.S. DOT and FHWA in their defense.

The project was on target to have new lanes throughout open by late 2006, and all construction completed in early 2007.

A panel of the 9th Circuit Court of Appeals will likely not hear the case until early next year, with a decision no earlier than two months following



SMOOTH SAILING—Widening of the St. Rose Parkway is nearing completion. In addition to increasing the number of lanes to as many as eight, the interchange with I-215 is being reconstructed, including signals, lighting drainage and bridges. Cost of the project is \$20.1 million.

Northern Nevada Projects Transforming Transportation

The transportation system in northern Nevada is changing by leaps and bounds. Consider:

- US-395/I-80 Reno Spaghetti Bowl is within a year of completion
- US-395/Clear Acre Lane Interchange in Reno is well under way, with the project administered by the Washoe County Regional Transportation Commission
- Bridges are being built for the I-580 freeway extension from Reno to Washoe Valley
- The Carson City Freeway from Lakeview Hill to US-50 is being built.

The four projects will be a \$233 million investment in the infrastructure of Nevada and relieve traffic congestion as well as provide capacity for future growth.



An interchange built in the 1970s, the Reno Spaghetti Bowl was in need of improved capacity and new concrete. The investment in reconstruction is \$53 million.



Photo simulation of the Galena Bridge, part of the I-580 freeway extension from Reno to Washoe Valley, an \$80 million project.



Scheduled for completion in late 2006 is the \$69 million construction of the Carson City Freeway between Lakeview Hill and US-50.

NDOT Organizes Combined State and Local Safety Plans

A meeting of state and local agencies organized by the Nevada Department of Transportation this summer in Las Vegas was just the first step to creating a unified safety plan. Agencies such as NDOT, Public Safety's Office of Traffic Safety and Nevada Highway Patrol have always had their areas of emphasis, but by coordinating programs, it is hoped that lives will be saved and crashes averted.

"All of the entities, all of the disciplines, they're each excellent in their own area," NDOT Deputy Director Susan Martinovich said. "But we're going at it in parts. If we go at it as a whole, we can make a big difference."

NDOT and other departments are keeping the momentum going with a Safety Conscious Planning Forum in November.

A comprehensive strategic safety plan, to be developed over the next one to three years, is said to be Nevada's first.

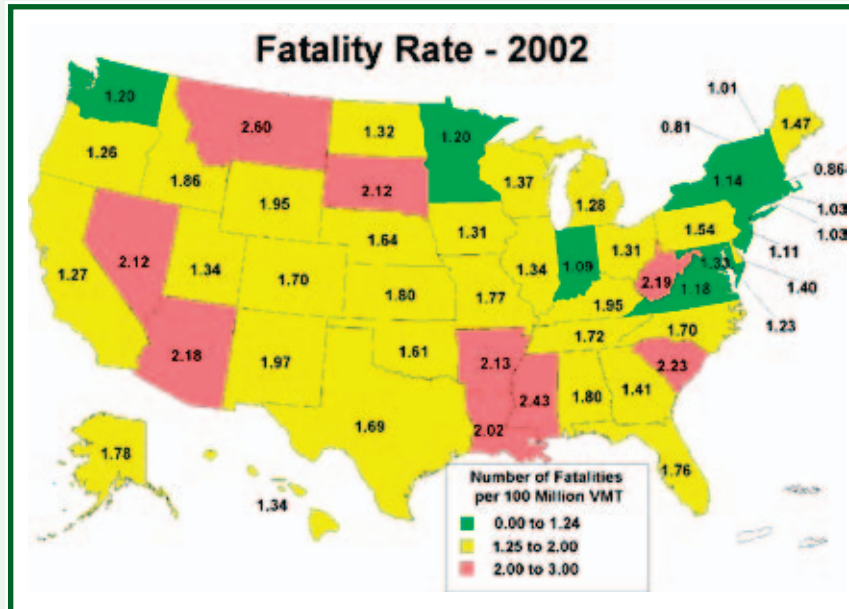
The safety summit brought together the four "E's" of highway safety: engineering, enforcement, emergency response and education. The five major issues identified were pedestrian safety, drunken driving, red-light running, run-off-the-road crashes and using safety belts.

NDOT Principal Safety Engineer Chuck Reider said bringing together an engineering group such as the department of transportation with an enforcement group such as the highway patrol or Las Vega Metro helped foster understanding. "An officer might see a problem area and think a traffic signal is the answer. When it doesn't happen he might think engineers are hiding behind bureaucracy.

"The officer's vision is different from ours because we have to go by the Manual of Uniform Traffic Control Devices. There may be something beside a traffic signal we can do, or it may be an education or enforcement solution. But by having a dialog and working together we'll both do a better job," Reider said.

If state and local agencies can pull together to reduce accidents by even a small percentage, the results will be huge in reducing the toll crashes take in injuries and death. In 2002, there were 62,237 crashes in Nevada, including 31,522 total injuries and 381 fatalities.

While a growing state might be expected to have more fatal accidents from more vehicles on the road, growth alone does not explain a spike in the number of fatalities per 100 million vehicle miles. Between 2001 and 2002 that number jumped from 1.7 fatalities per 100 million



vehicle miles to 2.1 in Nevada. Nationally, that number stayed at 1.5. National efforts are underway to reduce the rate to 1.0 and Nevada intends to be part of that effort.

Identifying the problem areas is fairly easy. Any review of Nevada fatal traffic incidents will reveal alcohol use, lack of safety belt use, incidents of vehicles running off the road, and inattention. The strategic plan will offer ideas for specific safety efforts. The process of selecting, funding and implementing ideas and programs will take place over the next several months.

Collecting Traffic Data Easier With NCATS

A three-year effort among several state agencies to make traffic information more detailed and more efficient is bearing fruit with NCATS, the Nevada Citation and Accident Tracking System.

NCATS has law enforcement officers entering information directly into a database instead of paper. "The system is a lot more timely," NDOT Safety Engineer



Carson City Sheriff's Deputy Matt Putzer demonstrates entering data on the new NCAT System.

Kelly Anrig said. "The database can be used by anyone who needs safety information.

"We are going to have an increase in the quality and amount of data at our fingertips, and it will improve our analysis capabilities," the safety engineer said. "With the current database there are holes in the data and we have to make assumptions. The new database will capture the sequence of events that led up to the crash.

"We'll be able to target safety solutions more specifically to a problem. For instance, if we see more rear-end crashes, we'll have the support to see why they're happening, Anrig said.

The new system is a result of cooperation among the Public Safety's Office of Traffic Safety (OTS), NDOT, the Nevada Highway Patrol, Las Vegas Metro, Washoe County Sheriff's Office and other entities.

The public's first brush with NCATS may not be a pleasant one. That's because it is also used to write traffic citations.

A wireless pocket computer is replacing the old triplicate form. Officers use the hand-held computers and a stylus to input information on a citation and at the end of a shift they download all the information in a few minutes.

Because data on citations and crashes will be available almost immediately, law enforcement agencies can benefit by targeting enforcement to where crashes have recently occurred.

So far 10 of the state's largest law enforcement agencies are using NCATS to write citations and enter

information on collisions. Five more agencies are expected to be part of the system by the end of the year.

Grants analyst Valerie Evans of OTS said the new system "will capture much more data as the field users become more accustomed to it. They will be able to collect twice as much data in the same amount of time because they will be using 'drop down' menus to enter data instead of doing as much writing."

Evans said much more information that will be available to traffic engineers and others. "Everybody will be using the same form and capturing the same data including what types of pavement, pavement markings, roadside reflectors, signs, signals, lighting, vehicles involved, grade and curve of the road. The reports will also list if traffic controls are functional, non-functional or obscured."

Chuck Abbott, highway safety coordinator for OTS, said NCATS will also help his agency. "It will be much easier for us to compile



NDOT Safety Engineer Kelly Anrig says having more information regarding traffic situation will make the department more efficient in directing resources.



Grants Analyst Valerie Evans and Highway Safety Coordinator Chuck Abbott explain the advantages of the new NCAT System.

reports and apply for grants," he said. "The grants are data driven, and we depend on accurate date and timeliness. Before NCATS we could be relying on information that was 12 to 18 months out of date."

Abbott said his office concentrates on behavioral aspects of public safety such as driving under the influence and using seatbelts. "With NCATS we'll be able to target our efforts that much better."

Serious Traffic Incidents Prompt Calls For Lights

When a pedestrian is killed at an unmarked intersection or a driver crosses a median and causes a head-on collision, often the first reaction from the public is a call for a signal light for the intersection or a barrier rail to keep traffic separated.

“Sometimes a signal is the appropriate thing to do,” NDOT Safety Engineer Kelly Anrig said. “But we want to explore all the other avenues. We don’t want to make the situation worse.”

At an unmarked intersection, for instance, there can be more “angle” accidents where cars collide perpendicular to each other because vehicles may enter the intersection unexpectedly. If a signal is installed, the broadside crashes are reduced but rear-end crashes increase.



There are times when a roundabout is safer than stop signs or signals. A roundabout keeps traffic flowing and reduces rear-end crashes. At other times there is not enough cross traffic to warrant a signal, but pedestrian activated flashers can provide a margin of safety. In rural areas, advance

warning lights at intersections are a big help.

To reduce accidents at busy intersections, signals for traffic arrows reduce collisions and sometimes installing an extra left turn lane is warranted.

In the case of a divided highway with a substantial median, installing barriers presents another trade-off. The barriers may prevent head-on collisions, but the barriers themselves are unforgiving and are an obstacle at their beginning and end points.

When NDOT traffic engineers look at a potential problem there is an analysis of the situation to determine what can be done.

NDOT is devoted to making its transportation system as safe as possible, but it is important to

remember that traffic safety engineering can accomplish only so much. Everyone who drives on a road also has a responsibility for safety.

Alternatives to Traffic Signals

Although many people believe the answer to traffic accidents are signals, there are many alternatives that are more effective and less expensive. Traffic signals can increase delays and the frequency of some types of crashes.

Alternatives to signals are:

- 1) Installing signs along the major street to warn those approaching the intersection
- 2) Relocating the stop lines to improve the sight distance at the intersection
- 3) Installing measures to reduce speeds on the approaches
- 4) Installing a flashing light to supplement a stop sign
- 5) Installing flashing beacons on warning signs in advance of a stop sign
- 6) Adding a lane on a minor street approach to reduce the number of vehicles per lane

NDOT Fleet Moving to Bio-Diesel Fuels

NDOT trucks that smell like French fries (from using bio-diesel fuel) are going to be more common as the department moves closer to the day when most of its passenger vehicles and trucks in the Reno and Las Vegas area are powered by alternative fuels. NDOT began using alternative fuels such as compressed natural gas (CNG) and propane under state and federal mandates in 1995.

Alternative fuel is generally more expensive, with bio-diesel about 22 cents per gallon higher than regular diesel. Its advantages are better air quality for the public in general, and less reliance on imported oil.

The department came under the bio-diesel fuel requirement on July 1 last year. Ninety percent of all new fleet vehicles purchased in Washoe and Clark counties must be powered by alternative fuels. This includes trucks weighing between 8,500 and 26,000 lbs.

The department has 157 alternative fuel vehicles, mostly propane and compressed natural gas. In the future, NDOT maintenance stations in the main population centers will have pumps for bio-diesel, just as they do now for unleaded gasoline, diesel and propane.

“Because of increased use, it’s feasible to provide bio-diesel fueling at our Reno and Las Vegas maintenance stations and the new maintenance station that’s going to be built in Las Vegas,” said Mike Stair, equipment superintendent for NDOT.

NDOT has already installed propane stations in Reno, Las Vegas, and almost all the maintenance stations in the Las Vegas area, to serve several construction crews that use propane trucks.

CNG vehicles have a range of a hundred miles or so, but there are several vendors to provide CNG in the Las Vegas area. NDOT does not have its own CNG pumps.



CLEAN FUELS AND BLUE SKY—Supervisor I Wayne Miller fuels a propane truck at the NDOT yard in Sparks. Alternative fuel vehicles are a growing percentage of the NDOT fleet in the Las Vegas and Reno area.

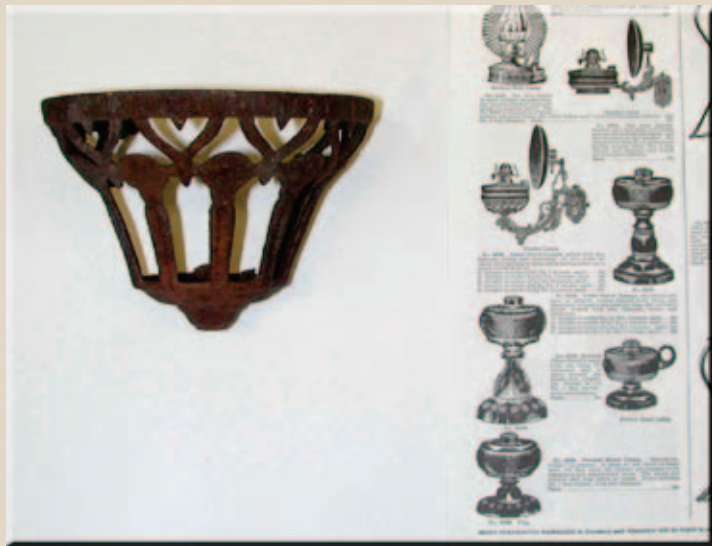
The current breakdown on NDOT’s alternative fueled and hybrid vehicles:

Propane only	91
Gasoline/propane	17
Compressed natural gas	29
Hybrids (gasoline/electric)	10
Reformulated gasoline	8
<u>Bio-diesel</u>	<u>2</u>
TOTAL	157

Archeology Experts Sleuth Out Nevada's Past

No one has yet invented a time machine, but NDOT archeologist Pete Matranga has painstakingly put together a view of the past in Ely that includes glimpses of pre-historic times up to the 1930s.

The site of his current research is north of the Ely Airport, which is slated for expansion. As part of



WISH BOOK ARCHEOLOGY—Sears, Roebuck & Co. catalogs were sometimes called “wish books” by people who wished they had the money to order the items within. The meticulously illustrated books are a resource for archeologists who use them to identify items found at historic sites. Pete Matranga was able to match a 1900s metal base of a hurricane lamp found in Ely with the Sears catalog.

the National Environmental Protection Act, significant cultural resources must be preserved. Department archeologists walked over every square meter of the 1,600 acre site, and surveyed Ely area literature, “to get a notion of what we were going to find,” Matranga said. “But there are always surprises.”

“Before we did the actual survey, we did a background search and had a good idea of the town’s boundaries, ranches, old roads and telegraph lines. What we didn’t expect to find were Indian artifacts including projectile points and pottery shards.”

Matranga’s finds include obsidian projectile points that were attached to knife handles or spears. “We found paleo-archaic sites 8,000 to 10,000 years old. All of the

points and fragments are of the stemmed point tradition made from local basalt. Metates (grinding stones) were also found.”

The stone points were created when the Pleistocene geologic era was coming to a close and the area was becoming drier. Based on the gravel bars found at the Ely site, the locale was probably marshier and supported more animals for hunting.

Although it is rare to find artifacts thousands of years apart in age lying near each other, Matranga also found pottery shards identified as Great Basin brown ware that are perhaps 1,000 years old. The archeologist explained that wind erosion (deflation) over the years probably exposed the ancient stone points.

Early white settlers put in wells and pumps, probably to water sheep. Matranga and other archeologists have found machinery such as the remains of pumps, nuts, bolts and bricks, plus the remnants of wooden covers for the wells.

Trash dumped in the desert in the early 1900s gives an idea of what people bought and what businesses were in the area. Matranga says one trash pit shows that a gas station and diner was probably nearby. Bottles of Big Chief and Orange Crush soda are found in a trash pit near a dirt road that can just barely be perceived today. One clear bottle gives away its contents with the AB initials on the bottom. The Anheuser Busch Company has been brewing beer for a long time. Later finds include cone-top and modern beer cans.

A physician probably threw away several citrate of magnesium bottles. They were found among several other medicine bottles, including ones that had lines embedded in the glass to show dosage amounts. An elegant iron base for a hurricane lamp dates from the



UNIQUE DESIGNS—Distinctive and colorful, bottles found in Nevada can provide clues to how people lived, what businesses were in the area and the dates of associated artifacts.

1800s. A 1927 license plate was one of the artifacts found with a wrecked Model T.

Matranga said his reports also include information on the flora, fauna and geology of the sites. The Ely excavation and report is one of about 3,000 completed by the NDOT archeology team since the NEPA law went into effect in 1969. The reports form a valuable guide for the department. Sensitive areas have been documented that are not to be disturbed by excavation or materials pits.

Once Matranga completes his report, the Paleolithic site will be entered into the National Historic Registry, and the artifacts will be stored by the Nevada State Museum. Because of the importance of the stemmed points, a team from the Bureau of Land Management and the University of Nevada, Reno will excavate the area where they were found.

NDOT Archeologist Unlocks Secrets With Ancient Tools And Modern Science

A surprising amount of information is available on stone tools created thousands of years ago. Thanks to labs that analyze the molecular content of basalt and obsidian lodes, it was possible to document that a blade found near Ely was crafted from basalt located near modern day Modina, UT, 150 miles away.

That shows the people of the time covered a wide range



TREASURE TROVE—The excavation near the Ely Airport by NDOT archeologist Pete Matranga and others yielded a rich lode of obsidian projectile points that were carefully mapped and cataloged. The points are 8,000 to 10,000 years old, and the site where they were found will be further explored.



MAKING A POINT—NDOT archeologist and flint knapper Joe Moore has made hundreds of stone points over the years and knows the frustrations Native Americans had in creating sharp points without breakage. His knowledge of stone tools provides insight to archeological excavations.

to survive, or, more likely, were part of a trading network.

NDOT has its own expert on stone tools. Archeologist Joe Moore can craft delicately notched points or a palm-sized chopper and scraper, something he calls a “pre-historic Swiss Army knife.”

Moore and others have sent in samples of obsidian and basalt from lodes and stone tools can be matched to their source.

“It’s done by X-ray florescence,” Moore said. “The labs bounce an X-ray beam off pieces of raw obsidian and the spectrographic analysis of 11 trace elements creates a unique profile. When we do the same thing to an artifact, we can tell with a high probability where the artifact material came from.”

Material taken from an area near Mono Lake in California has been crafted into tools found near Carlin, NV, hundreds of miles away.

Bus Programs Make All the Difference in Rural Nevada Communities

Driving developmentally challenged young adults to work, taking dialysis patients to and from their appointments, and bringing people to senior centers for meals and recreation is all part of a busy day for Carson City Community Transit



TLC--Carson City Community Transit driver Larry Flores gives a lift to William Finnegan. Larry is one of nine drivers who provide needed transportation to those who have no other option in the capital city area.

(CCCT) driver Larry Flores. Larry is one of nine drivers who provide needed transportation to those who have no other option.

Flores loves his job and talks and jokes with his riders, even as he is guiding wheelchair-bound passengers onto the lift platform and securing the wheelchairs in place to ensure a safe transport.

With a total of 3,000 rides provided per month, it is hard to imagine Carson City without CCCT and the vital function it performs. CCCT is one of 60 government agencies and non-profit transit services funded throughout the state. More than 660,000 rides were provided throughout the state in 2002.

CCCT has seven buses that carry 12-14 passengers or 18-22 passengers, depending how they are configured for wheelchairs. The fleet includes two brand new buses provided through the Federal Transit Administration (FTA) and grants administered by NDOT.

The program is one funded annually by the FTA, and Nevada's share of the program was \$525,500 in 2003. The program funds services in all 17 Nevada counties, 17 reservations and 24 communities. There are also four intercity routes to transport rural residents to jobs in other areas.

Funding requires various amounts of matching amounts from the service provider. For operating expenses, the FTA pays 50 percent and the local entities pay 50 percent. For vehicles, the program pays 80 percent and the state 10 percent, and the local portion is 10 percent. Federal funds provide half of the costs for job access programs and the locals pay the other half. The jobs access program, JARC, takes workers to jobs if they have no transportation or the cost would otherwise be prohibitive.

Even with state and federal funds paying the majority of the costs, a local transportation program can be too expensive for some entities that would like to have them. The Northeastern Area Regional Transit (NEAT) provides 48,000 trips annually in Elko and 24,000 in Ely last year, but is working on a reduced budget because local matching funds that came from federal and state offices have been reduced. Programs in Lyon County and West Wendover have been discontinued.

The Winnemucca program is now operated through the Humboldt Senior Center.

"The greatest benefit of a transit system is that the transportation disadvantaged are able to stay independent longer," NEAT Executive Director Chuck Ricker said. He makes the argument to state legislators that the cost of a transit service is cheaper than the alternative. "Lots of the people we serve would be in assisted living or group homes, just for basic survival."

Ricker said he has testified three times this year at the Subcommittee on Mass Transportation in Nevada.



DRIVING FORCE—Terry McQuarrie and Lori Cunningham are two of the drivers for the Churchill Area Regional Transportation. CART has six routes in the Fallon area and transports riders to Reno twice a week.

Churchill Area Regional Transportation (CART) is typical of rural bus operations that use in-kind services to pay for part of its required federal match. "The county does our legal and accounting work, the telephone company provides free oil changes and maintenance on our fleet, and the local newspaper provides free ads on our fixed route service and dial-a-ride," operations manager Ernie Maguire said. "The local radio station does free public service announcements letting people know about our service."

Two days a week a bus takes seniors to Reno for their medical appointments, and the fixed route in the Fallon area covers 13 miles.

"Prior to CART this area had nothing for socialization and for people to get out," Maguire said. "All of our buses are ADA compliant with lifts and it's good to see people using the lift service to join society, do their own shopping and generally be more independent. There are people who probably couldn't exist without CART today."

Las Vegas Support Crew Takes on Graffiti, Trash and Landscaping Chores

It's a job that will never be finished, but NDOT Maintenance Support Crew 160's efforts in painting out graffiti, picking up trash and helping with landscaping in Las Vegas is appreciated by the public and motorists.

Made up of two NDOT employees, Richard Aguayo and Carolyn Merrick, and 10 temporary construction aides, the crew is dispatched wherever the need is greatest.

"We've been working on US 95 from Smoke Ranch Road to Craig Road northbound, and now we're working the same route southbound," Aguayo said.

The maintenance crew works on betterment projects, spreading rocks for landscaping projects, and other chores.

Aguayo is also responsible for inmate crews, 12 inmates and a crew boss. Usually a total of two or three crews per day come from Jean, a woman's prison, and Indian Springs, a men's facility.

"Our other job is graffiti abatement and Carolyn and four aides go out to wherever the hot spots are for tagging," the maintenance supervisor said. "We work on both sides of the sound walls, cleaning up the graffiti that faces housing."

Aguayo attends area law enforcement meetings to find out where his crews' efforts are needed the most. If he sees a graffiti that's repeated in numerous places, he takes a digital photo of it for Las Vegas Metro, in hopes that if a vandal is caught, restitution can be ordered.

One of the most hazardous jobs the support crew takes on is cleaning up homeless encampments. Workers wear rubberized cotton overalls, dust masks, splash goggles, rubber boots and rubber gloves with liners. Wrist areas and cuffs are duct taped to prevent contamination. Trash is sprayed with a bleach solution before it is picked up. Without the protection, the workers would risk exposure to hepatitis, TB and HIV.

If trash, graffiti and landscaping work are not enough, the support crew also repairs tortoise fencing. The fencing along state routes, is inspected by a contractor, but any major repair work is accomplished by maintenance support or maintenance crews.



CLEAN TEAM—Picking up trash, painting out graffiti and helping with landscaping are all part of a day's work for Maintenance Support Crew 160 in Las Vegas. From left are: Kristal Osen, Charity Miller, Carolyn Merrick, Clarence Wilcox, Bryan Richardson, Richard Aguayo and Nicholas McDowell.

Beautiful Desert Scene to Transform Las Vegas Spaghetti Bowl

Sandstone Cliffs, Desert Tortoises and Rock Art Will Create an Oasis for the Eyes

Amid the glitter and the glitz, and the hustle and bustle of Las Vegas, the Nevada Department of Transportation will transform the city's largest interchange into something soothing and pleasing to the eye.

Interstate 15 and US-95 form what's known as the Las Vegas Spaghetti Bowl. Little more than concrete and dirt at this time, the makeover for the 30-acre interchange will be a colorful facelift with various rock sizes and color. Earth art will be used to create tortoise symbols resembling petroglyphs (images on stone) created by Native Americans thousands of years ago. Highway funds will pay for the project, expected to cost between four and five million dollars.

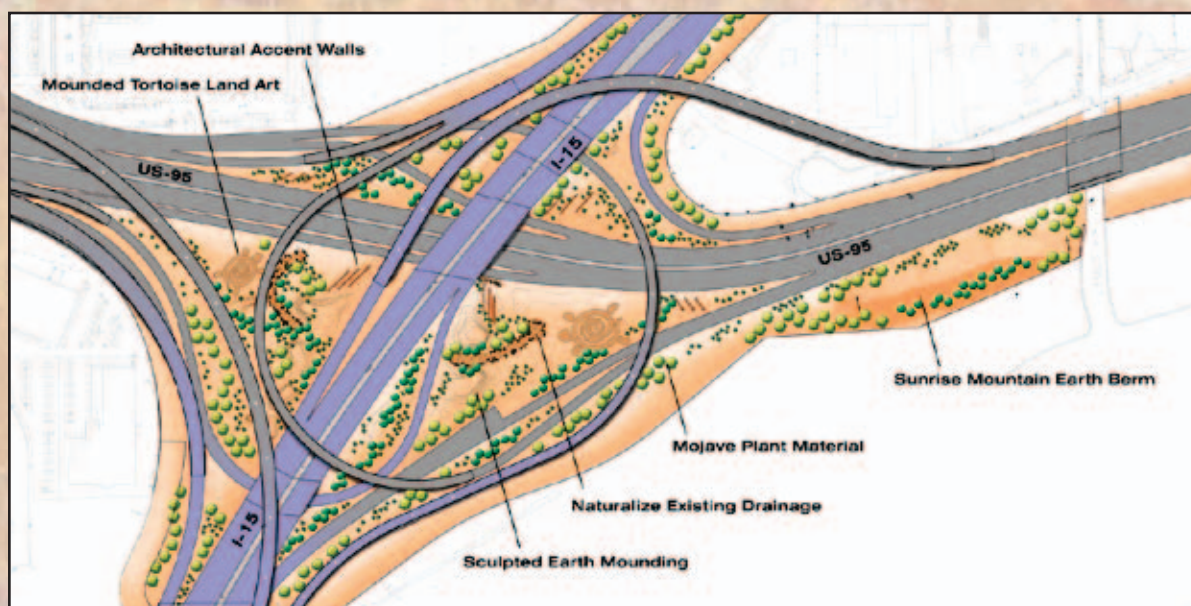
Trees and understory plants include those found in the Spring Mountain's Red Rock area: Palo Verde, screw bean, mesquites and Joshua trees will be clustered throughout the landscape areas. Trees will be accented by small plant groups of barrel cactus, Mohave yuccas, clumping grasses and opuntia species.



One of several ancient petroglyphs in Clark County that inspired the Spaghetti Bowl facelift.

All the plants are drought resistant and the plants will be infrequently watered once they are established.

"Less than a year from now, you will see the dramatic transformation," NDOT Director Jeff Fontaine said. "The drawings will be completed for bidding late this year and we have February of 2005 as a target for beginning construction. The project should be completed by July 2005."



Artwork courtesy Aaron Bliesner, J. W. Zunino & Associates

The open areas of the interchange will be brightened by locally quarried sandstone ranging from pink to red to purple. Size of the rock will vary from small chunks to six-foot boulders. A granite rock mulch will also be used to complement the sandstone colors.

Sandstone walls will replicate sandstone cliffs, which will be a backdrop to several three-dimensional tortoise figures, each the size of a small car.

In key visual areas, the bases of columns will be painted with plants, animals and petroglyphs. All of the petroglyphs will be renderings of rock art found throughout Clark County.

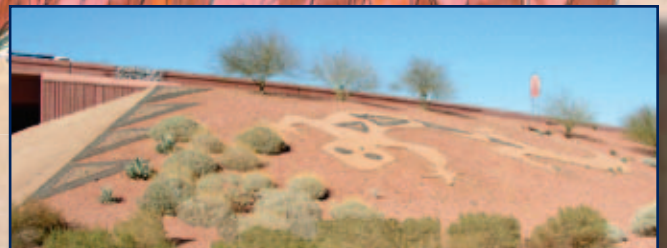
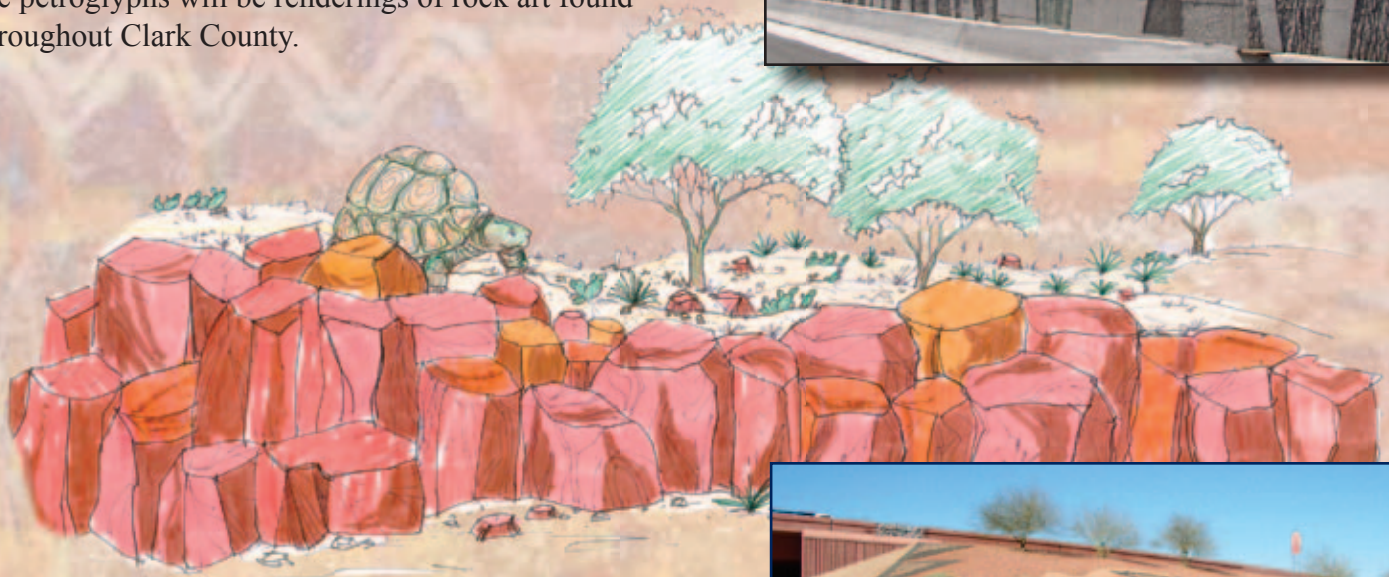


Photo simulations of decorative designs that will be placed in the Las Vegas Spaghetti Bowl.

The Las Vegas Spaghetti Bowl enhancement project provides a number of benefits to:

- **The environment:** including dust control, reduction of water evaporation in planted areas, and control of erosion.
- **The visual experience:** the use of different rocks sizes and color contrast will bring new life and color to one of the busiest freeway interchanges in the state.



Call Boxes Make Desert Highway Section Safer

A call box network along I-15 between St. Rose Parkway in Las Vegas and the California state line is making that stretch of highway safer by creating an emergency link between the public and the Nevada Highway Patrol.

The call boxes are placed every mile and on each side of the highway and have been operational since June.

The arrangement is similar to a network along the California portion of I-15 that has existed for years.

The solar-powered phones connect directly to NHP dispatchers when one of four buttons is pushed:

- emergency, police or medical attention
- empty gas tank or flat tire
- mechanical help
- assistance for hearing impaired

Phones went into service in June and an NHP dispatcher reports “tons” of calls. “They’ve been used for a multitude of uses: roadside assistance, reporting accidents. Some people think they can make long distance calls.”

Surprisingly, people are out in the desert area on foot and have used the phone to call for rides. The dispatcher said she called a wanderer’s mother in Las Vegas and arranged a ride for her son.



Natasha Zonitch of NDOT demonstrates one of the call boxes on Interstate 15 between St. Rose Parkway and the California state line.



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