CHAPTER 6—AVIATION AND GOODS MOVEMENT

Introduction

While the Reno-Tahoe Airport Authority (RTAA) is the organization responsible for airport planning, development and operation; the elements contained in the Regional Transportation Plan (RTP) play a key role in the linkage between airport and cargo activities and the transportation system. The transportation system is also critical to the efficient movement of goods through and into the region. For example, several projects contained in the Street and Highway Element provide important access and capacity to airport and rail cargo terminals that are critical to the region's economy.

Aviation

The regional airport system in Washoe County includes the Reno-Tahoe International Airport and the Reno-Stead Airport. The institutional arrangements for operations at the two airports are delegated to the Reno-Tahoe Airport Authority (RTAA), which is governed by a Board of Trustees and must comply with regulations enforced by the Federal Aviation Administration (FAA). The RTAA was created in 1978 by the Nevada State Legislature as a "quasi-municipal corporation" and is financially self-sufficient. Master plans provide for future direction at each of the two facilities. See **Figure 6-1** for airport locations.

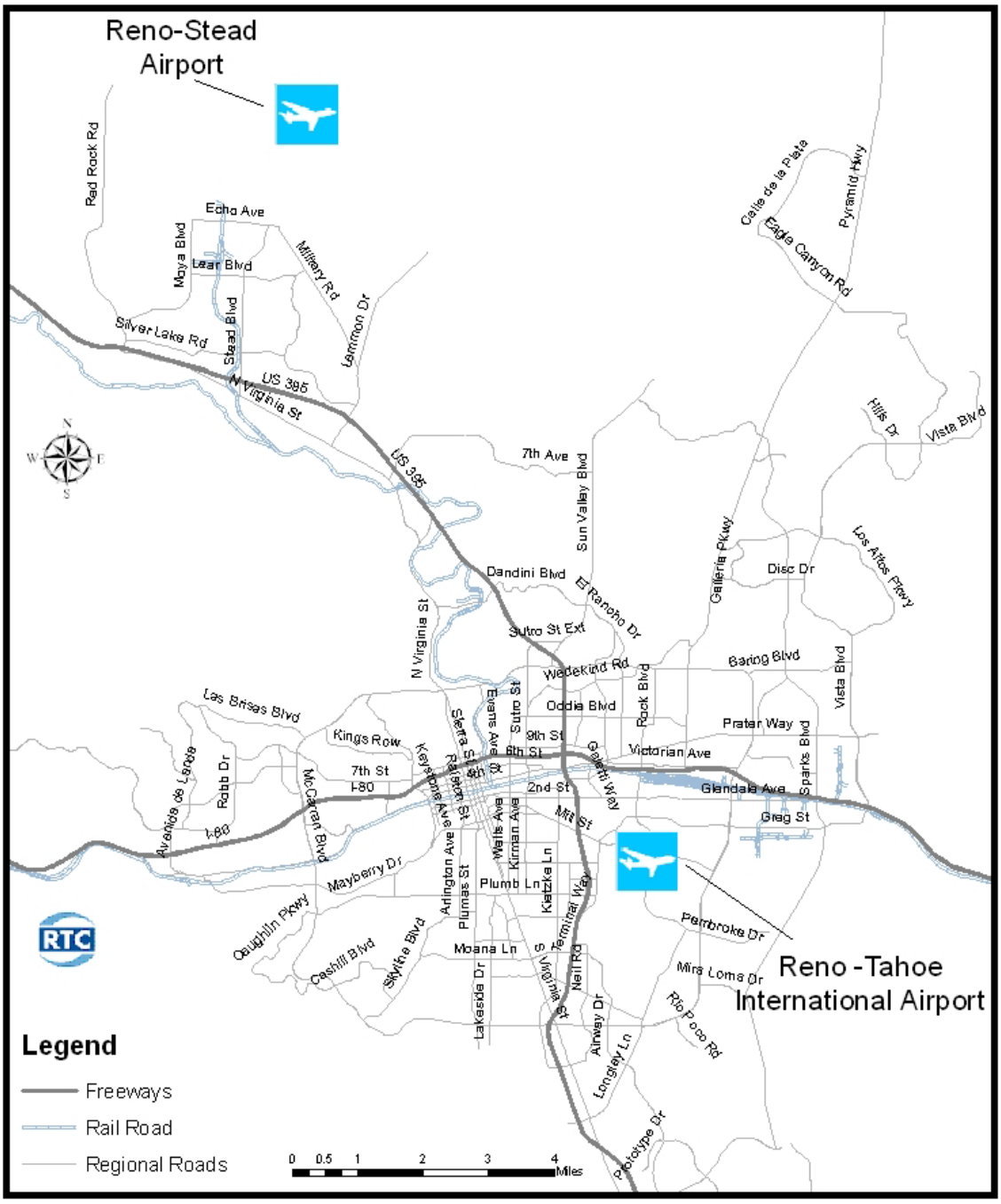
Reno-Tahoe International Airport

The Reno-Tahoe International Airport is located approximately four miles southeast of the downtown Reno core. The 1,450-acre airport accommodates all three of the FAA's three broad categories of aviation activity (commercial, general aviation, military). It is classified as a primary commercial service airport in a medium-hub market with 84 daily non-stop departures to 21 cities as of April 2008. It serves as a main base of operations for general aviation aircraft in the region. The airport also serves as the base for the Nevada Air National Guard, currently flying C-130 cargo aircraft. Airport Authority records of passenger activity show slightly more than 5 million passengers passed through the airport in 2007.

Three runways serve the airport. The primary runway is 16R-34L (north-south) and is approximately 11,000 feet in length. The parallel runway (16L-34R) is 9,000 feet in length. Runway 7-25 (east-west) is approximately 6,100 feet in length.

Ground access to the Reno-Tahoe International Airport is primarily through access ramps from US 395, situated just to the west of the facility and the major arterial facilities of Terminal Way and Plumb Lane. The RTC RIDE public transit system and various taxi, shuttle and limousine services serve the airport. The airport serves the needs of local industries and the population of the entire Reno/Sparks region, the state capital in Carson City (30 miles south), the Lake Tahoe Basin and Washoe County. The Reno-Tahoe International Airport Master Plan guides planning for the airport.

Figure 6-1
Airport Locations



Airline Passenger Activity

Total passenger movements at the airport include both those who arrive and/or depart in a commercial service aircraft. At the Reno-Tahoe International Airport, total passenger activity is also tracked by airline types, which are classified as major airlines, charter airlines and commuter airlines. **Table 6-1** shows the historical total airline passenger activity between 1990 and 2007.

Table 6-1

Total Airline Passenger Activity Reno-Tahoe International Airport					
Category	1990	1995	2000	2005	2007
Major Airlines	2,743,624	5,476,524	5,464,008	4,649,206	4,619,675
Charter Airlines	274,492	236,673	58,931	67,728	64,880
Commuter Airlines	77,928	88,000	101,596	452,322	359,431
Total Passengers	3,096,044	5,801,197	5,624,535	5,169,253	5,043,986

Source: Reno-Tahoe Airport Authority

Reno-Stead Airport

Reno-Stead Airport is a general aviation facility located approximately 12 miles northwest of the downtown Reno core. The 5,000-acre facility is located in the community of Stead. The airport originally started in 1942 as an Army Air Base, was acquired by the City of Reno in 1966 and transferred to the RTAA in 1979. The airport primarily serves general aviation activity in the Reno and Washoe County areas, but is also home to Nevada Army National Guard facilities and the annual Reno National Championship Air Races (NCAR). The airport has two runways for use. Runway 8-26 (east-west) is the most frequently used runway and is approximately 7,600 feet in length and Runway 14-32 (north-south) is 9,080 feet long. Based aircraft at the Reno-Stead Airport totaled approximately 262 aircraft in 2007.

The land in and around the Reno-Stead Airport contains major employers in the areas of industrial, manufacturing and warehousing uses. Ground access to the Reno-Stead Airport is primarily from US 395, located four miles to the south. The major arterial serving Stead is Stead Boulevard, with Military Road, Moya Boulevard and Lear Boulevard all providing access from the east and west. The RTC RIDE public transit system also serves the airport. The Airport Development Plan for the Reno-Stead Airport guides planning for the airport.

Future Passenger Forecasts

Passenger forecasts prepared for each of the regional airport facilities show continued growth into the future. The latest estimates from the RTAA (updated in 2005) project an increase from 5 million total passengers in 2007 to 6.2 million 2010 and 8.8 million in

2020. **Table 6-2** compares total passenger data for the recent past and projected levels for 2040. With conservative annual growth levels of just 3.5%, the total number of movements in 2040 could approach approximately 16 million passengers.

Table 6-2

Future Passenger Movements at Reno-Tahoe International Airport in 2040			
	2005	2006	2040
Total Passengers	5,169,256	5,043,986	16,000,000

Source: Reno-Tahoe Airport Authority

The number of based aircraft at the Reno-Tahoe International Airport is expected to rise by 30%, from 160 in 2003 to 208 in 2025. Military activity is expected to remain constant at 3,000 operations annually, with a total of 8 based aircraft.

Forecasts contained in the Reno-Stead Airport master plan and from the Airport Authority also show growth in various statistical categories. Based aircraft at the Reno-Stead Airport is expected to rise from 262 in 2007 to 539 in 2030, an increase of 106%. Military operations are expected to increase from 10,000 annually in 2006 to approximately 21,000 in 2030, with a total of 21 based aircraft (20 helicopters and one fixed-wing aircraft). Total general aviation operations are estimated to increase from 64,000 in 2006 to 97,300 by 2015 and approximately 147,200 by 2030.

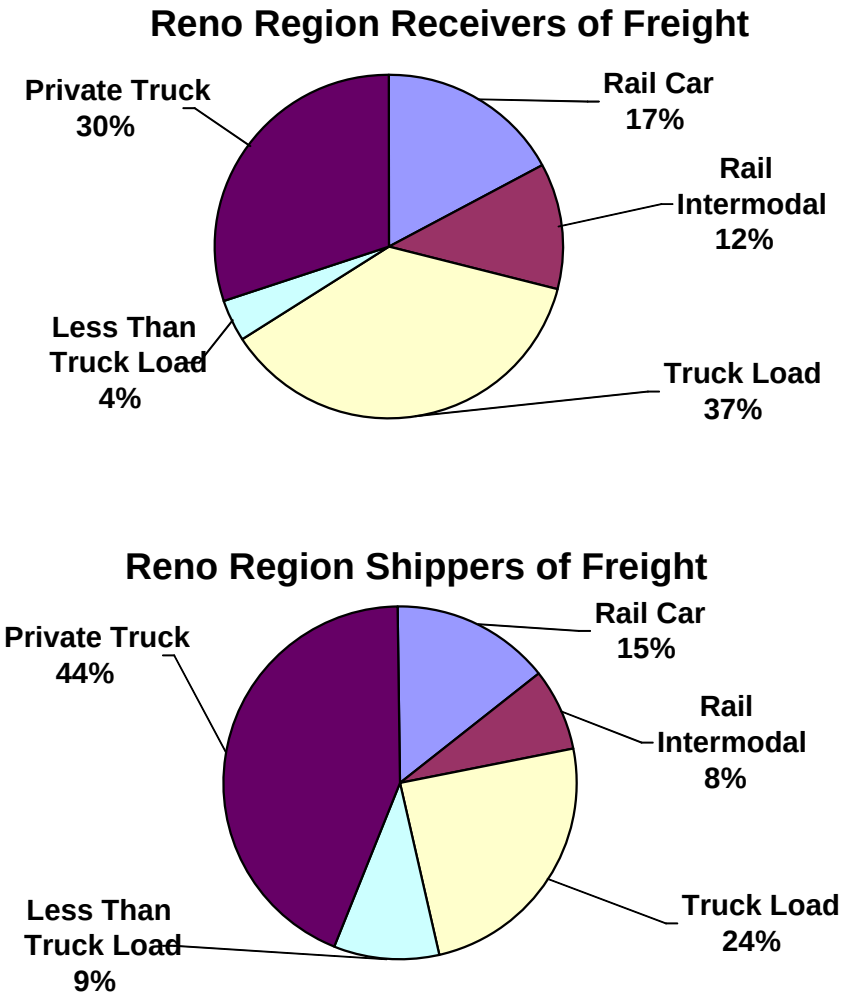
Goods Movements

Under the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU), emphasis is placed on improving, as opposed to expanding, the transportation system. The reasons for this emphasis relate in part to the significant economic impact the movement of goods has on the regional economy.

In response to the goods movement focus, the Nevada Department of Transportation (NDOT) commissioned a *Statewide Intermodal Goods Movement Study*. The study was completed in May 2000. The study is part of a larger effort to meet Nevada's future transportation needs, both passenger and freight.

The movement of goods in Washoe County involves systems of rail, air cargo and trucking. The efficiency in which these elements are planned and provided has impacts on noise, air quality, land-use, congestion and safety. **Figure 6-2** summarizes the modal split for freight received and shipped in the Reno region for the year 1995 (most recent available data) from the *Statewide Intermodal Goods Movement Study*. Air cargo for the region is not included but is shown in the Aviation section of this document.

Figure 6-2



Source: NDOT, Draft Nevada Statewide Intermodal Goods Movement Study (excludes Air)

Railroads

A merger between Union Pacific Railroad (UPRR) and Southern Pacific Railroad (SPRR) in 1996 resulted in Union Pacific Railroad being the single major hauler of freight in the region. To restrict monopolization, the Burlington Northern-Santa Fe (BNSF) Railroad was granted trackage rights and access to certain shippers in northern Nevada as part of the merger conditions.

There are two rail lines in the area. One line (the former SPRR line) traverses the center of the Reno/Sparks metropolitan area in an east/west direction, approximately one mile south of I-80. While this line primarily serves transcontinental freight movement from the west coast to markets in the mid-west, local freight transfer is facilitated through the Sparks rail yard. The other line (UPRR line) into the Reno area is a spur line from their Feather River line, which runs east-west approximately 30 miles

north of the metropolitan area. The UPRR spur line serves the Parr Boulevard, Panther Valley and Stead industrial areas and eventually onto Quincy, Oroville and Sacramento, California.

Sparks Yard. The Sparks Yard is a general classification yard, which serves industry in the western part of northern Nevada. Located on the former SPRR line, it also provides a facility for adding and removing helper locomotives used to power trains over the high elevation Donner Pass through the Sierra Nevada Mountains. Inbound traffic includes trailers and containers for northern Nevada's warehousing and distribution industry. The yard has intermodal operation, a one-track repair facility and fueling facility.

Parr Yard. The Parr Yard is located at the south end of the 33-mile Reno branch of the UPRR line. It consists of four tracks, which are used to support general carload business and intermodal and automotive traffic. UPRR's automotive business consists of outbound shipments of used vehicles.

Air Cargo

Air cargo is handled through the Reno-Tahoe International Airport. The main air cargo distribution points are located north of the passenger facilities on Terminal Way. There are two primary categories of air cargo into and out of Reno-Tahoe International Airport: freight and mail. Airport Authority figures show that in 2007 the Reno-Tahoe International Airport enplaned/deplaned 129.3 million pounds of air cargo.

Air cargo activity at the airport has shown strong steady growth over the past decade and is anticipated to continue in the future. The Airport Authority projects air cargo volumes could be as high as 210 million pounds by 2025. To accommodate this substantial increase in demand, the Airport Authority has designated the southwest quadrant of the Reno-Tahoe International Airport for future air cargo facility expansion.

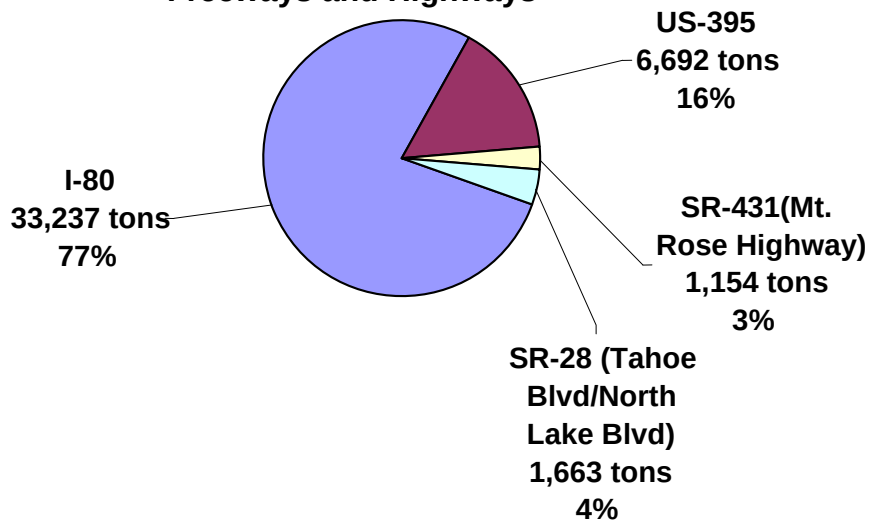
Trucking

The Reno/Sparks metropolitan area serves as a trucking crossroads on two major interstate routes. I-80 serves east-west transcontinental trucking traffic and US 395/I-580 serves north-south movement. Local trucking access is primarily at the Sparks industrial areas, the Stead industrial areas and the Parr Boulevard and Panther Valley industrial areas. Spice Island Drive in Sparks services the area's only trucking terminal (truck-to-truck transfers).

Historical data from the *1993 Commodity Report* prepared by NDOT profiles all commodities, including hazardous materials, being transported on Nevada's highways by specific route. Average daily tonnage on I-80 in 1991 was 33,237; tonnage on US 395 in 1991 was 6,692. Other amounts included 1,154 on State Route 431 (Mount Rose Highway) and 1,663 on State Route 28 (Tahoe Boulevard/North Lake Boulevard). The *Commodity Report* illustrated the transcontinental aspect of trucking

on I-80 through the Reno/Sparks region. The 1991 statistics showed that 86% of commodity movement was interstate traffic. US 395 had much lower interstate traffic at 16% (see **Figure 6-3**).

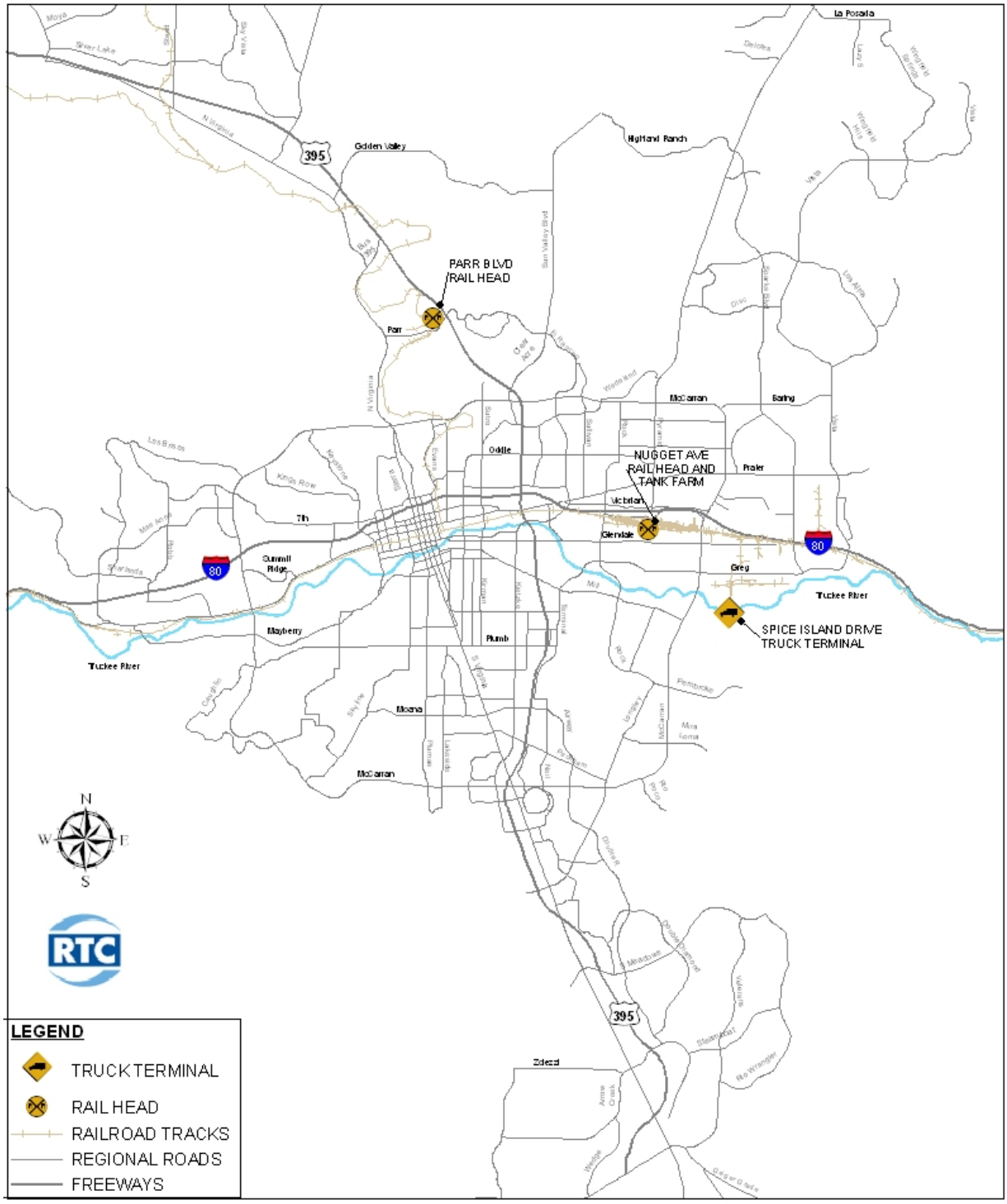
Figure 6-3
Average Daily Tonnage Transported on Local Freeways and Highways



Although not route specific, the more recent *Nevada Statewide Intermodal Goods Movement Study* (May 2000) divided Nevada into four regions: Reno, Las Vegas, rest of Nevada north and rest of Nevada south. Goods movement is divided into three areas of distribution: internal region exchange (within same region), region-to-region freight (within the state of Nevada) and exchange with other regions outside Nevada. The Reno region had a combined commodity exchange of 6,904,159 tons for 1995. The location of truck routes, rail lines and major terminals are shown in **Figure 6-4**.

Figure 6-4

TRUCK AND RAIL TERMINALS



Future Conditions

Truck volumes on many of Nevada's state highways will continue to grow in the future. A special NDOT study of the 60-mile Sparks-Fallon corridor showed that truck volumes increased between 22 and 38.5% in this corridor between 1990 and 1997. This trend is expected to continue in the future. The corridor consists of I-80 between Sparks and Fernley, US 95A through Fernley, US 50A between Fernley and a junction with US 50 at Leeteville and US 50 from Leeteville to Fallon. Economic development agencies (EDAs) representing counties along the corridor report that businesses continue to move into the area and traffic on the corridor will continue to get heavier.

The corridor study also looked at the City of Fallon, which is located at the junction of US 50 and US 95. US 50 links Fallon with Carson City and California in the west and with Ely and Utah in the east. US 95 links Fallon with Oregon in the north and Las Vegas in the south. The Churchill Economic Development Agency (CEDA) identified increasing congestion on US 50 and US 95 in Fallon and the future need for bypasses around the city for both highways.

A survey of 19 trucking firms identified several specific issues relative to Nevada's highway system that will continue to be concerns for the goods movement industry in the future.

1. Highway Congestion. Increasing highway congestion was ranked the highest concern. The location cited by the trucking industry as being particularly troublesome in the Reno area is the I-80 and I-580 interchange. US 395 north of I-80 in Reno was also cited as a continuing congestion concern.

2. Surface Conditions. Rough highway surfaces and potholes persist on US 395 north of Reno and portions of I-80 east of Reno.

3. Weight and Size Restrictions. The use of triple trailers and authorized heavier loads will continue to be issues. Although the survey indicated that truck drivers would like to be able to operate triple trailers in other states as well as be allowed to haul heavier loads and increase the length of individual trailers, the impact of these actions must be studied in the context of increasing road maintenance costs and geometric curve safety requirements.

4. Poor Highway Access. Highway access will continue to be an issue for the freight industry until improvements are made to outdated interchange designs and on and off-ramp merges. In addition, traffic signals and timing need to be better coordinated to facilitate goods movement off the state highway system.

5. Access to Truck-Rail Intermodal Facilities. There is a general need for wider roads at intermodal facilities to accommodate wider types of trailers. This problem will continue into the future as freight flows continue to increase in the Reno area.

The projected amount of commodity tonnage into and out of the Reno area in 2030 is shown in **Table 6-3**.

Table 6-3

Average Daily Tonnage of Freight in 2030-Reno Area						
	Receivers			Shippers		
Mode	**1995**	**2020**	**2030**	**1995**	**2020**	**2030**
Rail Car	377,844	446,932	477,795	256,216	314,209	340,946
Rail IMX	257,080	338,102	377,189	134,360	180,086	202,500
Truck	814,991	1,052,247	1,165,792	423,906	566,696	636,601
Less Than Truck	85,691	108,491	119,249	165,665	220,663	247,393
Private Truck	656,367	824,709	903,802	773,233	1,006,283	1,118,183
Total	2,191,973	2,770,481	3,043,827	1,753,380	2,287,937	2,545,623

Source: Year 2030 Extrapolated from Final Nevada Statewide Intermodal Goods Movement Study, NDOT-2000 (excludes air)

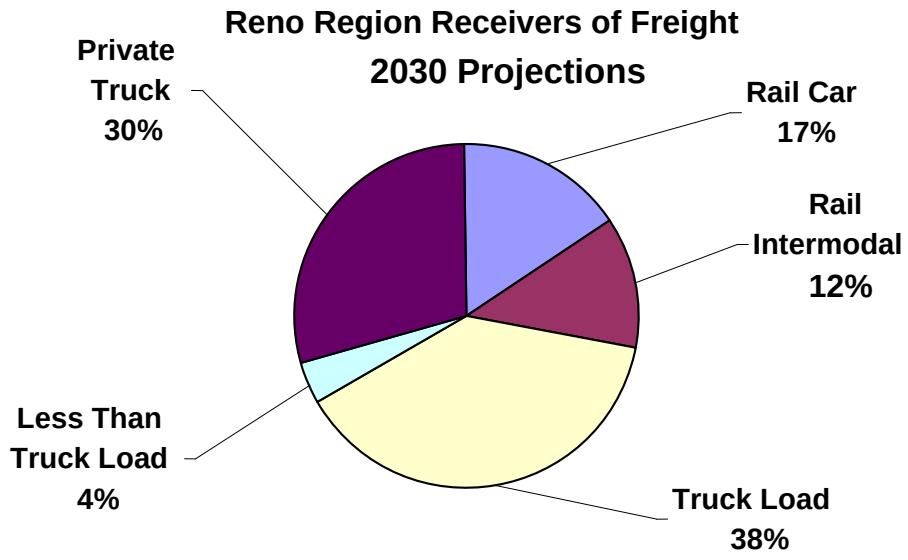
Freight tonnage into and out of the Reno area will continue to grow for each mode. The largest increase is projected to be by intermodal rail and by truck for both receivers and shippers. Through the year 2030, freight tonnage into the Reno area by truck is projected to increase by 1% per year. Intermodal rail is projected to increase by the same percentage.

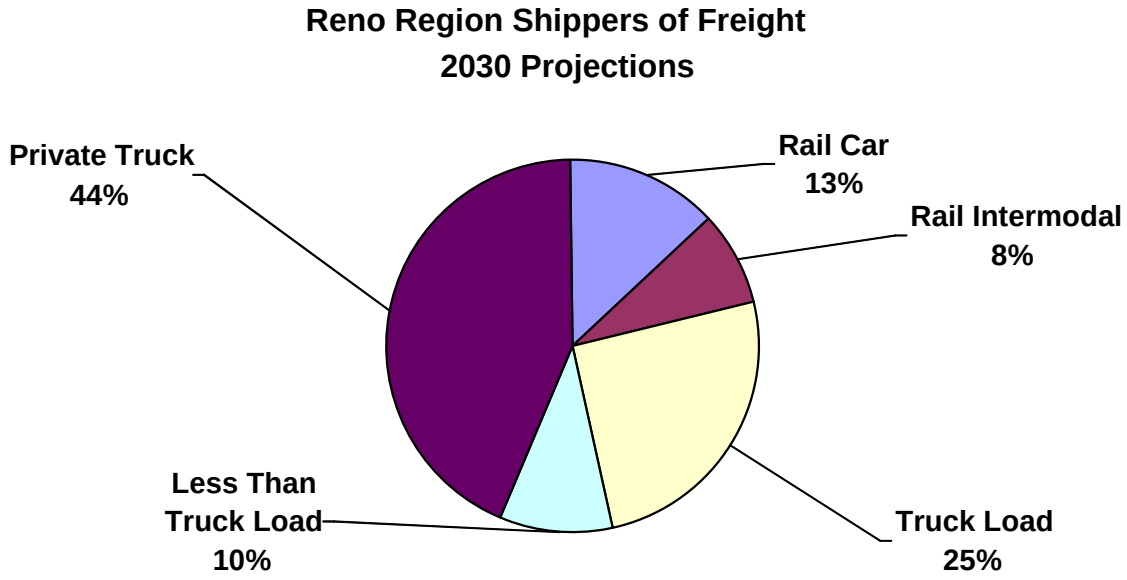
For shippers, all modes except Rail Car (0.8%) will experience at least a 1% per year growth. The total tonnage for freight into Reno will increase approximately 39% over 1995 levels. For shippers, the increase will be approximately 45% over the same time period.

There were 483,593 more tons of freight received than shipped in the Reno area in 1995. It is estimated the trend will continue through the year 2030, with an estimated difference of 498,204 more tons of freight received than shipped in 2030.

Figure 6-5 provides a breakdown of the 2030 commodity flow tonnage for shippers and receivers in the Reno area. Truck freight will continue to be the dominant mode for shipping and receiving goods, followed by rail and intermodal rail.

Figure 6-5





Source: NDOT, Draft Nevada Statewide Intermodal Goods Movement Study

Aviation and Goods Movement Element Objectives

The Aviation and Goods Movement Element objectives cover the areas of congestion, condition and safety.

Congestion

1. Average per capita travel time will not increase above 2000 levels more that 20% by 2008; 30% by 2018; and 40% by 2030 and beyond.

2. All signalized intersections will be within policy level of service by the year 2012 and maintained at that policy level of service thereafter.

Condition

1. The average pavement condition index (PCI) for all roads will be no less than 65 by 2007 and no less than 70 by 2012 and beyond.

2. No more than 6**%** of the pavements within the region will have a PCI below 40 by 2012 and no more than 2**%** will be below a PCI of 40 by 2020 and beyond.

Safety

1. The average safety index provided by the Nevada Department of Transportation (NDOT) for the top 30 highest accident intersections will be below 1.00 by 2012 and below 0.70 by 2020 and beyond.

Aviation and Goods Movement Element Policies

1. Promote the continuous, safe, economic and efficient flow of goods in and out of the region by supporting reasonable efforts that will continue to protect and improve truck and rail service.

2. The RTC, NDOT, Reno-Tahoe Airport Authority (RTAA) and local jurisdictions will work together in identifying potential funding for projects that will improve access to airport, rail and trucking terminals.

3. The RTC, RTAA and local jurisdictions will work with local rail, trucking and air cargo providers to monitor the movement of freight in the Reno/Sparks metropolitan area.