APPENDIX 1A
GLOSSARY OF TERMS

APPENDIX 1A

Glossary of Terms & Acronyms

AADT	Annual Average Daily Traffic
BTA	Bicycle Transportation Account
BTP	Bicycle Transportation Plan
Caltrans	California Department of Transportation
CAAP	California Aid to Airport Programs
CEQA	California Environmental Quality Act
CTC	California Transportation Commission
CTSA	Consolidated Transportation Service Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HBRR	Highway Bridge Replacement and Rehabilitation Program
HES	Hazardous Elimination and Safety Program
IIP	Interregional Improvement Program
IRRS	Interregional Roadway System
ITIP	Interregional Transportation Improvement Program
ITS	Intelligent Transportation System
LOS	Level of Service (A-F)
LTC	Local Transportation Commission
LTF	Local Transportation Fund
MOU	Memorandum of Understanding
NEPA	National Environmental Protection Act
OWP	Overall Work Program
PPM	Planning, Programming and Monitoring
PSR	Project Study Report
RIP	Regional Improvement Program
RPA	Rural Planning Assistance
STP	Surface Transportation Program
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
SAFETE-LU	Safe, Accountable, Flexible, Efficient Transportation Equity: A Legacy for Users
SHA	State Highway Account
SHOPP	State Highway Operations and Protection Program
STA	State Transit Assistance (fund)
STIP	State Transportation Improvement Program
TDA	Transportation Development Act
TE	Transportation Enhancement
TCTC	Trinity County Transportation Commission
TDM	Transportation Demand Management
TP&D	Transportation Planning & Development
TSM	Transportation Systems Management

APPENDIX 1B
TRINITY COUNTY TRANSPORTATION COMMISSION (TCTC) PUBLIC INVOLVEMENT PROCEDURES

APPENDIX 1B

Trinity County Transportation Commission (TCTC)
Public Involvement Procedures

Introduction

The Trinity County Transportation Commission (TCTC) serves as the Regional Transportation Planning Agency (RTPA) and is responsible for deciding transportation policies and adopting transportation plans and programs to carry out these policies. The Regional Transportation Planning Guidelines (2010) require that each RTPA have a transportation planning process that includes a public involvement program. The public involvement program is intended to provide reasonable opportunity for citizens, private and public transit and freight operators, tribal governments and other interested parties to participate early in the RTP development process. The Public Involvement Procedures document contains the TCTC's policies and implementation measures to strengthen public participation in the Trinity County 2010 RTP update.

Relevant Regulations and Statutes

The public involvement procedures for the Trinity County RTP process stem from the following regulations and/or statutes:

- *ISTEA/TEA 21* – Public involvement in the transportation planning process took on an increased emphasis when Congress passed the Federal Intermodal Surface Transportation Act of 1991 (ISTEA). Federal regulations to implement ISTEA called for a proactive public involvement process. The process must respond not only to the requirements of ISTEA, but also those of related federal acts, such as the Clean Air Act and the Americans with Disabilities Act.

  The Transportation Equity Act for the 21st Century (TEA-21) succeeded ISTEA after September 30, 1997. TEA-21 is the federal legislation that authorizes a balance of federal highway, highway safety, transit, and other surface transportation program. TEA-21 builds on the initiatives established in ISTEA including the necessity for enhanced Public Involvement Procedures.

- *The Brown Act (Government Code Sections 54950-54962)* – The Brown Act governs the meetings and actions of governing boards of local public agencies and their created bodies. Requirements of the Brown Act also apply to any committee or other subsidiary body created by a governing board, whether permanent or temporary, whether decision-making or advisory.

  The Brown Act sets minimum standards for open meetings and public access to them, location of meetings, posting notice, agenda distribution, and public input. The public agency may adopt reasonable regulations ensuring the public's right to address the agency, including regulations to limit the total amount of time allocated for public testimony. The LTC and its standing committees all adhere to Brown Act requirements including proper notice, access, and the ability to address the LTC and its committees.

- *Americans with Disabilities (ADA)* – The Americans with Disabilities Act of 1990 (ADA) stipulates involving the community, particularly those with disabilities, in the development and improvement of transportation services. All events held for programs or projects with federal aid that are open to the general public must be made accessible to everyone, including the disabled.

The TCTC is in compliance with the ADA by having accessible formats, public meetings and public hearings. The TCTC also consults with individuals from the disabled community and by including representatives from or for the disabled and transportation disadvantaged on its SSTAC.

- *Title VI and Environmental Justice (EJ)* – Title VI requires each federal agency to ensure that no person is excluded from participation, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion. The Civil Rights Restoration Act of 1987 clarified the intent of Title VI to include all programs and activities of federal-aid recipients, sub recipients and contractors whether those programs and activities are federally funded or not.

On February 11, 1994, the President of the United States signed Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order requires that each Federal agency administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations.

In April 1997, the U.S. Department of Transportation (DOT) issued the DOT Order on Environmental Justice to Address Environmental Justice in Minority Populations and Low-Income Populations. The Order generally describes the process for incorporating environmental justice principles into all DOT existing programs, policies and activities.

In December 1998, the Federal Highway Administration (FHWA) issued FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations that requires the FHWA to implement the principles of the DOT Order 5610.2 and E.O. 12898 by incorporating environmental justice principles in all FHWA programs, policies and activities.

The FHWA and the Federal Transit Administration (FTA) issued a memorandum Implementing Title VI Requirements in Metropolitan and Statewide Planning on October 7, 1999. The memorandum provides clarification for field offices on how to ensure that environmental justice is considered during current and future planning certification reviews. The Federal Highway Administration considers three fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects on minority populations and low-income populations

- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process

- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

As the RTPA serving Trinity County, the TCTC implements and integrates the principles of environmental justice into its transportation planning process. The TCTC uses census information, special studies and public input to determine whether a particular population of people is receiving an inordinate number of government funded projects that negatively impact their neighborhoods and/or communities. Outreach activities for the RTP included in the TCTCs' Public Involvement Procedures include provisions for additional public notification such as newspaper notices and public workshops.

Native Americans are also protected under Title VI and Environmental Justice laws and outreach efforts to the Tribes are an integral part of the RTP update and public involvement process. Indian Tribal Governments must be consulted with and their interests considered during the development of RTPs and RTIPs.

Each tribal government in Trinity County was notified of and invited to participate in the planning process through an introductory letter sent by the County and personal telephone contacts by the Consultant. The officially recognized tribal governments in Trinity County along with their contact information are listed in Table 1.1

TABLE 1.1
FEDERALLY RECOGNIZED TRINITY COUNTY INDIAN TRIBAL GOVERNMENTS
REGIONAL TRANSPORTATION PLAN CONTACTS

Tribal Government	Telephone	Address	Contact Person
Nor Rel Muk Nation	530.623.4940	P.O. Box 1967 Weaverville, CA 96093	Marilyn Delgado (Chair)
Wintu Educational and Cultural Council	530.628.5930	P.O. Box 483 Hayfork, CA 96041	Robert Burns
The Tsnungwe Council	530.629.4758	P.O. Box 373 Salyer, CA 95563	Dena Magdaleno, Elder
Round Valley Indian Tribe	707.983.6126	P.O. Box 448 Covelo, CA 95128	
Hoopa Valley Indian Tribe	530.625.4211	P.O. Box 1348 Hoopa, CA 95546	

Notes: Each Tribal Government was contacted in May/June 2009 via telephone or letter.

Source: Trinity County Planning Department & Native American Heritage Commission

Public Participation Requirements - General Principles

The public participation program and process for Trinity County is proactive and does provide for timely public notice, full public access to key decisions, and continuing involvement of the public in developing the RTP. The following are the key program elements included in the TCTC public involvement procedures.

- *Timely Information*: Information about RTP issues and the update process will be provided to citizens, affected public agencies, private providers of transportation, interested parties and segments of the community affected by the RTP through public announcements, newspaper advertisements, and meeting agendas. The information will be provided in a timely manner so that the public can participate in the decision process.

- *Public Access*: The public will be afforded reasonable public access to technical and policy information used in the development of the RTP. Reasonable is defined as “during normal business hours” and/or during regular meetings of the TCTC and its committees.

- *Public Notice*: Adequate public notice of public involvement activities and time for public review and comment at key decision points will be provided, including, but not limited to, approval of RTP policies and objectives and transportation project lists.

- *Consideration of Public Input*: Demonstrate explicit consideration and response to public input received during the planning and program development process by documenting public comments and suggestions for consideration in the RTP update.

- *Participation by Underserved Groups*: Make a special effort to target RTP outreach activities to low-income and minority households, and tribal governments through mailings and public service announcements. Maintain a contact list of individuals and groups that serve these underserved groups.

- *Open Meetings*: All TCTC meetings are open to the public, and agendas are mailed to interested parties and are posted at the courthouse and on the internet. All TCTC meetings and advisory committee meetings include opportunities for public participation on agenda and non-agenda items

- *Public Hearings*: At least three public hearings will be held as required for adoption of the RTP and/or supporting documents

Local Transportation Commission (TCTC) Standing Committees

The following describes each of the TCTCs' current standing committees. A Steering Committee was established by the TCTC as part of the RTP process. All TCTC meetings and all TCTC standing committee and/or steering committee meetings are open to the public.

<u>Regional Transportation Plan Steering Committee</u>
The TCTC established a steering committee during the 2010 update of the Regional Transportation Plan. The Committee included representatives of schools, timber industry (goods movement), the Chamber of Commerce, Trails Committee, SSTAC, Caltrans, Emergency Services, the TCTC, the County Department of Transportation and the environmental community. The Committee met three times during preparation of the Preliminary Draft RTP. Meetings were open to the public.

<u>Social Services Transportation Advisory Council (SSTAC)</u>

The SSTAC is an advisory committee to the LTC on all matters pertaining to the transportation needs within the County. This includes the needs of transit dependent and transportation disadvantaged persons. The SSTAC input is considered in and made an integral part of the TCTCs' annual "unmet transit needs" hearing and findings process. Meetings are scheduled usually one to three times per year on a day and time set by the TCTC. The composition of the SSTAC, the terms of SSTAC appointments, and specific responsibilities of the SSTAC are found in the Public Utilities Code.

<u>Trinity County Airport Advisory Committee</u>

The Airport Advisory Committee is made up of local pilots and other interested parties who participate in voluntary attendance of meetings. The committee meets periodically as needed throughout the year, twice at a minimum, to discuss County airport needs and issues. These discussions lead to the formation of projects and goals to be included in the RTP, the Airport Layout Plans (ALP), the Federal Airport Capital Improvement Program (ACIP), and California's Capital Improvement Program (CIP) for funding eligibility.

TCTC Public Involvement Policies and Implementation Program

The following policies and procedures will guide the Trinity County 2010 Regional Transportation Plan Update process.

Policies:

1. The TCTC is a "public service" agency which supports an "open door" policy with respect to public involvement and access. The TCTC office is open for public visitation during normal business hours and normal business days. All citizens will be treated in a courteous and professional manner by TCTC staff.

2. No person shall be denied participation in TCTC meetings and activities unless specific instruction to the contrary is provided by the TCTC legal counsel.

3. All TCTC meetings and hearings will be held in ADA compliant facilities

4. Any member of the public may request an item on the TCTC agenda for consideration. Such items should be presented to the TCTC Executive Director no later than 12 days prior to the respective TCTC meeting data.

5. At the beginning of every TCTC meeting, an agenda item is included for "public comment". The purpose of the "public comment" agenda item is to allow any member of the public to address the TCTC on any subject. The time allotted may be limited to 5 minutes or less at the discretion of the TCTC Chair. Because no TCTC decisions can be made on any item not specified on the agenda, public matters not on the agenda that require a decision may be put on the agenda for decision at a future TCTC meeting.

6. When posting notices for public meetings, a notice is posted in the County Court House Bulletin Board. Notices for public hearings are also published in the legal ad section of the Trinity Journal at least 10 days prior to the hearing.

7. Any "public hearing" scheduled by the TCTC requires public notice regardless of whether it is a regular TCTC meeting time and place or not. All notices of public meetings or hearings include the following:

    - Date, time, and place of public meeting/hearing
    - General description of the matter to be considered

9. TCTC staff maintain a mailing list of interested persons who desire to be kept informed about progress on the RTP, its related documents, and meeting dates.

10. The TCTC may form special (ad hoc) RTP project "oversight committees" as needed for the development of the RTP Update and for the development of all special plans, projects, or programs necessary to complement or implement the RTP Update. All oversight committees will be open to the public. The findings and/or recommendations of the committee will be available for public review and comment before any final decision is made by the TCTC.

11. When feasible and deemed necessary, flyers and/or newsletters will be used to encourage involvement of the under-served and transit dependant citizens in the development of RTP projects and RTP workshops.

12. If requested, the TCTC will provide news releases or communicate with reporters working for local newspapers, radio stations, or television in the effort to provide information about the RTP process.

Public Involvement Implementation Measures:

- Disposition - Public written comments and/or oral comments that are received on the draft 2010 RTP and its various elements through the public involvement process, and that are deemed to be significant by the TCTC, will be summarized as to their content and disposition in the Final RTP.

Public Workshops – It is vital that the public has the opportunity to participate early in the planning stages for development of the RTP. Their input will be used as a review of proposed RTP projects and programs, and to suggest new projects and/or programs that have not been discussed before. The best venue to receive public input will be at each of the steering committee meetings. Normal procedures for notifying the public about the time and location of committee meetings will be followed.
The public input results (comments and/or suggestions) will be summarized by the consultant and/or TCTC staff and presented to the TCTC at one of their regularly scheduled meetings.

- Public Hearings – Public hearings will be held prior to the adoption of the RTP and other documents which require a public hearing. Public hearings will be held prior to a decision point as a formal means to gather citizen comments and positions from all interested parties for public record and input into the decision making process. TCTC hearings are required for the adoption of major plans, programming of money and for the annual Unmet Transit Needs analysis. Specific RTP decision points include:

    - Review and discussion of Preliminary Draft RTP
    - Review and discussion of Draft RTP and Draft CEQA Document
    - Presentation and hearing on Final RTP and CEQA Document
    - Adoption of Final RTP Document

- Other Relevant Public Involvement Measures – The TCTC will continue to comply with all State and Federal requirements regarding public participation, including those not explicitly provided for in this document. The TCTC will periodically review the public involvement procedures and implementation measures relative to their effectiveness in assuring that the process provides full and open access to all citizens of Trinity County. When needed, the public involvement procedures will be updated or revised.

APPENDIX 1C
MEMORANDUM OF AGREEMENT NORTH STATE SUPER REGION

APPENDIX 1C

Memorandum of Agreement
North State Super Region

The sixteen California counties of Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Sierra, Siskiyou, Shasta, Tehama, and Trinity share similar planning issues of a rural nature which include: a shortfall in transportation infrastructure funding, hard hit economies, and population growth. This North State Super Region establishes a partnership of Regional Transportation Planning Agencies (RTPAs) for coordinated planning, to influence state and federal policy, and to support funding and grants for partner transportation agencies.

This document establishes a framework by which the group can operate effectively to achieve its goals.

GOALS

The goals of the North State Super Region are:

- To collaborate on endorsement of projects, share resources and information, and bring political attention to the needs of the area, including interregional roads, transit, and goods movement.
- To unite as a larger voice to influence state and federal policy and funding priorities.
- To coordinate compliance with state and federal requirements, including blueprint planning and air quality regulation.
- To share and generate innovative ideas for project delivery and funding, among others.

COMPOSITION

Members are the RTPA Executive Directors in the sixteen counties of the Super Region. Outside persons or groups, including federal agencies, Caltrans, California Transportation Commission and other state agencies, universities, and private and non-profit groups may be invited for the purpose of sharing expertise, leadership or information.

The North State has three basic geographic divisions: valley, mountain, and coastal areas. As these areas have similar issues that bind them together, subgroups may be formed to achieve a particular goal common to these geographic areas. This does not detract from the solidarity of the larger group, but rather makes collaboration of smaller groups more effective.

MUTUAL UNDERSTANDING

a. <u>Participation.</u> The signatories designate the current participating Executive Directors, their designees or successors. Participation is voluntary. Neighboring counties that find they share similar interests are welcome to join this collaborative group.
b. <u>Activities.</u> Regional transportation planning priorities are the focus of the group. Needs of the regions and priorities of the group should be central to the partnership's activities. Efforts include collaboration and support of mutual interests, research of current issues and trends, and their effect on the group's

interests, letters to federal and state representatives, and formation of subcommittees to address specific topics.

c. Funding. No dues are required for this effort. Individual participation and effort are to be absorbed by the respective planning agencies. Grants and other funding sources may be explored by participants for concentrated efforts.
d. Decision making. Consensus will be sought for the groups will.
e. Meetings. Initial meetings will be held biannually, in the spring and fall, and located in areas convenient for the group at large. The agency sponsoring the meeting will be responsible for choosing a specific location, agenda and handout preparation, and invitations.

SIGNATORIES TO THE MEMORANDUM OF UNDERSTANDING

We acknowledge the above as our understanding of the foundation and basis of the North State Super Region.

Jon Clark, Butte CAG	Date
James Bell, Colusa Co TC	Date
Tamera Leighton, Del Norte LTC	Date
John Linhart, Glenn Co TC	Date
Marcella Clem, Humboldt CAOG	Date
Lisa Davey-Bates, Lake Co City/Area Planning Council	Date
Larry Millar, Lassen Co TC	Date
Phil Dow, Mendocino COG	Date
Pam Couch, Modoc Co TC	Date
Daniel Landon, Nevada Co TC	Date
Dan Little, Shasta Co RTPA	Date

Tim Beals, Sierra Co TC	Date
Tom Anderson, Siskiyou Co LTC	Date
Gary Antone, Tehama Co TC	Date
Richard Tippett, Trinity Co TC	Date
Marty Byrne, Plumas Co TC	Date

APPENDIX 1D
UPDATE TO THE TRINITY COUNTY 2010 REGIONAL TRANSPORTATION PLAN MEMORANDUM AND TRINITY COUNTY CONTACT LIST

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: May 14, 2009

To: All Interested Parties

From: Rich Ledbetter (Project Manager)

Subject: Update of the Trinity County 2010 Regional Transportation Plan

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Fehr & Peers, Transportation Consultants, have been contracted by the Trinity County Transportation Commission to complete an update to the County's existing 2005 Regional Transportation Plan. The updated 2010 plan will focus on transportation programs and projects that are needed in Trinity County over the next 20 years. The horizon date for the 2010 RTP will be the year 2030.

It is anticipated that the planning process will take approximately one year and will involve recommended improvements and programs for all modes of transportation including auto, truck, bicycle, transit, pedestrian, freight, and aviation. During the planning process there will be opportunity for you to review written material, attend meetings, and provide your input and comments at County events. The project managers and contacts for the project are:

Jan Smith – Trinity County Department of Public Works (530.623.1365)

Katy Cole – Fehr & Peers, Reno Office (775.826.3200)

Rich Ledbetter – Fehr & Peers, Roseville Office (916.773.1900).

We look forward to working with you on updating this important planning document. Please feel free to contact one of us if you have questions or comments about the update process.

Thanking you in advance for your participation.

APPENDIX 1D

Trinity County Contact List

Native American

Nor Rel Muk Nation
P.O. Box 1967
Weaverville, CA 96093
(530) 623-4940
Chair: Marilyn Delgado

Wintu Educational and Cultural Council
Robert Burns
P.O. Box 483
Hayfork, CA 96041
(530) 628-5930

The Tsnungwe Council
Dena Magdaleno, Elder
P.O. Box 373
Salyer, CA 95563
(530) 629-4758

Round Valley Indian Tribe
P.O. Box 448
Covelo, CA 95128
(707) 983-6126

Hoopa Valley Indian Tribe
PO Box 1348
Hoopa, California 95546
(530) 625-4211

Schools

Trinity County Office of Ed.
Jim French-Superintendent of Schools
P.O. Box 1256
Weaverville, CA 96093
(530) 623-2861
jimf@tcoek12.org

Junction City Elementary School
Christine Camara, Superintendent
(530) 623-16381
ccamara@junctioncityschool.org

Burnt Ranch Elementary School
Sarah Supahan, Dist. Superintendent
(530) 629-2453
ssupahan@tcoek12.org

Cox Bar Elementary School
Cheri Donohue, Principal
623-6316

Lewiston Elementary School
Duncan Hobbs, Superintendent
(530) 778-3984
dhobbs@tcoek12.org

Trinity Center Elementary School
Stephanie Petrick, Principal
spetrick@tcoek12.org
Marilyn Myrick, Superintendent

Coffee Creek School
Francine Epperson, Principal
(530) 266-3344

Mountain Valley Unified School District
Tom Barnett, Superintendent/Principal
(530) 628-5265
Hayfork High School
Valley High School
Community Day School

Deborah Hansen, Principal
(530) 628-3091
Hayfork Elementary School
Hyampom Arts Magnet School

Southern Trinity Joint Unified School District
Peggy Canale, Superintendent
Southern Trinity High School
Van Duzen Elementary School
Hoaglin-Zenia Elementary School

Weaverville, CA 96093
(530) 623-2500

Caltrans
Transportation Planners
Scott White (530)229-0518
Michelle Millette (530) 229-0517
Pat Carr (530) 225-3238
Engineering
Steve Rogers (530) 225-2455
Steve_Rogers@dot.ca.gov
Local Assistance
Heidi Borders (530) 225-4425
Heidi_Borders@dot.ca.gov
Community Planning
Marcelino Gonzales
(530) 229-0517

Shasta County Dept. Public Works
1855 Placer Street
Redding, CA 96001
Dan Little, Executive Officer
dlittle@co.shasta.ca.us
Sue Crowe, Accountant Auditor III
(530) 245-6826
scrowe@co.shasta.ca.us

Humboldt Co. Association of Gov.
Spencer Clifton
3 (707) 444-8208
mail@hcaog.net

Emergency Services

Trinity County Sheriff's Dept.
Lorrac Craig, Sheriff
P.O. Box 1228
Weaverville, CA 96093
(530) 623-2611
lcraig@trinitycounty.org

Eric Palmer, Undersheriff
epalmer@trinitycounty.org

Trinity County Life Support
Kathy Ratliff, Manager
P.O. Box 2907

Southern Trinity Health Services
Cathy Larsen, Executive Director
P.O. Box 4
Mad River, CA 95552
(707) 574-6616
clarsen@sthsclinic.org

Cal Fire
Kelly Dreesman (until June)
Joe Hernandez (begins in June)
P.O. Box 639
Lewiston, CA 96052
(530) 286-2880

CHP
Joe Micheletti, Commander
Weaverville
(530) 623-3832

Trucking
Trinity River Lumber Company
Dee Sanders, Manager
P.O. Box 249
Weaverville, CA 96093
(530) 623-5561

Bettendorf Trucking
P.O. Box 4689
Arcata, CA 95518
(707) 822-8271

Joe Costa Trucking
5540 West End Road
Arcata, CA 95518
(707) 822-2901

Jefferson State Forestry Products
Patrick Saaf, CEO
P.O. Box 1376
Hayfork, CA 96041
(530) 628-1101

Resource Agencies
Trinity County Agriculture Commissioner
(and Solid Waste division)
Mark Lockhart, Director
(530) 623-1356
mlockhart@trinitycounty.org

California Department of Fish & Game
Dr. Richard Lis
2440 Athens Avenue
Redding, CA 96001
(530) 225-2142

U.S. Fish and Wildlife Service
Ray Bosch
1655 Heindon Road
Arcata, CA 95521
(707) 822-7201
ray_bosch@fws.gov

NOAA Fisheries Service
Irma Lagomarsino
1655 Heindon Road
Arcata, CA 95521
Irma.lagomarsino@noaa.gov

Federal landholders
United States Forest Service
Shasta-Trinity National Forest
Gene Rand, Roads Superintendant
3644 Avtech Parkway
Redding, CA 96002
Phone (530) 226-2330
erand@fs.fed.us

Weaverville Ranger District
Lance Koch, District Ranger
(530) 623-2121
lkoch@fs.fed.us
Ken Kellogg, Forest Engineer
(530) 926-9625
kekellogg@fs.fed.us

South Fork Management Unit
Donna Harmon, Ranger
(530) 628-5227
dharmon@fs.fed.us
Lori Jackson, Roads Superintendant
(530) 628-1226
ljackson@fs.fed.us
Shasta-Trinity-Whiskeytown
National Recreation Area
Kristy Cottini, Ranger
kcottini@fs.fed.us

Six Rivers National Forest
Dave Rutherford, Roads Superintendent
(707) 441-3621
dwrutherford@fs.fed.us

U.S. Bureau of Land Management
Steven Anderson, Redding Field Manager
355 Hemsted Drive
Redding, CA 96002-0910
(530) 224-2100
caweb360@ca.blm.gov

Trinity River Restoration Program
Mike Hamman
(530) 623-1800
mhamman@usbr.gov
ibr2mprpao@mp.usbr.gov

Other local agencies

Trinity Resource Conservation District
and Weaverville Community Forest
Pat Frost, Manager
(530) 623-6004
pfrost@tcrcd.net

Northwest California Resource
Conservation and Development Council
PO Box 2183
Weaverville, CA 96093

Weaverville Basin Trails Committee
Scott Morris, Chair
PO Box 1450
Weaverville, CA 96093
(530) 623-6004
smorris@trinitycounty.org

Lewiston Trails Committee
Chris Erikson
(530) 778-0306
erikson@com-pair.net

APPENDIX 1E
STEERING COMMITTEE MEETING SUMMARY MEMORANDUM
(MEETING #1, #2, AND #3)

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: August 14, 2009

To: Trinity County RTP Steering Committee

From: Katy Cole, Fehr & Peers
Rich Ledbetter, Fehr & Peers

Subject: Steering Committee Meeting #1 Summary

RN09-0427

The first Trinity County Regional Transportation Plan (RTP) Steering Committee meeting was held on July 30, 2009 at 1:00 PM at the Weaverville Library.

The Consultant began the meeting with introductions of committee members, County staff, and consultant staff. The following individuals were in attendance:

Trinity County

- Richard Tippett
- Jan Smith
- Polly Chapman
- John Jelicich

Consultant

- Katy Cole
- Rich Ledbetter

Steering Committee Members

- Larry Masterman, Trinity County Sheriffs Dept.
- Wendy Reiss, TCTC
- Francine Mezo, SSTAC
- Michelle Millette, Caltrans District 2
- Colleen O'Sullivan, Resource Conservation District
- Tom Walz, Sierra Pacific Industries
- Pat Zugg, Trinity County Chamber

INTRODUCTION TO THE RTP PLANNING PROCESS

Rich Ledbetter provided an overview of the RTP planning process as it applies to Trinity County. The latest 2007 RTP guidelines were discussed along with the purpose of the RTP, relationship to the State Transportation Improvement Program (STIP), identification of purpose and need for projects, the concept of a "balanced" transportation system, and the need to effect coordination with State, local and private interests.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

EXISTING CONDITIONS

Katy Cole provided technical information contained in the Existing Conditions Technical Report. The discussion included the following:

- Historical traffic growth (volumes and LOS) on State facilities.
- Traffic growth vs. population growth trends
- Estimates of employment growth
- Existing roadway classification system

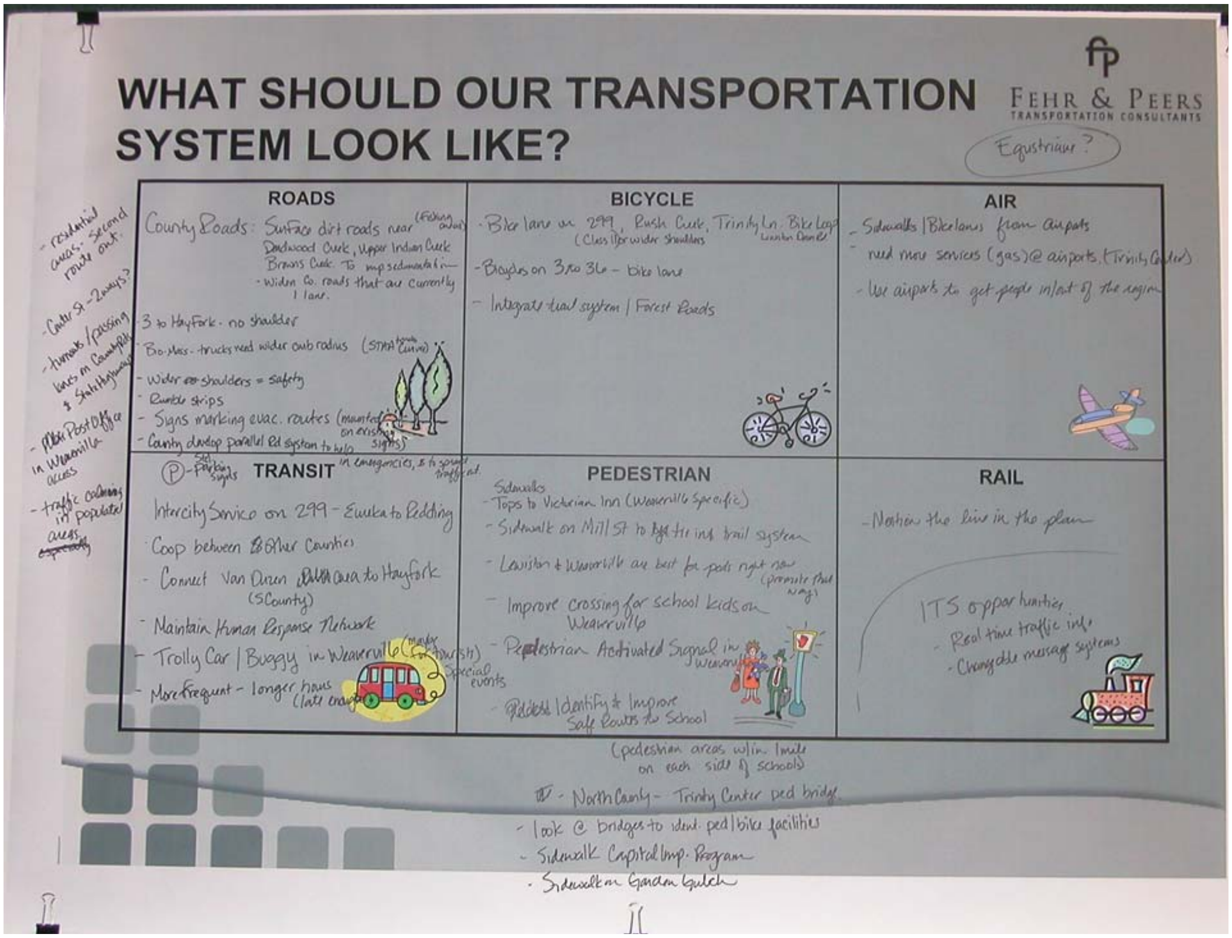
The committee had a lengthy discussion on roadway classification. Currently, SR 299 is designated as a major arterial and SR 3 and SR 36 are designated at minor arterials. If possible, the committee suggested that SR 3 from Hayfork to Douglas City should be a major arterial.

In addition, Richard Tippett commented that the document should not focus exclusively on Weaverville or just on Caltrans facilities, but rather all of the County.

BRAINSTORMING: WHAT SHOULD OUR TRANSPORTATION SYSTEM LOOK LIKE?

The Committee was asked to brainstorm what the transportation system should look like in 2030. All modes including auto, transit, bike, pedestrian, aviation, and rail were addressed.

Katy Cole wrote ideas on the brainstorming board, pictured below.



The following general comments were provided:

- **Maintenance** – There is a need to re-surface several county roads that are adjacent to bodies of water. Examples given included Deadwood Creek (Deadwood Road #211), Upper Indian Creek (Indian Creek Road #336), and Browns Creek (Deerlick Springs Road #335).

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- **Parallel Facilities** - The committee identified the need for a parallel road system to the State highway system so that residents had additional evacuation and travel route choices. They also indicated that many outlying residential areas need a second route or way to get out of their location.

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GOALS AND POLICIES

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- There should be a goal for "equestrian" added to the RTP
- Goal 5.1 should be separated and clarified. The concepts of tourist charter buses, parking, and freight movement should be addressed separately.
- In Goal 6.1, the word "unnecessary" was confusing. The committee felt a better word could be used.

GROWTH PROJECTIONS

Katy Cole discussed that a travel demand model will be used to forecast future traffic volumes. A travel demand model currently exists and is being re-validated and calibrated for use in developing the RTP. The model will provide two pieces of information: 1). 2030 traffic volumes, 2). Vehicle Miles of Travel (VMT) to address green-house gas requirements. One of the main inputs in the travel demand model is the amount of land use growth (based on the Land Use Element of the General Plan) that will occur between now and 2030. The Steering Committee will have input into the growth assumptions used during the model development.

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The committee requested that meeting materials be distributed approximately 1 ½ to 2 weeks prior to the meeting date.

Three steering committee meetings are scheduled as part of the RTP update process and the remaining two are tentatively planned for September and December.

The meeting adjourned at 4:00 PM.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: October 27, 2009

To: Trinity County RTP Steering Committee

From: Katy Cole, Fehr & Peers
Dave Robinson, Fehr & Peers

Subject: Steering Committee Meeting #2 Summary

RN09-0427

The second Trinity County Regional Transportation Plan (RTP) Steering Committee meeting was held on October 19, 2009 at 9:00 AM at the Weaverville Library. The slides from the Power Point presentation are attached.

The following individuals were in attendance:

Trinity County

- Jan Smith
- Polly Chapman
- John Jelicich

Consultants

- Katy Cole
- Dave Robinson

Steering Committee Members

- Francine Mezo, SSTAC
- Scott White, Caltrans District 2
- Colleen O'Sullivan, Resource Conservation District
- Pat Zugg, Trinity County Chamber

Guest Speakers

- Gerry Heinan, Trinity County Postmaster, USPS

Members of the Public

- Dick Morris

USPS IN TRINITY COUNTY

The meeting started with Mr. Gerry Heinan, Trinity County Postmaster, providing a discussion on mail delivery options in Trinity County. He indicated that home delivery was not an option at this time because of economic conditions with the Post Office. The current estimate is that the USPS is losing

20 million dollars per day. A home delivery route would at a minimum cost $20,000 per year and the Weaverville area would need at least three routes.

Mr. Heinan indicated that if enough people (several hundred to several thousand) were to sign a petition requesting home delivery, then the service would only be provided on an existing service line, which for Trinity County, would be on the State Highway. Cluster boxes would likely need to be used because the postal vehicle must have right-of-way to pull off the street, out of traffic flow, at each box. Curbside boxes would be required, no letterslots. In addition, consideration would need to be given to the visual impact of the mail boxes/cluster boxes on the street and they may impact the sidewalk width.

A question was asked about the potential for a satellite Post Office at TOPS grocery store. Mr. Heinan indicated that it has not been evaluated but that he agreed that it could help better serve the community. However, given the cost and staffing issues, it would not likely be feasible in the near term.

The committee also had a discussion about the existing Post Office and how it provides a social function for many people in the community. Many people go to the Post Office at a certain time of the day to “bump into” friends and other people. In addition, business owners also network at the Post Office. A comment was made by the committee that many people “link” trips and do several errands in town in addition to picking up their mail in one trip. Mr. Heinan agreed with the discussion about the social aspects of the Post Office and that people often stop at the Post Office while they are out running other errands.

UPDATED DRAFT GOALS AND POLICIES

Katy Cole led the discussion on the Draft Goals and Policies that were provided in the Technical Memorandum dated October 6, 2009. Katy asked the committee if there were any overall comments on the Draft Goals and Policies. John Jelicich suggested that Policy 1.1E be relocated to Goal 0 since it provides overall direction on the RTP, not just on streets and highways. The committee agreed, and the policy will be moved.

Katy then initiated a discussion about two specific items within the goals and policies: level of service and support for improvements to Buckhorn Grade to allow STAA standard trucks.

Level of Service

Katy provided information specifically focused on the costs associated with various roadway and intersection levels of service (LOS). She provided two slides to demonstrate the cost of LOS. The first slide showed two extreme photographic examples of LOS A and LOS F, as defined by the Highway Capacity Manual. The slide indicated that an economist’s perspective of LOS A might be LOS F because the roadway appears to be overbuilt; therefore, resources may have been wasted. In contrast, an economist’s perspective of LOS F might be LOS A because the facility is being fully utilized and is not over built. Scott White pointed out that an economist may not agree that LOS F is LOS A because there are other factors to consider such as peoples’ time and the efficiency of the system, and therefore, an economist would likely see LOS C or D as a good use of resources. Katy agreed that the example showed two extremes to highlight the overall point that it is not good planning to over build road facilities because it is not an efficient use of resources. Katy also discussed a slide that showed the results of a jurisdiction changing to a LOS C policy from a LOS D/E policy. The slide includes a photo depicting major widening at an intersection.

The purpose of the discussion was to provide context for the draft level of service policy. Based on the discussion, the policy (Policies 1.1A and 1.1B) will remain as written for county facilities, including intersections of county roads with state highways. Scott White indicated that Caltrans LOS standards are applicable to state facilities, including intersections of two state highways (e.g. the intersection of SR 3/SR 299). Therefore, Policy 1.1C will be modified to state: "The Level of Service (LOS) standard for state highway roadway segments *and intersections* is defined in the Caltrans Transportation Concept Report (TCR) for the facility."

Buckhorn Grade Improvements

Katy facilitated a discussion of whether or not the county should support improvements on Buckhorn grade which would allow STAA trucks passage on SR 299. Scott White indicated that there are approximately 55 areas on Buckhorn Grade that are problematic for STAA trucks, 10 of them were removed with the current projects, and 20-30 will be removed with currently funded projects. He indicated that it is likely that all barriers to STAA trucks will be removed within the 20-year life of the RTP. Scott White also mentioned that STAA trucks can currently use SR 299; however, it is at their own risk and they take on liability doing so.

The committee discussed that the benefit to improvements was that it might encourage tourist travel by making Buckhorn Grade easier to travel on. At the same time, the improvements might increase commute traffic from Trinity County to the Redding area, which is not desired. In addition, the improvements may create more regional truck trips between Humboldt County and Shasta County, which is also not desirable.

The overall consensus was to support the improvements and to leave Objective 5.1 and associated policies as written.

TRAVEL DEMAND MODELING UPDATE

Dave Robinson provided a travel demand model update. The existing conditions model is up and running and currently being fine-tuned to better reflect Trinity County conditions. Detail will be provided in some communities and local trip generation rates will be applied. For example, the national average trip generation for a single family home is approximately 10 trips per day. Trinity County likely varies from this and traffic counts have been conducted to determine what the Trinity County characteristics are, both within Weaverville and in other communities.

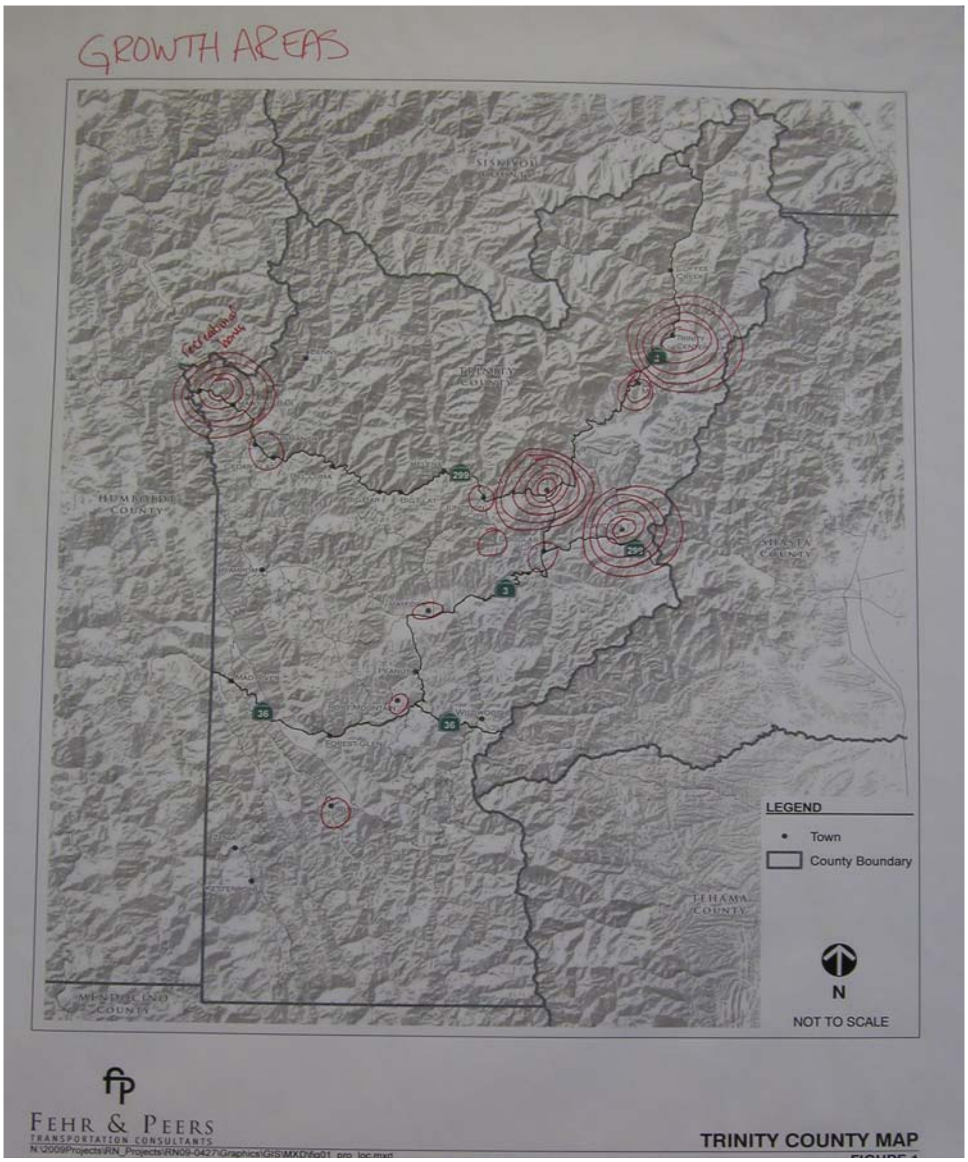
TRINITY COUNTY IN THE FUTURE

Katy provided background information on how the County has grown historically. Over the last 50 years, Trinity County has grown approximately 0.9% per year and over the last nine years the County has grown approximately 0.8% per year. Katy suggested that 0.8% per year population growth be used to forecast future population in the County. The forecasts will be used in the travel demand model to develop future traffic volumes. For reference, the State of California has grown approximately 2.0% per year between 1974 and 1994.

The committee discussed the growth rate and agreed that given the historical information and the fact the growth has been consistent throughout the last 50 years, that the rate seemed appropriate. Mr. Dick Morris, of the public, also suggested that school enrollment and new electric meter information be used to help formulate future growth estimates. Katy and Dave agreed that the information could provide insight and will obtain readily available information, including new electric meters as well as new building permits for the last 7 years.

To put the growth rate into perspective, Scott White provided some quick "back of the envelope" calculations of future population. A 0.8% per year population growth would equate to approximately 2,800 new people throughout the county by 2030 with approximately 600 to 700 people in Weaverville. If you assume 2 people per home, it equates to approximately 300-350 new homes in Weaverville. The committee discussed this and everyone present agreed that it seemed like a reasonable number by year 2030. Katy indicated that her initial assessment is that the existing and currently planned roadway projects will probably have the capacity to accommodate traffic associated with this level of growth and major capacity improvements would not be necessary; however, the analysis has not be completed and it is premature to speak in certain terms.

Katy then led an exercise to determine where population growth would likely occur in the County. Katy provided everyone present a County map and asked each participant to mark the top three to five places where they thought growth would occur. Katy then collected the maps and summarized them on one larger map (shown in the photo below).



The majority of the committee expects Weaverville, Lewiston, and Trinity Center to have the most growth over the next 20 years. Much of the committee also indicated that the west side of the County on SR 299 would experience growth, primarily in vacation homes.

OTHER ITEMS

The next Steering Committee Meeting will occur in January 2010.

The meeting adjourned at 11:15 AM.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: March 24, 2010

To: Trinity County RTP Steering Committee

From: Katy Cole, Fehr & Peers
Dave Robinson, Fehr & Peers

Subject: Steering Committee Meeting #3 Summary

RN09-0427

The third Trinity County Regional Transportation Plan (RTP) Steering Committee meeting was held on March 10, 3010 at 8:30 AM at the Weaverville Library. The slides from the Power Point presentation are attached.

The following individuals were in attendance:

Trinity County

- Jan Smith
- John Jelicich
- Rick Tippet

Consultants

- Katy Cole
- Dave Robinson

Steering Committee Members

- Francine Mezo, SSTAC
- Scott White, Caltrans District 2
- Colleen O'Sullivan, Resource Conservation District
- Larry Masterman, Trinity County Sheriffs Department
- Tom Walz, Sierra Pacific Industries

Members of the Public

- None

TRAVEL DEMAND MODEL

Dave Robinson from Fehr & Peers began the discussion on the travel demand model. He provided information on improvements to the travel demand model including addition of transportation analysis zones (TAZs), improved detail to communities within Trinity County, refinement of the roadway network, and refinement to the land use assumptions (such as developing Trinity County specific trip generation estimates based on traffic counts). Information on the additional detail is provided in the attached slides. The Committee discussed the traffic data collected. Tom Walz asked if traffic counts associated with logging truck traffic on rural unpaved feeder roads (such as Deerlick Springs) were counted. Dave and County Staff indicated that counts were not performed to collect this specific information because of the relatively low traffic volumes. The Committee also commented that residents also use feeder (county) roads (not just highways) to travel within the County. Katy Cole and Dave indicated that counts were performed on county roads throughout the Trinity County communities. In fact, more county roads were included in this RTP update than in the 2005 RTP.

Katy then presented a slide from Steering Committee Meeting #2 related to population growth assumptions. The Trinity County growth assumption of 0.8% per year was used to develop the land use assumptions for the 2040 travel demand model development. A population growth of 0.8% per year results in a growth of 1,356 single-family dwelling units (SFDU) and 227 multi-family dwelling units (MFDU) located throughout the County by 2040. The growth was allocated throughout the County using the input obtained during Meeting #2 on where County growth will occur. For example, 42% of the growth (569 SFDU and 95 MFDU) were allocated to Weaverville, 14% (190 SFDU and 32 MFDU) was allocated to Lewiston, and 12% (163 SFDU and 27 MFDU) was allocated to Trinity Center. A complete list of the allocation assumptions is provided in the attached slides. Larry Masterman asked if the growth allocation/rate is based on developable land and future population estimates. Katy indicated that the growth allocation is consistent with the future population estimates for the County and that the allocations to specific communities do consider the County General Plan and developable land. Rick Tippet also stated that the traffic volume growth rate on SR 299 will be higher than assumed population growth rate in Trinity County (0.80% per year) due to growth in through traffic on SR 299. Dave indicated that the Caltrans Statewide Model and statewide growth trends were used to determine through traffic on SR 299.

Katy presented tables with existing and forecasted 2040 traffic volumes and roadway segment operations (level of service) on state highways and county roads throughout Trinity County (see the attached slides for tables). The 2040 traffic volume forecasts provide results for with and without the East Connector roadway. It should be noted that the East Connector roadway is an approved project and the information for with and without the roadway is provided for informational purposes only. Consistent with previous analysis, Fehr & Peers level of service analysis indicates that the East Connector is a necessary improvement to maintain an acceptable level of service on SR 299 through Downtown Weaverville. Rick Tippet noted that the East Connector is intended to provide local access and connectivity within Weaverville. The travel demand model results support this intention and show that the majority of traffic on the East Connector will be traffic that previously utilized Washington Street. The Committee discussed the signing of the East Connector and whether there would be signing direct motorists from SR 299 to SR 3. Scott White commented that it is not Caltrans policy to direct travelers to use local roadways for access to/from two state facilities.

Katy also presented level of service at five existing intersections in Weaverville and level of service at the East Connector intersections with SR 299 and SR 3. The analysis indicates that intersection improvements (additional turn lanes, traffic signal, or roundabout) will be necessary on SR 299 at Washington and at Garden Gulch. Additionally, the analysis indicates that a traffic control device (i.e. a traffic signal or roundabout) is necessary at the SR 299/East Connector intersection. A traffic signal is planned at the intersection and would provide acceptable levels of service. Rick Tippet and the Committee suggested that intersection analysis be presented for intersections in other communities within Trinity County, not just Weaverville. Katy indicated that traffic volumes could be obtained from the travel demand model to perform the analysis and that they would be included in the RTP.

DRAFT PROJECT LIST

The draft project list will be developed using the operations analysis, input on roadway maintenance/bridge replacements from County staff, updating the project lists in the 2005 RTP, and input from the Committee obtained during Meeting #1.

Katy provided summary slides (see attached) of the project list input from the Committee during Meeting #1. Katy then discussed potential options for improving the intersections within Weaverville. A SR 299 corridor study will be completed by Fehr & Peers to identify intersection improvement options on SR 299 in Weaverville. Katy suggested that traffic signals and roundabouts be considered as options and asked the committee if they had any questions regarding roundabouts or input regarding the use of roundabouts. Katy indicated that roundabouts are a viable option and are desired in many communities because they do not require electricity, are easy to maintain, safety benefits (due to slow speed), landscaping/aesthetic opportunities, and typically vehicles experience less delay at roundabouts than at traffic signals. The committee discussed roundabouts and asked questions about how pedestrians and bicycles can be accommodated. Katy indicated that bicycles and pedestrians are easily accommodated. Katy also indicated that one challenge with roundabouts is that they require more right-of-way to construct. Rick indicated that roundabouts would need to accommodate STAA trucks. Based on the discussion, the corridor study will consider both roundabouts and traffic signals as appropriate. Scott White suggested that visual of a roundabout showing the footprint relative to an intersection be provided to inform the public of any right-of-way impacts.

The committee discussed other potential projects and transportation needs including:

- Desire to reduce road noise, particularly due to semi-truck jake brake use, in the Oregon Street area and Coffee Creek area.
- Identify sobriety check point enforcement areas throughout the County.
- STAA access on SR 299 (projects currently proposed by Caltrans).
- Safety improvements to Highway 3 to Hayfork: straighten curves and provide additional passing opportunities. Scott White commented that funding for SR 3 is more limited than SR 299.
- Provide evacuation signage on roadways downstream of dams (especially near campgrounds that have a high non-local population).
- Remove sidewalk projects in Hayfork.

OTHER ITEMS

The committee suggested that additional public meetings should be held: one in Weaverville and one in Hayfork. Katy indicated that public meetings would be scheduled and Fehr & Peers will work with County staff to determine specific locations and dates.

APPENDIX 1E
STEERING COMMITTEE MEETING SUMMARY MEMORANDUM
(MEETING #1, #2, AND #3)

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: August 14, 2009

To: Trinity County RTP Steering Committee

From: Katy Cole, Fehr & Peers
Rich Ledbetter, Fehr & Peers

Subject: Steering Committee Meeting #1 Summary

RN09-0427

The first Trinity County Regional Transportation Plan (RTP) Steering Committee meeting was held on July 30, 2009 at 1:00 PM at the Weaverville Library.

The Consultant began the meeting with introductions of committee members, County staff, and consultant staff. The following individuals were in attendance:

Trinity County

- Richard Tippett
- Jan Smith
- Polly Chapman
- John Jelicich

Consultant

- Katy Cole
- Rich Ledbetter

Steering Committee Members

- Larry Masterman, Trinity County Sheriffs Dept.
- Wendy Reiss, TCTC
- Francine Mezo, SSTAC
- Michelle Millette, Caltrans District 2
- Colleen O'Sullivan, Resource Conservation District
- Tom Walz, Sierra Pacific Industries
- Pat Zugg, Trinity County Chamber

INTRODUCTION TO THE RTP PLANNING PROCESS

Rich Ledbetter provided an overview of the RTP planning process as it applies to Trinity County. The latest 2007 RTP guidelines were discussed along with the purpose of the RTP, relationship to the State Transportation Improvement Program (STIP), identification of purpose and need for projects, the concept of a "balanced" transportation system, and the need to effect coordination with State, local and private interests.

EXISTING CONDITIONS

Katy Cole provided technical information contained in the Existing Conditions Technical Report. The discussion included the following:

- Historical traffic growth (volumes and LOS) on State facilities.
- Traffic growth vs. population growth trends
- Estimates of employment growth
- Existing roadway classification system

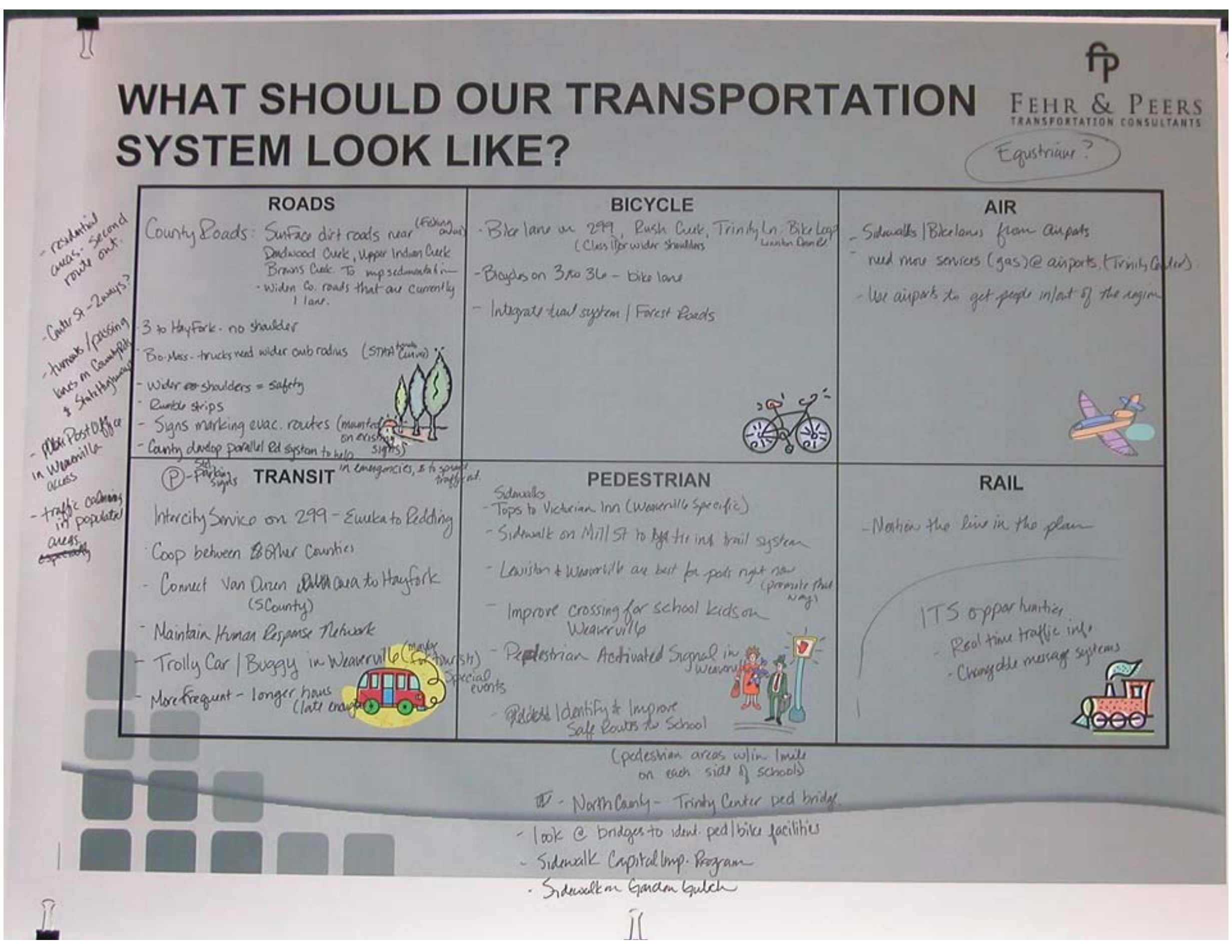
The committee had a lengthy discussion on roadway classification. Currently, SR 299 is designated as a major arterial and SR 3 and SR 36 are designated at minor arterials. If possible, the committee suggested that SR 3 from Hayfork to Douglas City should be a major arterial.

In addition, Richard Tippett commented that the document should not focus exclusively on Weaverville or just on Caltrans facilities, but rather all of the County.

BRAINSTORMING: WHAT SHOULD OUR TRANSPORTATION SYSTEM LOOK LIKE?

The Committee was asked to brainstorm what the transportation system should look like in 2030. All modes including auto, transit, bike, pedestrian, aviation, and rail were addressed.

Katy Cole wrote ideas on the brainstorming board, pictured below.



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FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

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From: Katy Cole, Fehr & Peers
Dave Robinson, Fehr & Peers

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Level of Service

Katy provided information specifically focused on the costs associated with various roadway and intersection levels of service (LOS). She provided two slides to demonstrate the cost of LOS. The first slide showed two extreme photographic examples of LOS A and LOS F, as defined by the Highway Capacity Manual. The slide indicated that an economist’s perspective of LOS A might be LOS F because the roadway appears to be overbuilt; therefore, resources may have been wasted. In contrast, an economist’s perspective of LOS F might be LOS A because the facility is being fully utilized and is not over built. Scott White pointed out that an economist may not agree that LOS F is LOS A because there are other factors to consider such as peoples’ time and the efficiency of the system, and therefore, an economist would likely see LOS C or D as a good use of resources. Katy agreed that the example showed two extremes to highlight the overall point that it is not good planning to over build road facilities because it is not an efficient use of resources. Katy also discussed a slide that showed the results of a jurisdiction changing to a LOS C policy from a LOS D/E policy. The slide includes a photo depicting major widening at an intersection.

The purpose of the discussion was to provide context for the draft level of service policy. Based on the discussion, the policy (Policies 1.1A and 1.1B) will remain as written for county facilities, including intersections of county roads with state highways. Scott White indicated that Caltrans LOS standards are applicable to state facilities, including intersections of two state highways (e.g. the intersection of SR 3/SR 299). Therefore, Policy 1.1C will be modified to state: "The Level of Service (LOS) standard for state highway roadway segments *and intersections* is defined in the Caltrans Transportation Concept Report (TCR) for the facility."

Buckhorn Grade Improvements

Katy facilitated a discussion of whether or not the county should support improvements on Buckhorn grade which would allow STAA trucks passage on SR 299. Scott White indicated that there are approximately 55 areas on Buckhorn Grade that are problematic for STAA trucks, 10 of them were removed with the current projects, and 20-30 will be removed with currently funded projects. He indicated that it is likely that all barriers to STAA trucks will be removed within the 20-year life of the RTP. Scott White also mentioned that STAA trucks can currently use SR 299; however, it is at their own risk and they take on liability doing so.

The committee discussed that the benefit to improvements was that it might encourage tourist travel by making Buckhorn Grade easier to travel on. At the same time, the improvements might increase commute traffic from Trinity County to the Redding area, which is not desired. In addition, the improvements may create more regional truck trips between Humboldt County and Shasta County, which is also not desirable.

The overall consensus was to support the improvements and to leave Objective 5.1 and associated policies as written.

TRAVEL DEMAND MODELING UPDATE

Dave Robinson provided a travel demand model update. The existing conditions model is up and running and currently being fine-tuned to better reflect Trinity County conditions. Detail will be provided in some communities and local trip generation rates will be applied. For example, the national average trip generation for a single family home is approximately 10 trips per day. Trinity County likely varies from this and traffic counts have been conducted to determine what the Trinity County characteristics are, both within Weaverville and in other communities.

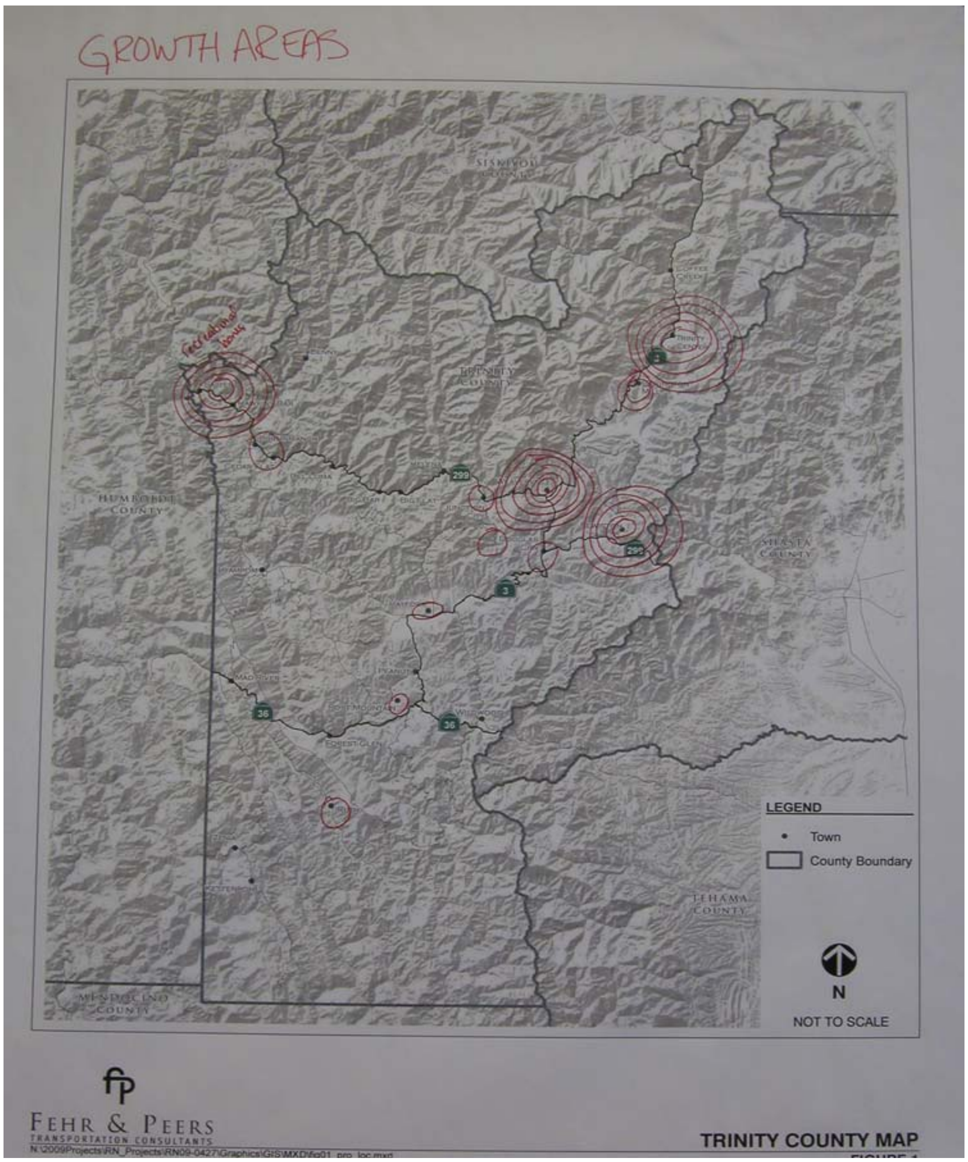
TRINITY COUNTY IN THE FUTURE

Katy provided background information on how the County has grown historically. Over the last 50 years, Trinity County has grown approximately 0.9% per year and over the last nine years the County has grown approximately 0.8% per year. Katy suggested that 0.8% per year population growth be used to forecast future population in the County. The forecasts will be used in the travel demand model to develop future traffic volumes. For reference, the State of California has grown approximately 2.0% per year between 1974 and 1994.

The committee discussed the growth rate and agreed that given the historical information and the fact the growth has been consistent throughout the last 50 years, that the rate seemed appropriate. Mr. Dick Morris, of the public, also suggested that school enrollment and new electric meter information be used to help formulate future growth estimates. Katy and Dave agreed that the information could provide insight and will obtain readily available information, including new electric meters as well as new building permits for the last 7 years.

To put the growth rate into perspective, Scott White provided some quick "back of the envelope" calculations of future population. A 0.8% per year population growth would equate to approximately 2,800 new people throughout the county by 2030 with approximately 600 to 700 people in Weaverville. If you assume 2 people per home, it equates to approximately 300-350 new homes in Weaverville. The committee discussed this and everyone present agreed that it seemed like a reasonable number by year 2030. Katy indicated that her initial assessment is that the existing and currently planned roadway projects will probably have the capacity to accommodate traffic associated with this level of growth and major capacity improvements would not be necessary; however, the analysis has not be completed and it is premature to speak in certain terms.

Katy then led an exercise to determine where population growth would likely occur in the County. Katy provided everyone present a County map and asked each participant to mark the top three to five places where they thought growth would occur. Katy then collected the maps and summarized them on one larger map (shown in the photo below).



The majority of the committee expects Weaverville, Lewiston, and Trinity Center to have the most growth over the next 20 years. Much of the committee also indicated that the west side of the County on SR 299 would experience growth, primarily in vacation homes.

OTHER ITEMS

The next Steering Committee Meeting will occur in January 2010.

The meeting adjourned at 11:15 AM.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

MEMORANDUM

Date: March 24, 2010

To: Trinity County RTP Steering Committee

From: Katy Cole, Fehr & Peers
Dave Robinson, Fehr & Peers

Subject: Steering Committee Meeting #3 Summary

RN09-0427

The third Trinity County Regional Transportation Plan (RTP) Steering Committee meeting was held on March 10, 3010 at 8:30 AM at the Weaverville Library. The slides from the Power Point presentation are attached.

The following individuals were in attendance:

Trinity County

- Jan Smith
- John Jelicich
- Rick Tippet

Consultants

- Katy Cole
- Dave Robinson

Steering Committee Members

- Francine Mezo, SSTAC
- Scott White, Caltrans District 2
- Colleen O'Sullivan, Resource Conservation District
- Larry Masterman, Trinity County Sheriffs Department
- Tom Walz, Sierra Pacific Industries

Members of the Public

- None

TRAVEL DEMAND MODEL

Dave Robinson from Fehr & Peers began the discussion on the travel demand model. He provided information on improvements to the travel demand model including addition of transportation analysis zones (TAZs), improved detail to communities within Trinity County, refinement of the roadway network, and refinement to the land use assumptions (such as developing Trinity County specific trip generation estimates based on traffic counts). Information on the additional detail is provided in the attached slides. The Committee discussed the traffic data collected. Tom Walz asked if traffic counts associated with logging truck traffic on rural unpaved feeder roads (such as Deerlick Springs) were counted. Dave and County Staff indicated that counts were not performed to collect this specific information because of the relatively low traffic volumes. The Committee also commented that residents also use feeder (county) roads (not just highways) to travel within the County. Katy Cole and Dave indicated that counts were performed on county roads throughout the Trinity County communities. In fact, more county roads were included in this RTP update than in the 2005 RTP.

Katy then presented a slide from Steering Committee Meeting #2 related to population growth assumptions. The Trinity County growth assumption of 0.8% per year was used to develop the land use assumptions for the 2040 travel demand model development. A population growth of 0.8% per year results in a growth of 1,356 single-family dwelling units (SFDU) and 227 multi-family dwelling units (MFDU) located throughout the County by 2040. The growth was allocated throughout the County using the input obtained during Meeting #2 on where County growth will occur. For example, 42% of the growth (569 SFDU and 95 MFDU) were allocated to Weaverville, 14% (190 SFDU and 32 MFDU) was allocated to Lewiston, and 12% (163 SFDU and 27 MFDU) was allocated to Trinity Center. A complete list of the allocation assumptions is provided in the attached slides. Larry Masterman asked if the growth allocation/rate is based on developable land and future population estimates. Katy indicated that the growth allocation is consistent with the future population estimates for the County and that the allocations to specific communities do consider the County General Plan and developable land. Rick Tippet also stated that the traffic volume growth rate on SR 299 will be higher than assumed population growth rate in Trinity County (0.80% per year) due to growth in through traffic on SR 299. Dave indicated that the Caltrans Statewide Model and statewide growth trends were used to determine through traffic on SR 299.

Katy presented tables with existing and forecasted 2040 traffic volumes and roadway segment operations (level of service) on state highways and county roads throughout Trinity County (see the attached slides for tables). The 2040 traffic volume forecasts provide results for with and without the East Connector roadway. It should be noted that the East Connector roadway is an approved project and the information for with and without the roadway is provided for informational purposes only. Consistent with previous analysis, Fehr & Peers level of service analysis indicates that the East Connector is a necessary improvement to maintain an acceptable level of service on SR 299 through Downtown Weaverville. Rick Tippet noted that the East Connector is intended to provide local access and connectivity within Weaverville. The travel demand model results support this intention and show that the majority of traffic on the East Connector will be traffic that previously utilized Washington Street. The Committee discussed the signing of the East Connector and whether there would be signing direct motorists from SR 299 to SR 3. Scott White commented that it is not Caltrans policy to direct travelers to use local roadways for access to/from two state facilities.

Katy also presented level of service at five existing intersections in Weaverville and level of service at the East Connector intersections with SR 299 and SR 3. The analysis indicates that intersection improvements (additional turn lanes, traffic signal, or roundabout) will be necessary on SR 299 at Washington and at Garden Gulch. Additionally, the analysis indicates that a traffic control device (i.e. a traffic signal or roundabout) is necessary at the SR 299/East Connector intersection. A traffic signal is planned at the intersection and would provide acceptable levels of service. Rick Tippet and the Committee suggested that intersection analysis be presented for intersections in other communities within Trinity County, not just Weaverville. Katy indicated that traffic volumes could be obtained from the travel demand model to perform the analysis and that they would be included in the RTP.

DRAFT PROJECT LIST

The draft project list will be developed using the operations analysis, input on roadway maintenance/bridge replacements from County staff, updating the project lists in the 2005 RTP, and input from the Committee obtained during Meeting #1.

Katy provided summary slides (see attached) of the project list input from the Committee during Meeting #1. Katy then discussed potential options for improving the intersections within Weaverville. A SR 299 corridor study will be completed by Fehr & Peers to identify intersection improvement options on SR 299 in Weaverville. Katy suggested that traffic signals and roundabouts be considered as options and asked the committee if they had any questions regarding roundabouts or input regarding the use of roundabouts. Katy indicated that roundabouts are a viable option and are desired in many communities because they do not require electricity, are easy to maintain, safety benefits (due to slow speed), landscaping/aesthetic opportunities, and typically vehicles experience less delay at roundabouts than at traffic signals. The committee discussed roundabouts and asked questions about how pedestrians and bicycles can be accommodated. Katy indicated that bicycles and pedestrians are easily accommodated. Katy also indicated that one challenge with roundabouts is that they require more right-of-way to construct. Rick indicated that roundabouts would need to accommodate STAA trucks. Based on the discussion, the corridor study will consider both roundabouts and traffic signals as appropriate. Scott White suggested that visual of a roundabout showing the footprint relative to an intersection be provided to inform the public of any right-of-way impacts.

The committee discussed other potential projects and transportation needs including:

- Desire to reduce road noise, particularly due to semi-truck jake brake use, in the Oregon Street area and Coffee Creek area.
- Identify sobriety check point enforcement areas throughout the County.
- STAA access on SR 299 (projects currently proposed by Caltrans).
- Safety improvements to Highway 3 to Hayfork: straighten curves and provide additional passing opportunities. Scott White commented that funding for SR 3 is more limited than SR 299.
- Provide evacuation signage on roadways downstream of dams (especially near campgrounds that have a high non-local population).
- Remove sidewalk projects in Hayfork.

OTHER ITEMS

The committee suggested that additional public meetings should be held: one in Weaverville and one in Hayfork. Katy indicated that public meetings would be scheduled and Fehr & Peers will work with County staff to determine specific locations and dates.

APPENDIX 1F
PUBLIC WORKSHOP SUMMARIES

TRINITY COUNTY

TRANSPORTATION COMMISSION

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MEMORANDUM

Date: August 25, 2011

Subject: Trinity Center Draft RTP Public Meeting Summary

This memo summarizes questions and comments received during the Trinity Center Draft Regional Transportation Plan (RTP) Public Meeting. The meeting was on August 23, 2011 at 6:30 PM, and approximately 20 people from the public participated in the meeting.

During the meeting the public asked questions and provided comments on the Draft RTP as follows:

- What is a Census Designated Place (CDP)? (Answer: An area where the Federal Census Bureau collects data more often then every 10 years. Weaverville, Hayfork and Mad River are CDPs.)

- Can the County receive additional funding due to the through vehicle traffic and the population growth in other counties? (Answer: Most funds are distributed based on population or number of maintained miles of road. Caltrans can get funding for State Highways through the State Highway Operations and Protection Program (SHOPP).

- The turnouts are requested on SR 3 between Weaverville and Coffee Creek. There are no turnouts or passing lanes on this entire length and only one permitted passing area. (Response: Staff will recommend revising the project list to include Weaverville to Coffee Creek in this project.

- How is the proposed traffic signal in Weaverville going to be perceived by the residents and tourists? There is a need for one, but one of the County’s distinguishing features is that is does not have any traffic signals.

- A traffic signal at Washington Street will draw more traffic to Washington Street.

- What happened to the project to put a traffic signal at Glen Road and extend the road north to Highway 3? (Answer: That is the East Connector, which is in design now.)

- One participant said that roundabouts seem like a better option for the County. Based on the research they are safer than traffic signals and can be designed for semi-trucks. They would keep Trinity County's uniqueness. The commenter would like to see roundabouts instead of traffic signals in the County.

- There were just improvements at SR 299/Garden Gulch, why rip them out to put a roundabout in? It seems like a traffic signal would fit without ripping out the new improvements.

- Planning and environmental costs too much. The money should be spent on the actual projects.

- The project list says the Highway 3 turnouts and passing lanes are funded by STIP, but they are not on the STIP list in Appendix 4B. Why? (Answer: Appendix 4B shows the current 2010 STIP list, which was adopted before the project was requested by the community. The County is working on a new 2012 STIP list now, but there will not be enough funds to add the project at that time. Since it is a State Highway project, Caltrans must first complete the Highway 3 Transportation Concept Report (in progress now), which will determine the best locations for passing lanes or turnouts. Then the County must pay Caltrans to do a Project Initiation Document before the project can be programmed in the STIP.

- What are the plans for improving East Side Road? It was used as an evacuation route during the French Gulch fire. (Answer: The Federal Highway Administration paved 3 miles and graded more miles on the Trinity County side. Shasta County rocked and paved several miles of their side, in a cooperative project with Trinity County. The County applied for a large grant to rehabilitate and pave the whole road, but it would take several phases over 15 to 20 years to complete.

- A bike facility should be considered on East Fork Road to the winery. It is a nice, scenic area and would be good for bicycling.

- Thank you for the improvements to Coffee Creek Road this year.

- Has there ever been consideration to put something on gravel roads to control dust? (Answer: Yes, there is a newproduct that was used with success in the past, it is something that can be considered.)

- Is Federal and State funding considered as part of the RTP? (Answer: Yes, that is one of the primary functions of an RTP; however, there is considerable uncertainty with how much the County will receive over the next 20-30 years. Also, the Federal Gas Tax expires next month, adding to the uncertainty)

- What can we expect in terms of plowing this year? (Answer: For the County less than last year. State Highways are plowed by Caltrans and it will likely be similar to 2010, but Caltrans had to sell the snow blower they used on Scott Mountain.)

- Two participants felt that Trinity Transit (the route that goes to Redding) does not have good ridership and is not a good use of funding. A rideshare program would work better.

Upon completion of the question/answer period, stickers were given to participants to provide input concerning the proposed projects.

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MEMORANDUM

Date: August 31, 2011

Subject: Weaverville Draft RTP Public Meeting Summary

This memo summarizes questions and comments received during the Weaverville Draft Regional Transportation Plan (RTP) Public Meeting. The meeting was on August 31, 2011 at 6:30 PM, and approximately 15 people from the public participated in the meeting.

During the meeting the public asked questions and provided comments on the Draft RTP as follows:

- What growth assumptions did Caltrans use in the Statewide traffic model, (which was used for through traffic growth on State Highways in the RTP (Answer: It was not a specific growth factor (% per year), but a statewide model identifying growth in various communities, and projecting where that traffic would go, statewide, similar to the model used in the RTP for Trinity County traffic.)

- Several people expressed support for the 2-way Center Street idea. A long-time community member provided some history about Center Street: It was 50 years ago, when Trinity Dam was being built, and the Hospital emergency entrance was on Taylor Street. They made that segment of Center Street (from Highway 3 to Court Street) one-way because they were concerned about the ambulance getting in an accident, especially with the major construction going on at the dam.

- One individual suggested the Center Street project be moved up to the short-term or mid-term range. It's been over 10 years since the Hospital relocated its emergency room entrance. The part of Center Street between Highway 3 and Brannon Street has more traffic than the section to Court Street, and it carries two-way traffic. The one-way section would need some improvements to the sidewalk and gutter. The project should be expedited. It would improve congestion in Weaverville.

- The Transportation Plan should look at the plans to improve Buckhorn and the Humboldt Bay Port. Staff should contact the Humboldt Bay Port Authority and find out the status of the Port improvements. In response, Rick Tippett said that had been considered in the RTP and in the Caltrans Highway 299 Transportation Concept Report (TCR). They plan on improving 299 to allow the larger STAA container trucks. They will be longer trucks. There could be more trucks in the future, or there could be less because the trucks would be larger. Humboldt Bay needs to figure out how to draw shipping traffic to the Port. The TCR says the impact of the Port will not be significant. It will be through traffic on the State Highway. Someone referred to the Humboldt Bay Port Authority website. He said the container port project is at the bottom of the list, because it can't compete with other ports. There is no railroad and no interstate highway going to it. So, container truck traffic is not going to happen.

- One individual asked "Whatever happened to the West Bypass?" Rick Tippett answered, The No Project option was selected by the Board. It is no longer a project to be considered. He then asked, "What is the projected congestion in Weaverville on 299?" Jan Smith answered, reading from the RTP, that in peak month it will be about 4,000 vehicles per day in most locations, but approximately 11,000 from Washington Street to Tops Market. This is by far the most congested section, and the East Connector Project is planned to relieve that.

- Someone expressed concern about the historic buildings downtown being damaged by vibrations from big trucks. A long-time owner of some historic buildings in Weaverville replied that the vibrations are not a problem.

- An individual commented that the turn pocket at Douglas City Bridge, from 299 onto Highway 3 going to Hayfork is not long enough. She has been almost rear-ended slowing down for the turn. Rick Tippett responded he can pass the message on to Caltrans. They are guided by the Manual of Traffic Control Devices, but at that location the length of the deceleration lane is constrained by the bridge.

- She also stated she is on the Trinity County Commission on Aging. They sent out questionnaires. A lot of people commented that there is a bus to Ruth Lake from Hayfork once a week, and Hyampom wants one, too. Rick Tippet responded that the Transit system is subsidized by the State, but we must maintain an average return of at least 10% of our operating costs. Some routes have not worked out because of insufficient ridership. The bus to Ruth is run by the Southern Trinity Health Services, with a subsidy from the County Transit funds. Perhaps Rodrick Senior Center could run their bus to Hyampom once a week with a subsidy. We can discuss this at the next SSTAC meeting.

- Several people expressed that the Washington Street/ Highway 299 intersection is getting congested, with long waits to make a left onto 299. There are no turn pockets, so you have to wait behind someone making a right turn, before you can make a left. There are vacant properties on both sides of the intersection now, so why not make turn pockets? They really helped on Oregon Street and Forest Avenue. Many people now turn off Washington Street to Lowden Lane to Weaver Street to enter 299, avoiding the Washington Street intersection. There should be a sign directing traffic that way as an alternate. It would be cheaper than a signal. Rick Tippett responded that he understands that, but people in that neighborhood want speed bumps in there. They won't want us to direct more traffic that way. He also said that the Traffic Model used in the RTP considered a portion of traffic going that way.

- A business and home owner on Washington Street near 299 said if he sees the intersection is busy, he goes the other way. He wants traffic to stay on Washington, because of his business, but he agrees turn pockets or a merging lane would improve the intersection. There is limited sight distance. You have to crawl over the crosswalk to see down 299.

Rick Tippett informed that it is legal to creep into the crosswalk after you stop at the stop bar and check for pedestrians.

- A Glen Road resident said there are a few corners in Weaverville where you have to creep halfway out before you can see or enter 299. Glen Road, in particular, where she has almost been hit several times. Isn't the East Connector is supposed to take care of that? (Answer: Yes, the East Connector includes a signal at Glen Road).

- Another individual Crane brought concerns about North Miner Street across from the High School. High School kids cruise across there. And, people come in off 299 west of town, and speed through to the post office. She takes her life in her hands coming in off of Tinnen Street.

- A construction company operator said his truck is so high he can't see down 299 through the trees. There are too many trees along 299, and they need to be trimmed. With his truck and trailer, he doesn't have time to get out onto 299 from Washington Street. It's terrible, with pedestrians and cars in every direction, he had to get out once and help a little girl get across. Don't wait for Glen Road. Washington Street is the best place for a signal, it's long overdue. The Highway 3 and 299 intersection isn't the right place, it's in the Historic District. At Oregon Street and 299, you can't see a thing with the trees and all. The Garden Gulch intersection is getting overgrown, too. And at the Industrial Park intersection it's all the signs along the highway that block visibility from the east side.

- One individual said the current fad is going away from lights to roundabouts, or now there is a new triangle design. I know there is not much room on 299, but roundabouts are better because they save energy. The vehicles don't use as much fuel, and there is no electricity. What if we have a signal and the electricity goes out, so we lose our stoplight? Rick Tippett responded that he loves roundabouts. They are listed in the project list as a possibility for the Forest Avenue/Garden Gulch location. They are safer, no "T-Bone" accidents, just sideswipes. They do take up room, but not as much as you may think. They are expensive to build, about $1.5 million.

- Sky Ranch Road has a lot of potholes. The community has been filling them themselves. There is also an area down at the end of the road that has been undercut from the storms.

- Several people agreed we need crosswalks, especially near Tops Market. It is harder to get across on foot than by car. Rick Tippett responded that crosswalks are good at reasonable vehicle speeds, like at a 4-way stop or signalized intersection, or right downtown. But near Tops Market, they are going 40 mph. Crosswalks make people feel safe, so they tend not to look both ways and be careful, so it's actually safer crossing without a crosswalk.

- The crosswalks should be painted white, not that brick pattern. White is more visible. And they should take out some parking spaces near the crosswalks because the parked cars make it harder to see the pedestrians.

- Warning lights at crosswalks are good. They really catch your eye.

- Something should be done about the two-way center turn lane near Tops Market. People drive all along the whole length of it so you nearly get into a head-on collision. Can they make it into isolated turn lanes? Rick Tippett responded that pavement markings are just guidelines. You can't really stop vehicles from doing that unless you use raised medians. Jan Smith mentioned that the East Connector Project includes re-striping of that area into isolated turn pockets.

- "We need to be a little more patient when we drive, accept a little delay. We don't want this place to turn into a city."

- One individual was interested in recreational trails, but did not see them on the displayed project lists. (Answer: The recreational trails are listed in the Unconstrained List, because funding has not been identified. Transportation funds cannot be used on purely recreational trails.)

Upon completion of the question/answer period, stickers were given to participants to provide input concerning the proposed projects.

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MEMORANDUM

Date: September 13, 2011

Subject: Hayfork Draft RTP Public Meeting Summary

This memo summarizes questions and comments received during the Hayfork Draft Regional Transportation Plan (RTP) Public Meeting. The meeting was on September 13, 2011 at 7:00 PM, and approximately 9 people from the public participated in the meeting.

During the meeting the public asked questions and provided comments on the Draft RTP as follows:

- What roads in Hayfork need attention and is Brady Road included? Rick Tippett answered that Brady Road was identified as a project (realignment from the intersection), however, it was determined by the Board of Supervisors that the project should be removed. The question included an extension of Brady Road for future development. Rick explained if there was future development, the road would be extended by the developer before it would be included in the County system.

- The participant who is involved with the Hayfork Community Plan, asked about Morgan Hill Road. He said he spoke with Jan Smith about future projections if there was growth and development. He said Jan told him that a change in density within that area would change the LOS from A to B.

- There was one request for 1 day a week bus service from Hyampom to Hayfork for seniors.

- Some people asked that bike lanes be built along Brady Road.

- There was a suggestion that if bike racks are installed, they should have hitching posts.

- One participant requested more guardrails be installed on Hwy 3 between Hayfork and Douglas City.

- Airport: One person left a note that there should be more use of the airport lounge by making it open for public meetings. The note also mentioned the fence/gate is obstructive.

Upon completion of the question/answer period, stickers were given to participants to provide input concerning the proposed projects.

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MEMORANDUM

Date: September 16, 2011

Subject: Mad River Draft RTP Public Meeting Summary

This memo summarizes questions and comments received during the Mad River Draft Regional Transportation Plan (RTP) Public Meeting. The meeting was on September 16, 2011 at 2:00 PM, and approximately 17 people from the public participated in the meeting.

During the meeting the public asked questions and provided comments on the Draft RTP as follows:

- Many people are concerned about the road speed on Van Duzen Road. A Highway Patrol told one person he could not ticket people unless they were missing a license plate or driving without a seat belt. Rick said he has been working with law enforcement about this issue and that something would be done about this problem soon. The area is a residential area because there is a building density of 16 houses along a quarter mile in several locations, so drivers can be ticketed. It was mentioned by one person that there was a plan to put bike lanes in, however the community was against it. One person also mentioned that they need signs on both ends of the community to warn people of the 25MPH zone. Apparently this issue was raised 20 years ago with no luck.

- The supervisor of this district noted that Trinity County DOT does coordinate with Caltrans in District 1 through the Hwy 36 Route Concept Report.

- One person asked to have clarification about how Forest Designated roads are treated. Rick said they are eligible for funds when disasters occur if funds are available. Otherwise improvements are part of the Forest Highway Program. Maintenance remains the responsibility of the County for Forest Highways that are part of the county maintained road system.

- One person asked how weight fees are programmed into projects. He said they used to be allocated for bridges and wanted to know how they are allocated now. Rick was unsure of how to answer this question. General recollection was that the fees were used to backfill Transit when the gas tax swap was enacted earlier this year.

- There was a request for signs at the Volunteer Fire Department notifying its location.

- A person from STAR mentioned that the helicopters that fly in for emergencies have their own lights on the helicopter. They used to pull two cars in with their lights shining at each other to let the helicopter know where to land. They no longer do this.

Upon completion of the question/answer period, stickers were given to participants to provide input concerning the proposed projects.

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MEMORANDUM

Date: September 27, 2011

Subject: Burnt Ranch Draft RTP Public Meeting Summary

This memo summarizes questions and comments received during the Burnt Ranch Draft Regional Transportation Plan (RTP) Public Meeting. The meeting was on September 27, 2011 at 6:30 PM, and 2 people from the public participated in the meeting, along with Supervisor Chapman.

During the meeting the public asked questions and provided comments on the Draft RTP as follows:

- Weaverville would benefit from a stop light.

- During the discussion about LOS, it was asked if areas like Big Flat were looked at? Rick stated that what you have to look at for LOS is typical conditions. It was commented that there is a traffic problem in Big Flat due to the rafters and Straw House Coffee.

- There was a comment about how dangerous it is to bike along SR 299 in the Burnt Ranch area because there are not any bike lanes.

- One participant asked what traffic calming includes and noted that the Big Flat area could use traffic calming. Rick said it can be anything from striping to rumble strips.

- The biggest concern from the participants is SR 299. They feel the road is not safe for large trucks due to the curves. One of the locations they were really concerned about is the "S" curves just west of Hawkins Bar. They noted that the work just completed near Cedar Flat "will come down again". Rick noted that only way STAA trucks will be allowed to come through this area is if the 67 STAA curves on SR 299 are removed. It was also noted that McDonald Bluff is really scary to drive by. Rick noted that the SR 299 is a focus route, and therefore, is eligible for more funding than other routes such as SR 36.

- One participant delivers mail along the Denny Road and is concerned about that road staying open this winter since the Hawkins Bar road crew has been disbanded. She noted that she hasn't gone through a winter yet, so she wasn't speaking from experience.

APPENDIX 2A
US CENSUS DATA

DP-1. **General Population and Housing Characteristics: 1990**
Data Set: 1990 Summary Tape File 1 (STF 1) - 100-Percent data
Geographic Area: **Trinity County, California**

NOTE: For information on confidentiality, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expstf190.htm.

Subject	Number
Total population	**13,063**
SEX	
Male	6,665
Female	6,398
AGE	
Under 5 years	883
5 to 17 years	2,565
18 to 20 years	349
21 to 24 years	403
25 to 44 years	4,003
45 to 54 years	1,441
55 to 59 years	699
60 to 64 years	758
65 to 74 years	1,278
75 to 84 years	559
85 years and over	125
Under 18 years	3,448
65 years and over	1,962
HOUSEHOLDS BY TYPE	
Total households	**5,156**
Family households (families)	3,633
Married-couple families	3,016
Other family, male householder	186
Other family, female householder	431
Nonfamily households	1,523
Householder living alone	1,270
Householder 65 years and over	526
Persons living in households	12,820
Persons per household	2.49
GROUP QUARTERS	
Persons living in group quarters	243
Institutionalized persons	177
Other persons in group quarters	66
RACE AND HISPANIC ORIGIN	
White	12,133
Black	53
American Indian, Eskimo, or Aleut	624
Asian or Pacific Islander	100
Other race	153
Hispanic origin (of any race)	431
Total housing units	**7,540**
OCCUPANCY AND TENURE	
Occupied housing units	5,156
Owner occupied	3,591
Renter occupied	1,565
Vacant housing units	2,384

Subject	Number
For seasonal, recreational, or occasional use	1,592
Homeowner vacancy rate	2.4
Rental vacancy rate	10.2
Persons per owner-occupied unit	2.45
Persons per renter-occupied unit	2.56
Units with over 1 person per room	397
UNITS IN STRUCTURE	
1-unit detached	4,827
1-unit attached	61
2 to 4 units	144
5 to 9 units	21
10 or more units	96
Mobile home, trailer, or other	2,391
VALUE	
Specified owner-occupied housing units	**1,824**
Less than $50,000	295
$50,000 to $99,999	1,010
$100,000 to $149,999	348
$150,000 to $199,999	112
$200,000 to $299,999	50
$300,000 or more	9
Median (dollars)	81,800
CONTRACT RENT	
Specified renter-occupied housing units paying cash rent	**1,242**
Less than $250	428
$250 to $499	756
$500 to $749	53
$750 to $999	5
$1,000 or more	0
Median (dollars)	292
RACE AND HISPANIC ORIGIN OF HOUSEHOLDER	
Occupied housing units	**5,156**
White	4,892
Black	7
American Indian, Eskimo, or Aleut	208
Asian or Pacific Islander	15
Other race	34
Hispanic origin (of any race)	123

(X) Not applicable
Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 1 (100% Data)
Matrices P1, P3, P5, P6, P8, P11, P15, P16, P23, H1, H2, H3, H5, H8, H10, H18A, H21, H23, H23B, H32, H32B, H41.

DP-1. **Profile of General Demographic Characteristics: 2000**
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data
Geographic Area: **Trinity County, California**

NOTE: For information on confidentiality protection, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

Subject	Number	Percent
Total population	**13,022**	**100.0**
SEX AND AGE		
Male	6,644	51.0
Female	6,378	49.0
Under 5 years	552	4.2
5 to 9 years	823	6.3
10 to 14 years	962	7.4
15 to 19 years	897	6.9
20 to 24 years	403	3.1
25 to 34 years	1,026	7.9
35 to 44 years	1,934	14.9
45 to 54 years	2,400	18.4
55 to 59 years	967	7.4
60 to 64 years	817	6.3
65 to 74 years	1,338	10.3
75 to 84 years	729	5.6
85 years and over	174	1.3
Median age (years)	44.6	(X)
18 years and over	10,048	77.2
Male	5,089	39.1
Female	4,959	38.1
21 years and over	9,691	74.4
62 years and over	2,719	20.9
65 years and over	2,241	17.2
Male	1,099	8.4
Female	1,142	8.8
RACE		
One race	12,452	95.6
White	11,573	88.9
Black or African American	58	0.4
American Indian and Alaska Native	631	4.8
Asian	61	0.5
Asian Indian	3	0.0
Chinese	6	0.0
Filipino	12	0.1
Japanese	18	0.1
Korean	11	0.1
Vietnamese	2	0.0
Other Asian [1]	9	0.1
Native Hawaiian and Other Pacific Islander	15	0.1
Native Hawaiian	14	0.1
Guamanian or Chamorro	1	0.0
Samoan	0	0.0
Other Pacific Islander [2]	0	0.0
Some other race	114	0.9
Two or more races	570	4.4
Race alone or in combination with one or more other races [3]		
White	12,120	93.1
Black or African American	67	0.5
American Indian and Alaska Native	1,049	8.1
Asian	114	0.9

Subject	Number	Percent
Native Hawaiian and Other Pacific Islander	49	0.4
Some other race	212	1.6
HISPANIC OR LATINO AND RACE		
Total population	**13,022**	**100.0**
Hispanic or Latino (of any race)	517	4.0
Mexican	346	2.7
Puerto Rican	26	0.2
Cuban	2	0.0
Other Hispanic or Latino	143	1.1
Not Hispanic or Latino	12,505	96.0
White alone	11,271	86.6
RELATIONSHIP		
Total population	**13,022**	**100.0**
In households	12,780	98.1
Householder	5,587	42.9
Spouse	2,819	21.6
Child	3,251	25.0
Own child under 18 years	2,681	20.6
Other relatives	445	3.4
Under 18 years	195	1.5
Nonrelatives	678	5.2
Unmarried partner	366	2.8
In group quarters	242	1.9
Institutionalized population	193	1.5
Noninstitutionalized population	49	0.4
HOUSEHOLDS BY TYPE		
Total households	**5,587**	**100.0**
Family households (families)	3,625	64.9
With own children under 18 years	1,419	25.4
Married-couple family	2,819	50.5
With own children under 18 years	890	15.9
Female householder, no husband present	565	10.1
With own children under 18 years	384	6.9
Nonfamily households	1,962	35.1
Householder living alone	1,648	29.5
Householder 65 years and over	622	11.1
Households with individuals under 18 years	1,571	28.1
Households with individuals 65 years and over	1,641	29.4
Average household size	2.29	(X)
Average family size	2.80	(X)
HOUSING OCCUPANCY		
Total housing units	**7,980**	**100.0**
Occupied housing units	5,587	70.0
Vacant housing units	2,393	30.0
For seasonal, recreational, or occasional use	1,646	20.6
Homeowner vacancy rate (percent)	3.8	(X)
Rental vacancy rate (percent)	8.5	(X)
HOUSING TENURE		
Occupied housing units	**5,587**	**100.0**
Owner-occupied housing units	3,981	71.3
Renter-occupied housing units	1,606	28.7
Average household size of owner-occupied unit	2.25	(X)
Average household size of renter-occupied unit	2.37	(X)

(X) Not applicable
[1] Other Asian alone, or two or more Asian categories.
[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.
[3] In combination with one or more other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.
Source: U.S. Census Bureau, Census 2000 Summary File 1, Matrices P1, P3, P4, P8, P9, P12, P13, P,17, P18, P19, P20, P23, P27, P28, P33, PCT5, PCT8, PCT11, PCT15, H1, H3, H4, H5, H11, and H12.

DP-1

Profile of General Population and Housing Characteristics: 2010

2010 Demographic Profile Data

NOTE: For more information on confidentiality protection, nonsampling error, and definitions, see http://www.census.gov/prod/cen2010/profiletd.pdf.

GEO: Trinity County, California

Subject	Number	Percent
SEX AND AGE		
Total population	13,786	100.0
Under 5 years	618	4.5
5 to 9 years	640	4.6
10 to 14 years	744	5.4
15 to 19 years	789	5.7
20 to 24 years	544	3.9
25 to 29 years	641	4.6
30 to 34 years	630	4.6
35 to 39 years	664	4.8
40 to 44 years	724	5.3
45 to 49 years	1,072	7.8
50 to 54 years	1,254	9.1
55 to 59 years	1,401	10.2
60 to 64 years	1,296	9.4
65 to 69 years	1,003	7.3
70 to 74 years	671	4.9
75 to 79 years	505	3.7
80 to 84 years	332	2.4
85 years and over	258	1.9
Median age (years)	49.3	(X)
16 years and over	11,614	84.2
18 years and over	11,266	81.7
21 years and over	10,876	78.9
62 years and over	3,536	25.6
65 years and over	2,769	20.1
Male population	7,113	51.6
Under 5 years	333	2.4
5 to 9 years	333	2.4
10 to 14 years	353	2.6
15 to 19 years	404	2.9
20 to 24 years	304	2.2
25 to 29 years	360	2.6
30 to 34 years	333	2.4
35 to 39 years	345	2.5
40 to 44 years	373	2.7
45 to 49 years	527	3.8
50 to 54 years	613	4.4
55 to 59 years	721	5.2
60 to 64 years	687	5.0
65 to 69 years	547	4.0
70 to 74 years	365	2.6
75 to 79 years	243	1.8
80 to 84 years	170	1.2
85 years and over	102	0.7

Subject	Number	Percent
Median age (years)	49.0	(X)
16 years and over	6,011	43.6
18 years and over	5,841	42.4
21 years and over	5,623	40.8
62 years and over	1,840	13.3
65 years and over	1,427	10.4
Female population	6,673	48.4
Under 5 years	285	2.1
5 to 9 years	307	2.2
10 to 14 years	391	2.8
15 to 19 years	385	2.8
20 to 24 years	240	1.7
25 to 29 years	281	2.0
30 to 34 years	297	2.2
35 to 39 years	319	2.3
40 to 44 years	351	2.5
45 to 49 years	545	4.0
50 to 54 years	641	4.6
55 to 59 years	680	4.9
60 to 64 years	609	4.4
65 to 69 years	456	3.3
70 to 74 years	306	2.2
75 to 79 years	262	1.9
80 to 84 years	162	1.2
85 years and over	156	1.1
Median age (years)	49.5	(X)
16 years and over	5,603	40.6
18 years and over	5,425	39.4
21 years and over	5,253	38.1
62 years and over	1,696	12.3
65 years and over	1,342	9.7
RACE		
Total population	13,786	100.0
One Race	13,074	94.8
White	12,033	87.3
Black or African American	59	0.4
American Indian and Alaska Native	655	4.8
Asian	94	0.7
Asian Indian	10	0.1
Chinese	10	0.1
Filipino	23	0.2
Japanese	16	0.1
Korean	4	0.0
Vietnamese	0	0.0
Other Asian [1]	31	0.2
Native Hawaiian and Other Pacific Islander	16	0.1
Native Hawaiian	10	0.1
Guamanian or Chamorro	2	0.0
Samoan	2	0.0
Other Pacific Islander [2]	2	0.0
Some Other Race	217	1.6
Two or More Races	712	5.2
White; American Indian and Alaska Native [3]	463	3.4
White; Asian [3]	57	0.4
White; Black or African American [3]	24	0.2
White; Some Other Race [3]	56	0.4
Race alone or in combination with one or more other races: [4]		
White	12,708	92.2
Black or African American	109	0.8
American Indian and Alaska Native	1,180	8.6

Subject	Number	Percent
Asian	190	1.4
Native Hawaiian and Other Pacific Islander	66	0.5
Some Other Race	306	2.2
HISPANIC OR LATINO		
Total population	13,786	100.0
Hispanic or Latino (of any race)	959	7.0
Mexican	704	5.1
Puerto Rican	29	0.2
Cuban	12	0.1
Other Hispanic or Latino [5]	214	1.6
Not Hispanic or Latino	12,827	93.0
HISPANIC OR LATINO AND RACE		
Total population	13,786	100.0
Hispanic or Latino	959	7.0
White alone	515	3.7
Black or African American alone	14	0.1
American Indian and Alaska Native alone	97	0.7
Asian alone	1	0.0
Native Hawaiian and Other Pacific Islander alone	0	0.0
Some Other Race alone	197	1.4
Two or More Races	135	1.0
Not Hispanic or Latino	12,827	93.0
White alone	11,518	83.5
Black or African American alone	45	0.3
American Indian and Alaska Native alone	558	4.0
Asian alone	93	0.7
Native Hawaiian and Other Pacific Islander alone	16	0.1
Some Other Race alone	20	0.1
Two or More Races	577	4.2
RELATIONSHIP		
Total population	13,786	100.0
In households	13,401	97.2
Householder	6,083	44.1
Spouse [6]	2,747	19.9
Child	2,804	20.3
Own child under 18 years	2,095	15.2
Other relatives	694	5.0
Under 18 years	298	2.2
65 years and over	108	0.8
Nonrelatives	1,073	7.8
Under 18 years	92	0.7
65 years and over	92	0.7
Unmarried partner	594	4.3
In group quarters	385	2.8
Institutionalized population	168	1.2
Male	144	1.0
Female	24	0.2
Noninstitutionalized population	217	1.6
Male	107	0.8
Female	110	0.8
HOUSEHOLDS BY TYPE		
Total households	6,083	100.0
Family households (families) [7]	3,620	59.5
With own children under 18 years	1,135	18.7
Husband-wife family	2,747	45.2
With own children under 18 years	664	10.9
Male householder, no wife present	338	5.6
With own children under 18 years	202	3.3
Female householder, no husband present	535	8.8
With own children under 18 years	269	4.4

Subject	Number	Percent
Nonfamily households [7]	2,463	40.5
Householder living alone	1,949	32.0
Male	1,133	18.6
65 years and over	351	5.8
Female	816	13.4
65 years and over	373	6.1
Households with individuals under 18 years	1,343	22.1
Households with individuals 65 years and over	2,019	33.2
Average household size	2.20	(X)
Average family size [7]	2.73	(X)
HOUSING OCCUPANCY		
Total housing units	8,681	100.0
Occupied housing units	6,083	70.1
Vacant housing units	2,598	29.9
For rent	122	1.4
Rented, not occupied	11	0.1
For sale only	115	1.3
Sold, not occupied	39	0.4
For seasonal, recreational, or occasional use	1,954	22.5
All other vacants	357	4.1
Homeowner vacancy rate (percent) [8]	2.6	(X)
Rental vacancy rate (percent) [9]	6.3	(X)
HOUSING TENURE		
Occupied housing units	6,083	100.0
Owner-occupied housing units	4,284	70.4
Population in owner-occupied housing units	9,350	(X)
Average household size of owner-occupied units	2.18	(X)
Renter-occupied housing units	1,799	29.6
Population in renter-occupied housing units	4,051	(X)
Average household size of renter-occupied units	2.25	(X)

X Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] One of the four most commonly reported multiple-race combinations nationwide in Census 2000.

[4] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

[5] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic."

[6] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."

[7] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

[8] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100.

[9] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.

Source: U.S. Census Bureau, 2010 Census.

APPENDIX 2B
CALTRANS STRUCTURE MAINTENANCE & INVESTIGATIONS – TRINITY COUNTY

Structure Maintenance & Investigations

SM&I

Local Agency Bridge List

June, 2009

TRINITY COUNTY

County of Trinity

Bridge Number	Dist	Bridge Name	Facility Carried	City	Bypass Length	Lanes ONUN	AADT	Appr Width	Str Type	Road Width	Year Built	SD/FO	Length	Suff Rating
05C0100	02	CARR CREEK	WILDWOOD ROAD		61	0200	330	6.1	302	7.4	1950		19	85.8
05C0102	02	SYDNEY GULCH	FOREST AVENUE		199	0200	98	11.6	302	10.5	1949		9	63.7
05C0105	02	CARR CREEK	SUMMIT CREEK ROAD		199	0200	204	9.6	501	9.6	1987		18	90.1
05C0108	02	NORTH FORK TRINITY RIVER	EAST FORK ROAD		199	0200	200	7.9	302	8.5	1967		55	78.9
05C0112	02	BROWNS CREEK	B-BAR-K ROAD		199	0100	100	5.5	302	4.3	1949		22	74.8
05C0118	02	HAYFORK CREEK	HYAMPOM ROAD		199	0200	330	12.2	605	9.8	1978		74	84.7
05C0119	02	TRINITY RIVER	DENNY ROAD		199	0200	662	12.2	402	8.5	1989		143	79.1
05C0120	02	SOUTH FORK TRINITY RIVER	SOUTH FORK ROAD		199	0200	160	7.3	205	8.7	1970		107	91.5
05C0122	02	KERLIN CREEK	SOUTH FORK ROAD		199	0200	160	6.1	302	7.8	1960		9	76.7
05C0123	02	BIG CREEK	SOUTH FORK ROAD		199	0200	160	6.7	302	8.2	1940		12	79.5
05C0125	02	COFFEE CREEK	COFFEE CREEK ROAD		199	0200	76	8.5	504	8.5	1977		19	94.3
05C0129	02	INDIAN CREEK	INDIAN CREEK ROAD		64	0100	20	4.3	302	4.8	1955		12	78.0
05C0130	02	BROWNS CREEK	DEERLICK SPRING RD		199	0100	103	4.3	402	4.8	1973	FO	17	53.7
05C0131	02	HAYFORK CREEK	WILDWOOD ROAD		18	0200	330	6.1	302	7.4	1945		48	87.7
05C0133	02	BIG CREEK	BIG CREEK ROAD		199	0200	80	6.7	204	7.3	1960		28	91.3
05C0135	02	TULE CREEK	TULE CREEK ROAD		48	0200	670	6.7	302	7.3	1955		10	84.2
05C0137	02	PELLETREAU CREEK	SOUTH FORK ROAD		199	0200	160	6.4	205	8.5	1967		61	79.5
05C0139	02	EAST FORK HAYFORK CREEK	EAST FK HAYFORK RD		199	0100	50	6.7	302	4.4	1965		13	75.4
05C0144	02	PRICE CREEK	PRICE CK CMPBEL RD		199	0100	50	4.0	402	4.6	1950		16	48.8
05C0147	02	SALT CREEK	LONG RIDGE ROAD		199	0200	50	4.9	302	6.0	1950		32	79.4
05C0149	02	HALLS GULCH	EAST FORK ROAD		199	0100	100	5.5	302	4.1	1973	SD	17	48.5
05C0152	02	VAN HORN GULCH	UPPER MAD RIVER RD		199	0100	31	7.9	702	4.3	1970	SD	19	40.5
05C0153	02	MIDDLE WEAVER CREEK	MILL STREET		199	0200	280	9.8	501	9.6	1986		18	92.4
05C0154	02	SOUTH FORK MAD RIVER	UPPER MAD RIVER RD		199	0100	31	4.3	702	4.3	1970		13	76.6
05C0157	02	NORTH FORK EAST FORK HAYFORK CREEK	EAST FK HAYFORK RD		199	0100	50	3.4	302	4.9	1978	FO	12	57.5
05C0162	02	TRINITY RIVER	CORRAL BOTTOM ROAD		199	0100	300	5.2	302	4.3	1960	FO	105	68.3
05C0163	02	MAD RIVER	UPPER MAD RIVER RD		199	0200	100	12.8	201	8.5	1988		49	89.0
05C0164	02	PRICE CREEK	PRICE CK CMPBEL RD		199	0100	130	5.5	302	4.4	1965	FO	7	54.0
05C0166	02	CLEAR GULCH	CANYON CREEK ROAD		10	0200	100	6.1	302	7.9	1955		7	88.9
05C0170	02	TRINITY RIVER	TRINITY DAM BLVD		27	0200	450	7.6	402	7.9	1963		91	79.8
05C0174	02	EAST FORK TRINITY RIVER	EAST SIDE ROAD		121	0200	420	7.0	310	7.9	1960		42	80.2

Data presented here is for information only. It should not be used to determine the official status of a bridge's eligibilityfor HBRR money

TRINITY COUNTY

County of Trinity

Bridge Number	Dist	Bridge Name	Facility Carried	City	Bypass Length	Lanes ONUN	AADT	Appr Width	Str Type	Road Width	Year Built	SD/FO	Length	Suff Rating
05C0175	02	LITTLE BROWNS CREEK	BROWNS MOUNTAIN RD		10	0200	50	3.7	302	6.2	1997		17	71.8
05C0181	02	VAN DUZEN RIVER	WEST VAN DUZEN RD		6	0100	170	7.3	402	4.2	1965	FO	49	51.9
05C0182	02	VAN DUZEN RIVER	W VAN DUZEN ROAD		14	0100	170	7.3	302	4.3	1967	FO	74	75.0
05C0185	02	TRINITY RIVER	EAST SIDE ROAD		97	0200	420	7.9	402	7.9	1961		97	86.7
05C0187	02	LITTLE CREEK	JORDEN ROAD		199	0100	50	3.7	302	4.0	1955	SD	14	47.0
05C0188	02	VAN DUZEN RIVER	RUTH-ZENIA ROAD		6	0200	300	6.7	302	8.3	1960	SD	8	52.9
05C0189	02	LITTLEFIELD CREEK	UPPER MAD RIVER RD		199	0200	50	6.4	302	8.0	1955		8	93.5
05C0191	02	VAN DUZEN CREEK	HETTENSHAW ROAD		6	0100	50	4.6	302	3.7	1950	SD	9	39.0
05C0193	02	HAYFORK CREEK	EAST FK HAYFORK RD		199	0100	50	3.4	302	4.1	1971	SD	20	47.5
05C0194	02	LITTLE BROWNS CREEK	LITTLE BROWN CK RD		199	0200	130	6.4	302	8.6	1974		13	92.8
05C0196	02	ADAMS CREEK	COFFEE CREEK ROAD		199	0100	76	5.2	302	4.7	1965		16	65.1
05C0200	02	SALT CREEK	RATTLESNAKE ROAD		29	0200	440	6.1	302	7.3	1966		19	83.2
05C0203	02	NORTH FORK COFFEE CREEK	COFFEE CREEK ROAD		199	0200	76	8.5	504	8.5	1977		19	92.3
05C0205	02	EAST FORK COFFEE CREEK	COFFEE CREEK ROAD		199	0200	76	7.6	505	8.4	1987		34	94.3
05C0206	02	SHANTY CREEK	W VAN DUZEN ROAD		6	0100	150	6.1	204	4.3	1965	FO	24	77.9
05C0207	02	TRINITY RIVER	BROWNS MOUNTAIN RD		40	0200	200	8.5	302	9.3	1983		23	96.6
05C0218	02	EAST WEAVER CREEK	BROWNS RANCH ROAD		199	0200	275	7.9	302	8.1	1955		19	80.4
05C0219	02	RUTH DAM	RUTH DAM ROAD		32	0100	31	6.7	302	4.3	1972		32	79.0
05C0220	02	NORTH FORK SWIFT CREEK	SWIFT CREEK ROAD		199	0100	75	4.3	502	4.3	1972		25	76.2
05C0221	02	TRINITY RIVER	SALYER LOOP ROAD		23	0200	1000	8.5	205	8.5	1996		116	90.3
05C0222	02	WEST WEAVER CREEK	OREGON STREET		5	0200	103	17.1	119	17.1	2000		8	97.0
05C0223	02	VAN DUZEN RIVER	RUTH-ZENIA ROAD		80	0200	300	8.3	201	8.3	2003		38	95.0
05C0224	02	KETTENPOM CREEK	HOAGLIN ROAD		10	0200	100	12.0	101	8.4	2006		13	93.9
05C0226	02	HAYFORK CREEK	OAK AVE		5	0200	260	12.2	605	9.6	2004		60	92.9
05C0227	02	OLSEN CREEK	MAD RIVER ROAD		199	0200	31	9.0	502	9.0	2002		25	94.7
05C0228	02	LITTLE EAST FORK CANYON CREEK	CANYON CREEK ROAD		10	0200	99	6.1	402	6.0	2002		15	99.0
05C0229	02	MUD CREEK	ALDER PT BLUFF RD		10	0200	157	9.5	601	7.5	2003		21	90.9
05C0231	02	EAST FORK HAYFORK CREEK	EAST FORK HYFK RD		199	0100	50	6.7	302	6.7	2004		10	91.5
05C0232	02	DUNBAR CREEK	MAD RIVER ROAD		40	0200	50	10.0	501	9.0	2004		16	94.9
05C0233	02	SOLDIER CREEK	EVANS BAR ROAD		15	0100	250	10.3	311	9.6	2006		9	92.8
05C0234	02	SOLDIER CREEK	DUTCH CREEK ROAD		10	0200	500	15.0	311	14.1	2006		9	92.8

Data presented here is for information only. It should not be used to determine the official status of a bridge's eligibilityfor HBRR money

TRINITY COUNTY

County of Trinity

Bridge Number	Dist	Bridge Name	Facility Carried	City	Bypass Length	Lanes ONUN	AADT	Appr Width	Str Type	Road Width	Year Built	SD/FO	Length	Suff Rating
05C0235	02	CAMBELL RIDGE SLIDE	CAMBELL RIDGE ROAD		15	0100	100	6.1	302	4.4	2006		24	82.9

TRINITY COUNTY

California Department of Forestry

Bridge Number	Dist	Bridge Name	Facility Carried	City	Bypass Length	Lanes ONUN	AADT	Appr Width	Str Type	Road Width	Year Built	SD/FO	Length	Suff Rating
05F0001	02	GRASS VALLEY CREEK	FAWN LODGE ROAD		199	0100	50	3.7	310	3.4	1957	FO	19	50.2

TRINITY COUNTY

Humboldt Bay Municipal Water District

Bridge Number	Dist	Bridge Name	Facility Carried	City	Bypass Length	Lanes ONUN	AADT	Appr Width	Str Type	Road Width	Year Built	SD/FO	Length	Suff Rating
05C0219	02	RUTH DAM	RUTH DAM ROAD		32	0100	31	6.7	302	4.3	1972		32	79.0

APPENDIX 2C
TRINITY COUNTY TRAVEL DEMAND FORECASTING MODEL DEVELOPMENT REPORT

Trinity County

TRAVEL DEMAND FORECASTING MODEL DEVELOPMENT REPORT

Prepared for:

County of Trinity
California

June 2011

FEHR & PEERS

2990 Lava Ridge Court, Suite 200
Roseville, CA 95661

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1. INTRODUCTION

BACKGROUND

Past transportation planning efforts in Trinity County have relied on the Weaverville Traffic Model developed by LSC, Incorporated in 2004. Since the release of this model, uncertainties have developed with respect to its inputs, base year model calibration, and overall ability to accurately predict future travel demand. As part of the Trinity County 2010 Regional Transportation Plan (RTP), Fehr & Peers developed a County-wide Travel Demand Model (TDM).

PURPOSE

This report documents the process of developing the base year Trinity County TDM and presents the model calibration and validation results. Once the base year model is adequately calibrated, it can be used to predict future travel demand based on various land use and roadway assumptions. This new TDM can be used for a variety of purposes such as:

- Generating traffic forecasts and other travel data (e.g., vehicle miles of travel per capita) to assist in developing an appropriate roadway network for the RTP.
- Developing a County-wide traffic impact fee program.
- Evaluating changes in travel patterns resulting from a proposed roadway improvement.
- Determining trip distribution patterns and potential impacts of land development proposals.
- Supporting the preparation of project development reports for the California Department of Transportation (Caltrans).

MODEL AREA AND MODEL YEARS

The TDM encompasses all of Trinity County. Although there are no incorporated cities in Trinity County, the model includes significant detail in the communities of Weaverville, Hayfork, and Trinity Center. The roadway network includes all state highways (State Routes 299, 3, and 36) and several major County roadways.

The model produces traffic estimates of daily, AM peak hour, and PM peak hour conditions. The model is calibrated to traffic counts for what is conventionally termed a “typical weekday”, which is defined as a Tuesday, Wednesday, or Thursday during a week with no holidays when local schools are in session. Because little growth has occurred in the County since 2004, the model was developed based on the same land use as the previous 2004 model. However, land use in several areas has been updated based on aerial surveys. The model’s roadway network represents Trinity County’s 2009 roadways. Traffic counts were provided by the County and were collected in 2007, 2008, and 2009.

Two model years were developed:

- 2009
- 2040

ORGANIZATION OF REPORT

This report is organized into six chapters:

1. Introduction
2. Discussion of Travel Demand Models
3. Summary of the Input Data
4. Description of the Model Calibration
5. Summary of the Model Validation Results
6. Future Year (2040) Model Development

A technical appendix is also attached, which contains model development information that is referenced throughout the report.

2. DISCUSSION OF TRAVEL DEMAND MODELS

This section summarizes the answers to commonly asked questions related to travel demand models.

WHAT IS A TDM?

A travel demand model (TDM) is a computer based tool that estimates traffic levels and patterns for a specific geographic area. TDM's are compiled using a computer program consisting of input files that summarize the area's land uses, street network, travel characteristics, and other key factors. Using this data, the model performs a series of calculations to determine the amount of trips generated by land uses, where each trip begins and ends, and the route taken by the trip. The model's output includes estimates of traffic on major roadways.

WHY DO WE NEED A TDM?

The Trinity County TDM will be a valuable tool for the preparation of the Trinity County 2010 Regional Transportation Plan and other long-range transportation planning studies. The model will be used to estimate the average daily and peak hour traffic volumes on major roadways in the future under certain growth assumptions. Using these traffic projections, transportation improvements can be identified to accommodate traffic growth.

HOW DO WE KNOW IF THE TDM IS ACCURATE?

To be deemed accurate for projecting traffic volumes in the future, a model must first be calibrated to a year in which actual land use data and traffic volumes are available and well documented. A model is accurately calibrated when it replicates the actual traffic counts on the major roads within certain ranges of error set by Caltrans. The Trinity County TDM has been calibrated to 2009 (base year) conditions using the existing roadway system and 2004 land use data provided by the County. A thorough review of the 2004 land use revealed that it accurately represents 2009 land use (little growth has occurred in Trinity County since 2004), although some modifications were made to the land use to improve its accuracy.

The ability of a traffic model to replicate traffic counts is known as model validation. For the model validation, 65 roadway segments within the County were included as daily study locations and 37 roadway segments were included as peak hour study locations. Traffic counts at these locations were compared with the base year model's estimates of daily, AM peak hour, and PM peak hour volume to determine the model's accuracy.

IS THE TRINITY COUNTY TDM CONSISTENT WITH STANDARD PRACTICES?

The Trinity County TDM is consistent in form and function with the standard travel demand models used in the transportation planning profession. The model includes a land use/trip generation module, a gravity-based trip distribution model, and a capacity-restrained equilibrium traffic assignment process. The traffic model uses the Voyager software platform, which is consistent with many of the models used by local jurisdictions in California and Caltrans.

3. SUMMARY OF THE INPUT DATA

The Trinity County TDM incorporates many types of input data, which are further described in this chapter.

TRAFFIC ANALYSIS ZONE (TAZ) SYSTEM

The County is divided into geographic sub-areas called traffic analysis zones (TAZs). TAZs represent physical areas containing land uses that produce or attract vehicle-trip ends. A TAZ system must provide sufficient detail to accurately represent the way that trips enter and exit the roadway network. With only a few exceptions, the 2004 model's TAZ system within Weaverville was acceptable for use in the development of the 2009 model. Outside of Weaverville, extensive detail was added in Trinity Center, Lewiston, Hayfork, and the remaining rural areas of Trinity County. The following factors were considered when defining zone boundaries: access to the street system, type of land use, streets, and natural boundaries such as rivers and mountains.

The model is divided into 140 TAZs. A total of 81 TAZs represent Weaverville, 18 TAZs represent Hayfork, and the remaining 41 represent the rural areas of the County, including the communities of Lewiston and Trinity Center. Figures 1A-1E include maps of the model's TAZ system.

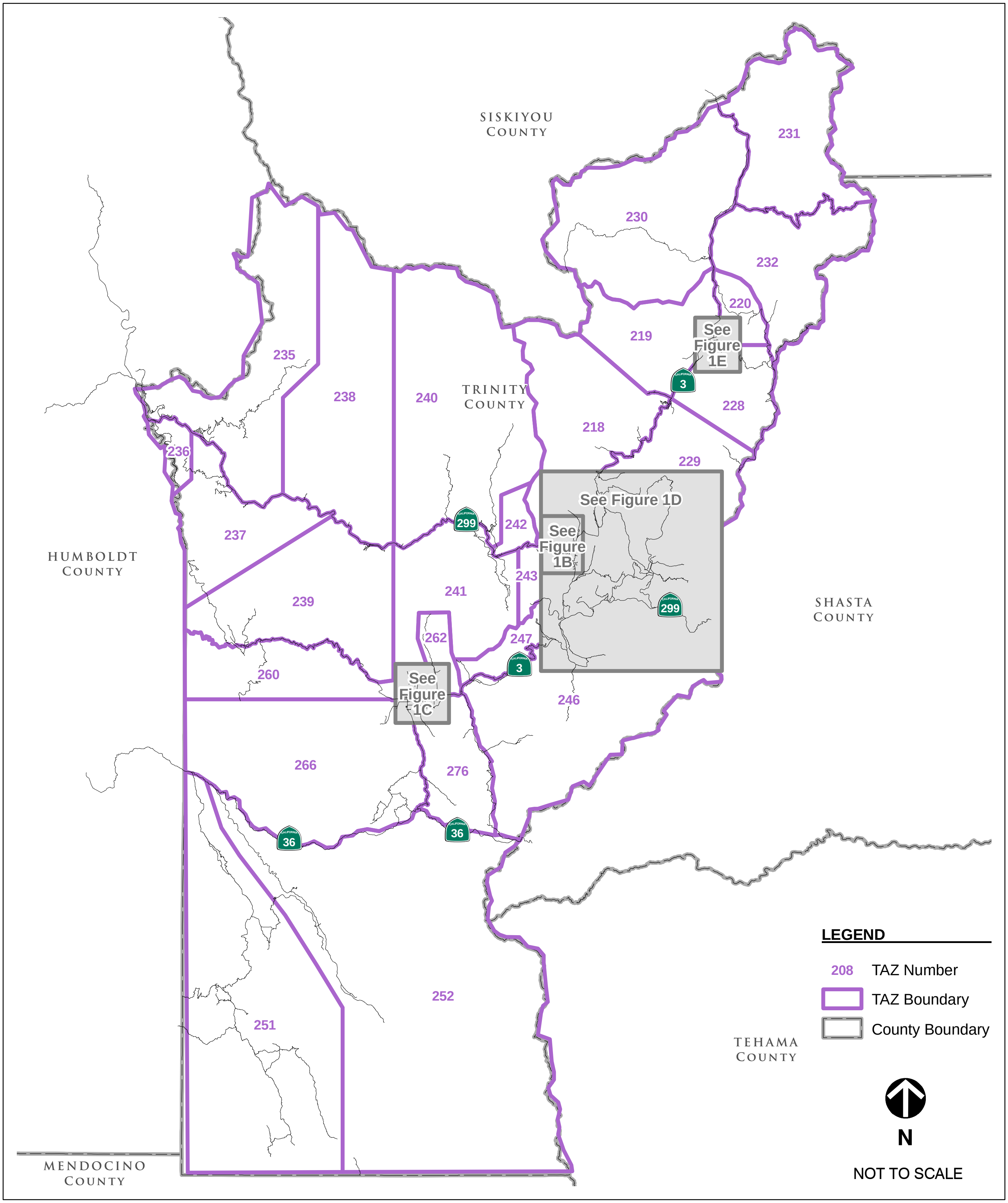
Also included in the zone structure are the external stations: gateways at points where major roadways provide access into the County. These stations model the traffic entering, exiting, or passing through the County. A total of six external gateways were established for this model:

1. SR 3 in northern Trinity County
2. Ramshorn Road in northern Trinity County
3. SR 299 in eastern Trinity County
4. SR 36 in eastern Trinity County
5. SR 36 in western Trinity County
6. SR 299 in western Trinity County

LAND USE DATA

One of the primary inputs to the TDF model is the land use data, which is instrumental in estimating trip generation. Table 1 presents the land use data categories for each TAZ including measurement units (e.g., dwelling units, square feet, etc.). In addition to specific land use categories, the model includes a "special generator" land use category meant to accommodate land uses with unusual trip generation characteristics.

The land use used in the 2004 model was provided for use in the development of the 2009 model. A thorough review of the 2004 land use revealed that it accurately represents 2009 land use (little growth has occurred in Trinity County since 2004), although aerial and street-view surveys were completed by Fehr & Peers to improve the inventory of land use in Hayfork. Where TAZs from the 2004 model were disaggregated into smaller TAZs (notably in Trinity Center, Lewiston, and rural Trinity County), Fehr & Peers used aerial imagery and utility meter information provided by the Trinity Public Utilities District to allocate land use to the 2009 model's TAZs. Additionally, the land use from the 2004 model did not include any estimates of school enrollment. The number of students in each TAZ was developed based on any schools located in a TAZ and the enrollment data provided in each school's *Accountability Report Card.*



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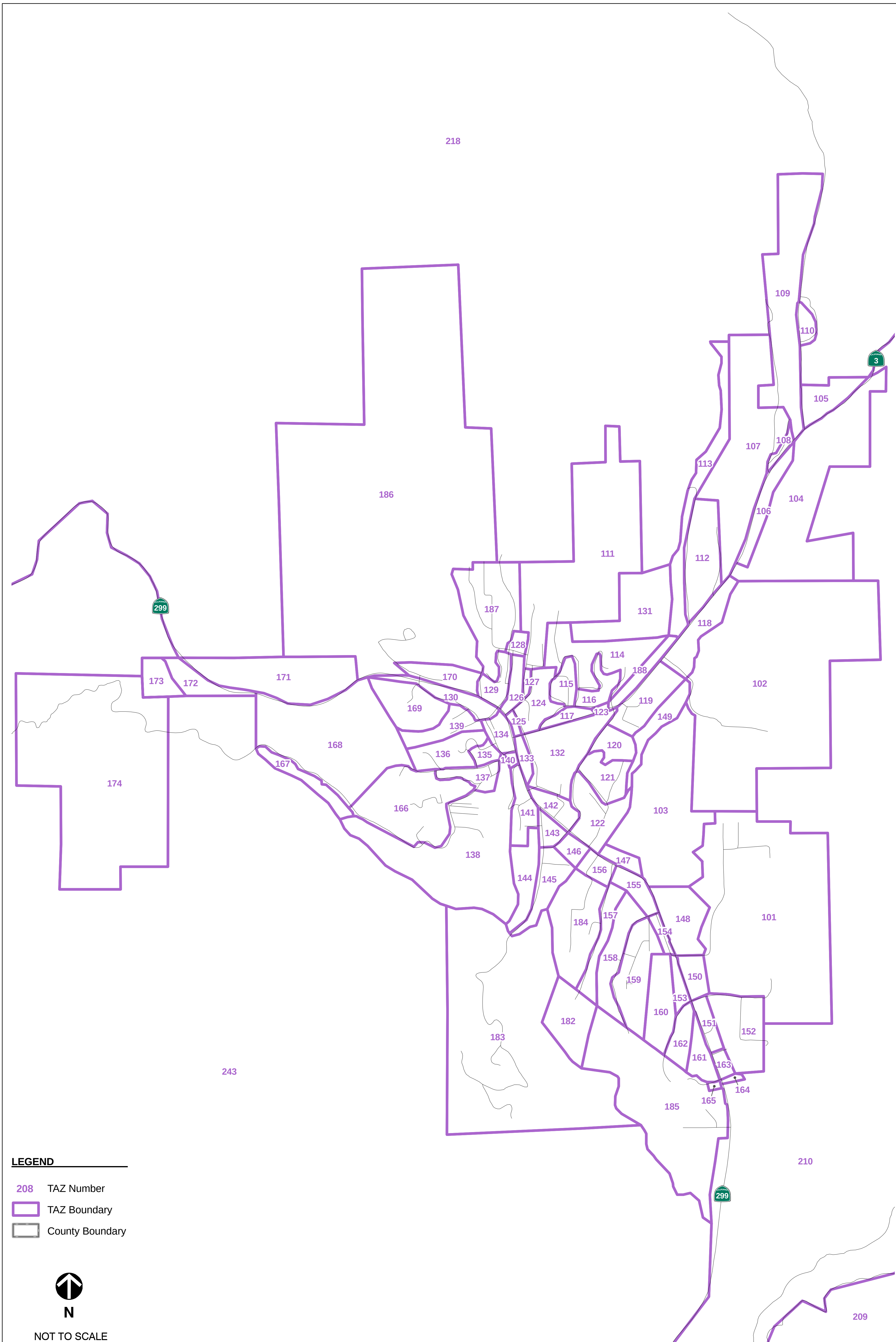
TRINITY COUNTY TAZS
FIGURE 1A



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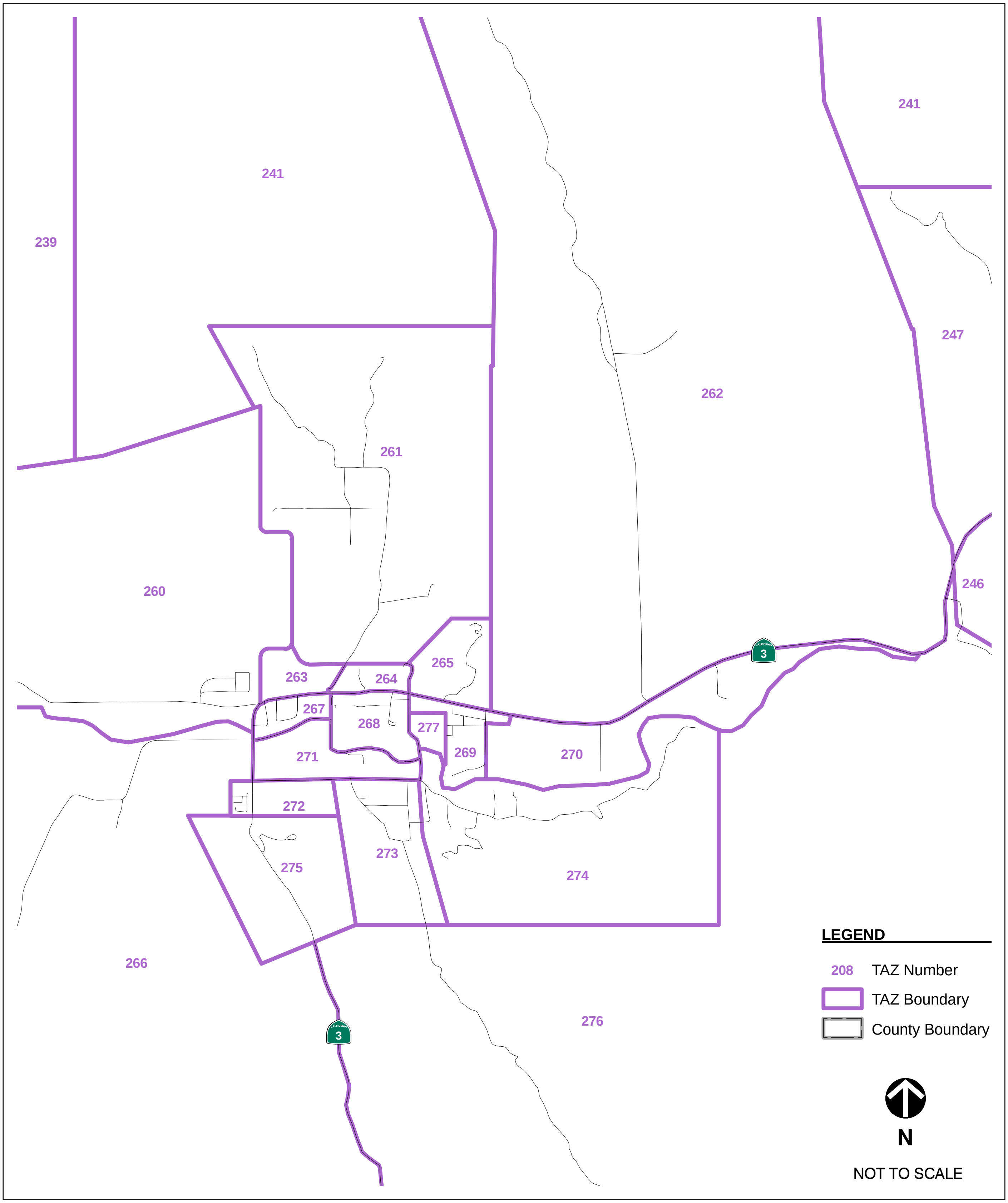
WEAVERVILLE TAZS
FIGURE 1B



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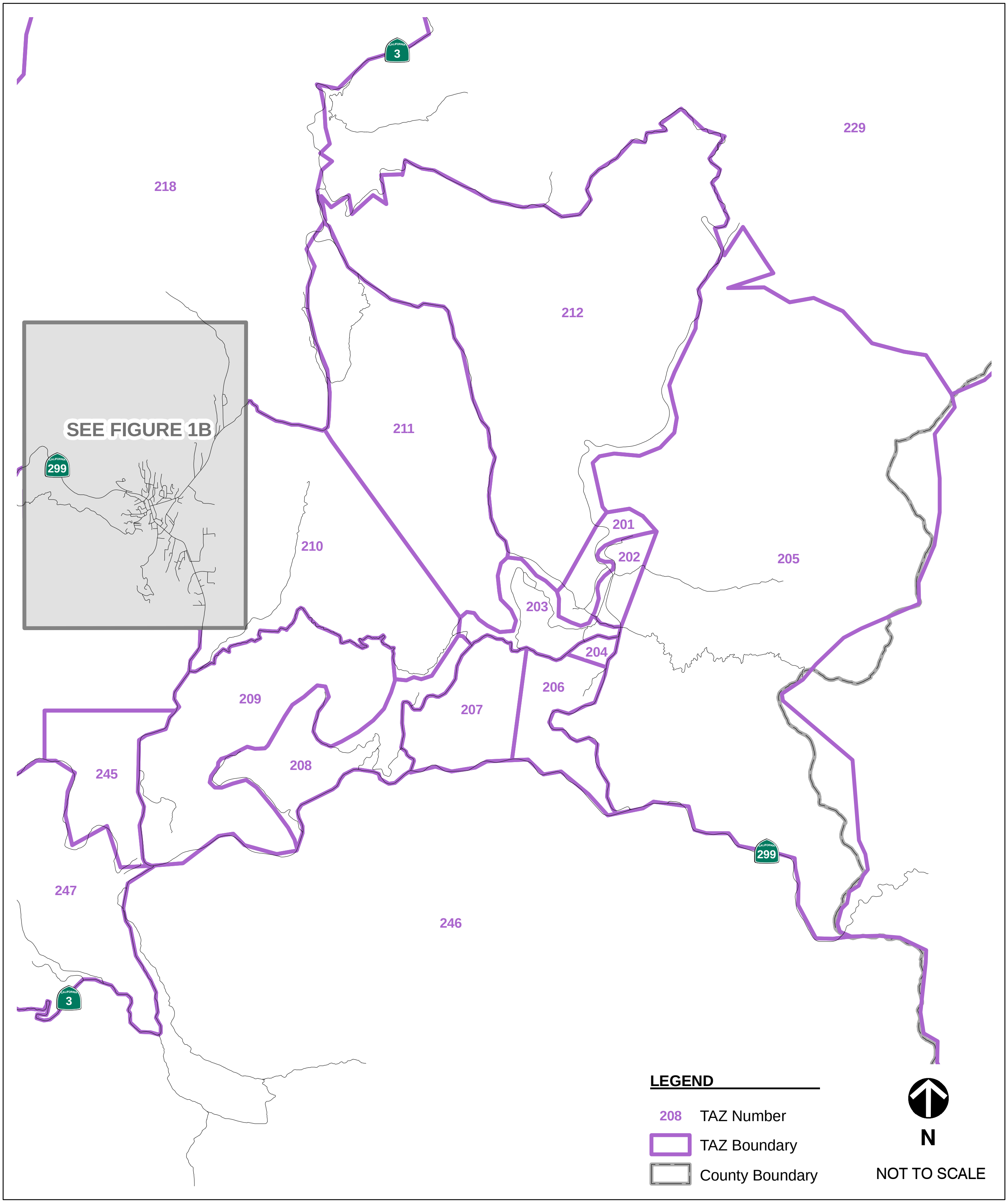
HAYFORK TAZS

FIGURE 1C



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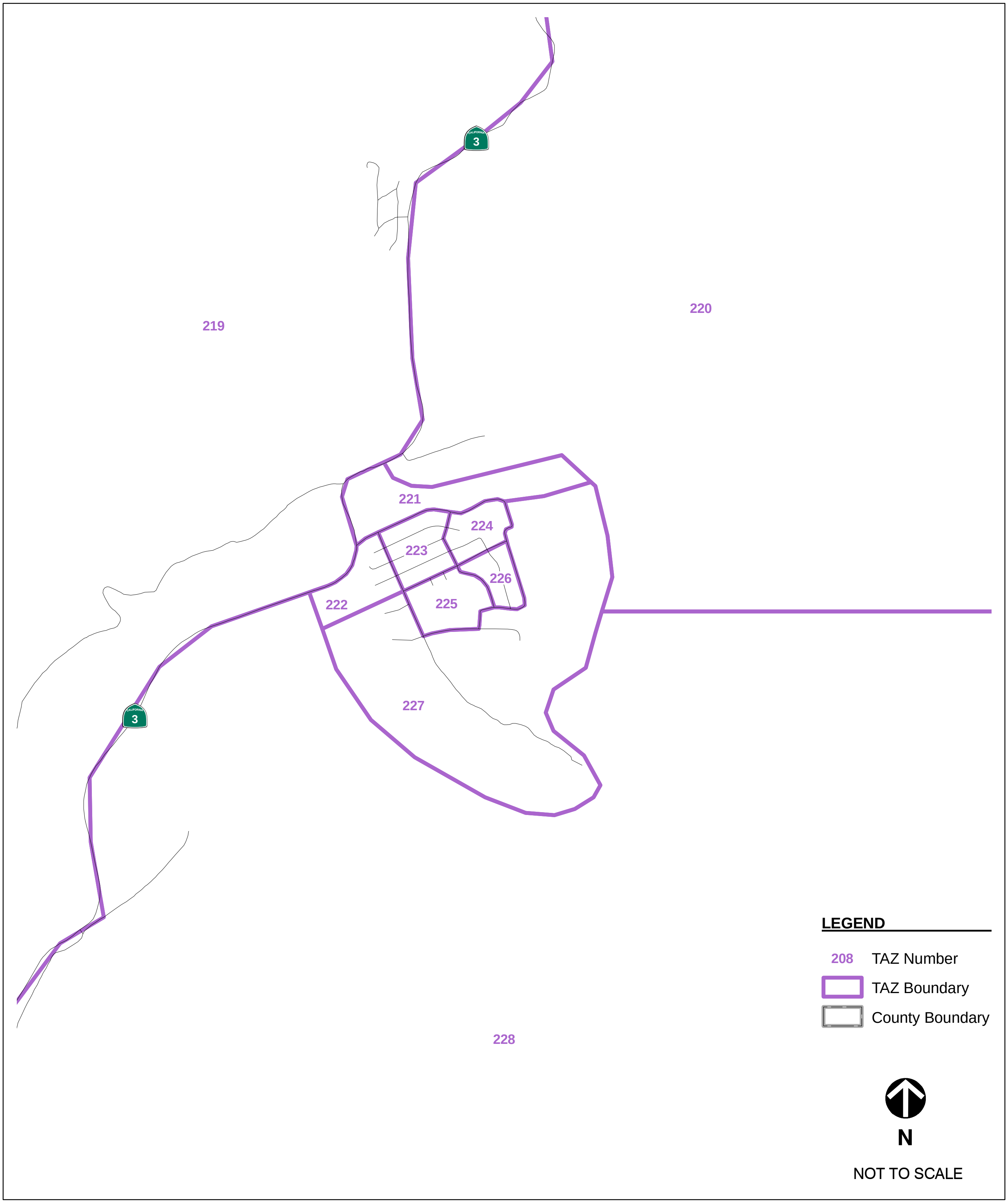
LEWISTON TAZS
FIGURE 1D



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TRINITY CENTER TAZS

FIGURE 1E

TABLE 1 –
LAND USE CATEGORIES IN TRINITY COUNTY TDM

Land Use	Measurement Units
Single-Family Residential	Dwelling Units
Multi-Family Residential	Dwelling Units
Office Commercial	KSF
Retail Commercial	KSF
Grocery	KSF
Restaurant	KSF
Convenience Store	KSF
Entertainment	KSF
Medical Office	KSF
Light Industrial	KSF
Hotel / Motel	Rooms
Storage	Units
Schools (Elementary/Middle, High)	Students
Special Generators	Number of Daily Trips

Notes: KSF = thousand square feet
Source: Fehr & Peers, 2011

Appendix A displays the base year land use data file.

TRIP GENERATION RATES

Trinity County's rural character contributes to a varying level of trip generation depending on the location of land use within the County. Because residential and commercial land uses in Weaverville are located closely to one another, they are likely to generate trips at a higher rate than land uses in rural parts of the County where residential and commercial land uses are separated by long distances. Since trip generate rate varies depending on location within the county, it was necessary to classify the County into four different areas so that different trip generation rates could be applied to each area. These geographic areas are as follows:

1. Weaverville
2. Rural Trinity County (includes communities of Lewiston and Trinity Center)
3. Western Trinity County (areas within Trinity County whose primary trip destinations are outside of Trinity County)
4. Hayfork

The trip generation rates for Area 2 (Rural Trinity County) and Area 3 (Western Trinity County) are the same; however, Census 2000 Journey to Work Data revealed significant differences between the behaviors of the two areas. Among Area 2 TAZs, very few trips (less than 15%) go external to the County on a daily basis; however, the number of external trips for Area 3 is much higher (approximately 70%) since most attractive destinations are outside of Trinity County.

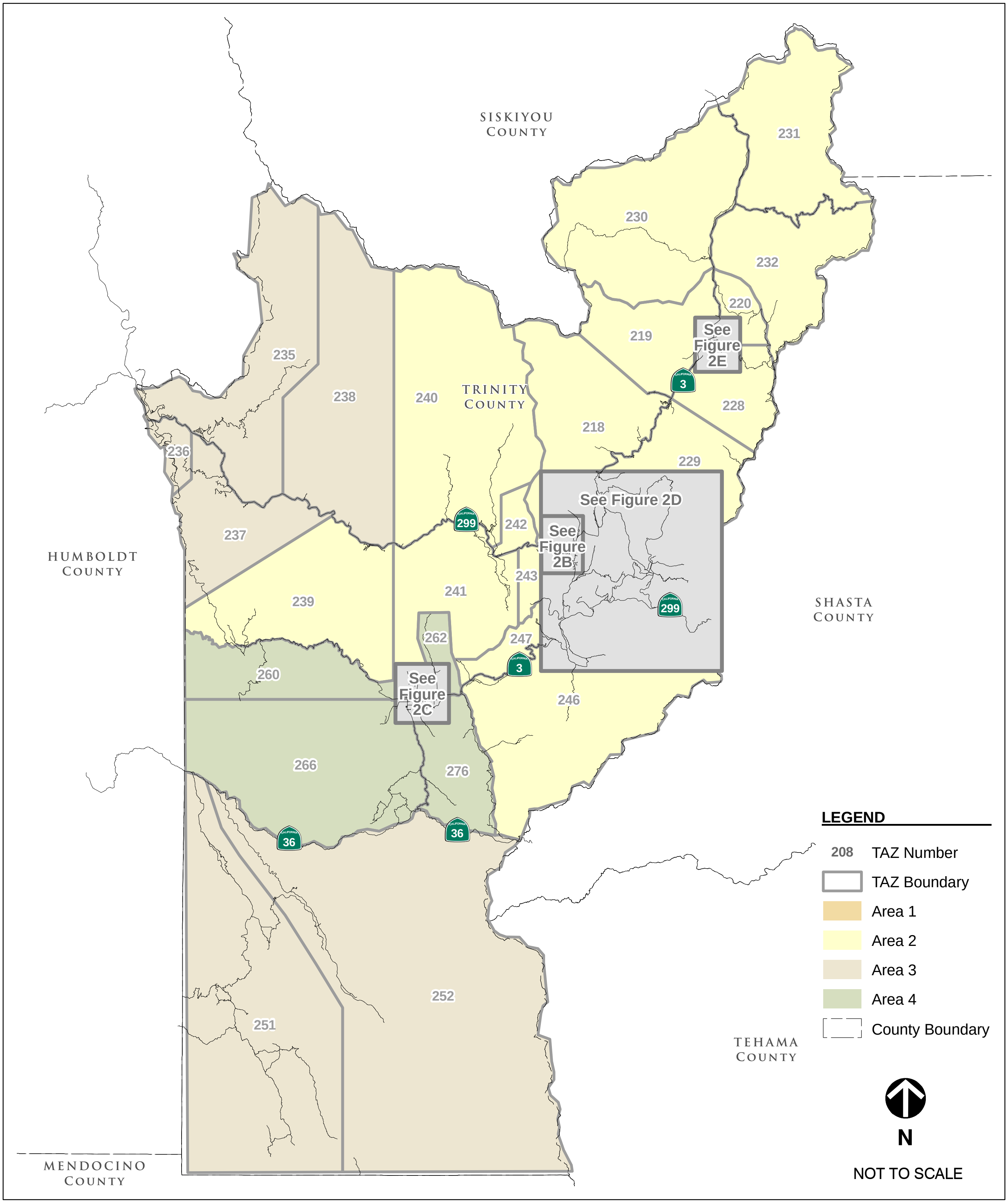
The principal source of data for single-family residential trip generation rates was counts conducted at locations throughout Trinity County:

- Area 1 – Weaverville
  - A trip generation survey of 49 single-family residences on Easter Avenue in Weaverville (Area 1) revealed a daily rate of 8.53 trips per unit.
  - A trip generation survey of 15 single-family residences on Hawthorne Street in Weaverville (Area 1) revealed a daily rate of 8.60 trips per unit.
  - The weighted average of these two daily rates is 8.55 trips per unit.
- Area 2 / Area 3 – Rural Trinity County / Western Trinity County
  - A trip generation survey of 40 single-family residences on B Bar K Road near Douglas City (Area 2) revealed a daily rate of 4.3 trips per unit.
  - A trip generation survey of 63 single-family residences on Steel Bridge Road near Douglas City (Area 2) revealed a daily rate of 2.4 trips per unit.
  - The weighted average of these two daily rates is 3.13 trips per unit.
- Area 4 – Hayfork
  - A trip generation survey of 52 single-family residences on Highland Drive in Hayfork (Area 4) revealed a daily rate of 7.21 trips per unit.

Trip generation rates for other land uses were developed based on *Trip Generation, 8th Edition* (Institute of Transportation Engineers, 2008) and adjusted based on the ratio of an area's single-family residential rate to *Trip Generation* 's single-family residential rate. For example:

- Weaverville's observed daily rate for single-family residences is 8.55 trips/day
- *Trip Generation*'s daily rate for single-family residences is 9.57 trips/day
- 8.55 / 9.57 = 0.893
- *Trip Generation*'s daily rate for multi-family residences is 6.59 trips/day
- Weaverville's assumed daily rate for multi-family residences is 5.89 trips/day = 6.59 trips/day x 0.893

Table 2 summarizes the trip generation rates for all areas of the Trinity County TDM; Figures 2A-2E show the area types assigned to each TAZ in the model.



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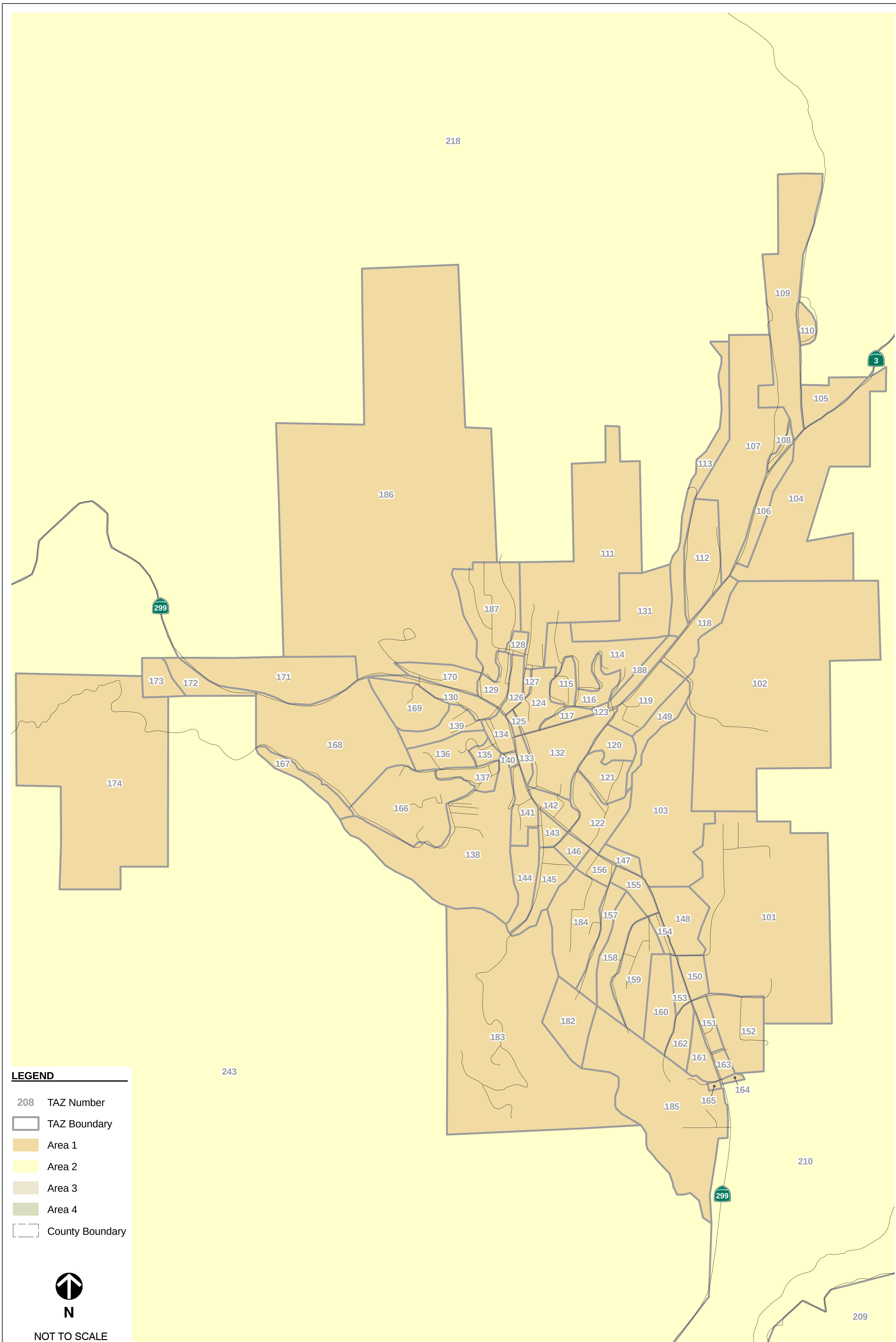
TRINITY COUNTY TAZ AREA TYPES

FIGURE 2A



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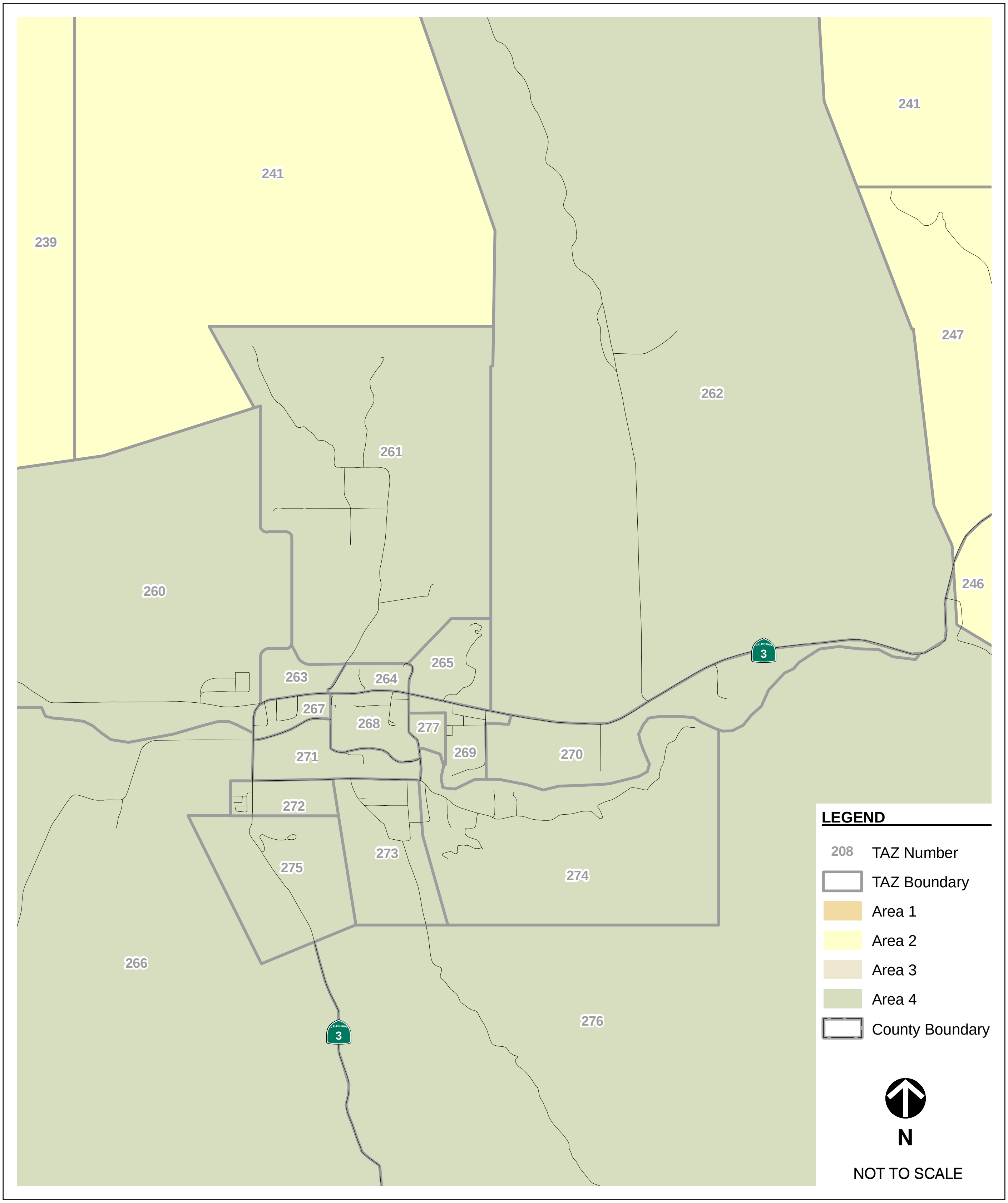
WEAVERVILLE TAZ AREA TYPES

FIGURE 2B



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HAYFORK TAZ AREA TYPES

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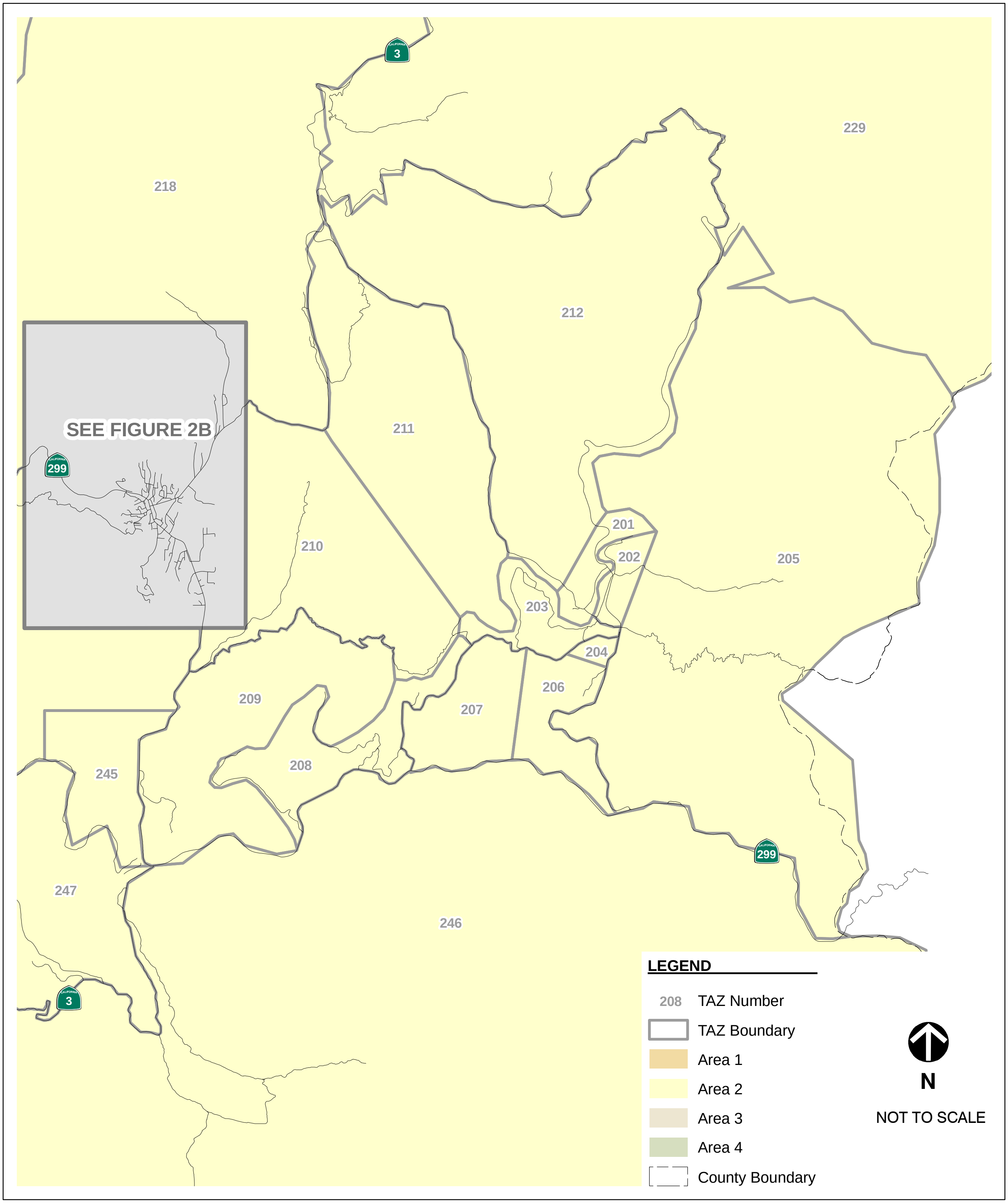
FIGURE 2C



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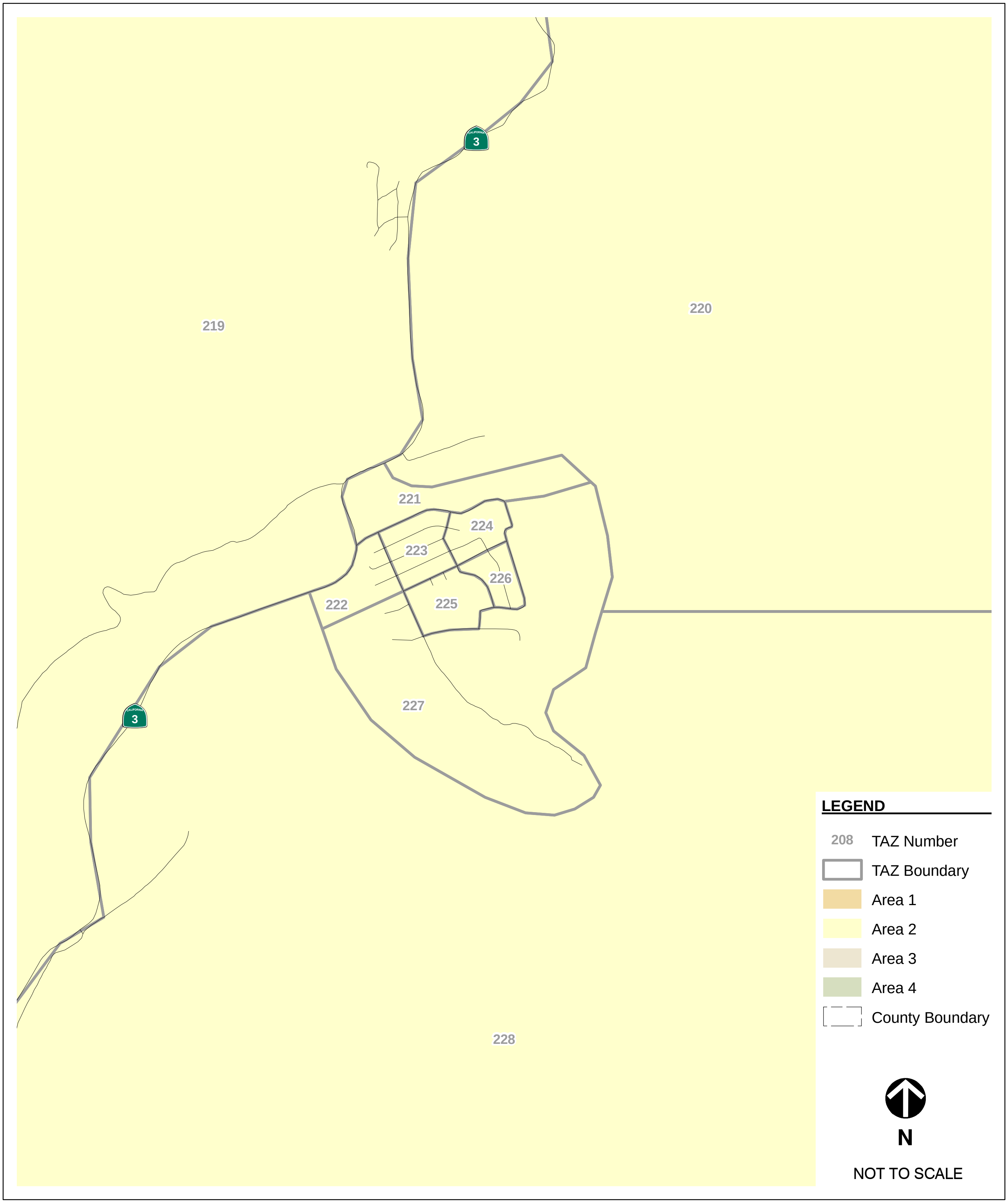
LEWISTON TAZ AREA TYPES

FIGURE 2D



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TRINITY CENTER TAZ AREA TYPES

FIGURE 2E

TABLE 2–
TRIP GENERATION RATES IN TRINITY COUNTY TDM

Land Use	Units	Area 1	Area 2	Area 3	Area 4
Single-Family Residential	Dwelling Units	8.55	3.13	3.13	7.21
Multi-Family Residential	Dwelling Units	5.89	2.16	2.16	4.96
Office Commercial	KSF	9.84	3.60	3.60	8.29
Retail Commercial	KSF	38.36	14.04	14.04	32.35
Grocery	KSF	91.34	33.44	33.44	77.03
Restaurant	KSF	113.60	41.59	41.59	95.79
Convenience Store	KSF	690.00	255.00	255.00	637.07
Entertainment	KSF	69.74	25.53	25.53	58.81
Medical Office	KSF	32.28	11.82	11.82	27.22
Light Industrial	KSF	6.23	2.28	2.28	5.25
Hotel / Motel	Rooms	7.30	2.67	2.67	6.16
Storage	Units	0.25	0.09	0.09	0.21
Elementary/Middle School	Students	1.15	1.15	1.15	1.15
High School	Students	2.20	2.20	2.20	2.20
Special Generators	Daily Trips	1.00	1.00	1.00	1.00

Notes: KSF = thousand square feet
Source: Fehr & Peers, 2011

In addition to specific land use categories, the model includes a "special generator" land use category meant to accommodate land uses with unusual trip generation characteristics. Table 3 summarizes the base year model's special generators. Daily trip estimates were developed as follows:

- Airports – Trinity County staff provided Fehr & Peers with estimates of the number of aircraft based at each airport in Trinity County. Daily trip estimates were developed using the ITE rate for general aviation airports (ITE 022).

- Post Offices – counts conducted at the commercial complex containing the post office in Weaverville revealed daily trip estimates of 3,100 trips per day. The number of post office trips was developed by subtracting the estimated number of trips to/from the commercial uses in the complex from the total trips accessing the complex. Estimates of the other post offices were developed based on the number of households that each post office serves as well as the area's single-family trip generation rate relative to that of Weaverville.

TABLE 3 –
TRINITY COUNTY TDM SPECIAL GENERATORS

Land Use	Daily Trip Estimate
Airports	
Weaverville Airport	75
Trinity Center Airport	110
Ruth Airport	15
Hyampom Airport	10
Hayfork Airport	30
Post Offices	
Weaverville Post Office	2,600
Lewiston Post Office	370
Trinity Center Post Office	220
Hayfork Post Office	1,140
Other Land Uses	
Trinity River Lumber Company (Weaverville)	400 (120 employees & 160 trucks per day)
Trinity Hospital	1,590 (assumes ITE rate for 200 employees)
Trinity Alps Golf Course	320

Source: Fehr & Peers, 2011

ROADWAY NETWORK

The roadway network for the TDM is based on the County's Geographic Information System (GIS) roadway centerline file. The TDM roadway network includes all major highways and many County roadways. The network database includes distance, street name, number of lanes, posted speed limit, and capacity. Roadways are classified as either highways or County roadways.

TABLE 4 –
LAND USE CATEGORIES IN TRINITY COUNTY TDM

Roadway Classification	Capacity (vehicles per hour per lane)
Highway	1,400
County Roadway	600

Source: Fehr & Peers, 2011

4. DESCRIPTION OF THE MODEL CALIBRATION

Model calibration is the process by which parameters are set based on a comparison of travel estimates computed by the model with actual travel data from the area being studied. This section provides a general description of the calibration steps and the adjustments made during the process to achieve accuracy levels that are within Caltrans' standards. For detailed information regarding the specified modeling steps, refer to the Voyager model control file that is included in Appendix B.

TRIP GENERATION

The first step in the model is the estimation of trips that originate and terminate in each TAZ. This is completed using the trip generation rates for each land use category for each area of the model. Trips are then classified either as "productions" or "attractions", and trip purpose data is tabulated.

TRIP DISTRIBUTION

The trip distribution process determines the specific destination of each originating trip. The destination may be within the zone itself, which results in an intra-zonal trip. If the destination is outside of the zone of origin, it is an inter-zonal trip. Internal-internal (II) trips originate and terminate within the County. Trips that originate within but terminate outside of the County are internal-external (IX), and trips that originate outside and terminate inside the County are external-internal (XI). Trips passing completely through the County are external-external (XX).

The trip distribution model uses the gravity equation to distribute trips to all zones. This equation estimates an accessibility index for each zone based on the number of attractions in each zone and a friction factor, which is a function of time between zones. Each attraction zone is given its pro-rata share of productions based on its share of the accessibility index. This process applies to the II, IX, and XI trips. The XX trips are added to the trip table prior to final assignment. Friction factors, or travel time factors, are used in the trip distribution stage of the model in execution of the gravity model. Iterative runs of the model were conducted with the various sets of friction factors to identify an appropriate set of curves that improved trip distribution and corresponding validation.

MODE CHOICE

A separate mode-choice model was not developed given the purpose of this model and the limited transit use in the County.

TRIP ASSIGNMENT

The trip assignment process determines the route that each vehicle-trip follows to travel from origin to destination. The model selects these routes in a manner that is sensitive to congestion and the desire to minimize overall travel time. It uses an iterative, capacity-restrained assignment and equilibrium volume adjustments. This technique finds a travel path for each trip that minimizes the travel time, with recognition of the congestion caused by all other trips.

The general assignment process includes the following steps.

- Assign all trips to the links along their selected paths
- After all assignments, examine the volume on each link and adjust its impedance based on the volume-to-capacity ratio

- Repeat the assignment process for a set number of iterations or until specified criteria are satisfied

As part of the assignment process, an equilibrium volume adjustment is also applied. This adjustment is used to weight the results of each assignment iteration for incorporation into a final total volume for each link.

Attached to the last page of this report is an envelope containing a CD of the base year model. The CD contains all files necessary to run the model, including the output files (i.e., loaded model networks). To properly run this model, users must have a recent version of Citlabs' Cube & TP+ software (version 4.1.1 or later).

5. SUMMARY OF MODEL VALIDATION RESULTS

This chapter presents a summary of the base year Trinity County Travel Demand Model's validation to existing conditions.

The term "static validation" refers to the model's performance as it relates to how well its estimate of base year traffic volumes matches existing traffic counts. Caltrans has identified certain guidelines regarding acceptability for forecasting future year traffic. This chapter describes the model's performance in comparison to the Caltrans Travel Forecasting Guidelines, November 1992, Travel Model Improvement Program (TMIP) Model Validation and Reasonableness Checking Manual, February 1997, and Fehr & Peers' internal standards. In addition, dynamic validation was performed to test the sensitivity and reasonableness of the TDF model in responding to land use and roadway network changes.

VALIDATION COMPARISON TECHNIQUES

Travel model accuracy is tested using these comparison techniques:

- The volume-to-count ratio is computed by dividing the volume assigned by the model and the actual traffic count for individual roadways model-wide.
- The deviation is the difference between the model volume and the actual count divided by the actual count.
- The correlation coefficient estimates the correlation between the actual traffic counts and the estimated traffic volumes from the model.
- The coefficient of determination (R^2) is the proportion of variability between the actual traffic counts and the estimated traffic volumes from the model.
- The Percent Root Mean Square Error (PRMSE) is the square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model.

STATIC VALIDATION STANDARDS

For a model to be considered accurate and appropriate for use in traffic forecasting, it must replicate actual conditions within a certain level of accuracy and demonstrate sufficient sensitivity to changes in the model's input variables. Since it is extremely unlikely that any model will precisely replicate all counts, validation guidelines have been established. The following summarizes key validation targets for daily conditions based on the Caltrans guidelines, TMIP guidelines, and Fehr & Peers' internal standards for the Trinity County TDM.

- All screenlines should be within their maximum desirable deviation, which ranges from approximately 5 to 60 percent, depending on total volume.
- A minimum of 75 percent of the roadway links should be within their maximum desirable deviation, which ranges from approximately 5 to 60 percent, depending on total volume.
- The model-wide correlation coefficient is suggested to be greater than 0.88.
- The model-wide coefficient of determination (R2) is suggested to be greater than 0.77.

- Less than 30 percent is suggested for an appropriate aggregate PRMSE for all links with counts or by facility type and area type.

STATIC VALIDATION RESULTS

The base year Trinity County TDM was run once all of the input data described in Chapter 3 was collected and formatted for Voyager use. The model results were examined and checked for reasonableness. Link volumes that did not conform with traffic counts were investigated further, which led to some modifications of the model parameters.

Table 5 summarizes the aggregate static validation results for all validation links.

TABLE 5 –
LINK LEVEL STATIC VALIDATION RESULTS

Land Use	Caltrans and TMIP Guidelines	Daily	AM Peak Hour	PM Peak Hour
Percent of screenlines within allowed maximum deviation	100%			
Percent of roadway links within allowed maximum deviation	> 75%	88% ✓	73%	84% ✓
Correlation Coefficient	> 0.88	0.97 ✓	0.90 ✓	0.92 ✓
Coefficient of Determination (R^2)	> 0.77	0.93 ✓	0.80 ✓	0.84 ✓
Overall Percent RMSE at Link Level	< 30%	24% ✓	45%	0.37

Source: Fehr & Peers, 2011

All aggregate static validation results exceed the validation guidelines established in the Caltrans guidelines and the TMIP guidelines for daily conditions. However, certain static validation results for the AM and PM peak hours do not exceed the validation guidelines. It is important to note that the Caltrans, TMIP, and Fehr & Peers guidelines for static validation were developed for daily, not peak hour, conditions. Generally, roadway links with small volumes are more difficult to validate than those with large volumes. Appendix C contains detailed static validation summary reports.

Figure 3 illustrates the model's daily validation by showing a graph of the daily traffic counts used in the model validation and their corresponding volumes in order from the smallest count to the largest count. As shown in the graph, the model volumes follow the pattern exhibited by the daily counts: as the daily count increases, the model volumes generally increase.

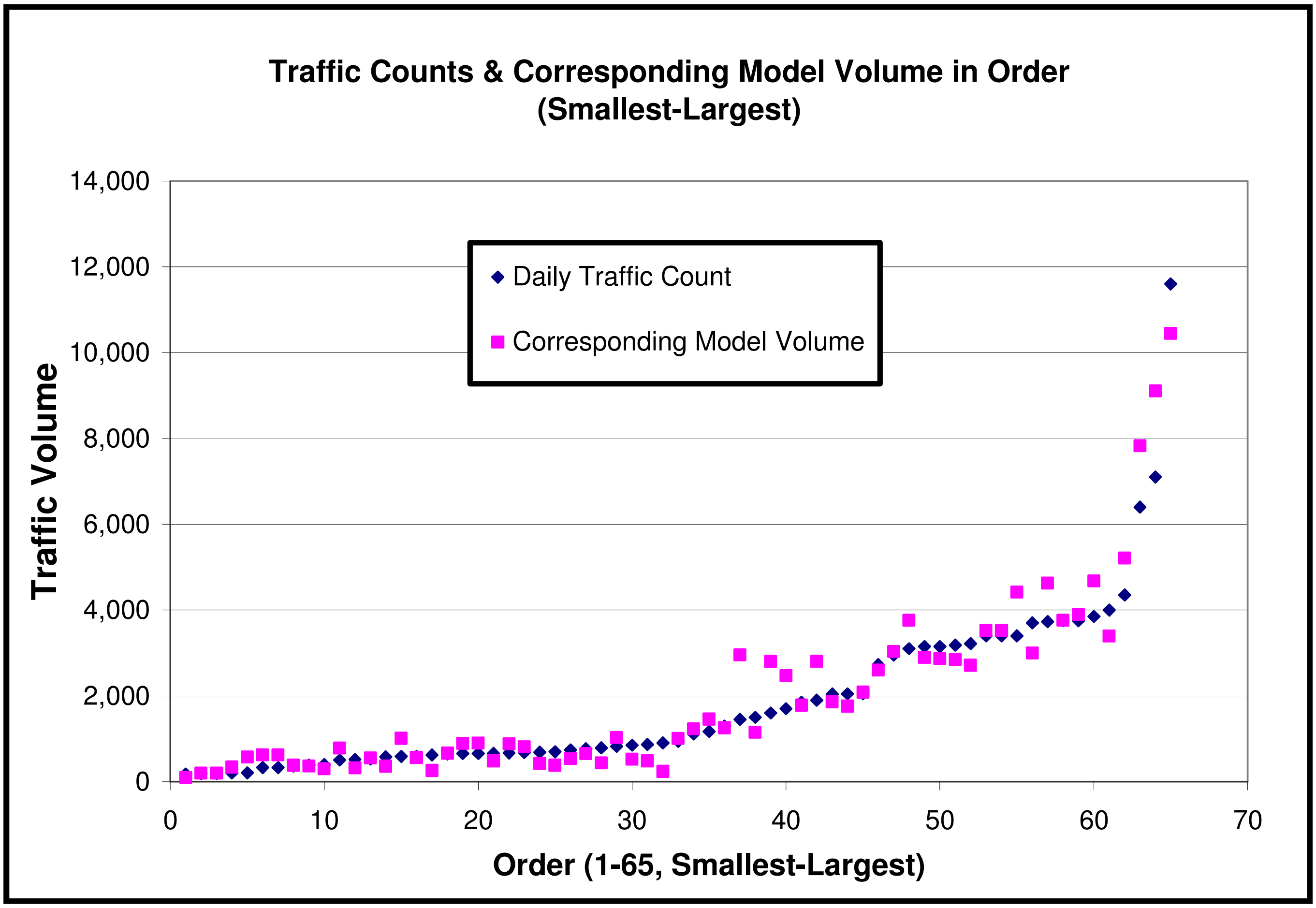

Figure 3 – Daily Traffic Counts and Corresponding Model Volume

DYNAMIC VALIDATION RESULTS

The previous section described a validation process that consisted of comparing the model's traffic volume forecasts for the base year to traffic counts taken for the same year. This is "static" validation in that it judges the model's ability to replicate a static set of conditions (the traffic counts). While this provides some useful information, its usefulness is limited by the fact that models are seldom, if ever, used for static applications; by far the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. The most valid tests of a model's accuracy must, therefore, focus on the model's ability to predict realistic differences in outputs as inputs are changed; in other words, dynamic validation rather than static validation. This section describes the results of the dynamic validation tests that were performed on the base year Trinity County TDM.

Residential land use modification, commercial land use modification, and roadway network modification tests were conducted as a part of this dynamic validation.

Residential Land Use Tests

Single-family residences were added to TAZs in varying quantities to observe the model's response to the change in input. Single-family residences were added to two different TAZs to observe the difference in behavior when adding dwellings units to different area types:

- TAZ 109 in north Weaverville - trip generation Area 1
- TAZ 204 in Lewiston - trip generation Area 2

The results of these tests are summarized in Tables 6 and 7.

TABLE 6 –
DYNAMIC VALIDATION RESULTS FOR HOUSEHOLD ADDITION – TAZ 109

TAZ	Scenario	TAZ Vehicle Trips	Δ TAZ Vehicle Trips	Average VT/Unit for Increment	Vehicle Miles of Travel (VMT)	Δ VMT	Average VMT/Unit for Increment
109	Base Scenario	912	--	--	432,959	--	--
	Add 10 Single-Family Residences	998	86	8.6	433,282	323	32.3
	Add 100 Single-Family Residences	1,762	850	8.5	436,273	3,314	33.1
	Subtract 10 Single-Family Residences	827	-85	8.5	432,672	-287	28.7
	Subtract 100 Single-Family Residences	58	-854	8.5	430,247	-2,712	27.1

Source: Fehr & Peers, 2011

TABLE 7 –
DYNAMIC VALIDATION RESULTS FOR HOUSEHOLD ADDITION – TAZ 204

TAZ	Scenario	TAZ Vehicle Trips	Δ TAZ Vehicle Trips	Average VT/Unit for Increment	Vehicle Miles of Travel (VMT)	Δ VMT	Average VMT/Unit for Increment
204	Base Scenario	1,080	--	--	432,959	--	--
	Add 10 Single-Family Residences	1,111	31	3.1	433,398	439	43.9
	Add 100 Single-Family Residences	1,392	312	3.1	437,416	4,457	44.6
	Subtract 10 Single-Family Residences	1,049	-31	3.1	432,533	-426	42.6
	Subtract 100 Single-Family Residences	766	-314	3.1	428,641	-4,318	43.2

Source: Fehr & Peers, 2011

The model performed predictably when adding and subtracting single-family dwelling units to the land use. For each test, the number of vehicle trips (VT) and vehicle miles traveled (VMT) responded in the right direction and to a reasonable order of magnitude.

Table 6 shows that the average number of vehicle trips per unit for TAZ 109 was almost identical for the addition of 10 and 100 units. The VT/unit ratios of 8.6 and 8.5 were nearly identical to the trip generation rate for single-family dwelling units in Area 1 of 8.55.

Table 7 shows that the average number of vehicle trips per unit for TAZ 204 was identical for the addition of 10 and 100 units. The VT/unit ratio of 3.1 was nearly identical to the trip generation rate for single-family dwelling units in Area 2 of 3.13.

The average VT/unit for each TAZ test corresponded accurately to the magnitudes of the trip generation rates for single-family dwelling units in each area. That is, single-family dwelling units in Area 1 produce more trips than in Area 3 who produce more trips than in Area 2.

The model also performed predictably in calculating vehicle miles of travel (VMT) for the added single-family dwelling units. The average VMT/unit for the added dwelling units was larger for TAZ 204 in Lewiston versus TAZ 109 in Weaverville because homes in Lewiston are a much greater distance away from supporting commercial land uses. Conversely, TAZ 109 is located near Downtown Weaverville near numerous non-residential land use types.

Commercial Land Use Tests

Retail square footage was added to TAZ 155, which represents the area along SR 299 in Weaverville on which the Plotzke ACE Hardware is located. This TAZ was modified to include an additionally 10,000 square feet (10 KSF) and 20,000 square feet (20 KSF) of retail space. Subsequently, the TAZ was also modified to remove 10 and 20 KSF of retail space. The number of inbound and outbound trips generated by this TAZ was monitored. The results of this test are shown in Table 8.

**TABLE 8 –
DYNAMIC VALIDATION RESULTS FOR RETAIL ADDITION – TAZ 155**

TAZ	Scenario	TAZ Vehicle Trips	Δ TAZ Vehicle Trips	Average VT/Unit for Increment	Vehicle Miles of Travel (VMT)	Δ VMT	Average VMT/Unit for Increment
155	Base Scenario	2,572	--	--	432,959	--	--
	Add 10 KSF Retail	2,929	357	35.7	435,415	2,456	245.6
	Add 20 KSF Retail	3,282	710	35.5	437,883	4,924	246.2
	Subtract 10 KSF Retail	2,210	-362	36.2	430,563	-2,396	239.6
	Subtract 20 KSF Retail	1,843	-729	36.5	428,200	-4,759	238.0

Source: Fehr & Peers, 2011

Table 8 shows that the model performed predictably when adding retail square footage to the land use. For each scenario, the number of daily trips responded in the correct direction and to the expected order of magnitude. The number of daily vehicle trips increase proportionally to the amount of land use added. As expected, the increase in vehicle trips for the addition of 20 KSF of retail space was approximately two times that of the increase in vehicle trips for the addition of 10 KSF of retail space.

The daily trip rate per each unit added, however, is slightly less than the expected trip generation rate of 38.36 daily trips per KSF. Because the model is designed to balance the number of attractions to the number of productions, the additional attractions by the addition of more retail space are truncated when the model balanced attractions to productions. Users of the model should exhibit caution when adding any new single type of land use to the model. To generate a number of trips closer to the expected number when adding commercial land use, users should add a commensurate number of households to the model of exclude the TAZ to which the land use is added from production-attraction balancing.

Roadway Network Tests

Two different tests were conducted by making modifications to the model network:

- Adding a link
- Removing a link

In both cases, the network modifications were made and the model was completely re-run.

<u>Adding a Link</u>

The proposed East Connector, a County roadway from SR 299 near the Glen Road intersection, east of downtown Weaverville, and to SR 3 north of the Browns Ranch Road intersection, was added to the model network. The road was coded as a two-lane County roadway with a speed limit of 35 miles per hour and capacity characteristics similar to those of other County roadways. Only the assignment module of the TDM was run; the origin-destination matrices remained the same, isolating the difference in the roadway network as the only difference. Trips with an origin south of Weaverville and a destination north of Weaverville were monitored by tabulating the volumes on roadways that go through Weaverville:

- SR 299 east of Glen Road
- SR 3 east of SR 299
- Washington Street between SR 299 and SR 3
- Levee Road between SR 299 and SR 3

The results of this test are summarized in Table 9.

TABLE 9 –
DYNAMIC VALIDATION RESULTS FOR ADDITION OF EAST CONNECTOR

Roadway Segment	Without East Connector	With East Connector
SR 299 East of Glen Road	9,102	9,131
SR 3 East of SR 299	3,421	3,421
Washington Street between SR 299 and SR 3	3,012	1,261
Levee Road between SR 299 and SR 3	76	6
East Connector	--	1,870
Total	15,611	15,689

Source: Fehr & Peers, 2011

Table 9 shows that the addition of the East Connector to the roadway network results in comparable amounts of traffic going from south of Weaverville to north of Weaverville. The addition of the East Connector diverts trips traffic from Washington Street and Levee Road, indicating that the model is performing properly.

Removing a Link

Washington Street north of Lowden Lane was removed from the model network. Only the assignment module of the model was run; the origin-destination matrices remained the same, isolating the difference in the roadway network as the only difference. Trips with an origin south of Weaverville and a destination north of Weaverville were monitored by tabulating the volumes on roadways that go through Weaverville:

- SR 299 east of Glen Road
- SR 3 east of SR 299
- Washington Street between SR 299 and SR 3
- Levee Road between SR 299 and SR 3

The results of this test are summarized in Table 10.

TABLE 10 –
DYNAMIC VALIDATION RESULTS FOR REMOVAL OF WASHINGTON STREET

Roadway Segment	With Washington Street	Without Washington Street
SR 299 East of Glen Road	9,102	9,102
SR 3 East of SR 299	3,421	4,524
Washington Street between SR 299 and SR 3	3,012	--
Levee Road between SR 299 and SR 3	76	1,985
Total	15,611	15,611

Source: Fehr & Peers, 2011

Table 10 shows that the removal of Washington Street from the roadway network results in the exact same amount of traffic going from south of Weaverville to north of Weaverville. The removal of Washington Street diverts trips onto SR 3 and Levee Road, indicating that the model is performing properly.

6. FUTURE YEAR (2040 MODEL DEVELOPMENT)

As part of the Trinity County 2010 RTP, Fehr & Peers developed a 2040 version of the Trinity County TDM. The 2040 model was developed by incorporating the growth in land use likely to occur by 2040 into the 2009 model's platform.

LAND USE PROJECTIONS

Based on coordination with the RTP Steering Committee and the Trinity County Transportation Commission, growth of 0.28% per year was assumed between 2009 and 2040. Table 11 shows the 2009 land use totals and the 2040 land use totals after incorporating the growth of 0.28% per year.

TABLE 11 –
TRINITY COUNTY GROWTH: 2009 TO 2040

	Single-Family Residential (Dwelling Units)	Multi-Family Residential (Dwelling Units)
2009	4,838	809
0.28% Growth per year between 2009 & 2040		
2040	5,258	879
Difference	**420**	**70**

Note: 0.28% per year linear growth assumed between 2009 & 2040
Source: Fehr & Peers, 2011

Members of the Steering Committee also indicated the areas of Trinity County in which this growth was likely to occur. Table 12 shows the assumed allocation of residential growth to different areas of the County. Non-residential land uses were increased at a rate proportional to the residential growth.

TABLE 12 –
ALLOCATION OF TRINITY COUNTY GROWTH

Community	Percent of Growth Allocated	Single-Family Residential (Dwelling Units)	Multi-Family Residential (Dwelling Units)
		420	**70**
Hawkins Bar	10%	42	7
Trinity Center	12%	50	8
Lewiston	14%	59	10
Burnt Ranch / Cedar Flat	2%	8	1
Covington Mill	2%	8	1
Junction City	1%	4	1
Douglas City	2%	8	1
Post Mountain	1%	4	1
Ruth / Mad River	2%	8	1
Weaverville	42%	176	29
Hayfork	12%	50	8
Total	**100%**	**420**	**70**

Source: Fehr & Peers, 2011

The total amount of growth allocated to each community was distributed among several TAZs. In small communities such as Hawkins Bar and Douglas City, the allocated growth was distributed to all TAZs that represented the community since all TAZs within the small communities could accommodate the additional growth. However, in Trinity County's denser communities of Trinity Center, Weaverville, and Hayfork, growth could only be distributed to certain TAZs that were not already built out with land use. A complete summary of TAZs to which growth was distributed within each community is included in Appendix D. Appendix E contains the 2040 model's land use.

EXTERNAL-EXTERNAL TRIPS

Growth estimates for external-external (XX) trips were based on analysis of the California Statewide Transportation Demand Model (TDM). The California Statewide TDM accounts for growth in Trinity County and neighboring counties that contribute to external-external trips in Trinity County: Humboldt, Shasta, and Siskiyou counties.

SPECIAL GENERATORS

Growth of special generators was developed independently of the land use projections discussed above. Table 13 summarizes the assumptions used for the 2040 model's special generators. Daily trip estimates were developed as follows:

- Airports – Trinity County staff provided Fehr & Peers with the estimated the number of aircraft that will be based at each Trinity County airport in 2026; Fehr & Peers linearly extrapolated this data to develop 2040 projections. Daily trip estimates were developed using the ITE rate for general aviation airports (ITE 022).

- Post Offices – Daily trip estimates at the post offices were increased proportional to the amount of residential land use growth in each community.

- Other land uses:

  – Trinity River Lumber Company – no growth was assumed

  – Trinity Hospital – total daily trips increased proportionally to the residential growth that occurs in Weaverville

  – Trinity Alps Golf Course – no growth was assumed

**TABLE 13 –
TRINITY COUNTY TDM SPECIAL GENERATORS**

Land Use	2009 Daily Trip Estimate	2040 Daily Trip Estimate
Airports		
Weaverville Airport	75	145
Trinity Center Airport	110	205
Ruth Airport	15	50
Hyampom Airport	10	35
Hayfork Airport	30	75
Post Offices		
Weaverville Post Office	2,600	2,960
Lewiston Post Office	370	390
Trinity Center Post Office	220	230
Hayfork Post Office	1,140	1,230
Other Land Uses		
Trinity River Lumber Company (Weaverville)	400	400
Trinity Hospital	1,590	1,810
Trinity Alps Golf Course	320	320

Source: Fehr & Peers, 2011

APPENDIX 2D
INTERSECTION LEVEL OF SERVICE TECHNICAL CALCULATIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		4%			0%			5%			-5%	
Volume (veh/h)	5	222	4	79	186	39	9	4	48	38	5	7
Peak Hour Factor	0.83	0.84	0.83	0.84	0.84	0.84	0.90	0.90	0.90	0.74	0.74	0.74
Hourly flow rate (vph)	6	264	5	94	221	46	10	4	53	51	7	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			None	
Median storage veh)								1				
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	268			269			701	735	267	765	714	245
vC1, stage 1 conf vol							279	279				
vC2, stage 2 conf vol							422	456				
vCu, unblocked vol	268			269			701	735	267	765	714	245
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5				
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			98	99	93	82	98	99
cM capacity (veh/h)	1296			1294			423	409	772	279	330	794

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	6	269	94	268	14	53	58	9
Volume Left	6	0	94	0	10	0	51	0
Volume Right	0	5	0	46	0	53	0	9
cSH	1296	1700	1294	1700	419	772	284	794
Volume to Capacity	0.00	0.16	0.07	0.16	0.03	0.07	0.20	0.01
Queue Length 95th (ft)	0	0	6	0	3	6	19	1
Control Delay (s)	7.8	0.0	8.0	0.0	13.9	10.0	20.9	9.6
Lane LOS	A		A		B	B	C	A
Approach Delay (s)	0.2		2.1		10.8		19.3	
Approach LOS					B		C	

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-6%	6%		0%	
Volume (veh/h)	68	201	219	85	68	78
Peak Hour Factor	0.86	0.86	0.87	0.87	0.91	0.91
Hourly flow rate (vph)	79	234	252	98	75	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	349				692	301
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	349				692	301
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				80	88
cM capacity (veh/h)	1209				383	739

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	79	234	349	75	86
Volume Left	79	0	0	75	0
Volume Right	0	0	98	0	86
cSH	1209	1700	1700	383	739
Volume to Capacity	0.07	0.14	0.21	0.20	0.12
Queue Length 95th (ft)	5	0	0	18	10
Control Delay (s)	8.2	0.0	0.0	16.7	10.5
Lane LOS	A			C	B
Approach Delay (s)	2.1		0.0	13.4	
Approach LOS				B	

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	22	355	10	39	331	105	9	4	31	84	3	10
Peak Hour Factor	0.90	0.90	0.90	0.87	0.87	0.87	0.73	0.73	0.73	0.70	0.70	0.70
Hourly flow rate (vph)	24	394	11	45	380	121	12	5	42	120	4	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	501			406			935	1040	400	959	925	380
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	501			406			935	1040	400	959	925	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			95	97	93	42	98	98
cM capacity (veh/h)	1063			1153			226	216	650	207	253	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	24	406	45	380	121	60	139
Volume Left	24	0	45	0	0	12	120
Volume Right	0	11	0	0	121	42	14
cSH	1063	1700	1153	1700	1700	415	224
Volume to Capacity	0.02	0.24	0.04	0.22	0.07	0.15	0.62
Queue Length 95th (ft)	2	0	3	0	0	13	91
Control Delay (s)	8.5	0.0	8.2	0.0	0.0	15.1	44.0
Lane LOS	A		A			C	E
Approach Delay (s)	0.5		0.7			15.1	44.0
Approach LOS						C	E

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	112	29	34	378	352	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	32	37	411	383	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	906	421	460			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	421	460			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	95	97			
cM capacity (veh/h)	296	632	1101			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	153	37	411	460
Volume Left	122	37	0	0
Volume Right	32	0	0	77
cSH	333	1101	1700	1700
Volume to Capacity	0.46	0.03	0.24	0.27
Queue Length 95th (ft)	58	3	0	0
Control Delay (s)	24.7	8.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	24.7	0.7		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	18	268	24	6	263	25	9	9	16	54	3	34
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.71	0.71	0.71	0.91	0.91	0.91
Hourly flow rate (vph)	21	312	28	7	292	28	13	13	23	59	3	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								1			1	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	320			340			698	687	312	688	687	292
vC1, stage 1 conf vol							353	353		306	306	
vC2, stage 2 conf vol							345	333		382	381	
vCu, unblocked vol	320			340			698	687	312	688	687	292
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			97	97	97	87	99	95
cM capacity (veh/h)	1240			1220			438	448	729	444	450	747

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	21	312	28	7	292	28	48	63	37
Volume Left	21	0	0	7	0	0	13	59	0
Volume Right	0	0	28	0	0	28	23	0	37
cSH	1240	1700	1700	1220	1700	1700	543	444	747
Volume to Capacity	0.02	0.18	0.02	0.01	0.17	0.02	0.09	0.14	0.05
Queue Length 95th (ft)	1	0	0	0	0	0	7	12	4
Control Delay (s)	8.0	0.0	0.0	8.0	0.0	0.0	12.3	14.4	10.1
Lane LOS	A			A			B	B	B
Approach Delay (s)	0.5			0.2			12.3	12.8	
Approach LOS							B	B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	210	105	5	15	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	247	124	6	18	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124				373	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124				373	124
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1463				627	927

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	248	124	6	18
Volume Left	1	0	0	18
Volume Right	0	0	6	0
cSH	1463	1700	1700	627
Volume to Capacity	0.00	0.07	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	10.9
Lane LOS	A			B
Approach Delay (s)	0.0	0.0		10.9
Approach LOS				B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	200	100	35	90	35	65
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	235	118	41	106	41	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			235		424	235
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			235		424	235
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	90
cM capacity (veh/h)			1332		569	804

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	235	118	41	106	41	76
Volume Left	0	0	41	0	41	0
Volume Right	0	118	0	0	0	76
cSH	1700	1700	1332	1700	569	804
Volume to Capacity	0.14	0.07	0.03	0.06	0.07	0.10
Queue Length 95th (ft)	0	0	2	0	6	8
Control Delay (s)	0.0	0.0	7.8	0.0	11.8	9.9
Lane LOS			A		B	A
Approach Delay (s)	0.0		2.2		10.6	
Approach LOS					B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	0	123	1	0	0	3	115	13	112	105	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	0	145	1	0	0	4	135	15	132	124	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	529	545	124	682	537	143	124			151		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	529	545	124	682	537	143	124			151		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	84	100	100	100	100			91		
cM capacity (veh/h)	427	404	927	285	408	905	1463			1430		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	154	1	4	151	132	124
Volume Left	9	1	4	0	132	0
Volume Right	145	0	0	15	0	0
cSH	865	285	1463	1700	1430	1700
Volume to Capacity	0.18	0.00	0.00	0.09	0.09	0.07
Queue Length 95th (ft)	16	0	0	0	8	0
Control Delay (s)	10.1	17.7	7.5	0.0	7.8	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	10.1	17.7	0.2		4.0	
Approach LOS	B	C				

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	220	5	5	178	5	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	259	6	6	209	6	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			265		483	262
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			265		483	262
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1299		540	777

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	265	215	6
Volume Left	0	6	6
Volume Right	6	0	0
cSH	1700	1299	540
Volume to Capacity	0.16	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.3	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	11.7
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	55	20	5	20	5	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	65	24	6	24	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			65		100	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			65		100	65
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1537		895	999

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	65	24	29	12
Volume Left	0	0	6	6
Volume Right	0	24	0	6
cSH	1700	1700	1537	944
Volume to Capacity	0.04	0.01	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	1.5	8.9
Lane LOS			A	A
Approach Delay (s)	0.0		1.5	8.9
Approach LOS				A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	15.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	90	125	10	5	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	106	147	12	6	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				271	153
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				271	153
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1421				716	893

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	112	159	7
Volume Left	6	0	6
Volume Right	0	12	1
cSH	1421	1700	740
Volume to Capacity	0.00	0.09	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.4	0.0	9.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	9.9
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	25	5	5	25	50	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	29	6	6	29	59	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	59	129			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100	59	129			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	100			
cM capacity (veh/h)	895	1007	1456			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	29	6	6	29	59	71
Volume Left	29	0	6	0	0	0
Volume Right	0	6	0	0	0	71
cSH	895	1007	1456	1700	1700	1700
Volume to Capacity	0.03	0.01	0.00	0.02	0.03	0.04
Queue Length 95th (ft)	3	0	0	0	0	0
Control Delay (s)	9.2	8.6	7.5	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.1		1.2		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	20	10	5	30	15	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	24	12	6	35	18	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			35		76	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		76	29
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1576		923	1045

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	35	41	24
Volume Left	0	6	18
Volume Right	12	0	6
cSH	1700	1576	951
Volume to Capacity	0.02	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	1.1	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	1.1	8.9
Approach LOS			A

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		

Note that volumes are estimated from the base year model.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	20	10	5	40	15	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	24	12	6	47	18	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			35		82	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		82	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1576		916	1053

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	24	12	6	47	24
Volume Left	0	0	6	0	18
Volume Right	0	12	0	0	6
cSH	1700	1700	1576	1700	947
Volume to Capacity	0.01	0.01	0.00	0.03	0.02
Queue Length 95th (ft)	0	0	0	0	2
Control Delay (s)	0.0	0.0	7.3	0.0	8.9
Lane LOS			A		A
Approach Delay (s)	0.0		0.8		8.9
Approach LOS					A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-5%			0%			4%	
Volume (veh/h)	20	10	60	50	10	10	90	240	50	10	270	10
Peak Hour Factor	0.90	0.90	0.90	0.74	0.74	0.74	0.84	0.84	0.84	0.83	0.84	0.83
Hourly flow rate (vph)	22	11	67	68	14	14	107	286	60	12	321	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type		TWLTL			None							
Median storage veh)		1										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	865	911	327	948	887	315	333			345		
vC1, stage 1 conf vol	352	352										
vC2, stage 2 conf vol	514	560										
vCu, unblocked vol	865	911	327	948	887	315	333			345		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5										
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	97	91	66	95	98	91			99		
cM capacity (veh/h)	345	347	714	198	256	725	1226			1214		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	33	67	95	107	345	12	333
Volume Left	22	0	68	107	0	12	0
Volume Right	0	67	14	0	60	0	12
cSH	346	714	242	1226	1700	1214	1700
Volume to Capacity	0.10	0.09	0.39	0.09	0.20	0.01	0.20
Queue Length 95th (ft)	8	8	44	7	0	1	0
Control Delay (s)	16.5	10.6	29.7	8.2	0.0	8.0	0.0
Lane LOS	C	B	D	A		A	
Approach Delay (s)	12.5		29.7	1.9		0.3	
Approach LOS	B		D				

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		6%			-6%
Volume (veh/h)	80	110	260	90	90	250
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	88	121	299	103	105	291
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851	351			402	
vC1, stage 1 conf vol					0	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	851	351			402	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)					3.1	
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	83			93	
cM capacity (veh/h)	306	693			1433	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	209	402	105	291
Volume Left	88	0	105	0
Volume Right	121	103	0	0
cSH	728	1700	1433	1700
Volume to Capacity	0.29	0.24	0.07	0.17
Queue Length 95th (ft)	30	0	6	0
Control Delay (s)	15.5	0.0	7.7	0.0
Lane LOS	C		A	
Approach Delay (s)	15.5	0.0	2.0	
Approach LOS	C			

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	40	90	10	10	50	380	110	30	410	20
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	14	14	55	129	14	14	57	437	126	33	456	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1106	1211	467	1136	1096	437	478			563		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106	1211	467	1136	1096	437	478			563		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	92	91	10	93	98	95			97		
cM capacity (veh/h)	162	167	596	143	195	620	1084			1008		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	82	157	57	437	126	33	478
Volume Left	14	129	57	0	0	33	0
Volume Right	55	14	0	0	126	0	22
cSH	318	158	1084	1700	1700	1008	1700
Volume to Capacity	0.26	1.00	0.05	0.26	0.07	0.03	0.28
Queue Length 95th (ft)	25	191	4	0	0	3	0
Control Delay (s)	20.2	128.1	8.5	0.0	0.0	8.7	0.0
Lane LOS	C	F	A			A	
Approach Delay (s)	20.2	128.1	0.8			0.6	
Approach LOS	C	F					

Intersection Summary			
Average Delay	16.5		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	100	30	30	80	20	20	40	360	90	30	350	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	118	35	35	94	24	24	47	424	106	35	412	71
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2			2						
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1024	1106	412	1035	1071	424	482			529		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1024	1106	412	1035	1071	424	482			529		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	34	82	94	42	88	96	96			97		
cM capacity (veh/h)	177	194	640	161	204	630	1080			1038		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	188	141	47	424	106	35	412	71
Volume Left	118	94	47	0	0	35	0	0
Volume Right	35	24	0	0	106	0	0	71
cSH	214	200	1080	1700	1700	1038	1700	1700
Volume to Capacity	0.88	0.71	0.04	0.25	0.06	0.03	0.24	0.04
Queue Length 95th (ft)	173	112	3	0	0	3	0	0
Control Delay (s)	80.3	57.6	8.5	0.0	0.0	8.6	0.0	0.0
Lane LOS	F	F	A			A		
Approach Delay (s)	80.3	57.6	0.7			0.6		
Approach LOS	F	F						

Intersection Summary			
Average Delay	16.8		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	340	30	10	330	30	10	10	20	60	10	40
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.71	0.71	0.71	0.91	0.91	0.91
Hourly flow rate (vph)	23	395	35	11	367	33	14	14	28	66	11	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								1			1	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	400			430			880	864	395	866	866	367
vC1, stage 1 conf vol							442	442		389	389	
vC2, stage 2 conf vol							438	422		477	477	
vCu, unblocked vol	400			430			880	864	395	866	866	367
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			96	96	96	82	97	94
cM capacity (veh/h)	1159			1129			359	386	654	368	386	679

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	23	395	35	11	367	33	56	77	44
Volume Left	23	0	0	11	0	0	14	66	0
Volume Right	0	0	35	0	0	33	28	0	44
cSH	1159	1700	1700	1129	1700	1700	474	371	679
Volume to Capacity	0.02	0.23	0.02	0.01	0.22	0.02	0.12	0.21	0.06
Queue Length 95th (ft)	2	0	0	1	0	0	10	19	5
Control Delay (s)	8.2	0.0	0.0	8.2	0.0	0.0	13.6	17.2	10.7
Lane LOS	A			A			B	C	B
Approach Delay (s)	0.4			0.2			13.6	14.9	
Approach LOS							B	B	

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	270	150	10	20	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	318	176	12	24	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	176				518	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	176				518	176
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	99
cM capacity (veh/h)	1400				514	867

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	329	176	12	35
Volume Left	12	0	0	24
Volume Right	0	0	12	12
cSH	1400	1700	1700	594
Volume to Capacity	0.01	0.10	0.01	0.06
Queue Length 95th (ft)	1	0	0	5
Control Delay (s)	0.3	0.0	0.0	11.4
Lane LOS	A			B
Approach Delay (s)	0.3	0.0		11.4
Approach LOS				B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	260	90	90	250	80	110
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	306	106	106	294	94	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			306		812	306
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			306		812	306
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		71	82
cM capacity (veh/h)			1255		319	734

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	306	106	106	294	94	129
Volume Left	0	0	106	0	94	0
Volume Right	0	106	0	0	0	129
cSH	1700	1700	1255	1700	319	734
Volume to Capacity	0.18	0.06	0.08	0.17	0.29	0.18
Queue Length 95th (ft)	0	0	7	0	30	16
Control Delay (s)	0.0	0.0	8.1	0.0	20.9	11.0
Lane LOS			A		C	B
Approach Delay (s)	0.0		2.2		15.2	
Approach LOS					C	

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	130	10	10	10	120	140	10	10	140	20
Peak Hour Factor	0.70	0.70	0.70	0.73	0.73	0.73	0.89	0.89	0.89	0.70	0.70	0.70
Hourly flow rate (vph)	14	14	186	14	14	14	135	157	11	14	200	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	690	681	214	854	690	163	229			169		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	690	681	214	854	690	163	229			169		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	96	78	93	96	98	90			99		
cM capacity (veh/h)	314	332	826	191	328	882	1340			1409		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	214	41	135	169	14	229
Volume Left	14	14	135	0	14	0
Volume Right	186	14	0	11	0	29
cSH	683	319	1340	1700	1409	1700
Volume to Capacity	0.31	0.13	0.10	0.10	0.01	0.13
Queue Length 95th (ft)	33	11	8	0	1	0
Control Delay (s)	12.7	17.9	8.0	0.0	7.6	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	12.7	17.9	3.6		0.4	
Approach LOS	B	C				

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	10	0	10	100	10	140	0	60	90	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	12	12	0	12	118	12	165	0	71	106	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	565	441	112	453	447	165	118			165		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	565	441	112	453	447	165	118			165		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	98	99	100	98	87	99			95		
cM capacity (veh/h)	354	481	941	479	477	880	1471			1414		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	35	12	118	12	165	71	118
Volume Left	12	0	0	12	0	71	0
Volume Right	12	0	118	0	0	0	12
cSH	503	477	880	1471	1700	1414	1700
Volume to Capacity	0.07	0.02	0.13	0.01	0.10	0.05	0.07
Queue Length 95th (ft)	6	2	12	1	0	4	0
Control Delay (s)	12.7	12.7	9.7	7.5	0.0	7.7	0.0
Lane LOS	B	B	A	A		A	
Approach Delay (s)	12.7	10.0		0.5		2.9	
Approach LOS	B	A					

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	170	10	40	160	10	30
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	200	12	47	188	12	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			212		488	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			212		488	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		98	96
cM capacity (veh/h)			1359		520	835

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	212	235	47
Volume Left	0	47	12
Volume Right	12	0	35
cSH	1700	1359	725
Volume to Capacity	0.12	0.03	0.06
Queue Length 95th (ft)	0	3	5
Control Delay (s)	0.0	1.8	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.8	10.3
Approach LOS			B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	70	30	10	20	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	82	35	12	24	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			82		129	82
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			82		129	82
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1515		858	977

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	82	35	35	24
Volume Left	0	0	12	12
Volume Right	0	35	0	12
cSH	1700	1700	1515	914
Volume to Capacity	0.05	0.02	0.01	0.03
Queue Length 95th (ft)	0	0	1	2
Control Delay (s)	0.0	0.0	2.5	9.0
Lane LOS			A	A
Approach Delay (s)	0.0		2.5	9.0
Approach LOS				A

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	100	140	20	10	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	12	118	165	24	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	188				318	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				318	176
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1386				670	867

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	129	188	24
Volume Left	12	0	12
Volume Right	0	24	12
cSH	1386	1700	756
Volume to Capacity	0.01	0.11	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.8	0.0	9.9
Lane LOS	A		A
Approach Delay (s)	0.8	0.0	9.9
Approach LOS			A

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

Note that volumes are estimated from the 2040 year model.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	30	10	10	40	60	70
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	35	12	12	47	71	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	141	71	153			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	141	71	153			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	845	992	1428			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	35	12	12	47	71	82
Volume Left	35	0	12	0	0	0
Volume Right	0	12	0	0	0	82
cSH	845	992	1428	1700	1700	1700
Volume to Capacity	0.04	0.01	0.01	0.03	0.04	0.05
Queue Length 95th (ft)	3	1	1	0	0	0
Control Delay (s)	9.4	8.7	7.5	0.0	0.0	0.0
Lane LOS	A	A	A			
Approach Delay (s)	9.3		1.5		0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	30	10	10	40	20	10
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	35	12	12	47	24	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			47		112	41
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			47		112	41
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			1560		878	1030

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	47	59	35
Volume Left	0	12	24
Volume Right	12	0	12
cSH	1700	1560	924
Volume to Capacity	0.03	0.01	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	1.5	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	1.5	9.1
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Note that volumes are estimated from the 2040 year model.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	30	10	10	60	10	20
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	35	12	12	71	12	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			47		129	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			47		129	35
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1560		858	1037

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	35	12	12	71	35
Volume Left	0	0	12	0	12
Volume Right	0	12	0	0	24
cSH	1700	1700	1560	1700	970
Volume to Capacity	0.02	0.01	0.01	0.04	0.04
Queue Length 95th (ft)	0	0	1	0	3
Control Delay (s)	0.0	0.0	7.3	0.0	8.9
Lane LOS			A		A
Approach Delay (s)	0.0		1.0		8.9
Approach LOS					A

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Note that volumes are estimated from the 2040 year model.

APPENDIX 2E
WEAVERVILLE TRAFFIC SIGNALIZATION STUDY

July 15, 2011

Ms. Polly Chapman
P.O. Box 2490
31301 Highway 3
Weaverville, CA 96093

Re: Traffic Signalization Study

Dear Ms. Chapman:

This letter report provides traffic operations analysis results for the SR 299 (Main Street) corridor through Weaverville, California. The following timeframes were studied:

- Existing Conditions
- 2009 Conditions (with East Connector)
- 2040 Conditions (with East Connector)

Existing intersection turning movement counts were collected in July 2009. Intersection turning movement volumes were developed for 2009 and 2040 conditions (with East Connector), using the Trinity County travel demand model.

The purpose of this study is to develop intersection improvements on SR 299 in Weaverville that work efficiently as a system. **A summary of the analysis results is provided in the tables on pages 14, 15, and 16. A summary of the findings and recommendations is provided on page 16.**

This analysis also looks at the effects of converting Center Street between Court Street and SR 3 from a one-way section to a two-way section.

STUDY INTERSECTIONS AND ANALYSIS SCENARIOS

The following study intersections along the SR 299 (Main Street) corridor were analyzed:

1. SR 299/Glen Road-East Connector
2. SR 299/Washington Street
3. SR 299/SR 3 (Trinity Lake Boulevard)
4. SR 299/Garden Gulch Street-Forest Avenue

Intersection level of service, vehicle queuing, travel time, and greenhouse gas emissions analyses were performed for the SR 299 corridor assuming three scenarios.

- Unsignalized Intersections – The study intersections were analyzed under existing conditions based on intersection turning movement counts collected in July 2009.

- Signalized Intersections – The SR 299 corridor was analyzed assuming the four study intersections are signalized under 2009 conditions (with East Connector) and 2040 conditions (with East Connector).

- Signalized and Roundabout Intersections - The SR 299 corridor was analyzed assuming the SR 299/Glen Road-East Connector and SR 299/Garden Gulch Street-Forest Avenue intersections are roundabouts, and the SR 299/Washington Street and SR 299/SR 3 intersections are signalized. 2009 conditions (with East Connector) and 2040 conditions (with East Connector) were analyzed.

The SR 299/Glen Road-East Connector intersection was also analyzed as an unsignalized (side street stop controlled) intersection under 2009 conditions (with East Connector) and 2040 conditions (with East Connector) and compared to the Trinity County level of service thresholds.

ANALYSIS METHODOLOGY

Signal Warrants

The Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) provides Four Hour and Peak Hour signal warrants, which are commonly used to determine if an intersection is in need of a traffic signal.

According to the MUTCD, the Four Hour signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Four Hour warrant compares the traffic volumes from any four hours of an average day on the major street (total of both directions) to the corresponding vehicle volume on the higher-volume minor street approach (one direction only).

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. (MUTCD) The Peak Hour warrant compares the traffic volumes for one hour of an average day on the major street (total of both directions) to the corresponding vehicle volume on the higher-volume minor street approach (one direction only).

The MUTCD provides separate signal warrants for urban and rural areas. For communities with a population of less than 10,000, the rural area signal warrant criteria should be applied. The Weaverville population is less than 10,000, therefore the rural area criteria was applied.

Intersection Analysis

Transportation engineers and planners commonly use the term level of service (LOS) to measure and describe the operational status of the local roadway network. An intersection or roadway segment's level of service can range from LOS A (indicating free-flow traffic conditions with little or no delay), to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays).

Signalized Intersections

The level of service at signalized intersections was determined using the methodology contained in Chapter 16 of the *Highway Capacity Manual* (*HCM) 2000*. The *HCM 2000* methodology determines the level of service at signalized intersections by comparing the average control delay for all vehicles approaching the intersection to the delay thresholds shown in **Table 1**.

Unsignalized Intersections

Unsignalized (side-street stop controlled) intersection level of service analysis was performed using the methodology in Chapter 17 of *HCM 2000*. The *HCM 2000* methodology determines the level of service at unsignalized intersections by comparing the average control delay for each individual movement to the delay thresholds shown in **Table 1**.

TABLE 1
INTERSECTION LEVEL OFSERVICE DEFINITIONS

Level of Service	Description	Signalized Intersections (Average Control Delay) [1]	Unsignalized Intersections (Average Control Delay) [2]
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10	≤10
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	> 10 to 20	> 10 to 15
C	Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	> 20 to 35	> 15 to 25
D	Represents high-density, but stable flow.	> 35 to 55	> 25 to 35
E	Represents operating conditions at or near the capacity level.	> 55 to 80	> 35 to 50
F	Represents forced or breakdown flow.	> 80	> 50

Sources:
[1] *HCM 2000*, Chapter 16, Signalized Intersections. Values shown are in seconds/vehicle.
[2] *HCM 2000*, Chapter 17, Unsignalized Intersections. Values shown are in seconds/vehicle.

Level of Service Thresholds

The Trinity County Regional Transportation Plan (RTP) (2010) identifies level of service thresholds for roadways and intersections within the county. The RTP states:

> *The minimum acceptable Level of Service (LOS) standard for county roadway and intersection operation in the Weaverville Community Plan Area is "D". For unsignalized intersections, LOS is calculated based upon the average peak hour delay for the worst approach (using the current version of the Highway Capacity Manual). No public highway or roadway within the Weaverville Community Plan Area should be allowed to fall to or below LOS "E".*

CORRIDOR ANALYSIS

Signal Warrant Analysis

The Four Hour and Peak Hour signal warrants were analyzed for each of the study intersections based on the existing intersection turning movement volumes (from counts collected in July 2009) and the 2040 model volumes (with East Connector). **Table 2** shows the results of the signal warrant analysis. The technical analysis is provided in the **Attachment A**.

TABLE 2
SIGNAL WARRANT ANALYSIS RESULTS

Intersection	Warrant Met? (Yes/No)			
	Existing Conditions		2040 Conditions (with East Connector)	
	Four Hour Warrant	Peak Hour Warrant	Four Hour Warrant	Peak Hour Warrant
SR 299/Glen Road-East Connector	Yes*	Yes*	Yes	Yes
SR 299/Washington Street	Yes	No	Yes	Yes
SR 299/SR 3	No	No	Yes	Yes
SR 299/Garden Gulch Street	No	No	No	No

Notes: * Based on 2009 Conditions (with East Connector) traffic volumes.
Source: Fehr & Peers, 2011

As shown in **Table 2**, the SR 299/Glen Road-East Connector intersection passes the Four Hour and Peak Hour signal warrants under 2009 conditions (with East Connector) and 2040 conditions (with East Connector). The SR 299/Washington Street intersection passes the Four Hour signal warrant, but not the Peak Hour signal warrant under existing conditions (based on the existing intersection turning movement counts). The SR 299/SR 3 intersection meets the Four Hour and Peak Hour signal warrants under 2040 conditions (with East Connector). The SR 299/Garden Gulch intersection does not meet traffic signal warrant criteria under any condition.

Scenario 1: Unsignalized Intersections

Scenario 1 analyzes the SR 299 corridor with side street stop controls at the study intersections. Existing conditions, 2009 conditions (with East Connector), and 2040 conditions (with East Connector) traffic volumes were analyzed under this scenario.

<u>Level of Service</u>

Level of service analysis was performed at the study intersections using Synchro Version 6.0 software. The existing conditions analysis is based on intersection turning movement volumes collected in July 2009. The 2009 conditions (with East Connector) and 2040 conditions (with East Connector) traffic volumes were determined using the travel demand model. **Table 3** shows the level of service results with unsignalized study intersections. The technical analysis is provided in the **Attachment B**.

TABLE 3
LEVEL OF SERVICE RESULTS (UNSIGNALIZED INTERSECTIONS)

Intersection	Control Type[1]	PM Peak					
		Existing Conditions		2009 Conditions (with East Connector)		2040 Conditions (with East Connector)	
		Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
SR 299/Glen Road	SSSC	24.7	C	--	--	--	--
SR 299/Glen Road-East Connector	SSSC	--	--	**42.8**	**E**	**80.3**	**F**
SR 299/Washington Street	SSSC	**44.0**	**E**	27.8	D	**128.1**	**F**
SR 299/SR 3	SSSC	16.7	C	17.2	C	15.7	C
SR 299/Garden Gulch Street	SSSC	20.9	C	22.9	C	29.7	D

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the worst movement for unsignalized intersections.
Source: Fehr & Peers, 2011

The side street approach of the SR 299/Washington Street intersection operates at an unacceptable level of service under existing conditions. When the East Connector is constructed, a significant amount of existing traffic will shift from Washington Street to the East Connector, improving the level of service at the SR 299/Washington Street intersection to LOS D, but diminishing the level of service at the SR 299/Glen Road-East Connector intersection to LOS E under 2009 conditions. The analysis indicates that if the East Connector is constructed without a traffic signal at SR 299, the intersection will not meet the Trinity County LOS standard.

Under 2040 conditions, two of the four study intersections will operate at unacceptable levels of service with unsignalized intersections.

Travel Time Through Corridor

The time it takes a vehicle to travel from one end of the SR 299 corridor to the other was analyzed using SimTraffic micro-simulation software. For the purposes of this analysis the corridor is defined as the section between the SR 299/Martin Street intersection and the SR 299/ Garden Gulch Street-Forest Avenue intersection. The total corridor length is approximately 1.25 miles. **Table 4** shows the travel time results for the corridor with unsignalized study intersections.

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TABLE 4
TRAVEL TIME THROUGH SR 299 CORRIDOR (WITH UNSIGNALIZED INTERSECTIONS)

Direction of Travel	Travel Time		
	Existing Conditions	2009 Conditions (with East Connector)	2040 Conditions (with East Connector)
Northbound	2.9 minutes	3.1 minutes	3.1 minutes
Southbound	3.4 minutes	3.4 minutes	3.4 minutes

Notes: The analysis includes the section of SR 299 between the SR 299/Martin Street and SR 299/Garden Gulch Street-Forest Avenue intersections.

Source: Fehr & Peers, 2011

The total travel time through the corridor with unsignalized intersections ranges from approximately 3 to 3 ½ minutes for the three study timeframes.

Greenhouse Gas Emissions

Greenhouse gas emissions were analyzed using Synchro software. Carbon monoxide, nitrogen oxides, and volatile organic compound emissions were analyzed at the study intersections. The emissions results are shown in **Table 5**. The technical analysis is provided in the **Attachment B**.

TABLE 5
GREENHOUSE GAS EMISSIONS RESULTS (WITH UNSIGNALIZED INTERSECTIONS)

Intersection	Emissions[1]					
	Existing Conditions			2040 Conditions (with East Connector)		
	CO	NO_X	VOC	CO	NO_X	VOC
SR 299/Glen Road-East Connector	1.02	0.20	0.24	1.13	0.22	0.26
SR 299/Washington Street	1.40	0.27	0.33	0.74	0.14	0.17
SR 299/SR 3	0.80	0.16	0.19	0.50	0.10	0.12
SR 299/Garden Gulch Street	0.52	0.10	0.12	0.58	0.11	0.13

Notes: [1] CO = Carbon Monoxide, NO_X = Nitrogen Oxides, VOC = Volatile Organic Compounds
Emissions reported in kilograms (for the peak hour).

Source: Fehr & Peers, 2011

Scenario 2: Signalized Intersections

Scenario 2 analyzes the SR 299 corridor assuming the study intersections are signalized. 2009 conditions (with East Connector) and 2040 conditions (with East Connector) traffic volumes were analyzed under this scenario.

Level of Service

Intersection level of service was analyzed during the summer PM peak period for 2009 conditions (with East Connector) and 2040 conditions (with East Connector) using Synchro software. **Table 6** shows the level of service results assuming the study intersections are signalized. The technical analysis is provided in the **Attachment C**.

TABLE 6
LEVEL OF SERVICE RESULTS (WITH SIGNALS)

Intersection	Control Type	2009 Conditions (with East Connector)		2040 Conditions (with East Connector)	
		PM Peak		PM Peak	
		Delay[1]	LOS	Delay[1]	LOS
SR 299/Glen Road-East Connector	Signal	13.7	B	13.9	B
SR 299/Washington Street	Signal	10.3	B	11.9	B
SR 299/SR 3	Signal	10.4	B	11.6	B
SR 299/Garden Gulch Street	Signal	11.8	B	15.3	B

Notes: [1] Delay is reported in seconds per vehicle for the overall intersection for signalized intersections.
Source: Fehr & Peers, 2011

As shown in the table, the study intersections operate at LOS B with traffic signals under 2009 and 2040 conditions (with East Connector).

Vehicle Queuing

Vehicle queuing along the SR 299 corridor was analyzed using SimTraffic micro-simulation software. **Table 7** shows the vehicle queuing results at the study intersections. The average and maximum queues are shown for each approach of the intersection. The technical analysis is provided in the **Attachment C**.

TABLE 7
VEHICLE QUEUING RESULTS (WITH SIGNALS)

Intersection	Intersection Approach	Distance to Closest Intersection (feet)[1]	2009 Conditions (with East Connector) PM Peak Queue Lengths		2040 Conditions (with East Connector) PM Peak Queue Lengths	
			Average feet (cars[2])	Maximum feet (cars[2])	Average feet (cars[2])	Maximum feet (cars[2])
SR 299/Glen Road-East Connector	NB	960	70 (3)	170 (7)	90 (4)	230 (10)
	SB	460	60 (3)	180 (8)	75 (3)	205 (9)
	EB	230[3]	50 (2)	115 (5)	60 (3)	130 (6)
	WB	N/A	35 (2)	85 (4)	40 (2)	95 (4)
SR 299/Washington Street	NB	540	55 (3)	180 (8)	90 (4)	290 (12)
	SB	355	65 (3)	170 (7)	90 (4)	255 (11)
	EB	690	30 (2)	65 (3)	30 (2)	70 (3)
	WB	775	25 (1)	75 (3)	50 (2)	120 (5)
SR 299/SR 3	NB	225	70 (3)	200 (8)	75 (3)	210 (9)
	SB	530	40 (2)	95 (4)	50 (2)	140 (6)
	WB	280	35 (2)	80 (4)	40 (2)	95 (4)
SR 299/Garden Gulch Street	NB	230	35 (2)	125 (5)	40 (2)	140 (6)
	SB	175	50 (2)	150 (6)	65 (3)	170 (7)
	EB	295	20 (1)	55 (3)	25 (1)	60 (3)
	WB	1230	30 (2)	75 (3)	35 (2)	80 (4)

Notes: [1] Distance estimated using Google Maps.
[2] The vehicle queue length was calculated assuming an average car length of 25 feet. A queue length of 5-25 feet is considered one vehicle, 26-50 feet is two vehicles, etc. The queuing results are also a product of a simulation that is designed to represent "real-life" drivers to the best extent possible. Therefore, each simulation run represents a unique set of data. An average of 10 runs is shown in the results table.
[3] This is the distance to Fairway Drive. Nugget Lane is marked “Keep Clear” and was therefore excluded.
Analysis performed assuming the SR 299 corridor is the North-South direction.

Source: Fehr & Peers, 2011

The vehicle queues are not expected to spill back into adjacent intersections. Vehicle queues at the study intersections are only expected during the peak traffic periods and dissipate quickly.

Travel Time Through Corridor

Travel time through the SR 299 corridor was analyzed for 2009 conditions and 2040 conditions assuming construction of the East Connector road is complete and the study intersections are signalized. The results are shown in **Table 8**. The technical analysis is in the **Attachment C**.

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TABLE 8
TRAVEL TIME THROUGH SR 299 CORRIDOR (WITH SIGNALS)

Direction of Travel	Travel Time	
	2009 Conditions (with East Connector)	2040 Conditions (with East Connector)
Northbound	4.2 minutes	4.3 minutes
Southbound	3.8 minutes	3.9 minutes

Notes: The analysis includes the section of SR 299 between the SR 299/Martin Street and SR 299/Garden Gulch Street-Forest Avenue intersections.
Source: Fehr & Peers, 2011

The total travel time through the corridor, with traffic signals at the study intersections, is approximately 4 minutes, which is an increase of ½ -1 ½ minute over the existing travel time.

Greenhouse Gas Emissions

Greenhouse gas emissions were analyzed using Synchro software. Carbon monoxide, nitrogen oxides, and volatile organic compound emissions were analyzed at the study intersections. The emissions results are shown in **Table 9**. The technical analysis is provided in the **Attachment C**.

TABLE 9
GREENHOUSE GAS EMISSIONS RESULTS (WITH SIGNALS)

Intersection	Emissions[1]					
	2009 Conditions (with East Connector)			2040 Conditions (with East Connector)		
	CO	NO_X	VOC	CO	NO_X	VOC
SR 299/Glen Road-East Connector	1.01	0.20	0.23	1.14	0.22	0.27
SR 299/Washington Street	0.56	0.11	0.13	0.88	0.17	0.20
SR 299/SR 3	0.50	0.10	0.12	0.65	0.13	0.15
SR 299/Garden Gulch Street	0.58	0.11	0.13	0.70	0.14	0.16

Notes: [1] CO = Carbon Monoxide, NO_X = Nitrogen Oxides, VOC = Volatile Organic Compounds
Emissions reported in kilograms (for the peak hour).
Source: Fehr & Peers, 2011

The 2009 conditions (with East Connector) greenhouse gas emissions increase at some intersections and decrease at some intersections compared to existing conditions analysis results because the traffic volumes at the intersections change due to the East Connector. Therefore, the existing conditions and 2009 conditions (with East Connector) analysis results cannot be compared directly because the scenarios do not share a common baseline.

The 2040 conditions (with East Connector) with signalized intersections emissions results increase at all of the study intersections compared to the 2040 conditions with unsignalized intersections emissions results. The traffic volumes at the study intersections were the same for both scenarios. The traffic signals increased the emissions at the study intersections by small amounts (less than 0.20 kilograms). The emissions increase at the study intersections under the signals scenario due to additional stopping and accelerating of through traffic on SR 299. Without a traffic signal, the through movements on SR 299 are freely flowing and do not have to stop and start at intersections.

Vibration Analysis

A Traffic Vibration Assessment was performed by Bollard Acoustical Consultants, Inc. to determine if installing traffic signals at the study intersections would increase noise and roadway vibration caused by heavy trucks. The concern is that heavy trucks will have to stop along SR 299, where there are currently no controls, increasing vibration and noise to an unacceptable level. The analysis shows that traffic signals at the study intersections will not cause a significant increase in vibration along the SR 299 corridor. The Trinity County Intersection Improvement Traffic Vibration Assessment report (Bollard Acoustical Consultants, Inc.) is provided in **Attachment E**.

Scenario 3: Signalized and Roundabout Intersections

Scenario 3 analyzes the SR 299 corridor assuming:

- Traffic signals at:
    - SR 299/Washington Street
    - SR 299/SR 3
- Roundabouts at:
    - SR 299/Glen Road-East Connector
    - SR 299/Garden Gulch Street

2009 conditions (with East Connector) and 2040 conditions (with East Connector) traffic volumes were analyzed under this scenario.

Level of Service

Table 10 shows the level of service results at the study intersections assuming traffic signals and roundabouts at the study intersections. The technical analysis is provided in **Attachment D**.

TABLE 10
LEVEL OF SERVICE RESULTS (WITH SIGNALS AND ROUNDABOUTS)

Intersection	Control Type	2009 Conditions (with East Connector)		2040 Conditions (with East Connector)	
		PM Peak		PM Peak	
		Delay[1]	LOS	Delay[1]	LOS
SR 299/Glen Road-East Connector	Roundabout	9.1	A	9.5	A
SR 299/Washington Street	Signal	10.3	B	11.9	B
SR 299/SR 3	Signal	10.4	B	11.6	B
SR 299/Garden Gulch Street	Roundabout	7.6	A	7.9	A

Notes: [1] Delay is reported in seconds per vehicle for the overall intersection for signalized and roundabout intersections.
Source: Fehr & Peers, 2011

As shown in the table, the study intersections operate at LOS B or better with roundabouts and traffic signals under 2009 and 2040 conditions (with East Connector).

<u>Vehicle Queuing</u>

Table 11 shows the vehicle queuing results at the study intersections. The average and maximum queues are shown for each approach of the intersection. The technical analysis is provided in the **Attachment D**.

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TABLE 11
VEHICLE QUEUING RESULTS (WITH SIGNALS AND ROUNDABOUTS)

Intersection	Intersection Approach	Distance to Closest Upstream Intersection (feet)[1]	2009 Conditions (with East Connector) PM Peak Queue Lengths		2040 Conditions (with East Connector) PM Peak Queue Lengths	
			Average feet (cars[2])	Maximum feet (cars[2])	Average feet (cars[2])	Maximum feet (cars[2])
SR 299/Glen Road-East Connector	NB	960	50 (2)	120 (5)	60 (3)	145 (6)
	SB	460	45 (2)	130 (6)	50 (2)	135 (6)
	EB	230[3]	35 (2)	75 (3)	35 (2)	80 (4)
	WB	N/A	25 (1)	60 (3)	30 (2)	75 (3)
SR 299/Washington Street	NB	540	55 (3)	160 (7)	80 (4)	250 (10)
	SB	355	60 (3)	170 (7)	90 (4)	220 (9)
	EB	690	30 (2)	70 (3)	30 (2)	70 (3)
	WB	775	30 (2)	75 (3)	45 (2)	100 (4)
SR 299/SR 3	NB	225	65 (3)	180 (8)	80 (4)	200 (8)
	SB	530	40 (2)	95 (4)	50 (2)	145 (6)
	WB	280	35 (2)	80 (4)	40 (2)	95 (4)
SR 299/Garden Gulch Street	NB	230	15 (1)	60 (3)	25 (1)	80 (4)
	SB	175	30 (2)	80 (4)	35 (2)	95 (4)
	EB	295	15 (1)	50 (2)	20 (1)	70 (3)
	WB	1230	10 (1)	55 (3)	15 (1)	60 (3)

Notes: [1] Distance estimated using Google Maps.
[2] The vehicle queue length was calculated assuming an average car length of 25 feet. A queue length of 5-25 feet is considered one vehicle, 26-50 feet is two vehicles, etc. The queuing results are also a product of a simulation that is designed to represent "real-life" drivers to the best extent possible. Therefore, each simulation run represents a unique set of data. An average of 10 runs is shown in the results table.
[3] This is the distance to Fairway Drive. Nugget Lane is marked "Keep Clear" and was therefore excluded.
Analysis performed assuming the SR 299 corridor is the North-South direction.

Source: Fehr & Peers, 2011

The vehicle queues on SR 299 are not expected to spill back into adjacent intersections. Vehicle queues at the study intersections are only expected during the peak traffic periods and dissipate quickly.

Travel Time Through Corridor

Travel time through the SR 299 corridor was analyzed for 2009 conditions and 2040 conditions (with East Connector). **Table 12** shows the results and the technical analysis is provided in the **Attachment D**.

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TABLE 12
TRAVEL TIME THROUGH SR 299 CORRIDOR (WITH SIGNALS AND ROUNDABOUTS)

Direction of Travel	Travel Time	
	2009 Conditions (with East Connector)	2040 Conditions (with East Connector)
Northbound	4.2 minutes	4.3 minutes
Southbound	4.0 minutes	4.1 minutes

Notes: The analysis includes the section of SR 299 between the SR 299/Martin Street and SR 299/Garden Gulch Street-Forest Avenue intersections.
Source: Fehr & Peers, 2011

The total travel time through the corridor, with traffic signals and roundabouts at the study intersections, is approximately 4 minutes, which is an increase of ½ - 1 minute over the existing travel time.

Greenhouse Gas Emissions

Greenhouse gas emissions were analyzed using Synchro software. Carbon monoxide, nitrogen oxides, volatile organic compound emissions were analyzed at the study intersections. The emissions results are shown in **Table 13**. The technical analysis is provided in the **Attachment D**.

TABLE 13
GREENHOUSE GAS EMISSIONS RESULTS (WITH SIGNALS AND ROUNDABOUTS)

Intersection	Emissions[1]					
	2009 Conditions (with East Connector)			2040 Conditions (with East Connector)		
	CO	NO_X	VOC	CO	NO_X	VOC
SR 299/Glen Road-East Connector	1.03	0.20	0.24	1.15	0.22	0.27
SR 299/Washington Street	0.56	0.11	0.13	0.87	0.17	0.20
SR 299/SR 3	0.50	0.10	0.12	0.65	0.13	0.15
SR 299/Garden Gulch Street	0.60	0.12	0.14	0.71	0.14	0.17

Notes: [1] CO = Carbon Monoxide, NO_X = Nitrogen Oxides, VOC = Volatile Organic Compounds
Emissions reported in kilograms (for the peak hour).
Source: Fehr & Peers, 2011

The 2009 conditions (with East Connector) greenhouse gas emissions increase at some intersections and decrease at some intersections compared to existing conditions analysis results because the traffic volumes at the intersections change due to the East Connector. Therefore, the existing conditions and 2009 conditions (with East Connector) analysis results cannot be compared directly because the scenarios do not share a common baseline.

The 2040 conditions (with East Connector) with signalized intersections emissions results increase at all of the study intersections compared to the 2040 conditions with unsignalized intersections emissions results. The traffic volumes at the study intersections were the same for both scenarios. The traffic signals increased the emissions at the study intersections by small amounts (less than 0.20 kilograms). The emissions increase at the study intersections with roundabouts because a roundabout control reduces the speed of approaching vehicles causing vehicles to brake as they enter and accelerate as they exit a roundabout. Without a roundabout, the through movements on SR 299 are freely flowing and do not have to decelerate or accelerate at intersections.

SUMMARY OF CORRIDOR ANALYSIS RESULTS

Table 14 shows a summary of the level of service results at the study intersections assuming different traffic controls.

Table 15 shows the travel time results through the SR 299 corridor for the three analysis scenarios: unsignalized intersections (existing conditions), signalized intersections (2009 conditions with the East Connector and 2040 conditions with the East Connector), and signalized and roundabout intersections (2009 conditions with the East Connector and 2040 conditions with the East Connector).

Table 16 shows the greenhouse gas emissions analysis results. The existing conditions analysis results, along with the 2009 conditions (with East Connector) and 2040 conditions (with East Connector) analysis results with signalized and roundabout controls are shown.

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TABLE 14
LEVEL OF SERVICE SUMMARY TABLE

Intersection	Control Type[1]	Existing Conditions		2009 Conditions (with East Connector)		2040 Conditions (with East Connector)	
		Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
SR 299/Glen Road-East Connector	SSSC	24.7	C	**42.8**	**E**	**80.3**	**F**
	Signal	--	--	13.7	B	13.9	B
	Roundabout			9.1	A	9.5	A
SR 299/Washington Street	SSSC	**44.0**	**E**	27.8	D	**128.1**	**F**
	Signal	--	--	10.3	B	11.9	B
SR 299/SR 3	SSSC	16.7	C	17.2	C	15.7	C
	Signal	--	--	10.4	B	11.6	B
SR 299/Garden Gulch Street	SSSC	20.9	C	22.9	C	29.7	D
	Signal	--	--	11.8	B	15.3	B
	Roundabout			7.6	A	7.9	A

Notes: [1] SSSC = Side Street Stop Control
[2] Delay is reported in seconds per vehicle for the overall intersection for signalized and roundabout intersections, and the worst movement for unsignalized intersections.

Source: Fehr & Peers, 2011

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TABLE 15
TRAVEL TIME SUMMARY TABLE

Direction of Travel	Existing Conditions	2009 Conditions (with East Connector)[1]		2040 Conditions (with East Connector)[1]	
	Unsignalized Intersections	Signalized Intersections	Signalized and Roundabout Intersections	Signalized Intersections	Signalized and Roundabout Intersections
Northbound	2.9 minutes	4.2 minutes	4.2 minutes	4.3 minutes	4.3 minutes
Southbound	3.4 minutes	3.8 minutes	4.0 minutes	3.9 minutes	4.1 minutes

Notes: [1] Signals or roundabouts will be added with the East Connector which will increase the travel time through the SR 299 corridor.
The analysis includes the section of SR 299 between the SR 299/Martin Street and SR 299/Garden Gulch Street – Forest Avenue intersections.

Source: Fehr & Peers, 2011

Adding signals or roundabouts to the study intersections increases the travel time through the SR 299 corridor by approximately ½ minute to 1 ½ minutes depending on the direction of travel. The difference in travel time between 2009 conditions and 2040 conditions is 0.1 minutes.

TABLE 16
GREENHOUSE GAS EMISSIONS SUMMARY TABLE

Intersection	Existing Conditions			2009 Conditions (with East Connector)						2040 Conditions (with East Connector)								
	Unsignalized Intersections			Signalized Intersections			Signalized and Roundabout Intersections			Unsignalized Intersections			Signalized Intersections			Signalized and Roundabout Intersections		
	CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
SR 299/Glen Road-East Connector	1.02	0.20	0.24	1.01	0.20	0.23	1.03	0.20	0.24	1.13	0.22	0.26	1.14	0.22	0.27	1.15	0.22	0.27
SR 299/ Washington Street	1.40	0.27	0.33	0.56	0.11	0.13	0.56	0.11	0.13	0.74	0.14	0.17	0.88	0.17	0.20	0.87	0.17	0.20
SR 299/SR 3	0.80	0.16	0.19	0.50	0.10	0.12	0.50	0.10	0.12	0.50	0.10	0.12	0.65	0.13	0.15	0.65	0.13	0.15
SR 299/Garden Gulch Street	0.52	0.10	0.12	0.58	0.11	0.13	0.60	0.12	0.14	0.58	0.11	0.13	0.70	0.14	0.16	0.71	0.14	0.17

Notes: [1] CO = Carbon Monoxide, NO_X = Nitrogen Oxides, VOC = Volatile Organic Compounds

Source: Fehr & Peers, 2011

The analysis results show that signals and roundabout will increase emissions at the study intersections, but by a very small amount. Traffic congestion along SR 299 through Weaverville is minimal; therefore there is little difference in emissions at a traffic signal versus a roundabout.

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CENTER STREET CONVERSION ANALYSIS

Analysis was performed to determine the effects of converting Center Street between Court Street and SR 3 from a one-way section to a two-way section. Traffic operations at the SR 299/SR 3 intersection were analyzed. The Trinity County travel demand model and daily roadway segment traffic volumes provided by the County were used to determine initial traffic volume estimates on Center Street, and SR 3, SR 299, and Court Street adjacent to Center Street.

Traffic volumes on Center Street and the surrounding roadway network were adjusted assuming Center Street is converted from a one-way section to a two-way section. **Table 17** shows the change in delay and level of service at the SR 299/SR 3 intersection based on a shift in traffic to Center Street. The technical calculations are provided in **Attachment F**.

TABLE 17
CENTER STREET CONVERSION LOS RESULTS – SR 299/SR 3

Scenario	Without Conversion (One-Way Section)		With Conversion (Two-Way Section)	
	Delay[1]	LOS	Delay[1]	LOS
Existing Conditions	16.7	C	16.6	C
2009 (with East Connector)	17.2	C	14.4	C
2040 (with East Connector)	15.7	C	15.7	C

Notes: [1] Delay is reported in seconds per vehicle for worst movement for unsignalized intersections.
Source: Fehr & Peers, 2011

As shown in the table, the delay at the SR 299/SR 3 intersection is expected to decrease or stay the same if Center Street is converted to a two-way section.

The daily roadway segment traffic volumes were analyzed based on a shift in traffic to Center Street. Center Street currently carries 700-800 daily trips and is a one way street. Converting Center Street to two-way operations will shift approximately 500-600 daily trips from State Route 299 (between SR 3 and Court Street in Downtown Weaverville) to Center Street. The study segment of Center Street is expected to carry 1,200 – 1,300 daily trips, and operate at LOS B as a two-way section. The daily LOS on SR 299 between SR 3 and Court Street in Downtown Weaverville would remain at the current level.

CONCLUSIONS AND RECOMMENDATIONS

Scenario 1: Unsignalized Intersections

- The SR 299/Washington Street intersection currently operates at an unacceptable level of service.
- When the East Connector is constructed, traffic is expected to shift from Washington Street to the East Connector, improving the level of service at the SR 299/Washington

Street intersection, but diminishing the level of service at the SR 299/Glen Road-East Connector intersection under 2009 conditions (with East Connector).

- The SR 299/Glen Road-East Connector and SR 299/Washington Street intersections will operate at unacceptable levels of service under 2040 conditions (with East Connector) with unsignalized intersections.

- The travel time through the SR 299 corridor is approximately 3 to 3 ½ minutes with unsignalized intersections.

Scenario 2: Signalized Intersections

- The study intersections are expected to operate at LOS B with traffic signals.

- Queue lengths are not expected to exceed storage lengths or spill back into upstream intersections.

- The travel time through the corridor is expected to increase by ½ - 1 ½ minute compared to existing conditions.

- The 2040 conditions greenhouse gas emissions analysis compared the results of the unsignalized intersections to the signalized intersections. The results show that signalized intersections will increase emissions along SR 299, but by a small amount (less than 0.20 kilograms).

- The Traffic Vibration Assessment (provided in **Attachment E**) indicates that installing traffic signals at the study intersections will not significantly increase roadway vibration along the SR 299 corridor.

Scenario 3: Signalized and Roundabout Intersections

- The study intersections are expected to operate at LOS B or better with traffic signals and roundabouts. (Roundabouts at the SR 299/Glen Road-East Connector and SR 299/Garden Gulch Street intersections.)

- Queue lengths are not expected to exceed storage lengths or spill back into upstream intersections.

- The travel time through the corridor is expected to increase by ½ - 1 ½ minute compared to existing conditions.

- The 2040 conditions greenhouse gas emissions analysis compares the results of the unsignalized intersections to the signalized and roundabout intersections. The results show that signalized and roundabout intersections will increase emissions along SR 299, but by a small amount (less than 0.20 kilograms). The comparison of signals to roundabouts at the study intersections is negligible. The production of emissions at the study intersections is virtually the same with a roundabout or a signal.

Overall, the analysis indicates that a system of traffic signals or a combination of traffic signals and roundabouts will function well.

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Center Street Conversion

- The daily LOS on SR 299 between SR 3 and Court Street in Downtown Weaverville would remain at the current level.
- The delay at the SR 299/SR 3 intersection is expected to decrease or stay the same if Center Street is converted from a one-way section to a two-way section (under existing and 2040 conditions).
- The Center Street roadway segment between Court Street and SR 3 is expected to operate at LOS B as a two-way section (it currently operates at LOS B as a one-way segment).

Based on the analysis, we recommend:

- A traffic signal or roundabout should be installed at the SR 299/Glen Road-East Connector intersection when the East Connector roadway is constructed.
- A traffic signal should be installed at the SR 299/Washington Street intersection when traffic volumes and level of service indicate the need (anticipated in the 10-20 year timeframe).
- A traffic signal or roundabout should be constructed at the SR 299/Garden Gulch intersection when traffic volumes and level of service indicate the need (anticipated in 10-20 year timeframe).

We appreciate the opportunity to assist Trinity County with this project. Please feel free to call if you have any questions (775) 826-3200.

Sincerely,

FEHR & PEERS

Katy Cole

Katy Cole, P.E.
Associate

Marissa Harned
Transportation Planner

RN09-0427

Attachments

A – Signal Warrant Analysis
B – Scenario 1: Unsignalized Intersections
C – Scenario 2: Signalized Intersections
D – Scenario 3: Signalized and Roundabout Intersections

E – Traffic Vibration Assessment: Trinity County Intersection Improvements (Bollard Acoustical Consultants, Inc.)
F – Center Street Conversion Analysis

ATTACHMENT A
SIGNAL WARRANT ANALYSIS

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: SR 299
Minor Street: East Connector
Scenario: 2009 Conditions (with East Connector)
Urban/Rural: r (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach

Major Street:	1		
Minor Street:	1		

Vehicles Per Hour (4th Highest Hour)

Major Street (Approach 1):	366	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	340	Minor Street (Higher Volume App.):	136
Major Street Total (Both Approaches):	706	Minor Street Total:	136
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	80

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach

Major Street:	1		
Minor Street:	1		

Vehicles Per Hour (Peak Hour)

Major Street (Approach 1):	430	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	400	Minor Street (Higher Volume App.):	160
Major Street Total (Both Approaches):	830	Minor Street Total:	160
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	110

PEAK HOUR VOLUME WARRANT SATISFIED? **YES**

Notes:
a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street:	SR 299	
Minor Street:	Washington	
Scenario:	Existing	
Urban/Rural:	r	(U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	404	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	329	Minor Street (Higher Volume App.):	82
Major Street Total (Both Approaches):	733	Minor Street Total:	82
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	70

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	475	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	387	Minor Street (Higher Volume App.):	97
Major Street Total (Both Approaches):	862	Minor Street Total:	97
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	100

PEAK HOUR VOLUME WARRANT SATISFIED? **NO**

Notes:

a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street:	SR 299	
Minor Street:	SR 3	
Scenario:	Existing	
Urban/Rural:	r	(U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	258	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	229	Minor Street (Higher Volume App.):	124
Major Street Total (Both Approaches):	487	Minor Street Total:	124
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	130

FOUR HOUR VOLUME WARRANT SATISFIED? **NO**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	304	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	269	Minor Street (Higher Volume App.):	146
Major Street Total (Both Approaches):	573	Minor Street Total:	146
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	180

PEAK HOUR VOLUME WARRANT SATISFIED? **NO**

Notes:

a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.

c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.

d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street:	SR 299	
Minor Street:	Garden Gultch	
Scenario:	Existing	
Urban/Rural:	r	(U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	258	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	196	Minor Street (Higher Volume App.):	52
Major Street Total (Both Approaches):	454	Minor Street Total:	52
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	140

FOUR HOUR VOLUME WARRANT SATISFIED? **NO**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	304	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	231	Minor Street (Higher Volume App.):	61
Major Street Total (Both Approaches):	535	Minor Street Total:	61
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	200

PEAK HOUR VOLUME WARRANT SATISFIED? **NO**

Notes:
a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: SR 299
Minor Street: East Connector
Scenario: 2040
Urban/Rural: r (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	417	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	374	Minor Street (Higher Volume App.):	136
Major Street Total (Both Approaches):	791	Minor Street Total:	136
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	60

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	490	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	440	Minor Street (Higher Volume App.):	160
Major Street Total (Both Approaches):	930	Minor Street Total:	160
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	90

PEAK HOUR VOLUME WARRANT SATISFIED? **YES**

Notes:
a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: SR 299
Minor Street: Washington
Scenario: 2040
Urban/Rural: r (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	459	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	391	Minor Street (Higher Volume App.):	136
Major Street Total (Both Approaches):	850	Minor Street Total:	136
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	60

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	540	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	460	Minor Street (Higher Volume App.):	160
Major Street Total (Both Approaches):	1,000	Minor Street Total:	160
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	80

PEAK HOUR VOLUME WARRANT SATISFIED? **YES**

Notes:

a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.

c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.

d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: SR 299
Minor Street: SR 3
Scenario: 2040
Urban/Rural: r (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	298	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	289	Minor Street (Higher Volume App.):	162
Major Street Total (Both Approaches):	587	Minor Street Total:	162
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	100

FOUR HOUR VOLUME WARRANT SATISFIED? **YES**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	350	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	340	Minor Street (Higher Volume App.):	190
Major Street Total (Both Approaches):	690	Minor Street Total:	190
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	150

PEAK HOUR VOLUME WARRANT SATISFIED? **YES**

Notes:
a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

TRAFFIC SIGNAL WARRANTS
FOUR HOUR VEHICULAR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)
PEAK HOUR VEHICULAR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Major Street: SR 299
Minor Street: Garden Gultch
Scenario: 2040
Urban/Rural: r (U=urban, R=rural [a])

FOUR HOUR VOLUME (MUTCD Warrant 2, Caltrans Warrant 9)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (4th Highest Hour)			
Major Street (Approach 1):	323	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	247	Minor Street (Higher Volume App.):	77
Major Street Total (Both Approaches):	570	Minor Street Total:	77
Minimum Volume on Major Street to Satisfy Warrant (see note [c]):	270	Minimum Volume on Minor Street to Satisfy Warrant (see note [c]):	110

FOUR HOUR VOLUME WARRANT SATISFIED? **NO**

PEAK HOUR VOLUME (MUTCD Warrant 3, Caltrans Warrant 11)

Number of Lanes on Each Approach			
Major Street:	1		
Minor Street:	1		
Vehicles Per Hour (Peak Hour)			
Major Street (Approach 1):	380	Major Street Left Turn (see note [b]):	0
Major Street (Approach 2):	290	Minor Street (Higher Volume App.):	90
Major Street Total (Both Approaches):	670	Minor Street Total:	90
Minimum Volume on Major Street to Satisfy Warrant (see note [d]):	310	Minimum Volume on Minor Street to Satisfy Warrant (see note [d]):	150

PEAK HOUR VOLUME WARRANT SATISFIED? **NO**

Notes:

a. May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.
b. Heavier left-turn movement from the major street may be included with minor street volume if a separate signal phase is proposed for left-turn movements.
c. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-2.
d. From: USDOT, FHWA, "Manual on Uniform Traffic Control Devices," 2001, Figure 4C-4.

Adopted from: U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices, Millennium Edition," 2001; and Caltrans, "Traffic Manual," 2002.

ATTACHMENT B
SCENARIO 1: UNSIGNALIZED INTERSECTIONS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	112	29	34	378	352	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	32	37	411	383	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	906	421	460			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	421	460			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	95	97			
cM capacity (veh/h)	296	632	1101			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	153	37	411	460
Volume Left	122	37	0	0
Volume Right	32	0	0	77
cSH	333	1101	1700	1700
Volume to Capacity	0.46	0.03	0.24	0.27
Queue Length 95th (ft)	58	3	0	0
Control Delay (s)	24.7	8.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	24.7	0.7		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	22	355	10	39	331	105	9	4	31	84	3	10
Peak Hour Factor	0.90	0.90	0.90	0.87	0.87	0.87	0.73	0.73	0.73	0.70	0.70	0.70
Hourly flow rate (vph)	24	394	11	45	380	121	12	5	42	120	4	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	501			406			935	1040	400	959	925	380
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	501			406			935	1040	400	959	925	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			95	97	93	42	98	98
cM capacity (veh/h)	1063			1153			226	216	650	207	253	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	24	406	45	380	121	60	139
Volume Left	24	0	45	0	0	12	120
Volume Right	0	11	0	0	121	42	14
cSH	1063	1700	1153	1700	1700	415	224
Volume to Capacity	0.02	0.24	0.04	0.22	0.07	0.15	0.62
Queue Length 95th (ft)	2	0	3	0	0	13	91
Control Delay (s)	8.5	0.0	8.2	0.0	0.0	15.1	44.0
Lane LOS	A		A			C	E
Approach Delay (s)	0.5		0.7			15.1	44.0
Approach LOS						C	E

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-6%	6%		0%	
Volume (veh/h)	68	201	219	85	68	78
Peak Hour Factor	0.86	0.86	0.87	0.87	0.91	0.91
Hourly flow rate (vph)	79	234	252	98	75	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	349				692	301
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	349				692	301
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				80	88
cM capacity (veh/h)	1209				383	739

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	79	234	349	75	86
Volume Left	79	0	0	75	0
Volume Right	0	0	98	0	86
cSH	1209	1700	1700	383	739
Volume to Capacity	0.07	0.14	0.21	0.20	0.12
Queue Length 95th (ft)	5	0	0	18	10
Control Delay (s)	8.2	0.0	0.0	16.7	10.5
Lane LOS	A			C	B
Approach Delay (s)	2.1		0.0	13.4	
Approach LOS				B	

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		4%			0%			5%			-5%	
Volume (veh/h)	5	222	4	79	186	39	9	4	48	38	5	7
Peak Hour Factor	0.83	0.84	0.83	0.84	0.84	0.84	0.90	0.90	0.90	0.74	0.74	0.74
Hourly flow rate (vph)	6	264	5	94	221	46	10	4	53	51	7	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			None	
Median storage veh)								1				
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	268			269			701	735	267	765	714	245
vC1, stage 1 conf vol							279	279				
vC2, stage 2 conf vol							422	456				
vCu, unblocked vol	268			269			701	735	267	765	714	245
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5				
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			98	99	93	82	98	99
cM capacity (veh/h)	1296			1294			423	409	772	279	330	794

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	6	269	94	268	14	53	58	9
Volume Left	6	0	94	0	10	0	51	0
Volume Right	0	5	0	46	0	53	0	9
cSH	1296	1700	1294	1700	419	772	284	794
Volume to Capacity	0.00	0.16	0.07	0.16	0.03	0.07	0.20	0.01
Queue Length 95th (ft)	0	0	6	0	3	6	19	1
Control Delay (s)	7.8	0.0	8.0	0.0	13.9	10.0	20.9	9.6
Lane LOS	A		A		B	B	C	A
Approach Delay (s)	0.2		2.1		10.8		19.3	
Approach LOS					B		C	

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	100	30	30	60	20	10	40	320	70	20	310	70
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	118	35	35	71	24	12	47	376	82	24	365	82
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2			2						
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	900	965	365	918	965	376	447			459		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	900	965	365	918	965	376	447			459		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	48	85	95	65	90	98	96			98		
cM capacity (veh/h)	225	239	680	202	239	670	1113			1102		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	188	106	47	376	82	24	365	82
Volume Left	118	71	47	0	0	24	0	0
Volume Right	35	12	0	0	82	0	0	82
cSH	274	238	1113	1700	1700	1102	1700	1700
Volume to Capacity	0.69	0.45	0.04	0.22	0.05	0.02	0.21	0.05
Queue Length 95th (ft)	115	53	3	0	0	2	0	0
Control Delay (s)	42.8	32.3	8.4	0.0	0.0	8.3	0.0	0.0
Lane LOS	E	D	A			A		
Approach Delay (s)	42.8	32.3	0.8			0.4		
Approach LOS	E	D						

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	40	30	10	10	40	330	20	30	360	10
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	14	14	55	43	14	14	46	379	23	33	400	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	965	966	406	1000	949	379	411			402		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	965	966	406	1000	949	379	411			402		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	94	92	77	94	98	96			97		
cM capacity (veh/h)	208	237	645	184	243	668	1148			1156		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	82	71	46	379	23	33	411
Volume Left	14	43	46	0	0	33	0
Volume Right	55	14	0	0	23	0	11
cSH	394	228	1148	1700	1700	1156	1700
Volume to Capacity	0.21	0.31	0.04	0.22	0.01	0.03	0.24
Queue Length 95th (ft)	19	32	3	0	0	2	0
Control Delay (s)	16.5	27.8	8.3	0.0	0.0	8.2	0.0
Lane LOS	C	D	A			A	
Approach Delay (s)	16.5	27.8	0.8			0.6	
Approach LOS	C	D					

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		6%			-6%
Volume (veh/h)	70	80	220	90	70	210
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	77	88	253	103	81	244
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	712	305			356	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	712	305			356	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	88			93	
cM capacity (veh/h)	372	735			1202	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	77	88	356	81	244
Volume Left	77	0	0	81	0
Volume Right	0	88	103	0	0
cSH	372	735	1700	1202	1700
Volume to Capacity	0.21	0.12	0.21	0.07	0.14
Queue Length 95th (ft)	19	10	0	5	0
Control Delay (s)	17.2	10.6	0.0	8.2	0.0
Lane LOS	C	B		A	
Approach Delay (s)	13.6		0.0	2.1	
Approach LOS	B				

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-5%			0%			4%	
Volume (veh/h)	10	10	50	40	10	10	80	190	40	10	230	10
Peak Hour Factor	0.90	0.90	0.90	0.74	0.74	0.74	0.84	0.84	0.84	0.83	0.84	0.83
Hourly flow rate (vph)	11	11	56	54	14	14	95	226	48	12	274	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		1										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	741	768	280	799	750	250	286			274		
vC1, stage 1 conf vol	304	304										
vC2, stage 2 conf vol	437	464										
vCu, unblocked vol	741	768	280	799	750	250	286			274		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5										
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	97	93	79	96	98	93			99		
cM capacity (veh/h)	397	395	759	258	312	789	1276			1289		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	22	56	68	14	95	274	12	286
Volume Left	11	0	54	0	95	0	12	0
Volume Right	0	56	0	14	0	48	0	12
cSH	396	759	267	789	1276	1700	1289	1700
Volume to Capacity	0.06	0.07	0.25	0.02	0.07	0.16	0.01	0.17
Queue Length 95th (ft)	4	6	24	1	6	0	1	0
Control Delay (s)	14.6	10.1	22.9	9.6	8.0	0.0	7.8	0.0
Lane LOS	B	B	C	A	A		A	
Approach Delay (s)	11.4		20.7		2.1		0.3	
Approach LOS	B		C					

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	100	30	30	80	20	20	40	360	90	30	350	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	118	35	35	94	24	24	47	424	106	35	412	71
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			2			2						
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1024	1106	412	1035	1071	424	482			529		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1024	1106	412	1035	1071	424	482			529		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	34	82	94	42	88	96	96			97		
cM capacity (veh/h)	177	194	640	161	204	630	1080			1038		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	188	141	47	424	106	35	412	71
Volume Left	118	94	47	0	0	35	0	0
Volume Right	35	24	0	0	106	0	0	71
cSH	214	200	1080	1700	1700	1038	1700	1700
Volume to Capacity	0.88	0.71	0.04	0.25	0.06	0.03	0.24	0.04
Queue Length 95th (ft)	173	112	3	0	0	3	0	0
Control Delay (s)	80.3	57.6	8.5	0.0	0.0	8.6	0.0	0.0
Lane LOS	F	F	A			A		
Approach Delay (s)	80.3	57.6	0.7			0.6		
Approach LOS	F	F						

Intersection Summary			
Average Delay	16.8		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	10	40	90	10	10	50	380	110	30	410	20
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Hourly flow rate (vph)	14	14	55	129	14	14	57	437	126	33	456	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1106	1211	467	1136	1096	437	478			563		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106	1211	467	1136	1096	437	478			563		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	92	91	10	93	98	95			97		
cM capacity (veh/h)	162	167	596	143	195	620	1084			1008		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	82	157	57	437	126	33	478
Volume Left	14	129	57	0	0	33	0
Volume Right	55	14	0	0	126	0	22
cSH	318	158	1084	1700	1700	1008	1700
Volume to Capacity	0.26	1.00	0.05	0.26	0.07	0.03	0.28
Queue Length 95th (ft)	25	191	4	0	0	3	0
Control Delay (s)	20.2	128.1	8.5	0.0	0.0	8.7	0.0
Lane LOS	C	F	A			A	
Approach Delay (s)	20.2	128.1	0.8			0.6	
Approach LOS	C	F					

Intersection Summary			
Average Delay	16.5		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		6%			-6%
Volume (veh/h)	80	110	260	90	90	250
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	88	121	299	103	105	291
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851	351			402	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851	351			402	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	83			91	
cM capacity (veh/h)	301	693			1156	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	209	402	105	291
Volume Left	88	0	105	0
Volume Right	121	103	0	0
cSH	714	1700	1156	1700
Volume to Capacity	0.29	0.24	0.09	0.17
Queue Length 95th (ft)	30	0	7	0
Control Delay (s)	15.7	0.0	8.4	0.0
Lane LOS	C		A	
Approach Delay (s)	15.7	0.0	2.2	
Approach LOS	C			

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		5%			-5%			0%			4%	
Volume (veh/h)	20	10	60	50	10	10	90	240	50	10	270	10
Peak Hour Factor	0.90	0.90	0.90	0.74	0.74	0.74	0.84	0.84	0.84	0.83	0.84	0.83
Hourly flow rate (vph)	22	11	67	68	14	14	107	286	60	12	321	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						2						
Median type		TWLTL			None							
Median storage veh)		1										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	865	911	327	948	887	315	333			345		
vC1, stage 1 conf vol	352	352										
vC2, stage 2 conf vol	514	560										
vCu, unblocked vol	865	911	327	948	887	315	333			345		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5										
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	97	91	66	95	98	91			99		
cM capacity (veh/h)	345	347	714	198	256	725	1226			1214		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	33	67	95	107	345	12	333
Volume Left	22	0	68	107	0	12	0
Volume Right	0	67	14	0	60	0	12
cSH	346	714	242	1226	1700	1214	1700
Volume to Capacity	0.10	0.09	0.39	0.09	0.20	0.01	0.20
Queue Length 95th (ft)	8	8	44	7	0	1	0
Control Delay (s)	16.5	10.6	29.7	8.2	0.0	8.0	0.0
Lane LOS	C	B	D	A		A	
Approach Delay (s)	12.5		29.7	1.9		0.3	
Approach LOS	B		D				

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Lane	0.8	13.2	0.1	29
	1.4	27.2	0.2	28
	2.5	31.8	0.2	27
Washington Street	3.2	27.7	0.2	32
	2.2	26.0	0.2	26
SR 3	3.9	29.2	0.2	29
	1.4	14.1	0.1	25
Garden Gulch	1.0	6.7	0.0	26
Total	16.5	176.0	1.4	28

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	2.1	43.8	0.3	29
	0.5	6.6	0.0	27
SR 3	0.8	11.8	0.1	30
	1.9	30.3	0.2	27
	2.3	22.1	0.2	32
	3.3	33.0	0.2	26
	4.1	33.5	0.2	26
Martin Lane	2.9	24.0	0.2	31
Total	17.7	205.1	1.6	28

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	1.2	18.9	0.1	29
	1.3	21.1	0.2	28
East Connector Road	1.1	7.4	0.1	30
	2.4	31.8	0.2	27
Washington Street	3.2	30.5	0.2	28
	2.9	27.0	0.2	25
SR 3	4.4	30.3	0.2	27
	1.5	13.9	0.1	25
Garden Gulch	1.1	6.9	0.0	26
Total	19.2	187.9	1.4	27

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	2.5	44.6	0.3	28
	0.5	6.5	0.0	27
SR 3	0.9	11.9	0.1	30
	2.0	30.4	0.2	27
	2.4	22.5	0.2	31
	3.3	32.0	0.2	26
Glen Road	4.3	31.6	0.2	27
	0.9	8.2	0.1	26
Nugget Lane	1.6	19.2	0.2	30
Total	18.3	207.1	1.6	28

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	1.3	17.4	0.1	29
	1.0	15.7	0.1	27
East Connector Road	1.4	8.3	0.1	31
	4.1	44.8	0.3	26
Washington Street	3.0	21.5	0.2	27
	2.6	26.6	0.2	26
SR 3	4.2	29.9	0.2	28
	1.6	14.0	0.1	25
Garden Gulch	1.2	7.0	0.0	25
Total	20.4	185.3	1.4	27

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	2.7	44.9	0.3	28
	0.5	6.6	0.0	27
SR 3	1.0	12.1	0.1	29
	2.1	30.6	0.2	27
	2.7	23.0	0.2	30
	2.4	22.2	0.2	26
Glen Road	5.1	40.8	0.3	29
	1.1	9.4	0.1	26
Nugget Lane	1.4	14.8	0.1	29
Total	19.0	204.4	1.6	28

1: Glen Road & SR 299

Direction	All
Volume (vph)	977
CO Emissions (kg)	1.02
NOx Emissions (kg)	0.20
VOC Emissions (kg)	0.24

2: Washington Street & SR 299

Direction	All
Volume (vph)	1001
CO Emissions (kg)	1.40
NOx Emissions (kg)	0.27
VOC Emissions (kg)	0.33

3: SR 3 & SR 299

Direction	All
Volume (vph)	719
CO Emissions (kg)	0.80
NOx Emissions (kg)	0.16
VOC Emissions (kg)	0.19

4: Forest Ave & SR 299

Direction	All
Volume (vph)	645
CO Emissions (kg)	0.52
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

1: Glen Road & SR 299

Direction	All
Volume (vph)	1210
CO Emissions (kg)	1.13
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

2: Washington Street & SR 299

Direction	All
Volume (vph)	1171
CO Emissions (kg)	0.74
NOx Emissions (kg)	0.14
VOC Emissions (kg)	0.17

3: SR 3 & SR 299

Direction	All
Volume (vph)	880
CO Emissions (kg)	0.50
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

4: Forest Ave & SR 299

Direction	All
Volume (vph)	832
CO Emissions (kg)	0.58
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

ATTACHMENT C
SCENARIO 2: SIGNALIZED INTERSECTIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583		1796	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.71	1.00		0.67	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1328	1583		1251	1583	1770	1863	1583	1770	1863	1583
Volume (vph)	100	30	30	60	20	10	40	320	70	20	310	70
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	118	35	35	71	24	12	47	376	82	24	365	82
RTOR Reduction (vph)	0	0	29	0	0	10	0	0	29	0	0	32
Lane Group Flow (vph)	0	153	6	0	95	2	47	376	53	24	365	50
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)		9.3	9.3		9.3	9.3	1.8	31.6	31.6	1.3	31.1	31.1
Effective Green, g (s)		9.3	9.3		9.3	9.3	1.8	31.6	31.6	1.3	31.1	31.1
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.03	0.58	0.58	0.02	0.57	0.57
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		228	272		215	272	59	1086	923	42	1069	908
v/s Ratio Prot							c0.03	c0.20		0.01	0.20	
v/s Ratio Perm		c0.12	0.00		0.08	0.00			0.03			0.03
v/c Ratio		0.67	0.02		0.44	0.01	0.80	0.35	0.06	0.57	0.34	0.05
Uniform Delay, d1		21.0	18.7		20.1	18.6	26.0	5.9	4.9	26.2	6.1	5.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.5	0.0		1.4	0.0	51.1	0.2	0.0	17.4	0.2	0.0
Delay (s)		28.6	18.7		21.6	18.6	77.1	6.1	4.9	43.6	6.3	5.1
Level of Service		C	B		C	B	E	A	A	D	A	A
Approach Delay (s)		26.7			21.2			12.5			8.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.91			0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1682			1760		1770	1863	1583	1770	1855	
Flt Permitted		0.96			0.90		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1629			1635		1770	1863	1583	1770	1855	
Volume (vph)	10	10	40	30	10	10	40	330	20	30	360	10
Peak-hour factor, PHF	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Adj. Flow (vph)	14	14	55	43	14	14	46	379	23	33	400	11
RTOR Reduction (vph)	0	51	0	0	13	0	0	0	7	0	1	0
Lane Group Flow (vph)	0	32	0	0	58	0	46	379	16	33	410	0
Turn Type	Perm			Perm			Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		4.1			4.1		3.6	40.2	40.2	1.6	38.2	
Effective Green, g (s)		4.1			4.1		3.6	40.2	40.2	1.6	38.2	
Actuated g/C Ratio		0.07			0.07		0.06	0.69	0.69	0.03	0.66	
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		115			116		110	1293	1099	49	1224	
v/s Ratio Prot							c0.03	0.20		0.02	c0.22	
v/s Ratio Perm		0.02			c0.04				0.01			
v/c Ratio		0.28			0.50		0.42	0.29	0.01	0.67	0.34	
Uniform Delay, d1		25.5			25.9		26.1	3.4	2.7	27.9	4.3	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.3			3.4		2.6	0.1	0.0	30.8	0.2	
Delay (s)		26.8			29.3		28.7	3.5	2.7	58.7	4.5	
Level of Service		C			C		C	A	A	E	A	
Approach Delay (s)		26.8			29.3			6.1			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		6%			-6%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1736		1823	1919
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1736		1823	1919
Volume (vph)	70	80	220	90	70	210
Peak-hour factor, PHF	0.91	0.91	0.87	0.87	0.86	0.86
Adj. Flow (vph)	77	88	253	103	81	244
RTOR Reduction (vph)	0	77	19	0	0	0
Lane Group Flow (vph)	77	11	337	0	81	244
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	6.6	6.6	30.9		4.1	39.0
Effective Green, g (s)	6.6	6.6	30.9		4.1	39.0
Actuated g/C Ratio	0.12	0.12	0.58		0.08	0.73
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	218	195	1001		139	1396
v/s Ratio Prot	c0.04		c0.19		c0.04	0.13
v/s Ratio Perm		0.01				
v/c Ratio	0.35	0.06	0.34		0.58	0.17
Uniform Delay, d1	21.5	20.7	6.0		23.9	2.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.1	0.2		6.1	0.1
Delay (s)	22.5	20.9	6.2		30.0	2.3
Level of Service	C	C	A		C	A
Approach Delay (s)	21.6		6.2			9.2
Approach LOS	C		A			A

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-5%			0%			4%	
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1772	1544		1836	1623	1770	1814		1734	1814	
Flt Permitted		0.84	1.00		0.76	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1519	1544		1442	1623	1770	1814		1734	1814	
Volume (vph)	10	10	50	40	10	10	80	190	40	10	230	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.74	0.74	0.74	0.84	0.84	0.84	0.83	0.84	0.83
Adj. Flow (vph)	11	11	56	54	14	14	95	226	48	12	274	12
RTOR Reduction (vph)	0	0	49	0	0	12	0	8	0	0	2	0
Lane Group Flow (vph)	0	22	7	0	68	2	95	266	0	12	284	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		6.7	6.7		6.7	6.7	5.7	37.6		1.0	32.9	
Effective Green, g (s)		6.7	6.7		6.7	6.7	5.7	37.6		1.0	32.9	
Actuated g/C Ratio		0.12	0.12		0.12	0.12	0.10	0.66		0.02	0.57	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		178	181		169	190	176	1190		30	1042	
v/s Ratio Prot							c0.05	0.15		0.01	c0.16	
v/s Ratio Perm		0.01	0.00		c0.05	0.00						
v/c Ratio		0.12	0.04		0.40	0.01	0.54	0.22		0.40	0.27	
Uniform Delay, d1		22.7	22.4		23.4	22.4	24.6	4.0		27.9	6.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3	0.1		1.6	0.0	3.2	0.1		8.5	0.1	
Delay (s)		23.0	22.5		25.0	22.4	27.7	4.1		36.4	6.3	
Level of Service		C	C		C	C	C	A		D	A	
Approach Delay (s)		22.6			24.6			10.2			7.5	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1794	1583		1791	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.66	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1302	1583		1231	1583	1770	1863	1583	1770	1863	1583
Volume (vph)	100	30	30	80	20	20	40	360	90	30	350	60
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	118	35	35	94	24	24	47	424	106	35	412	71
RTOR Reduction (vph)	0	0	29	0	0	20	0	0	36	0	0	25
Lane Group Flow (vph)	0	153	6	0	118	4	47	424	70	35	412	46
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)		9.3	9.3		9.3	9.3	1.8	30.7	30.7	1.8	30.7	30.7
Effective Green, g (s)		9.3	9.3		9.3	9.3	1.8	30.7	30.7	1.8	30.7	30.7
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.03	0.57	0.57	0.03	0.57	0.57
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		225	274		213	274	59	1063	903	59	1063	903
v/s Ratio Prot							c0.03	c0.23		0.02	0.22	
v/s Ratio Perm		c0.12	0.00		0.10	0.00			0.04			0.03
v/c Ratio		0.68	0.02		0.55	0.02	0.80	0.40	0.08	0.59	0.39	0.05
Uniform Delay, d1		20.9	18.5		20.4	18.5	25.8	6.4	5.2	25.6	6.4	5.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		8.2	0.0		3.1	0.0	51.1	0.2	0.0	15.0	0.2	0.0
Delay (s)		29.0	18.5		23.5	18.5	76.9	6.7	5.2	40.6	6.6	5.1
Level of Service		C	B		C	B	E	A	A	D	A	A
Approach Delay (s)		27.1			22.6			12.1			8.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	53.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.91			0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1682			1768		1770	1863	1583	1770	1850	
Flt Permitted		0.94			0.78		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1596			1442		1770	1863	1583	1770	1850	
Volume (vph)	10	10	40	90	10	10	50	380	110	30	410	20
Peak-hour factor, PHF	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Adj. Flow (vph)	14	14	55	129	14	14	57	437	126	33	456	22
RTOR Reduction (vph)	0	43	0	0	5	0	0	0	59	0	2	0
Lane Group Flow (vph)	0	40	0	0	152	0	57	437	67	33	476	0
Turn Type	Perm			Perm			Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		11.6			11.6		3.0	27.1	27.1	2.6	26.7	
Effective Green, g (s)		11.6			11.6		3.0	27.1	27.1	2.6	26.7	
Actuated g/C Ratio		0.22			0.22		0.06	0.51	0.51	0.05	0.50	
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		347			314		100	947	805	86	927	
v/s Ratio Prot							c0.03	0.23		0.02	c0.26	
v/s Ratio Perm		0.03			c0.11				0.04			
v/c Ratio		0.12			0.48		0.57	0.46	0.08	0.38	0.51	
Uniform Delay, d1		16.7			18.2		24.5	8.4	6.7	24.6	8.9	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			1.2		7.3	0.4	0.0	2.8	0.5	
Delay (s)		16.9			19.4		31.8	8.8	6.8	27.4	9.4	
Level of Service		B			B		C	A	A	C	A	
Approach Delay (s)		16.9			19.4			10.5			10.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		6%			-6%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1744		1823	1919
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1744		1823	1919
Volume (vph)	80	110	260	90	90	250
Peak-hour factor, PHF	0.91	0.91	0.87	0.87	0.86	0.86
Adj. Flow (vph)	88	121	299	103	105	291
RTOR Reduction (vph)	0	101	19	0	0	0
Lane Group Flow (vph)	88	20	383	0	105	291
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.9	8.9	27.3		4.6	35.9
Effective Green, g (s)	8.9	8.9	27.3		4.6	35.9
Actuated g/C Ratio	0.17	0.17	0.52		0.09	0.68
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	298	267	902		159	1305
v/s Ratio Prot	c0.05		c0.22		c0.06	0.15
v/s Ratio Perm		0.01				
v/c Ratio	0.30	0.08	0.42		0.66	0.22
Uniform Delay, d1	19.2	18.5	7.9		23.3	3.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.1	0.3		9.8	0.1
Delay (s)	19.8	18.6	8.2		33.2	3.3
Level of Service	B	B	A		C	A
Approach Delay (s)	19.1		8.2			11.2
Approach LOS	B		A			B

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-5%			0%			4%	
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1758	1544		1833	1623	1770	1814		1734	1816	
Flt Permitted		0.77	1.00		0.74	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1395	1544		1412	1623	1770	1814		1734	1816	
Volume (vph)	20	10	60	50	10	10	90	240	50	10	270	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.74	0.74	0.74	0.84	0.84	0.84	0.83	0.84	0.83
Adj. Flow (vph)	22	11	67	68	14	14	107	286	60	12	321	12
RTOR Reduction (vph)	0	0	59	0	0	12	0	9	0	0	2	0
Lane Group Flow (vph)	0	33	8	0	82	2	107	337	0	12	331	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		7.0	7.0		7.0	7.0	4.0	35.8		1.0	32.8	
Effective Green, g (s)		7.0	7.0		7.0	7.0	4.0	35.8		1.0	32.8	
Actuated g/C Ratio		0.13	0.13		0.13	0.13	0.07	0.64		0.02	0.59	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		175	194		177	204	127	1164		31	1067	
v/s Ratio Prot							c0.06	c0.19		0.01	0.18	
v/s Ratio Perm		0.02	0.01		c0.06	0.00						
v/c Ratio		0.19	0.04		0.46	0.01	0.84	0.29		0.39	0.31	
Uniform Delay, d1		21.9	21.5		22.7	21.4	25.6	4.4		27.1	5.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.1		1.9	0.0	37.0	0.1		7.8	0.2	
Delay (s)		22.4	21.5		24.6	21.4	62.6	4.5		34.9	6.0	
Level of Service		C	C		C	C	E	A		C	A	
Approach Delay (s)		21.8			24.1			18.3			7.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection 1 **SR 299/Glen Road** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	150	28	4	59	4	73	7	0	0
	Through	278	68	7	135	21	172	34	8	0
	Right Turn	50	22	4	**62**	7	**77**	2	0	0
SB	Left Turn	150	13	5	42	25	69	57	0	0
	Through	233	61	6	133	21	179	47	7	0
	Right Turn	50	14	4	**52**	12	**77**	5	0	0
EB	Left Turn	494	52	4	90	10	113	21	8	0
	Through	494	52	4	90	10	113	21	8	0
	Right Turn	50	19	4	**51**	10	**68**	15	0	0
WB	Left Turn	328	36	4	69	11	85	20	3	0
	Through	328	36	4	69	11	85	20	3	0
	Right Turn	50	7	3	28	7	36	12	0	0

Intersection 2 **SR 299/Washington St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	26	3	58	4	80	24	0	0
	Through	590	57	6	131	14	180	29	2	0
	Right Turn	100	5	2	25	13	49	41	0	0
SB	Left Turn	100	22	5	52	9	71	30	0	0
	Through	637	63	7	132	14	168	20	2	0
	Right Turn	637	63	7	132	14	168	20	2	0
EB	Left Turn	214	30	4	54	7	63	11	0	0
	Through	214	30	4	54	7	63	11	0	0
	Right Turn	214	30	4	54	7	63	11	0	0
WB	Left Turn	300	25	4	55	9	73	14	0	0
	Through	300	25	4	55	9	73	14	0	0
	Right Turn	300	25	4	55	9	73	14	0	0

SimTraffic Post-Processor | **Trinity County**
Average Results from 10 Runs | **2009 Conditions (with East Connector)**
Queue Length | **Summer PM Peak**
Intersection 3 | **SR 299-Reynolds Ranch Pkwy/SR 3** | **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through	502	71	11	147	25	201	45	0	0
	Right Turn	502	71	11	147	25	201	45	0	0
SB	Left Turn	75	40	3	73	5	**85**	12	1	0
	Through	456	30	6	73	12	97	26	0	0
	Right Turn									
EB	Left Turn									
	Through									
	Right Turn									
WB	Left Turn	1,089	35	3	63	6	80	13	0	0
	Through									
	Right Turn	180	32	3	56	4	70	10	0	0

Intersection 4 | **SR 299/Forest St** | **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	50	35	4	**67**	7	**76**	2	4	0
	Through	192	28	4	78	15	124	44	1	0
	Right Turn	192	28	4	78	15	124	44	1	0
SB	Left Turn	150	10	2	34	6	40	11	0	0
	Through	1,805	52	4	111	8	149	27	0	0
	Right Turn	1,805	52	4	111	8	149	27	0	0
EB	Left Turn	75	15	2	40	4	46	10	0	0
	Through	75	15	2	40	4	46	10	0	0
	Right Turn	393	22	2	45	3	54	10	0	0
WB	Left Turn	621	30	4	62	6	77	16	2	0
	Through	621	30	4	62	6	77	16	2	0
	Right Turn	50	9	2	33	6	45	22	0	0

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Trinity County
2040 Conditions (with East Connector)
Summer PM Peak

Intersection 1 **SR 299/Glen Rd** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	150	29	5	68	16	102	48	0	0
	Through	278	92	10	181	20	231	52	12	0
	Right Turn	50	31	5	**73**	6	**78**	1	0	0
SB	Left Turn	150	19	4	51	16	84	49	0	0
	Through	1,315	75	15	155	35	204	70	9	0
	Right Turn	50	15	3	**56**	7	**78**	1	0	0
EB	Left Turn	494	58	7	100	13	129	29	11	0
	Through	494	58	7	100	13	129	29	11	0
	Right Turn	50	20	3	**57**	8	**74**	8	0	0
WB	Left Turn	328	40	5	75	10	95	16	5	0
	Through	328	40	5	75	10	95	16	5	0
	Right Turn	50	14	3	42	5	**53**	19	0	0

Intersection 2 **SR 299/Washington St** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	36	6	76	14	**102**	31	0	0
	Through	590	90	11	202	34	289	70	4	0
	Right Turn	100	34	7	95	17	**130**	12	0	0
SB	Left Turn	100	24	5	61	14	92	32	0	0
	Through	637	92	8	185	25	257	47	5	0
	Right Turn	637	92	8	185	25	257	47	5	0
EB	Left Turn	214	29	5	58	8	68	14	0	0
	Through	214	29	5	58	8	68	14	0	0
	Right Turn	214	29	5	58	8	68	14	0	0
WB	Left Turn	300	51	5	92	10	120	23	0	0
	Through	300	51	5	92	10	120	23	0	0
	Right Turn	300	51	5	92	10	120	23	0	0

SimTraffic Post-Processor — **Trinity County**
Average Results from 10 Runs — **2040 Conditions (with East Connector)**
Queue Length — **Summer PM Peak**
Intersection 3 SR 299/SR 3 — **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through	502	77	7	152	15	208	35	0	0
	Right Turn	502	77	7	152	15	208	35	0	0
SB	Left Turn	75	49	5	**86**	8	**99**	12	2	0
	Through	456	42	5	94	14	138	29	1	0
	Right Turn									
EB	Left Turn									
	Through									
	Right Turn									
WB	Left Turn	1,089	40	2	75	9	93	27	0	0
	Through									
	Right Turn	180	38	3	61	5	70	8	0	0

Intersection 4 SR 299/Forest Ave — **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	50	41	5	**74**	7	**78**	2	6	0
	Through	192	39	12	94	23	139	38	2	0
	Right Turn	192	39	12	94	23	139	38	2	0
SB	Left Turn	150	8	2	30	4	33	0	0	0
	Through	1,805	66	9	132	25	172	65	1	0
	Right Turn	1,805	66	9	132	25	172	65	1	0
EB	Left Turn	75	18	3	45	3	53	11	0	0
	Through	75	18	3	45	3	53	11	0	0
	Right Turn	393	25	1	46	4	62	8	0	0
WB	Left Turn	621	34	6	65	7	80	17	3	0
	Through	621	34	6	65	7	80	17	3	0
	Right Turn	50	7	2	27	5	35	14	0	0

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	4.2	62.2	0.5	28
	1.6	16.4	0.1	26
East Connector Road	6.8	13.7	0.1	18
	1.4	9.0	0.1	24
Mountain View Street	2.4	28.2	0.2	28
Levee Road	1.0	9.3	0.1	26
Weaver Street	0.6	4.9	0.0	26
Washington Street	5.5	20.6	0.1	22
Mill Street	2.2	18.1	0.1	26
	0.8	8.1	0.1	27
Lorenz Street	1.6	15.8	0.1	28
SR 3	7.1	20.2	0.1	19
Court Street	2.0	14.0	0.1	25
Garden Gulch	3.4	9.2	0.0	19
Total	40.7	249.8	1.7	25

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	7.3	49.5	0.3	26
Court Street	1.4	7.5	0.0	23
SR 3	3.1	14.3	0.1	25
Lorenz Street	1.3	14.0	0.1	27
	1.1	16.6	0.1	27
Mill Street	0.9	8.0	0.1	28
	5.7	21.4	0.1	22
Weaver Street	2.1	17.0	0.1	27
Masonic Lane	0.8	5.3	0.0	24
Mountain View Street	0.8	9.1	0.1	27
	2.7	29.4	0.2	27
Glen Road	7.0	13.9	0.1	16
	1.6	10.2	0.1	24
Nugget Lane	1.2	14.2	0.1	30
Total	36.9	230.4	1.6	25

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	4.9	63.1	0.5	27
	1.9	16.6	0.1	26
East Connector Road	8.1	15.3	0.1	16
	1.5	9.2	0.1	24
Mountain View Street	2.8	28.4	0.2	28
Levee Road	1.3	9.7	0.1	25
Weaver Street	0.9	5.1	0.0	26
Washington Street	7.0	22.1	0.1	21
Mill Street	2.3	18.3	0.1	26
	0.8	8.2	0.1	27
Lorenz Street	1.7	15.8	0.1	29
SR 3	8.2	21.2	0.1	18
Court Street	2.3	14.3	0.1	25
Garden Gulch	4.3	10.2	0.0	17
Total	48.1	257.3	1.7	25

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	8.1	50.2	0.3	25
Court Street	1.6	7.7	0.0	23
SR 3	3.7	14.9	0.1	24
Lorenz Street	1.5	14.4	0.1	27
	1.3	16.9	0.1	27
Mill Street	1.0	8.2	0.1	27
	8.1	23.8	0.1	20
Weaver Street	2.5	17.3	0.1	26
Masonic Lane	1.1	5.6	0.0	24
Mountain View Street	0.9	9.1	0.1	27
	3.2	29.9	0.2	26
Glen Road	6.4	13.1	0.1	17
	1.7	10.2	0.1	23
Nugget Lane	1.4	15.3	0.1	28
Total	42.6	236.5	1.6	25

1: Glen Road & SR 299

Direction	All
Volume (vph)	1081
CO Emissions (kg)	1.01
NOx Emissions (kg)	0.20
VOC Emissions (kg)	0.23

2: Washington Street & SR 299

Direction	All
Volume (vph)	901
CO Emissions (kg)	0.56
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

3: SR 3 & SR 299

Direction	All
Volume (vph)	740
CO Emissions (kg)	0.50
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

4: Forest Ave & SR 299

Direction	All
Volume (vph)	690
CO Emissions (kg)	0.58
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

1: Glen Road & SR 299

Direction	All
Volume (vph)	1210
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.27

2: Washington Street & SR 299

Direction	All
Volume (vph)	1171
CO Emissions (kg)	0.88
NOx Emissions (kg)	0.17
VOC Emissions (kg)	0.20

3: SR 3 & SR 299

Direction	All
Volume (vph)	880
CO Emissions (kg)	0.65
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.15

4: Forest Ave & SR 299

Direction	All
Volume (vph)	832
CO Emissions (kg)	0.70
NOx Emissions (kg)	0.14
VOC Emissions (kg)	0.16

ATTACHMENT D
SCENARIO 3: SIGNALIZED AND ROUNDABOUT INTERSECTIONS

MOVEMENT SUMMARY

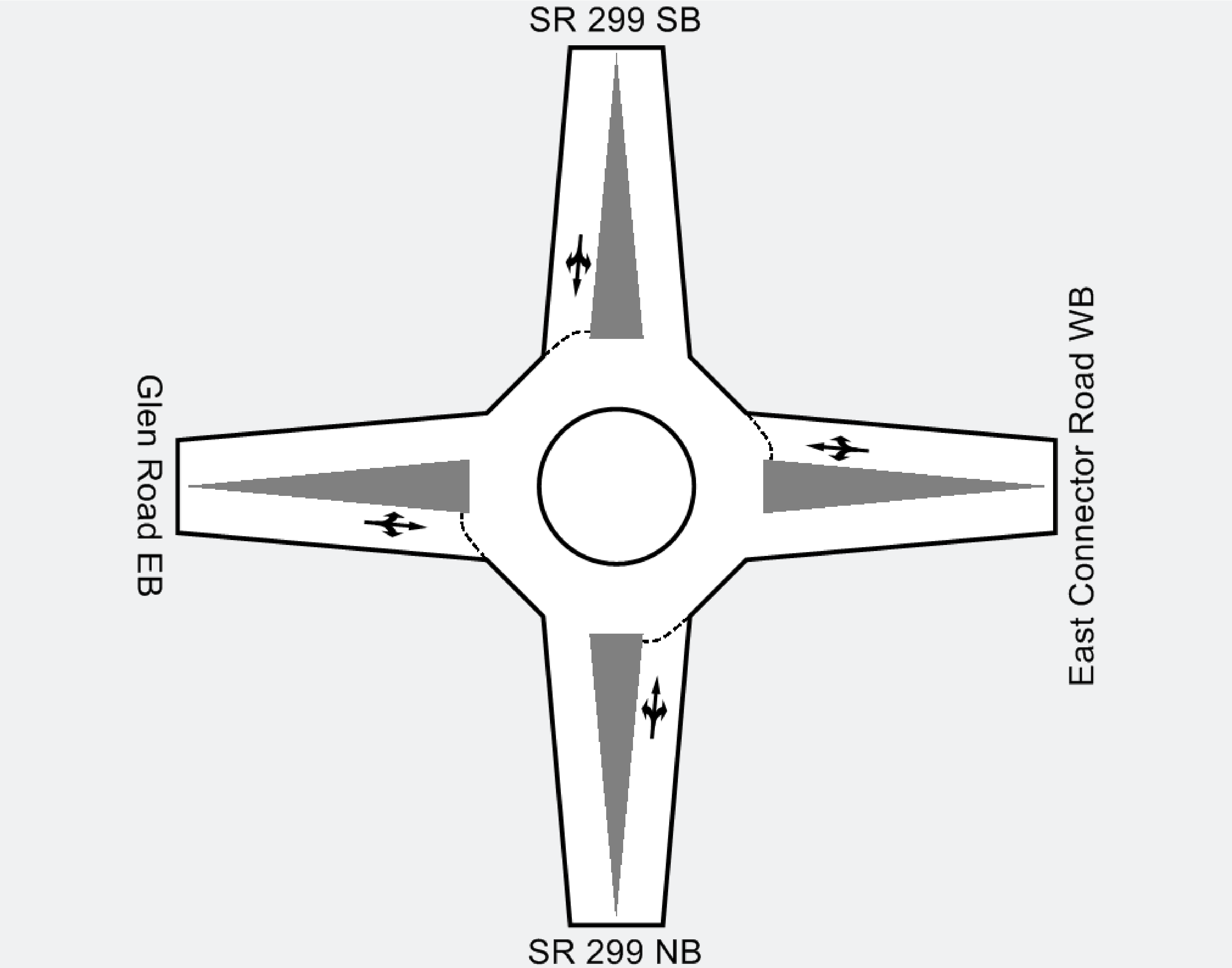
Site: SR 299/Glen Road/East Connector Road

Trinity County - 2009 Conditions (with East Connector) PM Peak
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 299 NB											
3L	L	47	2.0	0.506	14.0	LOS B	4.9	123.8	0.57	0.81	29.6
8T	T	376	2.0	0.507	7.1	LOS A	4.9	123.8	0.57	0.58	31.5
8R	R	82	2.0	0.508	8.5	LOS A	4.9	123.8	0.57	0.64	31.4
Approach		506	2.0	0.507	8.0	LOS B	4.9	123.8	0.57	0.61	31.3
East: East Connector Road WB											
1L	L	71	2.0	0.165	16.5	LOS B	1.1	28.7	0.67	0.84	27.8
6T	T	24	2.0	0.165	9.6	LOS A	1.1	28.7	0.67	0.71	30.4
6R	R	12	2.0	0.166	10.9	LOS B	1.1	28.7	0.67	0.75	30.1
Approach		106	2.0	0.165	14.3	LOS B	1.1	28.7	0.67	0.80	28.5
North: SR 299 SB											
7L	L	24	2.0	0.444	13.5	LOS B	4.0	102.6	0.48	0.81	29.8
4T	T	365	2.0	0.446	6.7	LOS A	4.0	102.6	0.48	0.53	32.0
4R	R	82	2.0	0.448	8.0	LOS A	4.0	102.6	0.48	0.60	31.7
Approach		471	2.0	0.447	7.2	LOS B	4.0	102.6	0.48	0.55	31.8
West: Glen Road EB											
5L	L	118	2.0	0.267	16.0	LOS B	1.9	48.4	0.66	0.85	28.0
2T	T	35	2.0	0.267	9.2	LOS A	1.9	48.4	0.66	0.71	30.5
2R	R	35	2.0	0.267	10.5	LOS B	1.9	48.4	0.66	0.75	30.4
Approach		188	2.0	0.267	13.7	LOS B	1.9	48.4	0.66	0.80	28.8
All Vehicles		1271	2.0	0.507	9.1	LOS A	4.9	123.8	0.56	0.63	30.8

Level of Service (Aver. Int. Delay): LOS A. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Signalised Intersections.
Roundabout Capacity Model: SIDRA Standard.

SIDRA INTERSECTION


SR 299 SB
Glen Road EB
East Connector Road WB
SR 299 NB

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.91			0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1682			1760		1770	1863	1583	1770	1855	
Flt Permitted		0.96			0.90		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1629			1635		1770	1863	1583	1770	1855	
Volume (vph)	10	10	40	30	10	10	40	330	20	30	360	10
Peak-hour factor, PHF	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Adj. Flow (vph)	14	14	55	43	14	14	46	379	23	33	400	11
RTOR Reduction (vph)	0	51	0	0	13	0	0	0	7	0	1	0
Lane Group Flow (vph)	0	32	0	0	58	0	46	379	16	33	410	0
Turn Type	Perm			Perm			Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		4.1			4.1		3.6	40.2	40.2	1.6	38.2	
Effective Green, g (s)		4.1			4.1		3.6	40.2	40.2	1.6	38.2	
Actuated g/C Ratio		0.07			0.07		0.06	0.69	0.69	0.03	0.66	
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		115			116		110	1293	1099	49	1224	
v/s Ratio Prot							c0.03	0.20		0.02	c0.22	
v/s Ratio Perm		0.02			c0.04				0.01			
v/c Ratio		0.28			0.50		0.42	0.29	0.01	0.67	0.34	
Uniform Delay, d1		25.5			25.9		26.1	3.4	2.7	27.9	4.3	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.3			3.4		2.6	0.1	0.0	30.8	0.2	
Delay (s)		26.8			29.3		28.7	3.5	2.7	58.7	4.5	
Level of Service		C			C		C	A	A	E	A	
Approach Delay (s)		26.8			29.3			6.1			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		6%			-6%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1736		1823	1919
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1736		1823	1919
Volume (vph)	70	80	220	90	70	210
Peak-hour factor, PHF	0.91	0.91	0.87	0.87	0.86	0.86
Adj. Flow (vph)	77	88	253	103	81	244
RTOR Reduction (vph)	0	77	19	0	0	0
Lane Group Flow (vph)	77	11	337	0	81	244
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	6.6	6.6	30.9		4.1	39.0
Effective Green, g (s)	6.6	6.6	30.9		4.1	39.0
Actuated g/C Ratio	0.12	0.12	0.58		0.08	0.73
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	218	195	1001		139	1396
v/s Ratio Prot	c0.04		c0.19		c0.04	0.13
v/s Ratio Perm		0.01				
v/c Ratio	0.35	0.06	0.34		0.58	0.17
Uniform Delay, d1	21.5	20.7	6.0		23.9	2.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.1	0.2		6.1	0.1
Delay (s)	22.5	20.9	6.2		30.0	2.3
Level of Service	C	C	A		C	A
Approach Delay (s)	21.6		6.2			9.2
Approach LOS	C		A			A

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

MOVEMENT SUMMARY

Site: SR 299/Garden Gulch Street

Trinity County - 2009 Conditions (with East Connector) PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 299 NB											
3L	L	89	2.0	0.265	12.5	LOS B	2.1	52.3	0.19	0.83	29.9
8T	T	211	2.0	0.266	5.2	LOS A	2.1	52.3	0.19	0.38	33.8
8R	R	44	2.0	0.266	6.7	LOS A	2.1	52.3	0.19	0.50	32.9
Approach		344	2.0	0.266	7.3	LOS B	2.1	52.3	0.19	0.51	32.5
East: Garden Gulch St WB											
1L	L	48	2.0	0.084	14.3	LOS B	0.5	13.2	0.48	0.75	29.0
6T	T	12	2.0	0.084	7.1	LOS A	0.5	13.2	0.48	0.52	31.6
6R	R	12	2.0	0.084	8.5	LOS A	0.5	13.2	0.48	0.59	31.3
Approach		71	2.0	0.084	12.2	LOS B	0.5	13.2	0.48	0.68	29.7
North: SR 299 SB											
7L	L	14	2.0	0.322	13.4	LOS B	2.5	62.5	0.41	0.86	29.9
4T	T	311	2.0	0.324	6.2	LOS A	2.5	62.5	0.41	0.50	32.6
4R	R	14	2.0	0.322	7.6	LOS A	2.5	62.5	0.41	0.59	32.2
Approach		338	2.0	0.324	6.5	LOS B	2.5	62.5	0.41	0.52	32.5
West: Forest Ave EB											
5L	L	12	2.0	0.107	14.8	LOS B	0.7	17.6	0.54	0.81	28.9
2T	T	12	2.0	0.107	7.6	LOS A	0.7	17.6	0.54	0.58	31.5
2R	R	60	2.0	0.107	9.0	LOS A	0.7	17.6	0.54	0.64	31.3
Approach		84	2.0	0.107	9.6	LOS B	0.7	17.6	0.54	0.66	30.9
All Vehicles		838	2.0	0.324	7.6	LOS A	2.5	62.5	0.34	0.54	32.1

Level of Service (Aver. Int. Delay): LOS A. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Signalised Intersections.
Roundabout Capacity Model: SIDRA Standard.

Processed: Friday, June 24, 2011 3:31:44 PM
SIDRA INTERSECTION 4.0.19.1104

Project: N:\Reno Projects\2009\RN09-0427 (Trinity County 2010 RTP)\Analysis\SIDRA\6-21-11\2009\299_Garden Gulch2009.sip
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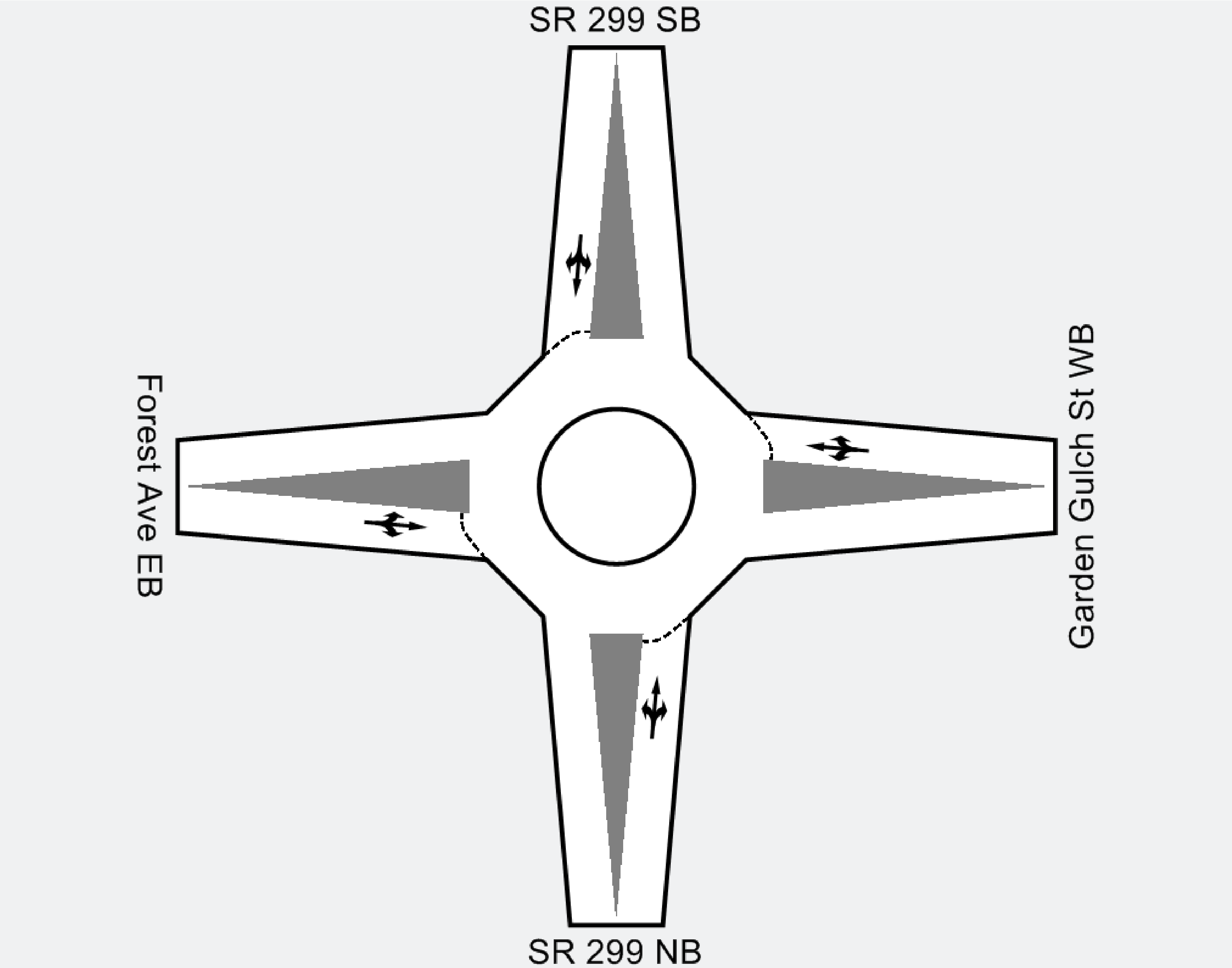
SR 299 SB
Forest Ave EB
Garden Gulch St WB
SR 299 NB

MOVEMENT SUMMARY

Site: SR 299/Glen Road/East Connector Road

Trinity County - 2040 Conditions (with East Connector) PM Peak
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 299 NB											
3L	L	47	2.0	0.581	14.3	LOS B	6.1	154.1	0.64	0.80	29.5
8T	T	424	2.0	0.583	7.4	LOS A	6.1	154.1	0.64	0.61	31.1
8R	R	106	2.0	0.582	8.8	LOS A	6.1	154.1	0.64	0.66	31.1
Approach		576	2.0	0.582	8.2	LOS B	6.1	154.1	0.64	0.64	31.0
East: East Connector Road WB											
1L	L	94	2.0	0.234	17.1	LOS B	1.7	42.7	0.72	0.88	27.4
6T	T	24	2.0	0.233	10.3	LOS B	1.7	42.7	0.72	0.77	29.9
6R	R	24	2.0	0.233	11.6	LOS B	1.7	42.7	0.72	0.80	29.6
Approach		141	2.0	0.234	15.1	LOS B	1.7	42.7	0.72	0.85	28.1
North: SR 299 SB											
7L	L	35	2.0	0.504	13.9	LOS B	4.9	124.2	0.55	0.81	29.7
4T	T	412	2.0	0.508	7.0	LOS A	4.9	124.2	0.55	0.57	31.6
4R	R	71	2.0	0.508	8.3	LOS A	4.9	124.2	0.55	0.63	31.5
Approach		518	2.0	0.507	7.7	LOS B	4.9	124.2	0.55	0.59	31.5
West: Glen Road EB											
5L	L	118	2.0	0.293	16.9	LOS B	2.1	54.3	0.72	0.88	27.6
2T	T	35	2.0	0.294	10.0	LOS B	2.1	54.3	0.72	0.77	30.1
2R	R	35	2.0	0.294	11.4	LOS B	2.1	54.3	0.72	0.80	29.8
Approach		188	2.0	0.293	14.6	LOS B	2.1	54.3	0.72	0.85	28.4
All Vehicles		1424	2.0	0.582	9.5	LOS A	6.1	154.1	0.63	0.67	30.5

Level of Service (Aver. Int. Delay): LOS A. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Signalised Intersections.
Roundabout Capacity Model: SIDRA Standard.

Processed: Tuesday, June 21, 2011 12:46:35 PM
SIDRA INTERSECTION 4.0.19.1104

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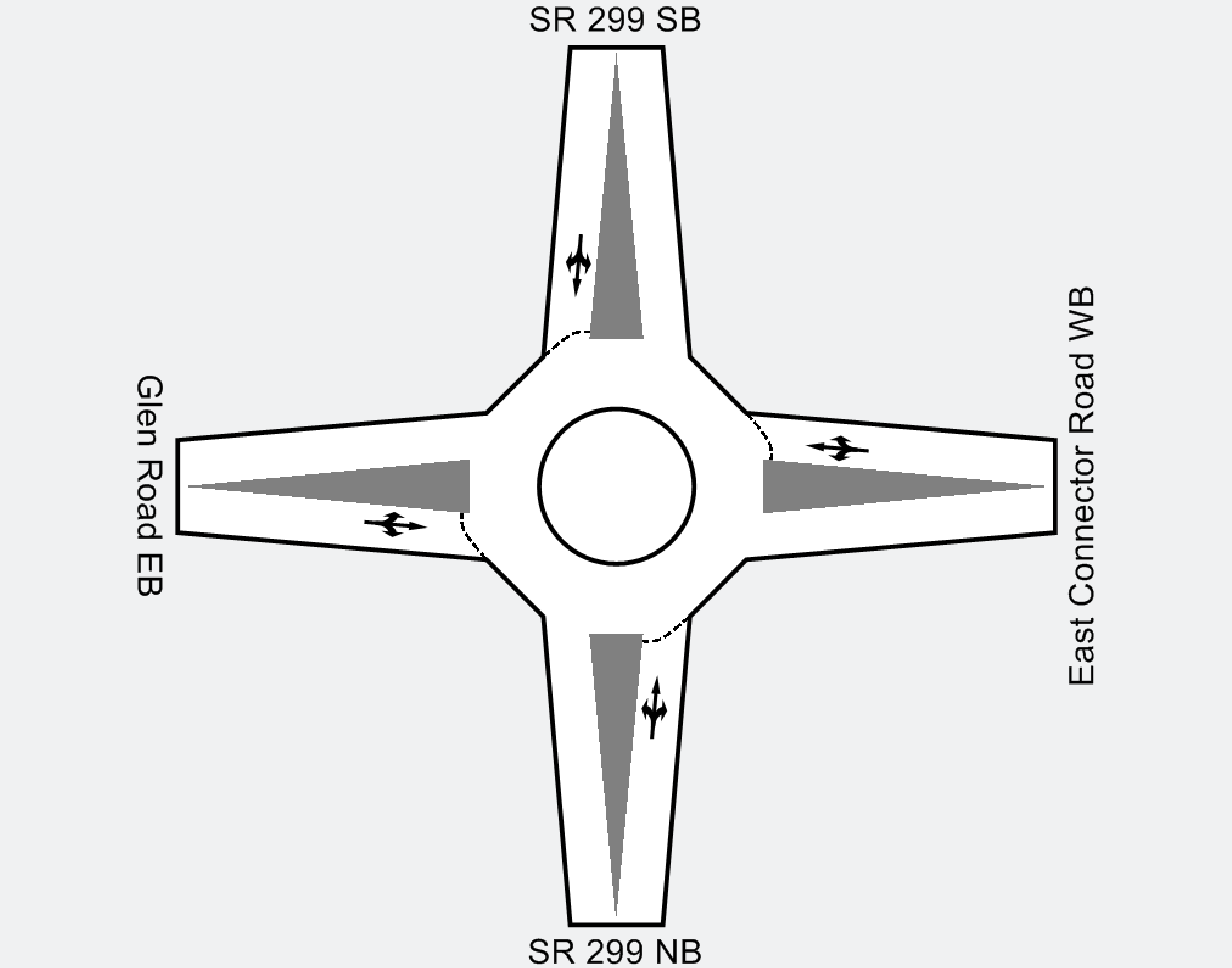
SIDRA INTERSECTION


SR 299 SB
Glen Road EB
East Connector Road WB
SR 299 NB

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.91			0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.99			0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1682			1768		1770	1863	1583	1770	1850	
Flt Permitted		0.94			0.78		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1596			1442		1770	1863	1583	1770	1850	
Volume (vph)	10	10	40	90	10	10	50	380	110	30	410	20
Peak-hour factor, PHF	0.73	0.73	0.73	0.70	0.70	0.70	0.87	0.87	0.87	0.90	0.90	0.90
Adj. Flow (vph)	14	14	55	129	14	14	57	437	126	33	456	22
RTOR Reduction (vph)	0	43	0	0	5	0	0	0	59	0	2	0
Lane Group Flow (vph)	0	40	0	0	152	0	57	437	67	33	476	0
Turn Type	Perm			Perm			Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			
Actuated Green, G (s)		11.6			11.6		3.0	27.1	27.1	2.6	26.7	
Effective Green, g (s)		11.6			11.6		3.0	27.1	27.1	2.6	26.7	
Actuated g/C Ratio		0.22			0.22		0.06	0.51	0.51	0.05	0.50	
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		347			314		100	947	805	86	927	
v/s Ratio Prot							c0.03	0.23		0.02	c0.26	
v/s Ratio Perm		0.03			c0.11				0.04			
v/c Ratio		0.12			0.48		0.57	0.46	0.08	0.38	0.51	
Uniform Delay, d1		16.7			18.2		24.5	8.4	6.7	24.6	8.9	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			1.2		7.3	0.4	0.0	2.8	0.5	
Delay (s)		16.9			19.4		31.8	8.8	6.8	27.4	9.4	
Level of Service		B			B		C	A	A	C	A	
Approach Delay (s)		16.9			19.4			10.5			10.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		6%			-6%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	1744		1823	1919
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	1744		1823	1919
Volume (vph)	80	110	260	90	90	250
Peak-hour factor, PHF	0.91	0.91	0.87	0.87	0.86	0.86
Adj. Flow (vph)	88	121	299	103	105	291
RTOR Reduction (vph)	0	101	19	0	0	0
Lane Group Flow (vph)	88	20	383	0	105	291
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.9	8.9	27.3		4.6	35.9
Effective Green, g (s)	8.9	8.9	27.3		4.6	35.9
Actuated g/C Ratio	0.17	0.17	0.52		0.09	0.68
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	298	267	902		159	1305
v/s Ratio Prot	c0.05		c0.22		c0.06	0.15
v/s Ratio Perm		0.01				
v/c Ratio	0.30	0.08	0.42		0.66	0.22
Uniform Delay, d1	19.2	18.5	7.9		23.3	3.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.1	0.3		9.8	0.1
Delay (s)	19.8	18.6	8.2		33.2	3.3
Level of Service	B	B	A		C	A
Approach Delay (s)	19.1		8.2			11.2
Approach LOS	B		A			B

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

MOVEMENT SUMMARY

Site: SR 299/Garden Gulch Street

Trinity County - 2040 Conditions (with East Connector) PM Peak
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 299 NB											
3L	L	100	2.0	0.332	12.6	LOS B	2.8	71.4	0.24	0.81	29.9
8T	T	267	2.0	0.332	5.3	LOS A	2.8	71.4	0.24	0.39	33.5
8R	R	56	2.0	0.333	6.8	LOS A	2.8	71.4	0.24	0.51	32.7
Approach		422	2.0	0.332	7.2	LOS B	2.8	71.4	0.24	0.51	32.4
East: Garden Gulch St WB											
1L	L	60	2.0	0.106	15.0	LOS B	0.7	17.1	0.54	0.77	28.6
6T	T	12	2.0	0.106	7.7	LOS A	0.7	17.1	0.54	0.57	31.2
6R	R	12	2.0	0.106	9.2	LOS A	0.7	17.1	0.54	0.64	31.0
Approach		83	2.0	0.106	13.1	LOS B	0.7	17.1	0.54	0.72	29.2
North: SR 299 SB											
7L	L	14	2.0	0.386	13.7	LOS B	3.1	78.6	0.47	0.86	29.8
4T	T	365	2.0	0.385	6.5	LOS A	3.1	78.6	0.47	0.53	32.3
4R	R	14	2.0	0.386	7.9	LOS A	3.1	78.6	0.47	0.62	32.0
Approach		392	2.0	0.385	6.8	LOS B	3.1	78.6	0.47	0.55	32.2
West: Forest Ave EB											
5L	L	24	2.0	0.147	15.4	LOS B	1.0	25.1	0.60	0.83	28.5
2T	T	12	2.0	0.147	8.2	LOS A	1.0	25.1	0.60	0.63	31.1
2R	R	72	2.0	0.147	9.6	LOS A	1.0	25.1	0.60	0.69	31.0
Approach		108	2.0	0.147	10.8	LOS B	1.0	25.1	0.60	0.71	30.4
All Vehicles		1006	2.0	0.385	7.9	LOS A	3.1	78.6	0.39	0.56	31.8

Level of Service (Aver. Int. Delay): LOS A. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Signalised Intersections.
Roundabout Capacity Model: SIDRA Standard.

Processed: Friday, June 24, 2011 5:43:31 PM
SIDRA INTERSECTION 4.0.19.1104

Project: N:\Reno Projects\2009\RN09-0427 (Trinity County 2010 RTP)\Analysis\SIDRA\6-21-11\2040\299_Garden Gultch\299_Garden Gulch2040.sip
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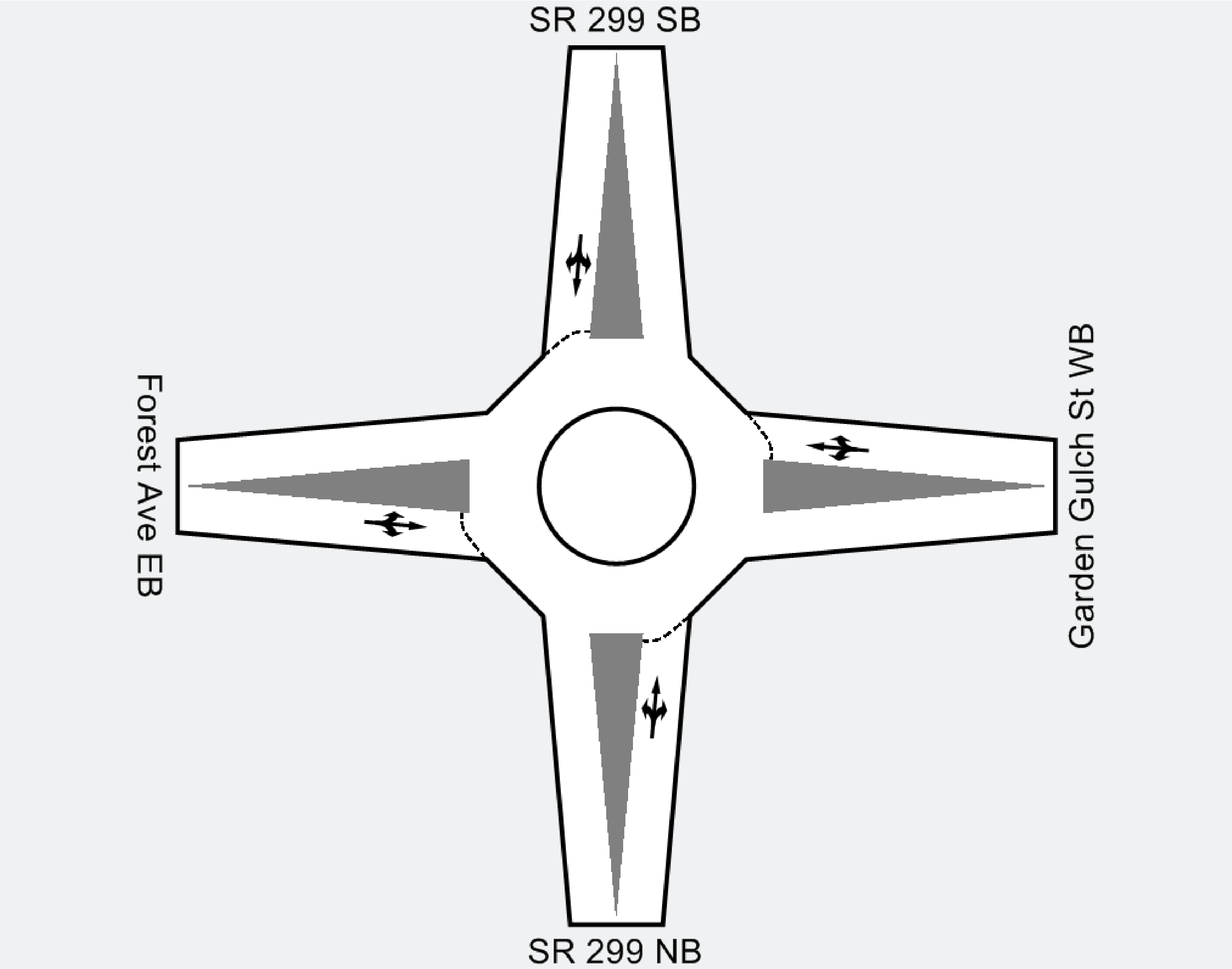
SIDRA INTERSECTION


SR 299 SB
Forest Ave EB
Garden Gulch St WB
SR 299 NB

SimTraffic Post-Processor
Average Results from 10 Runs
Queue Length

Trinity County
2009 Conditions (with East Connector)
Summer PM Peak

Intersection 1 SR 299/Glen Road Unsignalized

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	188	51	5	100	10	118	18	0	0
	Through	188	51	5	100	10	118	18	0	0
	Right Turn	188	51	5	100	10	118	18	0	0
SB	Left Turn	159	43	10	90	19	128	52	0	0
	Through	159	43	10	90	19	128	52	0	0
	Right Turn	159	43	10	90	19	128	52	0	0
EB	Left Turn	403	35	6	67	8	77	11	0	0
	Through	403	35	6	67	8	77	11	0	0
	Right Turn	403	35	6	67	8	77	11	0	0
WB	Left Turn	248	24	3	53	3	62	13	0	0
	Through	248	24	3	53	3	62	13	0	0
	Right Turn	248	24	3	53	3	62	13	0	0

Intersection 2 SR 299/Washington Street Signalized

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	27	4	59	7	78	28	0	0
	Through	590	54	9	121	17	160	30	1	0
	Right Turn	100	5	3	30	17	62	42	0	0
SB	Left Turn	100	25	5	58	11	77	31	0	0
	Through	637	58	9	130	27	170	54	1	0
	Right Turn	637	58	9	130	27	170	54	1	0
EB	Left Turn	214	28	4	56	8	69	15	0	0
	Through	214	28	4	56	8	69	15	0	0
	Right Turn	214	28	4	56	8	69	15	0	0
WB	Left Turn	300	28	3	57	7	76	18	0	0
	Through	300	28	3	57	7	76	18	0	0
	Right Turn	300	28	3	57	7	76	18	0	0

SimTraffic Post-Processor | **Trinity County**
Average Results from 10 Runs | **2009 Conditions (with East Connector)**
Queue Length | **Summer PM Peak**
Intersection 3 SR 299/SR 3 | **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through	502	67	7	143	18	178	29	0	0
	Right Turn	502	67	7	143	18	178	29	0	0
SB	Left Turn	75	39	4	72	9	**84**	12	1	0
	Through	456	29	5	73	8	96	18	1	0
	Right Turn									
EB	Left Turn									
	Through									
	Right Turn									
WB	Left Turn	1,089	36	3	66	6	82	13	0	0
	Through									
	Right Turn	180	32	3	57	7	71	13	0	0

Intersection 4 SR 299/Forest Avenue | **Unsignalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	16	4	50	7	62	10	0	0
	Through	100	16	4	50	7	62	10	0	0
	Right Turn	100	16	4	50	7	62	10	0	0
SB	Left Turn	1,708	29	5	66	5	79	14	0	0
	Through	1,708	29	5	66	5	79	14	0	0
	Right Turn	1,708	29	5	66	5	79	14	0	0
EB	Left Turn	301	13	5	40	8	49	12	0	0
	Through	301	13	5	40	8	49	12	0	0
	Right Turn	301	13	5	40	8	49	12	0	0
WB	Left Turn	519	11	4	40	11	56	23	0	0
	Through	519	11	4	40	11	56	23	0	0
	Right Turn	519	11	4	40	11	56	23	0	0

SimTraffic Post-Processor **Trinity County**
Average Results from 10 Runs **2040 Conditions (with East Connector)**
Queue Length **Summer PM Peak**

Intersection 1 **SR 299/Glen Road** **Unsignalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	754	57	5	108	15	143	44	0	0
	Through	188	57	5	108	15	143	44	0	0
	Right Turn	188	57	5	108	15	143	44	0	0
SB	Left Turn	1,241	48	5	96	14	136	43	0	0
	Through	159	48	5	96	14	136	43	0	0
	Right Turn	159	48	5	96	14	136	43	0	0
EB	Left Turn	403	35	5	68	11	79	27	0	0
	Through	403	35	5	68	11	79	27	0	0
	Right Turn	403	35	5	68	11	79	27	0	0
WB	Left Turn	248	31	3	63	9	75	25	0	0
	Through	248	31	3	63	9	75	25	0	0
	Right Turn	248	31	3	63	9	75	25	0	0

Intersection 2 **SR 299/Washington Street** **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	35	4	70	9	84	29	0	0
	Through	590	79	14	176	41	248	81	3	0
	Right Turn	100	28	5	79	14	**122**	13	0	0
SB	Left Turn	100	24	4	59	9	85	30	0	0
	Through	637	88	12	173	30	222	47	4	0
	Right Turn	637	88	12	173	30	222	47	4	0
EB	Left Turn	214	29	2	57	5	70	13	0	0
	Through	214	29	2	57	5	70	13	0	0
	Right Turn	214	29	2	57	5	70	13	0	0
WB	Left Turn	300	46	3	81	9	98	22	0	0
	Through	300	46	3	81	9	98	22	0	0
	Right Turn	300	46	3	81	9	98	22	0	0

SimTraffic Post-Processor | **Trinity County**
Average Results from 10 Runs | **2040 Conditions (with East Connector)**
Queue Length | **Summer PM Peak**
Intersection 3 **SR 299/SR 3** | **Signalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn									
	Through	502	79	13	160	25	199	43	0	0
	Right Turn	502	79	13	160	25	199	43	0	0
SB	Left Turn	75	48	4	**84**	7	**103**	14	2	0
	Through	456	40	8	91	17	146	36	1	0
	Right Turn									
EB	Left Turn									
	Through									
	Right Turn									
WB	Left Turn	1,089	41	3	76	7	95	11	0	0
	Through									
	Right Turn	180	38	4	65	8	87	24	0	0

Intersection 4 **SR 299/Forest Ave** | **Unsignalized**

Direction	Movement	Storage (ft)	Average Queue (ft)		95th Queue (ft)		Maximum Queue (ft)		Block Time %	
			Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.	Pocket	Upstream
NB	Left Turn	100	23	5	63	9	78	14	0	0
	Through	100	23	5	63	9	78	14	0	0
	Right Turn	100	23	5	63	9	78	14	0	0
SB	Left Turn	1,708	35	6	75	8	93	22	0	0
	Through	1,708	35	6	75	8	93	22	0	0
	Right Turn	1,708	35	6	75	8	93	22	0	0
EB	Left Turn	301	20	2	52	5	68	15	0	0
	Through	301	20	2	52	5	68	15	0	0
	Right Turn	301	20	2	52	5	68	15	0	0
WB	Left Turn	519	16	4	47	7	61	19	0	0
	Through	519	16	4	47	7	61	19	0	0
	Right Turn	519	16	4	47	7	61	19	0	0

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	4.1	62.7	0.5	28
	1.7	16.5	0.1	26
East Connector Road	5.1	10.2	0.1	25
	0.5	17.7	0.1	12
Mountain View Street	1.9	27.8	0.2	28
Levee Road	0.9	9.3	0.1	26
Weaver Street	0.6	4.9	0.0	27
Washington Street	5.0	20.1	0.1	23
Mill Street	2.2	18.1	0.1	26
	0.8	8.2	0.1	27
Lorenz Street	1.6	15.9	0.1	28
SR 3	6.9	20.0	0.1	19
Court Street	2.6	14.6	0.1	24
Garden Gulch	3.2	6.7	0.0	26
Total	37.1	252.7	1.7	25

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	5.8	45.6	0.3	28
Court Street	0.5	15.5	0.0	11
SR 3	2.6	13.9	0.1	25
Lorenz Street	1.2	13.9	0.1	28
	1.1	16.7	0.1	27
Mill Street	0.9	8.0	0.1	28
	5.1	20.7	0.1	23
Weaver Street	2.1	17.0	0.1	27
Masonic Lane	0.8	5.3	0.0	25
Mountain View Street	0.8	9.1	0.1	27
	3.0	29.6	0.2	26
Glen Road	4.6	9.4	0.1	23
	0.5	19.7	0.1	12
Nugget Lane	0.8	14.0	0.1	31
Total	29.9	238.4	1.6	24

Arterial Level of Service: NB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Martin Road	4.7	62.9	0.5	28
	2.0	16.8	0.1	26
East Connector Road	5.7	10.8	0.1	24
	0.5	17.7	0.1	12
Mountain View Street	2.1	27.6	0.2	28
Levee Road	1.1	9.5	0.1	26
Weaver Street	0.8	5.0	0.0	27
Washington Street	6.9	22.0	0.1	21
Mill Street	2.3	18.2	0.1	26
	0.9	8.2	0.1	27
Lorenz Street	1.8	15.8	0.1	28
SR 3	8.2	21.2	0.1	18
Court Street	2.9	14.9	0.1	24
Garden Gulch	3.4	6.9	0.0	26
Total	43.3	257.6	1.7	25

Arterial Level of Service: SB SR 299

Cross Street	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Forest Ave	6.4	46.5	0.3	27
Court Street	0.7	15.3	0.0	12
SR 3	3.2	14.5	0.1	24
Lorenz Street	1.4	14.4	0.1	27
	1.2	16.8	0.1	27
Mill Street	1.0	8.1	0.1	27
	7.6	23.3	0.1	20
Weaver Street	2.5	17.3	0.1	26
Masonic Lane	1.0	5.4	0.0	25
Mountain View Street	0.9	9.1	0.1	27
	3.5	30.2	0.2	26
Glen Road	4.3	9.1	0.1	24
	0.6	19.8	0.1	12
Nugget Lane	1.0	14.7	0.1	29
Total	35.1	244.6	1.6	24

1: Glen Road & SR 299

Direction	All
Volume (vph)	1080
CO Emissions (kg)	1.03
NOx Emissions (kg)	0.20
VOC Emissions (kg)	0.24

2: Washington Street & SR 299

Direction	All
Volume (vph)	901
CO Emissions (kg)	0.56
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

3: SR 3 & SR 299

Direction	All
Volume (vph)	740
CO Emissions (kg)	0.50
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

4: Forest Ave & SR 299

Direction	All
Volume (vph)	691
CO Emissions (kg)	0.60
NOx Emissions (kg)	0.12
VOC Emissions (kg)	0.14

1: Glen Road & SR 299

Direction	All
Volume (vph)	1211
CO Emissions (kg)	1.15
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.27

2: Washington Street & SR 299

Direction	All
Volume (vph)	1171
CO Emissions (kg)	0.87
NOx Emissions (kg)	0.17
VOC Emissions (kg)	0.20

3: SR 3 & SR 299

Direction	All
Volume (vph)	880
CO Emissions (kg)	0.65
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.15

4: Forest Ave & SR 299

Direction	All
Volume (vph)	832
CO Emissions (kg)	0.71
NOx Emissions (kg)	0.14
VOC Emissions (kg)	0.17

ATTACHMENT E
TRAFFIC VIBRATION ASSESSMENT: TRINITY COUNTY INTERSECTION IMPROVEMENTS

Traffic Vibration Assessment

Trinity County Intersection Improvements

Weaverville, California (Trinity County)

BAC Job #2009-028

Prepared For:

Fehr & Peers

Attn: Katy Cole
50 West Liberty Street, Suite 1090
Reno, California 89501

Prepared By:

Bollard Acoustical Consultants, Inc.

Paul Bollard

Paul Bollard, President

August 1, 2010

BOLLARD
Acoustical Consultants

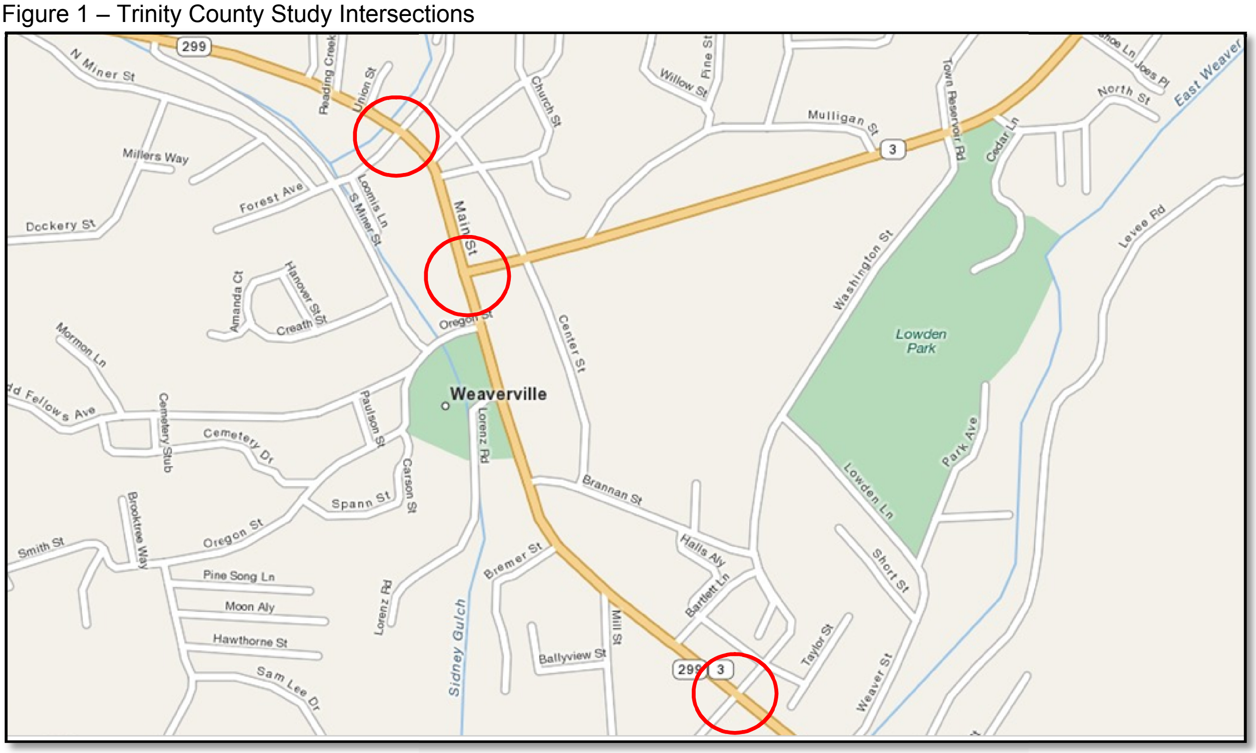
INTRODUCTION

Trinity County is considering improvements to three intersections in the town of Weaverville, California. Those intersections are as follows:

- State Route 299 / Washington Street
- State Route 299 / State Route 3
- State Route 299 / Forest Avenue

Currently, there are no controls on State Route 299, with stop signs controlling traffic on the roadways which intersect that route. The improvements being considered consist of signalization of the intersections identified above. The locations of the subject intersections are identified on Figure 1.

Figure 1 – Trinity County Study Intersections



One effect of the intersection signalization would be that heavy trucks passing through Weaverville on SR 299 which currently do not stop would occasionally be required to stop for red lights. Trinity County has expressed concerns that the acceleration and deceleration of heavy trucks on SR 299 at future signalized intersections where trucks are currently not required to stop may result in adverse vibration generation at nearby businesses. In response to these concerns, the acoustic and vibration consulting firm of Bollard Acoustical Consultants, Inc. (BAC) was retained by Fehr & Peers Associates, Transportation Engineers to conduct a vibration analysis of the intersections in question. This report contains the results of that analysis.

VIBRATION TERMINOLOGY

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to vibration will depend on their individual sensitivity, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second (ppv in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

CRITERIA FOR ACCEPTABLE VIBRATION EXPOSURE

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration of excitation, and the number of perceived vibration events. Table 1, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second. Table 1 indicates that the threshold for damage to structures ranges from 2 to 6 in/sec. One-half this minimum threshold, or 1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The threshold at which human annoyance could occur is 0.1 in/sec p.p.v.

Table 1
Effects of Various Vibration Levels on People and Buildings

Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0-.006	Imperceptible by people	Vibrations unlikely to cause damage of any type
.006-.02	Range of Threshold of perception	Vibrations unlikely to cause damage of any type
.08	Vibrations clearly perceptible	Recommended upper level of which ruins and ancient monuments should be subjected
0.1	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings
0.2	Vibrations annoying to people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
1.0		Architectural Damage
2.0		Structural Damage to Residential Buildings
6.0		Structural Damage to Commercial Buildings

Source: Survey of Earth-borne Vibrations due to Highway Construction and Highway Traffic, Caltrans 1976.

EVALUATION OF TRAFFIC VIBRATION LEVELS

To quantify traffic vibration levels in the City of Weaverville, BAC conducted vibration measurements of several automobile and heavy truck passages at the intersection if SR-299 and SR-3 on the afternoon of Thursday July 15, 2010. BAC also intended to conduct similar measurements at the two other study intersections, but the results of the measurements conducted at the SR-3 / SR-288 intersection rendered those additional measurements unnecessary (additional explanation is provided below). The vibration measurements consisted of peak particle velocity sampling at the edge of roadway, approximately 15 feet from near lane traffic, and 30 feet from far lane traffic.

The measurements were conducted using a Larson-Davis Laboratories Model HVM-100 Vibration Analyzer with a PCB Electronics Model 353B51 ICP Vibration Transducer. The test system is a Type I instrument designed for use in assessing vibration as perceived by human beings, and meets the full requirements of ISO 8041:1990(E). Atmospheric conditions present during the tests were within the operating parameters of the instrument. A photograph of the vibration measurement setup is provided in Figure 2. A summary of the vibration measurement results is provided in Table 2.

Figure 2 – Vibration Monitoring Equipment Setup

Table 2
Vibration Measurement Results
SR-299 / SR-4 Intersection - Weaverville, California
July 15, 2010

Vehicle	Operation[1]	Distance (ft)	Peak Particle Velocity (in./sec.)
None – Ambient	n/a	n/a	0.0069
Auto	c	15	0.0072
Logging Truck	c	30	0.0215
None – Ambient	n/a	n/a	0.0069
Auto	a	15	0.0078
Logging Truck	a	15	0.0672
Auto	d	30	0.0071
None – Ambient	n/a	n/a	0.0069
Logging Truck	d	30	0.0226
Logging Truck	d	30	0.0318
Heavy truck	a	15	0.0439
Motorcycle	a	15	0.0082
None – Ambient	n/a	n/a	0.0069
Heavy Truck	c	15	0.0187
Logging Truck	c	30	0.0122
Fire Engine	a	15	0.0087
Large RV	a	15	0.0087

1. A = Accelerating, D = Decelerating, C = Constant Speed

Source: Bollard Acoustical Consultants

Comparison of the Table 2 data against the Table 1 vibration thresholds indicates that the measured vibration levels were below the thresholds of human perception and well below levels required to result in damage to structures. In addition, there were no appreciable differences in measured vibration levels between heavy trucks accelerating, decelerating, or moving through the study intersection at constant speeds. As a result of the very low vibration levels measured at the intersection of SR-3 & SR-299, it was determined that additional monitoring of similar vehicles at the two other study intersections in Weaverville were not warranted.

CONCLUSIONS

Due to the very low levels of vibration measured in close proximity to heavy trucks accelerating, decelerating, and passing the monitoring site at constant speed, this analysis concludes that the introduction of traffic controls at any of the three (3) subject intersections in Weaverville would not result in appreciable changes in vibration levels at existing structures located near those intersections, and that resulting vibration levels would be well below levels required for annoyance to humans or damage to structures.

ATTACHMENT F
CENTER STREET CONVERSION ANALYSIS

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	68	43	214	90	68	201
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	75	47	246	103	79	234
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	690	298			349	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	690	298			349	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	94			93	
cM capacity (veh/h)	384	742			1209	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	75	47	349	79	234
Volume Left	75	0	0	79	0
Volume Right	0	47	103	0	0
cSH	384	742	1700	1209	1700
Volume to Capacity	0.19	0.06	0.21	0.07	0.14
Queue Length 95th (ft)	18	5	0	5	0
Control Delay (s)	16.6	10.2	0.0	8.2	0.0
Lane LOS	C	B		A	
Approach Delay (s)	14.1		0.0	2.1	
Approach LOS	B				

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	70	45	215	95	70	210
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	77	49	247	109	81	244
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	709	302			356	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	709	302			356	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	93			93	
cM capacity (veh/h)	374	738			1202	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	126	356	81	244
Volume Left	77	0	81	0
Volume Right	49	109	0	0
cSH	614	1700	1202	1700
Volume to Capacity	0.21	0.21	0.07	0.14
Queue Length 95th (ft)	19	0	5	0
Control Delay (s)	14.4	0.0	8.2	0.0
Lane LOS	B		A	
Approach Delay (s)	14.4	0.0	2.1	
Approach LOS	B			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		6%			-6%
Volume (veh/h)	80	85	255	95	90	250
Peak Hour Factor	0.91	0.91	0.87	0.87	0.86	0.86
Hourly flow rate (vph)	88	93	293	109	105	291
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	848	348			402	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	848	348			402	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	87			91	
cM capacity (veh/h)	302	695			1156	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	181	402	105	291
Volume Left	88	0	105	0
Volume Right	93	109	0	0
cSH	623	1700	1156	1700
Volume to Capacity	0.29	0.24	0.09	0.17
Queue Length 95th (ft)	30	0	7	0
Control Delay (s)	16.2	0.0	8.4	0.0
Lane LOS	C		A	
Approach Delay (s)	16.2	0.0	2.2	
Approach LOS	C			

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX 3A
CALIFORNIA TRANSPORTATION PLAN (CTP) 2030 EXECUTIVE SUMMARY

CALIFORNIA TRANSPORTATION PLAN 2030

EXECUTIVE SUMMARY

The California Department of Transportation (Department) is updating the *California Transportation Plan (CTP) 2025* adopted in June 2006. This updated CTP 2030 Addendum (Addendum) addresses the new requirements for statewide planning established by the Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users or SAFETEA-LU.

This legislation authorizes and funds federal transit and highway programs through Fiscal Year 2009. Signed into law (Public Law 109-59) on August 10, 2005, SAFETEA-LU provides $23.4 billion in federal funds to California. Much of SAFETEA-LU echoes the previous two federal transportation program authorizations, the recent Transportation Equity Act for the 21st Century (TEA-21) passed in 1998, and the earlier Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). However, there are some significant changes that impact the current CTP.

While SAFETEA-LU maintains the overall structure of TEA-21, it departs from previous authorizations in a number of ways. The Department held an initial "Consultation Meeting" in January 2007 with stakeholders to discuss changes to the CTP directed by SAFETEA-LU. Those changes that affect State planning and policy issues are summarized here and described in more detail in the following discussions. Together with a description of California's compliance with each mandate, they informed the development of this Addendum.

The goal of this CTP 2030 (Addendum) is to enhance and preserve the State's valuable natural resources, while avoiding costly project overruns and delays in planning and developing transportation infrastructure. SAFETEA-LU provides a "historic opportunity" for the State to achieve that goal. Over the past few years there has been a compelling nationwide call for public agencies to become better stewards of the environment. SAFETEA-LU has now ratified this call by directing states to consult and compare transportation related plans, maps, and data with federal, State, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

The State of California has been a national leader in documenting environmental impacts caused by transportation projects and taking actions appropriate to its stewardship role. SAFETEA-LU now provides an opportunity for California to redouble its efforts to become a "real steward" of the environment. It directs those in the transportation sector to address issues collaboratively with partners in the resources arena and to partner on solutions that respond to public expectations.

The real challenge ahead at both the State and the regional planning level is consultation and comparison of plans, maps, and data with natural resources and environmental agencies, and the resulting mitigation and consultation that may be required. The key will be determining how to mainstream the consideration of environmental issues during early planning the early planning process in order to adequately address consultation, comparison, and mitigation requirements.

The other challenge is linking transportation planning with project level requirements under National Environmental Protection Act (NEPA) in order to promote early consultation and comparison of existing plans, maps, and data across agencies. Once again, the key for making this linkage will be determining how to mainstream the consideration of environmental issues early in the planning process.

Therefore this Addendum is directed at engaging transportation stakeholders in an open dialogue with resource agencies to identify the "first steps" in the expansion of consultation and comparison efforts and in a discussion of potential environmental mitigation measures. Future plan updates will build upon this Addendum's foundation. The more detailed "follow-on" policies and strategies for these consultation, comparison, and mitigation efforts will then be addressed in the next full update of the California Transportation Plan to be initiated in 2008, and in subsequent updates.

The focus of the remaining sections of this Addendum is to address provisions of SAFETEA-LU that extend or broaden already existing State policies and strategies articulated in the CTP 2025. These provisions include: delegating NEPA responsibilities for California; expanding stakeholder engagement with an emphasis on visualization techniques; providing access to the statewide plan and update process on the Internet; promoting the consistency of transportation plans and transportation improvements with State and local planned growth and economic development patterns; adding security and safety as new stand-alone planning factors; including operations and management strategies to ensure the preservation and most efficient use of the existing transportation system; and reaffirming consultation with non-metropolitan local officials and federally recognized Native American Tribal Governments (Tribal Governments) in the development of the long-range statewide transportation plan and State Transportation Improvement Program (STIP).

A crosscutting and collaborative plan for the future

California's Transportation Challenges

- 52 million people by 2035
- Aging population
- Goods movement in a global economy
- Climate change
- Aging infrastructure
- Stable funding
- Preserving natural resources
- Low-density development
- Energy supply

The CTP 2035 is a plan for all Californians that addresses transportation as a focal point for sustainability and quality of life. The plan will provide a long-range framework for statewide transportation needs: defining goals, policies, and strategies to achieve our collective vision for California's future. Crosscutting and collaborative, this plan will also link the Three Es: a prosperous *Economy*, a quality *Environment*, and social *Equity*.

An efficient transportation system stimulates the economy by supporting job creation, business expansion, and economic development.

The Vision

The Three Es of Sustainability

A balanced transportation system provides for the safety and mobility of all users including pedestrians, bicyclists, transit riders, and motorists. The plan will clearly recognize that active transportation modes contribute directly to public health and to the health of our environment.

A green transportation system enhances and preserves our natural resources while reducing transportation's impact on our climate.

california transportation plan 2035

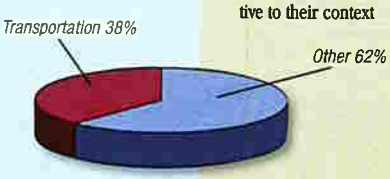
MEETING THE CHALLENGES THROUGH 2035

Addressing Climate Change

- ▲ Reduce greenhouse gas emissions contributed by transportation
- ▲ Recognize the connections between transportation and land use
- ▲ Encourage partnerships to develop adaptation strategies that address sea level rise

Growing Greener

- ▲ Support long-range community visions for sustainable and efficient land use development
- ▲ Promote housing development in association with transit
- ▲ Provide incentives to encourage local jurisdictions to grow their communities in ways that support mobility options (walking, bicycling, and transit) and reduce the need to drive
- ▲ Balance community values and transportation needs to create solutions that are sensitive to their context



Transportation is responsible for up to 38% of greenhouse gas emissions

Building Partnerships

- ▲ Take advantage of opportunities for discussion and consensus on efficient land use and transportation planning supported by the State's Regional Blueprint Planning program and directed by recent legislation
- ▲ Participate in the Strategic Growth Council—the Governor's effort for State agencies to coordinate activities in the planning and development of sustainable communities
- ▲ Encourage interaction with local jurisdictions through a context sensitive solutions process

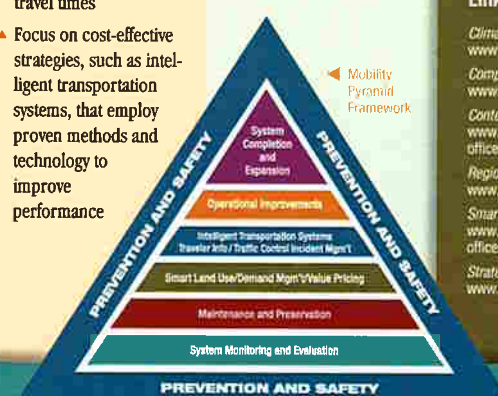
Investing Strategically

- ▲ Use a comprehensive, multimodal, and innovative funding approach (see Mobility Pyramid inset) that invests in multiple strategies to yield the highest results
- ▲ Measure results by monitoring and evaluating transportation system performance
- ▲ Integrate and coordinate all travel modes through corridor system management planning to increase transportation options and improve travel times
- ▲ Focus on cost-effective strategies, such as intelligent transportation systems, that employ proven methods and technology to improve performance

Providing Mobility Choices

- ▲ Integrate the needs of those traveling by active modes into transportation projects using a "complete streets" approach
- ▲ Create more opportunities for bicycling and walking to both improve public health and reduce our carbon footprint
- ▲ Improve safety for travelers of all ages and abilities

Mobility Pyramid Framework



Did you know... 52% of Americans would like to drive less and bicycle and walk more?

Indicators of Success

Current efforts that can help measure the success of the CTP

- **The California Regional Blueprint Progress Report**
  An effort to measure regional progress in improving communities through integrated planning
- **A Smart Mobility Framework**
  An effort to assess how well transportation plans, programs, and projects meet the principles of smart mobility through:
  Location Efficiency
  Reliability
  Health and Safety
  Stewardship

Links to Resources

Climate Change
www.climatechange.ca.gov/

Complete Streets
www.completestreets.org/

Context Sensitive Solutions
www.dot.ca.gov/hq/tpp/offices/ocp/css.html

Regional Blueprint Planning
www.calblueprint.dot.ca.gov/

Smart Mobility Framework
www.dot.ca.gov/hq/tpp/offices/ocp/smf.html

Strategic Growth Council
www.opr.ca.gov/

"We are not going to reduce greenhouse gas emissions until we tackle the connectivity between land use and transportation."
Will Kempton, Director, Caltrans

APPENDIX 3B
CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN - FACT SHEET

CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN

California Strategic Highway Safety Plan Fact Sheet

Background

The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) established a new core Highway Safety Improvement Program that is structured and funded to make significant progress in reducing highway fatalities on all public roadways. As required under SAFETEA-LU, the California Department of Transportation led the effort to develop California's Strategic Highway Safety Plan (SHSP) to identify key safety needs of the State, and strategies that address these needs. California's SHSP was approved by the Secretary of the Business, Transportation and Housing Agency (BTH) on September 26, 2006.

Implementation of the SHSP

Nearly 300 safety stakeholders representing 80 different agencies and organizations are working together to implement and monitor the effectiveness of the SHSP. This collaborative effort is led by: Jesse Bhullar, Department of Transportation (Caltrans); Chris Murphy, Office of Traffic Safety (OTS); Steve Lerwill, California Highway Patrol (CHP); and Pat Minturn, Shasta County of Public Works (representing local agencies).

The SHSP Steering Committee is comprised of 13 members from various agencies and organizations to provide guidance to each of the 16 Challenge Area Teams. Each Challenge Area Leader guides their team in analyzing collision data, and in identifying and prioritizing strategies and actions to implement the SHSP. The SHSP Steering Committee consolidated the most effective strategies and countermeasures from each Challenge Area into the Implementation of the SHSP document (152 actions). The Secretary of BTH approved the Implementation of the SHSP document on April 4, 2008. The SHSP Steering Committee will monitor the implementation and performance of these actions for the duration of the SAFETEA-LU. For more information on the SHSP organization, teams, committees, timelines and other details, please see the SHSP website provided below.

Implementation of the SHSP will include the most effective behavioral and infrastructure strategies, countermeasures, and actions for each of the Challenge Areas listed below.

Challenge 1: Reduce Impaired Driving Related Fatalities
Challenge 2: Reduce the Occurrence and Consequence of Leaving the Roadway and Head-on Collisions
Challenge 3: Ensure Drivers are Licensed and Competent
Challenge 4: Increase Use of Safety Belts and Child Safety Seats
Challenge 5: Improve Driver Decisions about Rights of Way and Turning
Challenge 6: Reduce Young Driver Fatalities
Challenge 7: Improve Intersection and Interchange Safety for Roadway Users
Challenge 8: Make Walking and Street Crossing Safer
Challenge 9: Improve Safety for Older Roadway Users
Challenge 10: Reduce Speeding and Aggressive Driving
Challenge 11: Improve Commercial Vehicle Safety
Challenge 12: Improve Motorcycle Safety
Challenge 13: Improve Bicycling Safety
Challenge 14: Enhance Work Zone Safety
Challenge 15: Improve Post Crash Survivability
Challenge 16: Improve Safety Data Collection, Access, and Analysis

SHSP Implementation Timeline

October 2005 – September 2006	Develop Strategic Highway Safety Plan (Completed and Approved)
October 2006 – April 2008	Develop Implementation of the SHSP Document (Completed and Approved)
May 2008 – December 2010	Implement the SHSP Actions
January 2009	Begin Performance Monitoring of the SHSP Actions

Website and Contact Information

Please visit the SHSP website for more information: http://www.dot.ca.gov/SHSP/

For more information contact: Jesse Bhullar
(916) 654-5026
Jesse.Bhullar@dot.ca.gov

APPENDIX 3C
NATIONAL FOREST MOTORIZED TRAVEL MANAGEMENT PLAN CONSISTENCY

NATIONAL FOREST MOTORIZED TRAVEL MANAGEMENT PLAN CONSISTENCY EVALUATION

The purpose of this section is to show consistency between the proposed changes to the National Forest Motorized Travel Management Plan (MTMP) for the Shasta-Trinity and Six Rivers National Forests and key Trinity County planning documents (Regional Transportation Plan and General Plan) that address non-auto and recreational travel, and maintenance needs for these facilities. This consistency determination focuses on the goals, objectives and policies implemented by the Trinity County Transportation Commission (TCTC), transportation projects recommended for inclusion in the Regional Transportation Plan, and maintenance objectives and policies.

Shasta-Trinity National Forest Motorized Travel Management Plan

The Trinity County Board of Supervisors recognizes that the public utilizes County roads to access the United States Forest Service (USFS) road system and lands for multi-use purposes. At the same time, it has concerns that a general prohibition on motorized travel on public lands are very restrictive and will negatively impact the public's use of those road systems as well as the public lands. This will potentially add to the impact on the County road system as the public may use them to conduct inappropriate activities for the County road systems.

It is important to note that consistency does not necessarily show support of the STNF Motorized Travel Management Plan without modification and consideration requested by the TCTC and Board of Supervisors.

The existing National Forest Transportation System (NFTS) within the Shasta-Trinity National Forest (STNF) is comprised of approximately 5,161 miles of roads and 74 miles of motorized trails authorized for motor vehicle use, in which approximately two thirds traverse Trinity County. The STNF is unique in this respect in the number of miles of routes available to all motor vehicle classes. However, in addition to authorized routes, the Forest Service has inventoried an additional 5,219 unauthorized routes that exist in the Forest. These additional routes add approximately 1,252 miles of roads that receive motor vehicle use. The maintenance of the authorized and unauthorized routes places a greater burden on the Forest Service resulting in an increasing number of miles of maintenance backlog. The proposed changes to the STNF Motorized Travel Management Plan were undertaken with a three-fold purpose: 1) to enhance management of National Forest System lands; 2) sustain natural resource values; and 3) and provide opportunities for motorized recreation experiences for a wide variety of citizens. A concept that Trinity County Board of Supervisors and Transportation Commission supports developed as a collaborative effort.

<u>Background</u>

The National Forest Service and U.S. Department of Interior report that California is experiencing the highest level of Off Highway Vehicle (OHV) use of any state in the nation. This increase in OHV use is often unmanaged resulting in thousands of miles of unplanned roads and trails emerging within national forests accompanied by increased erosion, watershed and habitat degradation, and adverse impacts to cultural resources. According to the National Forest Service (USDA Forest Service, June 2004), these unintended outcomes pose a key national threat to Forests and grasslands. In November 2005, the Forest Service published their final travel management regulations designed to enhance management of National Forest System lands; sustain natural resource values through more effective management of motor vehicle use; and provide opportunities for motorized recreation experiences on National Forest system lands. Subpart B (36 CFR 212) of the Travel Management Rule requires specific recognition and designation of these roads, trails and areas that are open to motor vehicle use on National Forests. The intent is that only roads and trails that are part of a National Forest Transportation System (NFTS) may be designated for motorized use.

In 1995, the Shasta-Trinity National Forest (STNF) identified specific areas that are open and closed to cross-country motor vehicle travel. These facilities were designated on the Land Resource Management Plan (LRMP) map. However, the map showing the location of the closed and open facilities was not modified to reflect changes in management direction between the draft and final LRMP. In addition, the final direction was not adopted with official Forest Orders. As a result, cross-country motor vehicle travel has been occurring on national forest lands outside of designated wilderness areas (where it is legally prohibited).

The Shasta –Trinity National Forest (STNF) currently manages and maintains approximately 5,300 miles of National Forest Transportation System (NFTS) roads and 87 miles of motorized trails. In their continuing effort to manage the transportation system in a sustainable and cost-effective manner, the STNF has proposed changes to the NFTS to address needs identified in the Motorized Travel Management Final Environmental Impact Statement (FEIS). These needs include:

- Regulation of cross country motor vehicle travel to protect cultural and natural resources
- Additions and changes to the NFTS to meet recreation goals in the Forest Plan
- Consistency of the Forest Plan with Subpart B of the Travel Management Regulations.

The analysis of alternatives in the Final Environmental Impact Statement (FEIS) led to selection of Modified Alternative 2 as the recommended action to meeting the purpose and needs expressed in the FEIS, an action not supported by the Board of Supervisors. The express intent is that only roads, trails, and areas that are part of a NFTS, and are consistent with 36 CFR Part 212, Subpart B, can be designated for motorized use. The final Record of Decision (ROD) dated March 2010 recommends the following elements as part of the NFTS.

- Prohibits cross-country travel on 1,599,122 acres of National Forest

- Adds 21.19 miles of high-clearance native surface roads to the NFTS. These roads will be open to all vehicles (highway-legal) and non-highway-legal as defined by the California Vehicle Code) and are listed in Attachment 1 of the ROD. These additions result in an NFTS open to all vehicles of approximately 4,034 miles.

- Adds 10.91 miles of motorized trails. These trails are listed in attachment 1 of the ROD. Of these motorized trails, 5.98 miles are open to all vehicle classes; 3.97 miles are open to vehicles 50 inches and less in width and 0.96 miles are open to motorcycles only. These additions result in an NFTS motorized trails system of approximately 85.14 miles.

- Adds 44,047 acres of open space below the high water mark of Shasta Lake and Trinity Lake. These open areas are described in the FEIS for the purpose of accessing water-based recreation opportunities. These areas are restricted to street-legal vehicles with a 15 mph speed limit.

- Restricts motorized vehicle use only to roads and trails that are designated in the MTMP. There are numerous roads and trails in the NFTS that were unauthorized and developed by riders and for other uses such as fire fighting. These unauthorized trails/roads were considered for designation, but many were not added to the designated routes. Therefore routes that were used by motorized vehicles but not considered authorized are no longer available for use because they are not designated routes.

The Forest Service informed concerned counties in or adjacent to the STNF about the scope of the final decision, potential impacts to users, and provided them opportunity for comment. For Trinity County, public meetings occurred in September 2008, January 2009, and February 2009. The focus during the public process was to ensure the recommended changes resulted in a balanced NFTS compatible with plans and projects in and around the effected forest lands. Following are the STNF established priorities by the Forest Service for adding routes as part of the NFTS:

- Well established routes that access dispersed recreation areas
- Trails for OHV/ATVs and motorcycles, and roads that connect to make loop rides possible
- Provisions for mixed use of Maintenance Level 3 roads with highway legal and non-highway legal vehicles

And, priorities for excluding routes in the NFTS:

- Routes in habitat for threatened or endangered species
- Routes in Inventoried Roadless Areas
- Routes that may impact water quality or cause soil erosion

The Regional Forester has indicated that Counties in California will be invited to coordinate with the forests in revisions of the USFS Travel Management plan (as well as other plans) that will give full consideration of the concerns addressed by elected officials and the public during the planning process. Once this consideration is given and the appropriate modifications have been made, a more successful and collaborative MTMP can be implemented in STNF.

<u>Consistency with Water Quality and Habitat Protection Manual for County Road Maintenance – Chapter 3</u>

The Record of Decision (ROD) authorizes motorized mixed use on Maintenance Level 3 roads within the plan area. Maintenance level 3 is assigned to roads open and maintained for travel by a prudent driver in a standard passenger car (only 21 miles are available for mixed-use, which includes OHV use). Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. The California Highway Patrol must also approve these routes of motorized mixed use. If approved, the routes will be shown on the Motor Vehicle Use Map included in the NFTS. The FEIS and ROD indicate no significant impacts to road maintenance costs and acknowledges that the STNF already has an extensive backlog of deferred maintenance. The selection of routes in Modified Alternative 2 did not recommend routes that required extensive mitigation or repair on the part of the STNF, Trinity County or other stakeholders. Again, while Trinity RTP is consistent with this assessment, the County seeks revisions of the USFS Travel Management plan (as well as other plans) that will give full consideration of the concerns addressed by elected officials and the public during the planning process.

<u>Consistency with General Plan and 2010 RTP</u>

Trinity County contains parts of the Shasta-Trinity National Forest, Six Rivers National Forest and Shasta-Whiskeytown National Recreation Area. Consistent with the Trinity County General Plan Circulation Element, the classification of roads within the County includes "*Forest Highways".* These facilities are federally owned roads that serve Federal Forest service lands and national parks. The Regional Transportation Plan (RTP) defines a Forest Highway as: open to public travel; and operated and maintained by a local agency. For example, Forest Highway 160 (Corral bottom Road) is operated by the Shasta-Trinity National Forest. Likewise, SR 36 (State facility) is classified a Forest Highway and is operated by Caltrans. The Trinity County Department of Transportation operates several Forest Highways as identified in Chapter 2 of the RTP. An important consideration is that the maintenance of Forest Highways is performed by the local operating agency at their own expense. However, some assistance for major rehabilitation and emergency repairs is available from the Federal Highway Trust Fund as part of the management of National Forests. The continued cooperation with the U.S. Forest Service and other stakeholders in Trinity County contribute to the necessary maintenance of regional trails as well as roads within the County's forest areas.

<u>Consistency with Non Motorized Element of the GP and RTP</u>

The Non-Motorized element of the RTP addresses locally or regionally significant bike lanes and trails, sidewalks, hiking trails, equestrian trails, and other related improvements. Facilities such as the Pacific Crest Trail (Northern Trinity County) and the National Recreation Trail along the South fork of the Trinity River are identified as having regional and national significance. The County also has numerous recreational trails that are not designed or expected to meet Caltrans standards for Class I facilities, but receive high levels of use. Adopted community plans aid the Trinity County Transportation Commission (TCTC) when considering non-motorized improvement priorities, and help guide the County Board of Supervisors in reviewing land divisions and other county-issued entitlement to determine the extent of right-of-way necessary to provide bicycle routes and preserve important recreational trails. This approach is consistent between the GP and the RTP.

Goals, Objectives and Policies

An important element of consistency between the GP, RTP and the NFTS is embodied in the transportation goals, objectives and policies established for the GP and the RTP. As stated above, this requires coordination between Trinity County and STNF in a collaborative effort where both County Road and Forest Roads are taken into consideration. Of particular importance to the NFTS are goals and policies that address land use integration, environmental impacts, maintenance, and coordination with resource agencies both state and federal. The following goals, objectives and policies are consistent between the RTP and GP and provide for close coordination with the STNF and NFTS:

<u>GP Circulation Element</u>

TRANSPORTATION SYSTEM

Goal 1 – provides for the long-range development of the county's roadway system that is consistent with adopted land use patterns, minimizes impacts on the attractiveness of the *community, meets environmental and circulation objectives, and maintenance of existing and new roads.*

Roadway Design

Objective 1.1 establishes consistency and linkages between transportation programs and land use plans in the County.

Policy 1.1.A updates the Trinity County General Plan and Regional Transportation Plan and/or Community plans to provide consistency with the findings and/or recommendations of transportation studies as appropriate. This would include regulations and changes established for the NFTS within Trinity County.

Policy 1.1.C considers the RTP a sub-element of the GP circulation element. Therefore, goals, objectives, policies and projects must be consistent.

Objective 1.5 promotes environmental protection/mitigation measures that consider environmental, social, and economic factors when designing, constructing and operating transportation facilities.

Policy 1.5.B ensures compliance with applicable State and Federal environmental laws during the planning and construction of roadway projects.

Policy 1.5.D promotes coordination with local, State and Federal agencies to ensure that existing and/or proposed environmental regulations achieve protection of the environment without sacrificing public safety or placing unnecessary restrictions on road projects.

Policy 1.5.F promotes coordination with local, state and Federal agencies to ensure coordination and consistency in the application of environmental regulations. This coordination occurs at all levels within Trinity County.

Roadway Network

Objective 1.7 requires identification of the need for road corridor expansion on the basis of existing conditions and/or planned land uses.

Policy 1.7.C requires identification of road segments where existing right-of-way is inadequate to accommodate road width needed at community build-out and take steps to obtain necessary right-of-way. These steps include high levels of coordination with effected agencies and stakeholders such as the Forest Service.

Policy 1.8.F requires mitigation for transportation projects with potentially significant impacts to existing or planned land uses in the County.

Economic Development

Objective 1.12 considers financial constraint in the expansion of the transportation system to accommodate and attract new businesses and visitors to the County.

Policy 1.12 provides for an assessment of each project's contribution to the aesthetics of the area in which it is implemented and supports those projects that enhance the visitor's experience in the region.

Objective 1.14 recommends scenic roadway designation for appropriate State and County highways and roads.

Policy 1.14.A requires when Community Plans or the General Plan Land Use Element are developed or updated, appropriate roads or road segments to be designated as County Scenic Roadways be identified.

Policy 1.14.B regulates the location and design of off-site signs, community identification signs, and community service signs along designated National Scenic Byways and designated Scenic County Roadways.

Policy 1.14.C requires review of plans by other public agencies to insure that the view-sheds of scenic roadways are adequately addressed.

Inter-Jurisdictional Coordination

Objective 1.17 requires coordination of plans, programs and projects for the County, State and Federal transportation systems between jurisdictional authorities.

Policy 1.17.A provides State and Federal agencies the opportunity to comment on transportation plans and projects proposed by the County. A copy of the RTP and the GP Circulation Element is provided to state and federal agencies for review and comment.

Policy 1.17 B seeks opportunities for Trinity County to review and comment on transportation plans and projects proposed by State and Federal agencies.

NON-MOTORIZED TRANSPORTATION

Goal 4 increases bicycle and pedestrian travel by recommending development of a safe and convenient system of bicycle routes, trails, storage facilities and pedestrian walkways in key areas of the County. This system includes on and off-road facilities.

<u>Regional Transportation Plan</u>

Overall Regional Transportation

Goal 0: provides for a safe, reliable, accessible, cost-effective and efficient transportation system that is consistent with socioeconomic and environmental needs. Additionally, requires evaluation of improvement projects and impacts to the transportation system.

Streets and Highways

Goal 1: provides for an efficient and safe system of roads and bridges that are sensitive to economic and environmental needs.

Objective 1.4 maintains a uniform road classification system to assure consistency in road standards

Objective 1.5 provides all-weather access to developed communities in the county.

Policy 1.5.A identifies communities with a history of access problems and facilitates efforts to eliminate the obstacle.

Policy 1.5.B considers the development of additional access routes into residential areas if feasible.

Objective 1.7 establishes consistency and/or linkages between transportation needs and land use plans

Objective 1.8 coordinates plans, programs and projects for the county, state and federal transportation systems.

Policies 1.8.A through 1.8.C seek opportunities for mutual review of plans, programs and projects by county, state and federal agencies as well as developing partnerships with Caltrans and regional agencies when considering large transportation projects with multi-jurisdictional benefits and/or impacts.

Bicycle, Pedestrian, and Non-Auto Modes

Goal 3 promotes non-auto mode travel by developing a safe and convenient system of bicycler routes, pedestrian facilities and trails to connect Trinity County's activity centers and communities

Policy 3.1.B strives for a well connected bicycle system with complete bicycle "loop" routes.

Objective 3.3.A considers equestrian interests as part of the RTP and other transportation development planning processes.

Tourism

Goal 6: supports tourism throughout the County by developing and maintaining a safe and efficient transportation system

Policy 6.1.A updates tourist and marketing material for use by the Chamber of Commerce

Policy 6.1.B maintains connections to tourist attractions

Policy 6.1.C provides safe, convenient, and well marked parking areas for tourists, including parking for recreational vehicles and vehicles pulling trailers.

Environment

Goals 7: Considers environmental impacts of transportation projects and mitigates impacts accordingly

Objective 7.1 coordinates with local, state and federal agencies and committees who are responsible for setting environmental policies and procedures to provide the county's experience and perspective

Policy 7.1.B minimizes environmental impacts through early and continued resource agency consultation and public involvement. The County was an active partner in the development of the NFTS.

Objective 7.3 provides for road maintenance practices that minimize and/or mitigates degradation of environmental quality.

Policy 7.3.C provides for surfacing unpaved (dirt) roadways that are adjacent to waterways that are habitat to aquatic species as funding allows.

2010 RTP Projects

The 2010 RTP proposes both on-road and off-road bike facilities as part of the non-auto element. A review of the system maps for the NFTS and the ROD did not reveal any discrepancies between RTP projects and the additions of roads and trails proposed to the NFTS. In addition, the unconstrained project list for the RTP, Appendix 4G, contains facilities for Class 2 bike lanes and Class 1 recreational trails. These projects do not adversely impact the changes to the NFTS as proposed in the ROD. The list of projects in the RTP are consistent with the intent of the ROD and any future RTP proposals would be coordinated with the Forest Service in areas that are part of the NFTS. The maintenance of County roads will continue to be consistent with the Water Quality and Habitat Protection Manual for County road maintenance – Chapter 3.

Six Rivers National Forest Motorized Travel Management Plan

The Six Rivers National Forest Motorized Travel Management Plan is consistent with the Trinity County planning and maintenance documents described above. The TCTC and Trinity County Board of Supervisors are in general agreement with and support the Six Rivers National Forest Motorized Travel Management Plan.

APPENDIX 3A
CALIFORNIA TRANSPORTATION PLAN (CTP) 2030 EXECUTIVE SUMMARY

CALIFORNIA TRANSPORTATION PLAN 2030

EXECUTIVE SUMMARY

The California Department of Transportation (Department) is updating the *California Transportation Plan (CTP) 2025* adopted in June 2006. This updated CTP 2030 Addendum (Addendum) addresses the new requirements for statewide planning established by the Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users or SAFETEA-LU.

This legislation authorizes and funds federal transit and highway programs through Fiscal Year 2009. Signed into law (Public Law 109-59) on August 10, 2005, SAFETEA-LU provides $23.4 billion in federal funds to California. Much of SAFETEA-LU echoes the previous two federal transportation program authorizations, the recent Transportation Equity Act for the 21st Century (TEA-21) passed in 1998, and the earlier Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). However, there are some significant changes that impact the current CTP.

While SAFETEA-LU maintains the overall structure of TEA-21, it departs from previous authorizations in a number of ways. The Department held an initial "Consultation Meeting" in January 2007 with stakeholders to discuss changes to the CTP directed by SAFETEA-LU. Those changes that affect State planning and policy issues are summarized here and described in more detail in the following discussions. Together with a description of California's compliance with each mandate, they informed the development of this Addendum.

The goal of this CTP 2030 (Addendum) is to enhance and preserve the State's valuable natural resources, while avoiding costly project overruns and delays in planning and developing transportation infrastructure. SAFETEA-LU provides a "historic opportunity" for the State to achieve that goal. Over the past few years there has been a compelling nationwide call for public agencies to become better stewards of the environment. SAFETEA-LU has now ratified this call by directing states to consult and compare transportation related plans, maps, and data with federal, State, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

The State of California has been a national leader in documenting environmental impacts caused by transportation projects and taking actions appropriate to its stewardship role. SAFETEA-LU now provides an opportunity for California to redouble its efforts to become a "real steward" of the environment. It directs those in the transportation sector to address issues collaboratively with partners in the resources arena and to partner on solutions that respond to public expectations.

The real challenge ahead at both the State and the regional planning level is consultation and comparison of plans, maps, and data with natural resources and environmental agencies, and the resulting mitigation and consultation that may be required. The key will be determining how to mainstream the consideration of environmental issues during early planning the early planning process in order to adequately address consultation, comparison, and mitigation requirements.

The other challenge is linking transportation planning with project level requirements under National Environmental Protection Act (NEPA) in order to promote early consultation and comparison of existing plans, maps, and data across agencies. Once again, the key for making this linkage will be determining how to mainstream the consideration of environmental issues early in the planning process.

Therefore this Addendum is directed at engaging transportation stakeholders in an open dialogue with resource agencies to identify the "first steps" in the expansion of consultation and comparison efforts and in a discussion of potential environmental mitigation measures. Future plan updates will build upon this Addendum's foundation. The more detailed "follow-on" policies and strategies for these consultation, comparison, and mitigation efforts will then be addressed in the next full update of the California Transportation Plan to be initiated in 2008, and in subsequent updates.

The focus of the remaining sections of this Addendum is to address provisions of SAFETEA-LU that extend or broaden already existing State policies and strategies articulated in the CTP 2025. These provisions include: delegating NEPA responsibilities for California; expanding stakeholder engagement with an emphasis on visualization techniques; providing access to the statewide plan and update process on the Internet; promoting the consistency of transportation plans and transportation improvements with State and local planned growth and economic development patterns; adding security and safety as new stand-alone planning factors; including operations and management strategies to ensure the preservation and most efficient use of the existing transportation system; and reaffirming consultation with non-metropolitan local officials and federally recognized Native American Tribal Governments (Tribal Governments) in the development of the long-range statewide transportation plan and State Transportation Improvement Program (STIP).

A crosscutting and collaborative plan for the future

The CTP 2035 is a plan for all Californians that addresses transportation as a focal point for sustainability and quality of life. The plan will provide a long-range framework for statewide transportation needs: defining goals, policies, and strategies to achieve our collective vision for California's future. Crosscutting and collaborative, this plan will also link the Three Es: a prosperous *Economy*, a quality *Environment*, and social *Equity*.

An efficient transportation system stimulates the economy by supporting job creation, business expansion, and economic development.

California's Transportation Challenges

- 52 million people by 2035
- Aging population
- Goods movement in a global economy
- Climate change
- Aging infrastructure
- Stable funding
- Preserving natural resources
- Low-density development
- Energy supply

The Vision

The Three Es of Sustainability

A balanced transportation system provides for the safety and mobility of all users including pedestrians, bicyclists, transit riders, and motorists. The plan will clearly recognize that active transportation modes contribute directly to public health and to the health of our environment.

A green transportation system enhances and preserves our natural resources while reducing transportation's impact on our climate.

california transportation plan 2035

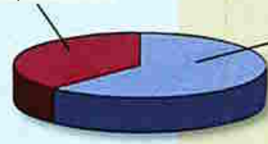
MEETING THE CHALLENGES THROUGH 2035

Addressing Climate Change

- ▲ Reduce greenhouse gas emissions contributed by transportation
- ▲ Recognize the connections between transportation and land use
- ▲ Encourage partnerships to develop adaptation strategies that address sea level rise

Growing Greener

- ▲ Support long-range community visions for sustainable and efficient land use development
- ▲ Promote housing development in association with transit
- ▲ Provide incentives to encourage local jurisdictions to grow their communities in ways that support mobility options (walking, bicycling, and transit) and reduce the need to drive
- ▲ Balance community values and transportation needs to create solutions that are sensitive to their context



Transportation is responsible for up to 38% of greenhouse gas emissions

Building Partnerships

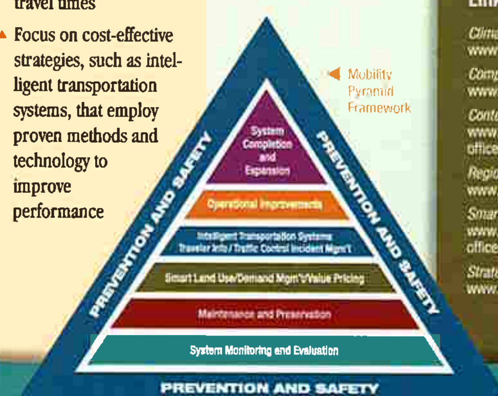
- ▲ Take advantage of opportunities for discussion and consensus on efficient land use and transportation planning supported by the State's Regional Blueprint Planning program and directed by recent legislation
- ▲ Participate in the Strategic Growth Council—the Governor's effort for State agencies to coordinate activities in the planning and development of sustainable communities
- ▲ Encourage interaction with local jurisdictions through a context sensitive solutions process

Investing Strategically

- ▲ Use a comprehensive, multimodal, and innovative funding approach (see Mobility Pyramid inset) that invests in multiple strategies to yield the highest results
- ▲ Measure results by monitoring and evaluating transportation system performance
- ▲ Integrate and coordinate all travel modes through corridor system management planning to increase transportation options and improve travel times
- ▲ Focus on cost-effective strategies, such as intelligent transportation systems, that employ proven methods and technology to improve performance

Providing Mobility Choices

- ▲ Integrate the needs of those traveling by active modes into transportation projects using a "complete streets" approach
- ▲ Create more opportunities for bicycling and walking to both improve public health and reduce our carbon footprint
- ▲ Improve safety for travelers of all ages and abilities



Did you know... 52% of Americans would like to drive less and bicycle and walk more?

Source: Public Policy Institute of California

Indicators of Success

Current efforts that can help measure the success of the CTP

- **The California Regional Blueprint Progress Report**
  An effort to measure regional progress in improving communities through integrated planning
- **A Smart Mobility Framework**
  An effort to assess how well transportation plans, programs, and projects meet the principles of smart mobility through:
  Location Efficiency
  Reliability
  Health and Safety
  Stewardship

Links to Resources

Climate Change
www.climatechange.ca.gov/

Complete Streets
www.completestreets.org/

Context Sensitive Solutions
www.dot.ca.gov/hq/tpp/offices/ocp/css.html

Regional Blueprint Planning
www.calblueprint.dot.ca.gov/

Smart Mobility Framework
www.dot.ca.gov/hq/tpp/offices/ocp/smf.html

Strategic Growth Council
www.opr.ca.gov/

"We are not going to reduce greenhouse gas emissions until we tackle the connectivity between land use and transportation."
Will Kempton, Director, Caltrans

APPENDIX 3B
CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN - FACT SHEET

CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN

California Strategic Highway Safety Plan
Fact Sheet

Background
The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) established a new core Highway Safety Improvement Program that is structured and funded to make significant progress in reducing highway fatalities on all public roadways. As required under SAFETEA-LU, the California Department of Transportation led the effort to develop California's Strategic Highway Safety Plan (SHSP) to identify key safety needs of the State, and strategies that address these needs. California's SHSP was approved by the Secretary of the Business, Transportation and Housing Agency (BTH) on September 26, 2006.

Implementation of the SHSP
Nearly 300 safety stakeholders representing 80 different agencies and organizations are working together to implement and monitor the effectiveness of the SHSP. This collaborative effort is led by: Jesse Bhullar, Department of Transportation (Caltrans); Chris Murphy, Office of Traffic Safety (OTS); Steve Lerwill, California Highway Patrol (CHP); and Pat Minturn, Shasta County of Public Works (representing local agencies).

The SHSP Steering Committee is comprised of 13 members from various agencies and organizations to provide guidance to each of the 16 Challenge Area Teams. Each Challenge Area Leader guides their team in analyzing collision data, and in identifying and prioritizing strategies and actions to implement the SHSP. The SHSP Steering Committee consolidated the most effective strategies and countermeasures from each Challenge Area into the Implementation of the SHSP document (152 actions). The Secretary of BTH approved the Implementation of the SHSP document on April 4, 2008. The SHSP Steering Committee will monitor the implementation and performance of these actions for the duration of the SAFETEA-LU. For more information on the SHSP organization, teams, committees, timelines and other details, please see the SHSP website provided below.

Implementation of the SHSP will include the most effective behavioral and infrastructure strategies, countermeasures, and actions for each of the Challenge Areas listed below.

Challenge 1: Reduce Impaired Driving Related Fatalities
Challenge 2: Reduce the Occurrence and Consequence of Leaving the Roadway and Head-on Collisions
Challenge 3: Ensure Drivers are Licensed and Competent
Challenge 4: Increase Use of Safety Belts and Child Safety Seats
Challenge 5: Improve Driver Decisions about Rights of Way and Turning
Challenge 6: Reduce Young Driver Fatalities
Challenge 7: Improve Intersection and Interchange Safety for Roadway Users
Challenge 8: Make Walking and Street Crossing Safer
Challenge 9: Improve Safety for Older Roadway Users
Challenge 10: Reduce Speeding and Aggressive Driving
Challenge 11: Improve Commercial Vehicle Safety
Challenge 12: Improve Motorcycle Safety
Challenge 13: Improve Bicycling Safety
Challenge 14: Enhance Work Zone Safety
Challenge 15: Improve Post Crash Survivability
Challenge 16: Improve Safety Data Collection, Access, and Analysis

SHSP Implementation Timeline

October 2005 – September 2006	Develop Strategic Highway Safety Plan (Completed and Approved)
October 2006 – April 2008	Develop Implementation of the SHSP Document (Completed and Approved)
May 2008 – December 2010	Implement the SHSP Actions
January 2009	Begin Performance Monitoring of the SHSP Actions

Website and Contact Information
Please visit the SHSP website for more information: http://www.dot.ca.gov/SHSP/

For more information contact: Jesse Bhullar
(916) 654-5026
Jesse.Bhullar@dot.ca.gov

APPENDIX 3C
NATIONAL FOREST MOTORIZED TRAVEL MANAGEMENT PLAN CONSISTENCY

NATIONAL FOREST MOTORIZED TRAVEL MANAGEMENT PLAN CONSISTENCY EVALUATION

The purpose of this section is to show consistency between the proposed changes to the National Forest Motorized Travel Management Plan (MTMP) for the Shasta-Trinity and Six Rivers National Forests and key Trinity County planning documents (Regional Transportation Plan and General Plan) that address non-auto and recreational travel, and maintenance needs for these facilities. This consistency determination focuses on the goals, objectives and policies implemented by the Trinity County Transportation Commission (TCTC), transportation projects recommended for inclusion in the Regional Transportation Plan, and maintenance objectives and policies.

Shasta-Trinity National Forest Motorized Travel Management Plan

The Trinity County Board of Supervisors recognizes that the public utilizes County roads to access the United States Forest Service (USFS) road system and lands for multi-use purposes. At the same time, it has concerns that a general prohibition on motorized travel on public lands are very restrictive and will negatively impact the public's use of those road systems as well as the public lands. This will potentially add to the impact on the County road system as the public may use them to conduct inappropriate activities for the County road systems.

It is important to note that consistency does not necessarily show support of the STNF Motorized Travel Management Plan without modification and consideration requested by the TCTC and Board of Supervisors.

The existing National Forest Transportation System (NFTS) within the Shasta-Trinity National Forest (STNF) is comprised of approximately 5,161 miles of roads and 74 miles of motorized trails authorized for motor vehicle use, in which approximately two thirds traverse Trinity County. The STNF is unique in this respect in the number of miles of routes available to all motor vehicle classes. However, in addition to authorized routes, the Forest Service has inventoried an additional 5,219 unauthorized routes that exist in the Forest. These additional routes add approximately 1,252 miles of roads that receive motor vehicle use. The maintenance of the authorized and unauthorized routes places a greater burden on the Forest Service resulting in an increasing number of miles of maintenance backlog. The proposed changes to the STNF Motorized Travel Management Plan were undertaken with a three-fold purpose: 1) to enhance management of National Forest System lands; 2) sustain natural resource values; and 3) and provide opportunities for motorized recreation experiences for a wide variety of citizens. A concept that Trinity County Board of Supervisors and Transportation Commission supports developed as a collaborative effort.

<u>Background</u>

The National Forest Service and U.S. Department of Interior report that California is experiencing the highest level of Off Highway Vehicle (OHV) use of any state in the nation. This increase in OHV use is often unmanaged resulting in thousands of miles of unplanned roads and trails emerging within national forests accompanied by increased erosion, watershed and habitat degradation, and adverse impacts to cultural resources. According to the National Forest Service (USDA Forest Service, June 2004), these unintended outcomes pose a key national threat to Forests and grasslands. In November 2005, the Forest Service published their final travel management regulations designed to enhance management of National Forest System lands; sustain natural resource values through more effective management of motor vehicle use; and provide opportunities for motorized recreation experiences on National Forest system lands. Subpart B (36 CFR 212) of the Travel Management Rule requires specific recognition and designation of these roads, trails and areas that are open to motor vehicle use on National Forests. The intent is that only roads and trails that are part of a National Forest Transportation System (NFTS) may be designated for motorized use.

In 1995, the Shasta-Trinity National Forest (STNF) identified specific areas that are open and closed to cross-country motor vehicle travel. These facilities were designated on the Land Resource Management Plan (LRMP) map. However, the map showing the location of the closed and open facilities was not modified to reflect changes in management direction between the draft and final LRMP. In addition, the final direction was not adopted with official Forest Orders. As a result, cross-country motor vehicle travel has been occurring on national forest lands outside of designated wilderness areas (where it is legally prohibited).

The Shasta –Trinity National Forest (STNF) currently manages and maintains approximately 5,300 miles of National Forest Transportation System (NFTS) roads and 87 miles of motorized trails. In their continuing effort to manage the transportation system in a sustainable and cost-effective manner, the STNF has proposed changes to the NFTS to address needs identified in the Motorized Travel Management Final Environmental Impact Statement (FEIS). These needs include:

- Regulation of cross country motor vehicle travel to protect cultural and natural resources
- Additions and changes to the NFTS to meet recreation goals in the Forest Plan
- Consistency of the Forest Plan with Subpart B of the Travel Management Regulations.

The analysis of alternatives in the Final Environmental Impact Statement (FEIS) led to selection of Modified Alternative 2 as the recommended action to meeting the purpose and needs expressed in the FEIS, an action not supported by the Board of Supervisors. The express intent is that only roads, trails, and areas that are part of a NFTS, and are consistent with 36 CFR Part 212, Subpart B, can be designated for motorized use. The final Record of Decision (ROD) dated March 2010 recommends the following elements as part of the NFTS.

- Prohibits cross-country travel on 1,599,122 acres of National Forest

- Adds 21.19 miles of high-clearance native surface roads to the NFTS. These roads will be open to all vehicles (highway-legal) and non-highway-legal as defined by the California Vehicle Code) and are listed in Attachment 1 of the ROD. These additions result in an NFTS open to all vehicles of approximately 4,034 miles.

- Adds 10.91 miles of motorized trails. These trails are listed in attachment 1 of the ROD. Of these motorized trails, 5.98 miles are open to all vehicle classes; 3.97 miles are open to vehicles 50 inches and less in width and 0.96 miles are open to motorcycles only. These additions result in an NFTS motorized trails system of approximately 85.14 miles.

- Adds 44,047 acres of open space below the high water mark of Shasta Lake and Trinity Lake. These open areas are described in the FEIS for the purpose of accessing water-based recreation opportunities. These areas are restricted to street-legal vehicles with a 15 mph speed limit.

- Restricts motorized vehicle use only to roads and trails that are designated in the MTMP. There are numerous roads and trails in the NFTS that were unauthorized and developed by riders and for other uses such as fire fighting. These unauthorized trails/roads were considered for designation, but many were not added to the designated routes. Therefore routes that were used by motorized vehicles but not considered authorized are no longer available for use because they are not designated routes.

The Forest Service informed concerned counties in or adjacent to the STNF about the scope of the final decision, potential impacts to users, and provided them opportunity for comment. For Trinity County, public meetings occurred in September 2008, January 2009, and February 2009. The focus during the public process was to ensure the recommended changes resulted in a balanced NFTS compatible with plans and projects in and around the effected forest lands. Following are the STNF established priorities by the Forest Service for adding routes as part of the NFTS:

- Well established routes that access dispersed recreation areas
- Trails for OHV/ATVs and motorcycles, and roads that connect to make loop rides possible
- Provisions for mixed use of Maintenance Level 3 roads with highway legal and non-highway legal vehicles

And, priorities for excluding routes in the NFTS:

- Routes in habitat for threatened or endangered species
- Routes in Inventoried Roadless Areas
- Routes that may impact water quality or cause soil erosion

The Regional Forester has indicated that Counties in California will be invited to coordinate with the forests in revisions of the USFS Travel Management plan (as well as other plans) that will give full consideration of the concerns addressed by elected officials and the public during the planning process. Once this consideration is given and the appropriate modifications have been made, a more successful and collaborative MTMP can be implemented in STNF.

Consistency with Water Quality and Habitat Protection Manual for County Road Maintenance – Chapter 3

The Record of Decision (ROD) authorizes motorized mixed use on Maintenance Level 3 roads within the plan area. Maintenance level 3 is assigned to roads open and maintained for travel by a prudent driver in a standard passenger car (only 21 miles are available for mixed-use, which includes OHV use). Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. The California Highway Patrol must also approve these routes of motorized mixed use. If approved, the routes will be shown on the Motor Vehicle Use Map included in the NFTS. The FEIS and ROD indicate no significant impacts to road maintenance costs and acknowledges that the STNF already has an extensive backlog of deferred maintenance. The selection of routes in Modified Alternative 2 did not recommend routes that required extensive mitigation or repair on the part of the STNF, Trinity County or other stakeholders. Again, while Trinity RTP is consistent with this assessment, the County seeks revisions of the USFS Travel Management plan (as well as other plans) that will give full consideration of the concerns addressed by elected officials and the public during the planning process.

Consistency with General Plan and 2010 RTP

Trinity County contains parts of the Shasta-Trinity National Forest, Six Rivers National Forest and Shasta-Whiskeytown National Recreation Area. Consistent with the Trinity County General Plan Circulation Element, the classification of roads within the County includes "*Forest Highways".* These facilities are federally owned roads that serve Federal Forest service lands and national parks. The Regional Transportation Plan (RTP) defines a Forest Highway as: open to public travel; and operated and maintained by a local agency. For example, Forest Highway 160 (Corral bottom Road) is operated by the Shasta-Trinity National Forest. Likewise, SR 36 (State facility) is classified a Forest Highway and is operated by Caltrans. The Trinity County Department of Transportation operates several Forest Highways as identified in Chapter 2 of the RTP. An important consideration is that the maintenance of Forest Highways is performed by the local operating agency at their own expense. However, some assistance for major rehabilitation and emergency repairs is available from the Federal Highway Trust Fund as part of the management of National Forests. The continued cooperation with the U.S. Forest Service and other stakeholders in Trinity County contribute to the necessary maintenance of regional trails as well as roads within the County's forest areas.

Consistency with Non Motorized Element of the GP and RTP

The Non-Motorized element of the RTP addresses locally or regionally significant bike lanes and trails, sidewalks, hiking trails, equestrian trails, and other related improvements. Facilities such as the Pacific Crest Trail (Northern Trinity County) and the National Recreation Trail along the South fork of the Trinity River are identified as having regional and national significance. The County also has numerous recreational trails that are not designed or expected to meet Caltrans standards for Class I facilities, but receive high levels of use. Adopted community plans aid the Trinity County Transportation Commission (TCTC) when considering non-motorized improvement priorities, and help guide the County Board of Supervisors in reviewing land divisions and other county-issued entitlement to determine the extent of right-of-way necessary to provide bicycle routes and preserve important recreational trails. This approach is consistent between the GP and the RTP.

Goals, Objectives and Policies

An important element of consistency between the GP, RTP and the NFTS is embodied in the transportation goals, objectives and policies established for the GP and the RTP. As stated above, this requires coordination between Trinity County and STNF in a collaborative effort where both County Road and Forest Roads are taken into consideration. Of particular importance to the NFTS are goals and policies that address land use integration, environmental impacts, maintenance, and coordination with resource agencies both state and federal. The following goals, objectives and policies are consistent between the RTP and GP and provide for close coordination with the STNF and NFTS:

GP Circulation Element

TRANSPORTATION SYSTEM

Goal 1 – provides for the long-range development of the county's roadway system that is consistent with adopted land use patterns, minimizes impacts on the attractiveness of the *community, meets environmental and circulation objectives, and maintenance of existing and new roads.*

Roadway Design

Objective 1.1 establishes consistency and linkages between transportation programs and land use plans in the County.

Policy 1.1.A updates the Trinity County General Plan and Regional Transportation Plan and/or Community plans to provide consistency with the findings and/or recommendations of transportation studies as appropriate. This would include regulations and changes established for the NFTS within Trinity County.

Policy 1.1.C considers the RTP a sub-element of the GP circulation element. Therefore, goals, objectives, policies and projects must be consistent.

Objective 1.5 promotes environmental protection/mitigation measures that consider environmental, social, and economic factors when designing, constructing and operating transportation facilities.

Policy 1.5.B ensures compliance with applicable State and Federal environmental laws during the planning and construction of roadway projects.

Policy 1.5.D promotes coordination with local, State and Federal agencies to ensure that existing and/or proposed environmental regulations achieve protection of the environment without sacrificing public safety or placing unnecessary restrictions on road projects.

Policy 1.5.F promotes coordination with local, state and Federal agencies to ensure coordination and consistency in the application of environmental regulations. This coordination occurs at all levels within Trinity County.

Roadway Network

Objective 1.7 requires identification of the need for road corridor expansion on the basis of existing conditions and/or planned land uses.

Policy 1.7.C requires identification of road segments where existing right-of-way is inadequate to accommodate road width needed at community build-out and take steps to obtain necessary right-of-way. These steps include high levels of coordination with effected agencies and stakeholders such as the Forest Service.

Policy 1.8.F requires mitigation for transportation projects with potentially significant impacts to existing or planned land uses in the County.

Economic Development

Objective 1.12 considers financial constraint in the expansion of the transportation system to accommodate and attract new businesses and visitors to the County.

Policy 1.12 provides for an assessment of each project's contribution to the aesthetics of the area in which it is implemented and supports those projects that enhance the visitor's experience in the region.

Objective 1.14 recommends scenic roadway designation for appropriate State and County highways and roads.

Policy 1.14.A requires when Community Plans or the General Plan Land Use Element are developed or updated, appropriate roads or road segments to be designated as County Scenic Roadways be identified.

Policy 1.14.B regulates the location and design of off-site signs, community identification signs, and community service signs along designated National Scenic Byways and designated Scenic County Roadways.

Policy 1.14.C requires review of plans by other public agencies to insure that the view-sheds of scenic roadways are adequately addressed.

Inter-Jurisdictional Coordination

Objective 1.17 requires coordination of plans, programs and projects for the County, State and Federal transportation systems between jurisdictional authorities.

Policy 1.17.A provides State and Federal agencies the opportunity to comment on transportation plans and projects proposed by the County. A copy of the RTP and the GP Circulation Element is provided to state and federal agencies for review and comment.

Policy 1.17 B seeks opportunities for Trinity County to review and comment on transportation plans and projects proposed by State and Federal agencies.

NON-MOTORIZED TRANSPORTATION

Goal 4 increases bicycle and pedestrian travel by recommending development of a safe and convenient system of bicycle routes, trails, storage facilities and pedestrian walkways in key areas of the County. This system includes on and off-road facilities.

<u>Regional Transportation Plan</u>

Overall Regional Transportation

Goal 0: provides for a safe, reliable, accessible, cost-effective and efficient transportation system that is consistent with socioeconomic and environmental needs. Additionally, requires evaluation of improvement projects and impacts to the transportation system.

Streets and Highways

Goal 1: provides for an efficient and safe system of roads and bridges that are sensitive to economic and environmental needs.

Objective 1.4 maintains a uniform road classification system to assure consistency in road standards

Objective 1.5 provides all-weather access to developed communities in the county.

Policy 1.5.A identifies communities with a history of access problems and facilitates efforts to eliminate the obstacle.

Policy 1.5.B considers the development of additional access routes into residential areas if feasible.

Objective 1.7 establishes consistency and/or linkages between transportation needs and land use plans

Objective 1.8 coordinates plans, programs and projects for the county, state and federal transportation systems.

Policies 1.8.A through 1.8.C seek opportunities for mutual review of plans, programs and projects by county, state and federal agencies as well as developing partnerships with Caltrans and regional agencies when considering large transportation projects with multi-jurisdictional benefits and/or impacts.

Bicycle, Pedestrian, and Non-Auto Modes

Goal 3 promotes non-auto mode travel by developing a safe and convenient system of bicycler routes, pedestrian facilities and trails to connect Trinity County's activity centers and communities

Policy 3.1.B strives for a well connected bicycle system with complete bicycle "loop" routes.

Objective 3.3.A considers equestrian interests as part of the RTP and other transportation development planning processes.

Tourism

Goal 6: supports tourism throughout the County by developing and maintaining a safe and efficient transportation system

Policy 6.1.A updates tourist and marketing material for use by the Chamber of Commerce

Policy 6.1.B maintains connections to tourist attractions

Policy 6.1.C provides safe, convenient, and well marked parking areas for tourists, including parking for recreational vehicles and vehicles pulling trailers.

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Goals 7: Considers environmental impacts of transportation projects and mitigates impacts accordingly

Objective 7.1 coordinates with local, state and federal agencies and committees who are responsible for setting environmental policies and procedures to provide the county's experience and perspective

Policy 7.1.B minimizes environmental impacts through early and continued resource agency consultation and public involvement. The County was an active partner in the development of the NFTS.

Objective 7.3 provides for road maintenance practices that minimize and/or mitigates degradation of environmental quality.

Policy 7.3.C provides for surfacing unpaved (dirt) roadways that are adjacent to waterways that are habitat to aquatic species as funding allows.

2010 RTP Projects

The 2010 RTP proposes both on-road and off-road bike facilities as part of the non-auto element. A review of the system maps for the NFTS and the ROD did not reveal any discrepancies between RTP projects and the additions of roads and trails proposed to the NFTS. In addition, the unconstrained project list for the RTP, Appendix 4G, contains facilities for Class 2 bike lanes and Class 1 recreational trails. These projects do not adversely impact the changes to the NFTS as proposed in the ROD. The list of projects in the RTP are consistent with the intent of the ROD and any future RTP proposals would be coordinated with the Forest Service in areas that are part of the NFTS. The maintenance of County roads will continue to be consistent with the Water Quality and Habitat Protection Manual for County road maintenance – Chapter 3.

Six Rivers National Forest Motorized Travel Management Plan

The Six Rivers National Forest Motorized Travel Management Plan is consistent with the Trinity County planning and maintenance documents described above. The TCTC and Trinity County Board of Supervisors are in general agreement with and support the Six Rivers National Forest Motorized Travel Management Plan.

APPENDIX 4A
2010 RTP CAPITAL IMPROVEMENTS STATE HIGHWAY PROJECTS
(SHOPP)

APPENDIX 4A

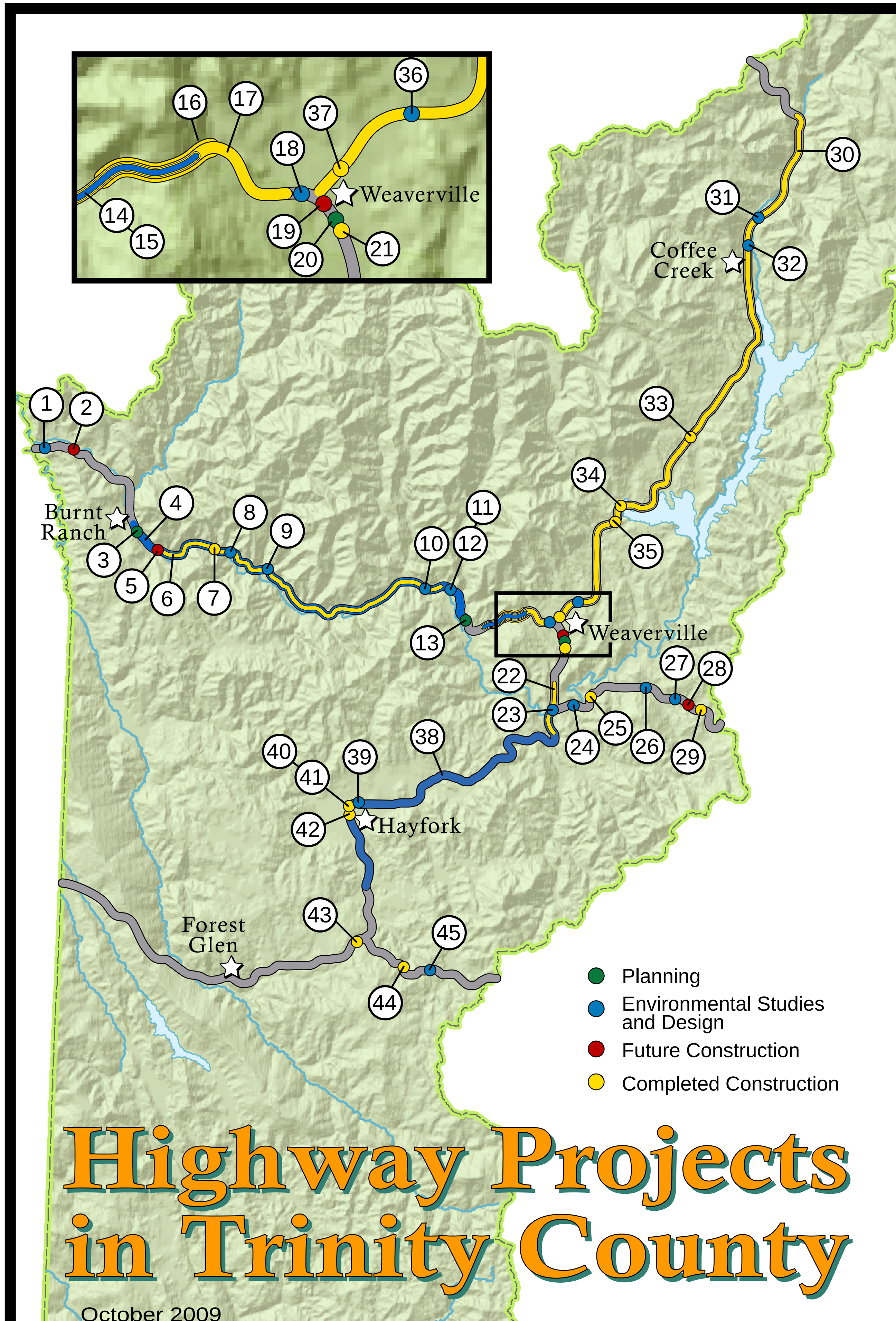
2010 RTP Short-Range Capital Improvements State Highway Projects (SHOPP)									
						Purpose/Need			
Funding Source	Project Number/ Proponent	Location (PM)	Description	Total Cost[1] ($1,000)	Awarded	System Preservation	Capacity Enhancement	Safety	Multi-Modal
STIP TE	4C960	007.1 / 007.7	Hayfork II TE Bikelane	$970	$0		x		
MAINTENANCE	2E680	011.0 / 019.0	Carr Crk Chip Seal	$1,350	$1,164			x	
SHOPP MINOR B	2E790	031.2	Weaverville Flashing Beacons	$65	$51			x	x
SHOPP MINOR B	0E920	033.3	Weaverwille Musserhill Rd Culvert	$48	$0			x	
SHOPP MAJOR	2C990	VAR / VAR	Tri Riv & Minneehaha Crk Brs Br Rehab	$6,981	$4,555		x		
SHOPP MAJOR	3E710	030.4 / 030.7	Blue Pt Curve Improvement	$960	$0			x	
SHOPP MAJOR	2E060	036.7 / 037.1	Dubakella Curve Improvement	$1,029	$936			x	
SHOPP MAJOR	2E350	000.5 / 000.8	Enchilada Curve Improvement	$1,885	$0			x	
SHOPP MINOR B	4E400	002.2 / 002.6	Salyer II RSP	n/a	$0	x			
SHOPP KPHASE	3E790	012.3 / 012.6	Collins Curve Improvement	$1,732 est	$0	x			
SHOPP MAJOR	3C080	013.3 / 013.8	China Slide Curve Improvement	$5,317	$3,893			x	
SHOPP MAJOR	2E200	019.2 / 019.6	Swede Crk Superelevation	$1,494	$0		x	x	
SHOPP MAJOR	37430	023.3	Big French Crk Br Rail	$1,711	$0		x	x	
SHOPP MINOR A	3E820	036.6 / 036.8	North Fork Curve Improvement	$833	$0		x	x	
SHOPP KPHASE	3E770	036.9 / 051.6	Junction City Prevent Maint	n/a	$0	x			
MAINTENANCE	0E100	040.6	Drainage Restoration	$100	$0			x	
SHOPP MINOR A	4E310	045.7 / 046.0	Poison Pond Curve Improvement	n/a	$0	x		x	x
SHOPP MINOR B	2E990	051.3 / 051.9	Weaverville Sidewalk Restoration	$120	$0	x			
SHOPP KPHASE	4E410	053.5 / 064.0	Weaverville East	n/a	$0		x		
MAINTENANCE	2E860	061.0 / 064.0	800 Mhz Radio Repeaters	$500	$0			x	
MAINTENANCE	2E670	061.0 / 064.0	Steel Br / Deer Mtn Overlay	$595	$859	x			
SHOPP MINOR B	0E020	068.0 / 068.2	Trinity Dam Blvd Fish Ladder	$75	$0				
MAINTENANCE	1E600	VAR / VAR	Tri-299 Br Maintenance	$1,378	$1,119	x			
MAINTENANCE	2E260	VAR / VAR	Hot-In-Place Recycle-Var Loc	$2,669	$2,669	x			
MAINTENANCE	3E930	VAR / VAR	Fawn Lodge & Buckhorn Overlay	n/a	$0	x		x	
			Total Tier 1 SHOPP	**$28,080**	**$15,246**				

TRINITY COUNTY

LONG RANGE PROJECTS NOT PROGRAMMED IN THE SHOPP
CALTRANS, (DISTRICT 2)

SHOPP PROJECTS (Long-Range 2018-2020)

ROUTE	BEG PM	END PM	PROJECT LOCATION	TYPE OF WORK	CONSTRUCTION COST $X1000	ANTICIPATED BEGIN CONSTRUCTION YEAR
3	30.0	85.0	Various Locations	Drainage Restoration	$4,000	2020
3	VAR	VAR	Various Locations	Bridge Joint Replacements	$1,500	2020
3	VAR	VAR	Various Locations	Pavement	$15,000	2018
36	VAR	VAR	Various Locations	Pavement	$5,000	2018
299	VAR	VAR	Various Locations	Bridge Joint Replacements	$3,000	2020
299	3.8		Salyer Rest Area	Water and Sewer upgrades	$2,000	2018
299	VAR	VAR	Various Locations	Pavement	$26,000	2020
				TOTAL	$56,500	



Highway Projects in Trinity County

October 2009

Map ID	Route	Postmiles	EA	Nickname	Begin Const	End Const	Const Cost
PLANNING							
3	299	11.1/11.9	1E370	Burnt Ranch Passing Lanes (Planning Only)			$2,000,000
13	299	43.4	1E410	Tri. Co. Curve Realignment for STAA Access (Planning Only)			$900,000
20	299	51.8	0E520	LO - Weaverville Fire Deptartment Beacon (Planning Only)			$85,000
ENVIRONMENTAL STUDIES AND DESIGN							
1	299	0.5/0.9	2E350	Whole Enchilada (Salyer) Curve Improvement	5-1-11	8-1-11	$1,388,000
4	299	10.5/42.6	1E490	Trinity 299 Pullouts	7-1-10	11-1-10	$750,000
8	299	19.2/19.6	2E200	Swede Creek Superelevation	5-1-11	11-1-11	$1,307,000
9	299	23.3	37430	Big French Creek Bridge Rail	5-1-12	11-1-12	$1,204,000
10	299	38.8/39.0	1E210	Horseshoe Curve	9-1-10	11-1-10	$897,000
11	299	40.6	0E100	Drainage Restoration - Location 2	7-1-10	10-1-10	$100,000
12	299	40.6	0E100	Drainage Restoration - Location 1	7-1-10	10-1-10	
15	299	45.0/49.0	1E920	Junction City Thin Blanket Overlay	7-1-10	10-1-10	$750,000
18	299	50.7/51.5	4C950	West Weaverville TE Traffic Calming	6-1-10	10-1-10	$158,000
23	299	58.0	1E600	Trinity-299 Bridge Maintenance - Location 1	6-1-10	10-1-10	$1,378,000
24	299	59.7	1E600	Trinity-299 Bridge Maintenance - Location 2	6-1-10	10-1-10	
26	299	65.8	1E600	Trinity-299 Bridge Maintenance - Location 3	6-1-10	10-1-10	
27	299	68.0/68.2	0E020	Trinity Dam Boulevard Fish Ladder	6-1-10	8-1-10	$80,000
31	3	70.7	2C990	Trinity River & Minneehaha Creek Bridge Rehab - Location 2	5-1-11	10-1-12	$6,849,000
32	3	68.5	2C990	Trinity River & Minneehaha Creek Bridge Rehab - Location 1	5-1-11	10-1-12	
36	3	33.3	0E920	Musserhill Road Culvert	7-1-10	8-1-10	$60,000
38	3	0.2/28.3	2E050	Deer Lick Springs Culvert Replacement	7-1-10	9-1-10	$200,000
39	3	7.1/7.7	4C960	Hayfork II TE Bike Lane	7-1-12	12-1-12	$1,033,000
45	36	36.7/37.1	2E060	Dubakella Curve Improvement	9-1-10	10-1-11	$1,100,000
IN CONSTRUCTION							
2	299	2.2/2.6	4C360	Salyer Curve Improvement	5-1-09	9-1-09	$2,693,000
5	299	13.3/13.8	3C080	China Slide Curve Improvement	6-17-09	11-1-09	$5,332,000
19	299	51.3/51.9	1E170	Weaverville Sidewalk Repair	10-1-09	12-1-09	$200,000
28	299	69.3	1E090	Drainage Restoration - Near Trinity Dam Boulevard	8-1-09	10-1-09	$50,000
COMPLETED							
6	299	14.0/39.7	1E720	G11 Big Bar June 2008 Fire			$780,000
7	299	18.7/18.9	0E150	Italian Creek Shoulder Widening			$901,000
14	299	45.0/49.0	1E940	Seal Cracks			$100,000
16	299	47.0/49.0	0E900	G11 Oregon Mtn Grind & Replace AC			$100,000
17	299	48.6/50.9	0C220	Oregon Mountain Fire			$423,000
21	299	51.9	0E340	Weaverville Rock Wall			$30,000
22	299	55.7/57.7	28853	Rocky Point Passing Lane			$4,200,000
25	299	60.8/61.3	39000	Steel Bridge Road Left Turn Lane			$1,146,000
29	299	69.5/70.6	3846U	Sandhouse Passing Lanes & Chain-on Area			$4,205,000
30	3	3.8/79.4	0E310	Bridge Deck Maintenance & Thin Blanket Overlay w/ Digouts			$5,500,000
33	3	53.7	37800	Stuart Fork Bridges - Location 2			$5,332,000
34	3	43.9	37800	Stuart Fork Bridges - Location 1			
35	3	42.2	2C300	Tannery Gulch Campground Eroded Slope			$45,000
37	3	30.9/32.0	0E120	Weaverville 3 Overlay			$760,000
40	3	6.3/6.8	36410	Hayfork Creek Bridge Scour			$5,432,000
41	3	6.6	0E980	Hayfork Culvert			$16,000
42	3	6.2	35090	Hayfork Maintenance Station			$4,300,000
43	36	28.6	3C610	Peanut Site Distance Improvement			$117,000
44	36	33.5/33.9	3C350	Milt Apple Culvert Upgrade			$88,000

APPENDIX 4B
RTIP FOR TRINITY COUNTY - 2010 STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)

APPENDIX 4B

RTIP for Trinity County - 2010 STIP (in $1,000's)

PPNO	AGENCY	PROJECT TITLE	Prior	10/11	11/12	12/13	13/14	14/15	TOTAL	PA&ED	PS&E	R/W	CON
		STATE STIP PROJECTS											
2066	Trinity County	PPM		$28	$80	$50	$100	$27	$285				$285
2138	Trinity County	E. W'ville, Rt 299-Rt 3, new 2 ln rd	$610	$2,000			$5,600		$7,600	$250	$710	$1,650	$5,600
2140	Trinity County	Hyampom Road Segment 3 Reconstruction	$547	$4,111					$4,111	$110	$437		$4,111
2140B	Trinity County	Rehab and Widen Bridge 5C-067 on Hyampom Road							$0				$489
2140C	Trinity County	Hyampom Road Retaining Walls		$650					$650				$650
2417	Trinity County	Halls Gulch Bridge (HBRR)		$207					$207				$207
2464	Trinity County	Hayfork Creek Bridge on Wildwood (HBRR)			$230				$230				$230
2421	Trinity County	Wildwood Rd reconstruction, segment 1	$500	$155	$335	$60		$3,965	$4,515	$655	$335	$60	$3,965
2465	Trinity County	Lewiston Road No 202, PM 4.8+/- to PM 5.84,					$15	$400	$415		$15		$400
		Subtotal State STIP Projects	$1,657	$7,151	$645	$110	$5,715	$4,392	$18,013				
		FEDERAL TE PROJECTS											
2399A	Caltrans	Hayfork II Project (incl in SHOPP Proj)	$100	$100	$30	$1,090			$1,220	$60	$100	$70	$1,090
2399B	Caltrans	West Weaverville Traffic Calming	$220						$0		$15	$15	$190
2399C	Trinity County	Horsewater Lane Pedestrian Bridge	$100		$60	$130			$190	$75	$25	$60	$130
2399D	Trinity County	Lewiston Road Bike/Ped Lane*	$80			$135		$222	$357	$40	$40	$135	$222
2138	Trinity County	TE-Eligible portions of East Connector					$760		$760				$760
2487	Trinity County	Lowden Park to Senior Center Bike/Ped	$170				$770		$770		$130	$40	$770
		Subtotal Federal TE Projects	$670	$100	$90	$1,355	$1,530	$222	$3,297				
2010 RTIP Totals			$2,327	$7,251	$735	$1,465	$7,245	$4,614	$21,310	$1,190	$1,807	$2,030	$19,099

The 2010 STIP does not include 2009/10 projects. Projects that have received their final allocation (e.g. West Weaverville Traffic Calming and rehab and Widen Bridge 5C-067) are not shown. Projects with allocations pending at the CTC for 2009/10 must be moved to 2010/11 to remain programmed. This has no real effect, except that the unallocated 2009/10 projects are now shown in 2010/11.

TOTALS in Column J do not include prior amounts.

New amounts programmed from unprogrammed balance or TE are shown in smaller font.

*NOTES:

PPNO 2138: Adding $350,000 of unprogrammed balance to prior PS&E allocation of 350 for a total of $700,000 PS&E. Right-of-way also programmed in 10/11, for a total of $2,000,000 programmed in 10/11. See TE section for additional TE funds programmed for CON of TE-eligible components.

PPNO 2399D: $40,000 in PS&E will lapse in 2009/10 and be reprogrammed in 2011/12

Unprogrammed Balance	732
East Connector PS&E	-350
PPM 2013/14	-100
PPM 2014/15	-27
Wildwood Road PA&ED	-155
Unprogrammed Balance Remaining	100

TE Target	398
TE Reserve (PPNO 2482)	18
TE Reserve lapse from 2399D PS&E in 09/10	40
Lewiston Bike/Ped RW	-135
2399D re-program PS&E in 11/12	-40
East Connector CON	-760
Over TE Target	-479

APPENDIX 4C
2010 RTP CAPITAL IMPROVEMENTS COUNTY ROAD AND BRIDGE PROJECTS

APPENDIX 4C

2010 RTP Capital Improvements
County Road and Bridge

						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
HBP	TCDOT	East Fork Road	Replace Bridge #5C-149	$1,212	1	x			
HBP	TCDOT	Wildwood Road	Replace Bridge #5C-086	$2,055	1	x			
HBP	TCDOT	Price Creek Road	Replace or Rehab Bridge 5C-164	$1,450	1	x			
HBP	TCDOT	Corral Bottom Road	Replace Bridge #5C-162	$8,000	1	x			
HBP	TCDOT	East Fork Hayfork Creek	Replace Bridge #5C-157	$822	1	x			
HBP	TCDOT	Various	Bridge deck seals and joint seals	$580	1	x			
HBP	TCDOT	Various	Bridge foundation study/ plan of action	$115	1	x			
			Subtotal Tier 1 Bridge	*$14,234*					
HBP	TCDOT	Canyon Creek Road	Paint Bridge 5C-056	$88	2				
HBP	TCDOT	East Fork of North Fork	Paint Bridge 5C-047	$88	2				
HBP	TCDOT	Ramshorn Road	Replace Bridge 5C-061	$924	2	x		x	
HBP	TCDOT	East Fork Stewarts Fork-Guy Covington	Replace Bridge # 5C-025	$1,914	2			x	
HBP	TCDOT	Lorenz Street	Replace Bridge #5C-036	$1,210	2	x		x	
HBP	TCDOT	Jorden Road	Replace Bridge #5C-187	$924	2	x			
HBP	TCDOT	Hettenshaw Road	Replace Bridge #5C-191	$1,078	2	x			
			Subtotal Tier 2 Bridge	*$6,226*					
HBP	TCDOT	Van Duzen River	Replace Bridge #188	$2,088	3	x			
HBP	TCDOT	Salt Creek Bridge	Replace Bridge # 5C-85	$2,088	3	x			
			Subtotal Tier 3 Bridge	*$4,176*					
			Total HBP	***$24,636***					
Prop 1B	TCDOT	Trinity Mtn Rd -Shasta	Contribution to multi-county rehab	$40	1	x			
Prop 1B	TCDOT	Peak Rd - Humboldt	Contribution to multi-county rehab	$60	1	x			
Prop 1B	TCDOT	Hall City Creek	Pave relocated road segment	$45	1	x			
Prop 1B	TCDOT	County-wide	Replace signs with high-visibility	$90	1			x	
Prop 1B	TCDOT	Mad River & Van Duzen	Drainage rehabilitation for FHWA projects	$150	1	x			
Prop 1B	TCDOT	Summit Creek Rd	New 6' culvert	$35	1	x			
Prop 1B	TCDOT	Dutch Creek Road	Culverts for 5 Counties sed reduction proj	$20	1	x			
Prop 1B	TCDOT	Lewiston Rd.	Drainage improvement at PM 0.5	$30	1	x			
Prop 1B	TCDOT	Fountain Ranch Rd	Realign Road PM 0-0.4	$748	1	x		x	
Prop 1B	TCDOT	Oregon Street	Turnaround at end	$28	1	x		x	
Prop 1B	TCDOT	County-wide	Pavement Management System	$100	1	x			
			Subtotal Tier 1 Prop 1B	***$1,346***					

APPENDIX 4C

Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	Purpose/Need: System Preservation	Capacity Enhancement	Safety	Multi-Modal
FH	FHWA	Mad River Road	Rehabilitation CR 501 PM 19 to end	$3,000	1				
FH	FHWA	Ruth Zenia Rd.	Rehabilitation CR 503 to 8.1 miles north	$3,000	1				
FH	FHWA	Van Duzen Road	Replace Bridge # 5C-181, 182, 206	$6,400	1			x	
FH	FHWA	Mad River Road	Replace Bridge # 5C-152, 154	$4,200	1			x	
			Subtotal Tier 1 FH	*$16,600*					
FH	FHWA	Hyampom Rd.	Reconstruction PM 3.7-6.8 & 8.3-10	$11,100	2	x		x	
			Total FH	***$27,700***					
STIP	TCDOT	East Connector	New arterial roadway in Weaverville	$7,600	1		x		
STIP	TCDOT	Hyampom Road	Reconstruction PM 6.8-8.3	$4,111	1	x		x	
STIP	TCDOT	Wildwood Rd.	Reconstruction PM 11.6-9.6 Phase I	$4,515	1	x		x	
STIP	TCDOT	Lewiston Rd.	Rehabilitation PM 4.8-5.8	$415	1	x			
			Subtotal Tier 1 STIP	***$16,641***					
STIP	TCDOT	Wildwood Rd.	Reconstruction - PM 9.7-7.0 Phase II	$6,309	2	x		x	
STIP	TCDOT	Wildwood Rd.	Reconstruction - PM 7.0-5.0 Phase III	$4,950	2	x		x	
STIP/IIP TE	CALTRANS/ TCDOT	SR 299 Big Flat	Big Flat Traffic Calming	$825	2			x	x
STIP	CALTRANS/ TCDOT	SR 299/Washington St.	Construct new signal	$250	2		x		
STIP	TCDOT	Coffee Creek Rd.	Rehabilitation PM 0-0.95	$300	2	x			
STIP	TCDOT	Mary Street, TC	Rehabilitation - Mary Street 1.15 mile	$345	2	x			
STIP	TCDOT	Lewiston Subdivision	Rehabilitation residential streets 2.32 miles	$700	2	x			
STIP	TCDOT	Lewiston Rd.	Reconstruction - PM 4.8-2.6	$1,004	2	x			
STIP	CALTRANS/ TCDOT	SR 3 Trinity Center	Turnouts or passing lanes Weaverville to Coffee Creek	$3,200	2		x	x	
STIP	TCDOT	Hyampom Road	Overlay PM 14-18	$1,320	2	x			
			Subtotal Tier 2 STIP	***$19,203***					
STIP	TCDOT	Guy Covington Road	Rehabilitation - PM 0 to 1.5	$450	3	x			
STIP	TCDOT	Lewiston Rd.	Reconstruction - PM 0 to 2.6	$1,295	3				
STIP	TCDOT	Scott Subdivision	Rehabilitation - connecting streets	$900	3	x			
STIP	TCDOT	Barker Creek Rd.	Rehabilitation PM 0-2.5	$588	3	x			
STIP	CALTRANS/ TCDOT	SR 299/Garden Gulch/ Forest Ave	Improve intersection	$500	3		x	x	
STIP	TCDOT	B-Bar-K Rd.	Reconstruction - PM 0 to 0.4 Phase I	$770	3	x			
STIP	TCDOT	B-Bar-K Rd.	Reconstruction - PM 1.0 to 1.6 Phase 3	$700	3	x			
STIP	TCDOT	Blanchard Flat Rd.	Reconstruction	$700	3	x			
STIP	TCDOT	Goose Ranch Rd.	Reconstruction - PM 2.7 - 3.6	$660	3	x			
			Subtotal Tier 3 STIP	***$6,563***					
			TOTAL Tier 1, 2, and 3 STIP	**$42,407**					

APPENDIX 4C

						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
HSIP	TCDOT	Trinity Dam Blvd	Flashing Icy signs at Mountain View Rd and 1.3 miles south	$50	1			x	
HSIP	TCDOT	Trinity Dam Blvd	Guardrail 2.4 miles north of Rush Creek Rd	$115	1			x	
HSIP	TCDOT	Ruth-Zenia Rd	Guardrail at PM 3.4	$132	1			x	
HSIP	TCDOT	County-wide	Replace signs with high-visibility	$110	1	x		x	
HSIP	TCDOT	Trinity Dam Blvd	Guardrail - 0.7 mi N. of Rush Crk. Rd.	$75	1			x	
			Subtotal Tier 1 HSIP	*$482*					
HSIP	TCDOT	Mad River Rd.	Guardrail - 0.2 mi S. of Eagles Nest Rd.	$297	2			x	
HSIP	TCDOT	Ruth-Zenia Rd.	Guardrail - 9.5 mi S. of SR 36	$416	2			x	
HSIP	TCDOT	Trinity Dam Blvd	Guardrail 0.7 mi N. of Rush Creek Rd	$75	2			x	
HSIP	TCDOT	Various	Guardrails and retaining walls	$726	2			x	
			Subtotal Tier 2 HSIP	*$1,514*					
HSIP	TCDOT	Various	Guardrails and retaining walls	$317	3			x	
			Total HSIP	**$2,313**					
LOCAL	TCDOT	Center Street	Two-way street from Court to SR 3	$180	1		x		
LOCAL	TCDOT	Michael Street -Hayfork	Extend Michael Street to Oak Avenue	$200	3		x		
			Total LOCAL	**$380**					
DFG/NMFS	5CC	County-wide	various sediment control projects 1-2/year	$500	1	x			
DFG/NMFS	5CC	County-wide	various sediment control projects 1-2/year	$500	2	x			
DFG/NMFS	5CC	County-wide	various sediment control projects 1-2/year	$500	3	x			
DFG/NMFS/ STIP	5CC	SR 3 at East Weaver	replace culvert @ intersection fish passage	$1,000	2	x		x	
DFG/NMFS/ STIP/ITIP	5CC	SR 299 / Garden Gulch	replace culvert for fish passage	$1,000	3	x			
DFG/NMFS	5CC	Easter Ave / Garden Gulch	replace culvert for fish passage	$460	3	x			
			Total DFG/NMFS	**$3,960**					
			Total Highway/Bridge Capital Costs	**$102,741**					
HUT, FR, ME		County-wide	Operations & Maintenance	$23,329	1	x		x	
HUT, FR, ME		County-wide	Operations & Maintenance	$35,074	2	x		x	
HUT, FR, ME		County-wide	Operations & Maintenance	$12,646	3	x		x	
			Total Highway/Bridge Operations and Maintenance Costs	**$71,049**					

[1] Total Cost includes Construction, Environmental & Planning (E&P), Plans, Specifications,Estimates (PS&E) and Right-of Way Support (RW Sup)

[2] 1 = Short-Range 0-5 Years; 2 = Midrange 6-15 Years; 3 = Long-Range 16-20 Years

APPENDIX 4D
2010 RTP CAPITAL IMPROVEMENTS TRANSIT PROJECTS

APPENDIX 4D

County Transit Projects									
Short and Medium Range									
						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
Prop 1B		Douglas City	Park-and-Ride bus stop	$40	1				
Prop 1B		County-wide	Bus Stop Sign Installations	$10	1				x
Transit		Hayfork	Two bus benches	$5	1				x
Transit		Weaverville	Three bus benches	$8	1				x
Transit		Weaverville	Three all weather bus shelters	$30	1				x
PTMISEA		Trinity Transit	Bus purchase	$100	1				x
PTMISEA		Trinity Transit	Bus Shelter installations	$29	1				x
PTMISEA		Trinity Transit	Bus purchase	$100	1				x
			Tier 1 Total	***$322***					
Transit		Hayfork	Two all weather bus shelters	$20	2				
PTMISEA		Trinity Transit	Upgrade Fareboxes	$53	2				x
PTMISEA		Trinity Transit	Bus Purchase	$100	2				x
			Tier 2 Total	***$173***					
			Tier 3 Total	***$0***					
			Total Transit Capital	***$495***					
5311, 5311F, STA, LTF		Trinity Transit	Operations and maintenance	$2,300	1				
5311, 5311F, STA, LTF		Trinity Transit	Operations and maintenance	$5,335	2				
5311, 5311F, STA, LTF		Trinity Transit	Operations and maintenance	$3,100	3				
			Total Operation and Maintenance	**$10,735**					
			Total Transit Costs	**$11,230**					

[1] Total Cost includes Construction, Environmental & Planning (E&P), Plans, Specifications,Estimates (PS&E) and Right-of Way Support (RW Sup)

[2] 1 = Short-Range 0-5 Years; 2 = Midrange 6-15 Years; 3 = Long-Range 16-20 Years

APPENDIX 4E
2010 RTP CAPITAL IMPROVEMENTS NON-MOTORIZED PROJECTS

APPENDIX 4E

Non-Motorized Projects									
						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
Class 1 Bike Path									
TE	TCDOT	Lewiston Rd.	Class I - Lewiston School to Trinity Dam Blvd	$357	1			x	x
TE	TCDOT	East Connector	Class 1 - Lowden Park to Browns Ranch Rd.	$770	1				x
TE/FH	Caltrans	SR 3 - Trinity Center	Trinity Lake KOA to Airport Road (bike/ped trail/bridge)	$2,375	1				x
			Total Class I	**$3,502**					
Class II Bike Lanes									
TE	TCDOT	East Connector	SR 299 @ Glen Rd. to SR 3 with sidewalk	$760	1				x
TE	Caltrans	SR 3 -Hayfork	Oak St. to Forest Ave.	$1,220	1				x
TE/SRTS	TCDOT	Corral Bottom Rd	Bike path SR 299 to Patterson Ranch/Cox Bar	$1,500	2				
TE	Caltrans	SR 3 - Hayfork	Forest Ave. to Big Creek Rd.	$1,540	2				x
SRTS	TCDOT	Red Hill Rd. - JC	Senger Rd. to Junction City Elementary School	$1,200	2				x
TE	TCDOT	Trinity Dam Blvd.-Lew	Mountain View Rd. to Deadwood Rd.	$440	2				x
			Total Class II	**$6,660**					
Class III Bike Routes									
O&M	TCDOT	Designated throughout the remainder of the County road system	***Total Class III***	***$268***	3				x
Bicycle Amenities									
BTA	TCDOT	County-wide	Bikeway Guide	$60	2				x
BTA	TCDOT	County-wide	Share the Road signs	$100	2				x
BTA	TCDOT	County-wide	Bike parking - 40 racks	$160	2				x
BTA	TCDOT	County-wide	Bike parking - 10 lockers	$180	2				x
BTA	TCDOT	County-wide	Safe Routes to School Program - 7 schools	$120	2			x	x
BTA	TCDOT	Shasta-Trinity Trail	Feasibility Study	$60	2				x
			Total Bicycle Amenities	***$680***					
Pedestrian Facilities									
SHOPP/TE/ADA	Caltrans/TCTC	SR 3 - SR 299 to Weaverville Elementary	Construct Sidewalk & Class II Bike Lane	$1,200	1				x
TE	TCDOT	Horsewater Lane	Construct Pedestrian Path, rehab ped bridge	$190	1				x
ITIP/TE/ADA	Caltrans/TCTC	SR 299 East Weaver Creek to Tops Shopping Center	Construct Sidewalk & Class II Bike Lane	$1,200	1				
ITIP/TE/ADA	Caltrans/TCTC	SR 299 Tops Shopping Center to Industrial Park Way	Construct Sidewalk & Class II Bike Lane	$4,100	3				
ITIP/TE	Caltrans/TCTC	Big Flat	Traffic Calming and Pedestrian Facilities	$500	3				
			Total Pedestrian Facilities	***$7,190***					
			Total Non-Motorized Tier 1	**$8,072**					
			Total Non-Motorized Tier 2	**$5,360**					
			Total Non-Motorized Tier 3	**$4,868**					
			Total Non-Motorized Costs	**$18,300**					

[1] Total Cost includes Construction, Environmental & Planning (E&P), Plans, Specifications,Estimates (PS&E) and Right-of Way Support (RW Sup)

[2] 1 = Short-Range 0-5 Years; 2 = Midrange 6-15 Years; 3 = Long-Range 16-20 Years

APPENDIX 4F
2010 RTP CAPITAL IMPROVEMENTS AVIATION PROJECTS

APPENDIX 4F

Aviation Projects									
						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
Hayfork Airport									
FAA			Extend parallel taxiway & const. box culvert	$1,000	1			X	
FAA			Supplemental Wind Indicators	$2	1			X	
FAA			East end taxi way realignment (relocate Riverview Road)	$360	1			X	
FAA			AWOS	$150	1				
AIP			hangar Construction	$400	2		X	X	
			Subtotal	***$1,912***					
Hyampom Airport									
CAAP			Extend runway by 700'	$1,200	3	x	x	x	
CAAP			Construct parallel taxiway	$700	2		x	x	
CAAP			Tree / Shrub Removal	$20	1			x	
CAAP			Pavement seal runway and parking	$100	1	x		x	
			Subtotal	***$2,020***					
Ruth Airport									
AIP			Widen Runway	$480	2		x	x	
AIP			Construct parallel taxiway	$420	2		x	x	
CAAP			Overlay and upgrade runway	$130	1	x		x	
AIP			Construct hangars	$200	2		x		
			Subtotal	***$1,230***					
Trinity Center Airport									
AIP/CAAP			Acquire expansion and safety area from FS	$200	1	x	x	x	
AIP			Phase 2 slurry seal	$95	1	x		x	
AIP			Install Billboard VASI	$25	1			x	
AIP		north of airport	Regrade Road to Point	$110	1			x	
AIP			Construct hangars	$700	1		x		
AIP			Extend runway to offset relocation of runway threshold without extending total length of runway	$4,500	3			x	
			Subtotal	***$5,630***					
Weaverville-Lonnie Pool Airport									
AIP			Obstruction removal	$40	2	x		x	
AIP			Construct hangars	$700	3		x		
AIP			Construct lighted heliports	$150	3		x	x	
			Subtotal	***$890***					
			Subtotal Tier 1	***$2,892***					
			Subtotal Tier 2	***$2,240***					
			Subtotal Tier 3	***$6,550***					
			Total Aviation Costs	***$11,682***					

[1] Total Cost includes Construction, Environmental & Planning (E&P), Plans, Specifications,Estimates (PS&E) and Right-of Way Support (RW Sup)

[2] 1 = Short-Range 0-5 Years; 2 = Midrange 6-15 Years; 3 = Long-Range 16-20 Years

APPENDIX 4G
FUTURE RTP CAPITAL IMPROVEMENTS UNCONSTRAINED PROJECTS

APPENDIX 4G

Future RTP Capital Improvements									
Unconstrained Projects									
						Purpose/Need			
Funding Source	Project Number/ Proponent	Location	Description	Total Cost[1] ($1,000)	Construction Year[2]	System Preservation	Capacity Enhancement	Safety	Multi-Modal
Highway Capital:									
FH/STIP	FHWA	East Side Road/ Trinity Mountain Road	Rehabilitate and Pave Road from East Fork Road (Post Mile 8) to SR 299 in Shasta Co.	$4,500	TBD	x		x	
FH/STIP	FHWA	Zenia Lake Mountain Rd.	Rehabilitation - PM 0 to 4.0	$2,500	TBD	x			
STIP	TCDOT	Poker Bar Road	Reconstruction - PM 0.45-1.3	$792	TBD	x			
Prop 1B	TCDOT	Davis Road Rehab	Rehabilitate and resurface roadway	$54	TBD	x			
Prop 1B	TCDOT	Cedar Lane Rehab	Rehabilitate and resurface roadway	$18	TBD	x			
Prop 1B	TCDOT	Trinity Dam Blvd & Rush Creek Rd	Shoulder widening and pullouts	$77	TBD			x	
Prop 1B	TCDOT	Oregon Street	Realign tight curve	$257	TBD	x		x	
STIP/FH	TCDOT	Zenia Bluffs Rd	Rehabilitation - PM 2 to 6	$2,973	TBD	x		x	
STIP/SHOPP	CALTRANS/ TCDOT	SR 3 Hayfork Summit	curve realignment, passing lanes - various locations	$3,500	TBD			x	
STIP/ITIP	CALTRANS/ TCDOT	SR 299 downriver	Turnouts or passing lanes Salyer - J City	$1,600	3		x	x	
STIP	TCDOT	B-Bar-K Rd.	Reconstruction - PM 2.3 to 2.8 Phase 2	$840	3	x			
STIP	TCDOT	Reading Creek Rd.	Reconstruction/Construction - PM 0 to 1.0 (new intersection/Bridge)	$1,050	3		x	x	
STIP	TCDOT	Deerlick Springs Rd.	Reconstruction PM 0.6-1.95	$1,794	2	x		x	
Class 2 Bike lanes:									
TBD	TCDOT	Lewiston	Fremont Street & Texas Avenue	$1,200	TBD				x
TBD	TCDOT	Memorial Dr.	Victory Lane to SR 299	$800	TBD				x
TBD	TCDOT	Victory Lane	High School to Memorial Dr.	$1,200	TBD				x
TE	TCDOT	Rush Creek Loop Class 2 Bike trail	Rush Crk Rd, Trin Dam, SR 299, SR3 creating loop.	$2,250	TBD				x
TE	TCDOT	Covington Mill to Trinity Center	Class I or II Bike path - 5 miles w/ bridge	$6,000	TBD				x
TE	TCDOT	Trinity Center to Coffee Creek	Class I or II Bike path -6 miles	$4,000	TBD				x
TE	Caltrans/ TCDOT	SR 3 - Weavervile	Airport Rd. to East Weaver Creek Rd.	$2,200	TBD				x
SRTS/TE	TCDOT	Van Duzen Road	SR 36 to Dorothy Way	$500	3				x

APPENDIX 4G

Pedestrian Facilities									
SRTS	WES	Washington St	Improve bus/ped access to Weaverville Elementary	$600	TBD			x	x
Parking									
TDB	Chamber of Commerce	Downtown Weaverville	Weaverville Parking Plan/RV and Tour Bus Signage	$120	TBD		x		x
Recreational Trails									
Recreational	WBTC	Lee Fong Connector Trail	Class 1 - End of Mountain View St. to Lee Fong Trail	$500	TBD				x
Recreational	WBTC	Lee Fong Trail	Class I Lorenz Road to Industrial Park Way	$1,200	TBD				x
Recreational	WBTC	Glen Road/Browns Ranch Rd. Trail	Class 1 - SR 3 to SR 299	$800	TBD				x
Recreational		Ewing Gulch Trail	Hwy 3 to Ewing Reservoir	$800	TBD				x
Recreational	WBTC	Shasta College Trail	Trail from Shasta College to Industrial Park Wetlands, connects to Lee Fong Trail	$500	TBD				
Transit:									
TBD	TCTC	County-wide	3 Bus Purchases - 21 passenger Type VII with Braun Real Lift and two wheel chair tie downs	$375	TBD				x
TBD	TCTC	County-wide	3 Bus Purchases - 21 passenger Type VII with Braun Real Lift and two wheel chair tie downs	$425	TBD				x
Environmental/ Fish Passage:									
DFG/NMFS/ STIP/ITIP	5CC	SR 299/ Sidney Gulch	replace culvert for fish passage	$1,100	TDB	x			
DFG/NMFS		Weaver Bally Rd/ Sidney Gulch	replace culvert for fish passage	$800	TDB	x			
DFG/NMFS		Weaver Bally Loop Rd/ Sidney Gulch	replace culvert for fish passage	$800	TDB	x			
DFG/NMFS		USFS Complex/ Sidney Gulch	replace culvert for fish passage	$1,200	TDB	x			
			Total Unfunded Cost	**$47,325**					

APPENDIX 5A
REVENUE ESTIMATES

APPENDIX 5A

Trinity County Revenue Worksheet											
Fiscal Year	Highway/Bridge Capital					Transit Capital/Operations					
	HBP	HSIP	STIP	Forest Highways	Prop 1B	5311	5311F	STA	Prop 1B PTMISEA	LTF	Transit Fares
10/11	$838,000	$46,000	$7,123,000		$0	$53,611	$150,000	$74,597	$100,000	$195,000	$27,750
11/12	$967,000	$217,000	$0	$10,600,000	$1,300,000	$55,000	$150,000	$50,000	$29,000	$195,000	$28,860
12/13	$1,253,000	$97,000	$565,000	$2,375,000	$0	$55,000	$160,000	$50,000	$0	$195,000	$30,014
13/14	$2,260,000	$15,000	$5,675,000		$0	$58,000	$160,000	$50,000	$100,000	$200,000	$31,215
14/15	$8,000,000	$60,000	$4,365,000	$6,000,000	$0	$58,000	$160,000	$50,000	$57,174	$200,000	$32,464
Tier 1	**$13,318,000**	**$435,000**	**$17,728,000**	**$18,975,000**	**$1,300,000**	**$279,611**	**$780,000**	**$274,597**	**$286,174**	**$985,000**	**$150,303**
15/16	$238,000	$80,000	$0		$0	$58,000	$170,000	$50,000	$0	$200,000	$33,762
16/17	$118,000	$101,000	$5,300,000		$0	$58,000	$170,000	$50,000	$100,000	$205,000	$35,113
17/18	$660,000	$200,000	$0	$11,100,000	$0	$58,000	$170,000	$50,000	$0	$205,000	$36,517
18/19	$330,000	$267,000	$3,650,000		$0	$58,000	$175,000	$50,000	$0	$205,000	$37,978
19/20	$260,000	$112,000	$0		$0	$60,000	$180,000	$50,000	$0	$205,000	$39,497
20/21	$800,000	$100,000	$3,650,000		$0	$60,000	$180,000	$50,000	$0	$210,000	$41,077
21/22	$720,000	$200,000	$0		$0	$60,000	$185,000	$50,000	$0	$210,000	$42,720
22/23	$360,000	$110,000	$3,600,000		$0	$60,000	$185,000	$50,000	$0	$210,000	$44,429
23/24	$1,300,000	$212,000	$0		$0	$70,000	$190,000	$50,000	$0	$210,000	$46,206
24/25	$1,440,000	$142,000	$3,000,000		$0	$70,000	$190,000	$50,000	$0	$210,000	$48,054
Tier 2	**$5,511,878**	**$1,349,197**	**$19,200,000**	**$11,100,000**	**$0**	**$612,000**	**$1,795,000**	**$500,000**	**$100,000**	**$2,070,000**	**$405,352**
25/26	$300,000		$0		$0	$70,000	$190,000	$50,000	$0	$210,000	$49,976
26/27	$360,000	$30,000	$3,300,000		$0	$70,000	$200,000	$50,000	$0	$210,000	$51,975
27/28	$300,000	$110,000	$0		$0	$70,000	$200,000	$50,000	$0	$210,000	$54,054
28/29	$1,560,000	$30,000	$3,300,000		$0	$75,000	$200,000	$50,000	$0	$210,000	$56,216
29/30	$1,560,000	$110,000	$0		$0	$75,000	$205,000	$50,000	$0	$210,000	$58,465
Tier 3	**$4,080,000**	**$280,000**	**$6,600,000**	**$0**	**$0**	**$360,000**	**$995,000**	**$250,000**	**$0**	**$1,050,000**	**$270,687**
Total	**$22,909,878**	**$2,064,197**	**$43,528,000**	**$30,075,000**	**$1,300,000**	**$1,251,611**	**$3,570,000**	**$1,024,597**	**$386,174**	**$4,105,000**	**$826,342**

APPENDIX 5A

	Trinity County Revenue Worksheet							
Fiscal Year	Aviation Capital		Non-Motorized		Highway Operations and Maintenance			Annual Estimate
	AIP	Airport Income	TE	BTA, SRTS	HUT	Forest	Match	
10/11	$345,000	$39,679	$100,000		$2,366,180	$2,474,540	$351,912	$14,285,269
11/12	$245,000	$59,761	$90,000		$2,366,180	$2,227,086	$351,912	$18,931,799
12/13	$260,000	$62,449	$1,355,000		$2,366,180	$2,000,000	$351,912	$11,175,555
13/14	$725,000	$62,449	$1,530,000		$2,366,180	$2,000,000	$351,912	$15,584,756
14/15	$1,275,000	$87,291	$241,000		$2,366,180	$2,000,000	$351,912	$25,304,021
Tier 1	**$2,850,000**	**$311,629**	**$3,316,000**		**11,830,900**	**10,701,627**	**1,759,560**	**$85,281,400**
15/16	$400,000	$87,291	$385,000	$110,000	$2,366,180	$2,000,000	$351,912	$6,530,145
16/17	$175,000	$90,463		$300,000	$2,366,180	$2,000,000	$351,912	$11,420,668
17/18	$345,000	$90,463	$1,155,000	$110,000	$2,366,180	$2,000,000	$351,912	$18,898,072
18/19	$245,000	$90,463		$900,000	$2,366,180	$2,000,000	$351,912	$10,726,533
19/20	$260,000	$93,180	$550,000	$110,000	$2,366,180	$100,000	$351,912	$4,737,769
20/21	$725,000	$93,180			$2,366,180	$75,000	$351,912	$8,702,349
21/22	$1,275,000	$93,180	$1,650,000	$110,000	$2,366,180	$75,000	$351,912	$7,388,992
22/23	$400,000	$96,000	$825,000		$2,366,180	$75,000	$351,912	$8,733,521
23/24	$175,000	$96,000		$110,000	$2,366,180	$75,000	$351,912	$5,252,298
24/25	$345,000	$96,000	$2,475,000		$2,366,180	$75,000	$351,912	$10,859,146
Tier 2	**$4,345,000**	**$926,220**	**$7,040,000**	**$1,750,000**	**23,661,800**	**8,475,000**	**3,519,120**	**$92,360,567**
25/26	$245,000	$98,880	$1,000,000		$2,366,180	$75,000	$351,912	$5,006,948
26/27	$260,000	$98,880			$2,366,180	$75,000	$351,912	$7,423,947
27/28	$725,000	$98,880	$2,600,000		$2,366,180	$75,000	$351,912	$7,211,026
28/29	$1,275,000	$101,800	$750,000		$2,366,180	$75,000	$351,912	$10,401,108
29/30	$400,000	$101,800	$2,250,000		$2,366,180	$75,000	$351,912	$7,813,357
Tier 3	**$2,905,000**	**$500,240**	**$6,600,000**	**$0**	**$11,830,900**	**$375,000**	**$1,759,560**	**$37,856,387**
Total	**$10,100,000**	**$1,738,089**	**$16,956,000**	**$1,750,000**	**$47,323,600**	**$19,551,627**	**$7,038,240**	**$215,498,354**

APPENDIX 6A
ENVIRONMENTAL DOCUMENTATION

TRINITY COUNTY
REGIONAL TRANSPORTATION PLAN
ENVIRONMENTAL DOCUMENTATION

August 2011

TABLE OF CONTENTS

LIST OF TABLES

PROJECT OVERVIEW AND DETERMINATION

PROJECT TITLE

Trinity County 2010 Regional Transportation Plan Update

LEAD AGENCY NAME AND ADDRESS

Trinity County Transportation Commission (TCTC)
PO Box 2490
31301 Highway 3
Weaverville, CA 96093

CONTACT PERSON AND PHONE NUMBER

Jan Smith, Program Manager
PO Box 2490
31301 Highway 3
Weaverville, CA 96093
(530) 623-1365

PROJECT SPONSOR'S NAME AND ADDRESS

Trinity County Transportation Commission (TCTC)
PO Box 2490
31301 Highway 3
Weaverville, CA 96093
(530) 623-1365

PROJECT LOCATION AND SETTING

The project area consists of the entire County of Trinity. Trinity County is located in the northwestern portion of California. The geography of the County is defined by the Trinity Alps, South Fork Mountain and other ridges of the Klamath Mountains and Coastal Range, carved by the deep canyons and valleys of the Trinity, Van Duzen, and Eel Rivers. There is an extensive wild and scenic river system, and the terrain is rugged and forested, with the highest points at around 9,000 feet. According to the 2000 Census, the county has a total area of 3,208 square miles of which, 3,179 square miles is land and 29 square miles is water. There are no incorporated cities or towns in Trinity County. Trinity County's Census Designated Places (CDPs) include Hayfork, Lewiston, and Weaverville. Smaller communities include Big Bar, Burnt Ranch, Douglas City, Junction City, Salyer, Trinity Center, Hyampom, Mad River, Ruth and Coffee Creek. Trinity County is bounded by five counties:

1. Mendocino County on the south
2. Humboldt County on the west
3. Siskiyou County on the north
4. Shasta County on the east
5. Tehama County on the southeast

The county seat and largest town is Weaverville, with approximately 3,500 people. The major highways in the County include State Route 3, State Route 36, and State Route 299. Four national protected areas are found in Trinity County:

- Mendocino National Forest (78,643 acres)
- Shasta-Trinity National Forest (933,674 acres)
- Six Rivers National Forest (229,601acres)
- Whiskeytown National Recreation Area (222,134 acres)

Population

The U.S. Census Bureau reported Trinity County's population to be 13,063 in 1990 and 13,022 in 2000. In January 2008 the population increased slightly to 13,935 and in January 2009, the population is reported at 13,959 (reported by the California Department of Finance (DOF)). The 2010 U.S. Census Report revealed a total county population of 13,786. This represents a 5.5 percent increase over 1990 or slightly less than 0.28 percent annual growth since 1990. The distribution of population for 1990, 2000, 2008, 2009, and 2010 is shown in **Table 1.1**.

TABLE 1
TRINITY COUNTY TOTAL POPULATION

Population in Year					Percent Change 1990 - 2010	Annual % Change
1990	2000	2008	2009	2010		
13,063	13,022	13,935	13,959	13,786	5.5%	0.28%

Sources: U.S. Census Bureau, State of California, Department of Finance, Table E-4 City/County Population Estimates; DOF Research Unit; Trinity County 2008-09 Economic and Demographic Profile, Center for Economic Development, California State University, Chico

Travel Patterns

The regional movement of people within Trinity County can be classified into three broad categories: commute, recreational, and tourism. The County commute traffic consists mostly of automobile traffic from the smaller communities and rural areas to Weaverville. **Table 1.2** provides the inter-county commute patterns identified in the 2000 Census for Journey-to-Work data.

TABLE 2
TRINITY COUNTY INTER-COUNTY COMMUTE PATTERNS

County/Location	County of Employment for Trinity County Residents	County of Residence for Trinity County Workers
Humboldt	7.7%	2.0%
Mendocino	0%	0%
Shasta	4.3%	3.7%
Siskiyou	0.2%	0.7%
Tehama	0.2%	0.4%
Trinity	83.3%	91.0%
Other locations (within California)	3.8%	1.2%
Other locations (outside of California)	0.5%	0.9%

Source: U.S. Census 2000; Trinity County 2005 RTP

PROJECT DESCRIPTION

The Trinity County Transportation Commission (TCTC) is the designated Regional Transportation Planning Agency (RTPA) for Trinity County. The Trinity County Transportation Commission (TCTC) is established by Section 29535 of the Government Code and organized per Chapter 3, Title 21 of the California Administrative Code. Section 29535 of the Government Code establishes a local transportation commission that is designated as a Regional Transportation Planning Agency (RTPA) responsible for area wide transportation planning in Trinity County. These responsibilities include:

- Administration and Management
- Transportation Planning and Regional Coordination
- Transit Alternatives and Improved Air Quality
- Claimant Funding and Oversight
- Grant Applications and Management

The RTP serves as the planning blueprint to guide transportation investments in the County involving local, state, and federal funding over the next twenty years. The Regional Transportation Plan (RTP) was last updated by the TCTC in 2005. The horizon year for this RTP update is 2030. All RTP projects are assigned the following Tier designation to reflect its anticipated construction and funding time frame.

Tier 1 projects represent projects that are fully fundable from anticipated revenue sources and are already programmed in the 0-5 Year (2010/11 – 2014/15) time frame.

Tier 2 projects represent projects that are short-term and would be fundable from anticipated revenue sources and are planned for programming from 2015/16 – 2024/25 of the RTP.

Tier 3 projects represent projects that are longer-term 2025/26 – 2029/30) and should have full funding during the life of the RTP (by 2030) given current revenue assumptions and projections.

The overall focus of the RTP is directed at developing a coordinated and balanced multi-modal regional transportation system that is financially constrained to the revenues anticipated over the life of the plan

(2030). The coordination focus brings the County, local communities, governmental agencies, Indian Tribal Governments, and citizens into the planning process. The balance is achieved by considering investment and improvements for moving people and goods across all modes including roads, transit, bicycle, pedestrian, goods, railroad, and aviation.

A key issue for Trinity County is the deteriorating condition of the region's local streets and roads and the shortfall of funding needed to provide the level of maintenance necessary to prevent further deterioration during the life of this plan.

Local Street and Roads Maintenance Needs: In 2007-08, the League of Cities in conjunction with Caltrans conducted a comprehensive statewide study of California's local street and road system. The study's objective was to fully assess the condition of the local system to determine (1) what are the pavement conditions of local streets and roads? (2) what will it cost to bring pavements to a "Best Management Practices (BMP) or most cost-effective condition? (3) what are the needs for the essential components to a functioning system? and (4) is there a funding shortfall?

The study surveyed all 58 California counties and 478 cities. The response rate was 93 percent and because the majority of the data came from recognized pavement management systems, the accuracy of the data was considered very high. The results showed that California's local streets and roads are in critical condition. On a scale of zero (failed) to 100 (excellent) the statewide average pavement conditions index (PCI) is 68 which is considered "at risk category." Without additional funding, the PCI is projected to decrease to 58 within 10 years.

The funding need for local streets and roads within Trinity County based on the study findings is approximately **$366 million** over 10 years.

PURPOSE OF THE PLAN

As defined by the 2010 RTP Guidelines, the purpose of the regional transportation plan is to accomplish the following objectives:

1. Provide an assessment of the current modes of transportation and the potential of new travel options within the region
2. Predict the future needs for travel and goods movement
3. Identify and document specific actions necessary to address the region's mobility and accessibility needs
4. Identify guidance and documentation of public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing
5. Provide information for the development of the Federal Transportation Improvement Program (FTIP), the Regional Transportation Improvement Program (RTIP), and the Interregional Transportation Improvement Program (ITIP)
6. Help identify project purpose and needs
7. Provide estimates of emissions impacts for demonstrating conformity with the air quality standards identified in the State Implementation Plan (SIP)
8. Promote consistency between the California Transportation Plan, the regional transportation plan and other transportation plans developed by cities, counties, districts, private organizations, tribal governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs

9. Involve the public, federal, State and local agencies, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation

The TCTC has prepared this 2010 RTP update based on these objectives consistent with the 2010 RTP Guidelines (adopted April 7, 2010).

Project Purpose and Need

The RTP guidelines require that an RTP “provide a clearly defined justification for its transportation projects and programs.” This requirement is often referred to as either the Project Intent Statement or Project Purpose and Need. Caltrans’ Deputy Directive No. DD 83 describes a project’s “Need” as an identified transportation deficiency or problem, and its “Purpose” is the set of objectives that will be met to address the transportation deficiency. For Trinity County each table of projects by mode is located in Appendix 4A through 4G of the 2010 RTP Update. These appendices include a qualitative assessment of purpose and need indicating a project’s contribution to system preservation, capacity enhancement, safety, and/or multi-modal enhancements. These broader categories capture the intended outcome for projects during the life of the RTP and serve to enhance and protect the “livability” of residents in the County. The following definitions are used in the RTP document.

System Preservation – This category of improvement indicates a project that serves to maintain the integrity of the existing system so that access and mobility are not hindered for travelers. Improvements may include bridge repairs, upgrading of existing rail lines, airport runway repairs, and upgrades to signs and traffic control devices and stripping. In addition, because Trinity County is very rural and contains several small communities, the lack of maintenance funding has resulted in a large amount of “deferred maintenance” that has actually lapsed into a serious need to “rehabilitate” roadways to maintain system preservation. Rehabilitation entails primarily overlay and/or chip seal work that can also be considered a safety improvement. The majority of road projects listed indicate either “rehabilitation” or “reconstruction” to maintain system preservation.

Capacity Enhancement – A capacity enhancement indicates a project that serves to increase traffic flows and to help alleviate congestion and improve LOS. This result may be achieved by adding an additional lane of traffic, adding a passing lane, and/or adding a turn-out for slow moving vehicles. Because Trinity County experiences large volumes of truck and recreational traffic on many of its roadways, and the mountainous geography of the County, the ability of vehicles to travel and desired speeds is sometimes restricted. Capacity enhancement projects are designed to increase travel speeds and provide for opportunities to pass slower vehicles safely. Additional capacity can also apply to airport projects where runways are added or extended. The desired outcome is to maintain acceptable LOS on State and regionally significant roads, and adequate capacity at the County’s airports to meet existing and future demand.

Safety Projects – Safety improvements are intended to reduce the chance of conflicts between modes, prevent injury to motorists using the transportation system, and to ensure that motorists can travel to their destination in a timely manner. Safety improvements may include roadway and intersection realignments to improve sight-distance, pavement or runway resurfacing to provide for a smooth travel surface, signage to clarify traffic and aviation operations, congestion relief, and obstacle removal so that traffic flows are not hindered, and improvements to pedestrian and bicycle facilities to promote safe travel to desired destinations. In addition, bridge repairs and reinforcement serve to improve safety. The desired outcome is to reduce the incident of collisions on County facilities and the societal costs in terms of injury, death or property damage.

Multi-modal Enhancement – These type of improvements focus on non-auto modes of travel such as bicycling, walking and transit. Projects that are designated as multi-modal are designed to enhance travel by one or more of these modes, provide for better connectivity between modes, and to improve non-auto access to major destinations and activity centers. Typical projects include separated bike lanes, shared bike routes, sidewalks, transit amenities, street furniture, and signage.

Nearly all of the roadway and transportation projects (Tier 1, Tier 2 and Tier 3 projects) identified in the Trinity County 2010 RTP update are "system preservation" projects. There are no new roadways proposed as part of the proposed project. The RTP does not directly provide for the implementation of transportation projects and/or facilities. Rather, it identifies necessary improvements in order to provide the best possible transportation/circulation system to meet the mobility and access needs of the entire County.

Due to the regional nature of the RTP, the analysis in this Initial Study focuses on those impacts that are anticipated to be potentially significant on a regional system-wide level. As individual projects near implementation, it will be necessary to undertake project-specific environment assessments before each project is approved and implemented. Such future environmental review will be required in accordance with CEQA and, if federally funded, NEPA. Adoption of this Initial Study/Negative Declaration and approval of the RTP does not authorize Trinity County, Caltrans, or the smaller communities in the County to undertake construction of specific improvement projects identified in the RTP without further environmental review and consideration.

Noteworthy Changes to Project Lists: 2005 vs. 2010 RTP

New projects have been added to the lists of short, medium and long-range projects proposed in the 2010 RTP. Projects have been suggested by Caltrans and Transportation Commission staff and by members of the Board of Supervisors/ Transportation Commission, or requested by the public. Some long-range or Unconstrained projects included in the previous 2005 RTP have been deleted and not carried forward due to lack of support or loss of the proposed funding source.

The Highway Bridge Program (HBP) of replacing or rehabilitating bridges will continue with prioritized projects based on the Caltrans bi-annual bridge inspections. Safety projects under the Highway Safety Improvement Program (HSIP) are competitively awarded based on accident records. Programs such as the State Transportation Improvement Program (STIP) and Transportation Enhancement (TE) provide the opportunity for Regional Transportation Planning Agencies to develop eligible projects based on transportation needs identified by the traffic studies in this, and previous, RTPs, or desires expressed by the community.

A summary of the more noteworthy new projects that have been proposed in this RTP follows:

- Traffic Signal on Highway 299 in Weaverville at Washington Street; mid-term
- Traffic Signal or Roundabout at Forest Avenue/ Garden Gulch Street; long-term
- Traffic Calming on Highway 299 at Big Flat; mid-term
- Two-way Center Street in Weaverville from Court Street to Highway 3; long-term
- Local Road rehabilitation on residential streets in Trinity Center and Lewiston
- Turnouts and/or passing lanes on Highway 3, Covington Mill to Trinity Center
- Class I bicycle/pedestrian path on Highway 3, Trinity Center to Wyntoon Resort
- Curve realignment and/or passing lanes on Highway 3 at Hayfork Summit
- Cooperative projects with adjacent Counties to rehabilitate East Side/Trinity Mountain Road (Shasta County) and Peak Road (Humboldt County)
- Realign Fountain Ranch Road away from the Trinity River
- Lighted heliport at Weaverville Lonnie Pool Airport

Projects that have not been carried forward from the 2005 RTP include paving and chip seal projects in the Trinity Pines area. These projects were initiated with grants from the North State Unified Air Quality

Management District to reduce emissions from unpaved roads. However, this grant program has been discontinued, so these projects have been dropped from the project lists. If a similar funding source becomes available, the County can again pursue these projects.

FINANCIAL ELEMENT

Fiscal constraint is one of the foundational concepts of the 2010 RTP. As such, the financial plan is a key component of the document. Given the nature of the current economy, fiscal constraint is exceptionally important. As part of the 2010 RTP effort the TCTC took a strict posture on this issue. Needs will always exceed available funding; however, it is smart planning to maximize benefit of each available dollar and to prioritize projects based on the funding availability, not strictly need. To this degree, project lists reflect fiscal constraint meaning that the projected revenues from all sources cover the total project costs for Tier 1, Tier 2, and Tier 3 projects.

TRANSPORTATION/LAND USE INTEGRATION

Transportation System Goal 1 in the Trinity County General Plan Circulation Element is to *"Provide for the long-range development of the county's roadway system that is consistent with adopted land use patterns, ensure the safe and efficient movement of the people and goods, minimizes impacts on the attractiveness of the community, meets environmental and circulation objectives, and implements funding strategies for construction, improvement, and maintenance of existing and new roadways."* These desired outcomes are consistent with the County's overall mission to serve the public with integrity in an effective and efficient manner in order to create and sustain a safe, healthy, and productive environment. These transportation/land use principles are reinforced in the General Plan Circulation Element through the following objectives and policies:

Objective 1.1 – Establish consistency and/or linkages between transportation programs and land use plans

> Policy 1.1.A – Update the Trinity County General Plan, Regional Transportation Plan, and/or Community Plans to provide consistency with the findings and/or recommendation of traffic studies, as appropriate.
>
> Policy 1.1.B – Consider the Trinity County General Plan, Regional Transportation Plan, and/or Community Plans when assessing potential transportation projects.

Objective 1.2 – Determine and, as appropriate, address the probable land use impacts of transportation projects prior to approving or funding the projects.

> Policy 1.2.A – Location, design and development of transportation projects shall be consistent with the adopted land use policies of the county.
>
> Policy 1.2.B – Identify potential impacts and/or conflicts between potential growth-inducing transportation projects and the adopted land-use policies of the county.
>
> Policy 1.2.C – Require mitigation for transportation projects with potentially significant impacts to existing or planned land uses in the county.

The RTP promotes the transportation/land use integration and recognizes that future development in Trinity County should occur in areas that will be easiest to develop without high public costs, have the least negative environmental effect, and that will not displace or endanger the county's critical natural resources and agricultural and forest activities. This approach is consistent with the California Wildlife Plan (2006), results in lower cost for improvements and increased operational efficiency of the transportation system because the system will be sized appropriately to reflect more compact growth in near proximity to existing or planned services. The advantages of compact growth extend to higher levels of mobility, connectivity, and accessibility for the elderly and disabled, and to helping manage the growth in vehicle miles traveled (VMT) and its subsequent direct relationship to trip length and air quality.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (E.G., PERMITS, ETC.)

Trinity County will be the Lead Agency for the proposed project pursuant to the California Environmental Quality Act (CEQA), Section 15050. No specific permits are required to approve the proposed project. Future permit approvals vary among projects and may include, but are not necessarily limited to: Caltrans District 2, Department of Fish and Game, Regional Water Quality Control Board, Bureau of Reclamation, Bureau of Land Management, US Army Corps of Engineers, US Fish and Wildlife Service, Federal Highway Administration, Federal Aviation Administration, and the California Transportation Commission.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

None of the environmental factors listed below would be potentially affected by this project, as described on the following pages.

	Aesthetics		Agriculture Resources		Air Quality
	Biological Resources		Cultural Resources		Geology /Soils
	Hazards & Hazardous Materials		Hydrology / Water Quality		Land Use / Planning
	Mineral Resources		Noise		Population / Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities / Service Systems		Mandatory Findings of Significance		

DETERMINATION:

On the basis of this initial evaluation:

X	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Responsible Agency Staff Name: Date

Title:

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the Project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix Environmental Checklist Form, contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 17 environmental topic areas.

I. AESTHETICS

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Responses to Checklist Questions

Response a-d): Less than Significant. Views of scenic resources, including the Trinity Alps, scenic water resources (Trinity Lake, Trinity River, New River, Main trunk of the El River, North Fork of the El River, Mad River, Lewiston Lake, Ruth Reservoir and Ewing Reservoir) and other scenic resources (forest highways) in the county are available from highways and roadways throughout the county. The proposed project does not entitle, propose, or otherwise require the construction of new roadways in any of these areas. The proposed project includes a variety of roadway improvement projects, which consist primarily of roadway rehabilitation efforts and roadway safety improvements, and as such, the proposed project would not lead to indirect population growth as a result of access improvements into areas that are currently undeveloped. There is one proposed new road included in the 2010 update (East Connector) that underwent a full EIR and was officially adopted on March 4, 2003. The report is available at the Trinity County Planning and Public Works department., The “East Connector” project was developed and designed to help alleviate existing and projected future traffic and circulation problems in the Weaverville Basin. The project includes bicycle and pedestrian facilities, including Class I and II lanes along the East Connector and a proposed new bike/pedestrian path along Levee Road, in line with existing planning goals and objectives for the project area. Therefore, project traffic and transportation impacts would be largely beneficial.

The RTP also identifies roadway and multimodal transportation improvement funding priorities that will be implemented over the next 20 years. Implementation of the RTP would not result in significant or adverse changes to the visual quality of the county, and would not result in the introduction of increased nighttime lighting or daytime glare. This is a less than significant impact and no mitigation is required.

II. AGRICULTURE RESOURCES

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

Responses to Checklist Questions

A review of 2010 labor force data for Trinity County from the EDD shows that 99 percent of the workforce is in non-farm related industries with the vast majority of those employed in retail and services. Only one-percent is considered farm/agriculture/mining. There are a few vineyards but employment is relatively small. Of the total wage and salary positions, 88 percent are related to the service industry. In addition, 52 percent work in government agencies (including forest service jobs) and 48 percent are employed by private firms. This data suggests that major conversions of farmland and sensitive agriculture resources to accommodate job growth is not a major focus of the work force nor employment trends.

Response a): No Impact. Implementation of the proposed project would allow for roadway and multimodal transportation improvements throughout the County over the next 20 years. The proposed project would not result in the conversion of any agricultural lands to non-agricultural uses, and as such, would have no impact on any Prime Farmland, Unique Farmland or Farmland of Statewide importance. There is no impact and no mitigation is required.

Response b): No Impact. The proposed project does not propose any changes to General Plan land use designations or zoning districts, and would have no impact on zoning for agricultural use. The proposed project would not result in conflicts with any Williamson Act contracts, nor would it result in the cancellation of any Williamson Act contracts. Implementation of the proposed project will have no impact on a Williamson Act contract, and no mitigation is required.

Response c): No Impact. See responses a) and b) above. The proposed project will have no impact on agricultural lands or operations.

III. AIR QUALITY

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Responses to Checklist Questions

Under State Law, local and regional air pollution control districts have the primary responsibility for controlling air pollutant emissions from all sources other than vehicular emissions. Control of vehicular air pollution is the responsibility of the California Air Resources Board (CARB). In California, State standards are more stringent than Federal standards. The three primary pollutants prevalent within the County are listed below:

- *Ozone* (*O_3*) – smog formed through a chemical reaction of volatile organic compounds, nitrogen oxides and sunlight;
- *Carbon Monoxide* (*CO*) – a colorless, odorless gas that is considered toxic because of its tendency to reduce the carrying capacity of oxygen in the blood; and,
- *Suspended Particulate Matter less than 10 microns (PM_{10})* – solid or liquid matter that can penetrate into the lungs and affect sensitive population groups such as children, the elderly, and people with respiratory diseases.

These pollutants are all emitted by motor vehicles. Motor vehicles also release fugitive PM10 dust that is re-entrained from road surfaces. Fugitive PM10 dust release is substantially higher on unpaved roads compared to paved roads.

Air quality is a significant consideration in planning for and evaluating the transportation system. The CARB divides the State into air basins and adopts standards of quality for each air basin. Trinity County is part of the North Coast Air Basin, with air quality managed by the North Coast Unified Air Quality Management District (NCUAQMD).

The NCUAQMD has a monitoring station located in Trinity County on the roof of the Courthouse in Weaverville. The only pollutant monitored at this site is Particulate Matter 10 (particulate matter ten microns in diameter or less) or PM10. Airborne Particulate Matter is caused by a combination of sources including fine fugitive dust, combustion from automobiles and heating, road salt, conifer pollen, and others. Constituents that comprise suspended particulates include organic, sulfate, and nitrate aerosols which are formed in the air from emitted hydrocarbons, and chloride, sulfur oxides, and oxides of nitrogen. The 24-hour Federal PM10 Standard is 150 µg/m3, while the State Standard is 50 µg/m3. The low population density, limited number of industrial and agricultural installations, and minimal problems with traffic congestion all contribute to Trinity County's generally good air quality. In 2003 (the most recent year for which data is available), Trinity County was in attainment with the Federal PM10 standard, but was in non-attainment (in Weaverville) for the State PM10 standard. Specifically, Trinity County slightly exceeded the State PM10 Standard only one day in 2003 (on 11/18/03) by 3.9 µg/m3. This is generally not of great concern as the measures are within reason, and given that nearly all counties in California are in non-attainment for State PM10. In Trinity County, the primary sources of pollutants contributing to the non-attainment designation for PM10 are wood stoves, wind-blown dust from dirt roads and agriculture, and open burning such as backyard burns, prescribed burning and wildfire.

An air quality conformity determination is not required for adoption of this RTP, as Trinity County is not within a designated Federal non-attainment or maintenance area for air quality and is therefore exempt. However, since the County, and other areas in the North Coast District exceed the State PM10 standard, The North Coast Unified Air Quality Management District has established a PM10 Attainment Plan, which includes Transportation Control Measures (TCMs) and land use measures affecting motor vehicles. Some of the project alternatives proposed in this RTP would lead to reduced traffic congestion, resulting in slightly lower emissions. In addition, some projects to surface unpaved roads are in compliance with the PM10 Attainment Plan being implemented by the NCUAQMD. Therefore, this RTP is consistent with the District's PM10 Attainment Plan.

Responses a-e): Less Than Significant. It is the intention of the RTP to rehabilitate the current road base and improve existing and future circulation within the County wherever possible. With this focus, improvements in the RTP may benefit regional air quality by reducing congestion on major roads within the County. Some of the route improvements contemplated in the RTP could have direct impacts on air quality, sensitive receptors, or create objectionable odors on a project-specific basis during construction. The Clean Air Act sets national ambient air quality standards for various air pollutants, including carbon monoxide, ozone, oxides of nitrogen, sulfur dioxide and particulate matter.

Individual projects contemplated in the RTP will be subject to project-level environmental review prior to approval and construction. Measures, such as construction best management practices (BMPS), may be required for individual projects to reduce temporary short-term construction related impacts to air quality.

The project would not result in any indirect or cumulatively adverse impacts on air quality, as the project would not result in increased vehicle trips within the County or an overall increase in vehicle miles travelled as a result of implementation of the RTP.

The proposed project would not conflict with or obstruct the implementation of the air quality plan, or violate any air quality standard.

Climate Change and Greenhouse Gas Emissions

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 known as the California Global Warming Solutions Act (Section 38560.5 of the Health and Safety Code). The bill establishes a cap on statewide green house gas emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emissions levels back to 1990 levels.

In January 2007, the Legislature asked the CTC to review the RTP guidelines to incorporate climate change emission reduction measures. The request emphasized that RTPs should utilize models that accurately measure the benefits of land use strategies aimed at reducing vehicle trips and/or trip length. The CTC staff established an RTP guidelines work group to assist in the development of "best practices" for inclusion in the RTP Guidelines. The Addendum to the 2007 RTP Guidelines (May 29, 2008) provides several recommendations for consideration by rural RTPAs to address GHG. The following strategies from the guidelines have specific application to Trinity County. These recommendations are also part of the 2010 RTP Guidelines.

- Emphasize transportation investments in areas where desired land uses as indicated in a general plan may result in vehicle miles traveled (VMT) reduction or other lower impact use.
- Recognize the rural contribution towards GHG reduction for counties that have policies that support development within their cities, and protect agricultural, forest and resource lands.
- Consider transportation projects that increase connectivity, emphasize non-auto modes or provide other means to reduce VMT.

The transportation planning literature recognizes three interrelated components that contribute to transportation emissions reductions. Those components include changes in vehicle technology (cleaner burning engines), alternative fuel sources, and vehicle use. The first two components are typically the responsibility of industry and national governmental interests. RTPAs and local governments have the ability to affect *vehicle use* by promoting transportation alternatives to the automobile, and by managing the demand for transportation. These efforts typically involve goals and policies and/or projects and programs focused on getting people out of their cars and into non-auto modes of travel (mode shifting). The following RTP goals and objectives are established for Trinity County to lessen dependence on the automobile and to promote mode shifting to other forms of transportation.

- Goal 2: Provide affordable, reliable, and efficient public transportation options that are consistent with demand and available resources.
  - support public transit determined to be "reasonable to meet"
  - maximize county-wide transit service and inter-county connections
- Goal 3: Promote non-auto modes by developing a safe and convenient system of bicycle and pedestrian facilities to connect activity centers and communities
  - increase the total mileage of safe bike routes, lanes and trails
  - increase the total mileage of safe pedestrian walkways and sidewalks
  - provide safe equestrian facilities
- Goal 5: Support and promote economic development through the efficient movement of freight to, and through Trinity County
  - Encourage use of county airports by commercial freight delivery services
  - Develop aviation related freight delivery services at airports as funding allows

In recent years, Trinity County has experienced relative slow growth (less than 1.0 percent per year) in population and employment and is forecast to continue this trend through 2030. Based on this trend and the guidelines established in the 2010 RTP guidelines, the County is not required to run a network travel demand model to estimate VMT. However, the County is committed to implementing policies and strategies that reduce reliance on the automobile and contribute to the reduction of GHG. The effectiveness of efforts by the RTPA to provide transportation alternatives and to implement Transportation Demand Management (TDM) and Transportation System Management (TDM) policies and strategies can be measured in terms of reductions in VMT or the expected growth in VMT. VMT reductions and speed correlate directly with reductions in GHG emissions. In the past, the County has relied on Caltrans to provide VMT estimates through their count program on state highways. The results of this approach are summarized below.

Caltrans Annual VMT Report

Caltrans reports VMT by County on an annual basis. Their summary report "Vehicle Miles of Travel on State Highway System" for Trinity County covering the years 1999 through 2007 shows that between 1999 and 2004 VMT increased approximately 2.1 percent (compounded) per year on State highways in the County. However, since 2004, VMT in the County has actually declined by approximately 0.4 percent per year through 2008. This reduction is attributed to a reduction in resource employment, higher fuel costs, and the State's declining economy.

Table 1.3 displays historical annual and average daily vehicle miles of travel (VMT) on state highways in Trinity County.

TABLE 3
VMT ON STATE HIGHWAYS IN TRINITY COUNTY

Year	Annual VMT (in millions)	Average Daily VMT[1]
1995	112.8	309,041
1996	113.3	310,411
1997	119.2	326,575
1998	119.6	327,671
1999	126	345,205
2000	111	304,110
2001	111	304,110
2002	111	304,110
2003	115	315,068
2004	121.3	332,329
2005	120.7	330,685
2006	120.3	329,589
2007	120.4	329,863
2008	119.4	327,123

Notes: [1] Average Daily VMT equals annual VMT divided by 365 days per year.
Source: Caltrans Traffic and Vehicle Data Systems Unit

Trinity County Travel Demand Model (TDM)

Although not required by the RTP Guidelines, Trinity County developed a TDM in 2004 to assist the county in refining its forecasting of traffic levels and patterns on its transportation system. This proactive approach will position the County to report progress in complying with any future CARB targets established for the County in AB 32 or SB 375.

A travel demand model (TDM) is a computer based tool that estimates traffic levels and patterns for a specific geographic area. TDM's are compiled using a computer program consisting of input files that summarize the area's land uses, street network, travel characteristics, and other key factors. Using this data, the model performs a series of calculations to determine the amount of trips generated by land uses, where each trip begins and ends, and the route taken by the trip. The model's output includes estimates of traffic on major roadways.

The Trinity County TDM is viewed as a valuable tool for the preparation of the Trinity County 2010 Regional Transportation Plan and other long-range transportation planning studies including compliance with GHG legislation such as AB 32 and SB 375 if such compliance is mandated for Trinity County. The model can be used to estimate the average daily and peak hour traffic volumes on major roadways in the future under certain growth assumptions. Using these traffic projections, transportation improvements can be identified to accommodate traffic growth, as well as forecasting future VMT and GHS emissions from the transportation sector.

Table 1.4 displays 2009 and future year 2040 daily VMT estimates on state facilities and county roadways produced by the Trinity County Travel Demand Model (Fehr & Peers 2010). The VMT estimates are displayed for each 5 mile per hour speed increment. With this type of information, emission levels for GHG can be estimated once targets are established. Note that the travel demand model results do show an increase in Daily VMT for Trinity County.

TABLE 4
2009 AND 2040 FORECASED VMT ON TRINITY COUNTY ROADWAYS (INCLUDING STATE HIGHWAYS)

Speed Increment	2009 Daily VMT	2040 Daily VMT
20-25 mph	19,443	26,147
26-30 mph	11,502	12,856
31-35 mph	26,212	35,609
36-40 mph	6,286	7,117
41-45 mph	4,368	5,869
46-50 mph	3,401	4,281
51-55 mph	360,623	477,085
Grand Total	**431,836**	**568,964**

Source: Fehr & Peers, 2010

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

Trinity County extends from high elevations (+10,000 feet) in the Trinity Alps to lower elevations in the Weaverville basin near Weaverville and Trinity Center near Lewiston. As a result of the changes in elevation, Trinity County includes a variety of climatic, soils and geographic conditions which, in turn, influence the distribution, variety, and abundance of the plant and animal species within the county. Trinity County contains a variety of vegetation associations, which support a diverse array of plant and animal species.

- Balsan Fir, White Fir, California Fir, and Red Firs
- Vine Maple, Mountain Maple, and Big Leaf Maple
- Needlegrass
- Western STIPA

- Western Banebarry
- Buckeye

The variety of vegetative cover types in the county provide habitat for many different types of wildlife. Of particular significance is the large expanse of deer range located in the Trinity Alps. The migratory deer spend summers at high elevations in the Trinity Alps and migrate to lower elevations in the winter.

Within the Mendocino National Forest, the Forest Service maintains a habitat management program, the main objective of which is to maintain or enhance viable populations of fish and wildlife species. To ensure that viable populations of all species are maintained, several species have been selected as "management indicator species" (MIS) to function as barometers for wildlife communities. These include species designated as Sensitive by the Forest Service, species of local interest, and species listed as Threatened or Endangered by either the Federal or State government. These include the bald eagle, peregrine falcon, and spotted owl (Threatened/Endangered); fisher, goshawk and marten(sensitive), black-tailed deer, douglas tree squirrel and western gray squirrel (harvest); tule elk (special interest); and acorn woodpecker, pileated woodpecker, and California thrasher (maintenance).

The major aquatic resources found in Trinity County include the Trinity River, North Fork of the Trinity, New River, South Fork of the Trinity, Main trunk of the Eel River, Trinity Lake, Lewiston Lake, Ruth Reservoir and Ewing Reservoir. High elevation streams in the national forests are occupied by species adapted to the cool, swift-moving, highly oxygenated waters. Such species include rainbow trout, brook trout, brown trout, black bass, small mouth bass, catfish, kokanee salmon, and coho salmon. Foothill and meadow streams generally flow in winter, but are intermittent in the summer.

Responses to Checklist Questions

Response a-f): Less than Significant. The proposed project does not propose the construction of new roadways in areas of the county that have previously been undisturbed. Nearly all of the roadway projects identified in the RTP update consist of rehabilitation efforts, which would occur within the roadbeds of the existing roadways, and would not have the potential to impact any special status species or habitat. Individual projects identified in the RTP update that may include the widening of a particular roadway would be subject to project-level environmental review prior to approval and construction of the improvements. This future project-level environmental review of individual projects would identify the potential for impacts to any special status species, habitat, or wetlands. As such, implementation of the proposed project would not directly or indirectly impact any biological resources, wetland resources, or conflict with any habitat conservation plan or local ordinance protecting natural and biological resources. This is a less than significant impact and no mitigation is required.

V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Responses to Checklist Questions

Response a-d): Less than Significant. The proposed project (RTP) identifies roadway and multimodal transportation improvement funding priorities that will be implemented over the next 20 years. Nearly all of the roadway projects identified in the RTP update consist of rehabilitation and reconstruction efforts, which would occur within the roadbeds of the existing roadways, and would not have the potential to impact any known or previously undiscovered cultural resources. Individual projects identified in the RTP update that may include the widening or a particular roadway would be subject to project-level environmental review prior to approval and construction of the improvements. This future project-level environmental review of individual projects would identify the potential for impacts to any cultural, historical, paleontological or archaeological resources. This is a less than significant impact and no mitigation is required.

As mentioned under Aesthetics, there is one proposed new road included in the 2010 update (East Connector) that underwent a full EIR and was officially adopted on March 4, 2003. The report is available at the Trinity County Planning and Public Works Department., The "East Connector" project was developed and designed to help alleviate existing and projected future traffic and circulation problems in the Weaverville Basin. The project includes bicycle and pedestrian facilities, including Class I and II lanes along the East Connector and a proposed new bike/pedestrian path along Levee Road, in line with existing planning goals and objectives for the project area. Therefore, project traffic and transportation impacts would be largely beneficial.

VI. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			X	

Trinity County is located in the northwestern portion of California (**Figure 1**). The geography of the County is defined by the Trinity Alps, South Fork Mountain and other ridges of the Klamath Mountains and Coastal Range, carved by the deep canyons and valleys of the Trinity, Van Duzen, and Eel Rivers. There is an extensive wild and scenic river system, and the terrain is rugged and forested, with the highest points at around 9,000 – 10,000 feet. According to the 2000 Census, the county has a total area of 3,208 square miles of which, 3,179 square miles is land and 29 square miles is water.

Responses to Checklist Questions

Responses a-e): Less than Significant. Seismicity is directly related to the distribution of fault systems within a region. Depending on activity patterns, faults and fault-related geologic features may be classified as active, potentially active, or inactive. The entire state of California is considered seismically active and is susceptible to seismic ground shaking, however, the most highly active fault zones are along the coastal areas.

Fault Rupture. A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. . While it is possible for a fault rupture throughout seismically active areas of California, there are no Alquist-Priolo Fault zones within Trinity County.

Seismic Ground Shaking. The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters. Any future roadway improvements implemented as a result of adoption of the RTP would be subject to detailed engineering requirements to ensure structural integrity consistent with the requirements of state law. As such, implementation of the proposed project would result in a less than significant impact from seismic ground shaking.

Liquefaction. Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Most areas of Trinity County are considered to be at a low risk of hazards from liquefaction. Any future roadway improvements implemented as a result of adoption of the RTP would be subject to detailed engineering requirements to ensure structural integrity consistent with the requirements of state law. As such, implementation of the proposed project would result in a less than significant impact from liquefaction.

Landslides. Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The projects identified in the RTP consist primarily of roadway rehabilitation and reconstruction, and would occur within the existing right of way of the County's roadway system. Any future roadway improvements implemented as a result of adoption of the RTP would be subject to detailed engineering requirements to ensure structural integrity consistent with the requirements of state law. As such, the potential for impacts related to landslides is considered less than significant.

Lateral Spreading. Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Trinity County is considered to be at a low risk of hazards of lateral spreading. Any future roadway improvements implemented as a result of adoption of the RTP would be subject to detailed engineering requirements to ensure structural integrity consistent with the requirements of state law. As such, implementation of the proposed project would result in a less than significant impact from lateral spreading.

Erosion. Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover. Future roadway improvement projects would be required to implement measures during construction that would reduce potential impacts related to erosion. This is considered a less than significant impact.

Expansive Soils. Expansive soils are those that shrink or swell with the change in moisture content. The volume of change is influenced by the quantity of moisture, by the kind and amount of clay in the soil, and by the original porosity of the soil. Shrinking and swelling can damage roads and structures unless special engineering design is incorporated into the project plans.

Implementation of the RTP would not result in the use or expansion of any septic systems. Implementation of the proposed project would have a less than significant impact on this environmental topic, and no mitigation is required.

VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			X	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

Responses to Checklist Questions

Responses a-c): No Impact. A “hazardous material” is a substance or combination of substances that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a potential hazard to human health or the environment when handled improperly. The proposed project does not propose new development or any use that would result in the transport, use, or disposal of hazardous materials. Furthermore, the proposed project would not result in a foreseeable upset, accident, or emission of hazardous materials. Implementation of the proposed project would have a less than significant impact on this environmental topic and no mitigation is required.

Responses d): Less than Significant. There is one location in Trinity County that is registered with the Department of Toxic Substances Control. The site consists of the Jensen Lumber Company and is located approximately 80 miles west of Redding on SR 3. The site is located in the community of Hyampom. Previous cleanup status was recorded as certified in 1989. This site is not proposed for disturbance or improvement as part of the RTP. Implementation of the proposed project would have a less than significant impact on this environmental topic and no mitigation is required.

Response e-f): Less than Significant. Appendix 4F of the RTP includes a list of proposed improvement projects related to aviation facilities in the County. The proposed aviation facility improvements consist primarily of rehabilitation efforts, runway widening, taxiway construction, hangar construction and the implementation of other ancillary improvements such as lighting and wind detectors, etc. All improvements to aviation facilities within the County identified in the RTP are consistent with the applicable airport land use plans (ALUPs) and would not result in changes to the aviation and flight patterns surrounding County aviation facilities. Implementation of the proposed project would have a less than significant impact on this environmental topic and no mitigation is required.

Response g): Less than Significant. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The improvements identified in the RTP would improve the transportation network in Trinity County, which would serve to improve emergency response times countywide. Construction activities associated with projects identified within the RTP may result in temporary lane closures that may temporarily impede emergency access to certain areas within the County during construction. However, each improvement project, when undertaken, will include measures to ensure that emergency access is not adversely impeded. Implementation of the proposed project would have a less than significant impact on this environmental topic and no mitigation is required.

Response h): Less than Significant. Wild fires are a major hazard in the State of California. Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

The proposed project consists primarily of projects that will improve and rehabilitate roadways throughout the County. There are no new homes, business or habitable structures proposed as part of the RTP. Therefore, implementation of the proposed project would not result in increased risks associated with wild fires. This is a less than significant impact and no mitigation is required.

VIII. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j) Inundation by seiche, tsunami, or mudflow?			X	

Responses to Checklist Questions

Response a-j): Less than Significant. Implementation of the proposed project would result in the improvement and rehabilitation of roadways and transportation infrastructure throughout Siskiyou County. The project would not result in the development or construction of housing or other habitable structures that would be at risk from flooding events. There are a small number of projects identified within the RTP that may increase the area of impervious surfaces within the County. Such improvements consist primarily of roadway rehabilitation and reconstruction to address safety and operational concerns. The amount of impervious surfaces that may be added to the County as a result of project implementation is negligible, and would not result in impacts to groundwater recharge rates. The improvements identified in the RTP would not result in increased uses of ground or surface water, and would not directly or indirectly lead to population growth. As such, the project would not result in an increased demand for ground or surface water resources, and would have no impact on these environmental topics.

There is the potential for water quality impacts to occur during construction activities associated with the various projects identified in the RTP. Each project is subject to further project-level environmental review prior to approval and construction. During subsequent environmental review, potential project-specific construction impacts to water quality would be identified, and mitigation measures, in the form of BMPs would be identified and implemented to ensure that impacts to water quality are reduced or avoided. Impacts to these environmental topics are considered less than significant and no mitigation is required.

IX. LAND USE AND PLANNING

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Responses to Checklist Questions

Responses a-c): No Impact. Implementation of the proposed project would result in improvements to the County's transportation network. There are no changes to land uses or land use designations proposed as part of the RTP. The County General Plan was reviewed during preparation of the RTP, and the RTP is consistent with this document. No housing would be removed as part of the proposed project., As mentioned under Aesthetics, there is one proposed new road included in the 2010 update (East Connector) that underwent a full EIR and was officially adopted on March 4, 2003. The report is available at the Trinity County Planning and Public Works Department., The "East Connector" project was developed and designed to help alleviate existing and projected future traffic and circulation problems in the Weaverville Basin. The project includes bicycle and pedestrian facilities, including Class I and II lanes along the East Connector and a proposed new bike/pedestrian path along Levee Road, in line with existing planning goals and objectives for the project area. The project does not divide any communities within the plan area. Therefore, project traffic and transportation impacts would be largely beneficial.

Any future roadway improvements implemented as a result of adoption of the RTP would be subject to detailed engineering requirements to ensure structural integrity consistent with the requirements of state law. Implementation of the RTP would not conflict with a habitat conservation plan. There are no impacts to land use associated with the proposed project and no mitigation is required.

X. MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Responses to Checklist Questions

Response a-b): No Impact. The Office of Mine Reclamation periodically publishes a list of mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to state or local agencies. There are 7 mines identified on the AB 3098 list in Trinity County. The list below identifies the active mines located in the county.

AB 3098 List – Active Mines in Trinity County

Mine ID	Mine Name	Mine Operator
91-53-0002	Dinsmore Bar	Mercer-Fraser Company, INC.
91-53-0007	La Grange Mine	Eagle Rock, INC.
91-53-0014	Blue Rock Quarry	Ladd & Associates, INC.
91-53-0015	Smith Pit Phase 2	Concrete Aggregate Products
91-53-0021	Blue Rock Quarry – 2	Ladd & Associates, INC.
91-53-0024	Oswald Mine	Master Petroleum
91-53-0025	Ruth Mine	Trinity County, Department of Trans.
91-54-0002	Lee Gill Granite	Mitchell Brown General Engineering, INC.

SOURCE: DEPARTMENT OF MINING AND GEOLOGY 2009

There are no active mines located within the areas proposed for improvement in the RTP. The proposed project would not result in the loss of availability of a known mineral resource or mineral resource recovery site. Implementation of the proposed project would have a less than significant impact on this environmental topic.

XI. NOISE

Would the project result in:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or			X	

applicable standards of other agencies?				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			X	

Responses to Checklist Questions

Responses a-f): Less than Significant. Implementation of the proposed project consists primarily of improvements to the existing transportation network in Trinity County. There are no new roadways proposed that would introduce new vehicle trips into areas not currently exposed to mobile noise sources from the existing transportation network. The East Connector has an approved EIR (2003) that accounted for all potential impacts from the facility. The remaining improvements identified in the RTP would not directly result in increased vehicle trips on the County roadway network, and would therefore, not result in increased noise levels from vehicles travelling on existing roadways and transportation facilities in the County.

The improvements to aviation facilities include runway expansion and widening that is consistent with approved airport land use plans. These improvements will not impact existing height restrictions and/or noise contours around the airport and there are no new sensitive receptors or residential areas near the improvements. Construction activities associated with the various improvements identified in the RTP could result in short-term temporary noise impacts in the immediate vicinity of the improvements. These noise increases would be temporary in nature, and construction activities in the vicinity of residences and other sensitive noise receptors would usually be limited to the daytime hours. There is the potential for nighttime construction to occur, primarily along SR 299 and SR 3. However, as described throughout this initial study, subsequent environmental review of project-specific impacts would be required prior to approval and implementation of future improvements. This future environmental review would identify the potential for short-term construction noise impacts to sensitive receptors, and assign mitigation measures as needed to reduce noise impacts. This is a less than significant impact and no mitigation is required.

XII. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X	

Responses to Checklist Questions

Responses a-c): Less than Significant. The proposed project consists primarily of the rehabilitation and reconstruction of the existing transportation network in Trinity County. As mentioned under Aesthetics, there is one proposed new road included in the 2010 update (East Connector) that underwent a full EIR and was officially adopted on March 4, 2003. The report is available at the Trinity County Planning and Public Works Department., The “East Connector” project was developed and designed to help alleviate existing and projected future traffic and circulation problems in the Weaverville Basin. The project includes bicycle and pedestrian facilities, including Class I and II lanes along the East Connector and a proposed new bike/pedestrian path along Levee Road, in line with existing planning goals and objectives for the project area. Therefore, project traffic and transportation impacts would be largely beneficial to existing residents and users. The project would not result in the direct or indirect inducement of population growth. The proposed project includes projects that would occur primarily within the right-of-way of the existing transportation network, and would not displace any persons or housing units. This is a less than significant impact and no mitigation is required.

XIII. PUBLIC SERVICES

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?			X	

Responses to Checklist Questions

Responses a-e): Less than Significant. As described throughout this initial study, the proposed project consists primarily of the rehabilitation and improvement of the existing transportation network in Trinity County. The projects included in the RTP would not extend roadway infrastructure into areas not currently served, and would not result in the direct or indirect growth of the County's population. As such, the demand for increased public services, including police protection, fire protection, schools, parks and other public facilities would not increase as a result of implementation of the proposed project. This is a less than significant impact and no mitigation is required.

XIV. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Responses to Checklist Questions

Responses a-b): Less than Significant. As described throughout this initial study, the proposed project consists primarily of the rehabilitation and improvement of the existing transportation network in Trinity County. The projects included in the RTP would not extend roadway infrastructure into areas not currently served, and would not result in the direct or indirect growth of the County's population. As such, the demand for increased recreational facilities would not increase as a result of implementation of the proposed project. This is a less than significant impact and no mitigation is required.

XV. TRANSPORTATION/TRAFFIC

Would the project:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			X	
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?			X	
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?			X	

Traffic Volumes and LOS

Roadway operations are measured in terms of Level of Service (LOS). Level of Service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS is defined for each type of facility that has analysis procedures available in the Highway Capacity Manual (HCM) 2000. Letters designate each LOS from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. Safety is addressed through other measures.

- **Level of Service A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

- **Level of Service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

- **Level of Service C** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **Level of Service D** represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **Level of Service E** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

- **Level of Service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of Service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and Level of Service F is an appropriate designation for such points.

Roadway Segment Level of Service

LOS for rural highways is largely determined by roadway geometry factors, such as grades, vertical and horizontal curves, and the presence of passing opportunities. In mountainous topography and particularly through canyons, roadway LOS can be relatively low, even absent substantial traffic volumes. Roadway LOS can also be impacted in developed areas by pedestrian, bicycle and parking activity.

Caltrans District 2 provided an estimate of 2009 level of service on state facilities within Trinity County. In addition, **Table 5** provides additional level of service information, based on average annual daily traffic, for Caltrans and County roadways based on the Analysis Methodology described above.

The following are Caltrans District 2 estimates of LOS on primary roadway segments during peak traffic conditions:

State Route 3

SR 36 to Mile Post 15.0 – LOS B
Mile Post 15.0 to Rush Creek Road – LOS C
Rush Creek Road to Mile Post 67.7 – LOS B
Mile Post 67.7 to Mile Post 79.5 – LOS A
Mile Post 79.5 to Scott Summit – LOS B

State Route 36

Trinity/Humboldt County Line to Junction of SR 3 – LOS B
SR 3 to the Trinity/Shasta County Line – LOS B

State Route 299

The Caltrans District 1 & 2 Boundary to Limestone Point – LOS B
Lime Point to Oregon Mountain – LOS B
Oregon Mountain to Memorial Drive – LOS B
Memorial Drive to Industrial Park Way – LOS D
Industrial Park Way to Douglas City – LOS B
Douglas City to Buckhorn Summit – LOS B

Note that general LOS information for Downtown Weaverville was not provided by Caltrans District 2 because more detailed intersection analysis is provided in the following sections, which provides a better representation of traffic conditions in this area of SR 299 given the close intersection spacing and higher vehicle volumes.

TABLE 5
EXISTING LEVEL OF SERVICE ON COUNTY AND CALTRANS ROADWAYS

Trinity County Facilities			Caltrans Facilities		
Route and Location	Existing Volume[1]	LOS	Route and Location	Existing Volume[1]	LOS
Mill St: South of SR 299	699	A	SR 3: Junction of SR 36, north	210	A
Oregon St: SR 299 to Miner St.	2,727	C	SR 3: Morgan Hill Rd., south	670	A
Oregon St: Miner Street to Odd Fellow Ave.	1,171	B	SR 3: Morgan Hill Rd., north	660	A
Washington St: North of SR 299	3,179	C	SR 3: Hayfork	2,050	C
Washington St: South of SR 3	3,216	C	SR 3: Douglas City, South Jct.	1,450	B
Washington St: South of SR 299	867	A	SR 3: Weaverville, North Jct.	4,000	C
S. Miner St: South of Forest Ave.	2,050	C	SR 3: Rush Creek Rd., south	1,300	B
S. Miner St: North of Oregon St.	2,045	C	SR 3: Rush Creek Rd., north	590	A
Bremer St: South of SR 299	526	A	SR 3: Trinity Center Maintenance Station	660	A
Martin Rd: East of SR 299	1,853	B	SR 3: Siskiyou County Line	190	A
Rush Creek Rd: South of SR 3	685	A	SR 36: Lower Mad River Rd., west	680	A
Airport Rd: East of SR 3	645	A	SR 36: Lower Mad River Rd., east	340	A
Mary Ave: South of Airport Rd.	593	A	SR 36: Forest Glen Maintenance Station	330	A
Trinity Dam Blvd: North of SR 299	903	A	SR 36: Jct. of Route 3, north	400	A
Brady Rd: North of SR 3	620	A	SR 299: East Limits Salyer, west	3,400	C
Morgan Hill Rd: East of SR 3	787	A	SR 299: East Limits Salyer, east	3,150	C
Hyampom Rd: West of SR 3	1,114	B	SR 299: Burnt Ranch Rd., west	3,150	C
Oak Ave: South of SR 3	1,704	B	SR 299: Del Loma, east	1,600	A
Mulligan St (East): North of SR 3	200	A	SR 299: Weaverville, West City Limits	2,950	C
Mulligan St (West): North of SR 3	516	A	SR 299: Weaverville, Washington St., east	11,600	D
Glen Rd: West of Nugget Ln.	1,502	B	SR 299: Martin/Nugget Roads, west	7,100	D
Center St: East of SR 299	504	A	SR 299: Martin/Nugget Roads, east	6,400	C
Center St: South of SR 3	827	A	SR 299: East Jct. SR 3, west	4,350	C
Weaver St: East of SR 299	850	A	SR 299: East Jct. SR 3, east	3,850	C
Masonic Ln: South of SR 299	769	A	SR 299: Lewiston Rd., east	3,400	C
Mountain View St: South of SR 299	738	A	SR 299: Trinity Dam Rd., east	3,750	C
N. Miner St: South of SR 299	184	A			
Mad River Rd: South of SR 36	388	A			
Van Duzen Rd: South of SR 36	581	A			

Notes: [1] Annual Average Daily Traffic volumes. Level of service results may differ by one level of service during the peak month.
Shading indicates deficient operations.
Source: Caltrans Traffic and Vehicle Data Systems Unit, 2008; Fehr & Peers, 2010

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2040 Conditions

Table 6 provides 2040 level of service information for County and Caltrans roadways based on the forecasted traffic volumes from the Trinity County Travel Demand Model (Fehr & Peers, 2010) using a 0.28% per year population growth.

TABLE 6
2040 LEVEL OF SERVICE ON COUNTY AND CALTRANS ROADWAYS

Trinity County Facilities			Caltrans Facilities		
Route and Location	**2040 Volume[1]**	**LOS**	**Route and Location**	**2040 Volume[1]**	**LOS**
Mill St.: South of SR 299	700	A	SR 3: Hayfork	2,200	C
Oregon St.: SR 299 to Miner St.	3,170	C	SR 3: Douglas City, South Jct.	1,570	B
Oregon St.: Miner Street to Odd Fellow Ave.	1,700	B	SR 3: Weaverville, North Jct.	4,590	C
Washington St.: North of SR 299	1,480	B	SR 3: Rush Creek Rd., south	1,540	B
Washington St.: South of SR 3	1,550	B	SR 3: Trinity Center Maintenance Station	800	A
Washington St.: South of SR 299	960	B	SR 3: Siskiyou County Line	260	A
S. Miner St.: South of Forest Ave.	2,340	C	SR 36: Lower Mad River Rd., west	930	B
S. Miner St.: North of Oregon St.	2,270	C	SR 36: Forest Glen Maintenance Station	520	A
Bremer St.: South of SR 299	540	A	SR 36: Jct. of Route 3, north	480	A
Martin Rd.: East of SR 299	1,560	B	SR 299: East Limits Salyer, west	4,400	C
Rush Creek Rd.: South of SR 3	800	A	SR 299: Burnt Ranch Rd., west	4,130	C
Airport Rd.: East of SR 3	760	A	SR 299: Del Loma, east	2,570	B
Mary Ave.: South of Airport Rd.	670	A	SR 299: Weaverville, West City Limits	4,910	C
Trinity Dam Blvd.: North of SR 299	960	B	SR 299: Weaverville, Washington St., east	10,980	D
Brady Rd.: North of SR 3	780	A	SR 299: Martin/Nugget Roads, west	8,440	D
Morgan Hill Rd.: East of SR 3	860	A	SR 299: Martin/Nugget Roads, east	7,870	D
Hyampom Rd.: West of SR 3	1,120	B	SR 299: East Jct. SR 3, west	5,420	C
Oak Ave.: South of SR 3	1,840	B	SR 299: East Jct. SR 3, east	4,950	C
Mulligan St. (East): North of SR 3	210	A	SR 299: Lewiston Rd., east	4,230	C
Mulligan St. (West): North of SR 3	500	A	SR 299: Trinity Dam Blvd., east	5,450	C
Glen Rd.: West of Nugget Ln.	1,510	B			
Center St.: East of SR 299	490	A			
Center St.: South of SR 3	830	A			
Weaver St.: East of SR 299	840	A			
Masonic Ln.: South of SR 299	770	A			
Mountain View St.: South of SR 299	890	A			
N. Miner St.: South of SR 299	190	A			
Mad River Rd.: South of SR 36	420	A			

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TABLE 6
2040 LEVEL OF SERVICE ON COUNTY AND CALTRANS ROADWAYS

Trinity County Facilities			Caltrans Facilities		
Route and Location	**2040 Volume[1]**	**LOS**	**Route and Location**	**2040 Volume[1]**	**LOS**
Van Duzen Rd.: South of SR 36	590	A			
East Connector: SR 299 to Pioneer Ln.	2,690	C			
East Connector: Pioneer Ln. to Browns Ranch Rd.	2,550	C			
East Connector: Browns Ranch Rd. to SR 3	1,780	B			

Notes: [1] Annual Average Daily Traffic volumes. Level of service results may differ by one level of service during the peak month.
The information assumes that the East Connector is in place.
Shading indicates deficient operations.
Source: Caltrans Traffic and Vehicle Data Systems Unit, 2008; Fehr & Peers, 2010

In 2040, SR 299 in Weaverville will continue to operate below Caltrans Standards, and the deficiency will extend east of Martin Road. The level of service analysis presented in **Table 6** assumes construction of the East Connector. The East Connector project has been approved and is assumed to be in place in 2040. Note that without the East Connector, SR 299 in Weaverville would operate at LOS E in 2040 and Washington Street would operate at LOS D.

Responses c-g): Less than Significant. As described throughout this initial study, implementation of the proposed project would assist in the improvement of the County's transportation network across all modes of transit and transportation. The improvements proposed to the road network, transit, and bicycle/pedestrian facilities will improve conditions. With the improvements, the roadways that operate below the level of service policy will improve to within the policy. There are policies and programs included in the RTP that would improve public access to transit systems and alternative modes of transit, such as bicycle use. The various roadways improvements identified in the RTP would assist in the delivery of emergency services by improving the local and regional roadway network and eliminating existing safety and design hazards. The improvements proposed to aviation facilities including runway expansion and widening in the County would not result in an increase in flights or a change in flight patterns, but mainly improve flight safety for existing aircraft operations. The RTP and the projects included within were developed after careful review of the General Plans of the County. The RTP is consistent with the circulation elements of the General Plans, and would not result in conflicts or inconsistencies with the above referenced plans. This is considered a less than significant impact and no mitigation is required.

XVI. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a-g): Less than Significant. Refer to Section VIII- Hydrology and Water Quality for a description of water supply and wastewater disposal.

The project consists of various roadway and transportation network improvement projects throughout the County. The project would not result in direct or indirect population growth, and as such, would not increase the demand for water supplies or the treatment and/or conveyance of wastewater. The various roadway and infrastructure improvements may require modifications or expansions to existing and future stormwater conveyance infrastructure adjacent to roadways proposed for rehabilitation or modification. As described throughout this initial study, projects identified in the RTP would be subject to project-level environmental review to determine if potential impacts to the County's stormwater detention and conveyance infrastructure may occur. This future project-specific environmental review may include mitigation measures, as appropriate, to avoid or lessen potential impacts to the stormwater infrastructure adjacent to roadway and other improvement projects. Implementation of the projects identified in the RTP would not generate significant amounts of solid waste, and would not result in an excedance of any landfill's capacity or violate any state, federal or local statues related to the disposal of solid waste. This is considered a less than significant impact and no mitigation is required.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Responses to Checklist Questions

Responses a), b), c): Less than Significant. As described throughout the analysis above, the proposed project will not result in any changes to General Plan land use designations or zoning districts, would not result in annexation of land, and would not allow development in areas that are not already planned for development in the General Plan and Zoning Ordinance. The proposed project would not result in new adverse environmental impacts. The project would not threaten a significant biological resource, nor would it eliminate important examples California history or prehistory. The proposed project does not have impacts that are cumulatively considerable, nor would it have substantial adverse effects on human beings. Implementation of the proposed project would have a less than significant impact on these environmental topics.

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