

ACTION ELEMENT – GOODS MOVEMENT

Background

Goods movement covers all transportation methods by which freight, commodities, and information are transported into and out of Butte County. The most common methods to transport freight and commodities are rail, truck, air, bus, and pipelines, while information can be transported using fiber optic cable, cellular towers, telephone wire, radio waves, electrical wires, and other technology. Goods movement is critical to the continued economic health of the area by allowing local producers to transport their goods to market, as well as bringing needed raw materials and finished products into the area for the use of local businesses and individuals.

In August of 2013, BCAG completed a specific State Route 70 Economic Transportation Study. The purpose of this report is to provide a preliminary assessment of the potential for improvements to State Route (SR) 70 to foster economic development. The report reviewed the existing socio-economic conditions in Butte and Yuba Counties in order to assess the potential for economic development resulting from improvements to the segment of SR 70 between Marysville and Oroville. The assessment relied on an analysis of commuting and employment data, a review of plans and previous studies, and interviews with local businesses. Key findings from this study are as follows:

- SR 70 is used extensively by commuters to and from Oroville. More than 1,500 Oroville area workers (12% of local employees) live south of the city and use SR 70 for their commute. One major manufacturer in Oroville reports the need to recruit specialized machinists from as far south as Sacramento. An even larger number of Oroville residents (at least 1,800 residents, or 15% of the labor force) commute south to jobs using SR 70. Some residents and workers in Chico also appear to use SR 70 for their commute.
- Oroville's economy is more dependent on highway transportation for goods movement than the economies of Chico or Butte County as a whole. The Oroville area has a relatively high concentration of manufacturing jobs, and many businesses in this sector rely on SR 70 for inbound truck shipments of supplies, outbound shipments of finished products, or both. Many of Oroville's manufacturing companies are linked to the region's agricultural activity, including businesses engaged in food processing, metal products fabrication, and production of packaging. One business, Pacific Coast Producers, generates approximately 400 truck trips per day during the peach canning season, nearly all of them using SR 70. The strength of Oroville's manufacturing sector is evident in the recent growth in local manufacturing jobs (10% increase) as compared to a large drop statewide (27% decline).
- Another key driver of Oroville's economy, the recreation and entertainment sector, is also highly dependent on highway transportation and SR 70 in particular. The Lake Oroville State Recreation Area is one of the busiest state park facilities and draws hundreds of thousands of visitors annually, many of

them arriving via SR 70. These visitors help to support retail and services in Oroville. The two casinos in the Oroville area draw heavily from population centers to the south, with approximately 30% of casino revenue coming from patrons using SR 70.

- Several businesses report that current travel conditions on SR 70 can negatively affect their business operations. Traffic incidents on SR 70 that delay shipment of fresh produce can raise costs for food processors, making them less competitive. Similarly, highway delays can negatively affect manufactures that rely on SR 70 for inbound shipments of raw materials, such as steel, and outbound shipments of finished products. Because of the need for Oroville area businesses to remain competitive domestically and even globally, significant deterioration of travel conditions on SR 70 could hinder the expansion of some existing businesses and limit the potential for new businesses to locate in the Oroville area.

Goods Transport

Rail Transport

Butte County is served by the Union Pacific Railroad. Union Pacific maintains a total of 100.4 miles of mainline track through Butte County, with two mainlines; one in the western portion of Butte County, and one in the eastern portion of the County.

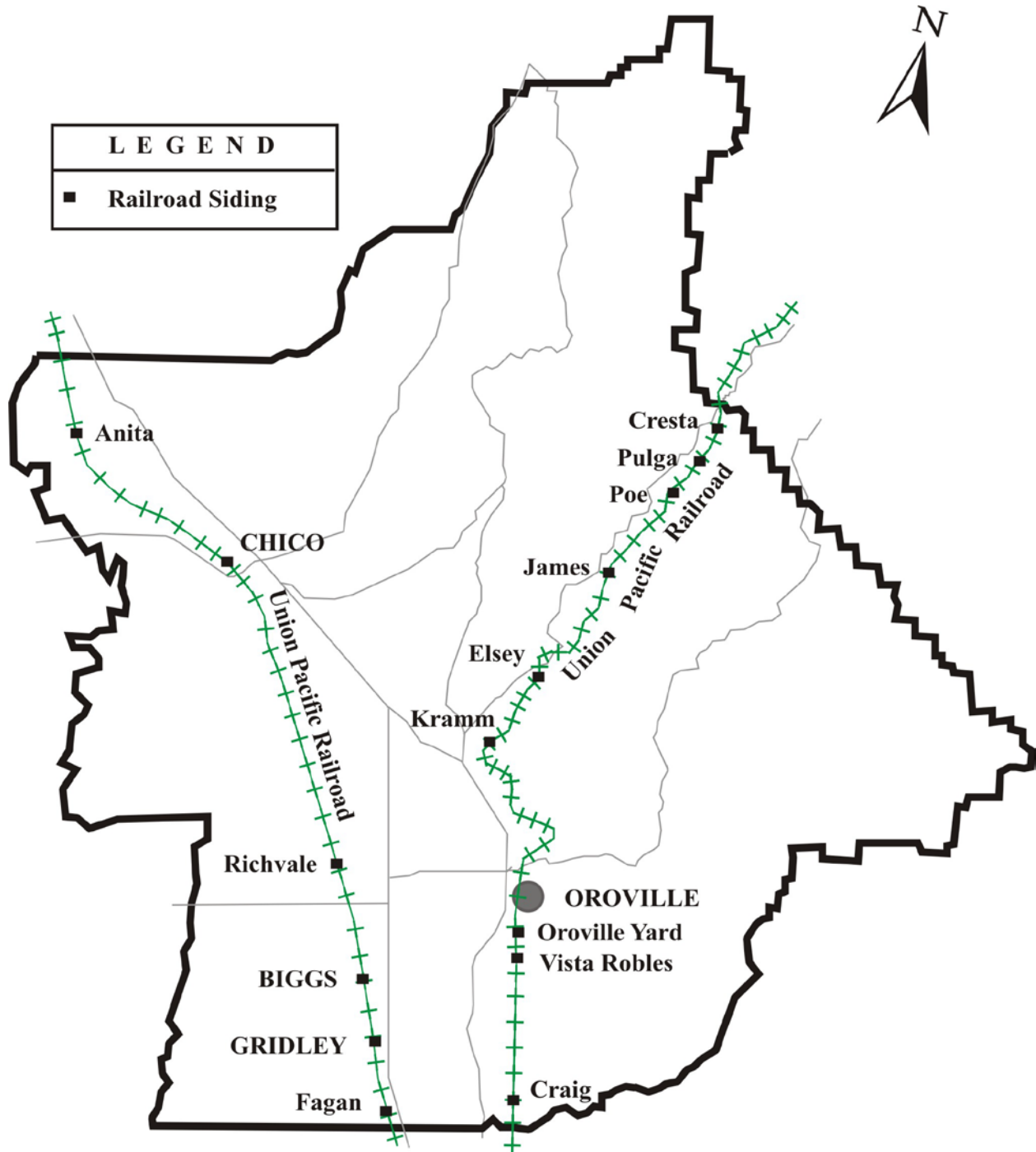
The western mainline extends through the county from the Sutter County line to the Tehama County line, and comprises 45.6 miles of mainline track within the county (Figure 12-1). Sidings are located in Fagan (near the Butte-Sutter County border), Gridley, Biggs, Richvale, Chico, and Anita (northwest of Chico). On an average day, approximately 18 to 24 trains move through Butte County on this segment of the Union Pacific tracks.

The eastern mainline of the Union Pacific Railroad extends through the county from the Yuba County line to the Plumas County line via Oroville for a total of 54.8 miles. North of Oroville, the rail line follows the Feather River (Figure 12-1). The Union Pacific tracks in the Feather River Canyon have a rich history, having been built as part of the first transcontinental railroad by the Central Pacific Railroad Company that began building east from California to meet Union Pacific, which was building west. When the two railroads met at Promontory Point, Utah in 1869, the transcontinental railroad was completed.

There are a number of sidings and spur tracks within Butte County. Some are used by various manufacturers, some are used as passing sidings, and others have been abandoned. The Craig siding and Adelaide spur, both south of Oroville, serve several lumber mills, while several sidings within the Oroville area are currently in use by various manufacturers. The Kramm and Elsey sidings just north of Oroville are both passing sidings with some limited use for commercial enterprise, and the James and Pulga are passing sidings in the Feather River Canyon. More recently, a siding has been added in Chico at the Chico Bean Growers facility. On an average day,

approximately 24 to 50 trains move through Butte County on the Union Pacific tracks. Most of the cargo shipped by rail includes bulky items such as grains, rice, vehicles, lumber, and fuel.

**Figure 12-1
Freight Rail Map**



While transport by rail is generally less expensive than air or truck transport, rail is limited by speed and the location of fixed rail track. Rail transport provides the option of specialized rail cars such as flatbeds, refrigerated box cars, fuel tankers, and piggyback cars. These specialized rail cars allow rail transport to move a large variety of goods, giving it an advantage over other modes of transportation.

Air Transport

Air transport is the fastest way to move goods. However, because of the higher cost per pound, air transport is most practical for small, lightweight items such as mail, business documents, medical supplies & services, and small packages of higher value.

Chico Municipal Airport is the primary airport for air cargo service in Butte County, and also serves the needs of Glenn, Tehama, and Plumas Counties. Paradise Skypark is also used on occasion by commercial cargo carriers as a reliever airport when the Chico Airport is fogged in.

The Chico Airport Master Plan reports air cargo through the airport. The following Table (12-1) summarizes the outbound cargo in tons by year.

Table 12-1
Chico Municipal Airport – Air Cargo

Year	Outbound Cargo - Tons	
	Annual	Daily
1998	1,046	4.0
2000	1,338	5.2
2010	2,700	10.4
2020	5,300	20.4

The following Table 12-2 describes the cargo aircraft departures by the same year groups.

Table 12-2
Chico Municipal Airport – Air Cargo Aircraft Departures

Year	Cargo Aircraft Departures									
	Cessna 208		Twin Cessna 402		Piper Cherokee PA 32		Beech 99		TOTAL	
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
1998	700	3	240	1	380	1.5	390	1.5	1,710	7.0
2000	700	3	240	1	380	1.5	500	2	1,820	7.5
2010	1,200	5	800	3	620	2.5	720	3	3,340	13.5
2020	1,740	7	1,560	6	850	3.0	1,040	4	5,190	20.0

Source: Chico Airport Master Plan Table 2-7

Truck Transport

Truck transport is the primary method of transporting goods into and through the Butte region. Agricultural operations and grocery stores are just two examples of commercial operations depending almost entirely on truck transportation.

The designated truck route through Butte County encompasses State Route 70 from the southern border of Butte County then traversing northwest onto SR 149 and back onto SR 99 to provide for a south to north and vice versa truck route. Because there is no continuous four-lane freeway/expressway system in Butte County to safely accommodate the movement of goods by trucks, safety continues to be a major issue with truck travel. SR 32, 70, and 99 are commonly used to transport freight to and from the urban centers of Butte County. In addition, Chico, Oroville, and Paradise each have designated truck routes within their jurisdictions.

To address the inadequate regional truck infrastructure on the State Highway System, the SR 70 Corridor has been BCAG's top regional priority since 1992. A total of three segments of SR70 remain to be widened to 4 lanes in Butte County. Over \$700 million in transportation investments has been completed to bring 4 lanes to the SR 70, 99 and 149 Corridor to bring a continuous 4-lane highway system from Sacramento to Chico.

Rural two lane highways in the region are subject to significant safety concerns. Corridor projects aim to improve the operations and safety for the traveling public to and through the region. Northern California is rich in agriculture products serving the state and exporting goods throughout the world. As a rural agriculture region, head-on collisions are a major concern for the transporting of goods and the safe transport of the public. In addition, the area is an economically depressed region with struggles to attract new business in the absence of adequate, minimum highway infrastructure. Current Average Daily Traffic (ADT) is approximately 12,400 vehicles with 20-year projection of 29,140 ADT. The source of traffic data are from physical count data and the projections are from the Butte Regional Travel Demand Model. Truck traffic is estimated at 15% of the total ADT for the corridor. As a rural agriculture region, the corridor is subject to higher fatality rates above the state average. The region also experiences high seasonal truck traffic during crop harvesting periods.

Along with SR 99, SR 70 is one of the primary north-south transportation corridors for the eastern Sacramento Valley. SR 70 traverses Sutter, Yuba, and Butte Counties, totaling approximately 81 miles. The route begins 14 miles north of the City of Sacramento, at the junction of SR 99 and SR 70 in Sutter County. It continues north, bisecting the City of Marysville in Yuba County, the City of Oroville in Butte County, and then continues northeast through the Lake Oroville State Recreation Area and Lassen National Forest in Butte County, ultimately terminating at the junction of US 395 in Plumas County.

SR 70 carries substantial recreational traffic through Yuba and Butte Counties, and is a parallel easterly alternative route to SR 99 for most trip purposes. SR 70 accommodates regional, interregional, recreational, and commercial truck traffic, in addition to serving

local traffic within Marysville, Oroville, and adjacent unincorporated communities. SR 70 plays an important role in goods movement, particularly for the first mile/last mile of transporting local agricultural products to market and to processing plants in the region. SR 70 also carries supports the local manufacturing economy by providing access to the Sacramento and Oakland ports. **SR 70 is a California Highway Freight Network Tier 3 facility as designated by the California Freight Mobility Plan.** In addition, SR 70 serves as an emergency alternative route for Interstate 80 (I-80) across the Sierra Nevada Mountains when I-80 is closed or impaired due to weather conditions or other significant incidents.

Pipelines

When most people think of goods transportation, vehicles such as trucks, trains, and airplanes usually come to mind. However, pipelines also play a critical role in transporting water, natural gas, and petroleum supplies through Butte County.

Water

Various agencies and municipalities within Butte County manage water pipelines. There are nine major suppliers of water, with more than 100 other small water suppliers with less than 200 customers each. The major suppliers of water, along with the miles of pipelines they manage, are shown in Table 12-3.

Table 12-3
Major Water Suppliers in Butte County

Water Company	Miles of Pipeline
City of Biggs	15
California Water Service	242
Durham Irrigation District	10
City of Gridley	18
South Feather Water & Power	110
Paradise Irrigation District	180
Thermalito Irrigation District	69
Del Oro Water Company	30
Lime Saddle Community Service District	6
TOTAL MILES	680

Petroleum

Pipelines are the cheapest, safest, and most efficient method of moving large quantities of petroleum products from the refinery to the marketplace. There is a network of

petroleum pipelines through northern California. Chico is the northern terminus for the Northern California Petroleum Product Pipeline, shown in Figure 12-2. An 8" diameter pipeline has a capacity of 35,000 barrels of fuel per hour. The pipeline generally follows the right-of-way of the Union Pacific Railroad tracks from Martinez through the eastern portion of the Sacramento Valley to Chico. The pipeline is generally located underground, except for a few locations where the pipeline crosses creeks and rivers. In Butte County, the only location where the pipeline is exposed to the surface is at Butte Creek just south of Durham.

At the terminus of the pipeline in Chico is a large tank farm used to store the petroleum until it is ready to be transferred to tanker trucks to fuel stations in northern California and southern Oregon. The tank farm has a storage capacity of 500,000 barrels, and 120 to 140 tanker trucks are loaded with petroleum products daily.

Natural Gas

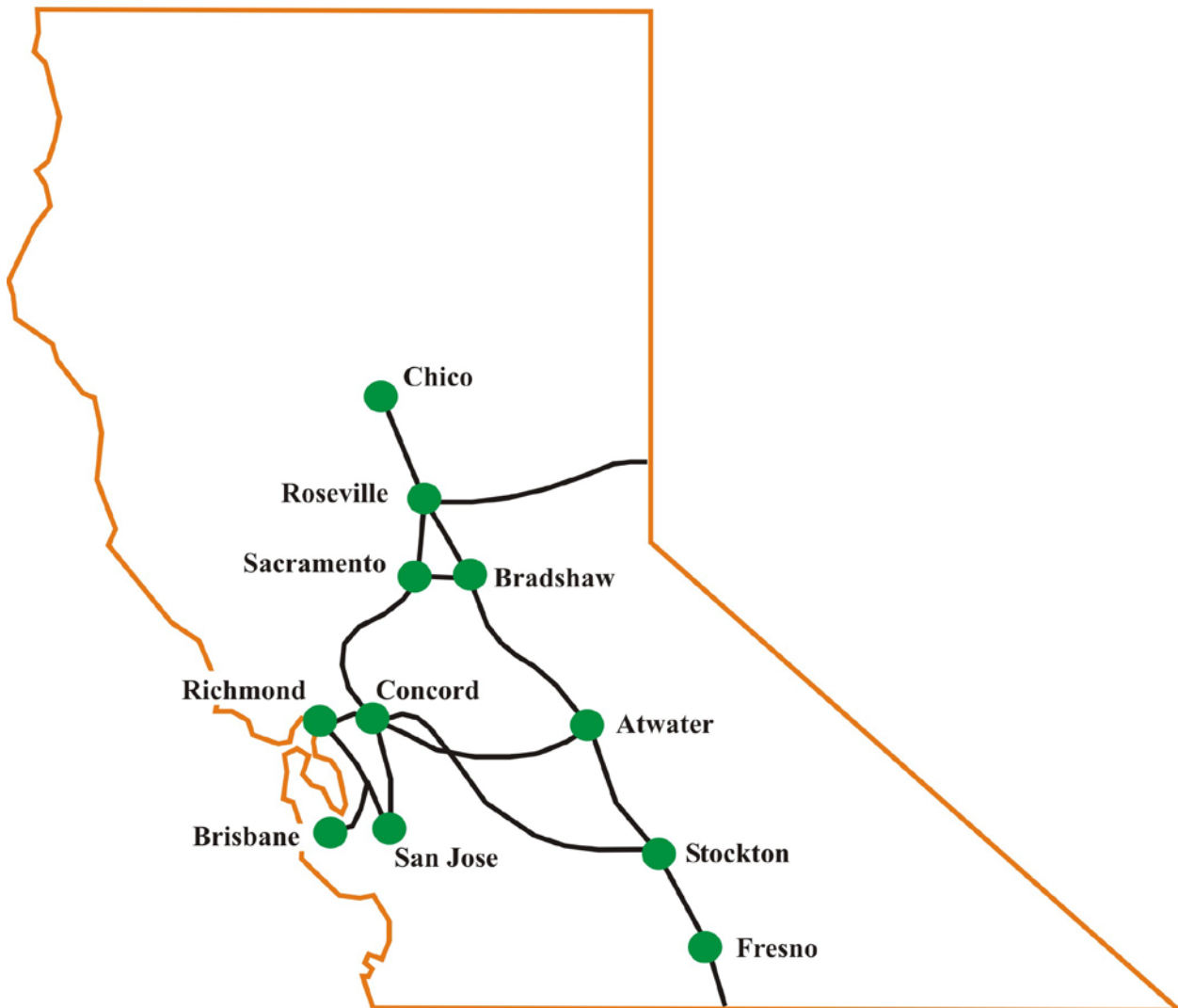
There are numerous natural gas pipelines throughout Butte County which supply the region with this vital energy source. These local natural gas pipelines are classified as transmission or distribution lines. There are currently 109.43 miles of transmission lines and 735.3 miles of distribution lines in Butte County (Figure 12-3). Natural gas pipelines maintained by Pacific Gas & Electric currently serve Oroville, Chico, and Paradise. These local pipelines tie into a statewide natural gas pipeline system.

Goods Movement Assessment

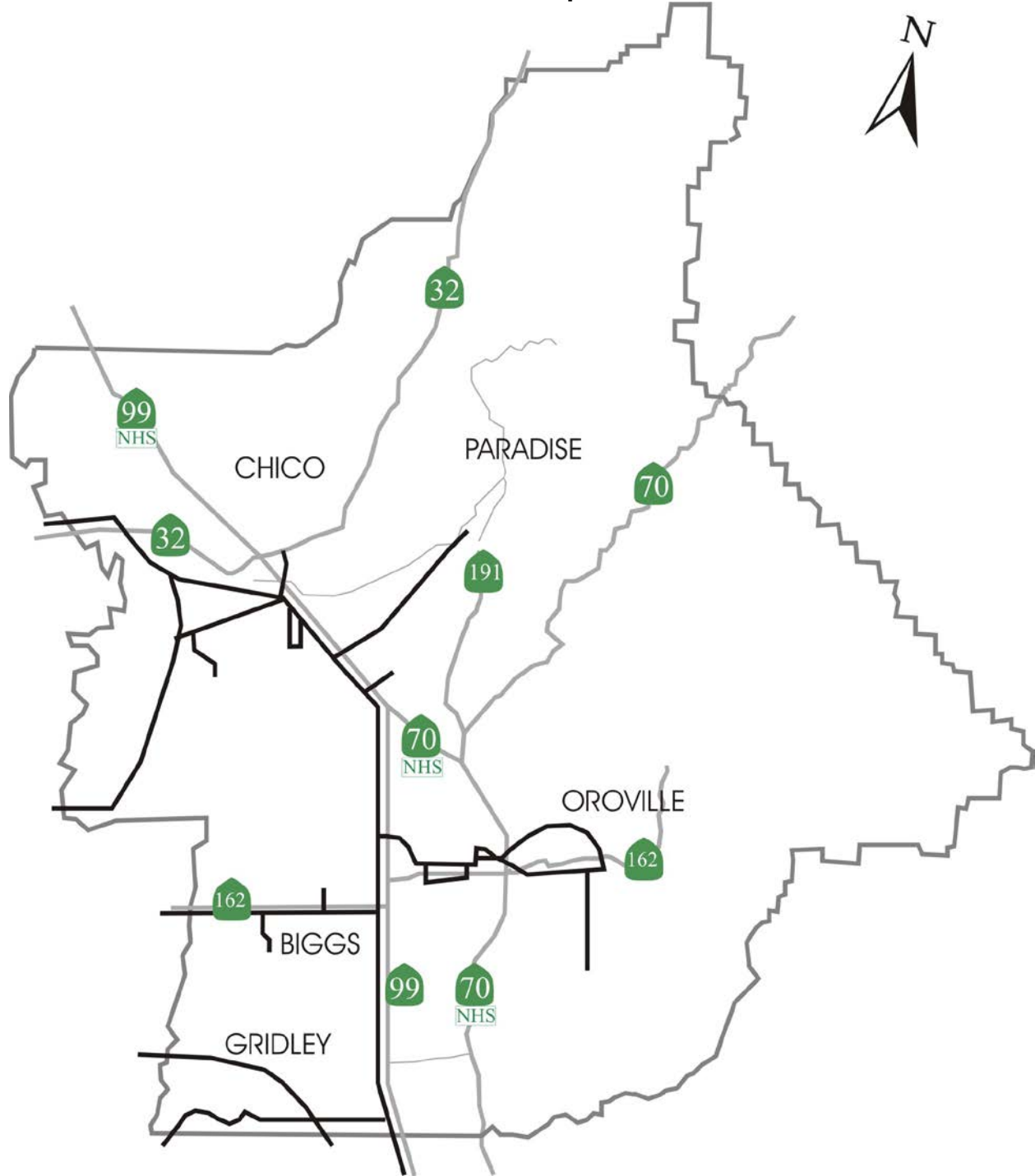
Trucking

Butte County is California's largest metropolitan area not connected to the state freeway system continuously. Two-lane rural highways are the venue for most of the goods moved in and out of the region. On these rural highways, trucks share the road with automobiles, farm equipment, school buses, mail delivery vehicles, etc. The lack of a continuous 4 lane facility results in an increased strain on the system as the population of the county moves toward urban densities. Because the rural roadways must serve a wide spectrum of transportation needs, capacity is reduced and trucking operations impeded. The lack of a continuous 4 lane facility is an issue for economic development to the region since most goods are transported by truck.

**Figure 12-2
Petroleum Pipelines**



**Figure 12-3
Natural Gas Pipelines**



Transportation of Hazardous Waste

Each year, the residents and businesses of Butte County produce approximately 6,485 tons of hazardous waste. In addition, approximately 4,133 tons of waste oil materials are imported into the area annually. The county has no hazardous waste treatment facility. As such, all hazardous waste must be transported out of the area for final disposition. Almost all of this hazardous waste is transported by truck over the roadway network.

Currently, transportation of hazardous waste is regulated by both federal and state agencies. To date, regulators have not placed restrictions on roadways available for the transportation of hazardous waste. However, public concern is growing over the safety hazards to local residents should a spill or leakage of toxic materials being transported through the area occur.

In addition, should a spill occur, local agencies would be the first line of response for containment and cleanup.

Rail – Motor Vehicle Conflicts

The Union Pacific railroad corridors bisect three urban areas within Butte County. Union Pacific runs through Oroville, while the former Southern Pacific (now Union Pacific) rail tracks run through Gridley and Chico. Railroads and train operations bring with them both advantages and disadvantages to the communities they serve. Each of the three communities is faced with increased conflicts between the train operations and other transportation methods, such as automobiles and pedestrians, due to increased travel demands resulting from urban expansion. The conflict between rail and community uses has become most acute along the railroad tracks adjacent to the California State University, Chico campus due to the large student population and extensive housing developments being located on the opposite side of the tracks from the university campus.

To eliminate train conflicts between the railroad, roadways, and the community, grade separations are normally built. However, the significant expense and environmental impacts of these major construction projects complicate the use of this alternative.

GOODS MOVEMENT ACTION PLAN – Planned Improvements

The following planned improvements have been identified in terms of goals and objectives for both the short-term and long-term rail improvements. Because no specific projects can be identified at this time, the following is identified to document Butte County's recognition of the importance of goods movement. As part of the Highways and Local Roads Chapter, the specific list of projects on Butte County's State Highways are improvements to the efficient and safe transport of goods.

Short Range

1. Provide rail-highway crossings and protective devices at various locations to minimize rail-highway conflicts. (*Butte County, Caltrans, FHWA, Rail Industry*)
2. Work toward the development of a continuous four-lane expressway/freeway on a new alignment between Chico and Sacramento. (*BCAG, Jurisdictions, Caltrans*)
3. Act as a resource to local jurisdictions for interrelationship of industrial land use and transportation planning. (*BCAG*)
4. Identify obstacles that prevent or impede goods movement. (*BCAG, Jurisdictions, Rail Industry*)
5. Encourage industry to maximize use of rail and air for the transportation of goods. (*BCAG, Jurisdictions*)
6. Study the need for grade separation projects where indicated. (*BCAG, Jurisdictions, Caltrans, Rail Industry*)
7. Support the development of grade separations of railroad tracks where necessary. (*BCAG, Jurisdictions, Caltrans, Rail Industry*)
8. Support the designation of hazardous waste routes by federal and state regulators. (*BCAG, Caltrans, Jurisdictions*)

Long Range

1. Continue to implement the actions outlined in the short-range action plan.