Nevada County Transportation Commission

The Nevada County Transportation Commission (NCTC) is the Regional Transportation Planning Agency for Nevada County. NCTC coordinates state and federal transportation programs for Nevada County, the City of Grass Valley, Nevada City, and the Town of Truckee.

2013 NCTC Commissioners

Nate Beason
Nevada County District I Supervisor

Carolyn Wallace Dee
Truckee Town Council

Jason Fouyer
Grass Valley City Council

Ann Guerra
Member-at-Large

Sally Harris, Vice Chairman
Nevada City Council

Larry Jostes, Chairman
Member-at-Large

Ed Scofield
Nevada County District II Supervisor

This Newsletter is Prepared by the Staff of the Nevada County Transportation Commission

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The Nevada County Transportation Commission Newsletter is published quarterly. If you would like to be added to the mailing list, please write or call the Nevada County Transportation Commission office.

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Upcoming NCTC Meeting

The next regular meeting of the Nevada County Transportation Commission is scheduled on: Wednesday, May 15, 2013 at 9:30 a.m., in the Town of Truckee Council Chambers, 10183 Truckee Airport Road, Truckee, CA.

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NEVADA • COUNTY • TRANSPORTATION NCTC COMMISSION

NEVADA COUNTY TRANSPORTATION UPDATE

Issue 54 March 2013

Who Is NCTC and What Do We Do?

The Nevada County Transportation Commission (NCTC) is the Regional Transportation Planning Agency (RTPA) for Nevada County. The State of California statutorily created RTPA's to coordinate transportation planning efforts for the local jurisdictions; in our case, the City of Grass Valley, Nevada City, the Town of Truckee, and Nevada County. The Commission has seven members. There are four members appointed by the county Board of Supervisors: Supervisor Nate Beason, Supervisor Ed Scofield, at-large community seniors and persons with disabilities advocate Ann Guerra, and at-large member Larry Jostes. The other three members of the Commission are appointed city/town council members: Sally Harris from Nevada City, Jason Fouyer from the City of Grass Valley, and Carolyn Wallace Dee from the Town of Truckee. Their role as commissioners is to represent the transportation needs of their appointed jurisdiction, as well as work with each other to advise and direct NCTC staff on county-wide projects and priorities. NCTC staff are Daniel Landon, Executive Director; Michael Woodman, Transportation Planner; Nancy Holman, Administrative Services Officer; and Toni Perry, Administrative Assistant.

The Commission acts as a planning liaison between Caltrans, the jurisdictions, and the citizens to identify future projects, determine their feasibility, and assist in securing funding for their construction. NCTC utilizes funding from the State of California and the federal government to provide dollars for projects the Commission deems as priorities. Grants are also available for pedestrian and bicycle facilities, public transit, aviation, and rail planning. NCTC staff stays abreast of state and federal legislative issues pertaining to transportation through their participation with the statewide RTPA Group, the Rural Counties Task Force, and the North State Super Region. Joining forces with other rural counties in northern California helps to identify common needs and strengthens the rural voice on issues of shared concern.

Truckee Bypass project improved traffic congestion in downtown Truckee

Some of NCTC's projects have dramatically improved Travel time to destinations, changed traffic flow in our communities, and provided safe routes for vehicles, bicycles, and pedestrians. One such project is the **Truckee Bypass** (pictured above) that opened in October 2002 and provided an alternate route from I-80 to SR 267, and to the Truckee Tahoe Airport, Town offices, access to ski resorts, and Lake Tahoe; thus improving traffic congestion in downtown Truckee. The bypass took 20 years to plan and build, cost $33.5 million, and was funded with State Transportation Improvement Program (STIP) funds in cooperation with Caltrans.

SR 49 project at Bear River Bridge provided increase in traffic flow

Another project that impacted our region was the **SR 49 widening project** between the Bear River Bridge and Combie/Wolf Road (photo on left) in south county. Before the widening, evening commuter traffic would back up for miles as locals made their way home from the greater Sacramento area. NCTC provided $5.3 million of Regional Improvement Program funds and Caltrans used $6.5 million from the Interregional Improvement Program. Caltrans completed the project in July 2004; three months ahead of schedule and under budget by $1.4 million.

(continued on page 2)

WHAT DOES NCTC DO? (Continued)

Roundabouts became a new component of transportation improvements in recent years. The Town of Truckee built the first roundabout in Nevada County along Donner Pass Road near downtown Truckee that opened to traffic December 1998. The county's second roundabout is located at Sierra College Drive/Litton Loop in Grass Valley and became operational in August 1999. Truckee has two other roundabouts on SR 89 north of I-80 and western Nevada County has several other roundabouts proposed in the future.

The **dual roundabouts at I-80 and SR 89 in Truckee** (on right) were an innovative way to handle a steady flow of traffic on and off the interstate; eliminating the cloverleaf design and stop signs or traffic signals. The concept of dual roundabouts had proven successful in several Colorado cities, so the Town received approval from Caltrans in January 2003 to proceed. Caltrans contributed $750,000 from the State Highway Operations and Protection Program (SHOPP) and the Town provided additional funding. When the lowest bid came in higher than funds available, NCTC provided $350,000 in Regional Surface Transportation Program (RSTP) funds. The project cost $3.5 million to construct and was completed in November 2005, becoming the first dual roundabouts in northern California.

Truckee Dual Roundabouts at the I-80/SR 89 Interchange

Idaho-Maryland/East Main St. Roundabout at SR 20/49 Freeway

The Idaho-Maryland Road/ East Main Street intersection is one of Grass Valley's busiest intersections with traffic flow impacting downtown Grass Valley, vehicles traveling on and off the Golden Center Freeway, and traffic throughout the Brunswick Basin. Before the **Idaho-Maryland/East Main Street roundabout** (on left) was constructed, the intersection operated at a Level of Service F during peak hours. In November 2006 the Grass Valley City Council approved the design of the roundabout, which replaced the existing all-way stop signs and included pedestrian and bicycle facilities. A local contractor, Hansen Brothers Enterprises, was awarded the bid of $1.4 million to construct the roundabout and work was completed by early summer of 2009. Most of the funding for this project was from RSTP funds and the Regional Transportation Mitigation Fee (RTMF) Program.

One of the key components to planning is to create and adopt a Regional Transportation Plan (RTP) every five years, which is then submitted to the California Transportation Commission (CTC). The RTP reflects the latest project funding and planning assumptions on a short-term (ten year) and long-term (twenty year) basis. Recently, the federal government directed RTPAs to utilize "performance management measures" to identify projects that will be beneficial and cost-effective when looking to improve and provide safety for every mode of transportation available. With our diverse population in Nevada County, there are advocate groups for pedestrian and bicycle facilities, public transit, streets and highways, railways, and aviation. Providing safety and air quality improvements, and transit opportunities, while reducing regional congestion and travel time, are key focal points to the RTP. Acquiring adequate and timely funding for transportation improvements is the central need for all of the issues in the county. The main transportation issues in "western Nevada County" relate to aging infrastructure replacement, services to meet the demands of future growth, mobility demands, and our aging population. In "eastern Nevada County", with Lake Tahoe and the Sierra Nevada Mountains as a backdrop, transportation issues deal with high volumes of traffic generated by travelers coming to the world-class recreational locations, as well as the demands of local growth, an aging population, and diverse weather conditions.

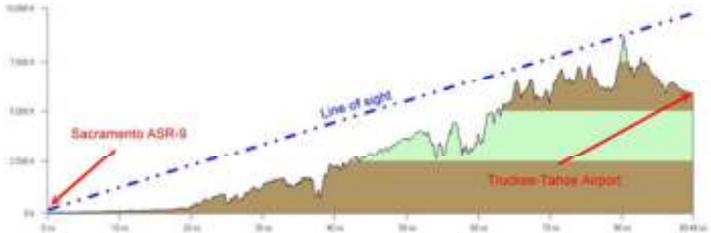
Recent projects are the **Transit Transfer Center** (on right) located on Tinloy Street in Grass Valley; project development and construction funding for the Dorsey Drive Interchange in Grass Valley; project feasibility, design approval, and funding for the Truckee Mousehole Pedestrian Tunnel; construction of the SR 49/La Barr Meadows Road widening project; and construction of sidewalks near the Nevada City schools to encourage use of these safer routes to school. Future projects include a list from the RTMF Program, operational and safety improvements in the SR 49 corridor, and Congestion Mitigation and Air Quality (CMAQ) projects in western Nevada County. With recent updates of the Pedestrian Plan and the Bicycle Master Plan, there could be more paths and sidewalks constructed in western and eastern Nevada County in the future to encourage these alternative modes of transportation. NCTC

New Transit Transfer Center in Grass Valley

TRUCKEE TAHOE AIRPORT TRACKING SYSTEM

At a recent meeting of the Truckee Tahoe Airport Land Use Commission (TTALUC), Kevin Bumen, Director of Aviation and Business Services at the Truckee Tahoe Airport, gave a presentation on the state-of-the-art, multilateration-based, flight tracking and noise monitoring system at the airport, which was commissioned in 2011. The system was installed to monitor and record aircraft arrivals and departures, to understand how aircraft use the airspace around the airport, to design noise abatement flight procedures, address noise complaints made by people in the community, increase safety of flight in the Martis Valley, and provide situational awareness of flights to the Airport Operations Center. The information from the system provides a vital resource to airport decision-makers, pilots, and the public. The system also provides critical information to a Federal Aviation Administration (FAA) airspace surveillance system.

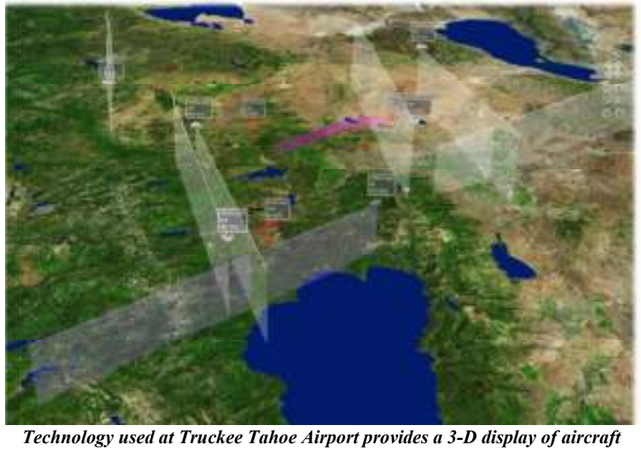
The Truckee Tahoe Airport "system components" include a network of six ground-based sensors, known as a wide area multilateration system, that provides flight tracking information; three software modules that provide collection and correlation of flight tracks for aircraft noise monitoring; a FAA provided transmitter/receiver that stimulates responses from aircraft within the Truckee Tahoe Airport vicinity; and a web-based flight and airspace simulation application that provides 3-D graphic representation to the noise monitoring and flight tracking software. The multilateration sensors function in the reverse of GPS, to triangulate the position of an aircraft equipped with a transponder that sends a signal back to the airport when they are interrogated by the airport's transmitter/receiver. Due to the configuration of the ground sensors, multilateration has a much higher accuracy rate than radar, which is surveillance that looks for metal in the sky. As seen in the diagram below, radar is angled from the source in the valley over the mountain range in a straight line of sight. The Truckee Tahoe Airport is surrounded by mountains (see above); therefore, aircraft in and around the Truckee Tahoe Airport must be at 10,000 feet or higher before the FAA radar-based air traffic control located in the Sacramento Valley can "see them". Aircraft with transponders and gliders with electrical systems flying below the 10,000 foot radar horizon can be monitored by the Truckee system. The multilateration system is used for surface surveillance at airports, for positive guidance of aircraft, as well as for air-traffic control purposes. The Truckee Tahoe Airport District is in discussion with the FAA Oakland Center to possibly integrate their multilateration data into the FAA system for air traffic control purposes. That would allow an air traffic controller sitting in Sacramento to not "lose" aircraft as they fly over the mountains, approach and land at the Truckee Tahoe Airport, and terminate their flight plan when on the ground.



Radar originating in Sacramento must angle to 10,000 feet to reach beyond the mountains

The Truckee Airport and surrounding mountains

Mr. Bumen noted that the system at the Truckee Tahoe Airport is the only one of its kind in North America. The vendor of the system is from Eastern Europe and this is their first installation in the United States. Prior to installation of the system, the Truckee Tahoe Airport was limited in its ability to implement advanced noise abatement and mitigation steps because it had no flight tracking. There are approximately 5,500 airports in the United States and only about 160 track aircraft flight operations. Of the 160 airports, there are approximately 35 airports that actually own hardware to perform flight tracking. It is uncommon for a smaller airport to offer this level of detail about flight operations. Truckee's system archives up to five years of data and can identify aircraft that operated from the airport, as well as aircraft that flew over the area but never landed at the airport. The system captures everything in the airspace up to 60,000 feet. System data can be reviewed and analyzed in real-time, near-time, and historical modes. The real-time function is used daily in the Airport's Operation Center and can be viewed on iPads in the airport staff vehicles.



Technology used at Truckee Tahoe Airport provides a 3-D display of aircraft

Another unique and interesting feature of the system is a real-time function that provides a virtual "out-the-window" view from a pilot's perspective. This is particularly useful when the airport traffic pattern is full. There are three airports in the world currently using this software: Truckee Tahoe Airport, San Francisco Airport (SFO), and Charles de Gaulle Airport in Paris. Although SFO has the same software as Truckee, they do not use multilateration to acquire data. Instead, they get their data from the FAA radar-based system. The system software can select out a single flight, turn it into a 3-dimensional view (see diagram above), and filter out flight tracks by asking to see what type of aircraft (piston-powered or jet-powered, etc.) landed or departed from a certain runway during a given period of time. If there is a complaint from a citizen that an aircraft was flying too low over their home, the system can look at the reported time and location, and spot a specific aircraft flight track. It can also look at overflight intensity at various altitudes for a given period of time.

If you would like to see the system in action, the **2013 Truckee Tahoe Air Fair & Family Festival** will be held on Saturday, July 6th from 10:00 a.m. to 4:00 p.m.; opening ceremony is at 11:00 a.m. The event is free. The airport is located off SR 267 at 10356 Airport Road in Truckee.