

# REPORT FOR

## SR-58 ORIGIN AND DESTINATION TRUCK STUDY



Prepared For:



San Bernardino Associated  
Governments (SANBAG)



Kern Council  
of Governments

Kern Council of  
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February 27, 2009

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## EXECUTIVE SUMMARY

San Bernardino Associated Governments (SANBAG), in association with Caltrans and the Kern Council of Governments (Kern COG) commissioned KOA Corporation in 2007 to conduct an origin and destination truck study along the State Route 58 (SR-58) Corridor. This report documents the results of that effort.

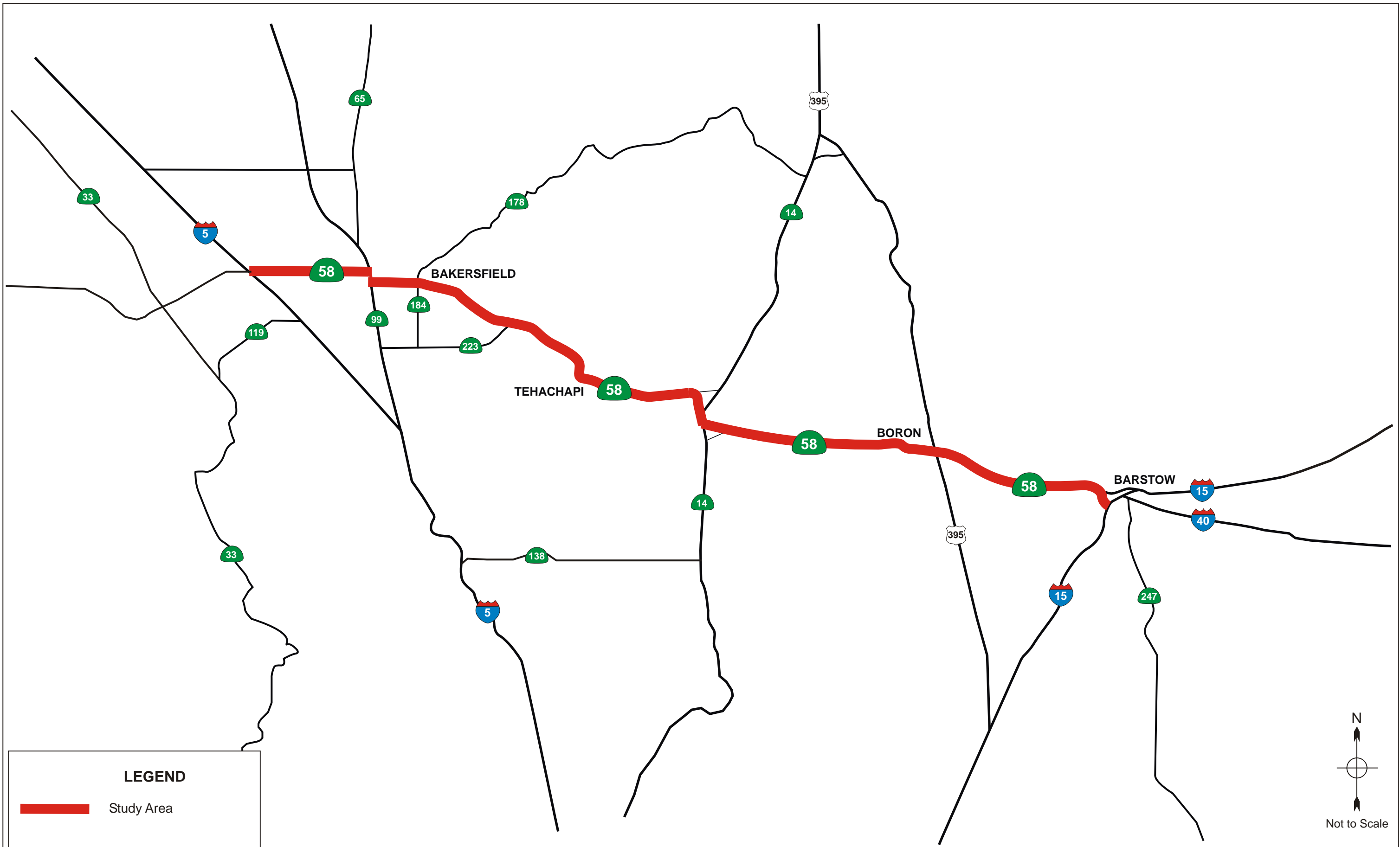
The objective of the origin and destination truck study is to gain statistical information on the origin and destination of trucks traveling on SR-58 between San Bernardino and Kern Counties and to better understand the types of cargo being transported by the trucks. The information gained from the study will be used to inform the SR-58 project development activities currently underway by Caltrans and to inform other future planning efforts in the region. Figure ES-1 illustrates the limits of the SR-58 study corridor.

The SR-58 Origin and Destination Truck Study effort was comprised of three main data collection tasks. The following provides a brief description of each task and their key findings.

Vehicle classification counts - passenger vehicles and trucks were conducted at key interchanges and intersections along the study corridor. The turning movement counts included data for the morning, midday and afternoon peak periods during the spring and fall seasons of 2008. The turning movement counts were conducted at a total of 10 locations. In addition, 7-day machine counts were also conducted at 15 key freeway/highway segments.

- Truck traffic along the SR-58 Corridor is generally heaviest near the SR-99 Interchanges within Bakersfield. This is likely due to the presence of local trucks trips as well as regional trucks traversing the corridor and also the presence of truck-related land uses within Bakersfield. Figure ES-2 illustrates the counted truck volumes during a typical morning peak period (for both the spring and all seasons). Generally, traffic counts for midday and afternoon/evening peak periods exhibit similar pattern across the corridor.
- Between SR-99 and I-15, truck traffic makes up a relatively large percentage of total traffic. Vehicle classification count results show truck percentages range between 30% and 40%, depending on the segment. This is likely due to less passenger vehicles utilizing this segment of the corridor.
- While there are some fluctuations of counted truck volumes between the spring and fall seasons, the general patterns identified above remain consistent between the fall and spring seasons.

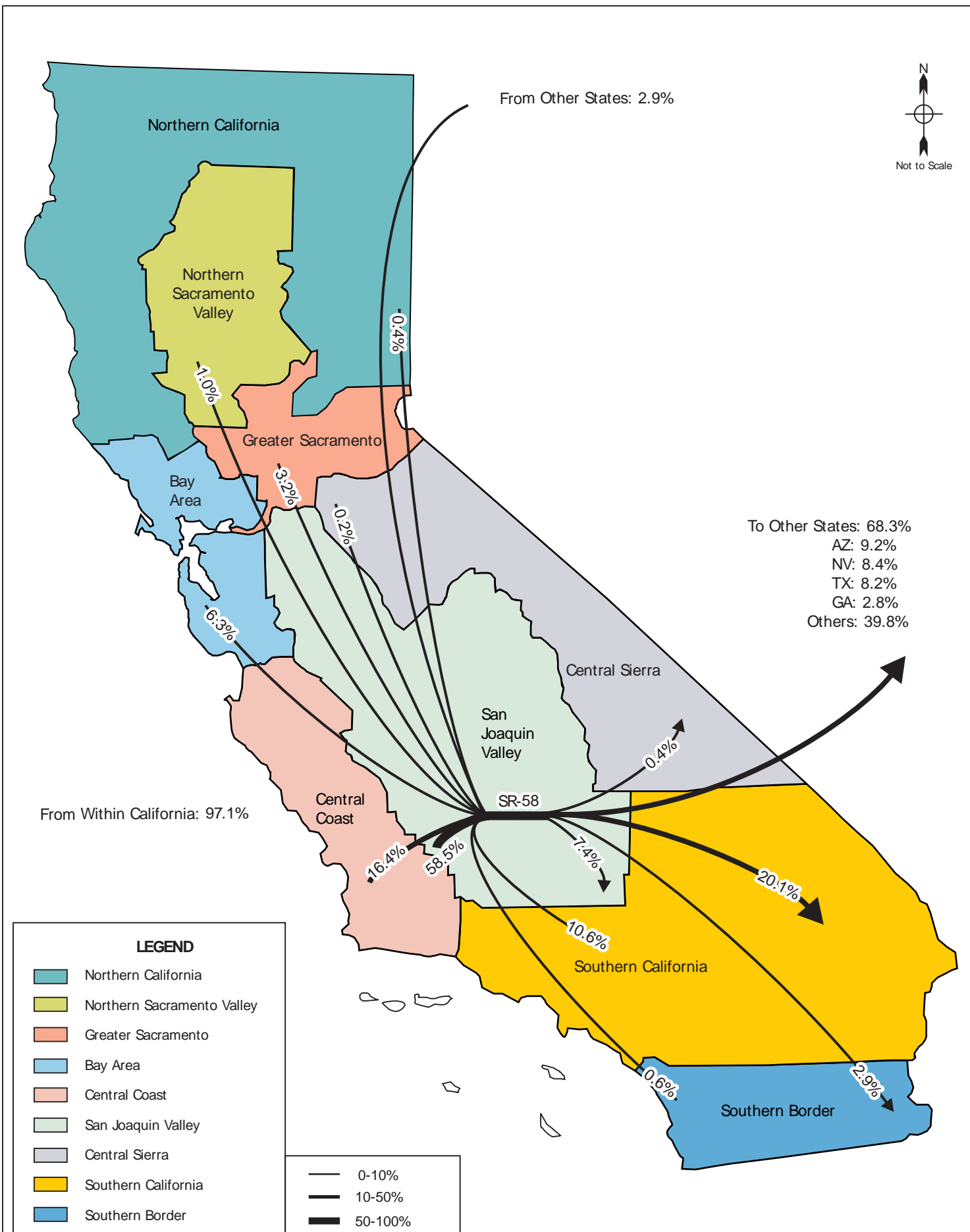


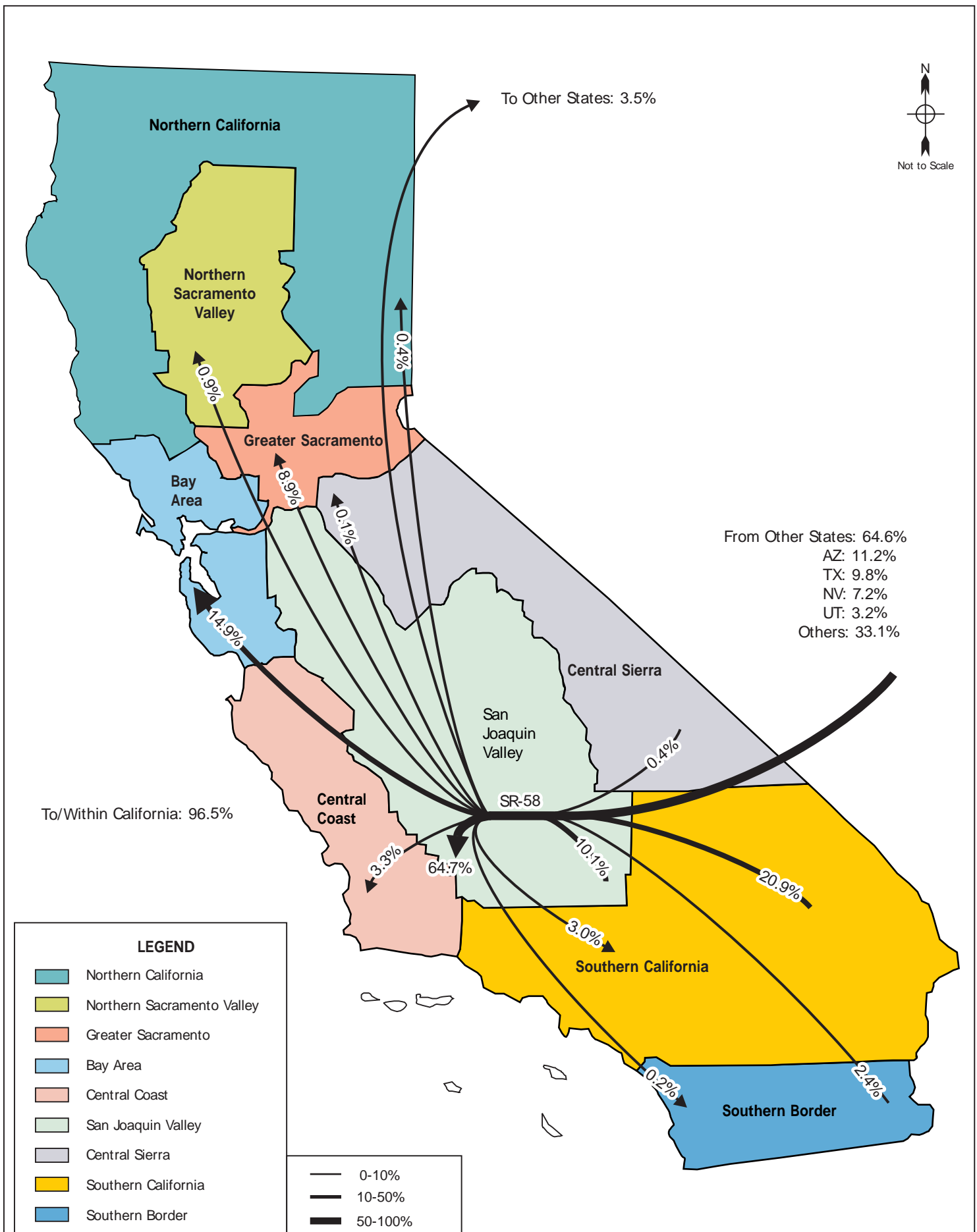




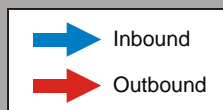
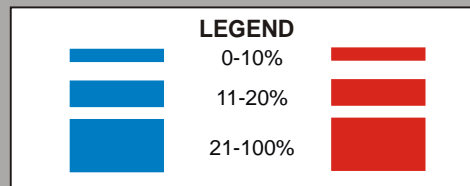
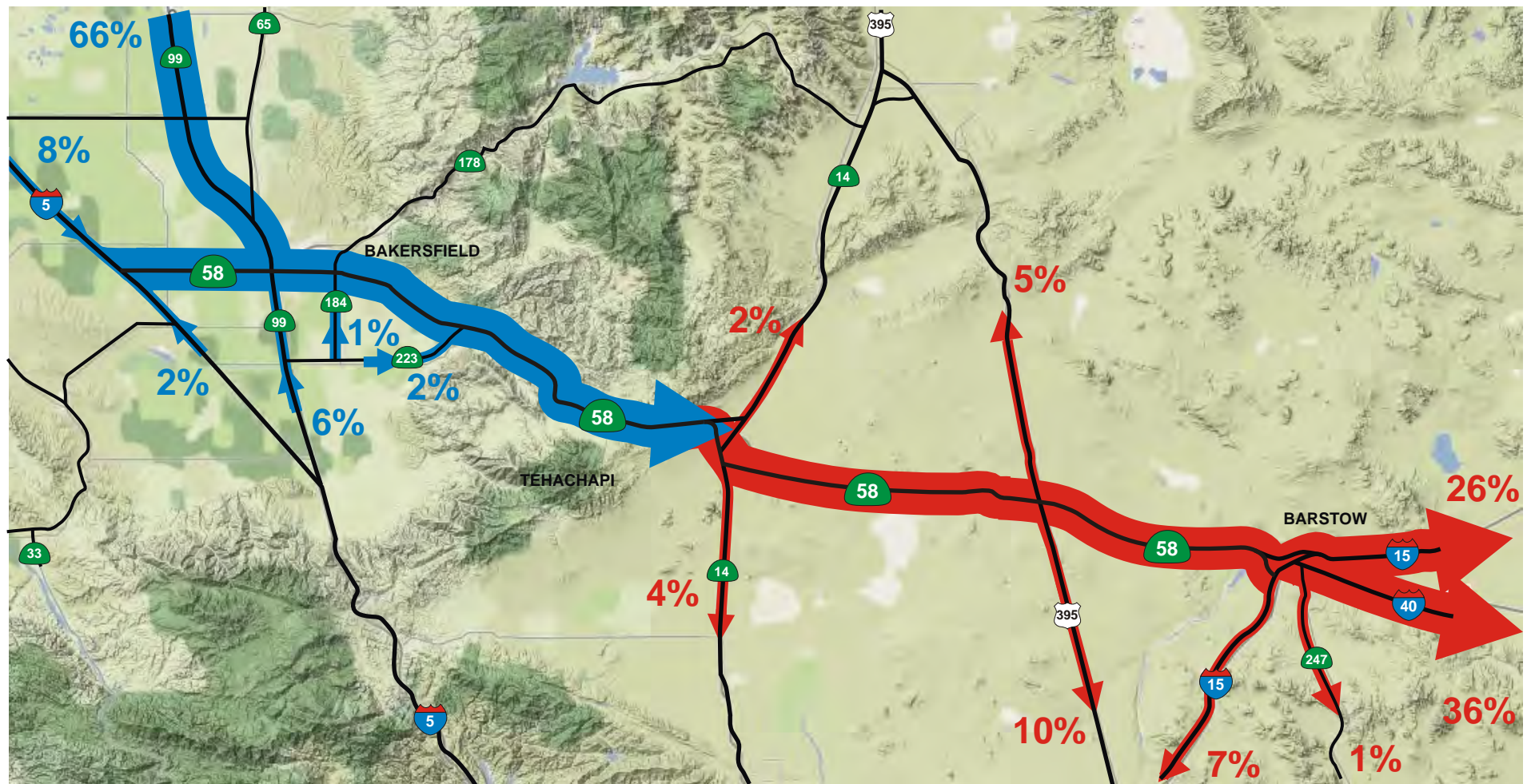
Truck intercept surveys – surveys were conducted at the Boron eastbound and westbound rest-stops and the California Highway Patrol (CHP) weigh stations located at Keene and Cache Creek in Kern County. KOA conducted truck intercept surveys during the spring and fall seasons. The surveys were conducted for a continuous 48-hour period at both the eastbound and westbound locations for a total of 96 hours each season.

- The truck intercept surveys were conducted during both the spring and fall seasons. A total of 11,337 completed surveys were collected.
- Generally, the survey results indicate that there is little variance in truck travel patterns between the spring and fall seasons.
- The study surveyed the different types of trucks along the SR-58 Corridor. The majority of trucks (86%) are the 5-axle double unit type.
- The study surveyed the geographic location where the trucks are based. The results show that 44% are based within California with the remaining 56% based in other states. Of those trucks that are based in California, 57% are based in the San Joaquin Valley Region and 32% are based in the Southern California Region. After that, the percentages drop off significantly for the other California regions.
- The survey results indicate that 97% of trucks traveling on the Eastbound SR-58 started their trip from within California and 3% from other states. Of the total trips, 59% started their trip from within the San Joaquin Valley Region followed by the Central Coast Region at 16% and the Southern California Region at 11%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 68% are destined for areas outside of California and the remaining 32% are bound for regions within California with 20% bound for the Southern California Region. Figure ES-3 illustrates the eastbound trip pattern.
- The survey results indicate that 65% of trucks traveling on the westbound SR-58 started their trip from outside of California with the predominate states being: Arizona (11%), Texas (10%), Nevada (7%) and Utah (3%). The 35% trips that originated from within California of which 21% are from the Southern California Region and 10% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 65% are bound for the San Joaquin Valley Region and 15% are bound for the Bay Area Region. Figure ES-4 illustrates the westbound trip pattern.
- The survey results indicate that of the total number of eastbound trucks, the majority (66%) uses the southbound SR-99 to get onto SR-58. This is consistent with the survey results which indicate that most of the trip origins are from the San Joaquin Valley and Central Coast regions. As the eastbound truck trips leave the SR-58 Corridor, the majority uses eastbound I-15 (26%) and I-40 (36%). This pattern is also consistent with survey results which indicate that 66% of eastbound trips are bound for locations outside of California. The survey respondents also indicated that their route choice is based primarily on the shortest/fastest route. Figure ES-5 summarizes the eastbound route choice pattern.









**ROUTES:**  
 Major: 85%  
 Local/Other (Not Shown): 15%

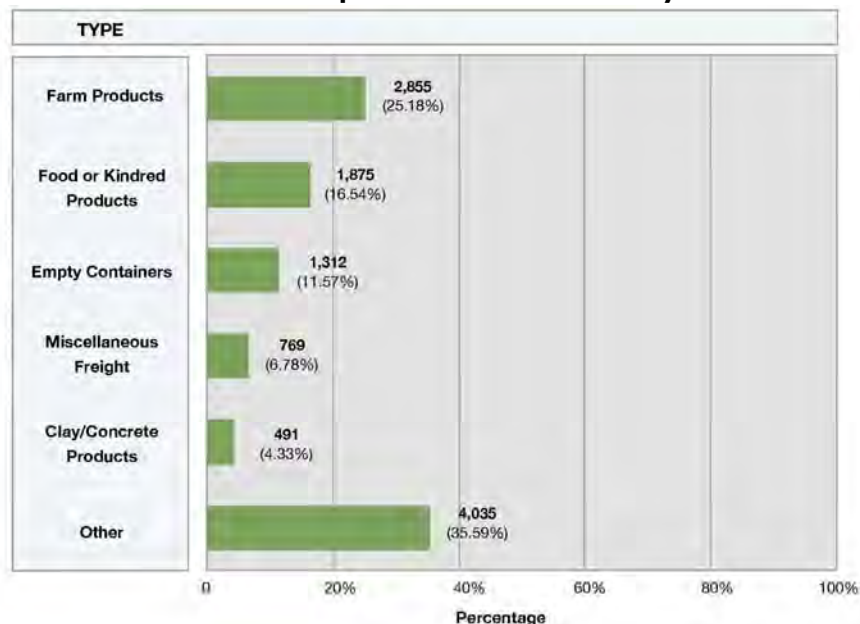
**ROUTES:**  
 Major: 91%  
 Local/Other (Not Shown): 9%

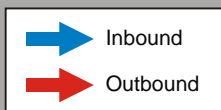
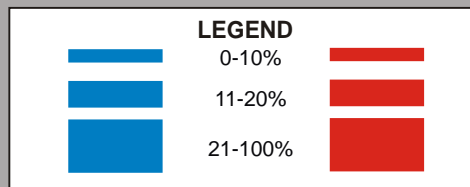
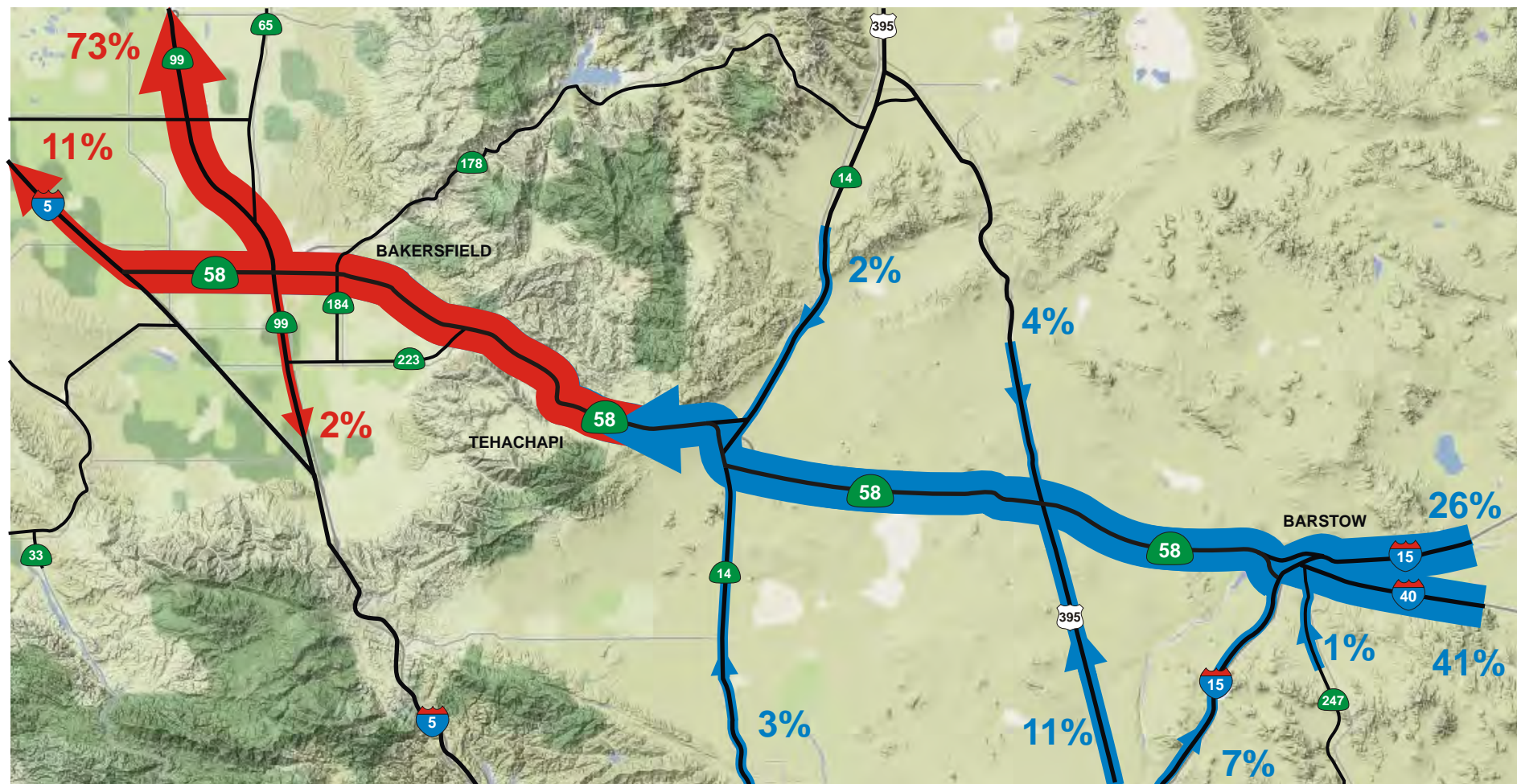




- The survey results indicate that of the total number of westbound truck, the majority uses the westbound I-15 (26%) and I-40 (41%) to get onto SR-58. This is consistent with the survey results which indicate that 63% of westbound truck trips originated from outside of California. As the westbound trips leave the SR-58 Corridor, the majority uses northbound SR-99 (73%). This is also consistent with the survey results which indicate that the majority of truck trips are bound for regions located north of the SR-58 Corridor. The survey respondents also indicated that their route choice is based primarily on the shortest/fastest route. Figure ES-6 summarizes the westbound route choice pattern.
- The truck intercept survey asked drivers the type of place where they started their trip from. The types of place are categorized by:
  - Shipper – the location where goods originate. Example includes: manufacturing plant, distribution center, processing plant and production point.
  - Consignee/Receiver – the location where goods are delivered. Example includes: distribution center, manufacturing plant and retail store.
  - Yard – the place where trucks are stored and dispatched from.
  - Home – the residence of the truck driver. This can also be the point of dispatch for independent truck owners.
  - Other
- Of the total number of respondents, 53% started their trip from a shipper and 26% from a yard. After that, the percentage of the other locations drops off significantly, and of the total number of respondents, 42% ended their trip at a consignee/receiver and 25% at a shipper followed by 18% at a yard.
- The survey results show that the top five commodity types by percentage are: farm products (25%), food/kindred products (17%), empty trucks (12%), miscellaneous freight (7%) and building materials (4%). Table ES-1 summarizes the top 5 commodities surveyed.

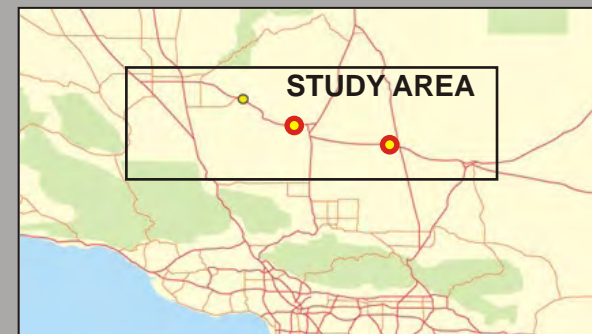
**Table ES-1: Top 5 Commodities Surveyed**





**ROUTES:**  
 Major: 95%  
 Local/Other (Not Shown): 5%

**ROUTES:**  
 Major: 86%  
 Local/Other (Not Shown): 14%



Commercial Fleet Operator Survey - the Tioga Group under contract with KOA conducted a commercial fleet operator survey of truck fleet operators within the study corridor to obtain a better understanding of commodities being transported in the corridor, including proximity to and rational for dispatching trucks onto this facility by the fleet operators. Over 260 firms were contacted for the survey. From the initial 260 firms were contacted, a significant portion of firms either did not operate their own trucks or did not use SR-58 regularly. Ultimately, 32 firms completed the fleet operator survey.

- Survey of commercial fleet operators revealed that haulers of sand, gravel, rock and asphalt reported the heaviest local use of SR-58 with multiple trips per day. These firms reported that their use of SR-58 is for primarily paving projects. The usage is typically highest during summer and virtually halted during winter.
- Survey of regional firms revealed that a significant number of trips are from the Los Angeles area. Here truckers use SR-58 for at least three different reasons:
  - As a primary route for shipment, usually to the eastern areas such as San Bernardino and Riverside Counties
  - As an alternative to I-5 over the Grapevine during storms
  - As a preferred alternative to I-10 and I-210 for shipments to eastern Los Angeles county when traffic congestion slows the Los Angeles County eastbound routes
- Virtually all users to and from the Los Angeles and Inland Empire areas reported using US-395 through Adelanto to with SR-58, although a few reported using SR-14 through Lancaster and Palmdale.
- A great number of respondents reported that SR-58 is less affected by adverse weather and congestion than I-5 and they re-route truck over SR-58 often during the winter months.

## **1.0 PROJECT OVERVIEW**

San Bernardino Associated Governments (SANBAG), in association with Caltrans and the Kern Council of Governments (Kern COG) commissioned KOA Corporation in 2007 to conduct an origin and destination truck study along the State Route 58 (SR-58) Corridor. This chapter provides an overview of the SR-58 Origin and Destination Truck Study.

### **1.1 Study Purpose and Need**

The objective of the origin and destination truck study is to gain statistical information on the origin and destination of heavy duty trucks traveling on SR-58 between San Bernardino and Kern Counties and to better understand the types of cargo being transported by the trucks. The information gained from the study will be used to inform the SR-58 project development activities currently underway by Caltrans and to inform other future planning efforts in the region.

### **1.2 State Route 58 Background**

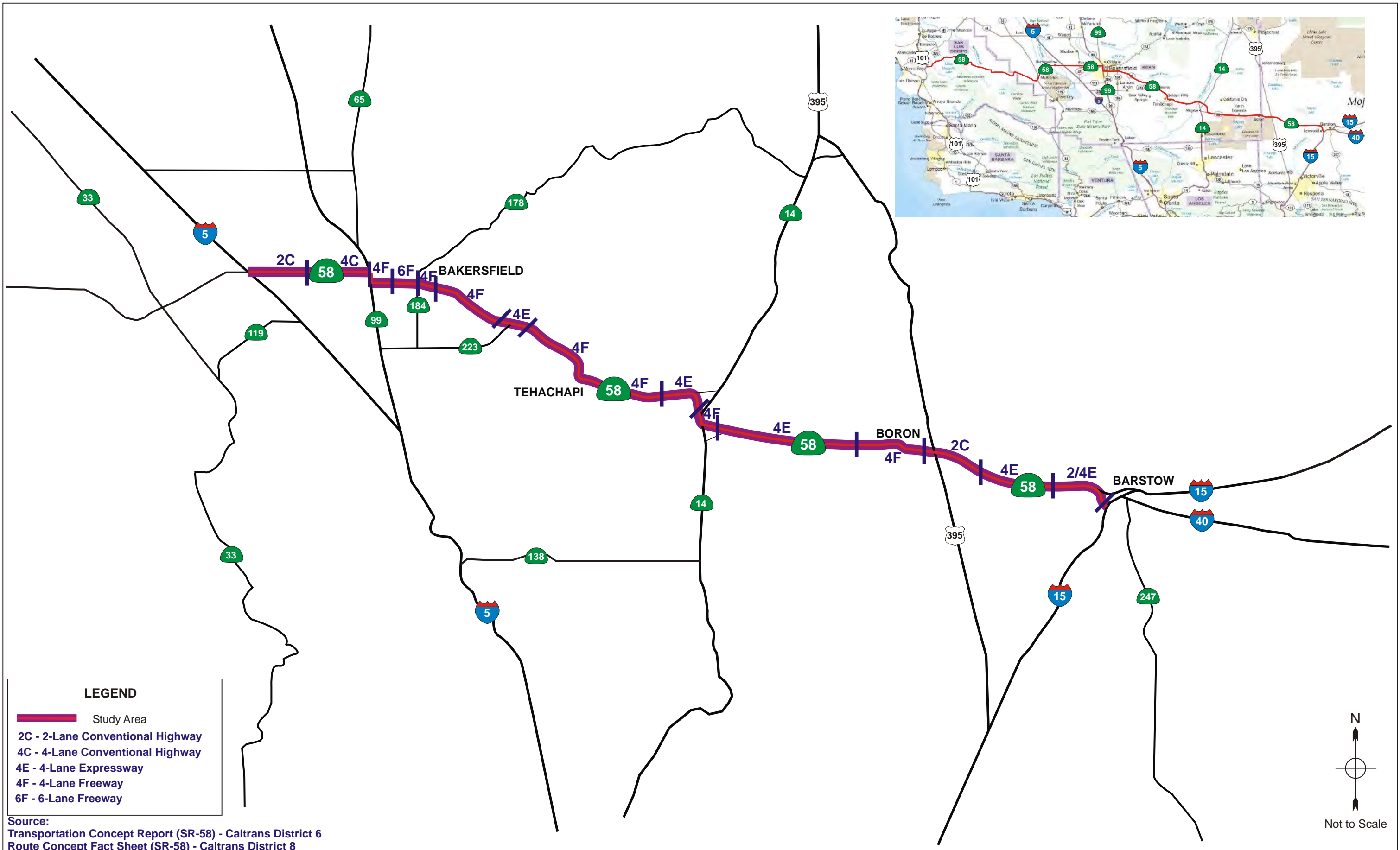
California State Route 58 (SR-58) is an east-west highway serving the southern San Joaquin Valley Region. It provides connection between US-Route 101 (near Santa Margarita) and I-15 (near Barstow). This route did not exist until 1964, prior to 1964, this route was designated as U S Route 466 between Bakersfield and Barstow. Between US-Route 101 and east of State Route 33, SR-58 was designated as State Route 178. The original eastern terminus of SR-58 was at I-15 near Barstow, this eastern terminus is known as “Old Highway 58”.

SR-58 is a westerly extension of I-40 Freeway near Barstow. Major interchanges/intersections along SR-58 include:

- US-101 (near Santa Margarita)
- I-5 (near Bakersfield)
- SR-99 (near Bakersfield)
- SR-184 (near Bakersfield)
- SR-178 (near Bakersfield)
- SR-223 (near Tehachapi)
- SR-14 (near Mojave)
- US-395 (Kramer Junction)
- I-15 (near Barstow)

Within the study area, State Route 58 provides regional east-west mobility between Bakersfield and Barstow and also serves the cities/communities of Boron, Hinkley, Mojave, Tehachapi and the Edwards Air Force Base. SR-58 is a two to four-lane conventional highway between I-5 and SR-99. The section between east of SR-99 and SR-223 is classified as a four-lane freeway, within this section, part of SR-58 is also classified as a six-lane freeway. Section of SR-58 near SR-223 is classified as four-lane expressway. The section between east of SR-223 and SR-14 is classified as a four-lane freeway and a partial section is classified as a four-lane expressway. The sections between SR-14 and US-395 are classified as a four-lane freeway and a four-lane expressway. The section east and west of US-395 is classified as a two-lane conventional highway. The remaining portion of SR-58 is classified as a four-lane expressway. Figure 1-1 illustrates the SR-58 Corridor and its functional classification.





**LEGEND**

- Study Area
- 2C - 2-Lane Conventional Highway
- 4C - 4-Lane Conventional Highway
- 4E - 4-Lane Expressway
- 4F - 4-Lane Freeway
- 6F - 6-Lane Freeway

Source:  
 Transportation Concept Report (SR-58) - Caltrans District 6  
 Route Concept Fact Sheet (SR-58) - Caltrans District 8

### ***1.3 Study Methodology***

The SR-58 Origin and Destination Truck Study effort was comprised of four major data collection tasks which included:

- Literature Review and Prior Study Data Collection
- Vehicle Classification Counts
- Truck Intercept Survey
- Commercial Fleet Operator Survey

The study operationalization for each of the tasks listed above was developed in conjunction with the Project's Technical Advisory Committee (TAC). The TAC was comprised of representatives from SANBAG, Kern COG, Caltrans District 6, District 8, District 9, Caltrans Headquarters and the Southern California Association of Governments (SCAG).

The following provides a brief description of the methodology used for each of the four major tasks:

#### Literature Review and Data Collection

Based on information/data provided by the TAC, KOA obtained and reviewed a total of 13 reports and studies that were relevant to the study. In addition to the 13 reports, KOA also collected accident data and traffic counts within the study corridor. Based on the review of available reports and data, KOA provided a synopsis of each document. Generally, the available data obtained are vehicle count data conducted at least several years ago and can be deemed outdated. The details of this task are provided in the "Literature Review and Data Collection" chapter of this report.

#### Vehicle Classification Count

Vehicle classification counts (which included passenger vehicles and trucks) were conducted at key interchanges and intersections along the SR-58 corridor between I-5 and I-15. The turning movement counts included data for the morning, midday and afternoon peak periods during spring and fall of 2008. The turning movement counts were conducted at a total of 10 locations. The 10 locations are shown on Figure I-2. In addition, 7-day machine counts were also conducted at 15 key freeway/highway segments. The details, results and findings from the count survey are provided in the "Interchange/Junction Classification Count" chapter of this report.

#### Truck Intercept Survey

Truck intercept surveys were conducted at the Boron eastbound and westbound rest-stops and the California Highway Patrol (CHP) weigh stations located at Keene and Cache Creek in Kern County. Figure I-3 shows the locations of the truck intercept survey sites. KOA conducted truck intercept surveys during the spring and fall seasons. The surveys were conducted for a continuous 48-hour period at both the eastbound and westbound locations for a total of 96 hours. The date and time of the surveys are as follows:

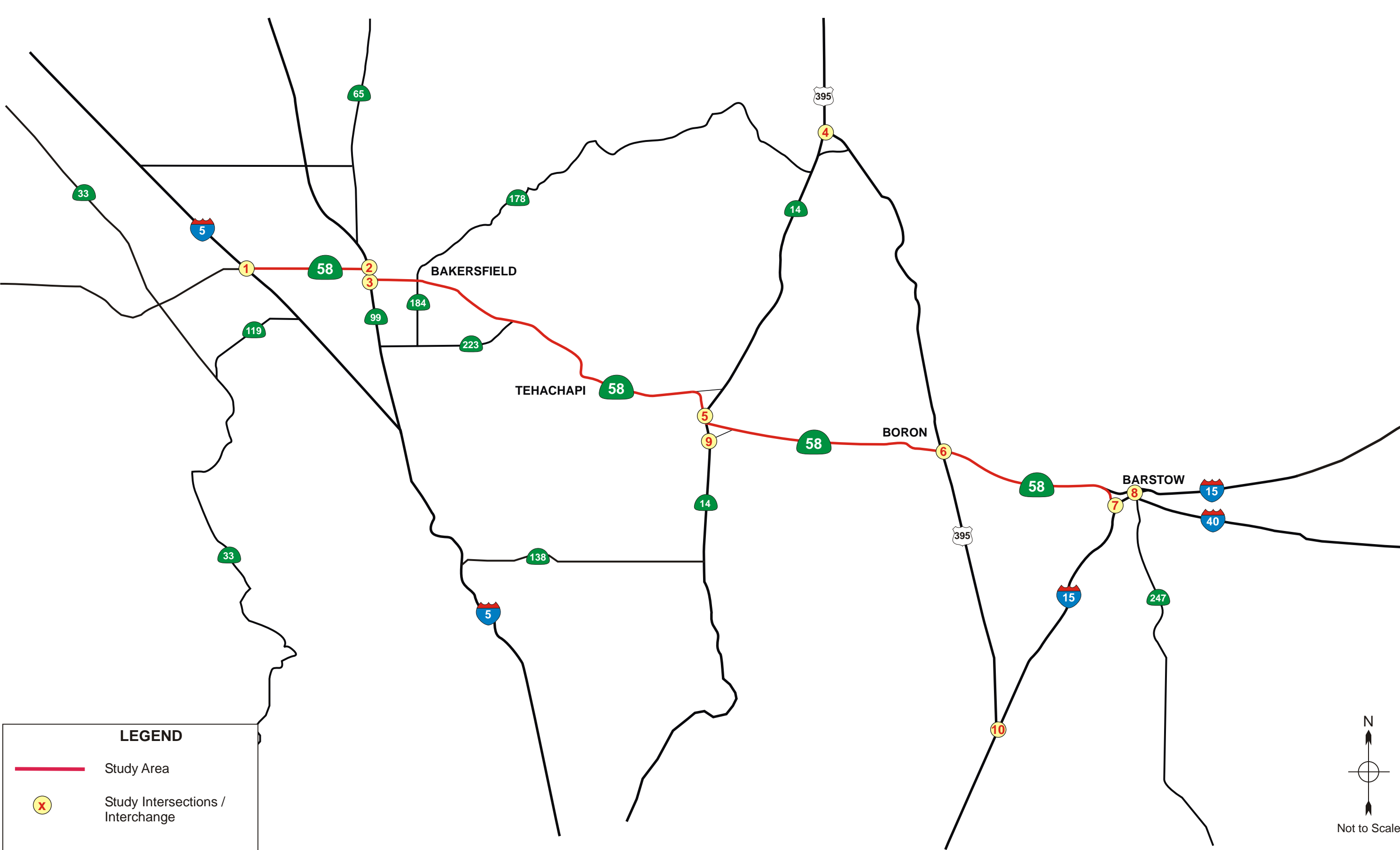
#### Spring Survey

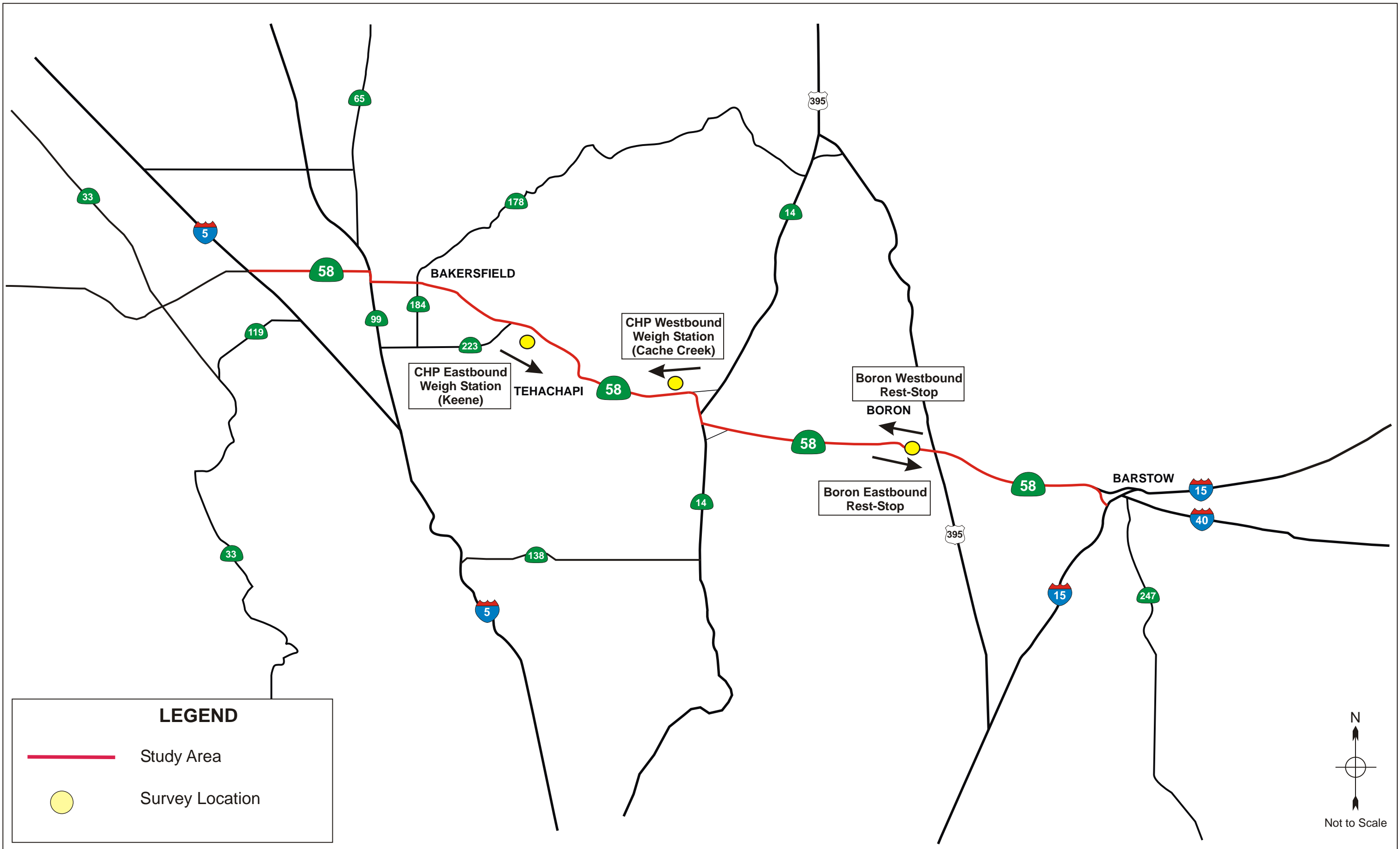
- Boron Rest-Stops – May 10<sup>th</sup> to May 13<sup>th</sup>, 2008
- CHP Weigh Stations – May 13<sup>th</sup> to May 15<sup>th</sup>, 2008

#### Fall Survey

- Boron Rest-Stops – September 27<sup>th</sup> to September 29<sup>th</sup>, 2008
- CHP Weigh Stations – September 30<sup>th</sup> to October 2<sup>nd</sup>, 2008







During the truck survey, KOA staff directed trucks to the designated survey sites where surveyors conducted an in-person origin and destination survey. Figure I-4 shows the survey form that was utilized for the truck intercept survey effort.

The survey effort yielded the following number of completed surveys by location:

#### Spring Survey

- Boron Rest-Stops – 2,614 truck drivers
- CHP Weigh Stations – 3,428 truck drivers

#### Fall Survey

- Boron Rest-Stops – 2,182 truck drivers
- CHP Weigh Stations – 3,113 truck drivers

Although the total number of trucks that passed through the survey site was not counted, based on field observations and follow-up discussions with the survey crew, the response rate was very high with only a few trucks declining to participate in the interview.

Details and results of the truck intercept surveys are provided in the “Truck Intercept Survey” chapter of this report.

#### Commercial Fleet Operator Survey

The Tioga Group under contract with KOA conducted a commercial fleet operator survey. Using multiple sources, Tioga compiled a list of likely fleet truck operators for this survey. This list included both businesses in the study area that were likely to operate their own vehicles, and trucking companies likely to operate in the study area. That list contained over 300 names. All telephone numbers were called, multiple times if required. This process resulted in contact with 267 firms (other firms did not respond or return calls).

Most participants either did not operate their own trucks, or did not use the route enough to respond to the survey. Only 27 indicated that they operated their own trucks and used the route regularly.

Tioga completed interviews with 20 of those (others were not able to complete the interview or did not have sufficient information to do so).

Based on responses that gave other names or firms, Tioga augmented its original list and obtained responses from additional firms using the study route. From the Kern COG Tioga also received a list of distribution centers located in or near Kern County.

Tioga contacted each of these and, where appropriate, other firms that provided trucking services to or from the distribution centers. The survey results reflect information received from these contacts.

Tioga also contacted truck stops and truck tow and repair services along the route to inquire about other fleet operators that may have been overlooked. This resulted in a small number of additional names, all of which were contacted. Overall, 32 firms from all sources said they used the study route and completed interviews.

**SANBAG  
SR-58 TRUCK ORIGIN & DESTINATION SURVEY**

Date: \_\_\_\_\_ Direction: \_\_\_\_\_ EB: \_\_\_\_\_ WB: \_\_\_\_\_  
 Time: \_\_\_\_\_ Surveyor: \_\_\_\_\_  
 Location: \_\_\_\_\_

1. Type of Truck (surveyor - see classification chart): \_\_\_\_\_
2. Where is your truck based? City: \_\_\_\_\_ State: \_\_\_\_\_
3. Where did you begin this trip leg (origin)? City \_\_\_\_\_ State \_\_\_\_\_
4. What type of place did you start from? Shipper\_\_ Consignee\_\_ Yard\_\_ Home\_\_ Other\_\_
5. Which route did you take before SR-58 to get here?  
 I-15\_\_ I-40\_\_ SR-247\_\_ US-395\_\_ SR-14\_\_ SR-223\_\_ SR-178\_\_  
 SR-184\_\_ SR-99\_\_ I-5\_\_ SR-33\_\_  
 Other \_\_\_\_\_
6. Where is your destination? City \_\_\_\_\_ State \_\_\_\_\_
7. What type of place are you going to? Shipper\_\_ Consignee\_\_ Yard\_\_ Home\_\_ Other\_\_
8. Which route are you planning to take from SR-58 to your destination?  
 I-15\_\_ I-40\_\_ SR-247\_\_ US-395\_\_ SR-14\_\_ SR-223\_\_ SR-178\_\_  
 SR-184\_\_ SR-99\_\_ I-5\_\_ SR-33\_\_  
 Other \_\_\_\_\_
9. What are you carrying ? \_\_\_\_\_  
*Surveyor: If hazardous materials, note down placard number \_\_\_\_\_*
10. Why did you or your dispatcher choose this route?

Truck based on this route	Least congestion
Trip stop/start on this route	Easier grades or road conditions
Shortest/fastest route	Personal business on this route
Better weather	Other _____

11. Any suggestions to improve transportation for truckers in the area?


The respondents provide a good variety of operators and services. About two-thirds of the respondents were commercial carriers, and the remainder were private fleets. The respondents represent about equal numbers of national, regional and local carriers. About half of the respondents were based in Bakersfield, about forty percent were based elsewhere in the study area, and about ten percent were based outside the study area.

The commodities hauled varied from produce and food products to petroleum products, general merchandise and specialized equipment.

The details and results of this task are provided in the “Commercial Fleet Operator Survey” chapter of this report.

## ***1.4 Key Findings of SR-58 O/D Truck Study***

The following summarizes the general findings of the SR-58 Origin and Destination Truck Study by the three data collection tasks.

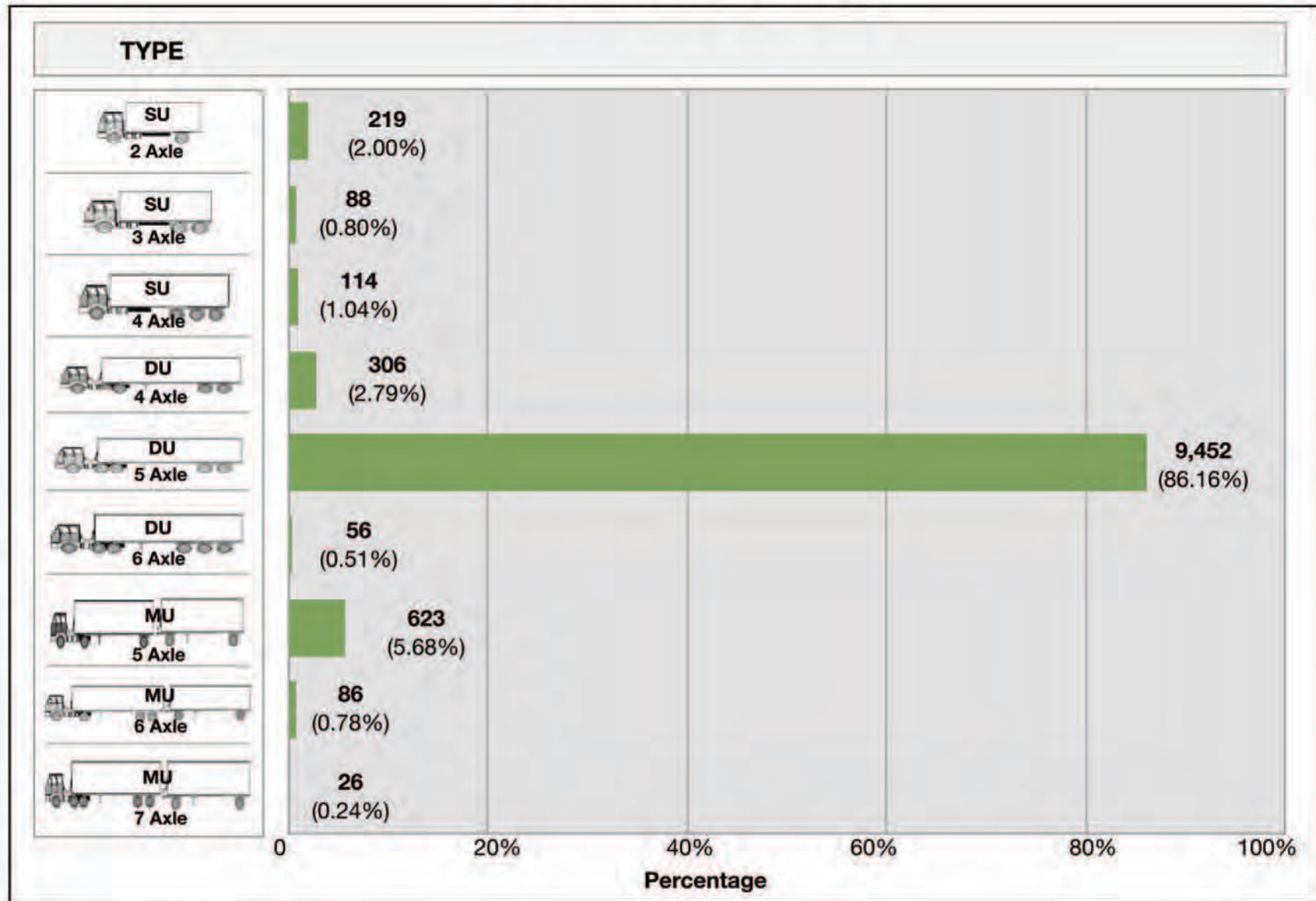
### **Vehicle Classification Counts – Key Findings**

- Total traffic volumes along the SR-58 Corridor are generally heaviest near the SR-99 Interchanges within Bakersfield. This is due to the use of SR-58 by passenger vehicles in Bakersfield metro area.
- The percentage of truck traffic is generally highest toward the eastern half of the study corridor between SR-14 and I-15 Interchanges. This is mainly due to the fact that there are less passenger vehicles using this section of the study corridor.

### **Truck Intercept Survey – Key Findings**

- A total of 86.2% of trucks surveyed within the study corridor is comprised of the five-axle, double unit trucks. Table I-1 summarizes the results.
- A comparison survey results between the spring and fall indicates that there are no significant variations in general truck patterns.
- A total of 43.8% of trucks surveyed are based in the State of California. Table I-2 summarizes the results.
- Of those trucks based in California, 56.6% are based in the San Joaquin Valley Region and 31.8% in the Southern California Region. After that, the percentages for other regions drop off significantly. Table I-2 also summarizes these results.
- The top five counties (within California) where trucks are based in include:
  - Eastbound: Kern (25.8%), Fresno (13.5%), San Bernardino (13.6%), San Joaquin (7.0%), Los Angeles (8.6%) and Tulare (6.4%)
  - West Eastbound: Kern (19.8%), Fresno (14.3%), San Bernardino (21.4%), San Joaquin (6.8%), Los Angeles (9.2%) and Tulare (4.4%).

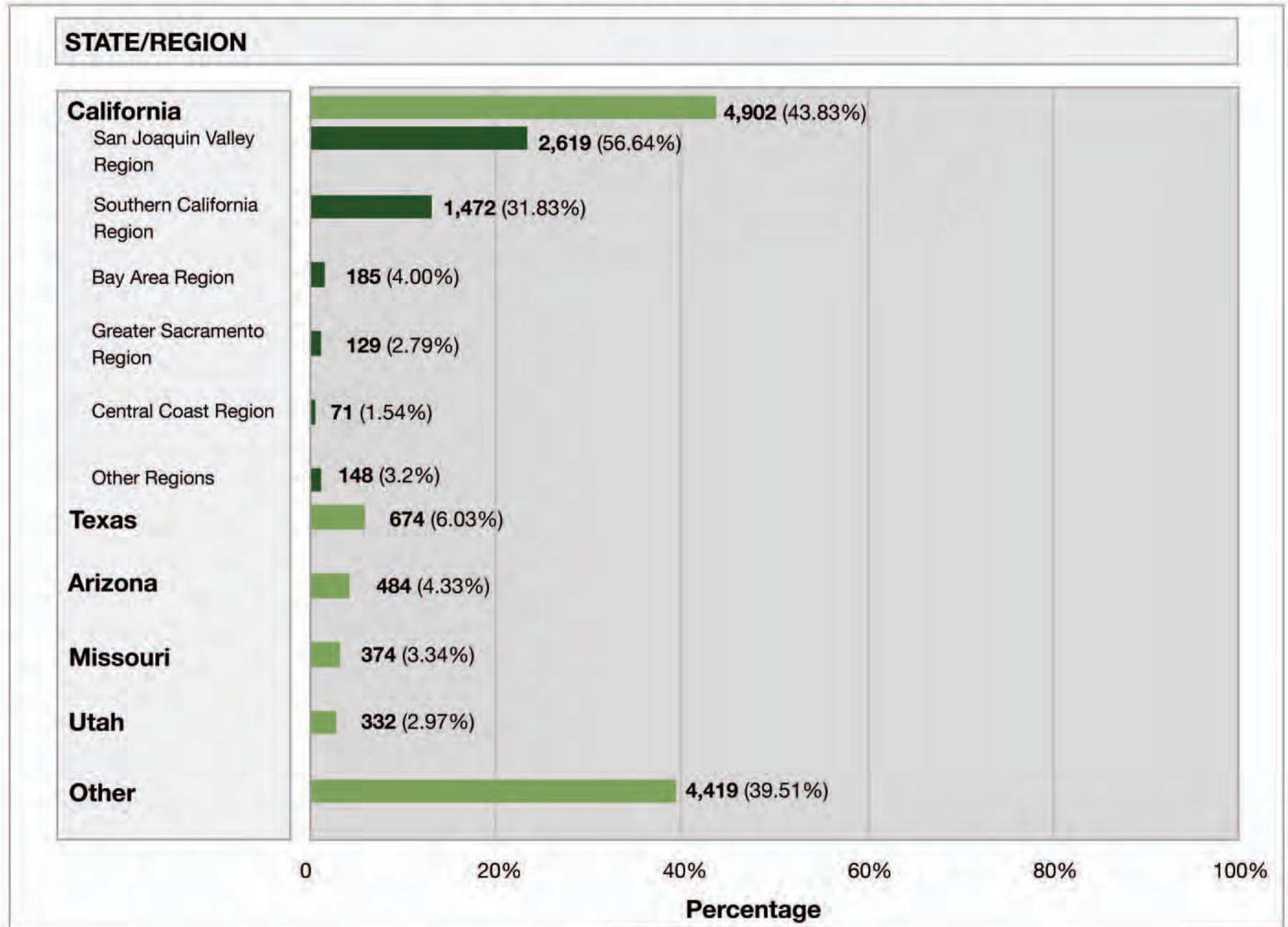
**TABLE 1-1  
TRUCK TYPE SUMMARY**



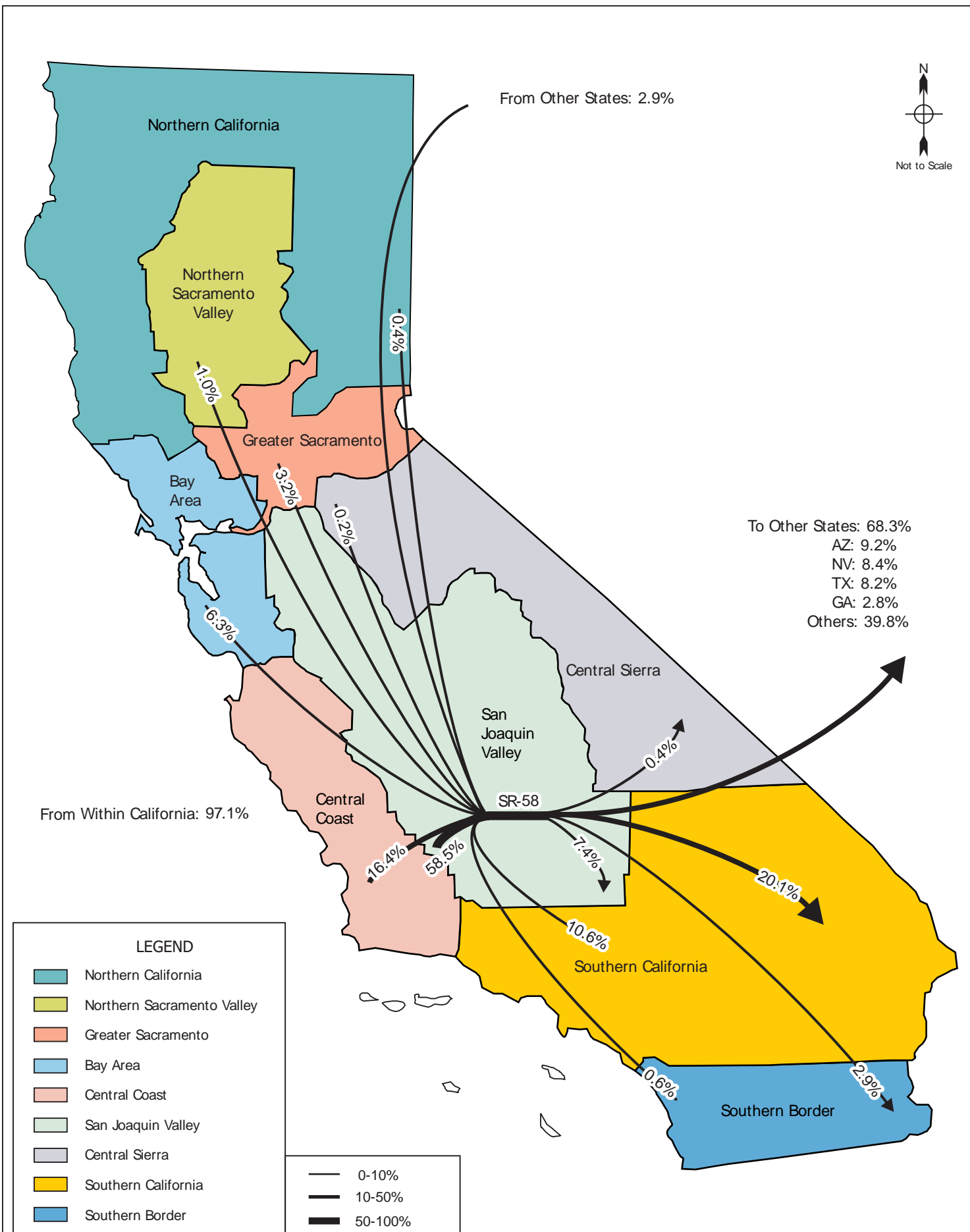
SU = Single Unit  
 DU = Double Unit (one unit is a truck)  
 MU = Multi Unit

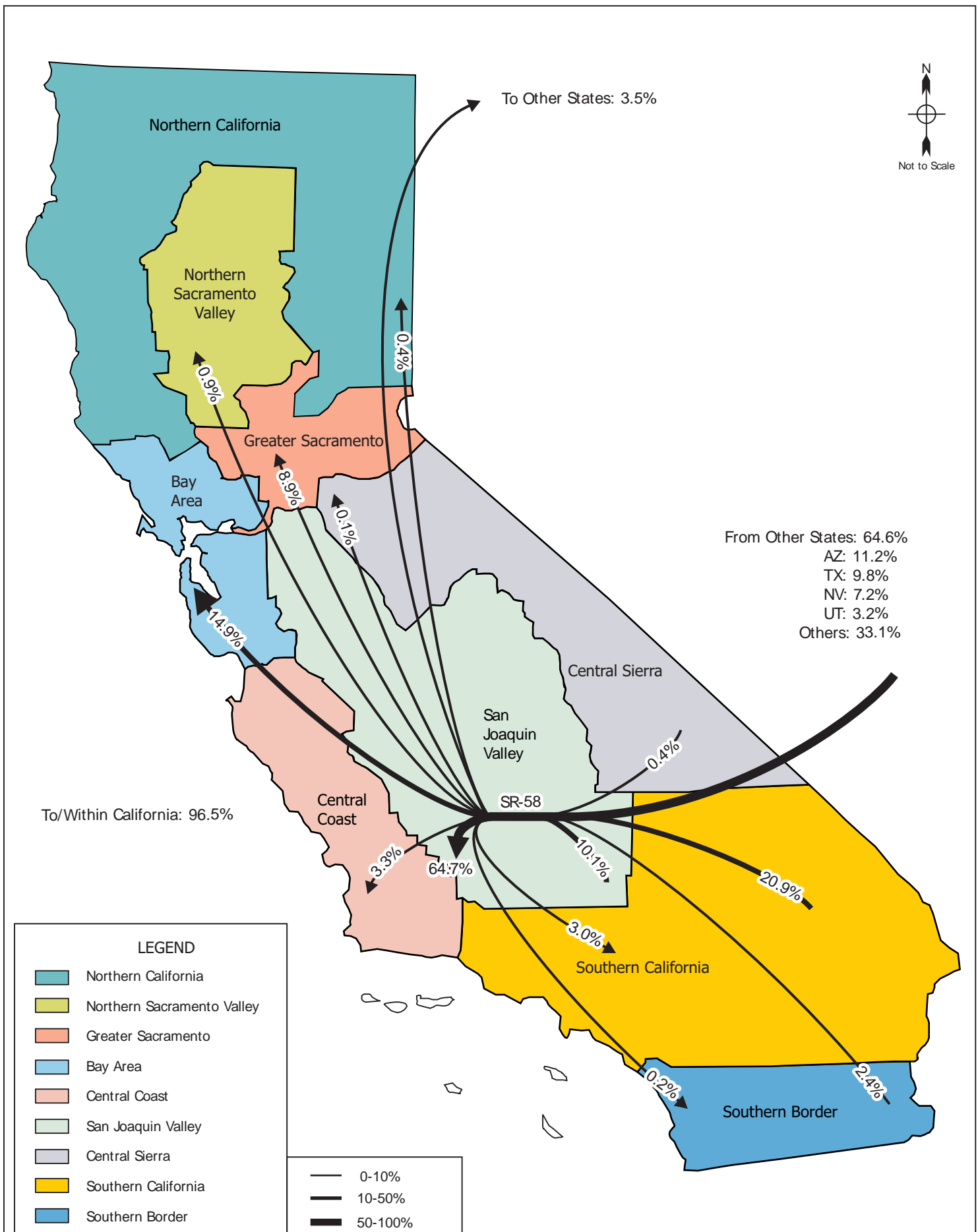


**TABLE 1-2**  
**TRUCK BASED LOCATION BY STATE/REGION SUMMARY (TOP 5)**

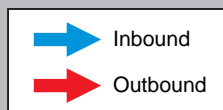
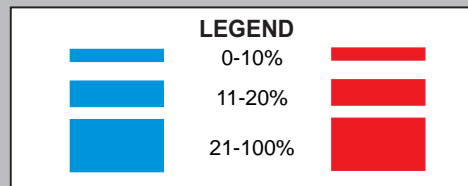
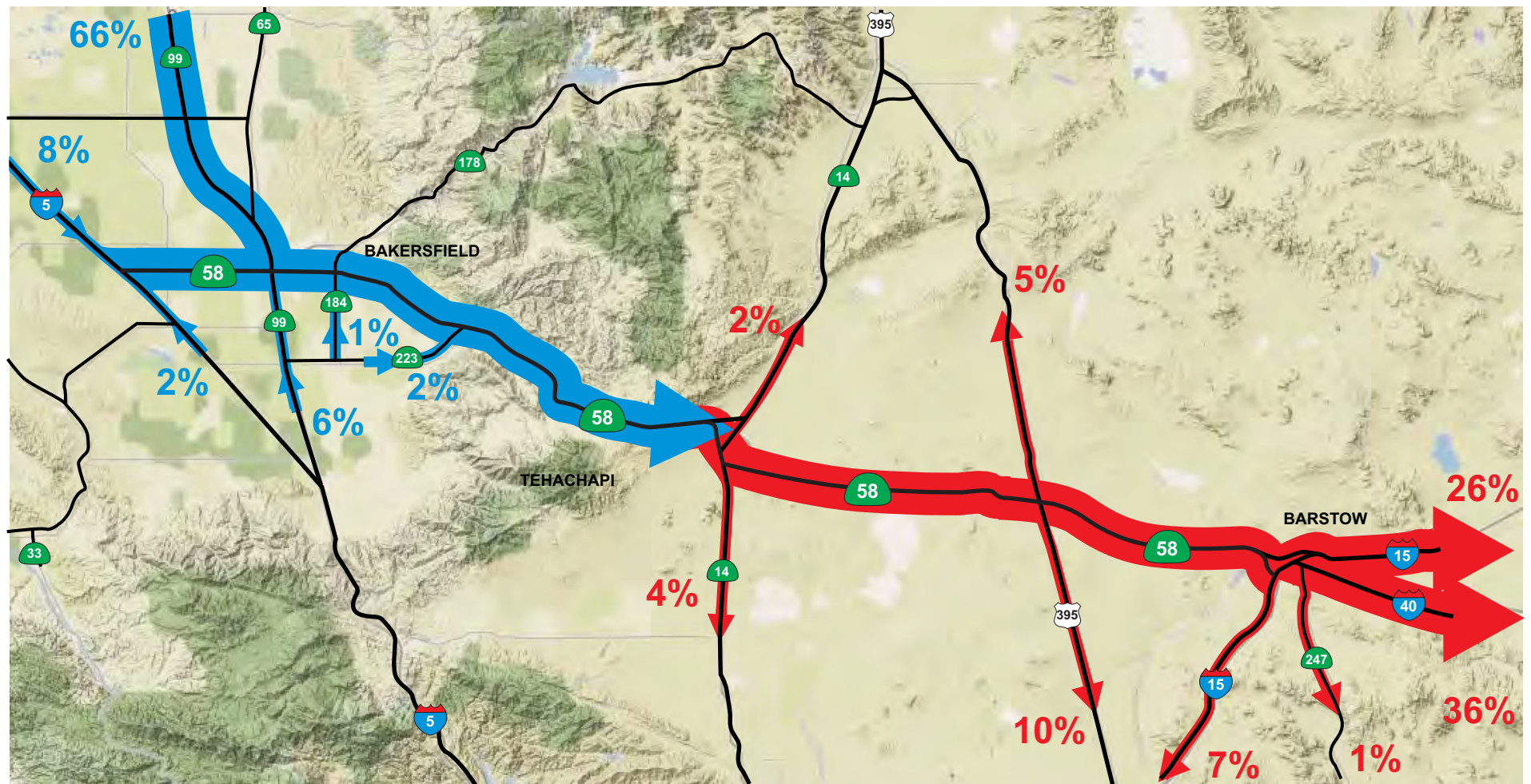


- In the eastbound direction, 97.1% of trucks originated their trip from within California. Figure I-5 illustrates the eastbound trip pattern.
- Of those eastbound trucks that are destined for locations within California, 20.1% are bound for the Southern California Region. See Figure I-5.
- Of the trucks that originated their trip from within California, the 58.5% started from within the San Joaquin Valley Region and 16.4% from the Central Coast Region. See Figure I-5
- In the westbound direction, 35.4% of trucks originated their trips from within California with the remaining 64.6% from other states. Figure I-6 illustrates the westbound trip pattern.
- 96.5% of westbound trucks are destined for locations within California.
- Of those westbound trucks that are destined for locations within California, 64.7 are bound for the San Joaquin Valley Region and 14.9% for the Bay Area Region. See Figure I-6.
- Survey results show that the majority (66%) of eastbound trucks used the Southbound SR-99 to access the SR-58 Corridor. This indicated the concentration of the agricultural industry located in the western San Joaquin Valley and Central Cost regions. Figure I-7 illustrates the eastbound route-choice pattern.
- Survey results show that the majority (62%) of eastbound trucks would use either the I-15 north or I-40 east Freeways from SR-58. This is reflective of the majority of truck trips destined for other states outside of California. See Figure I-7.
- Survey results show that the majority (67%) of westbound trucks used either the I-15 south or I-40 west Freeways to access the SR-58 Corridor. Figure I-8 illustrates the westbound route-choice pattern.
- Survey results show that the majority (73%) of westbound truck trips would use the SR-99 north Freeway from SR-58. See Figure I-8.
- The survey asked drivers where they are delivering their goods to. The responses are grouped by the following categories:
  - Shipper – the location where goods originate. Example includes: manufacturing plant, distribution center, processing plant and production point.
  - Consignee/Receiver – the location where goods are delivered. Example includes: distribution center, manufacturing plant and retail store.
  - Yard – the place where trucks are stored and dispatched from.
  - Home – the residence of the truck driver. This can also be the point of dispatch for independent truck owners.
  - Other - 42.0% of truck trips are destined for a consignee/receiver.
- Most trucks' place of origin is from a shipper (52.9%) or a yard (26.2%). Table I-3 summarizes the results.







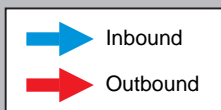
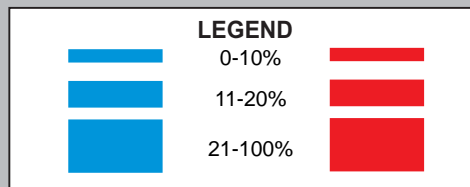
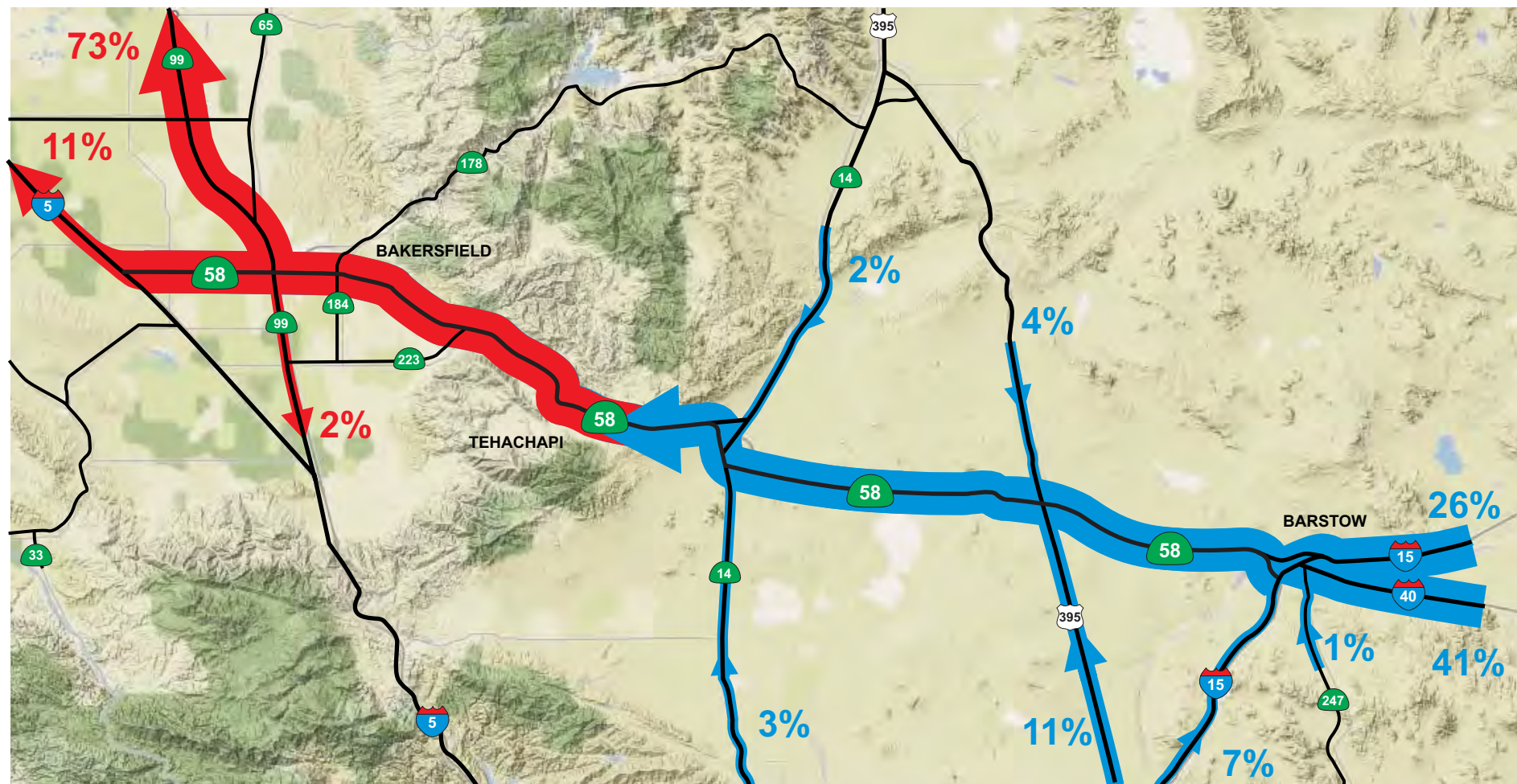


**ROUTES:**  
Major: 85%  
Local/Other (Not Shown): 15%

**ROUTES:**  
Major: 91%  
Local/Other (Not Shown): 9%

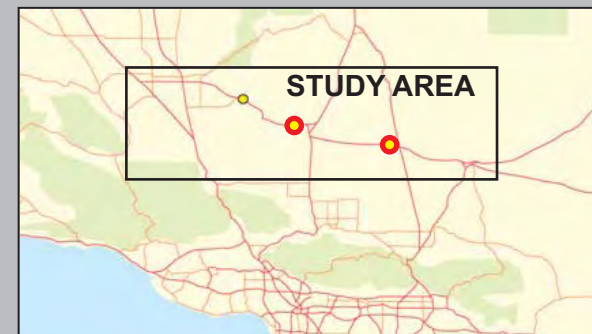




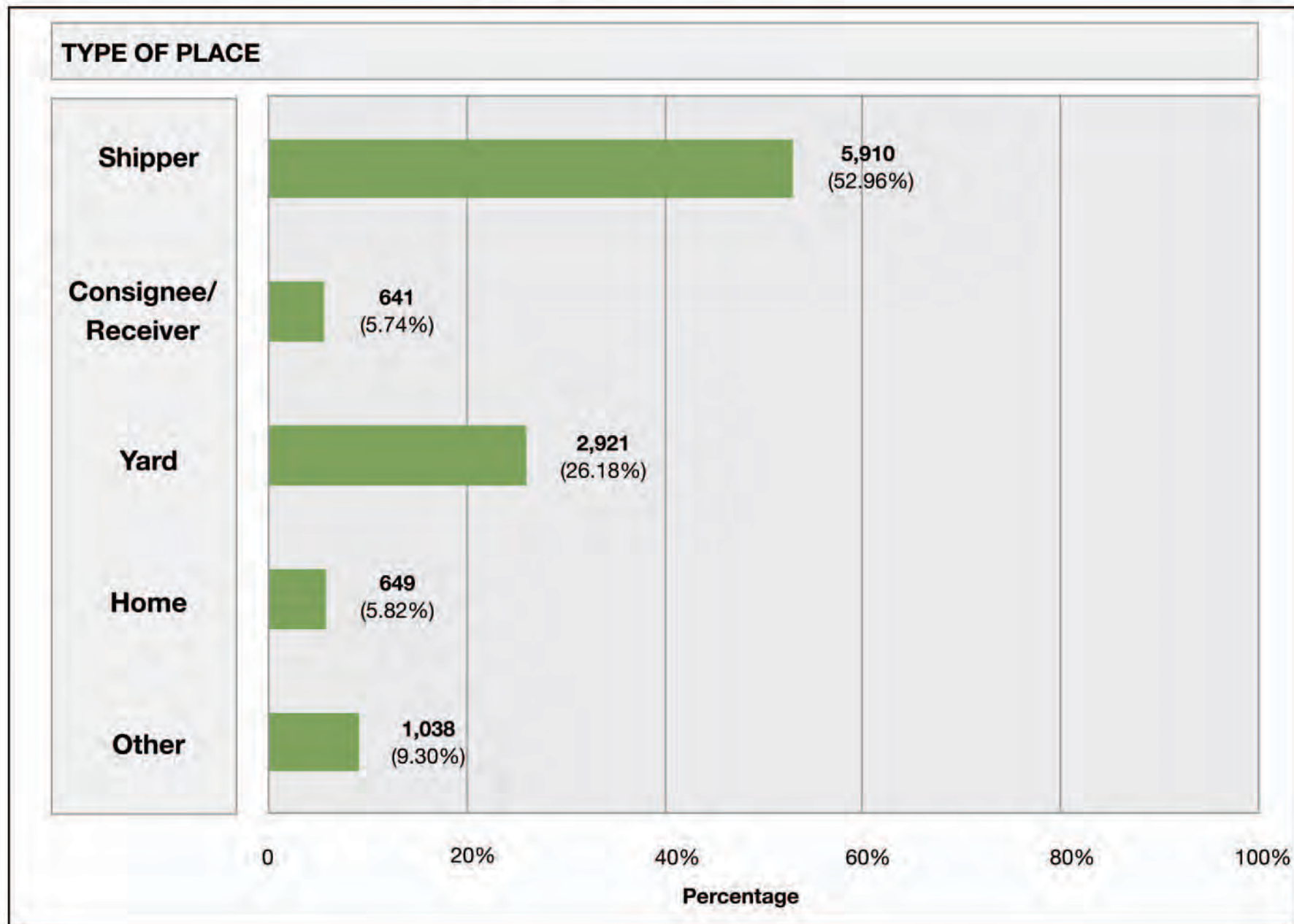


**ROUTES:**  
 Major: 95%  
 Local/Other (Not Shown): 5%

**ROUTES:**  
 Major: 86%  
 Local/Other (Not Shown): 14%



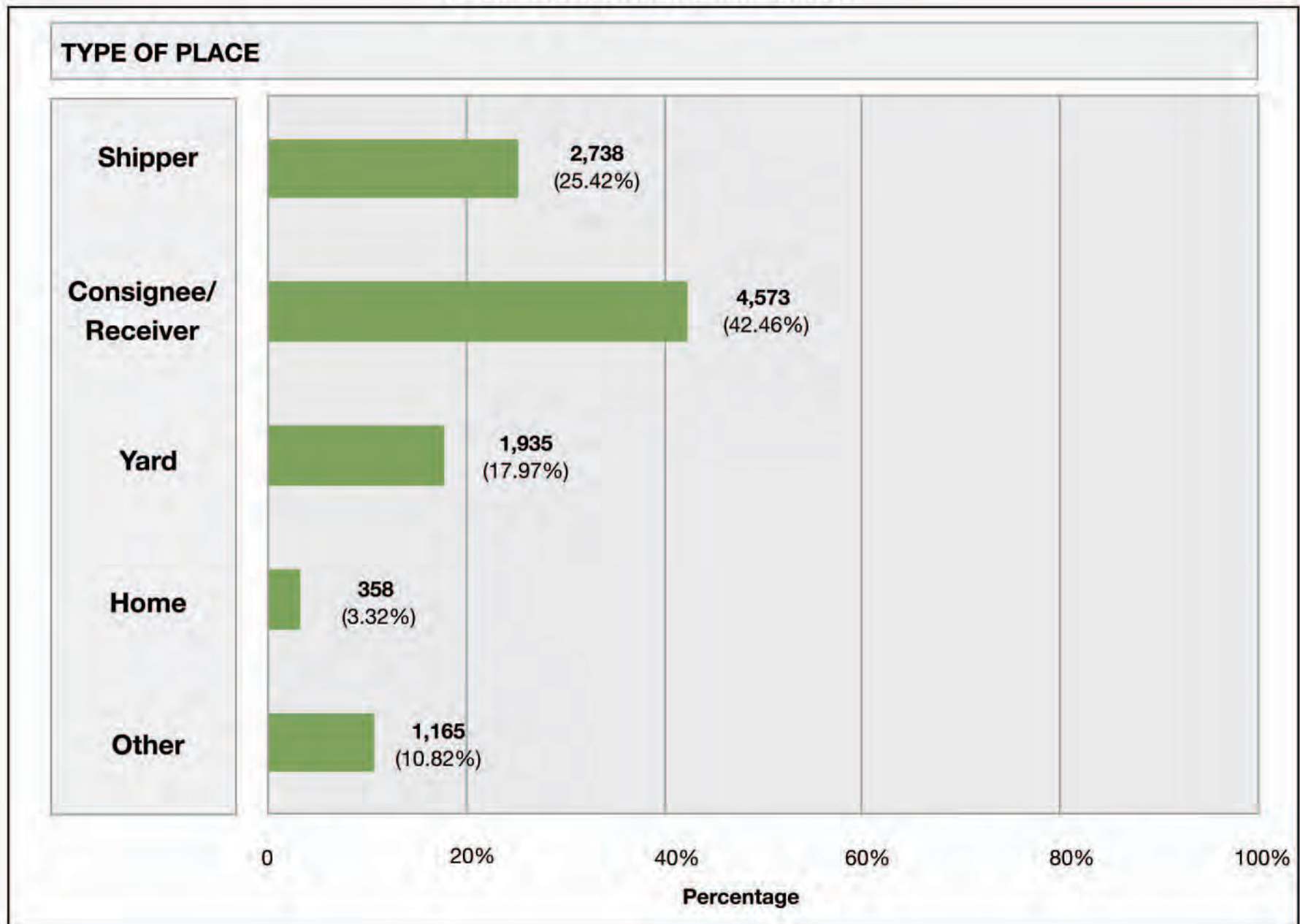
**TABLE 1-3**  
**PLACE OF ORIGIN SUMMARY**



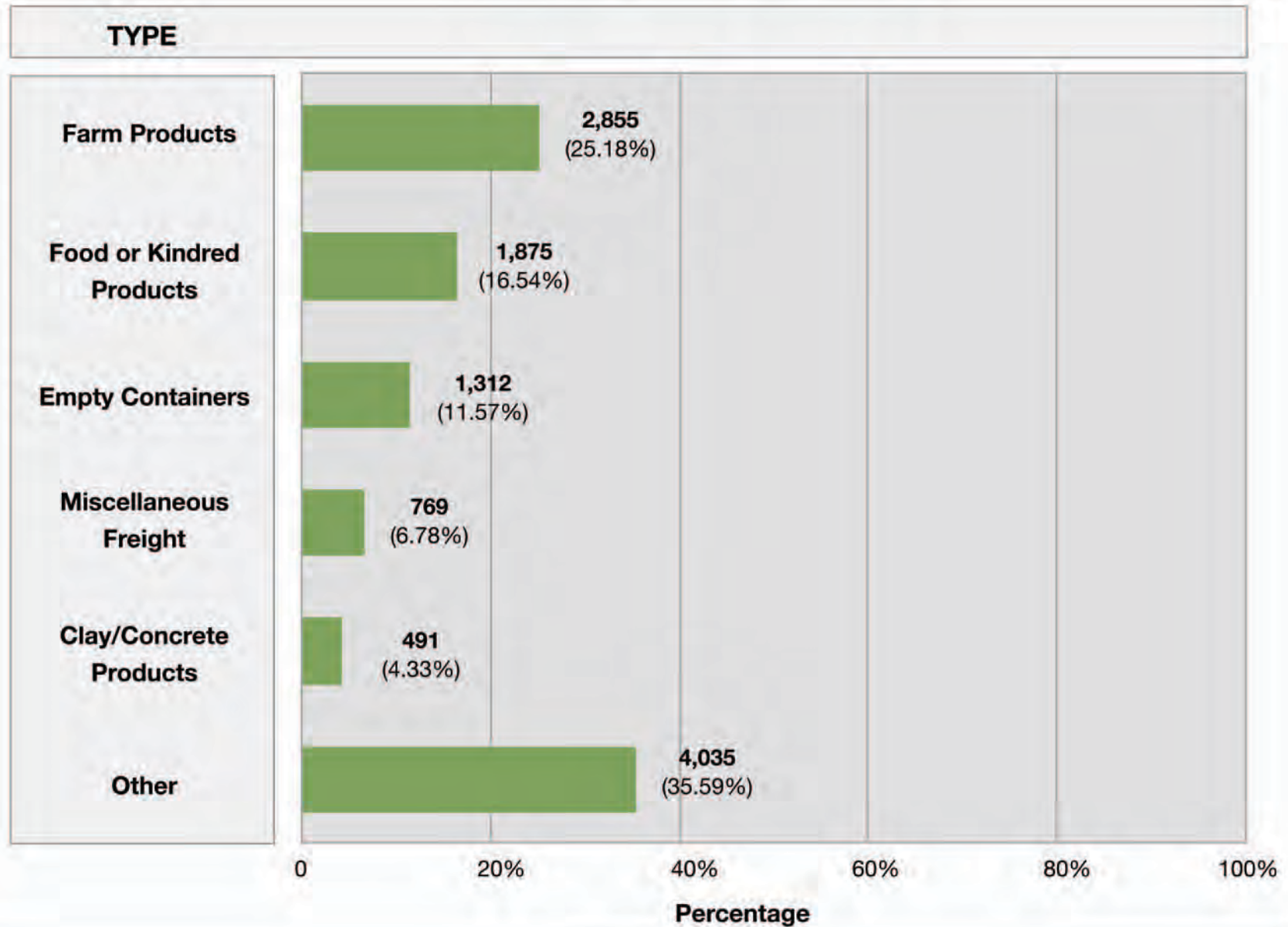
- Most truck's place of destination is to a consignee/receiver (42.5%) followed by shipper (25.4%). Table I-4 summarizes the results.
- Major commodities carried via the SR-58 Corridor include general items classified under: Farm Products, Food/Kindred Products, Clay/Concrete/Glass/Stone Products, miscellaneous Freight and empty trucks/containers. Table I-5 summarizes the results.
- The survey results indicate that 98% of farm products traveling on the Eastbound SR-58 started their trip from within California and 2% from other states. Of the total trips, 46% started their trip from within the San Joaquin Valley Region followed by the Central Coast Region at 37% and the Southern California Region at 9%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 88% are destined for areas outside of California and the remaining 12% are bound for regions within California. The survey results indicate produce as the most common farm products carried such as lettuce, grapes strawberries and tomatoes. Figure I-9 summarizes the trip pattern.
- The survey results indicate that 58% of farm products traveling on the westbound SR-58 started their trip from outside of California with the predominate states being: Arizona (11%), Texas (9%), Utah (5%), and Nevada (4%). The 42% trips that originated from within California of which 14% are from the Southern California Region, 14% from the Southern Border Region and 13% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 69% are bound for the San Joaquin Valley Region and 12% are bound for the Bay Area Region. The survey results indicate chickens and hay as some of the common farm products carried. Figure I-10 summarizes the trip pattern.
- The survey results indicate that 97% of food products traveling on the Eastbound SR-58 started their trip from within California and 3% from other states. Of the total trips, 71% started their trip from within the San Joaquin Valley Region followed by the Southern California Region at 10% and the Bay Area Region at 8%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 72% are destined for areas outside of California and the remaining 28% are bound for regions within California. The survey results indicate the most common food products carried are cheese, milk and wine. Figure I-11 summarizes the trip pattern.
- The survey results indicate that 76% of food products traveling on the westbound SR-58 started their trip from outside of California with the predominate states being: Arizona (13%), Texas (13%), Nevada (5%) and Oklahoma (5%). The 24% trips that originated from within California of which 16% are from the Southern California Region, and 6% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 65% are bound for the San Joaquin Valley Region and 17% are bound for the Bay Area Region. The survey results indicate the most common food products carried are meat and frozen food. Figure I-12 summarizes the trip pattern.



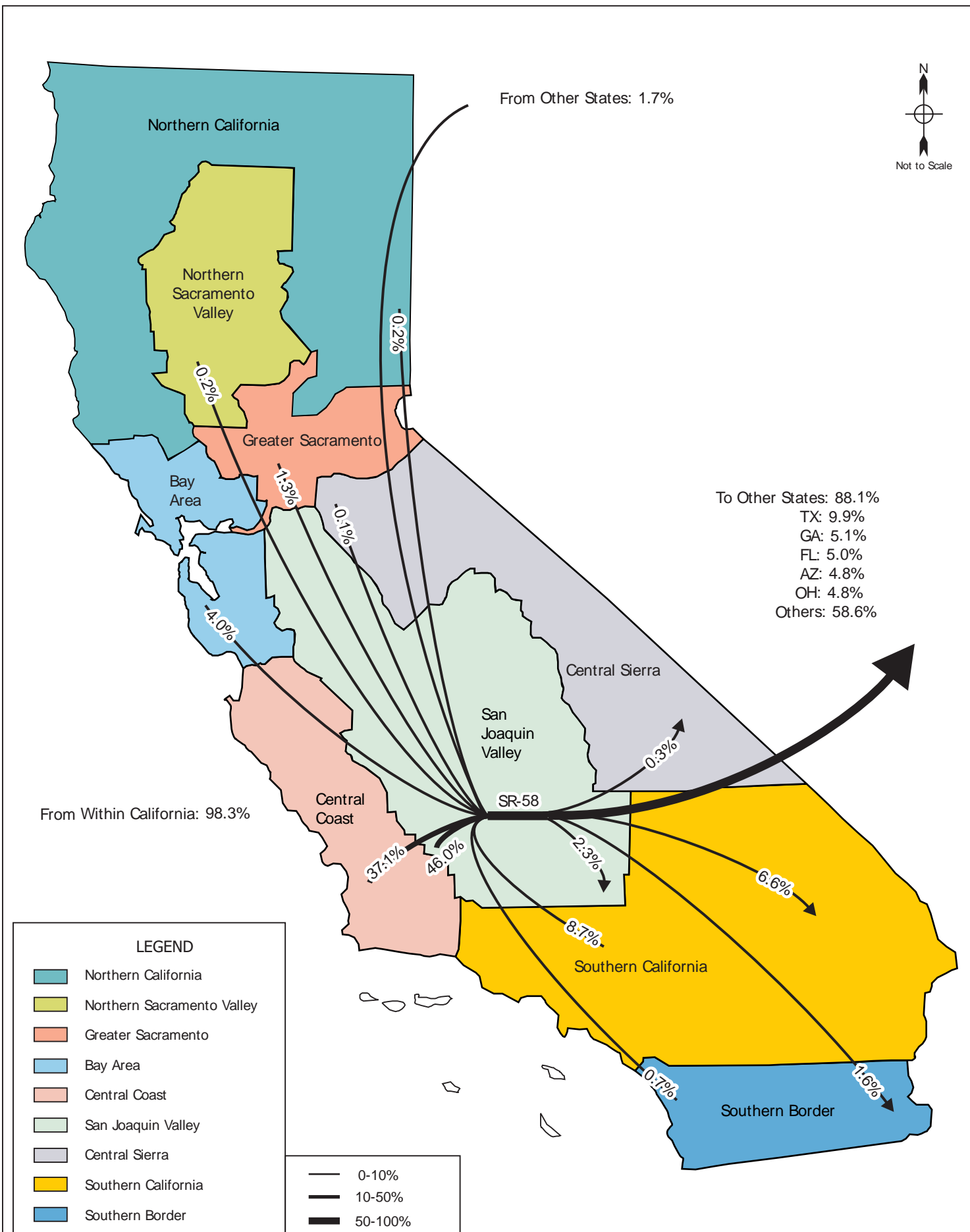
**TABLE 1-4**  
**PLACE OF DESTINATION**

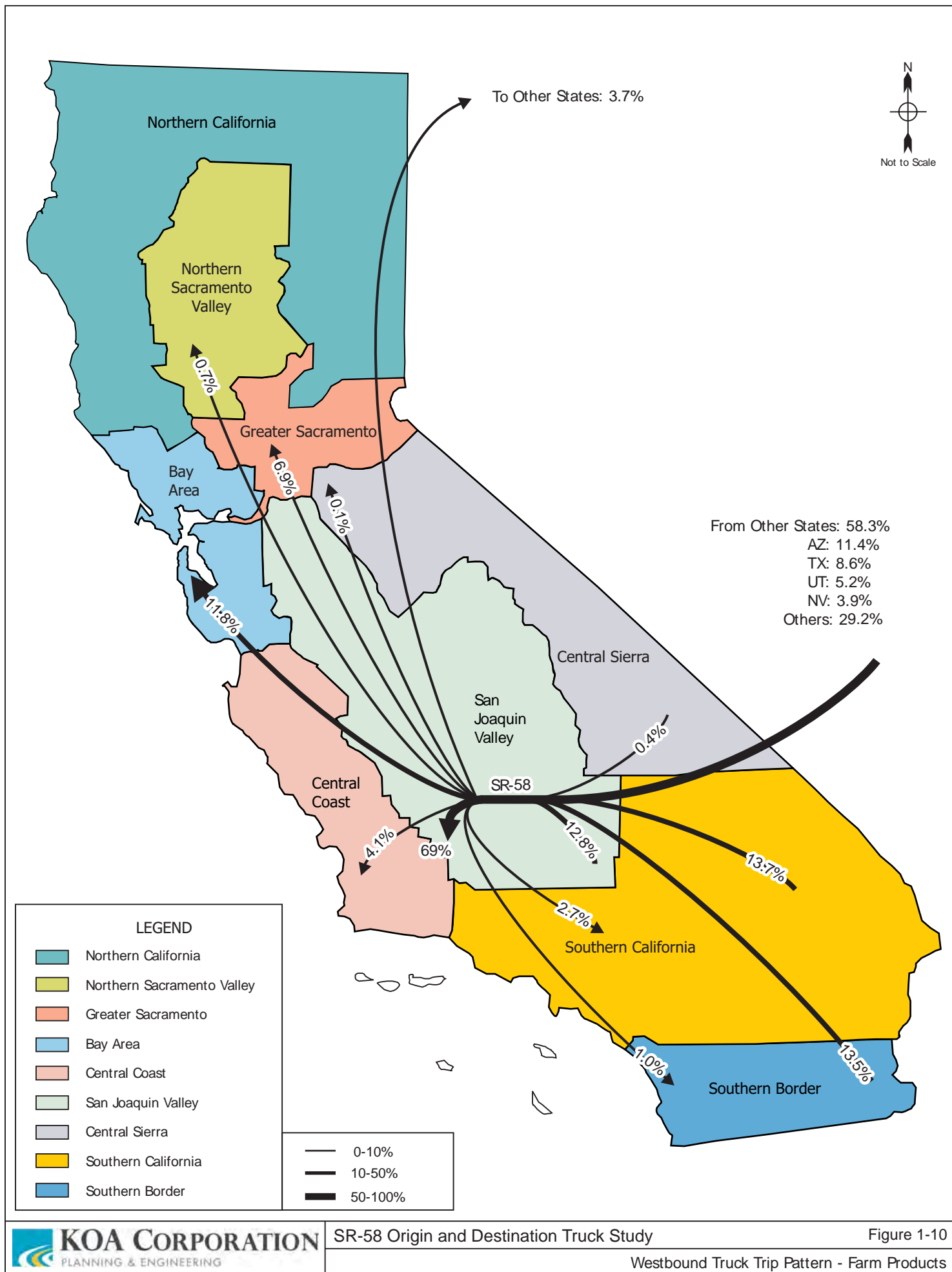


**TABLE 1-5  
TOP 5 COMMODITIES SURVEYED**

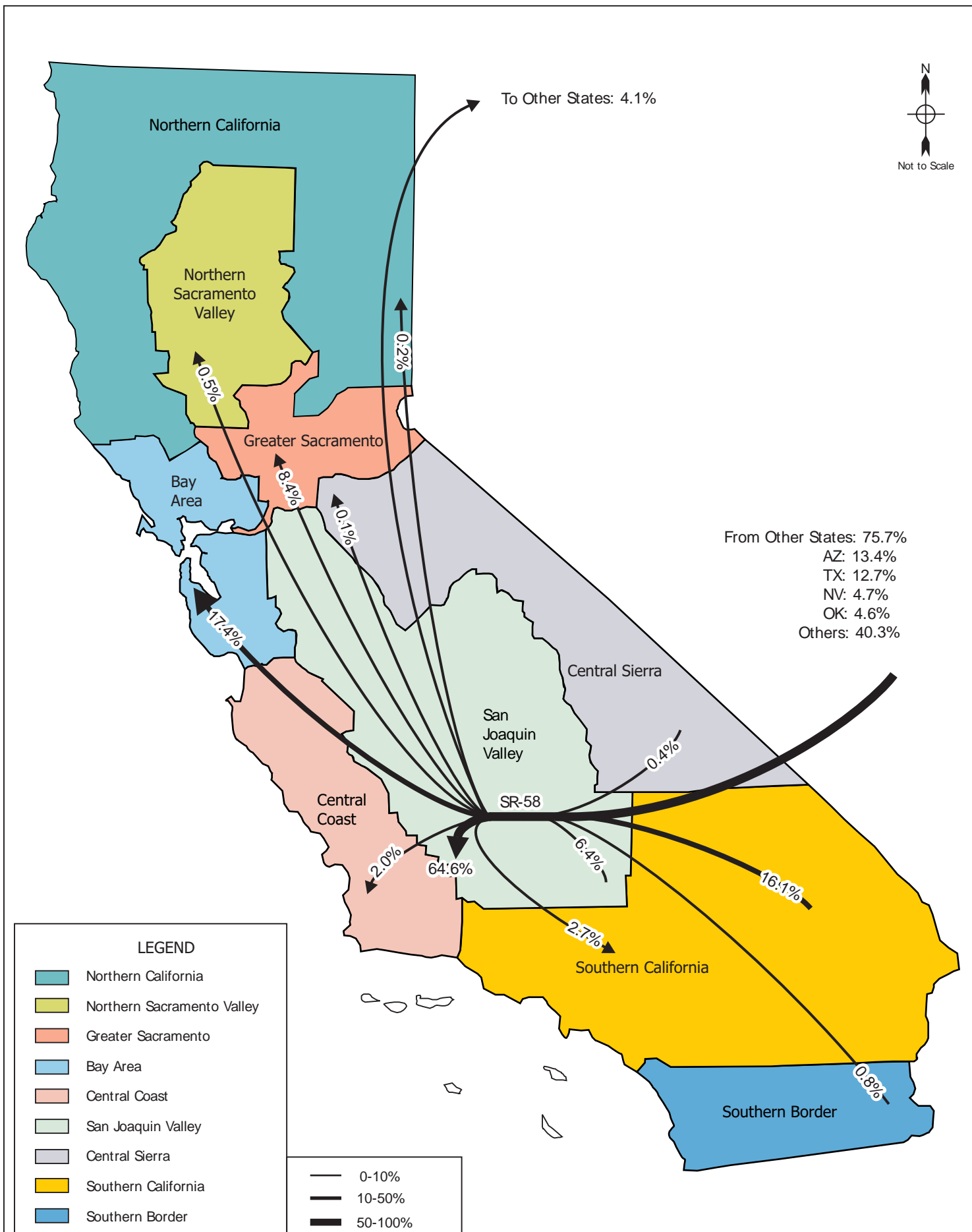






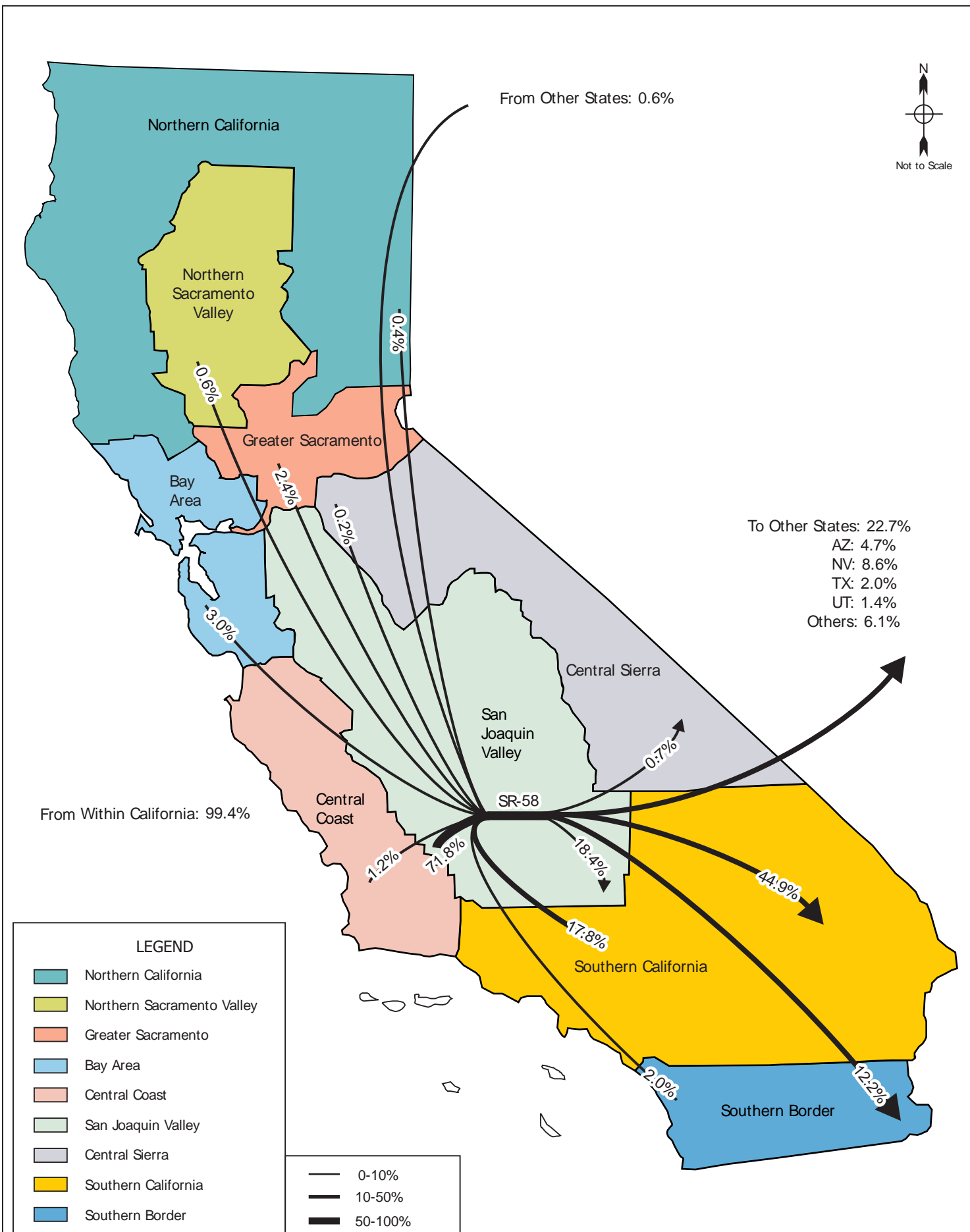


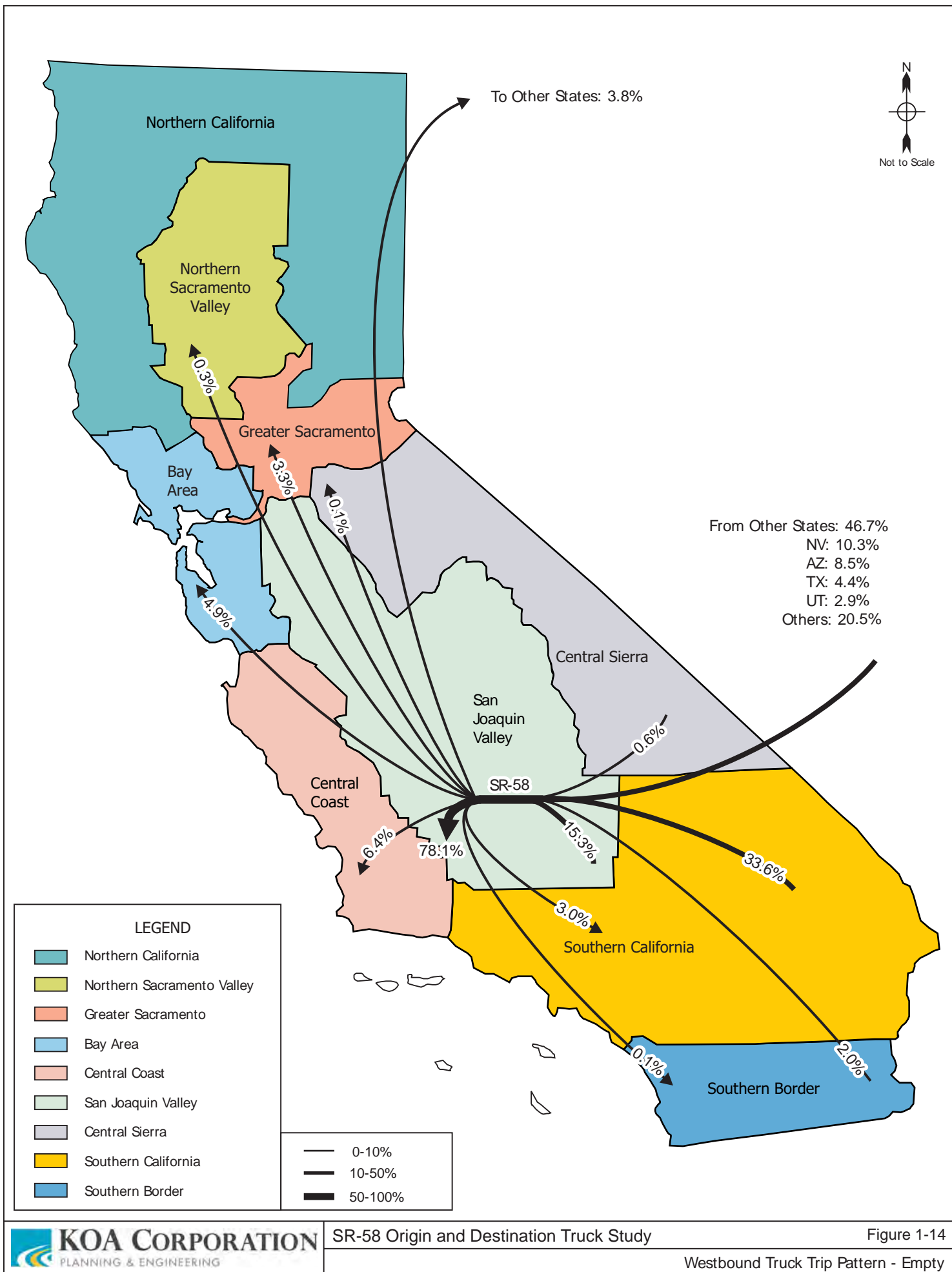




- The survey results indicate that virtually 100% of empty trucks traveling on the Eastbound SR-58 started their trip from within California of which 72% started their trip from within the San Joaquin Valley Region followed by the Southern California Region at 18%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 23% are destined for areas outside of California and the remaining 77% are bound for regions within California. The majority of those trips (45%) are bound for the Southern California Region (likely to San Bernardino and Riverside Counties). Figure I-13 summarizes the trip pattern.
- The survey results indicate that 47% of empty trucks traveling on the westbound SR-58 started their trip from outside of California with the predominate states being. The remaining 53% trips that originated from within California of which 34% are from the Southern California Region, and 15% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 78% are bound for the San Joaquin Valley Region and 6% are bound for the Central Coast Region. Figure I-14 summarizes the trip pattern.
- Based on the origin and destination locations (counties and states), the following statistics were derived:
  - 32.7% of trips had both origin and destination within California with an average travel distance of 148 miles (both legs of trip)
  - 61.2% of trips had either origin or destination within California with an average travel distance of 805 miles (both legs of trip)
  - 6.1% of trips had both origin and destination outside of California with an average travel distance of 1,393 miles (both legs of trip)
- Over a third of all eastbound trips (35%) originating in California stayed in California. The neighboring states of Arizona and Nevada were the next most common destinations followed by Texas.
- Similarly, about 35% of westbound trips originate from California. The next states are Arizona, Texas and Nevada. A different order than the eastbound pattern due most likely to the larger agricultural production in Arizona and Texas as compared to Nevada.







### Fleet Operator Survey – Key Findings

- Survey of commercial fleet operators revealed that haulers of sand, gravel, rock and asphalt reported the heaviest local use of SR-58 with multiple trips per day. These firms reported that their use of SR-58 are for primarily paving projects. The usage is typically highest during summer and virtually halted during winter.
- Survey of regional firms revealed that a significant number of trips are from the Los Angeles area. Here truckers use SR-58 for at least three different reasons:
  - As a primary route for shipment, usually to the eastern areas such as San Bernardino and Riverside Counties
  - As an alternative to I-5 over the Grapevine during storms
  - As a preferred alternative to I-10 and I-210 for shipments to eastern Los Angeles county when traffic congestion slows the Los Angeles County eastbound routes
- Virtually all users to and from the Los Angeles and Inland Empire areas reported using US-395 through Adelanto to with SR-58, although a few reported using SR-14 through Lancaster and Palmdale.
- A great number of respondents reported that SR-58 is less affected by adverse weather and congestion than I-5 and they re-route truck over SR-58 often during the winter months.

## 2.0 LITERATURE REVIEW AND DATA COLLECTION

This chapter summarizes the literature review and historical data collection effort conducted as part of the SR-58 Origin and Destination Truck Study.

In working with the TAC, KOA identified, collected and reviewed 13 documents/reports. In addition to the 13 documents, KOA also collected counts and accident data within the SR-58 corridor. Below lists the 13 documents/reports that were identified and summarized as part of the study:

**Table 2-1: List of Reports and Studies**

<b>No.</b>	<b>Reports / Studies</b>
1	City of Barstow, General Plan Circulation Element, 1996.
2	San Joaquin Valley Goods Movement Study, Council of Fresno County Governments, September 2000.
3	California Heavy Duty Truck Travel Survey, December 2001.
4	US-395 Corridor Study I-15 to SR-14, Caltrans District 6, 8 & 9, FHWA, SCAG, SANBAG & Kern COG, January 2002.
5	Southern California Freight Management Case Study, Caltrans, MTA & SCAG, January 2002.
6	Regional Fee Nexus Study, Kern COG, September 2003.
7	Subregional Freight Movement Truck Access Study, SCAG & SANBAG, July 2004.
8	Greater Tehachapi Area Circulation Study, Kern COG & City of Tehachapi, August 2004.
9	Southern California Association of Governments Goods Movement Truck Count Study, September 2005.
10	I-15 Comprehensive Corridor Study, SCAG, SANBAG & Caltrans, December 2005.
11	Goods Movement Study for US-395 Corridor, Caltrans District 9, June 21, 2006.
12	Kern County 2007 Regional Transportation Plan, Kern COG, May 2007.
13	Victor Valley Area Transportation Study, SANBAG, March 2008.

In addition, the following data were also collected from published sources:

**Table 2-2: List of Data Sources**

2006 AADT Counts along SR 58, Ramp ADT along SR 58, Truck % - Source: Caltrans website.
Accident Data along SR 58 and along major routes that intersects SR 58 - Source: Caltrans District 6 and 8.
Accident Data - City of Bakersfield, 2001.
2001 Weigh Station Inventory of needs

KOA conducted a review of all documents and reports listed in Tables 2-1 and 2-2. Included below is a synopsis of each document. Following the synopsis, in italics, is commentary on the relevance of the document to the SR-58 Origin and Destination Truck Study.

**1. City of Barstow, General Plan Circulation Element, 1996.**

This study documents the existing transportation conditions, future land use data, future 2020 traffic volumes and levels of service within the City of Barstow. The study also documents the future planned improvements. The study findings include a recommendation for a Motorized Circulation Plan including changes to the current roadway classifications, truck routes, and public passenger rail. The study also proposes recommendations on the City's Non-motorized Circulation Plan and specific mitigation measures for roads within the City.

*The study focuses on facilities within the City of Barstow which is located at the eastern terminus of the SR-58 O/D study area. Some data such as auto/truck volumes are included for the study corridor but are since outdated.*

**2. San Joaquin Valley Goods Movement Study, Council of Fresno County Governments, September 2000.**

This study was done in two phases. Phase one focused on characterizing current freight movements in terms of commodities, modes, origin, destination and traffic volumes. The study also includes identification of major trends, issues and problems that can be addressed through public sector action, and made recommendations for future data collection efforts and the need to develop analytic tools to aid the planning process. Phase two of the study identified and evaluated solutions to the problems identified under Phase one. Also, Phase two developed analytical tools for the analysis of freight transportation problems and solutions.

*The study area encompasses a very large region which includes Kern County. The data from this study is somewhat outdated but is useful for historical reference. From this study, volume data, level of service data and truck survey data and results along SR-58, SR-14 and SR-99 provides some historical reference but data is somewhat outdated.*



### **3. California Heavy Duty Truck Travel Survey, December 2001.**

The purpose of the study was to collect truck travel data for selected sites in California. The types of data include: truck type, direction of travel, distance travel, etc.. The objective of the study was to develop procedures to acquire and conduct truck travel data. This study also focused on identifying relationships between economic activity and truck travel patterns and collection of data for analysis of commodity flow throughout California. The study recommended that further study and data collection is needed to develop a reliable/accurate truck model.

*The data from this study is somewhat outdated and it focuses on a much more regional perspective (i.e. truck flow between SACOG, SCAG and SANDAG). However, much of the data collected is very relevant to the SR-58 Origin and Destination Study such as type of goods, truck type, origin/destination, type of cargo, hazardous materials.*

### **4. US-395 Corridor Study I-15 to SR-14, Caltrans District 6, 8 & 9, FHWA, SCAG, SANBAG & Kern COG, January 2002.**

The purposes of the study were to identify a viable strategy for converting US-395 from a conventional highway to an expressway/freeway, identify multi-modal options for improving transportation efficiency, improve goods movement, define right of way needs based on an ultimate transportation configuration and identify transportation issues and support from communities located along the route. The findings of the study indicate that US-395 should be upgraded to a freeway/expressway.

*SR-58 is included within the US-395 study corridor. The volume and level of service data at SR-58 and US-395 are somewhat outdated but provides historical reference.*

### **5. Southern California Freight Management Case Study, Caltrans, MTA & SCAG, January 2002.**

This study is one of five regional studies that were conducted across the country at the behest of Federal Highway Administration. The study contributes to Southern California's pursuit of a statewide goal. The case study draws some lessons from the Alameda Corridor project and other freight projects in the region. The study resulted in a series of recommendations including planning and funding strategies for stakeholders in the region.

*The data/information contained in this study has little relevance to the SR-58 O/D Study.*

### **6. Regional Fee Nexus Study, Kern COG, September 2003.**

The purpose of the study was to establish a connection between new developments that will occur in the southeast portion of Kern County and the need to improve the roadway facilities. The study summarizes the existing average daily traffic volumes and the projected future traffic volumes. The study recommends some future improvements that include widening of SR-202 near Tehachapi and SR-14 from four lanes to six lanes.

*The focus area is southeast Kern County which includes areas served by SR-58. From this study, volume data and level of service data along SR-58 and SR-14 are somewhat outdated but provides historical reference.*

#### **7. Subregional Freight Movement Truck Access Study, SCAG & SANBAG, July 2004.**

The purpose of the study was to upgrade and refine the regional and subregional travel demand models. This study focused on evaluating truck routes and restrictions in the inland empire area, document truck trip generation rates, collect truck volume data and truck accident data, conduct trucker and carrier surveys and identify potential future truck related problem areas and facilities. The results from this study would provide input data for the development, improvement and validation of truck forecasting components in local and regional travel demand models.

*The study focused on I-15 between SR-60 and I-210. The study area is somewhat removed from SR-58 study area and most data may are not applicable to the SR-58 study corridor. Data such as truck volume, level of service and truck route has little relevance to the SR-58 Study as it is too far from the SR-58 study area.*

#### **8. Greater Tehachapi Area Circulation Study, Kern COG & City of Tehachapi, August 2004.**

The purpose of the study was to identify existing and future circulation and transportation issues within the Greater Tehachapi Area. This study summarizes the existing average daily traffic volumes and the projected future traffic volumes. The study recommends some future improvements that include signalization of some intersections and street improvements.

*While regional traffic for the study area is primarily served by SR-58, the study focuses more on local roadway system rather than regional traffic. From this study, volume data and level of service data along SR-58 within the City of Tehachapi provides for little relevance to the SR-58 Origin and Destination Truck Study.*

#### **9. Southern California Association of Governments Goods Movement Truck Count Study, September 2005.**

The purpose of the study was to develop a comprehensive truck count database, conduct and document counts that have data reliability, develop a program for an on-going truck monitoring program, supplement and expand the existing truck count data, refinement of the SCAG truck model, provide data on truck volumes by classification and land use, improve knowledge of truck travel patterns and truck trips serving intermodal and regional gateways, and furnish annual and weekday truck traffic for modeling purposes and provide a base of information that would be useful for regional freight movement studies.

*The truck data collected as part of this study was conducted in 2001 which can be considered somewhat outdated. However, this data is useful for historical reference. Other data such as intercept survey traffic control plans at SR-58 Boron rest stops and some truck survey data for SR-58 Origin and Destination Truck Study.*

#### **10. I-15 Comprehensive Corridor Study, SCAG, SANBAG & Caltrans, December 2005.**

This study was jointly initiated by SCAG, SANBAG & Caltrans to address the current and future travel needs in the I-15 corridor. The purpose of the study was to narrow the range of potential options to resolve a particular transportation problem ultimately leading to the selection of a specific strategy for implementation. The study focuses mainly on the I-15 corridor. Nine improvement alternatives were developed based on the need and purpose of the study. This resulted in a reduced set of five strategies to be carried forward for detailed evaluation. The detailed evaluation assisted the technical advisory committee in identifying two locally preferred strategies. Implementation, financial and right-of-way delineation plans were also developed.

*The study area is along I-15 between SR-60 and SR-18/Apple Valley. The study area does not include SR-58 but however, volume data along I-15 may be useful for reference but limited.*

**11. Goods Movement Study for US-395 Corridor, Caltrans District 9, June 21, 2006.**

The Purpose of the study is to identify goods movement travel patterns along US-395 through the Eastern Nevada region. The study identified the type of goods and modes of transportation within the corridor and develops a better understanding of goods distribution between Southern California and Northern Nevada. The study is very similar to the SR-58 Study where truck-intercept surveys, fleet operator surveys and classification counts were conducted. The results of the study included truck volumes and travel patterns between SR-14 and US-395.

*The study area is contiguous as both SR-14 and US-395 intersect with SR-58. The results of the study are directly usable and supplement the SR-58 study.*

**12. Kern County 2007 Regional Transportation Plan, Kern COG, May 2007.**

The purpose of this study was to prepare a planning guide for the next 24 years to address the mobility issues related to Kern County's transportation and air quality. The Regional Transportation Plan (RTP) provides a comprehensive and multimodal regional transportation plan that is responsive to public input, as well as local, regional, state and federal governmental input. The Plan meets the state and federal requirements and reflects a vision for the Kern region that balances land use with transportation investments in a way that is complementary to existing investments. In addition, the RTP addresses the goals and policies established by Kern COG that are assessed based on a number of key performance measures. The RTP also recognized funding issues within the region and to able to implement improvements, innovative funding concepts would need to be explored.

*The focus area is on a county wide basis. However, from this study traffic volumes and level of service data along SR-58 within City of Bakersfield, Tehachapi and Mojave some historical reference to the SR-58 Origin and Destination Truck Study.*

**13. Victor Valley Area Transportation Study, SANBAG, March 2008.**

The purpose of the study was to prepare a roadway plan to accommodate Victor Valley Area (Cities of Adelanto, Hesperia, Victorville and the Town of Apple Valley and County of San Bernardino) Transportation needs for the year 2035. This study focuses on several state routes within the study area. This study examined ten alternatives for improvement to the regional circulation system. One of the key routes studied is US-395, according to the study, if the new corridor is not built for US-395, the roadway segments would exceed capacity. However, the study suggests that the new corridor is not needed by 2035 if the existing US-395 is widened to six lanes.

*The study area does not include the SR-58 Corridor and most of the data is not relevant.*

Table 2-3 provides a summary of the relevant data/information collected. Figure 2-1 provides a graphical summary of the data/information collected.

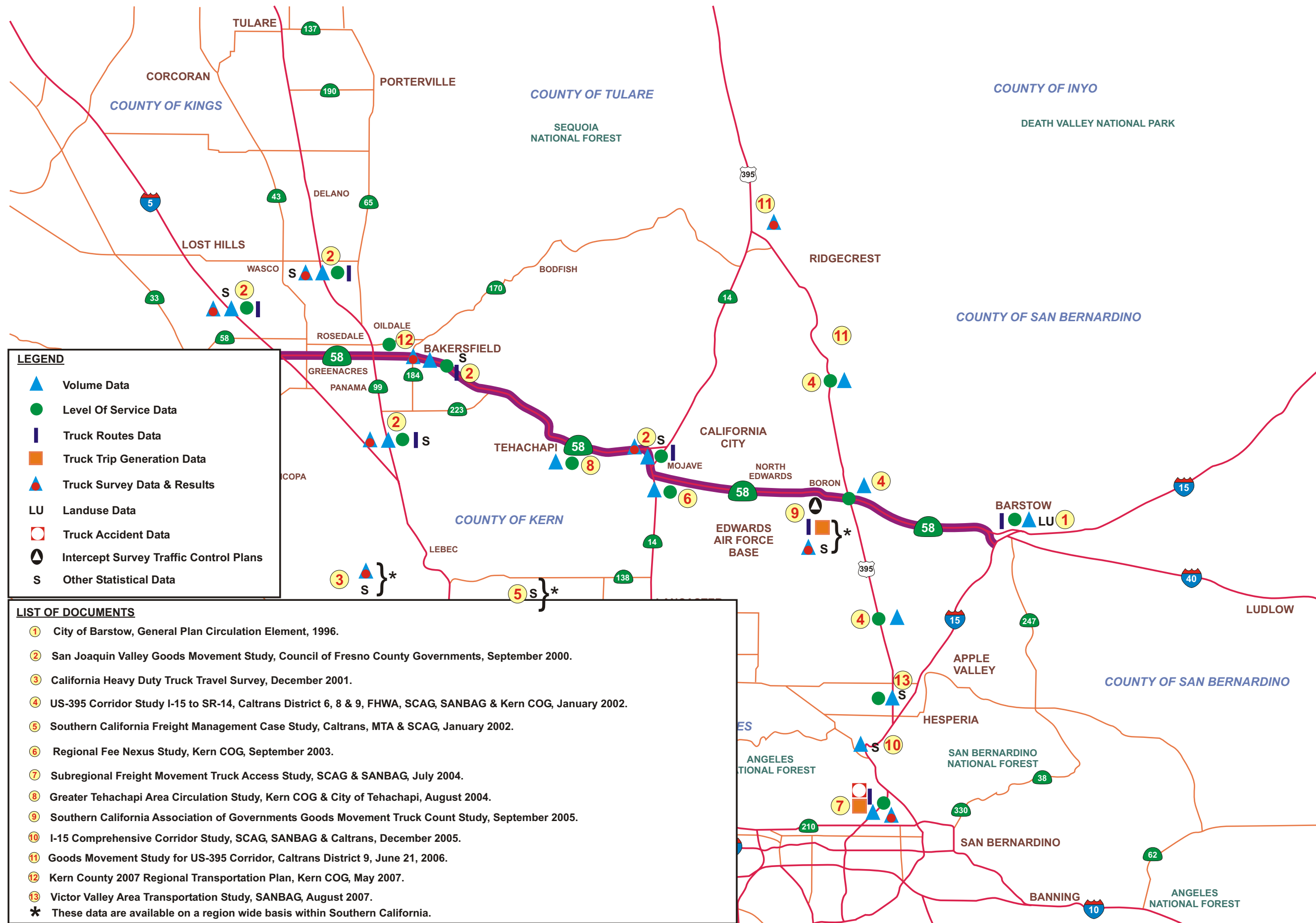
Of the 13 documents that were reviewed, the ones that appear most relevant/useful are the studies pertaining to the movement of goods and general truck studies. They are:

- #2 – San Joaquin Valley Goods Movement Study
- #3 – California Heavy Duty Truck Travel Survey
- #11 – US-395 Goods Movement Study

*These studies provide relevant data which the SR-58 Study results which is useful to compare and validate goods movement trends, particularly from a historical perspective. Other studies provide some useful data which are mainly traffic counts, accident data, level of service but their usefulness was limited. There are some studies that are not relevant to the SR-58 Study due the location of their study area and the nature and regional context of the study.*

**Table 2-3: Literature Review Summary**

List of Documents		Volume Data	LOS	Truck Routes	Truck Trip Generation	Truck Survey Data & Results	Landuse data	Truck Accident Data	Intercept Survey Traffic Control Plans	Other Statistical Data	Planned Improvements
1	City of Barstow, General Plan Circulation Element, 1996.	X	X	X	-	-	X	-	-	-	SR-58, from Dixie Rd to West Main St: construction of 2 lane highway Dixie Rd to Mojave River, traffic signal at Lenwood Rd, construction of 4 lane freeway from Mojave River to West Main St, diamond interchange at West Main St. SR-58, from West Main Rd to I-15 freeway: construction of 6 lane (3 each direction) freeway, freeway to freeway interchange with I-15 freeway.
2	San Joaquin Valley Goods Movement Study, Council of Fresno County Governments, September 2000.	SR-14, SR-58 & SR-99	X	X	-	X	-	-	-	X	Recommends for more studies for the affected corridors.
3	California Heavy Duty Truck Travel Survey, December 2001.	-	-	-	-	X	-	-	-	X	-
4	US-395 Corridor Study I-15 to SR-14, Caltrans District 6, 8 & 9, FHWA, SCAG, SANBAG & Kern COG, January 2002.	SR-58 & US-395	X	-	-	-	-	-	-	-	SR-58 planned for a four-lane expressway and Grade Separation at SR-58 & 395.
5	Southern California Freight Management Case Study, Caltrans, MTA & SCAG, January 2002.	-	-	-	-	-	-	-	-	X	-
6	Regional Fee Nexus Study, Kern COG, September 2003.	SR-58 & SR-14	X	-	-	-	-	-	-	-	SR-14 and SR-202 are recommended to be widened from four to six lanes.
7	Subregional Freight Movement Truck Access Study, SCAG & SANBAG, July 2004.	I-15 north of I-210	X	X	X	X	-	X	-	-	-
8	Greater Tehachapi Area Circulation Study, Kern COG & City of Tehachapi, August 2004.	SR-58	X	-	-	-	-	-	-	-	Signalization and other street improvements within the City of Tehachapi.
9	Southern California Association of Governments Goods Movement Truck Count Study, September 2005.	None within the study area	-	X	X	X	-	-	At SR-58 Boron rest stops.	X	-
10	I-15 Comprehensive Corridor Study, SCAG, SANBAG & Caltrans, December 2005.	I-15	-	-	-	-	-	-	-	X	9 alternatives along I-15 from SR-60 to SR-18
11	Goods Movement Study for US-395 Corridor, Caltrans District 9, June 21, 2006.	-	-	-	-	X	-	-	-	-	-
12	Kern County 2007 Regional Transportation Plan, Kern COG, May 2007.	-	X	-	-	-	-	-	-	-	Individual agencies will consider impacts and plan for grade separation along major thoroughfares.
13	Victor Valley Area Transportation Study, SANBAG, August 2007.	US 395	X	-	-	-	-	-	-	X	10 Alternatives to choose from, along US-395, option was to widen the road to 6 lanes.





### 3.0 VEHICLE CLASSIFICATION COUNTS

KOA conducted vehicle classification counts at key locations along and near the SR-58 Corridor. As shown in Figure I-2, a total of 10 key locations were identified for the count surveys. The 10 locations include:

1. SR-58 and I-5 Interchange
2. SR-58 (north) and SR-99
3. SR-58 (south) and SR-99
4. US-395 and SR-14
5. SR-58 and SR-14 (north)
6. SR-58 and US-395
7. SR-58 and I-15
8. I-15 and I-40
9. SR-58 and SR-14 (south)
10. US-395 and I-15

The turning movement counts were conducted for the AM, midday and PM peak periods which are as follows:

- AM Period = 6AM to 9AM
- Midday Period = 11AM to 2PM
- PM Period = 4PM to 7PM

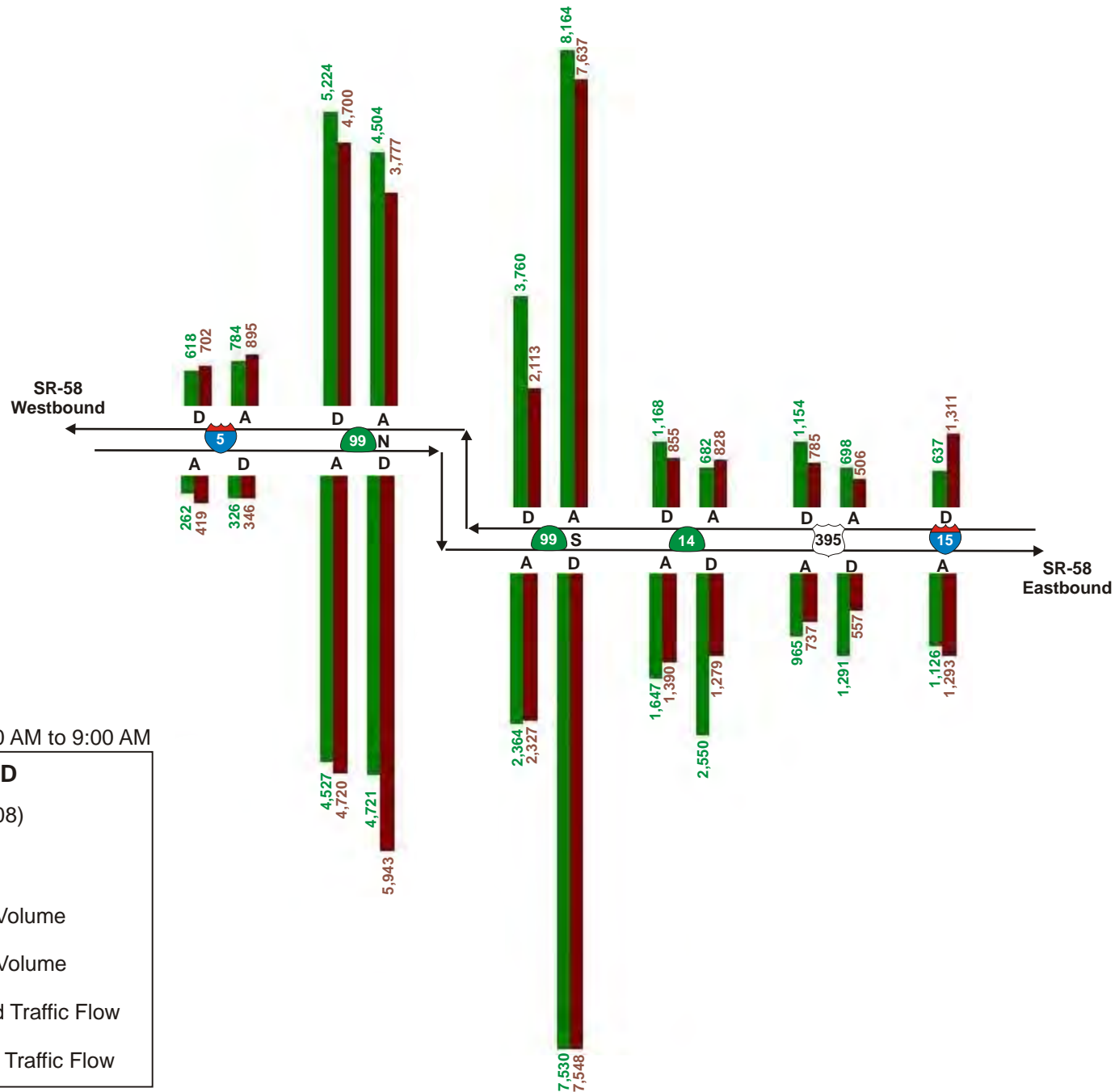
The count surveys were conducted for the following dates:

- Spring Period – May 10<sup>th</sup> to May 15<sup>th</sup>, 2008
- Fall Period – September 27<sup>th</sup> to October 2<sup>nd</sup>, 2008

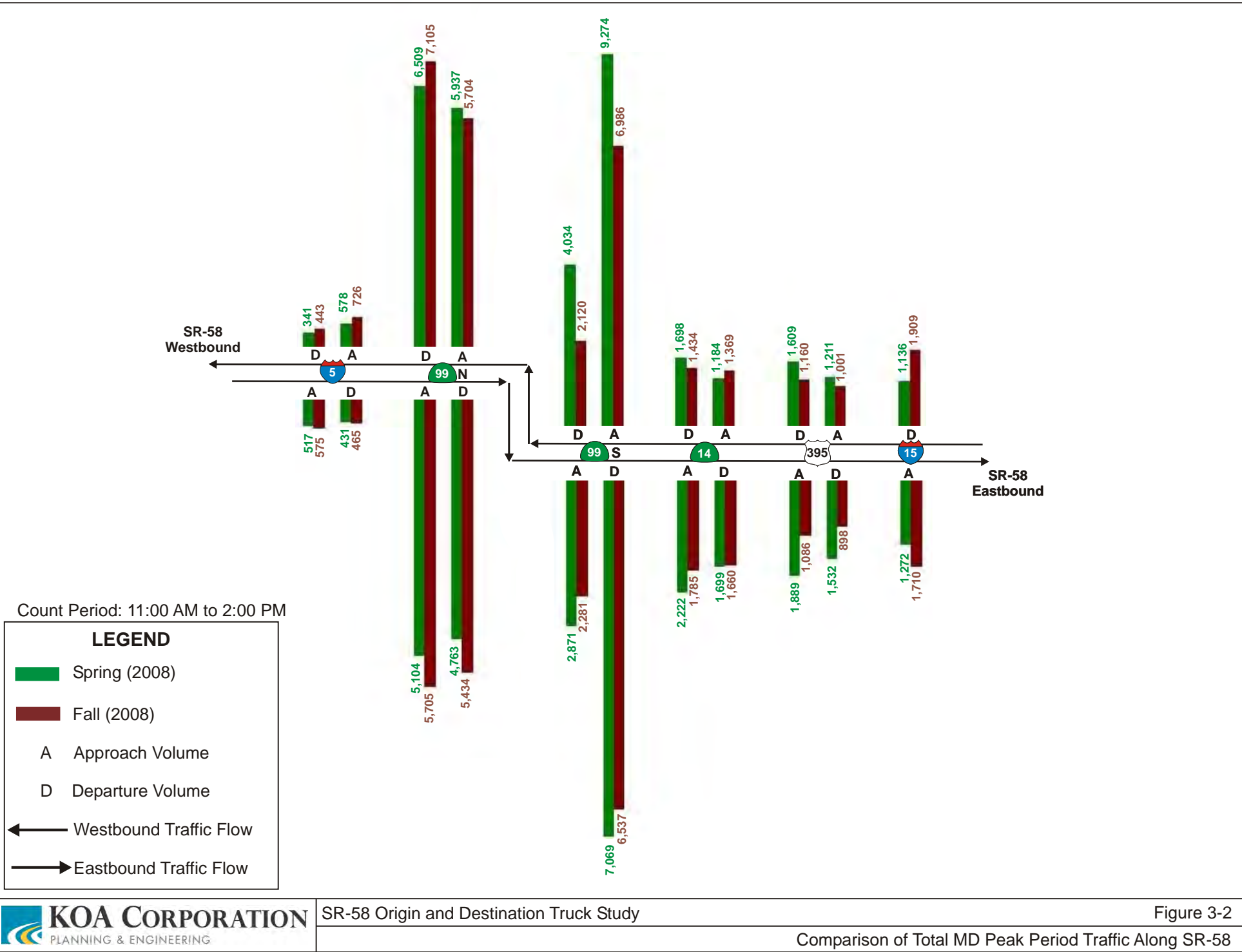
The raw count data, which shows vehicle types by passenger vehicles and trucks (by number of axles) are provided in Appendix A. The raw count data are also summarized in graphical format by time periods and count locations and are provided in Appendix B.

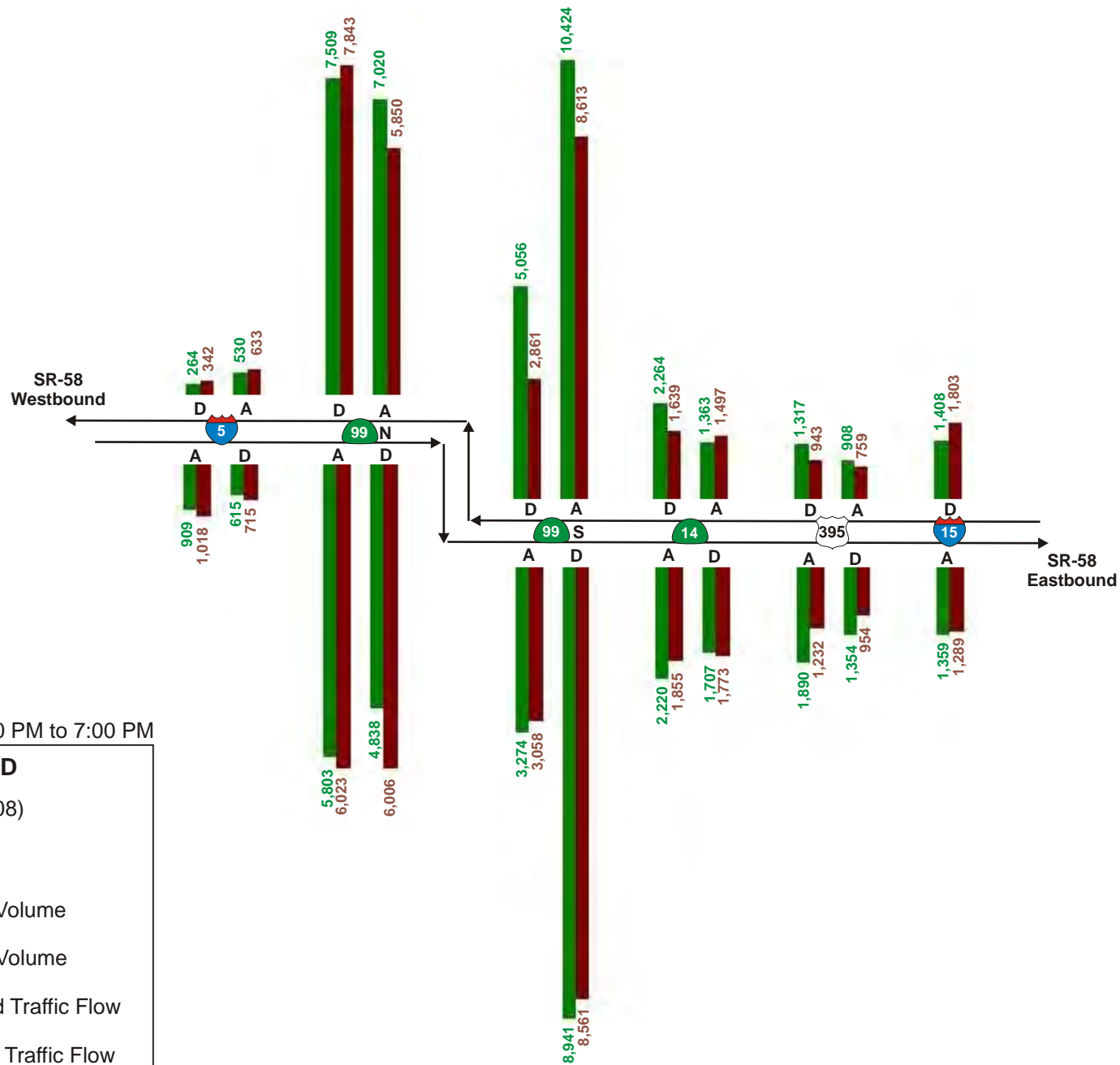
Figures 3-1, 3-2 and 3-3 provide a summary of total traffic (passenger vehicles and heavy duty trucks) along the SR-58 study corridor for AM, midday and PM peak periods, respectively. The figures summarize traffic flow in both the eastbound and westbound direction along SR-58 for both the spring and fall seasons. The figures provides the approach and departure volumes along SR-58 at major interchanges/junctions and graphically illustrate the fluctuation of total vehicular volumes by direction and time of year.

The results of the count data shows that traffic volumes are consistently higher near the SR-99 junctions which are located near Bakersfield. This is reflective of the concentration of population and activity centers within Bakersfield and the predominant travel routes within the region.



Count Period: 6:00 AM to 9:00 AM





Figures 3-4, 3-5 and 3-6 provide a summary of truck only traffic along the study corridor for the AM, midday and PM peak periods, respectively. The figures summarize traffic flow in both the eastbound and westbound direction along SR-58 for both the spring and fall seasons. The figures provides the approach and departure volumes along SR-58 at major interchanges/junctions and graphically illustrates the fluctuation of total truck volumes.

The results of the count data shows that truck traffic volumes are consistently higher near the SR-99 junctions which are located near Bakersfield. Figures 3-4, 3-5 and 3-6 also show the percentage of truck traffic of the total traffic. Count results shown on Figure 6 indicate that during the AM peak period (for both spring and fall) percentage of trucks is relatively higher on SR-58 near the I-15, US-395 and SR-14 sections with percentages ranging between 29% to 52% during the spring season and from 24% to 46% during the fall season.

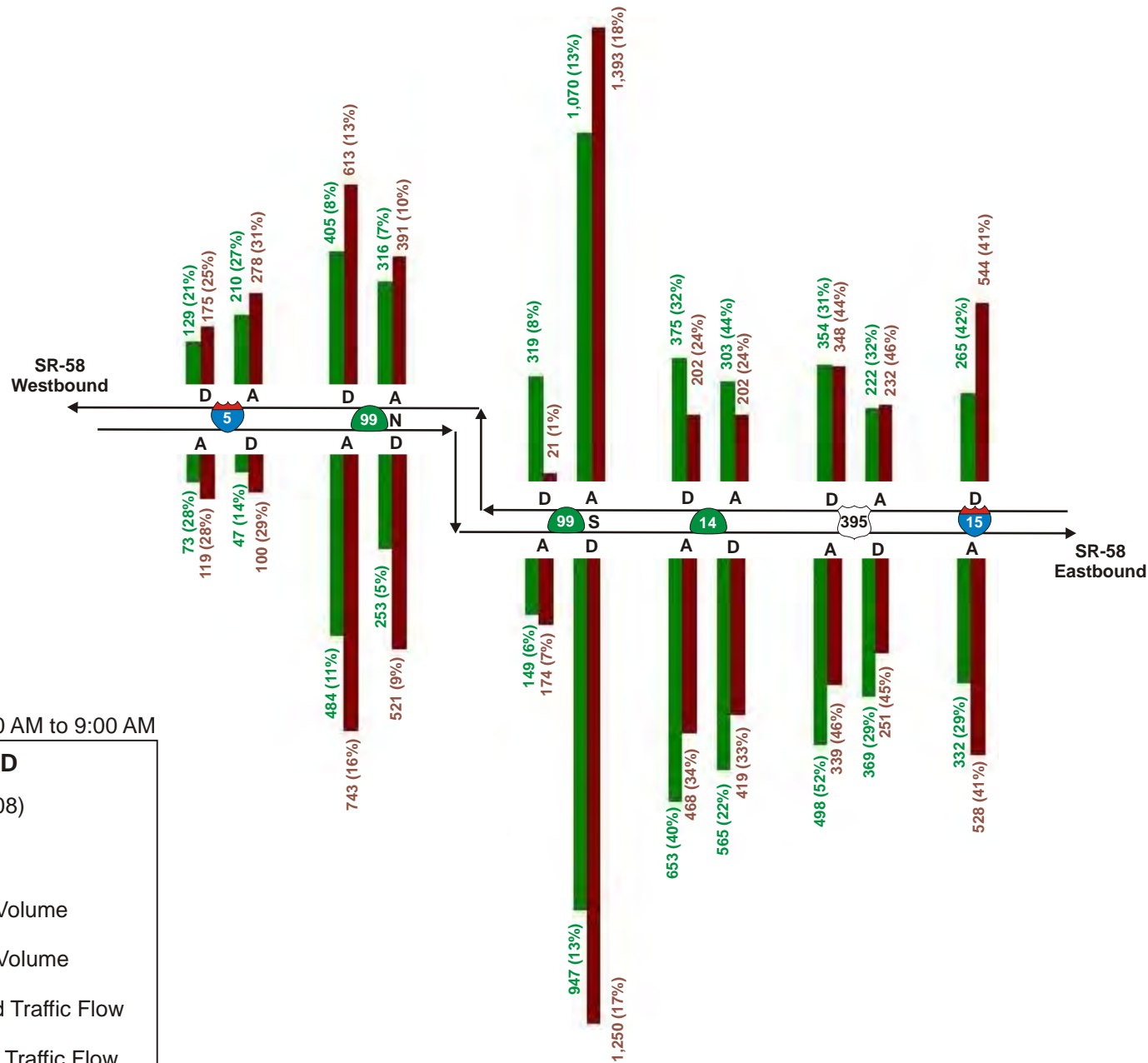
Figure 3-5 indicates that during the midday peak period (for both spring and fall) the percentage of trucks is relatively high on SR-58 near the I-15, US-395 and SR-14 sections with percentages ranging between 31% to 42% of total traffic during the spring season and from 30% to 41% during the fall season.

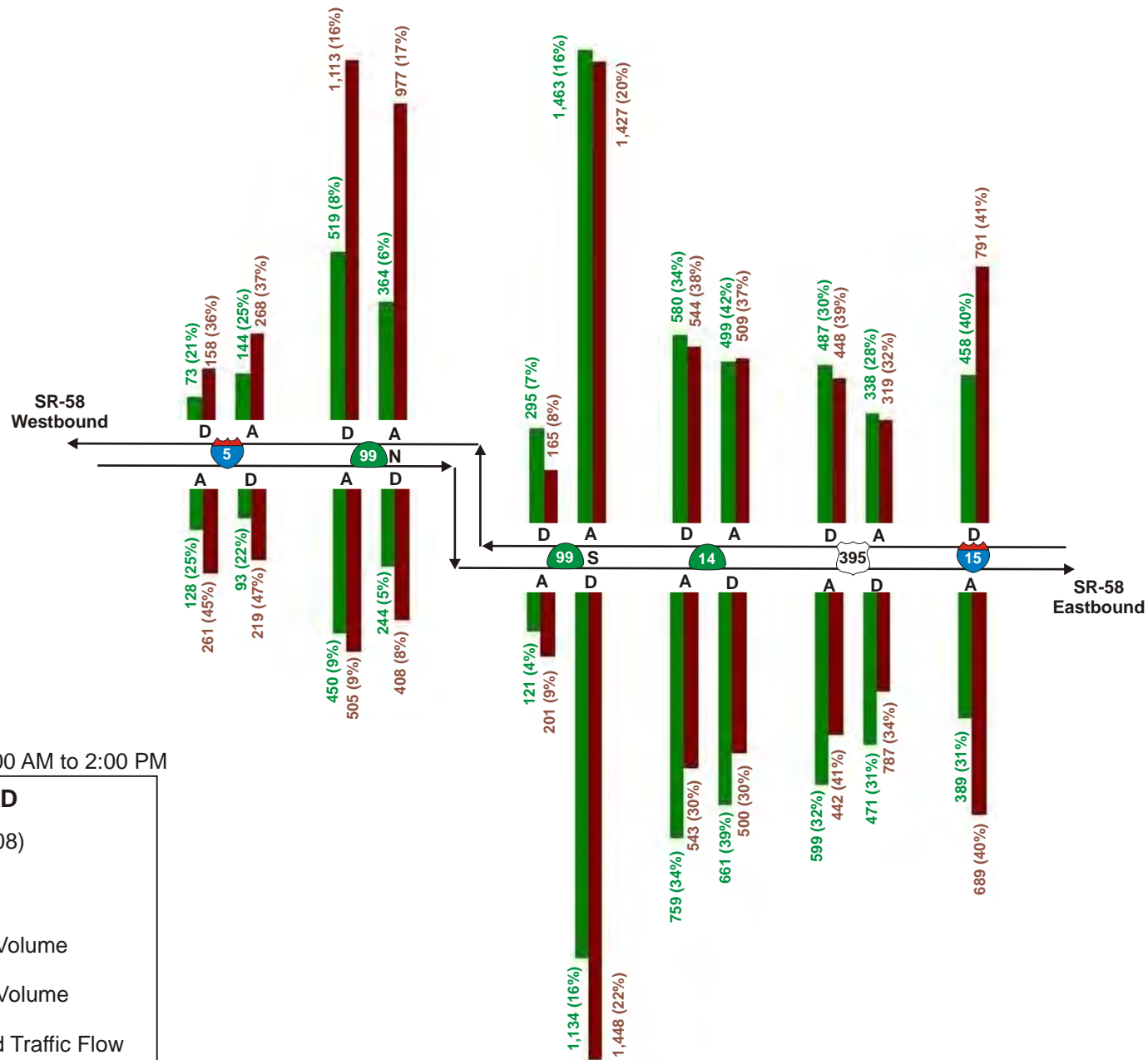
Figure 3-6 indicate that during the PM peak period (for both spring and fall) the percentage of trucks is also relatively high on SR-58 near the I-15, US-395 and SR-14 sections with percentages ranging between 24% to 46% of total traffic during the spring season and from 25% to 48% during the fall season.

Figures 3-7, 3-8, 3-9 summarizes the turning movement counts that were done during the spring season for the AM, Midday and PM peak periods. Figures 3-10, 3-11, 3-12 summarizes the turning movement counts that were done during the fall season for the AM, Midday and PM peak periods. The detailed counts are provided in Appendix C.

KOA also conducted 24-hour vehicle classification counts along the SR-58 Corridor during the Fall season. Due to technical difficulties, counts are not available for the spring season. The counts conducted during the fall season were conducted between September 27<sup>th</sup> and October 3<sup>rd</sup>, 2008. Figure 3-13 summarizes the seven day vehicle classification counts. Detailed results of the counts are provided in Appendix C.







Count Period: 11:00 AM to 2:00 PM

### LEGEND

Spring (2008)

Fall (2008)

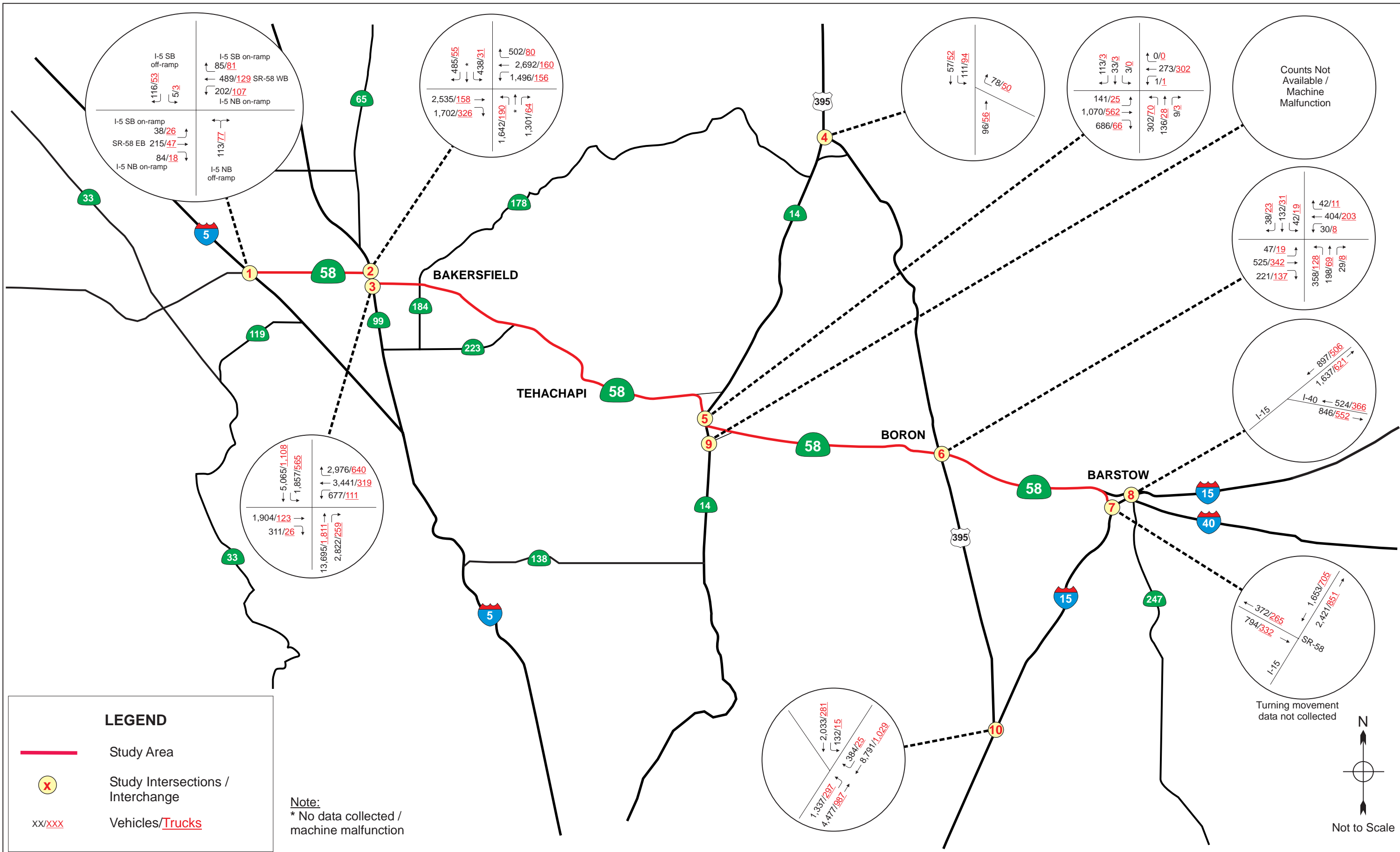
A Approach Volume

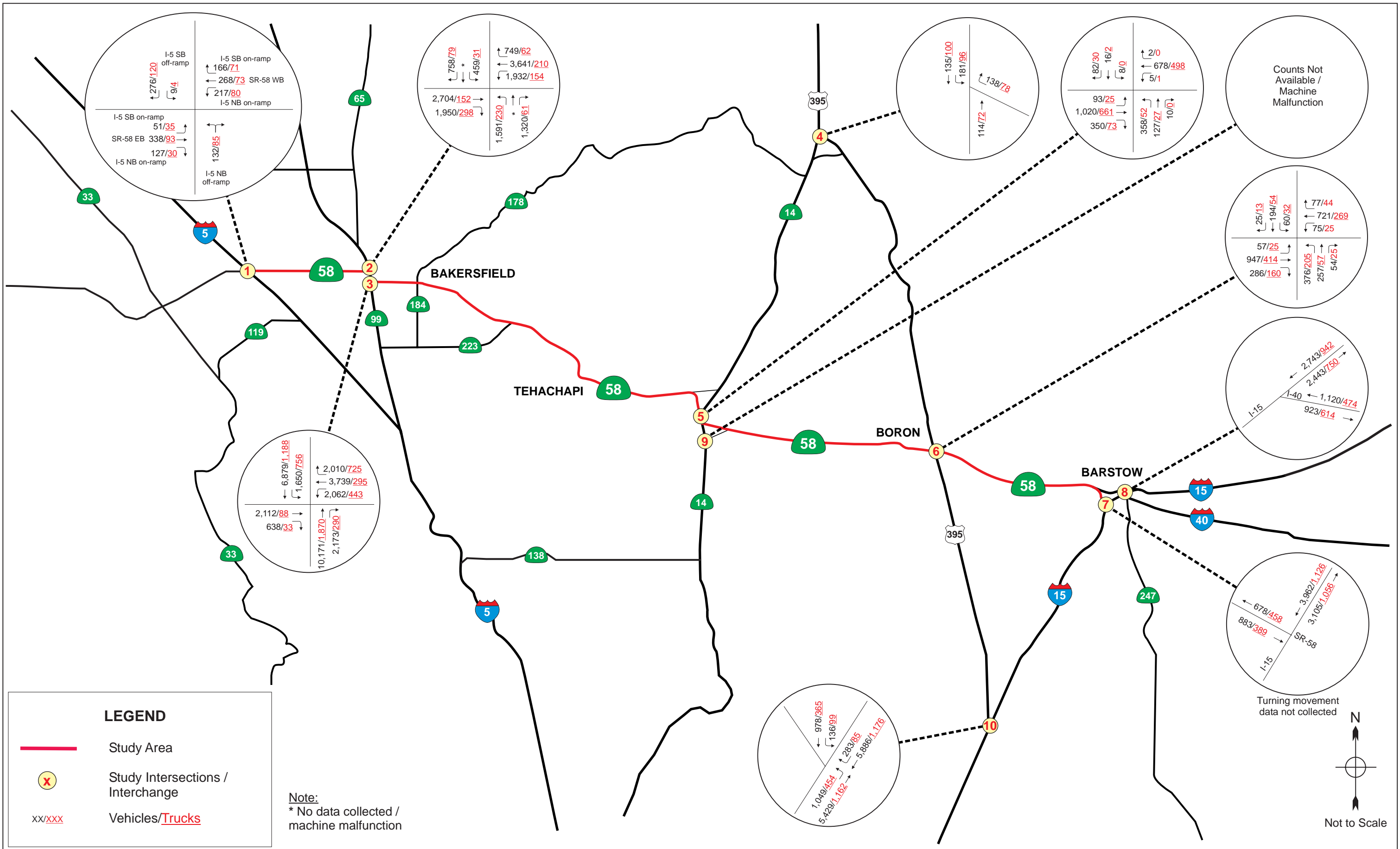
D Departure Volume

← Westbound Traffic Flow

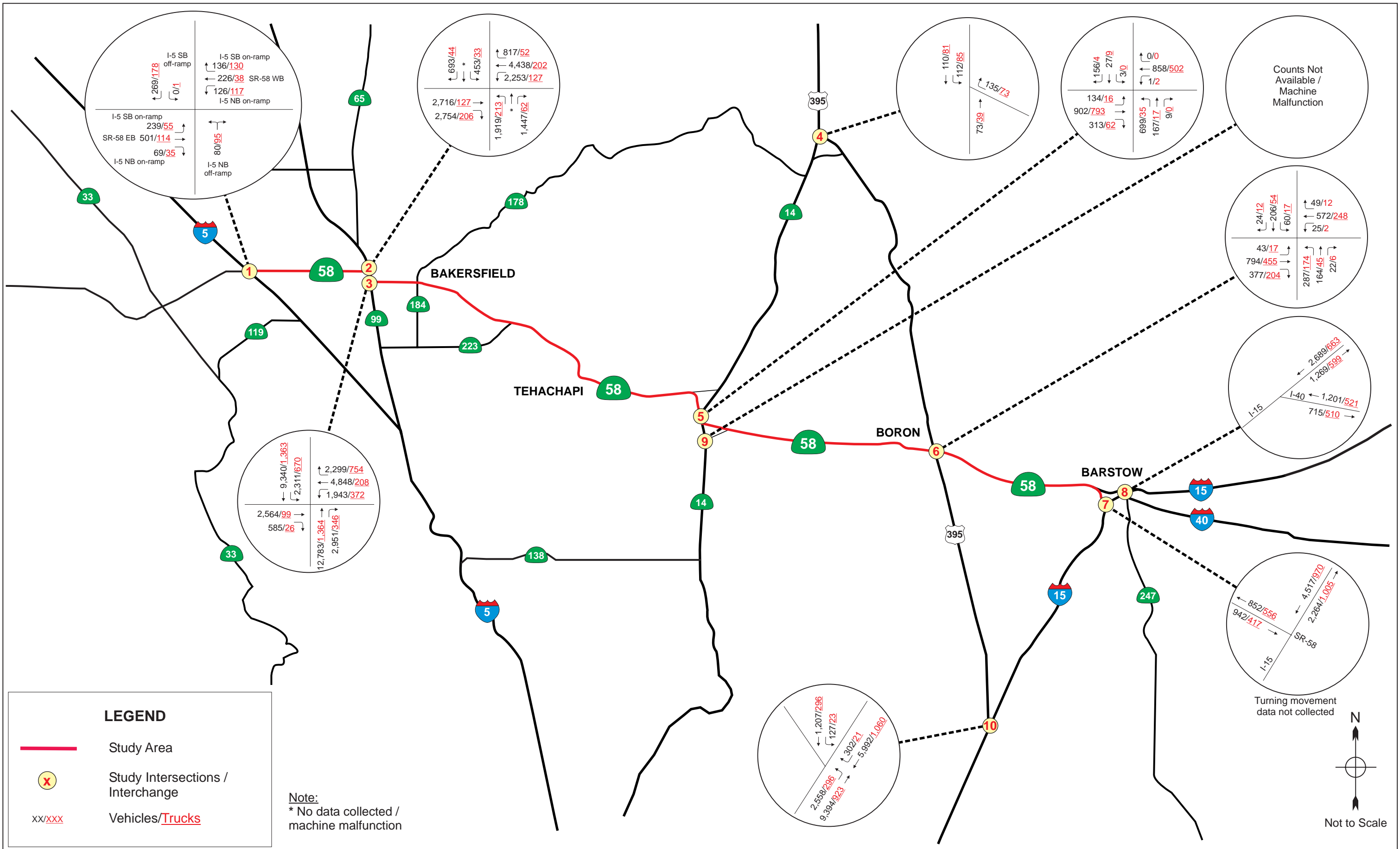
→ Eastbound Traffic Flow

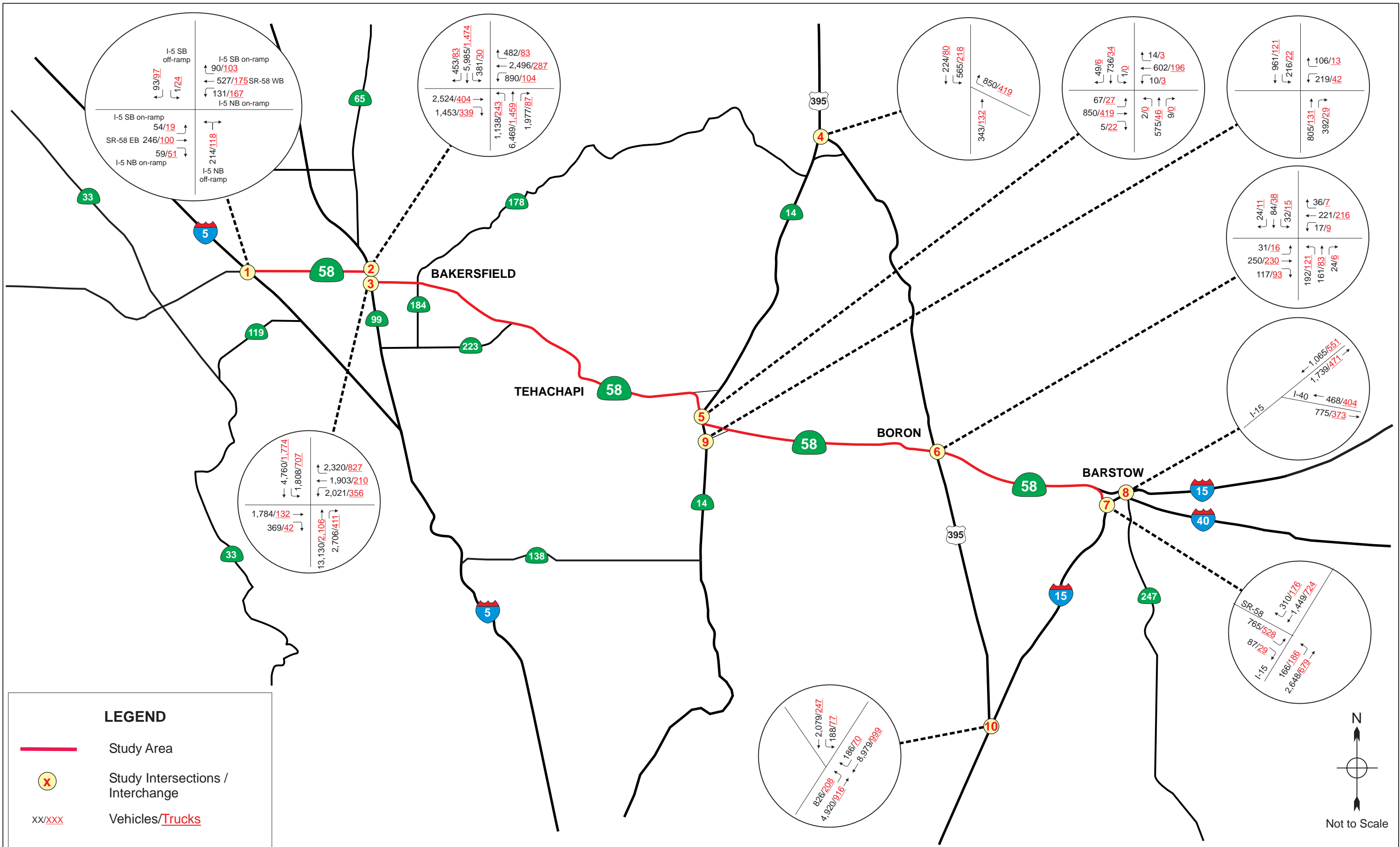


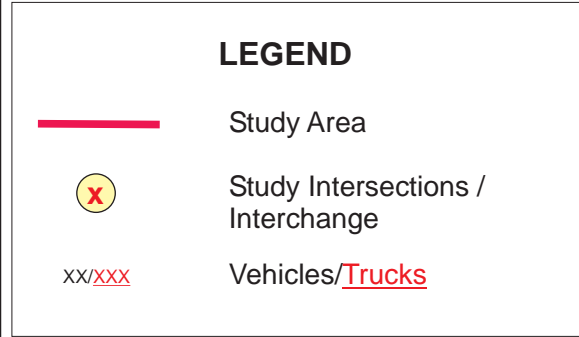


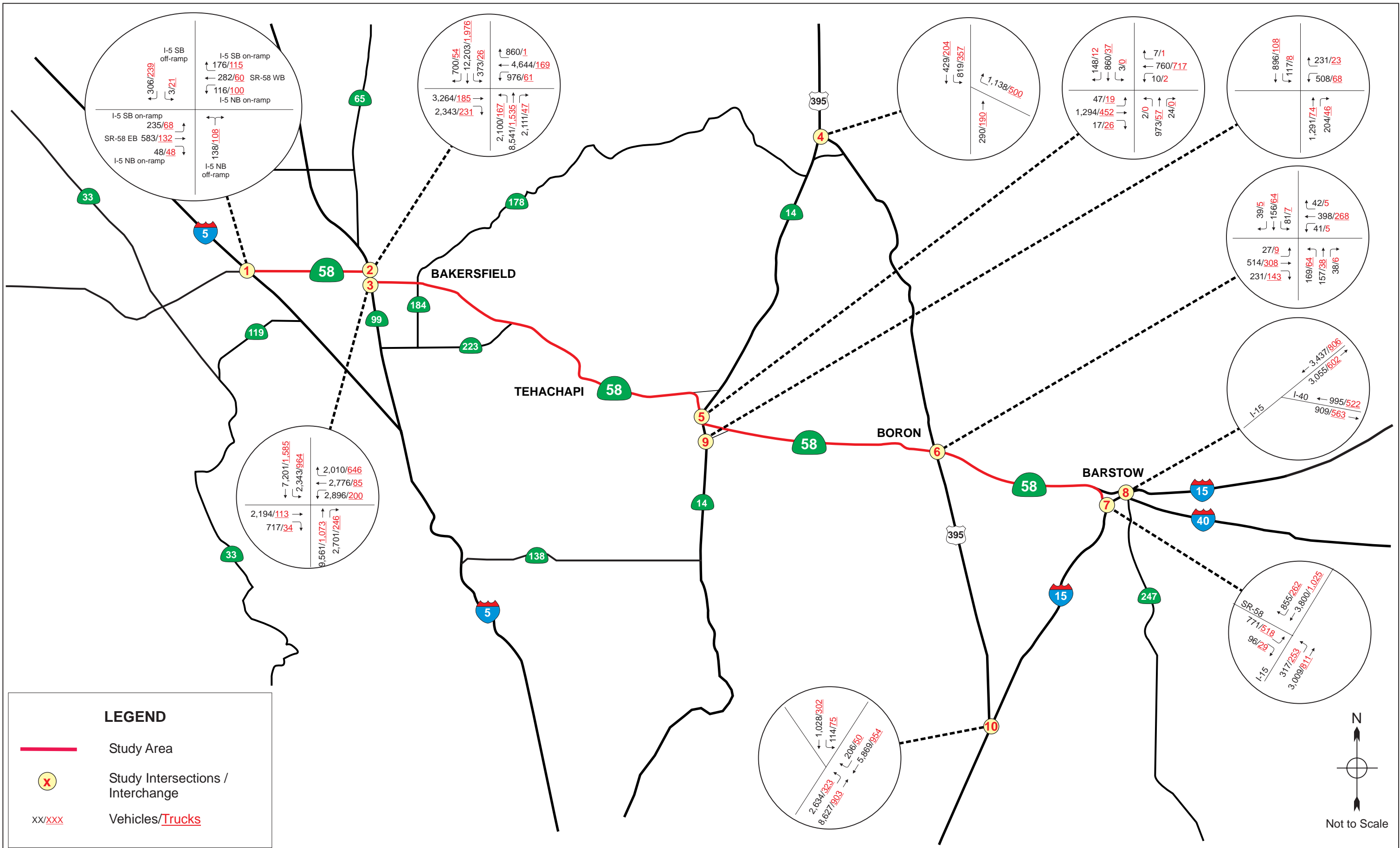




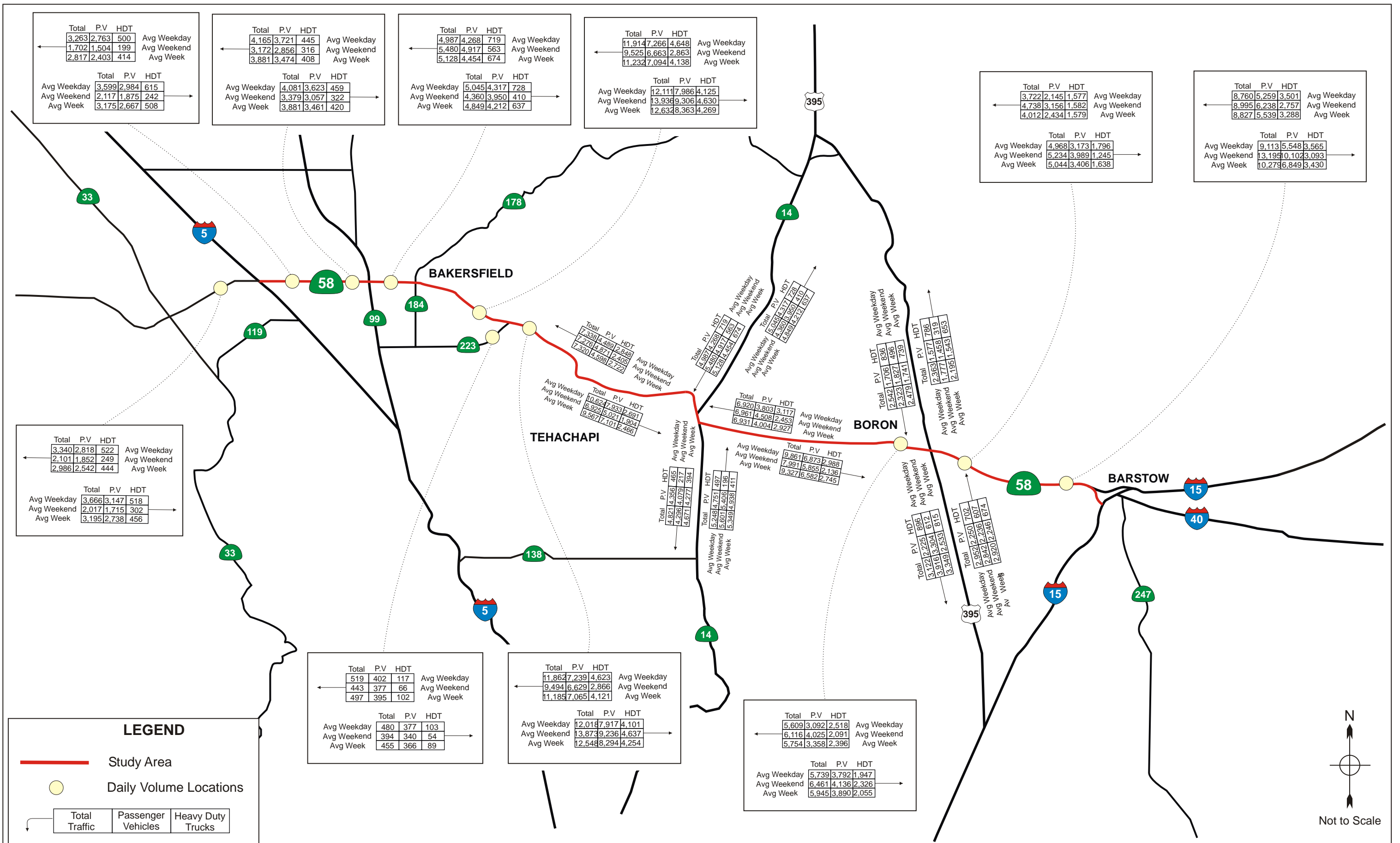














## 4.0 TRUCK INTERCEPT SURVEY

Truck intercept surveys were conducted at the Boron eastbound and westbound rest-stops and also at the California Highway Patrol (CHP) weigh stations located at Keene and Cache Creek. Figure 4-1 shows the location of the four survey sites. KOA conducted truck driver surveys during the spring and fall seasons. The surveys were conducted for continuous 48-hour periods at each location for a total of 96 hours per season. The date and time of the surveys are as follows:

### Spring Survey

- Boron Rest-Stops – May 10<sup>th</sup> to May 13<sup>th</sup>, 2008
- CHP Weigh Stations – May 13<sup>th</sup> to May 15<sup>th</sup>, 2008

### Fall Survey

- Boron Rest-Stops – September 27<sup>th</sup> to September 29<sup>th</sup>, 2008
- CHP Weigh Stations – September 30<sup>th</sup> to October 2<sup>nd</sup>, 2008

During the truck survey, KOA staff directed heavy duty trucks to the designated survey sites where surveyors conducted the in-person origin and destination survey. Prior to the start of the surveys, KOA coordinated with Caltrans District 9 staff to develop traffic safety/handling plans as part of the encroachment permit and safety process. Figure 4-2 provides an example of the traffic handling plan used for the Boron Westbound Rest Stop.

As part of the traffic management, KOA employed changeable message signs, way-finding signs and all necessary safety requirements as part of the in-person truck intercept surveys. Included below are pictures of the survey operations at the facilities.

### **CHP Weigh Station – Cache Creek**

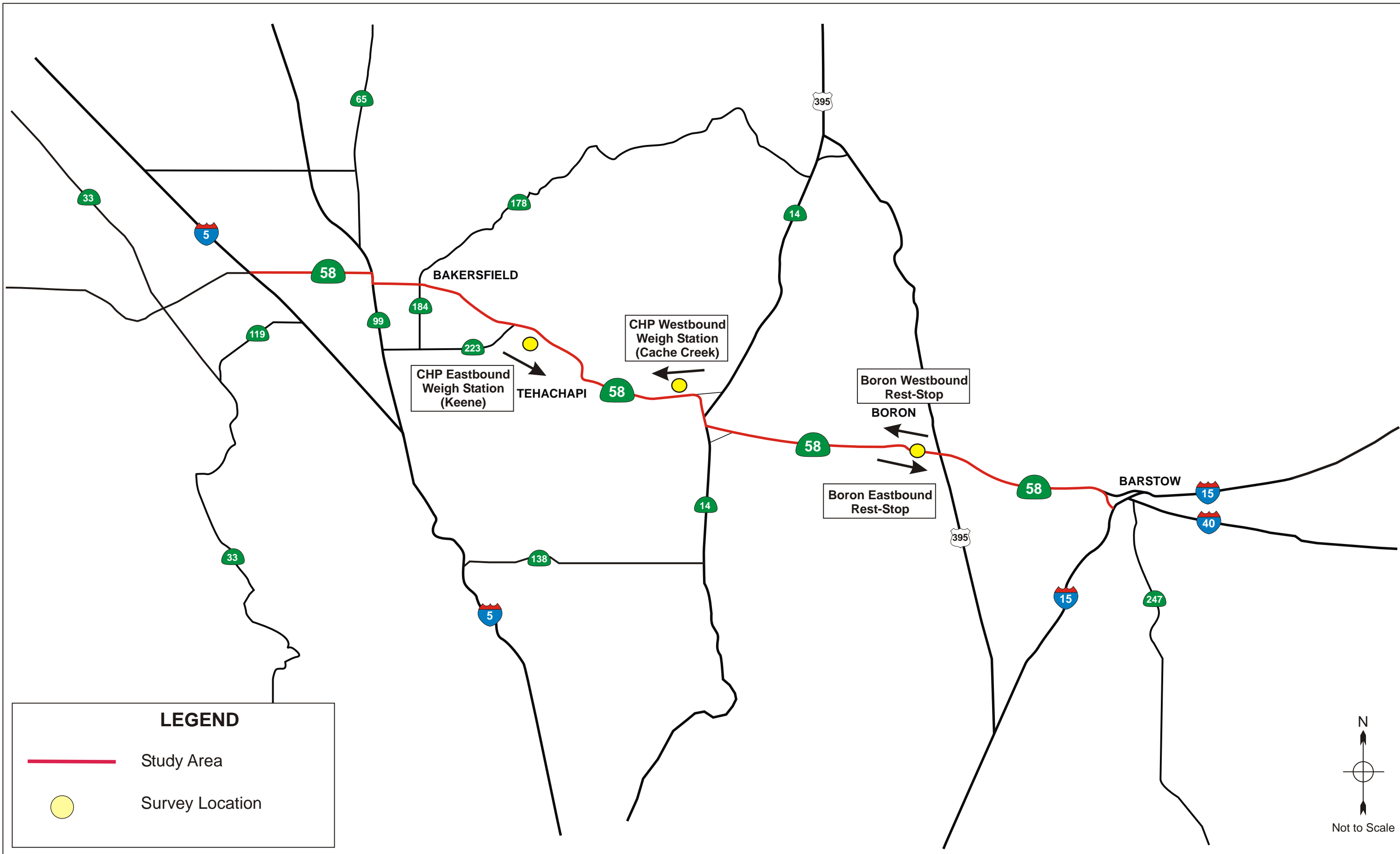


**CHP Weigh Station - Keene**



**Boron Westbound Rest-Stop**





LEGEND

Study Area

Survey Location

N

Not to Scale





The survey effort yielded the following number of completed surveys by location:

#### Spring Survey

- Boron Rest-Stops – 2,614
- CHP Weigh Stations – 3,428

#### Fall Survey

- Boron Rest-Stops – 2,182
- CHP Weigh Stations – 3,113

The survey questionnaire was developed based on input from the TAC. Table 4-1 shows the survey form which was administered during the surveys. A total of 11 questions were developed to gather critical information such as:

- Truck type
- Location where truck is based (city and state)
- Location of trip origin
- Location of trip destination
- Type of place for both origin and destination
- Route choice
- Commodities

The following summarizes the results of the truck intercept survey effort.

### **4.1 Truck Type**

Truck types were surveyed to gain a better understanding of the different type of truck traveling through the SR-58 Corridor. The categories of trucks are separated based on Caltrans' vehicle classification scheme which is shown in Table 4-2. As shown in Table 4-2, there are a total of 13 vehicle classifications which includes motor cycles, passenger vehicles, buses and nine classes of trucks. The truck survey focused on the nine truck types.



**Table 4-1: Truck Survey Questionnaire**

**SANBAG  
SR-58 TRUCK ORIGIN & DESTINATION SURVEY**

Date: \_\_\_\_\_ Direction: EB: \_\_\_\_\_ WB: \_\_\_\_\_  
 Time: \_\_\_\_\_ Surveyor: \_\_\_\_\_  
 Location: \_\_\_\_\_

1. Type of Truck (surveyor - see classification chart): \_\_\_\_\_
2. Where is your truck based? City: \_\_\_\_\_ State: \_\_\_\_\_
3. Where did you begin this trip leg (origin)? City \_\_\_\_\_ State \_\_\_\_\_
4. What type of place did you start from? Shipper\_\_ Consignee\_\_ Yard\_\_ Home\_\_ Other\_\_
5. Which route did you take before SR-58 to get here?  
 I-15\_\_ I-40\_\_ SR-247\_\_ US-395\_\_ SR-14\_\_ SR-223\_\_ SR-178\_\_  
 SR-184\_\_ SR-99\_\_ I-5\_\_ SR-33\_\_  
 Other \_\_\_\_\_
6. Where is your destination? City \_\_\_\_\_ State \_\_\_\_\_
7. What type of place are you going to? Shipper\_\_ Consignee\_\_ Yard\_\_ Home\_\_ Other\_\_
8. Which route are you planning to take from SR-58 to your destination?  
 I-15\_\_ I-40\_\_ SR-247\_\_ US-395\_\_ SR-14\_\_ SR-223\_\_ SR-178\_\_  
 SR-184\_\_ SR-99\_\_ I-5\_\_ SR-33\_\_  
 Other \_\_\_\_\_
9. What are you carrying? \_\_\_\_\_








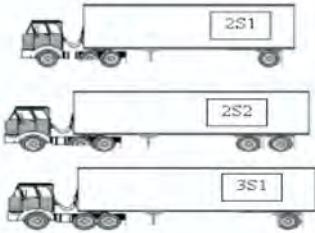





*Surveyor: If hazardous materials, note down placard number* \_\_\_\_\_

10. Why did you or your dispatcher choose this route?

Truck based on this route	Least congestion
Trip stop/start on this route	Easier grades or road conditions
Shortest/fastest route	Personal business on this route
Better weather	Other _____

11. Any suggestions to improve transportation for truckers in the area?


**Table 4-2: Vehicle Classification**

1.		<b>Motorcycles</b>
2.		<b>Passenger Cars, Light Vans, Light Pick-Ups including those hauling those recreational and other trailers.</b>
3.		<b>2 Axle 4 Tire - Full Size Pick-Ups, Full Size Vans, Limos, Motor Homes including those hauling recreational and other trailers.</b>
4.		<b>Buses</b>
5.		<b>2 Axle, 6 Tire Single Unit</b>
6.		<b>3 Axle Single Unit</b>
7.		<b>4 Axle Single Unit</b>
8.		<b>4 Axle or Less Double Unit, One Unit is a Truck</b>
9.		<b>5 Axle Double Unit, One Unit is a Truck</b>
10.		<b>6 or More Axle Double, One Unit is a Truck</b>
11.		<b>5 Axle or Less Multi Unit</b>
12.		<b>6 Axle Multi Unit</b>
13.		<b>7 or More Axle Multi Unit</b>

Of the 6,042 surveys conducted during the Spring season, 5,986 valid responses pertaining to truck types were recorded, a question yield rate of 99.07%. The following provides a statistical summary by location and direction:

**Table 4-3: Statistical Summary of Question 1 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,027	99.23%
	WB	1,579	1,568	99.30%
CHP Weigh Station	EB	1,629	1,596	97.97%
	WB	1,799	1,795	99.78%
Total		6,042	5,986	99.07%

Of the 5,295 surveys conducted during the Fall season, 4,984 valid responses pertaining to truck types were recorded, a question yield rate of 94.13%. The following provides a statistical summary by location and direction:

**Table 4-4: Statistical Summary of Question 1 Responses (Fall)**

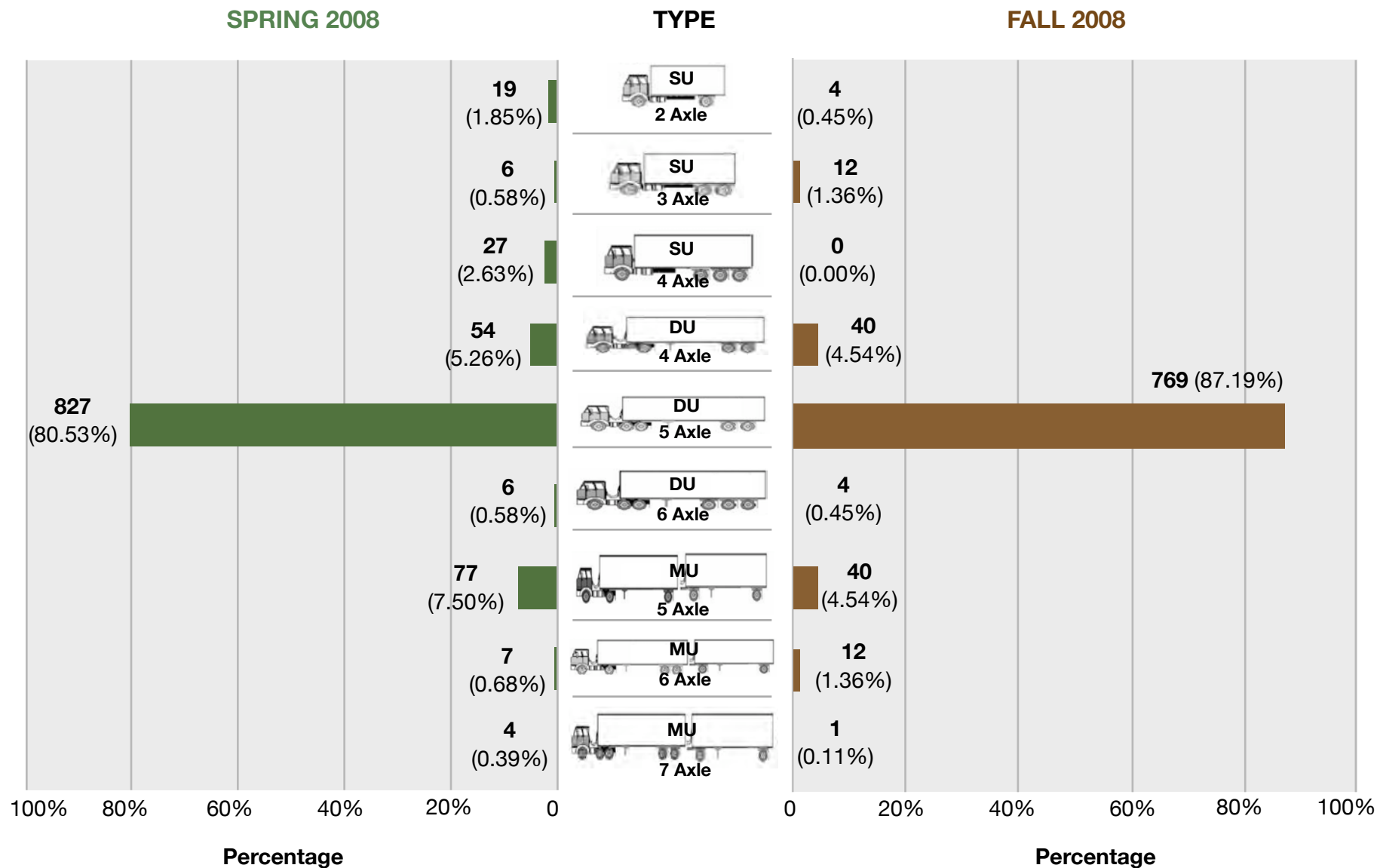
Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	882	91.59%
	WB	1,219	1,122	92.04%
CHP Weigh Station	EB	1,572	1,494	95.04%
	WB	1,541	1,486	96.43%
Total		5,295	4,984	94.13%

Based on the survey data collected, Tables 4-5, 4-6, 4-7 and 4-8 summarize the results of the truck type for each survey respondent at the Boron eastbound rest-stop, Boron westbound rest-stop, and CHP eastbound station and CHP westbound station, respectively.

Tables 4-5, 4-6, 4-7 and 4-8 provide a comparison of the survey results between the spring and fall at each of the four survey locations. The results show that the majority of truck types surveyed at all four locations are the 5-axle double-unit variety. This is consistent across all locations and seasons.

Comprehensive survey data for “Truck Type” is provided in Appendix D.

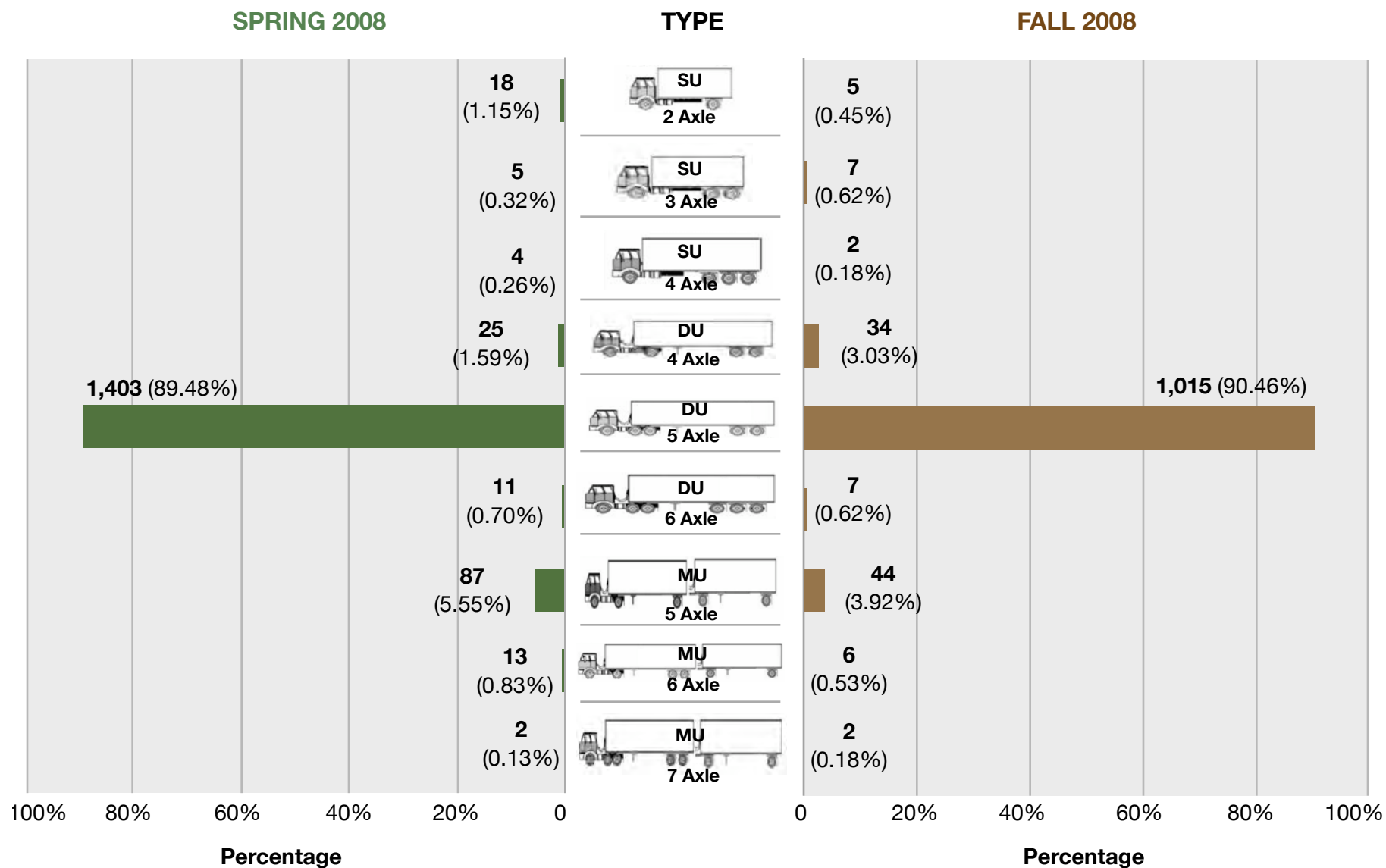
**Table 4-5 Truck Type Results**  
**BORON EASTBOUND**



SU = Single Unit  
DU = Double Unit (one unit is a truck)  
MU = Multi Unit

## Table 4-6 Truck Type Results

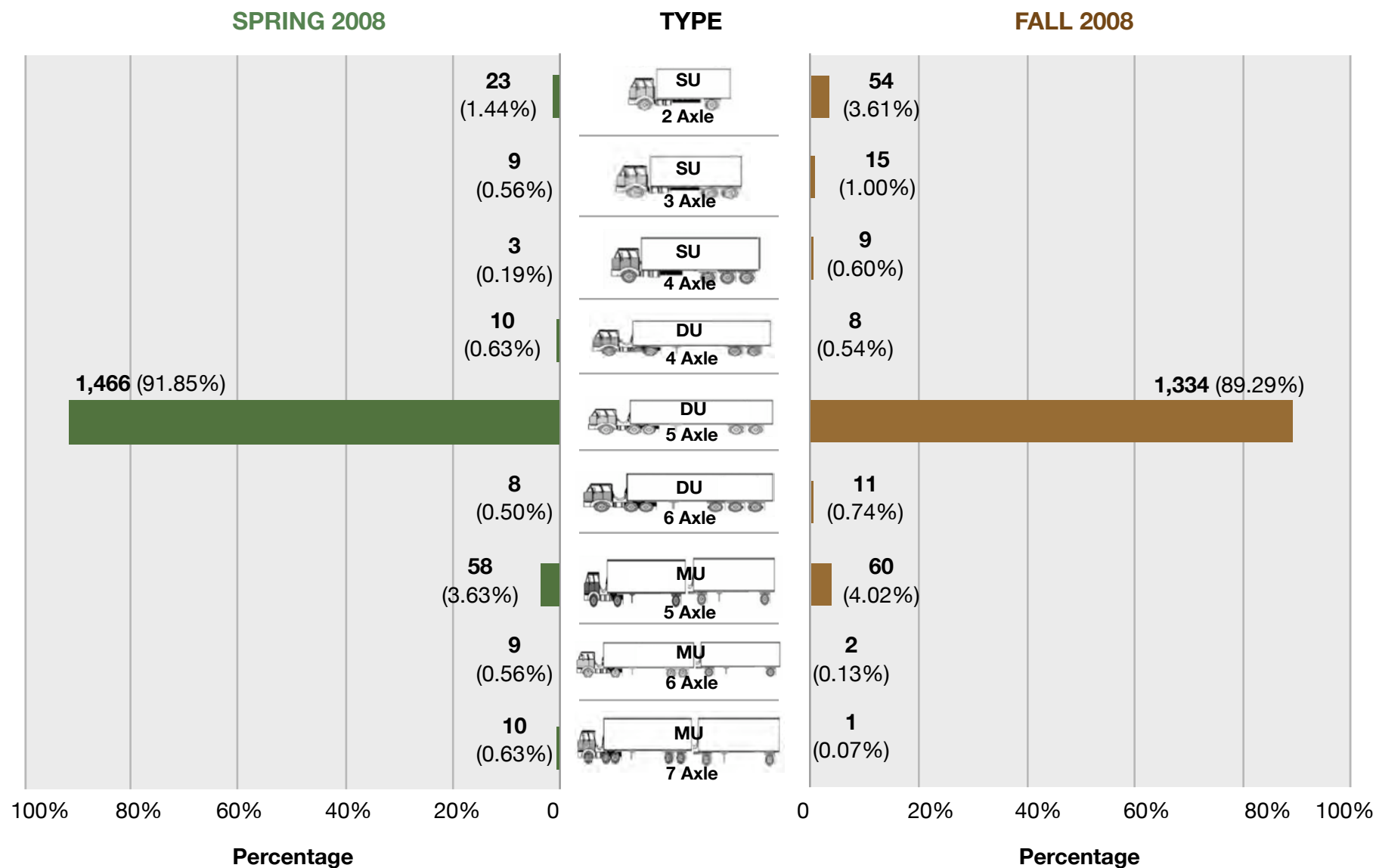
### BORON WESTBOUND



SU = Single Unit  
 DU = Double Unit (one unit is a truck)  
 MU = Multi Unit



**Table 4-7 Truck Type Results**  
**CHP EASTBOUND**



SU = Single Unit  
DU = Double Unit (one unit is a truck)  
MU = Multi Unit

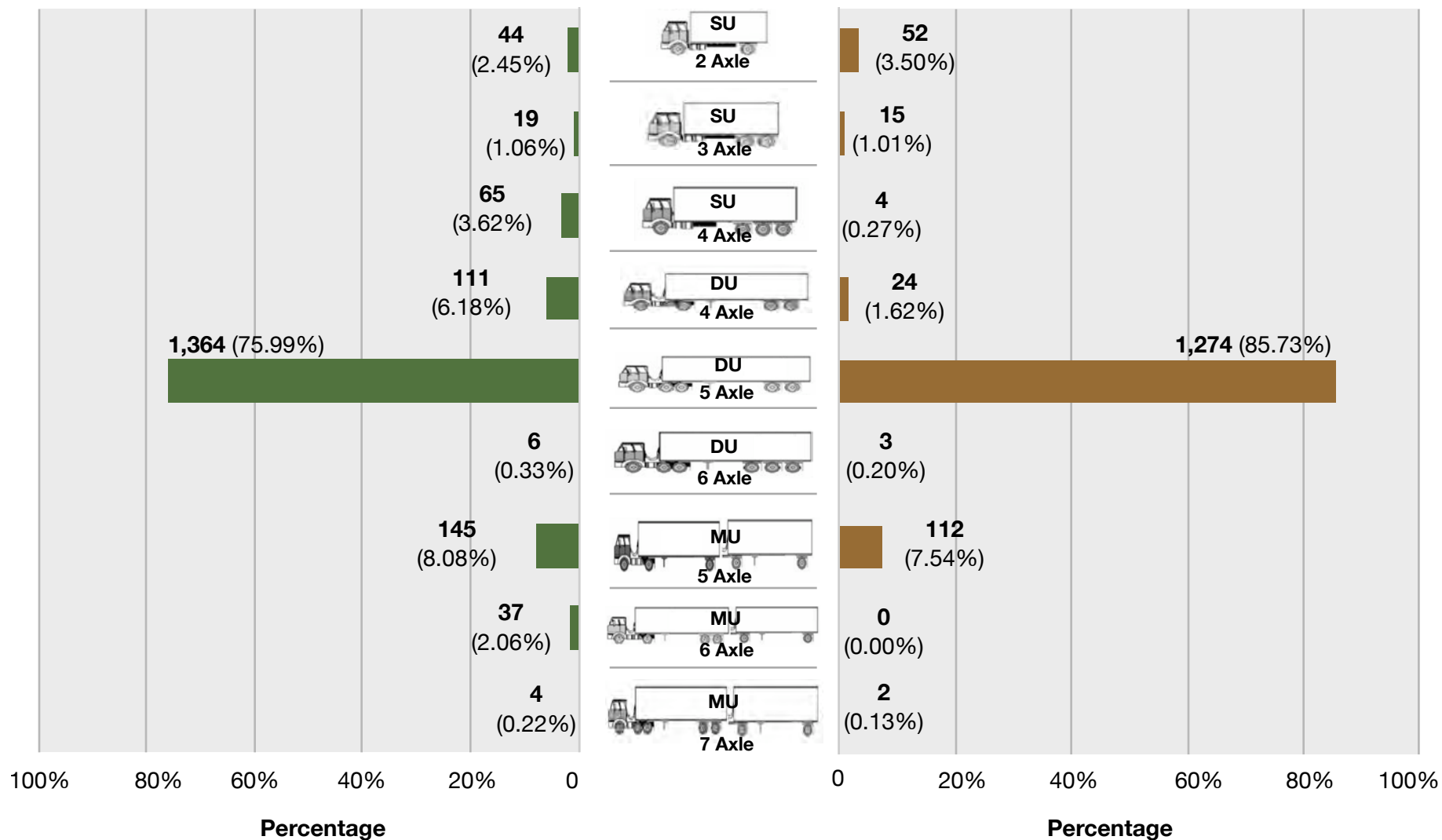
# Table 4-8 Truck Type Results

CHP WESTBOUND

SPRING 2008

TYPE

FALL 2008



SU = Single Unit  
 DU = Double Unit (one unit is a truck)  
 MU = Multi Unit

## 4.2 Truck Based Location

Question 2 of the truck intercept survey asks the drivers where his/her truck is based. The survey records the city and the state based on driver's response.

Of the 6,042 surveys conducted during the Spring season, 5,946 valid responses pertaining to the location where the truck is based were recorded, a question response rate of 98.41%. The following provides a statistical summary by location and direction:

**Table 4-9: Statistical Summary of Question 2 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	993	95.94%
	WB	1,579	1,557	98.61%
CHP Weigh Station	EB	1,629	1,606	98.59%
	WB	1,799	1,790	99.50%
Total		6,042	5,946	98.41%

Of the 5,295 surveys conducted during the Fall season, 5,212 valid responses pertaining to the location where the truck is based were recorded, a question response rate of 94.13%. The following provides a statistical summary by location and direction:

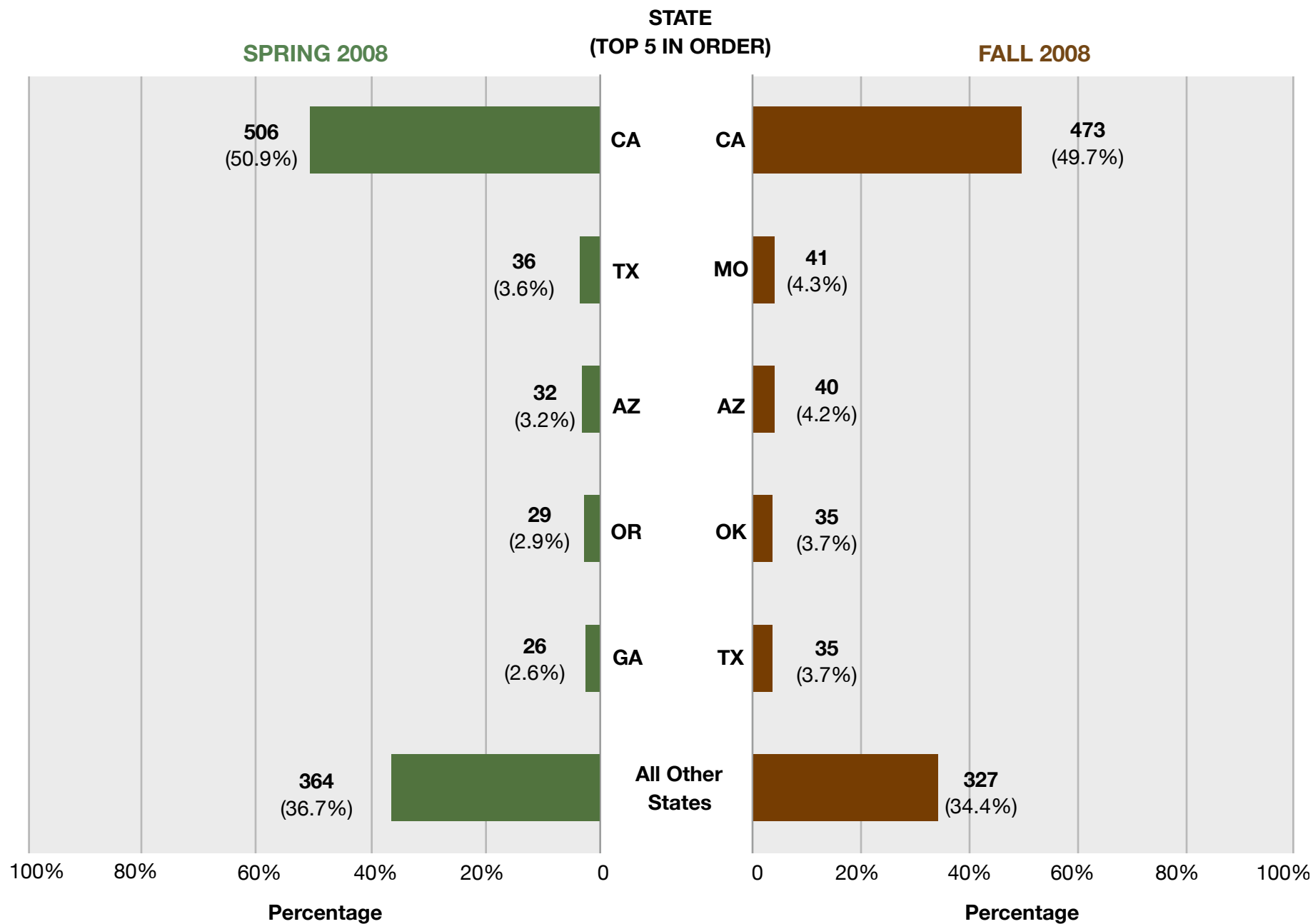
**Table 4-10: Statistical Summary of Question 2 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	948	98.44%
	WB	1,219	1,198	98.28%
CHP Weigh Station	EB	1,572	1,533	97.52%
	WB	1,541	1,533	99.48%
Total		5,295	5,212	98.43%

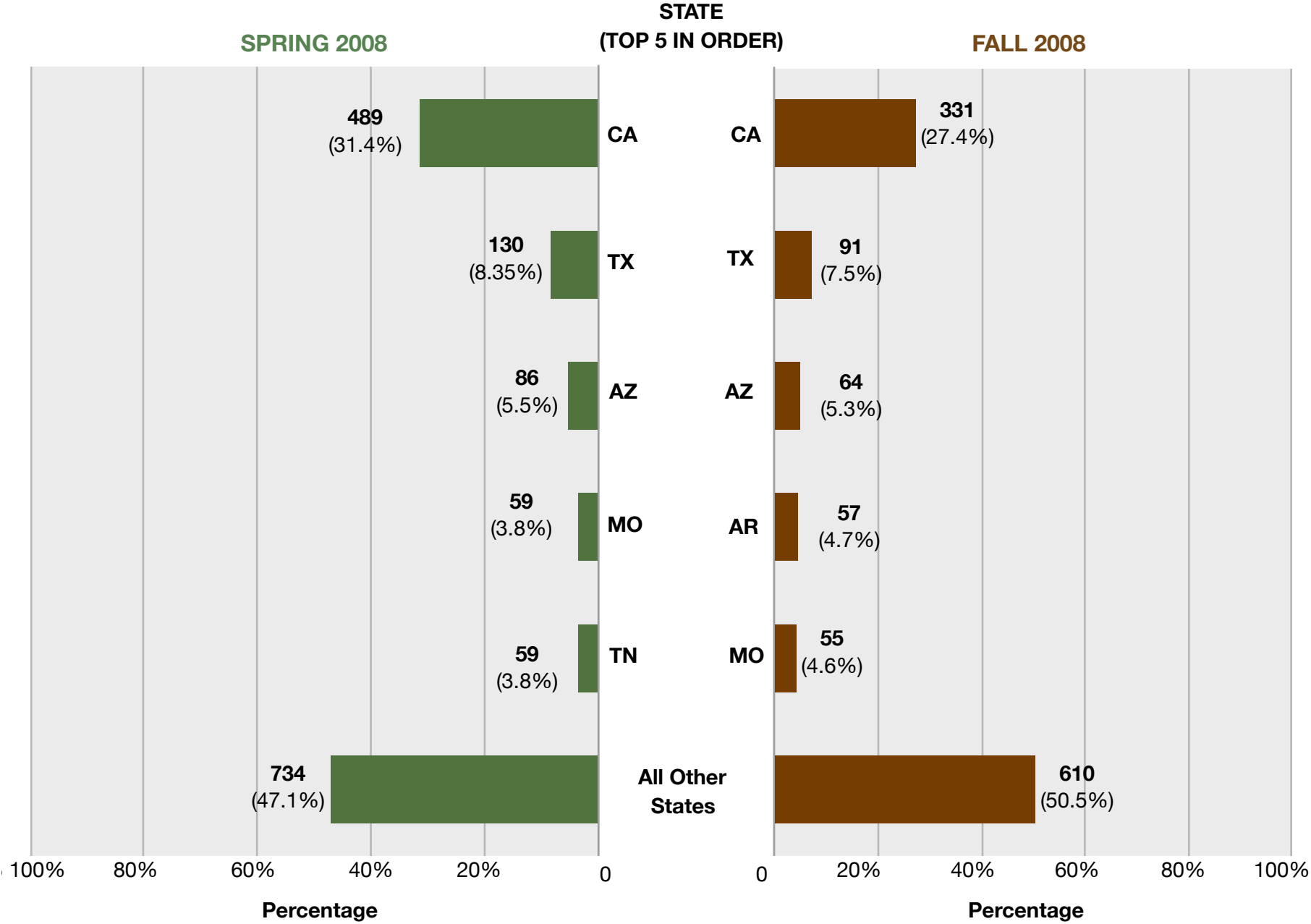
Based on the survey data collected, Tables 4-11, 4-12, 4-13 and 4-14 summarize the results of the truck based location (by state) for each survey respondent at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound station and CHP westbound station, respectively. The summary by State shows that a large percentage of trucks surveyed are based in California. Other states that frequently occurred as a response during the survey include: Texas, Arizona, Missouri and Utah. Comparing survey results between the spring and fall sites of surveys shows a consistent pattern with no noticeable variations.

Comprehensive survey responses are provided in Appendix E.

**Table 4-11 Truck Based Location By State  
BORON EASTBOUND**

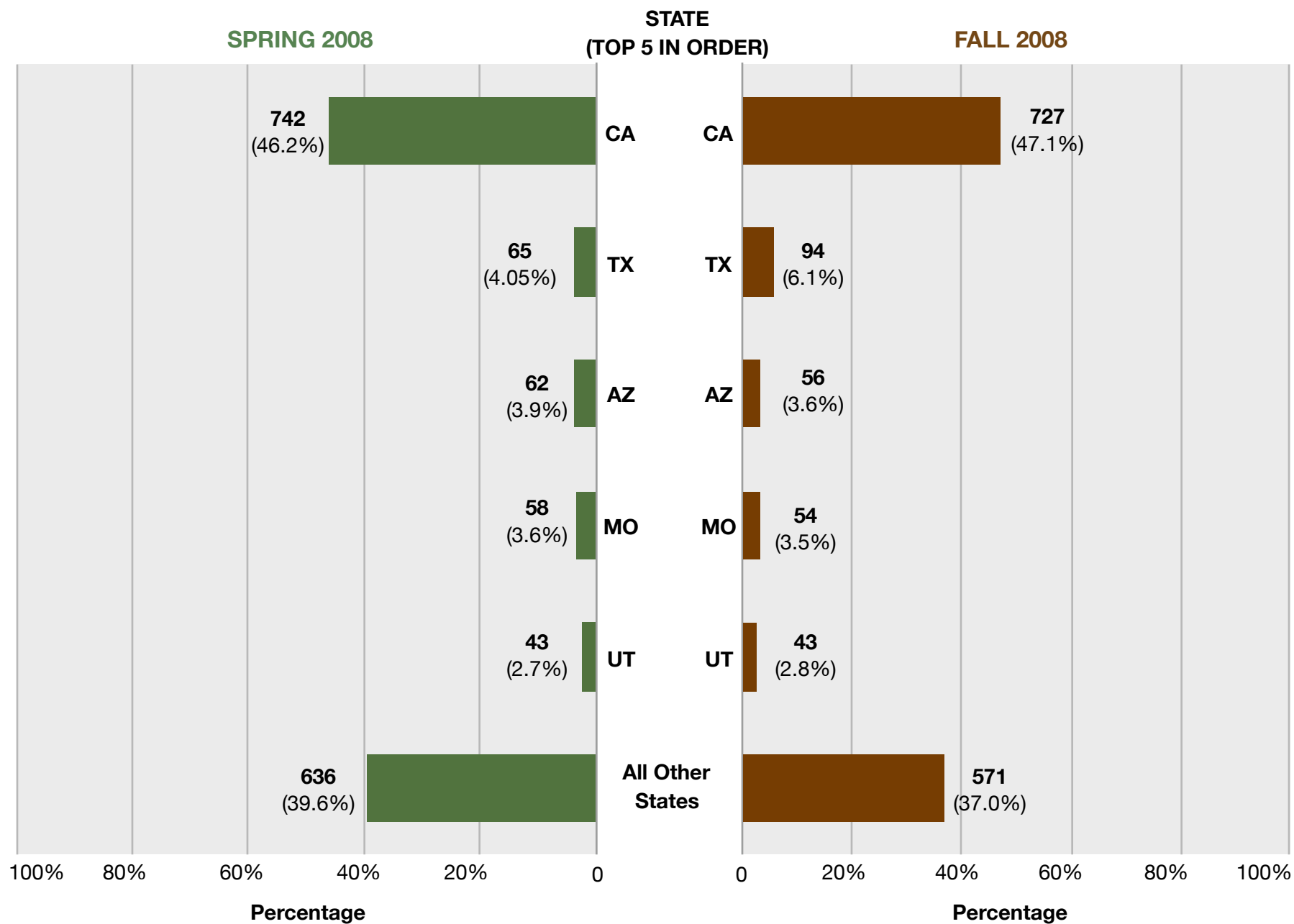


**Table 4-12 Truck Based Location By State  
BORON WESTBOUND**





**Table 4-13 Truck Based Location By State**  
**CHP EASTBOUND**



**Table 4-14 Truck Based Location By State**  
**CHP WESTBOUND**

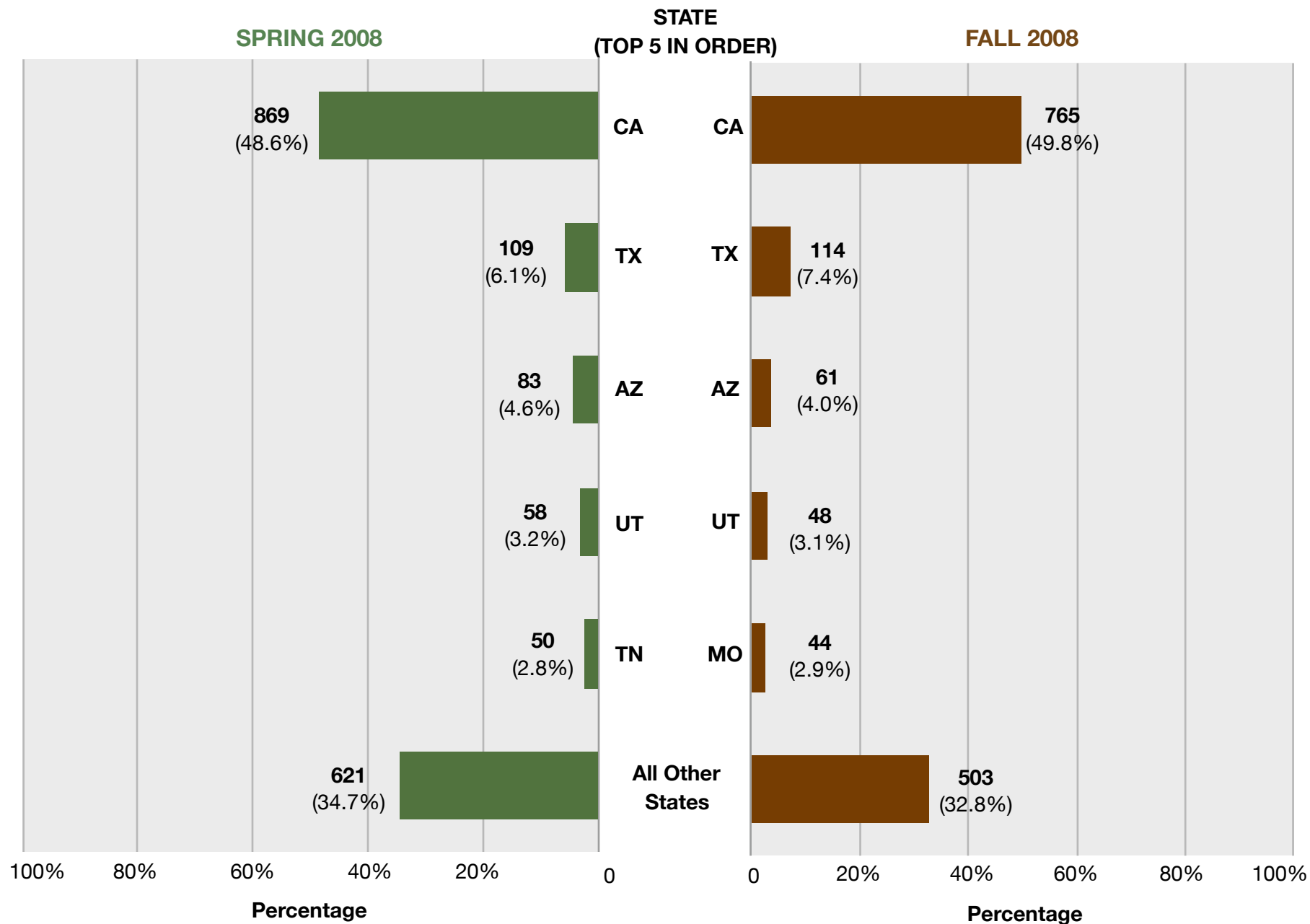


Figure 4-3 provides a boundary map of the nine regions within California for reference. Based on the survey data collected, Tables 4-15, 4-16, 4-17 and 4-18 summarize the results of the truck based location by regions within California surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively.

The summary by regions shows that the within California, the majority of trucks surveyed are based in the San Joaquin Valley region followed by the Southern California region. This pattern is consistently observed between the four survey sites and between both the Spring and Fall seasons with no noticeable variance.

Based on the survey data collected, Tables 4-19, 4-20, 4-21 and 4-22 summarizes the results of the truck based locations (by counties within California) surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound station and CHP westbound station, respectively. Figure 4-3 also provides a boundary map of the various counties within each region of California for reference.

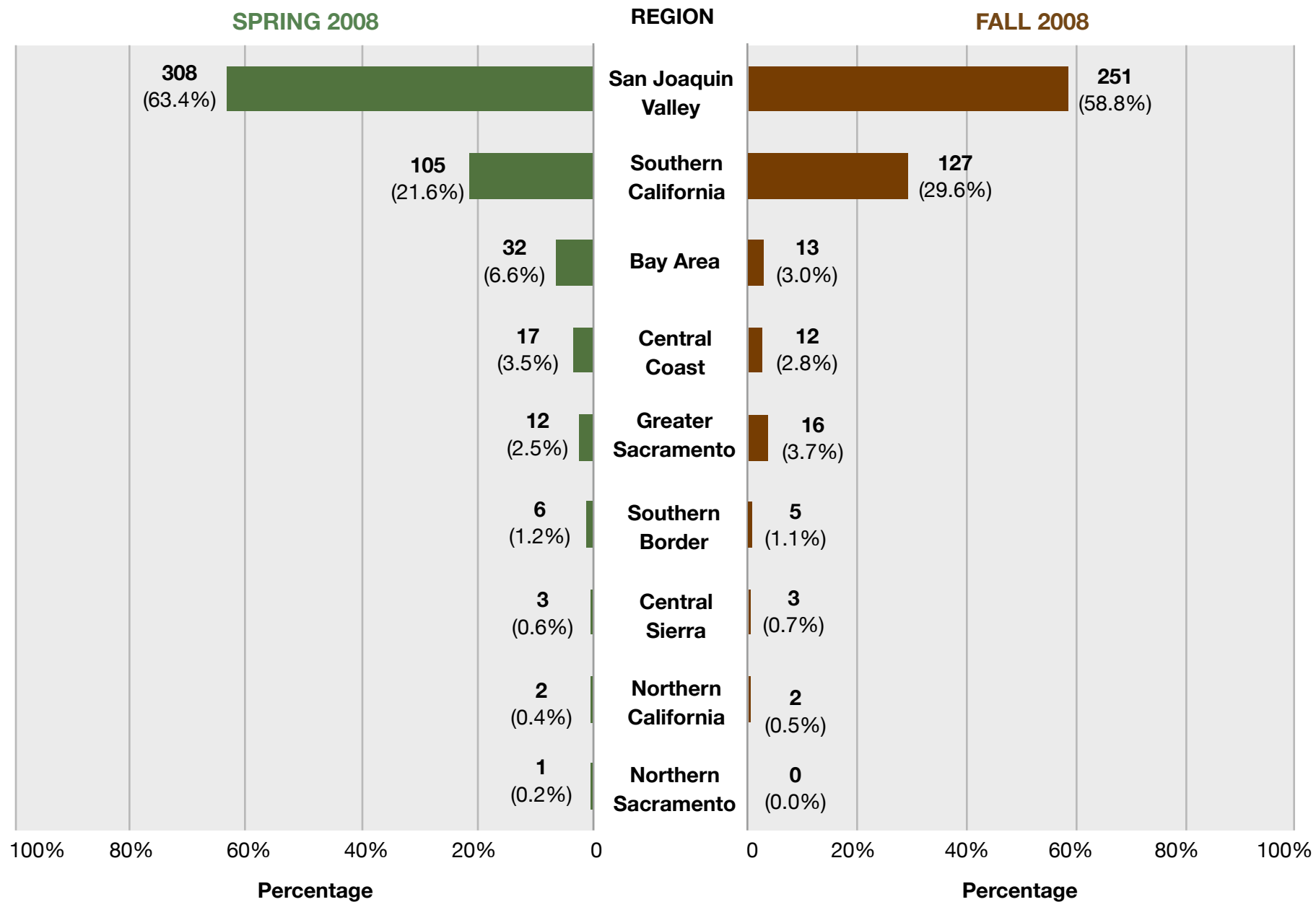
The summary by counties lists the top five counties based on percentage of response. Based on the location of the survey taken and by seasons, the top five counties varies by order but the results show that most trucks are based in one of the following counties:

- Kern County
- Fresno County
- San Bernardino County
- San Joaquin County
- Los Angeles County
- Tulare County
- Riverside County

The results of the summary by County and comparison of results between the Spring and Fall seasons shown in Tables 4-19, 4-20, 4-21 and 4-22 demonstrate variation to be minimal on locations where trucks are based suggesting that the trucks that use this corridor operate consistently regardless of seasonality.

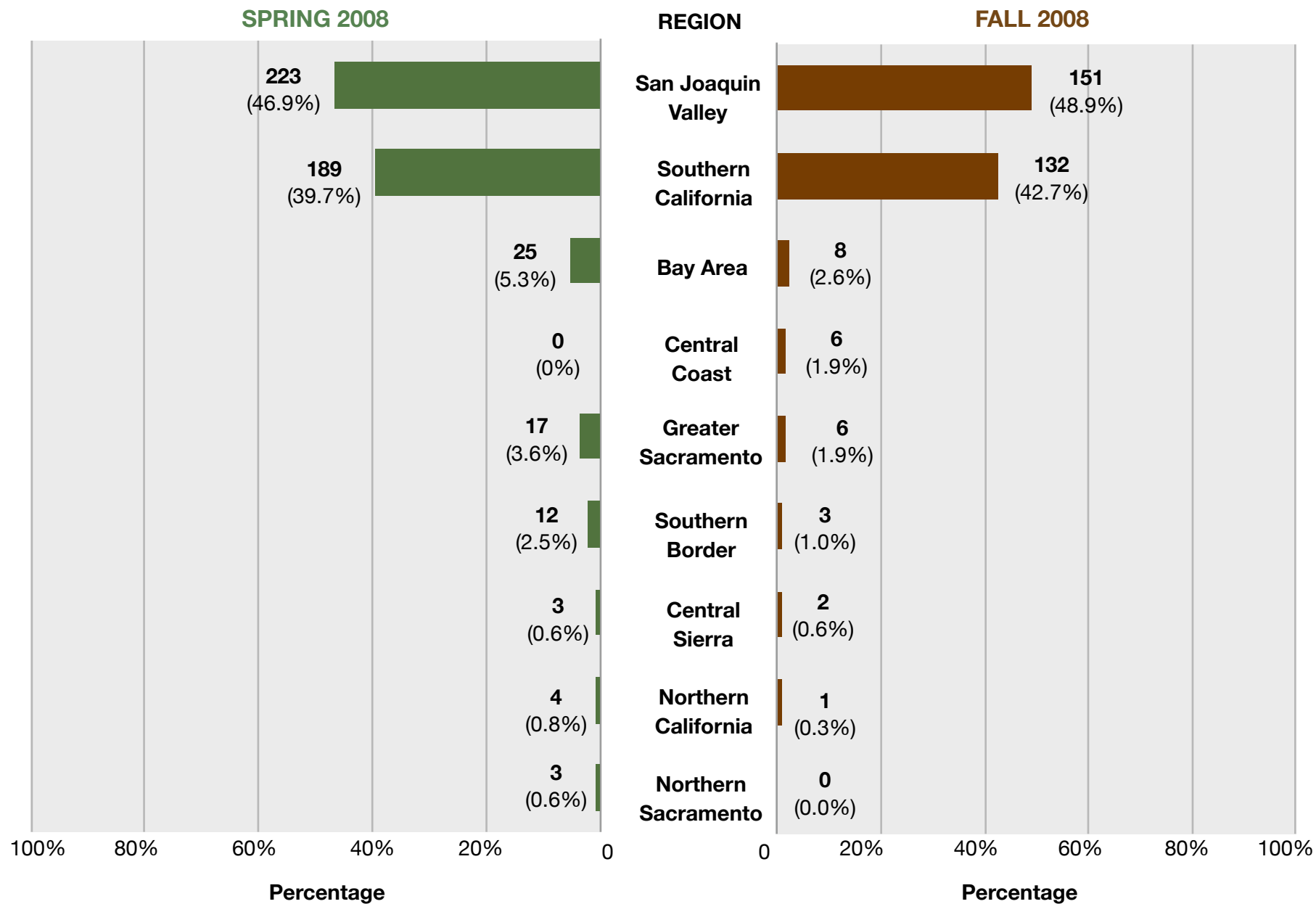


**Table 4-15 Truck Based Location By Region Within California**  
**BORON EASTBOUND**



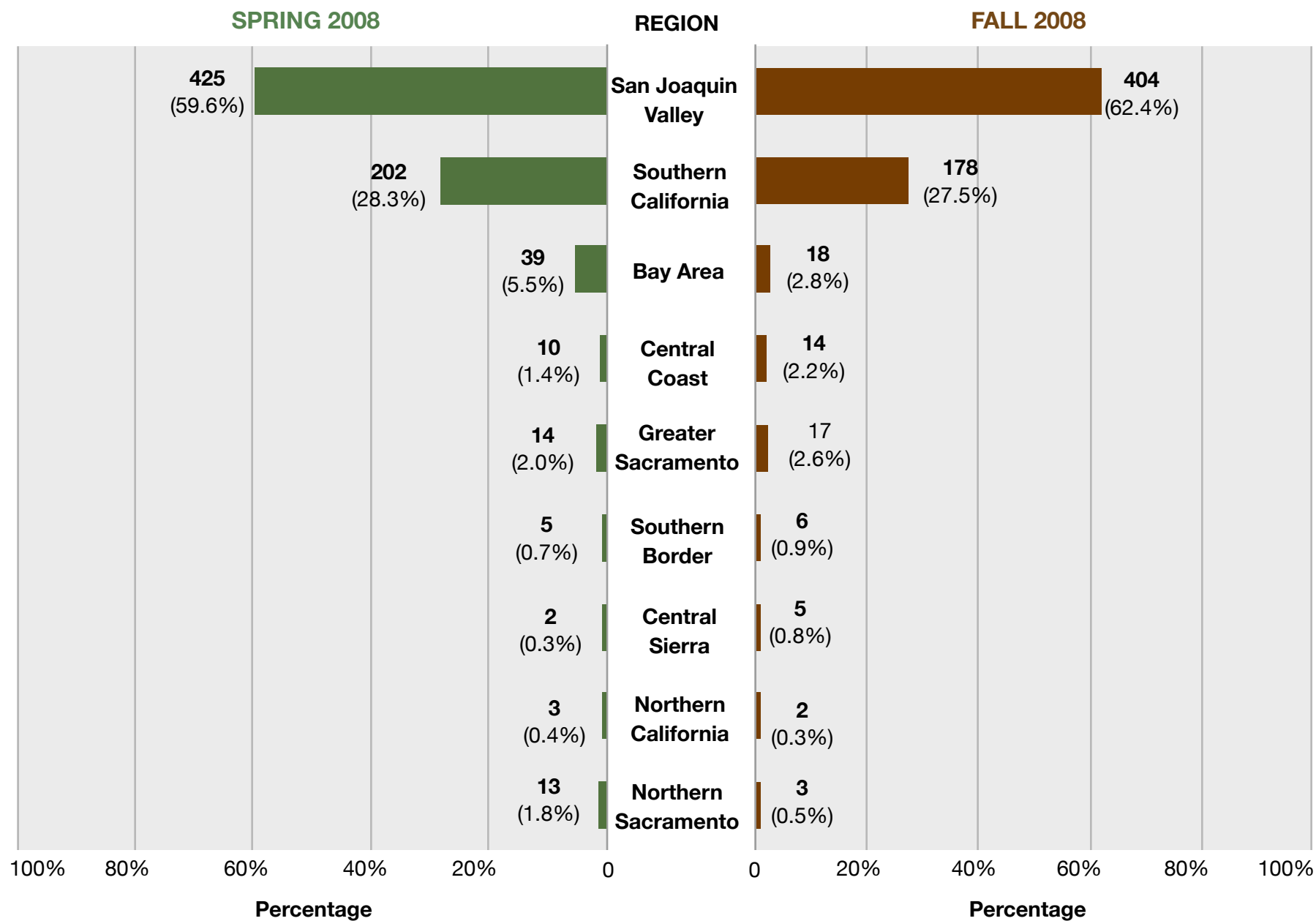
**Table 4-16 Truck Based Location By Region Within California**

**BORON WESTBOUND**

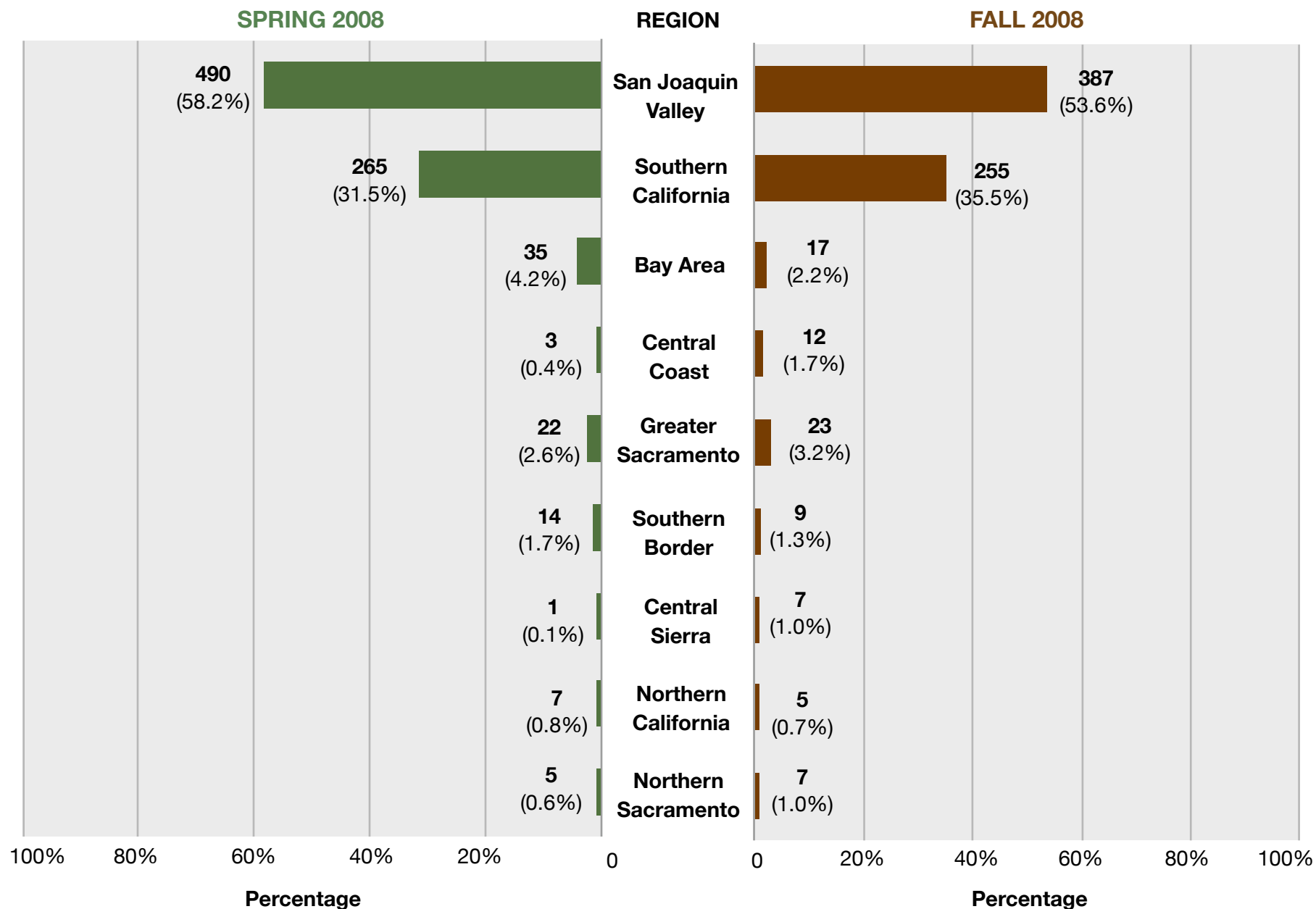




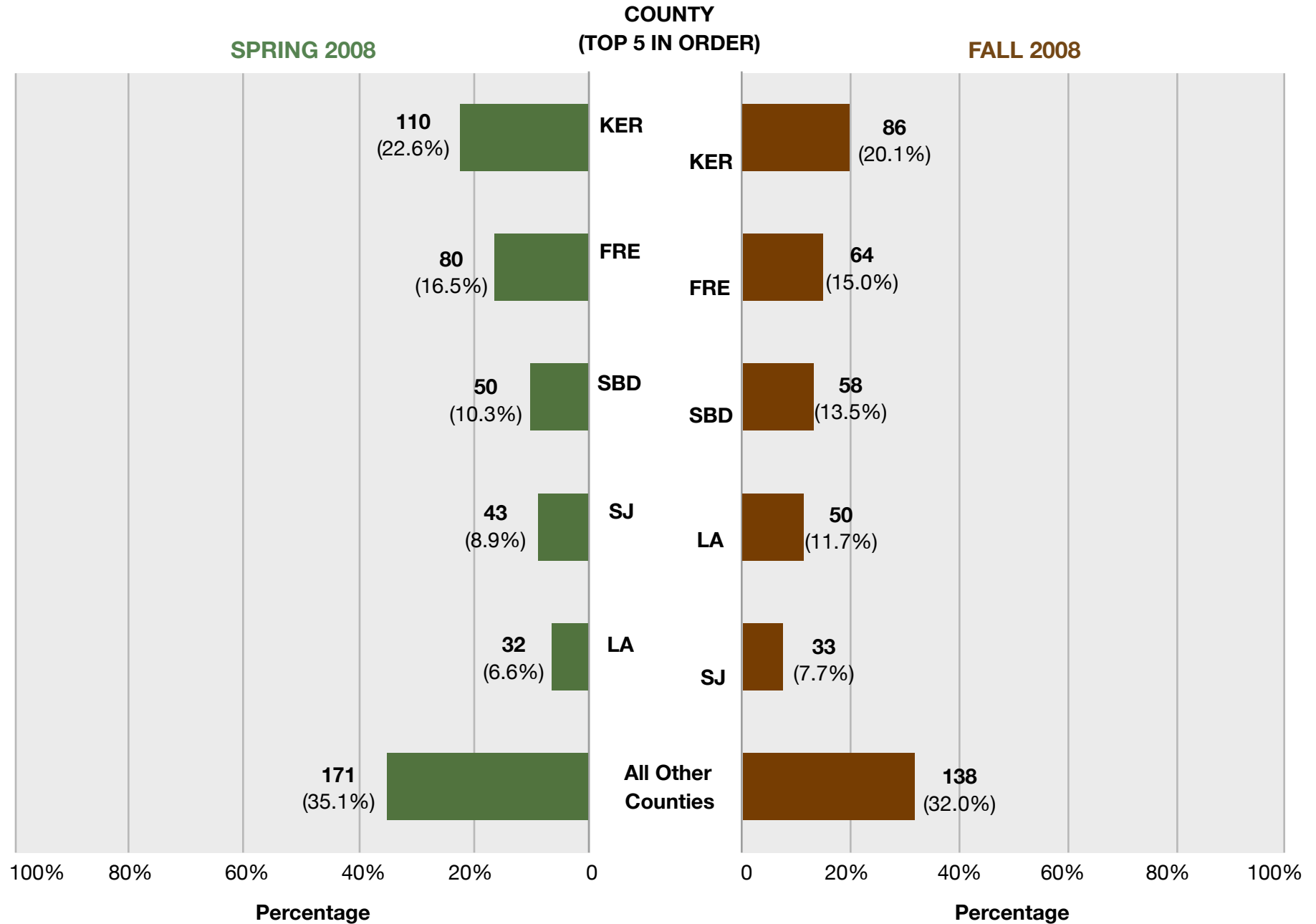
**Table 4-17 Truck Based Location By Region Within California**  
**CHP EASTBOUND**



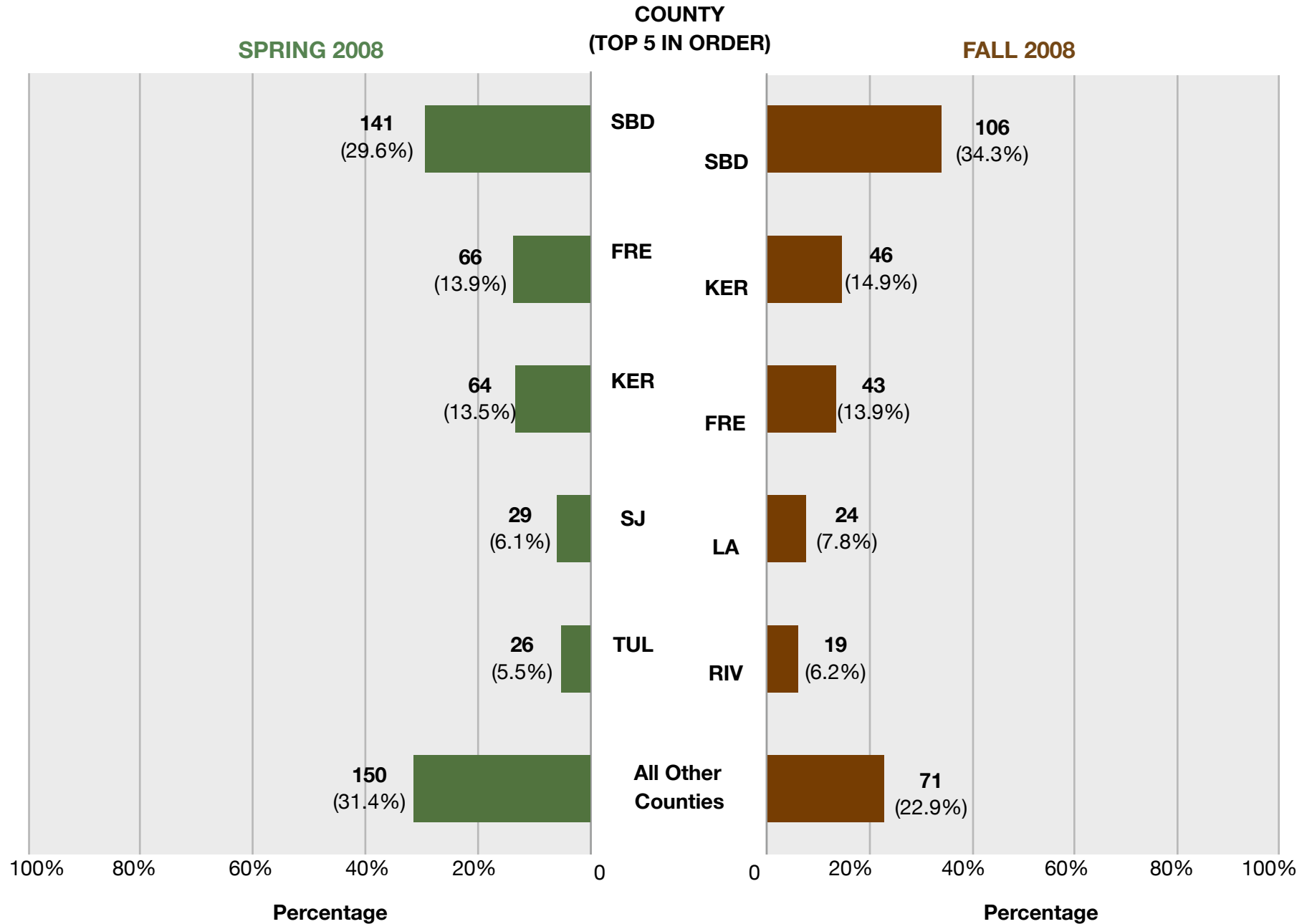
**Table 4-18 Truck Based Location By Region Within California**  
**CHP WESTBOUND**



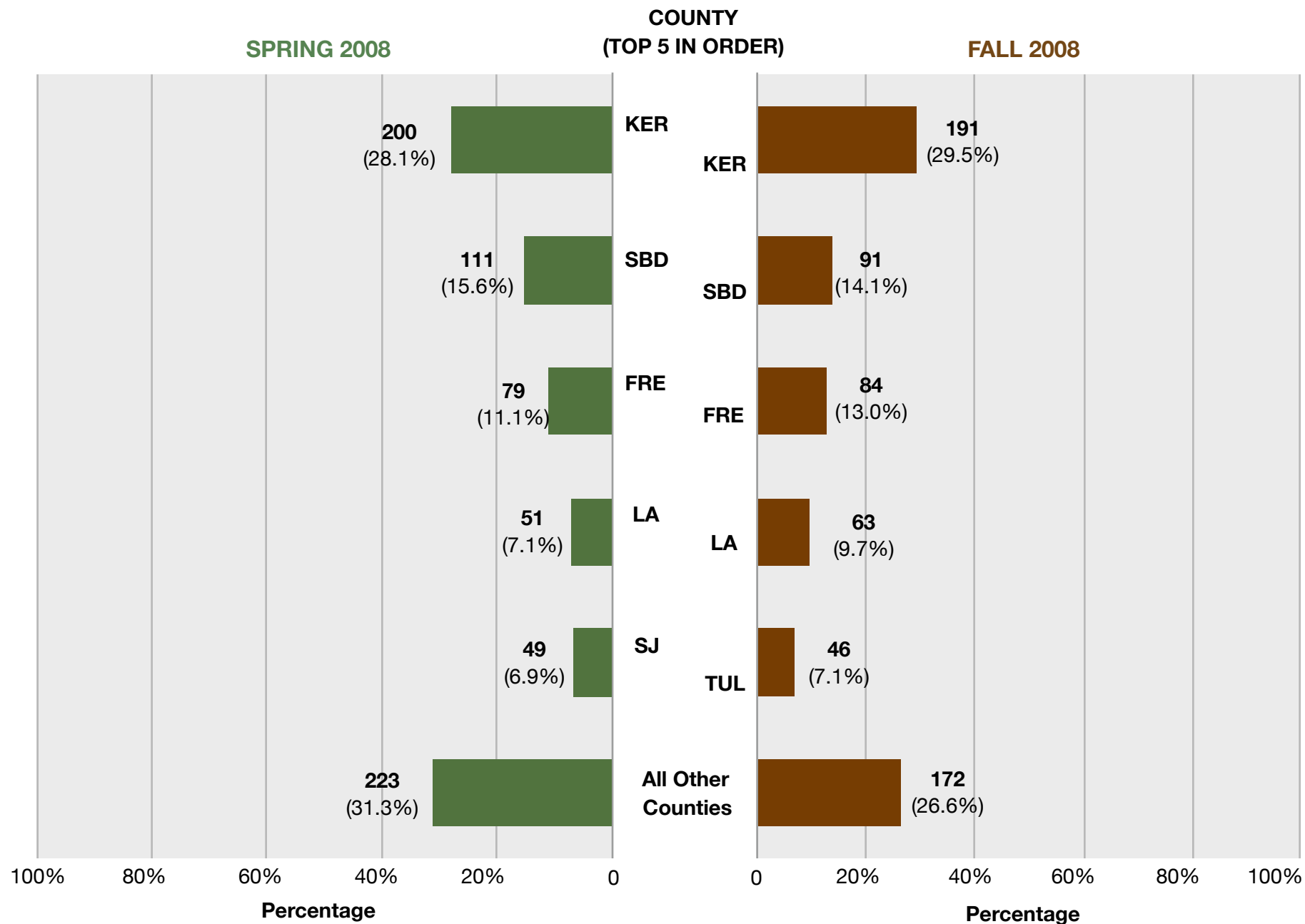
**Table 4-19 Truck Based Location By County  
BORON EASTBOUND**



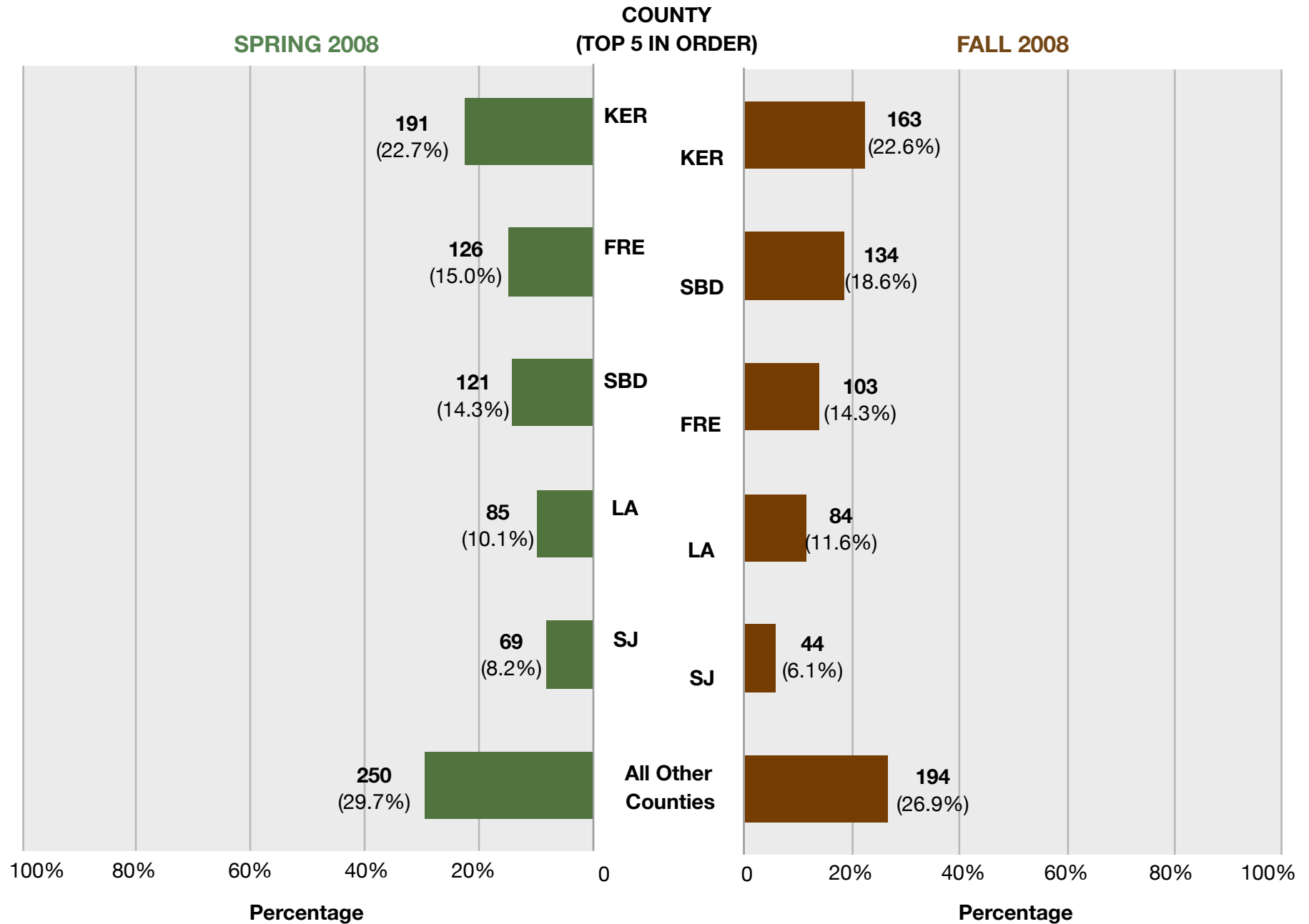
**Table 4-20 Truck Based Location By County**  
**BORON WESTBOUND**



**Table 4-21 Truck Based Location By County**  
**CHP EASTBOUND**



**Table 4-22 Truck Based Location By County  
CHP WESTBOUND**





### 4.3 Truck Origin Location

Question 3 of the truck intercept survey asks the drivers where they started this leg of their trip. The survey records the city and the state based on driver's response.

Of the 6,042 surveys conducted during the Spring period, 5,963 valid responses were recorded yielding a question response rate of 98.69%. The following provides a statistical summary by location and direction:

**Table 4-23: Statistical Summary of Question 3 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,021	98.65%
	WB	1,579	1,553	98.35%
CHP Weigh Station	EB	1,629	1,605	98.53%
	WB	1,799	1,784	99.17%
Total		6,042	5,963	98.69%

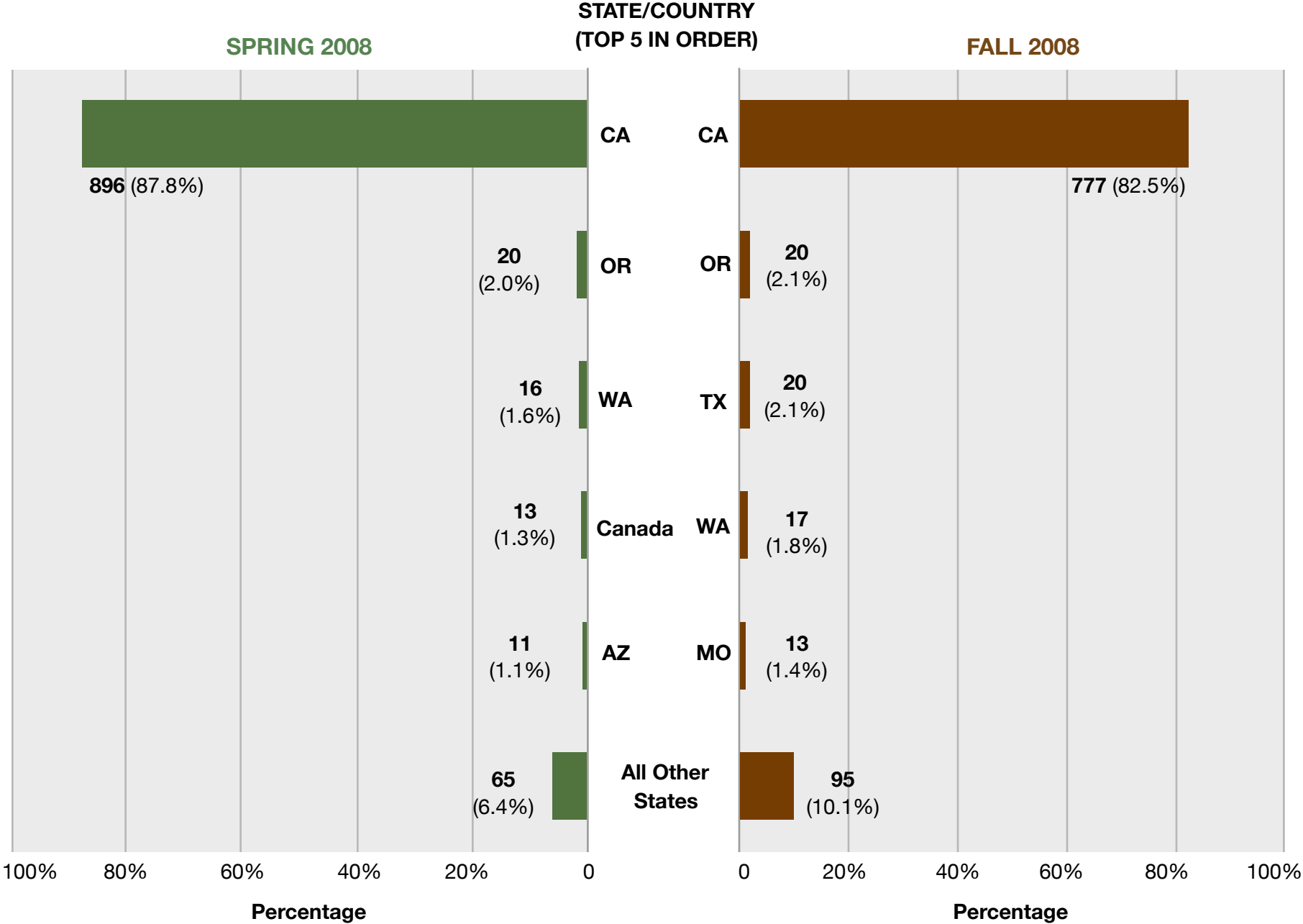
Of the 5,295 surveys conducted during the Fall period, 5,092 valid responses were recorded yielding a question response rate 96.17% rate. The following provides a statistical summary by location and direction:

**Table 4-24: Statistical Summary of Question 3 Responses (Fall)**

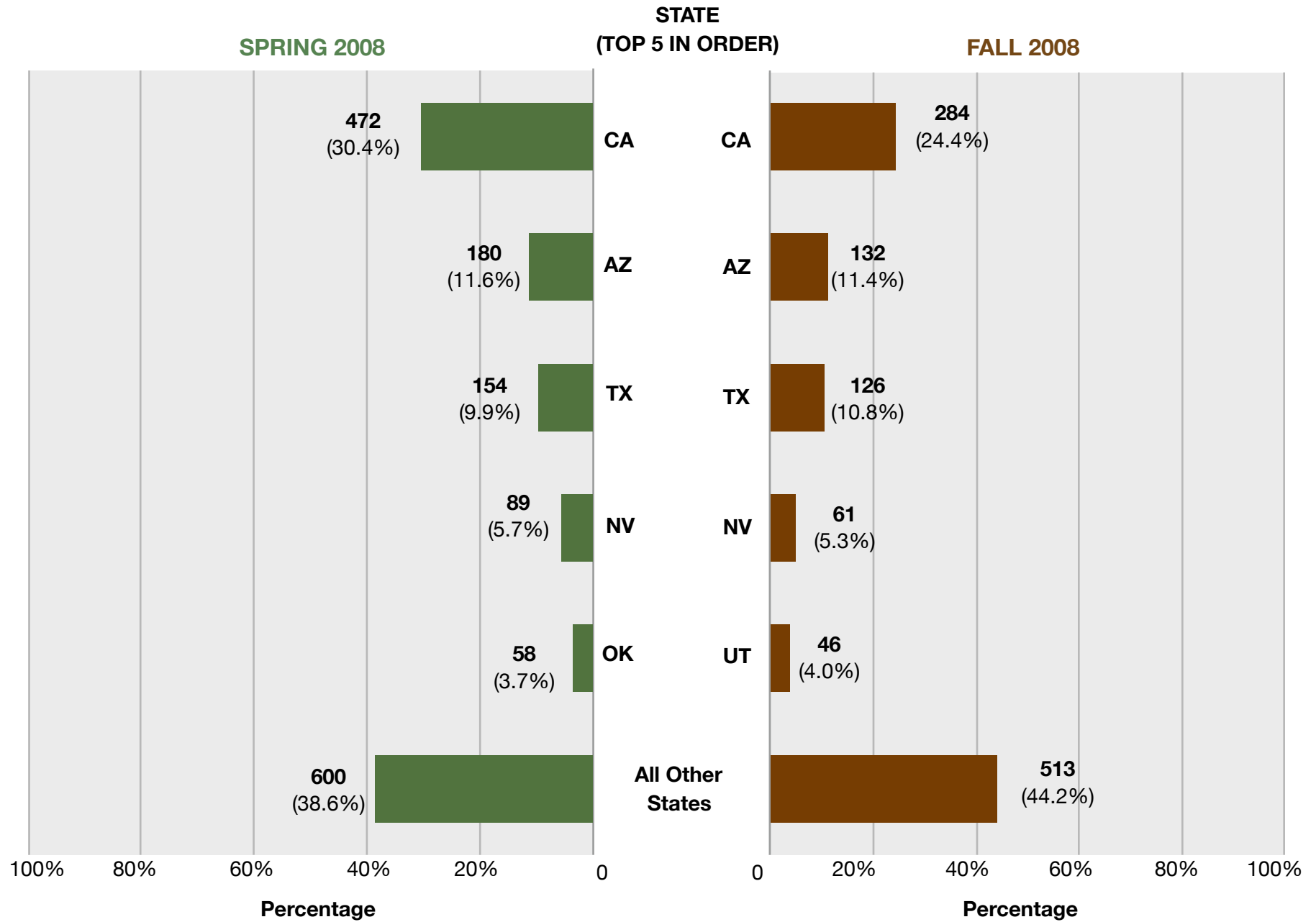
Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	941	97.72%
	WB	1,219	1,157	94.91%
CHP Weigh Station	EB	1,572	1,529	97.26%
	WB	1,541	1,465	95.07%
Total		5,295	5,092	96.17%

Based on the data collected for question 3 Tables 4-25, 4-26, 4-27 and 4-28 summarize the results of the truck origin (by state) surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The summary by state shows that in the eastbound direction (both Boron and CHP sites) shows an overwhelming percentage of trucks started its trip within California. In contrast, the results of the survey in the westbound direction (Boron and CHP) shows a much lower percentage of trips originating within California with trips also originating from Arizona, Texas, Nevada and Utah.

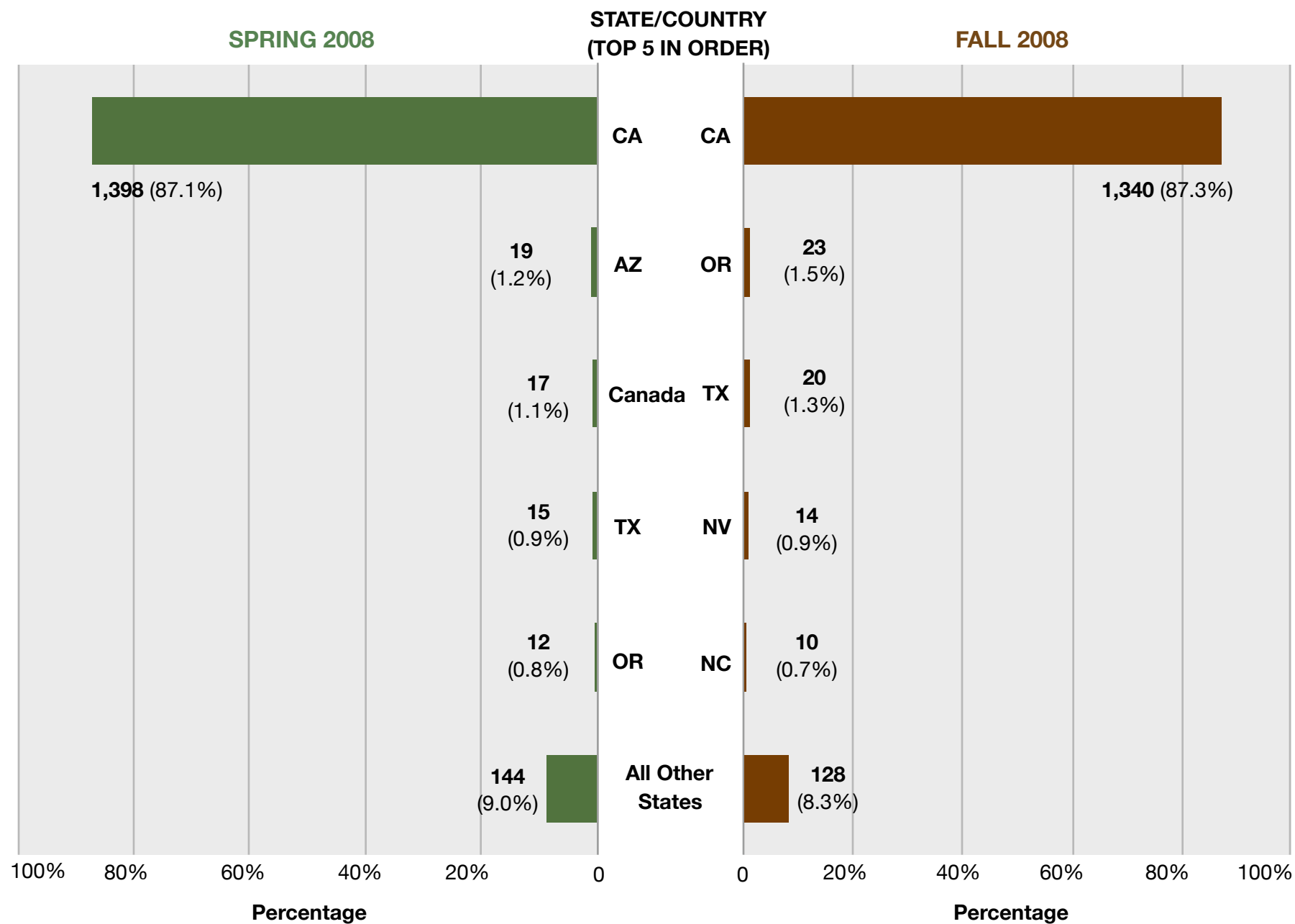
Table 4-25 Truck Trip Origin By State  
BORON EASTBOUND



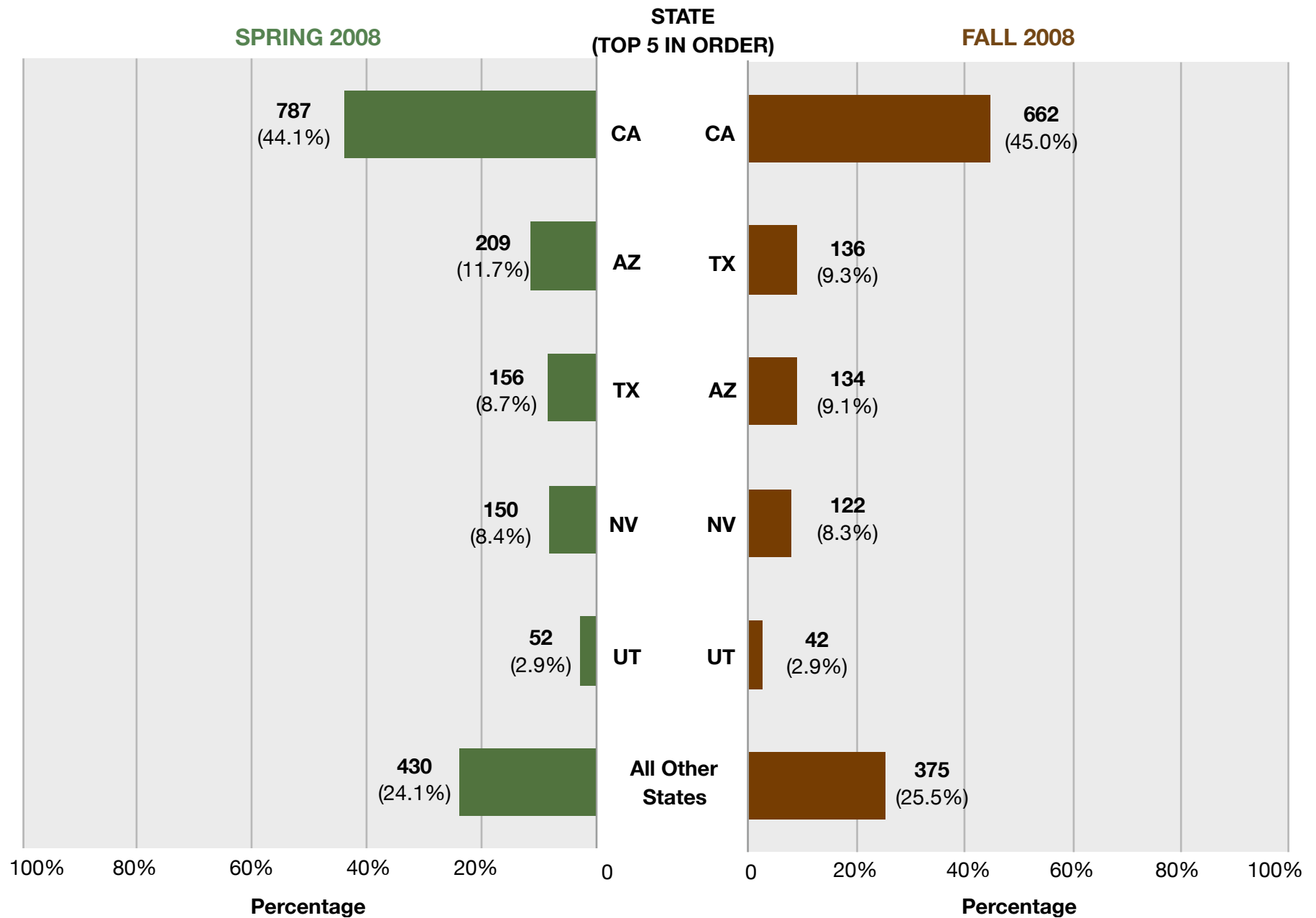
**Table 4-26 Truck Trip Origin By State**  
**BORON WESTBOUND**



**Table 4-27 Truck Trip Origin By State**  
**CHP EASTBOUND**



**Table 4-28 Truck Trip Origin By State  
CHP WESTBOUND**



Based on additional data collected for question 3, Tables 4-29, 4-30, 4-31 and 4-32 summarize the results of the truck trip origin by regions within California for surveys completed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively.

The summary by region shows that the within California, the majority of trucks surveyed in the eastbound direction (Boron and CHP) started their trip in the San Joaquin Valley region followed by the Central Coast Region and Southern California region. This pattern is consistently observed between both the Spring and Fall seasons with no significant variance.

In the westbound direction (Boron and CHP), the majority of trucks surveyed started their trip in the Southern California Region (includes the counties of Los Angeles, Ventura, San Bernardino, Riverside and Orange) followed by the San Joaquin Valley Region. This pattern is consistently observed between the Spring and Fall Seasons with no significant variance.

Based on additional data collected for question 3, Tables 4-33, 4-34, 4-35 and 4-36 summarize the results of the truck trip origin (by counties within California) surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound station and CHP westbound station, respectively.

The summary by county depicted in Tables 4-33, 4-34, 4-35 and 4-36 lists the top five counties based on percentage of response. The top five survey responses vary but the results show that most trucks are based in one of the following counties:

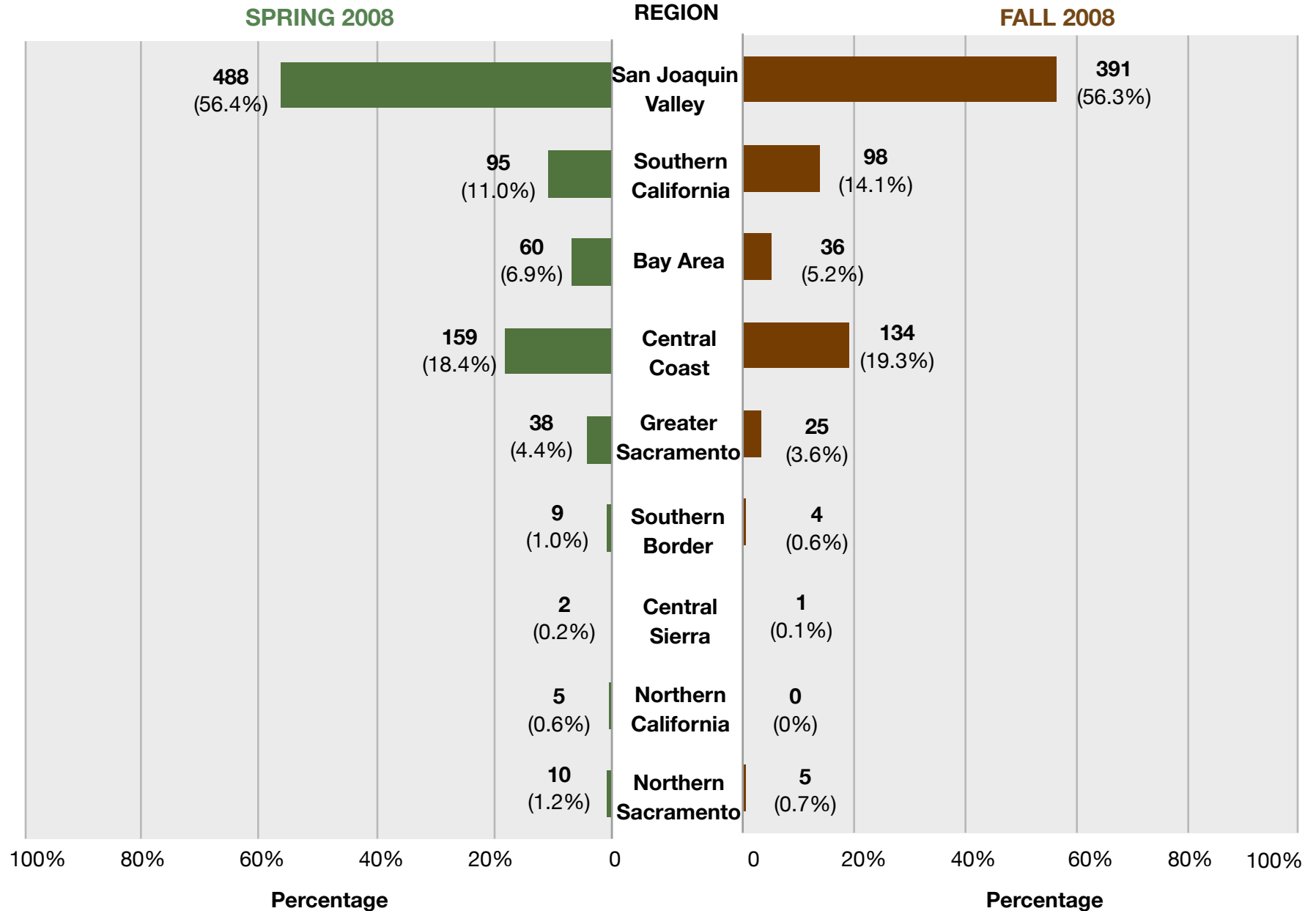
- Kern County
- Fresno County
- San Bernardino County
- San Joaquin County
- Los Angeles County
- Tulare County
- Riverside County
- Monterey County
- Imperial County

The results of the summary and comparison shown in Tables 4-33, 4-34, 4-35 and 4-36 shows seasonal variation have a minimal impact on the location of where trucks begin the trip.

Comprehensive results of survey responses are provided in Appendix F.

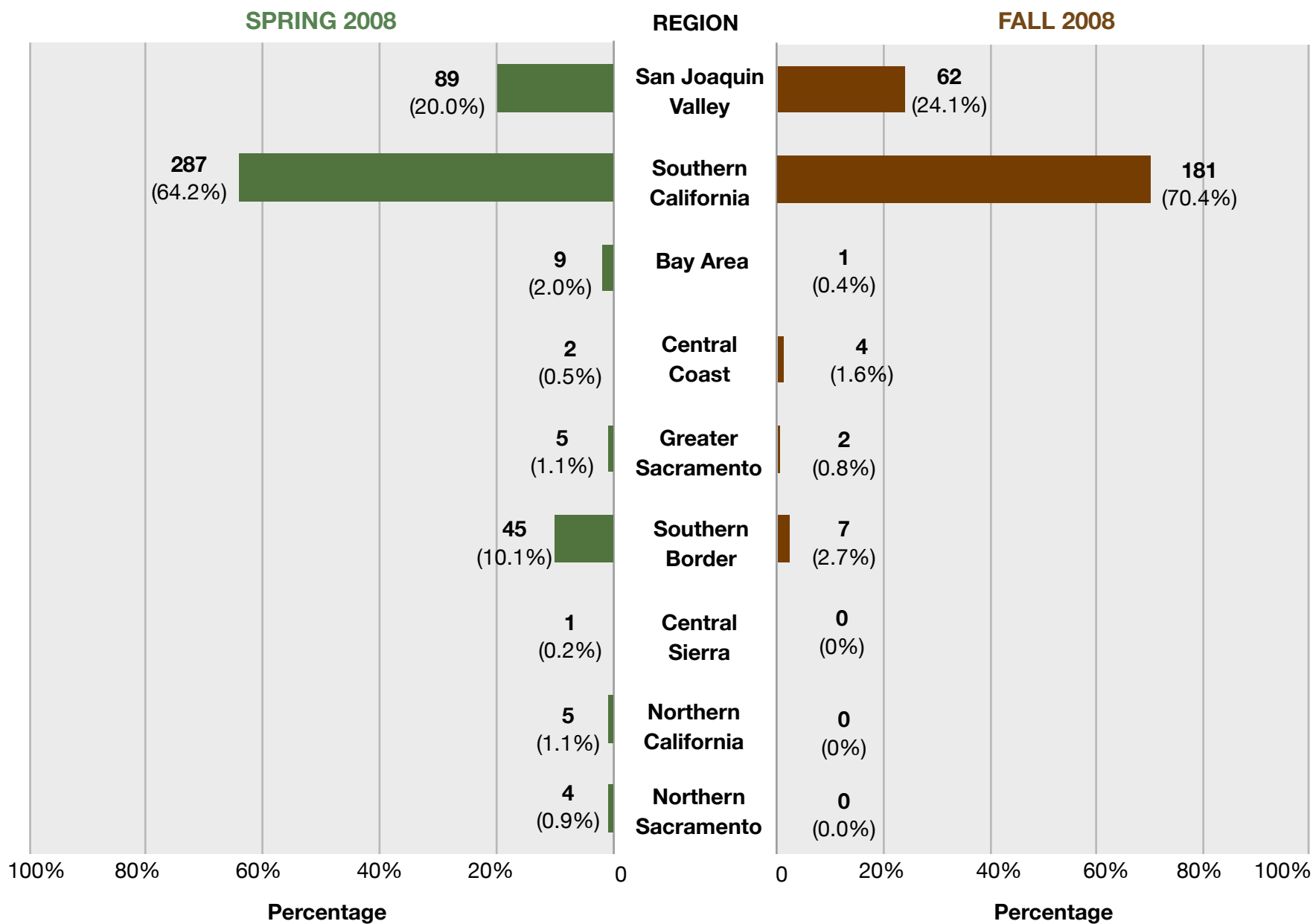


**Table 4-29 Truck Trip Origin By Region**  
**BORON EASTBOUND**

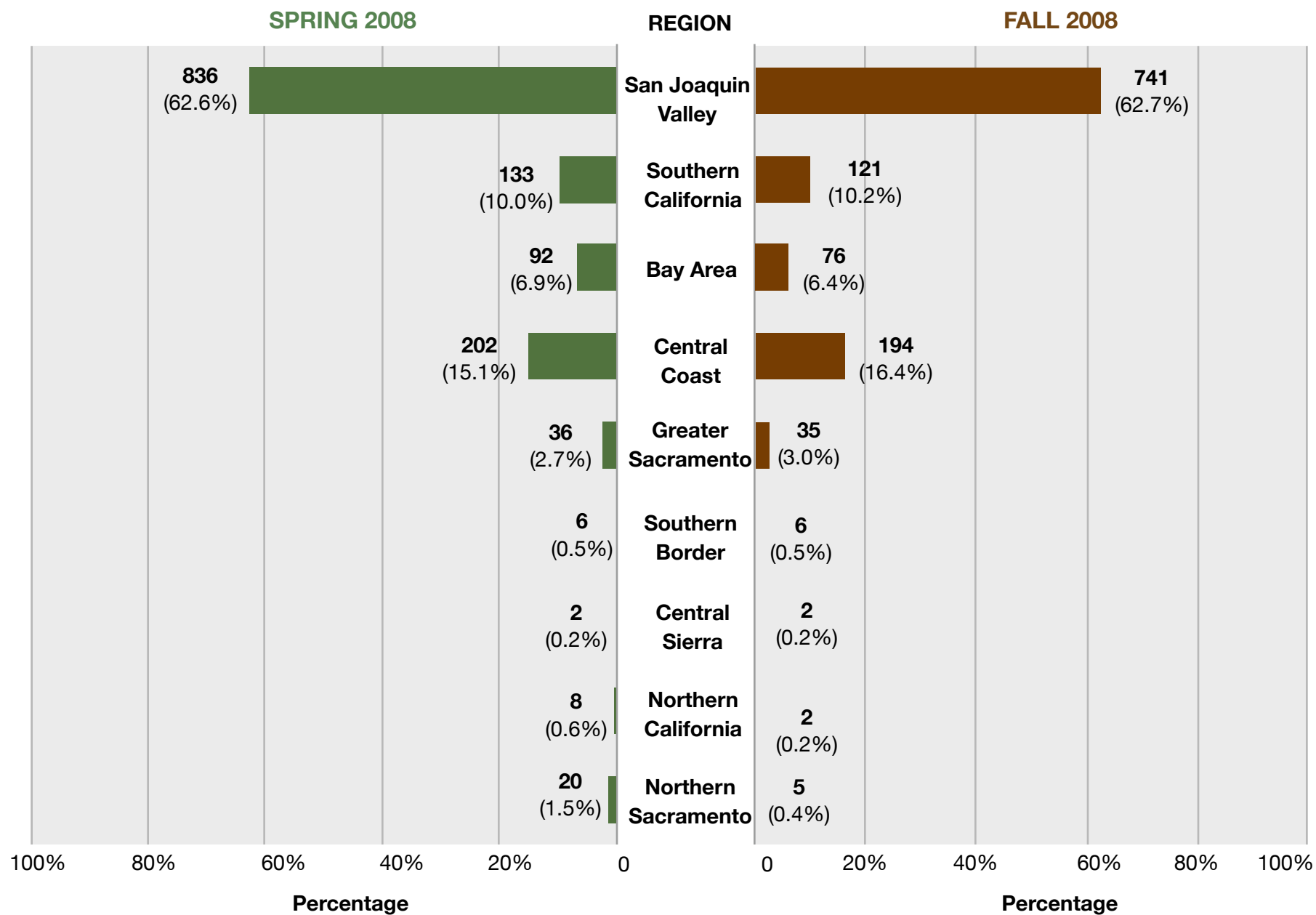


**Table 4-30 Truck Trip Origin By Region**

**BORON WESTBOUND**

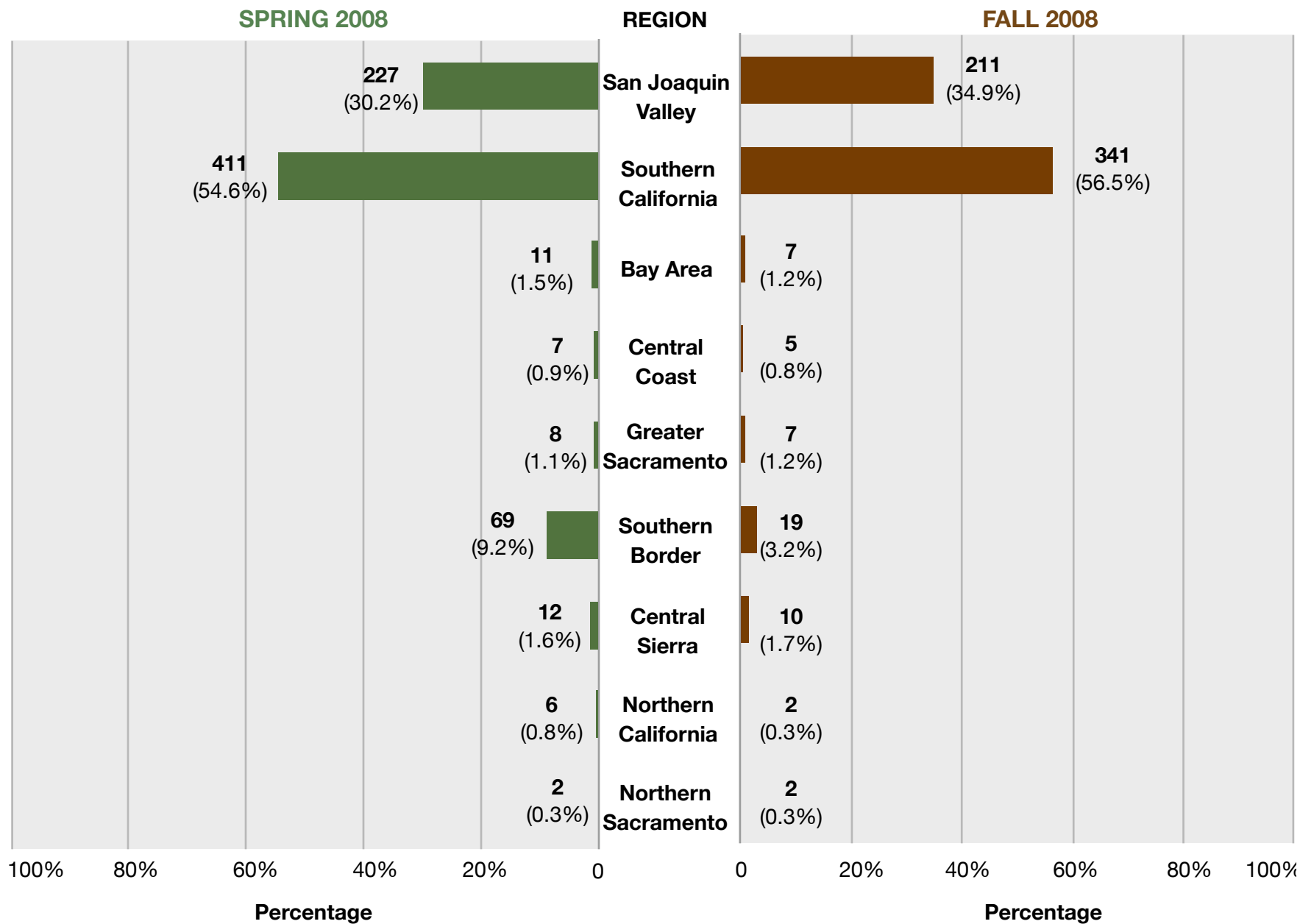


**Table 4-31 Truck Trip Origin By Region**  
**CHP EASTBOUND**

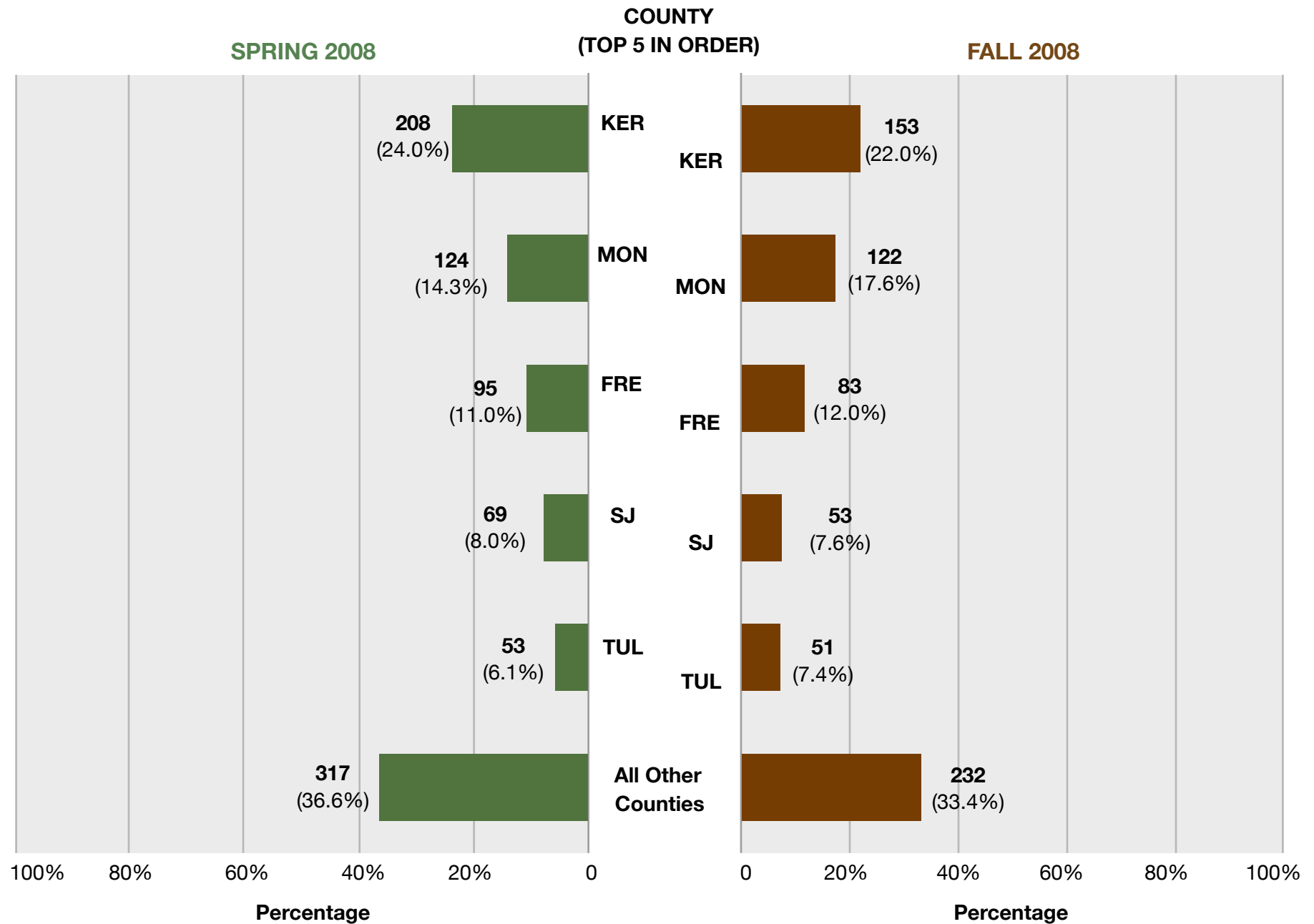


**Table 4-32 Truck Trip Origin By Region**

**CHP WESTBOUND**

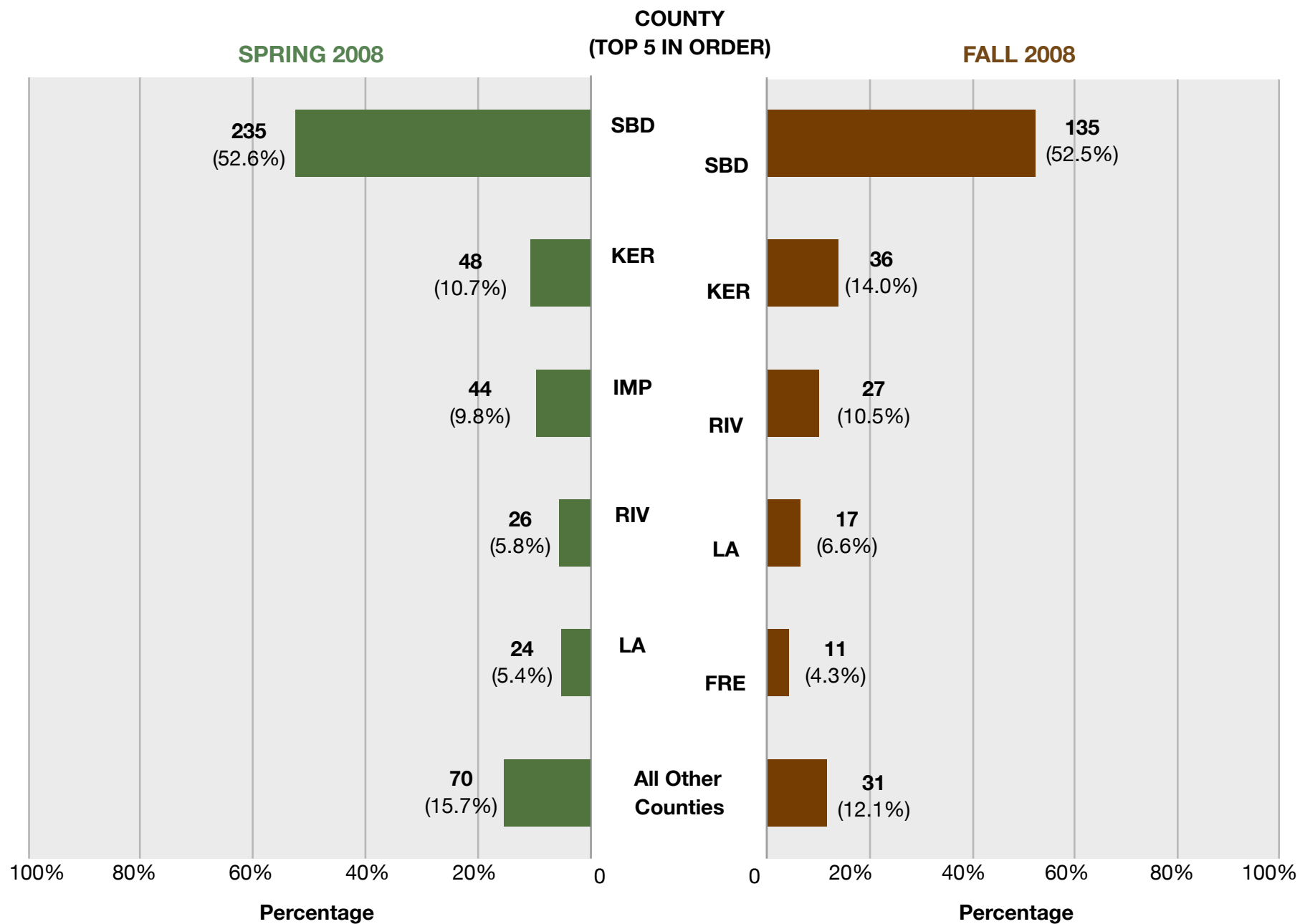


**Table 4-33 Truck Trip Origin By County  
BORON EASTBOUND**



**Table 4-34 Truck Trip Origin By County**

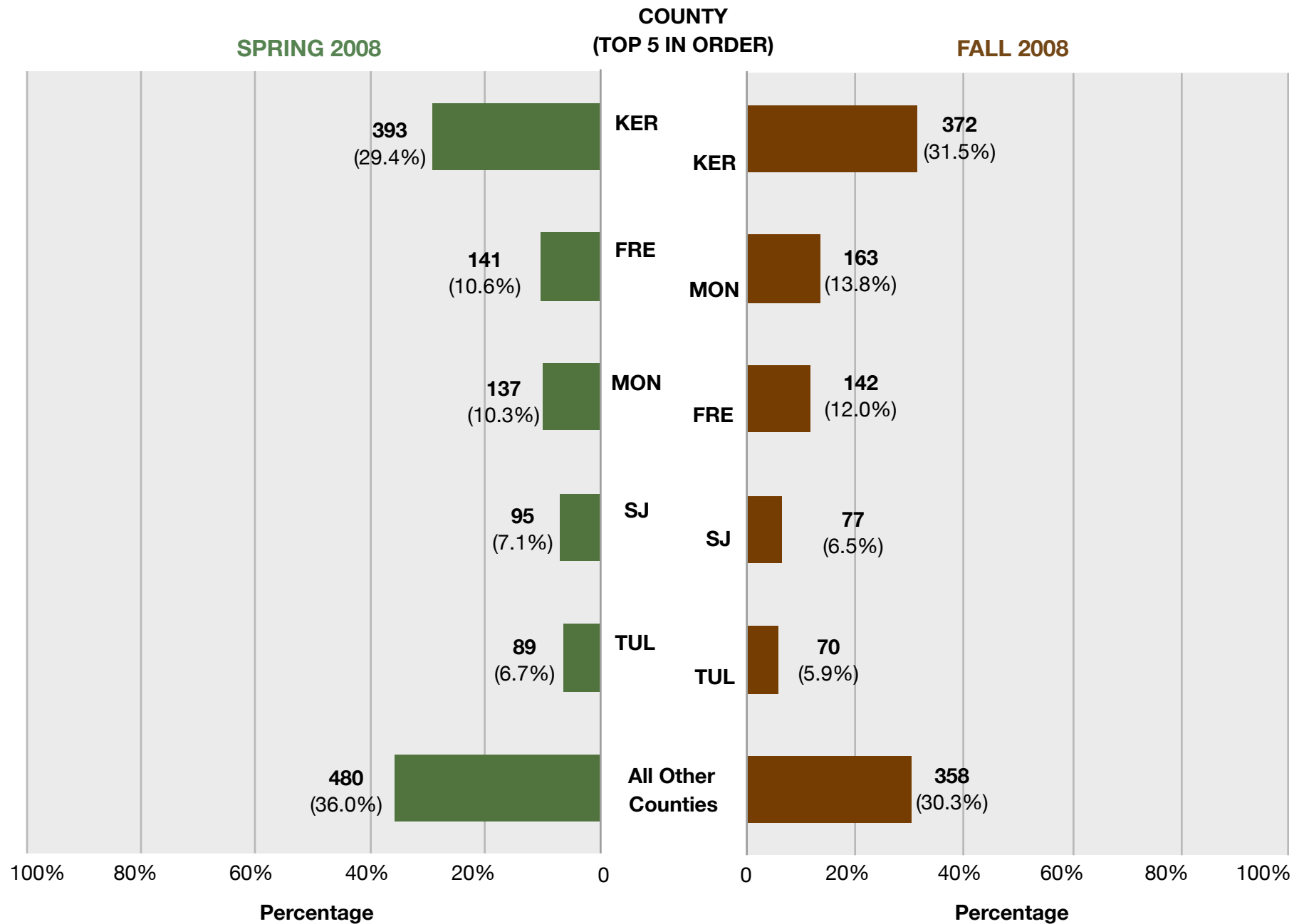
**BORON WESTBOUND**



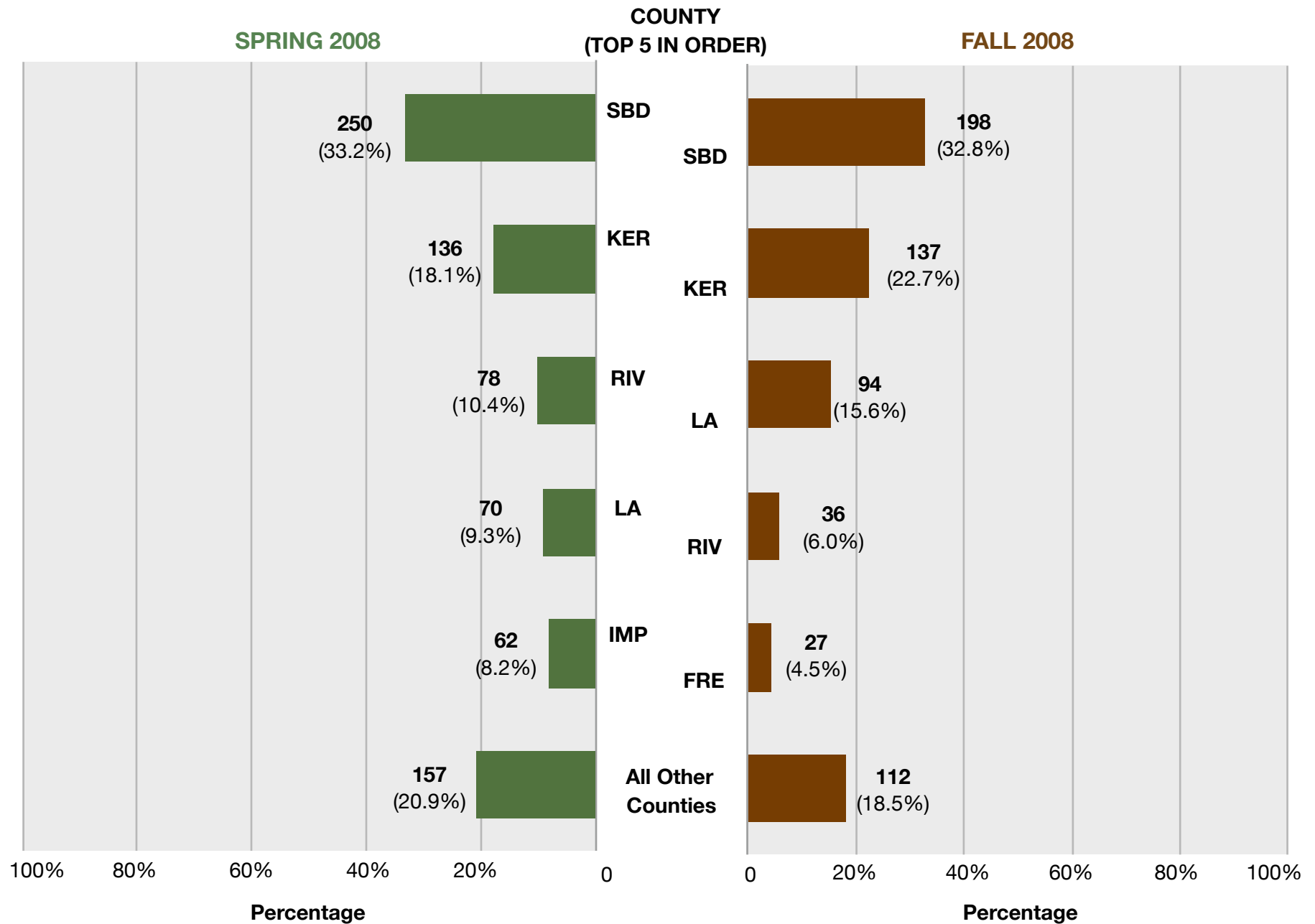


**Table 4-35 Truck Trip Origin By County**

**CHP EASTBOUND**



**Table 4-36 Truck Trip Origin By County  
CHP WESTBOUND**



#### 4.4 Place of Origin

Question 4 of the truck intercept survey asks the drivers the type of place where they started this leg of their trip. The survey records the following:

- Shipper – the location where goods originate. Example includes: manufacturing plant, distribution center, processing plant and production point.
- Consignee/Receiver – the location where goods are delivered. Example includes: distribution center, manufacturing plant and retail store.
- Yard – the place where trucks are stored and dispatched from.
- Home – the residence of the truck driver. This can also be the point of dispatch for independent truck owners.
- Other

Of the 6,042 surveys conducted during the Spring period, 5,924 valid responses were recorded yielding a question response rate of 98.05%. The following provides a statistical summary by location and direction:

**Table 4-37: Statistical Summary of Question 4 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	993	95.94%
	WVB	1,579	1,540	97.53%
CHP Weigh Station	EB	1,629	1,603	98.40%
	WVB	1,799	1,788	99.39%
Total		6,042	5,924	98.05%

Of the 5,295 surveys conducted during the Fall period, 5,235 valid responses were recorded yielding a question response rate of 98.87%. The following provides a statistical summary by location and direction:

**Table 4-38: Statistical Summary of Question 4 Responses (Spring)**

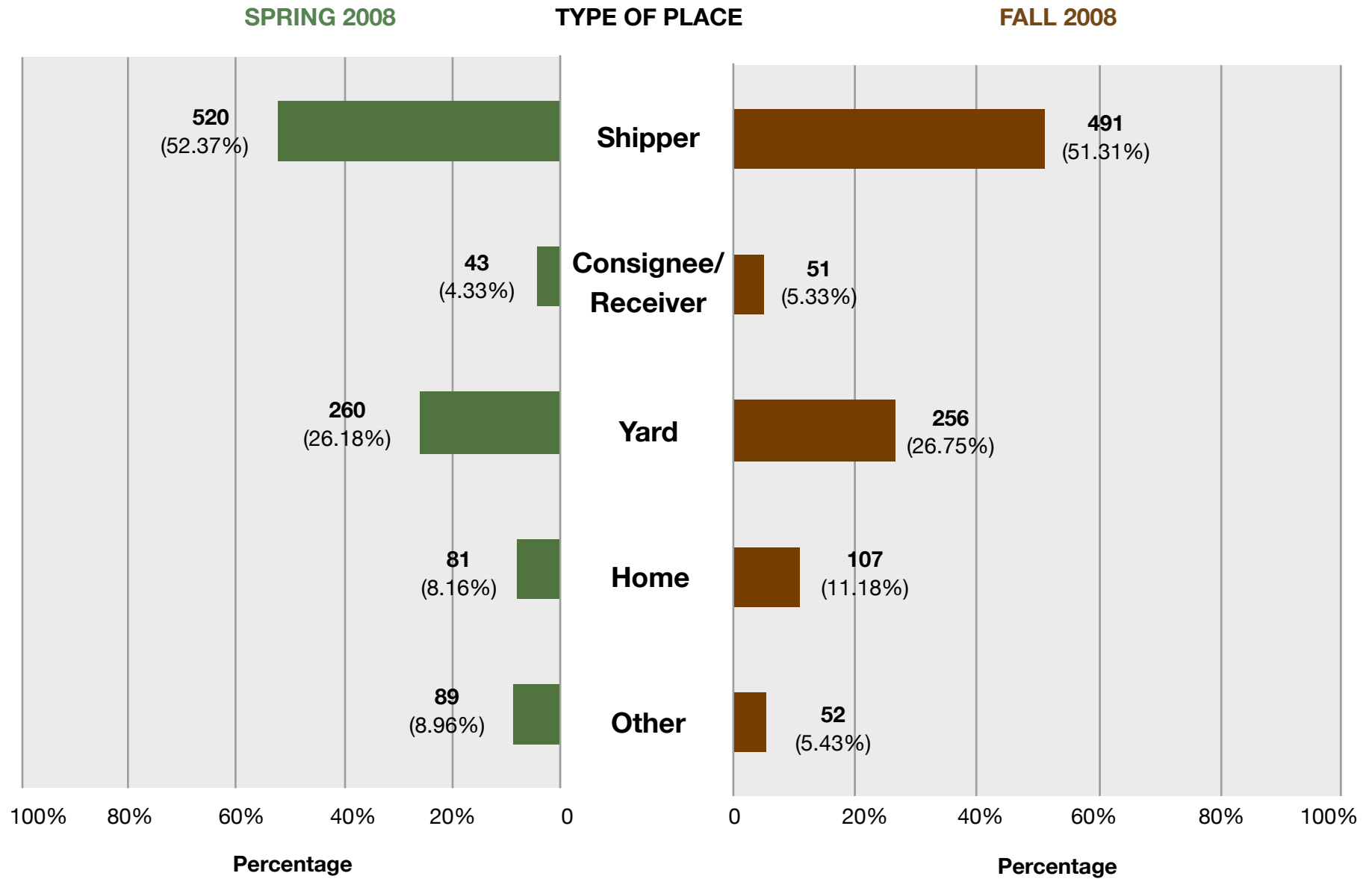
Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	957	99.38%
	WB	1,219	1,200	98.44%
CHP Weigh Station	EB	1,572	1,554	98.85%
	WB	1,541	1,524	98.90%
Total		5,295	5,235	98.87%

Based on the data collected for question 4, Tables 4-39, 4-40, 4-41 and 4-42 summarize the results at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The summary shows that 85% of place-of-origin is from a shipper, yard or home with the following breakdown:

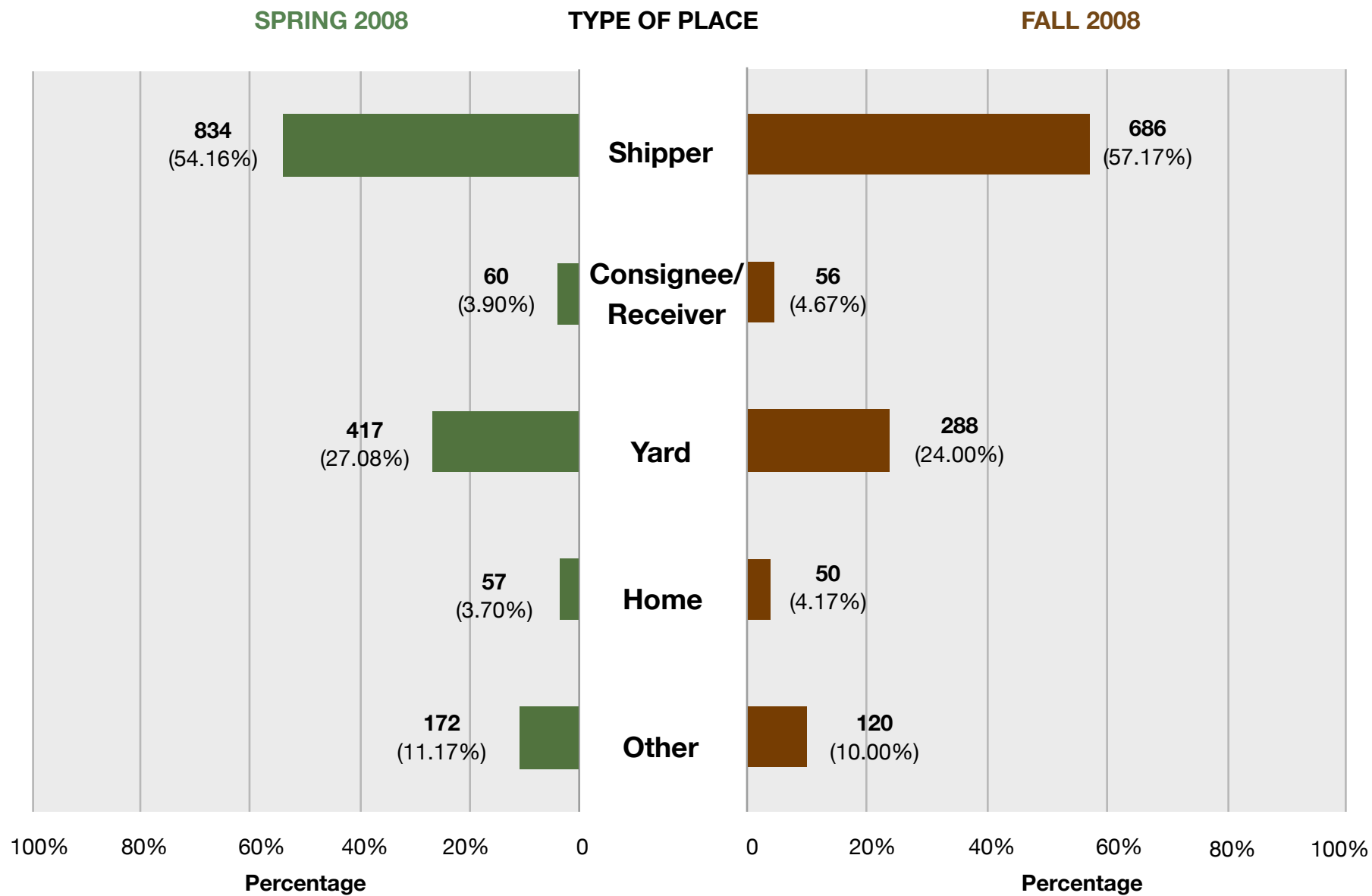
- Shipper – 53%
- Yard – 26% (this suggests that a fair percentage of yards are actually a building materials manufacturers who has their own fleet of trucks, i.e. ready made concrete)
- Home - 6% (this suggests independent truck drivers who has a loaded-truck parked at home for a next-day delivery)

The results of the detailed survey responses are provided in Appendix G.

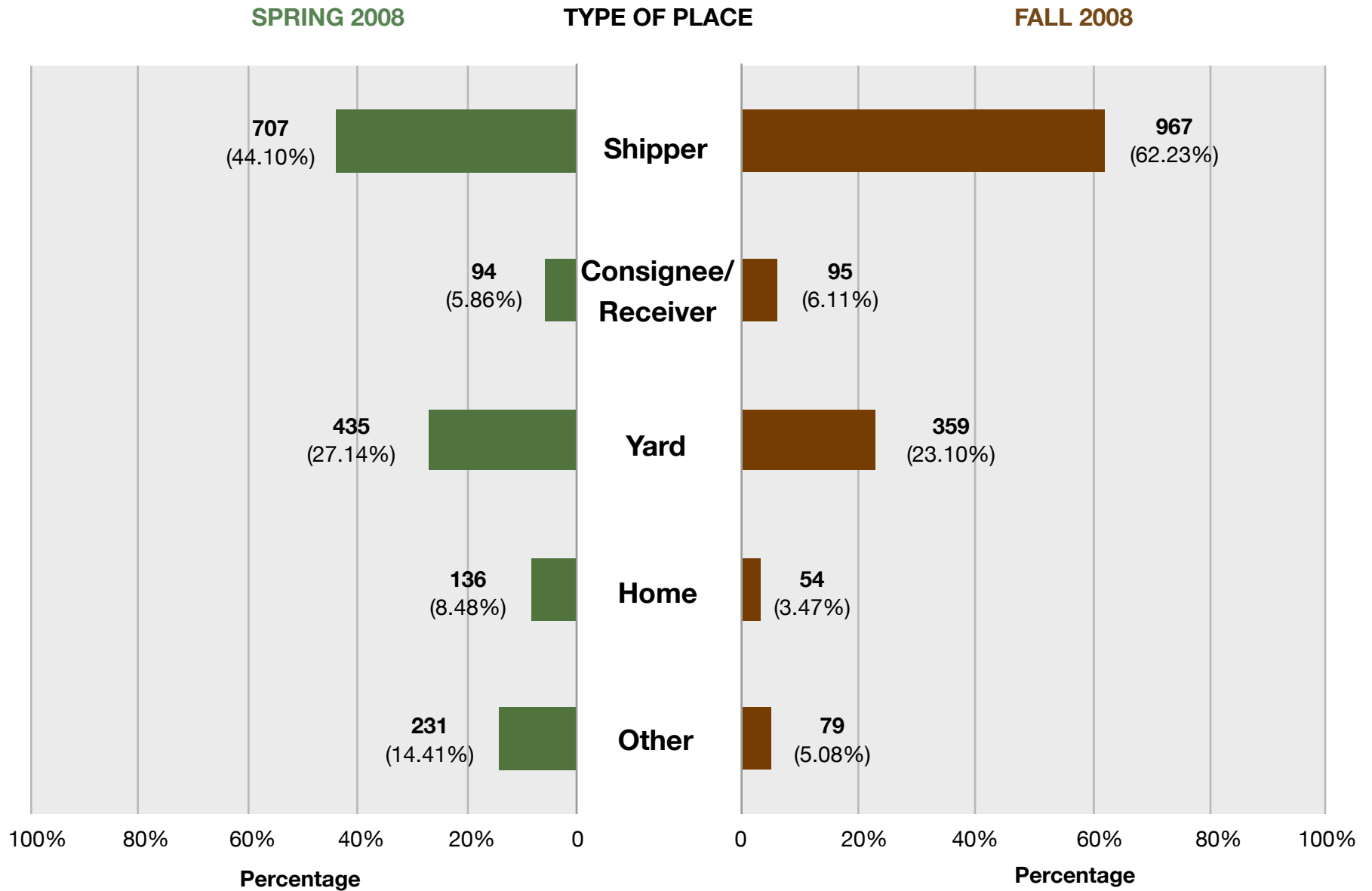
**Table 4-39 Place of Origin**  
**BORON EASTBOUND**



**Table 4-40 Place of Origin**  
**BORON WESTBOUND**



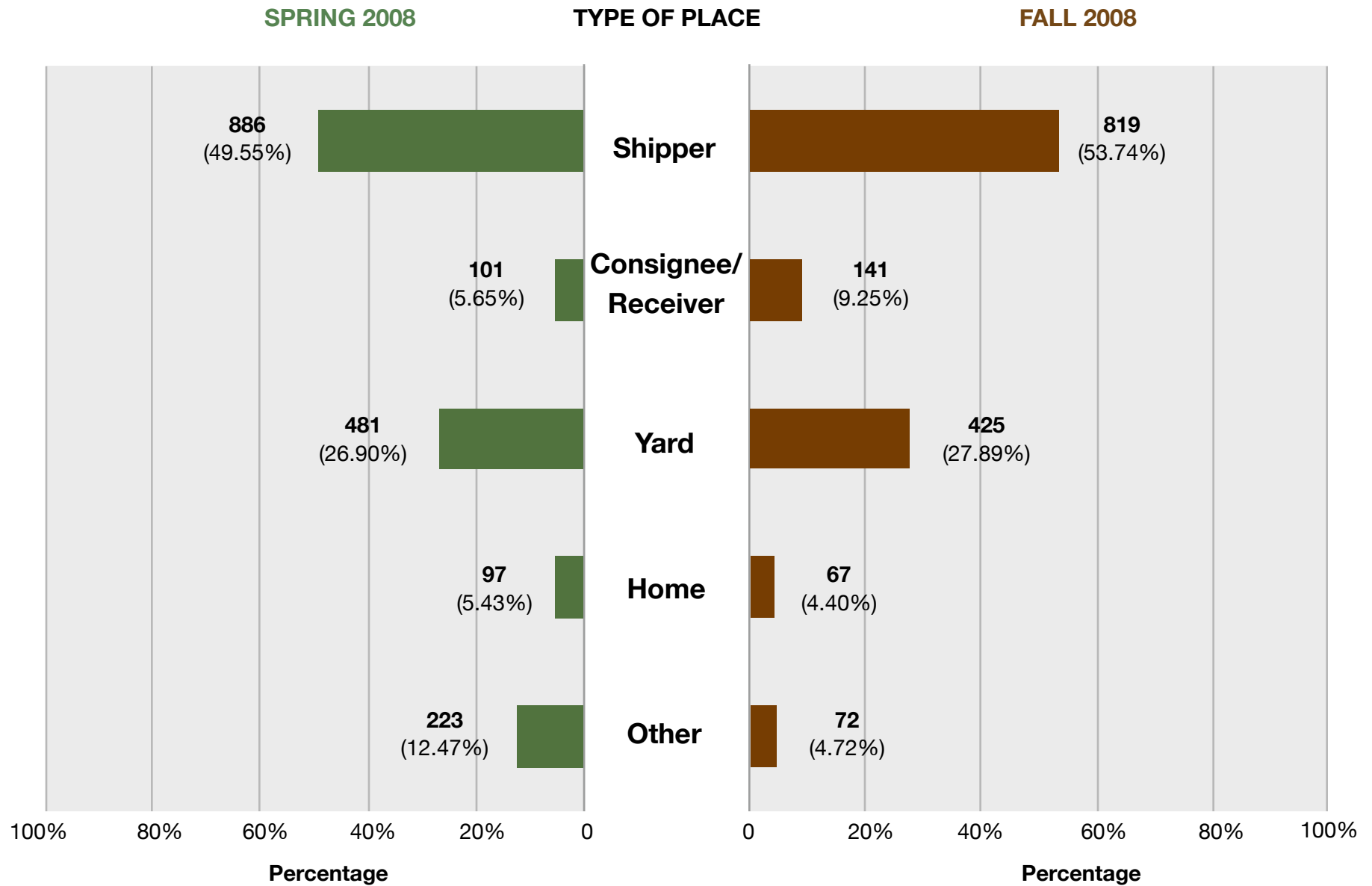
**Table 4-41 Place of Origin**  
**CHP EASTBOUND**





**Table 4-42 Place of Origin**

**CHP WESTBOUND**



## 4.5 Truck Destination Location

Question 6 of the truck intercept survey asks the drivers where they will end this leg of the trip. Although the final destination of the goods being transported would be useful to know, the truck drivers' knowledge of this information is very limited, especially as the logistics includes multiple transfer points. Typically, the drivers are provided with origin and destination of his particular leg of the trip and information of ultimate goods destination is not shared with the drivers. The survey records the city and the state based on driver's response.

Of the 6,042 surveys conducted during the Spring season, 5,913 valid responses were recorded yielding a question response rate of 97.86%. The following provides a statistical summary by location and direction:

**Table 4-43: Statistical Summary of Question 6 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,016	98.16%
	WB	1,579	1,549	98.10%
CHP Weigh Station	EB	1,629	1,578	96.87%
	WB	1,799	1,770	98.39%
Total		6,042	5,913	97.86%

Of the 5,295 surveys conducted during the Fall period, 5,183 valid responses were recorded yielding a question response rate of 97.8%. The following provides a statistical summary by location and direction:

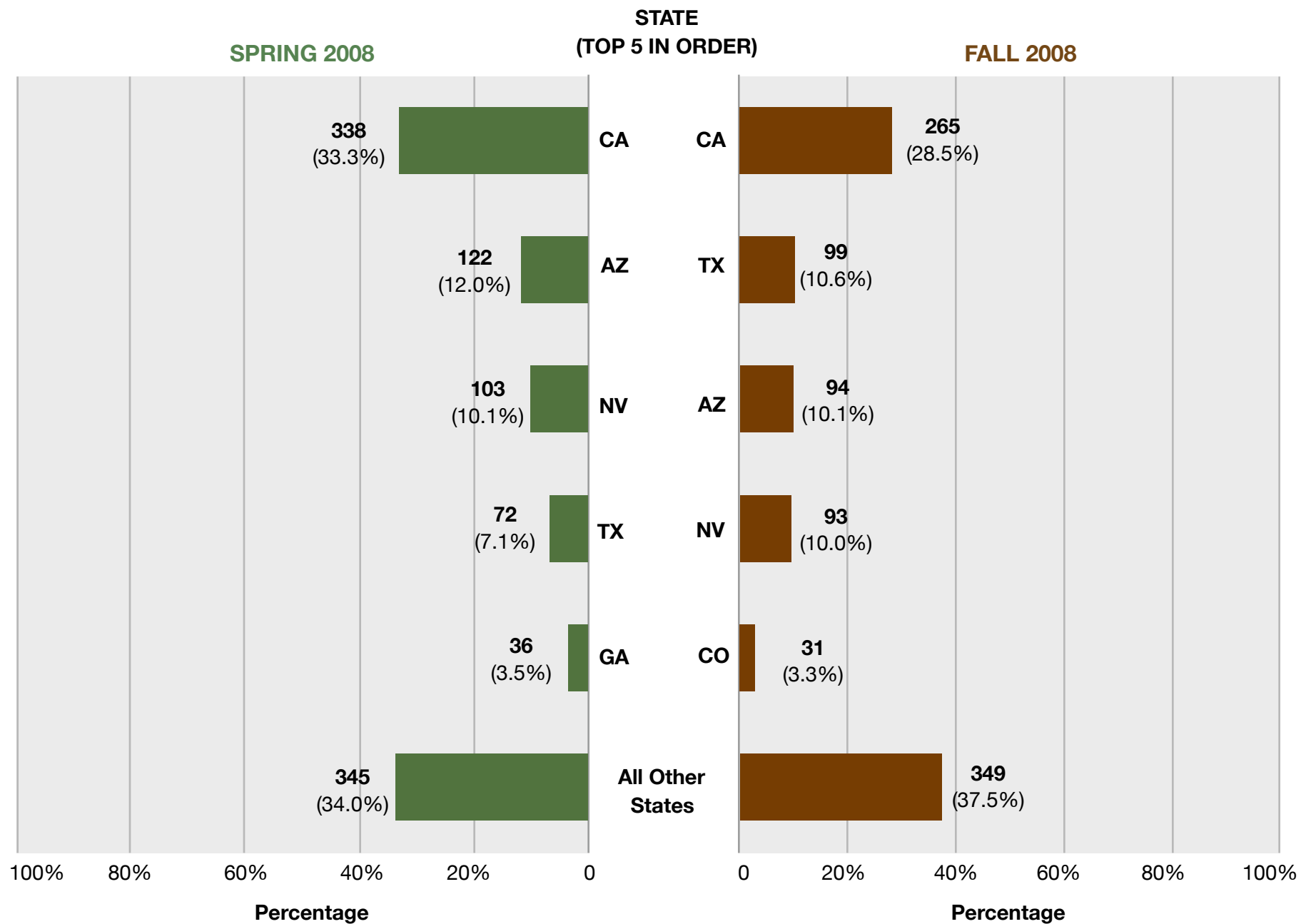
**Table 4-44: Statistical Summary of Question 6 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	926	96.16%
	WB	1,219	1,206	98.93%
CHP Weigh Station	EB	1,572	1,522	96.82%
	WB	1,541	1,529	99.22%
Total		5,295	5,183	97.88%

Based on the survey data collected, Tables 4-45, 4-46, 4-47 and 4-48 summarize the results of the truck destination (by state) for each survey respondent at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The summary by state shows that in the westbound direction (both Boron and CHP sites) an overwhelming percent of trucks end their trips within California. In contrast, the survey results for the eastbound direction (Boron and CHP) shows a much lower percentage of trips ending within California. The following list of states represent the most frequent responses for truck destinations outside of California.

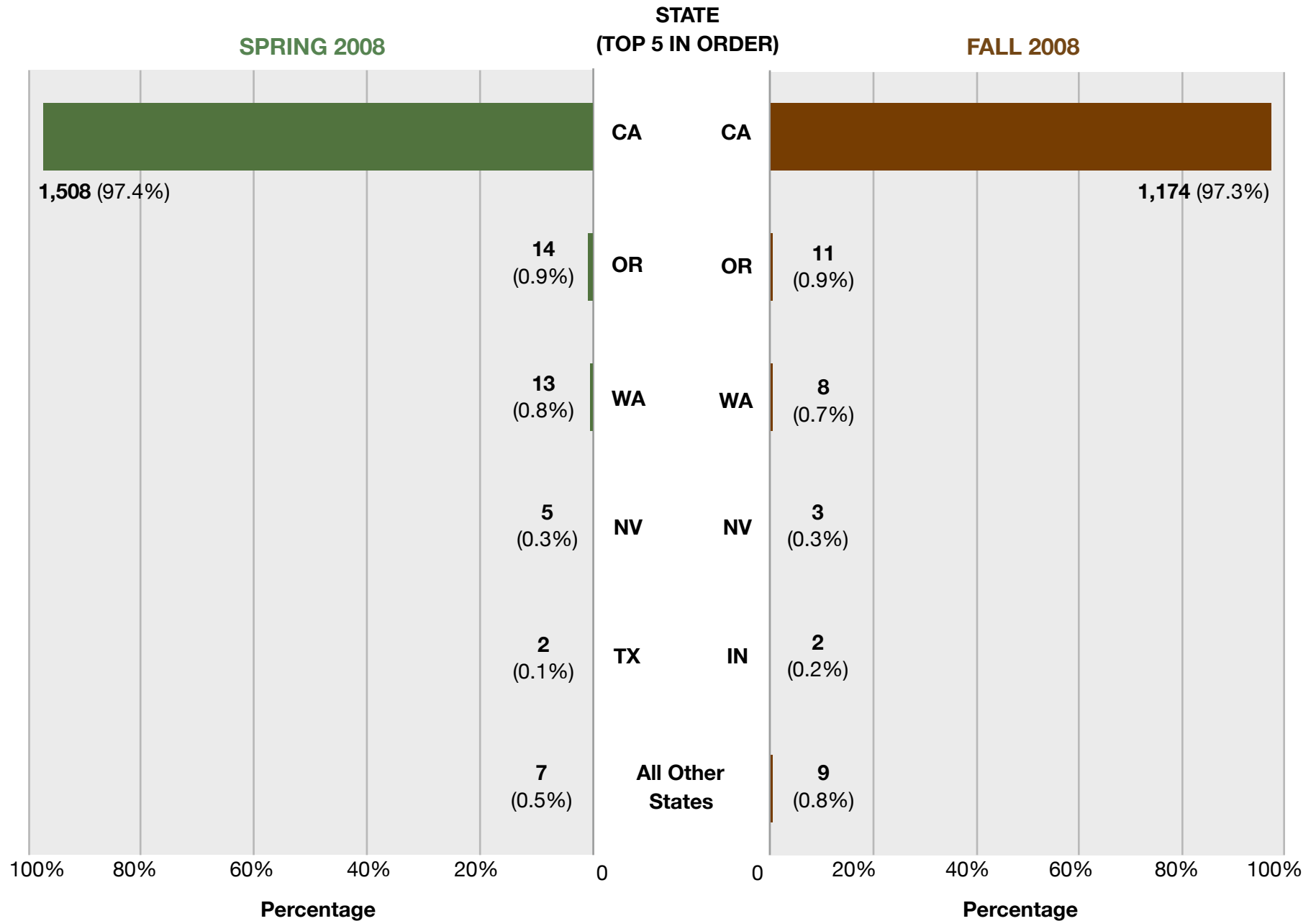
- Arizona
- Texas
- Nevada
- Georgia
- Colorado
- Florida

**Table 4-45 Truck Trip Destination By State  
BORON EASTBOUND**



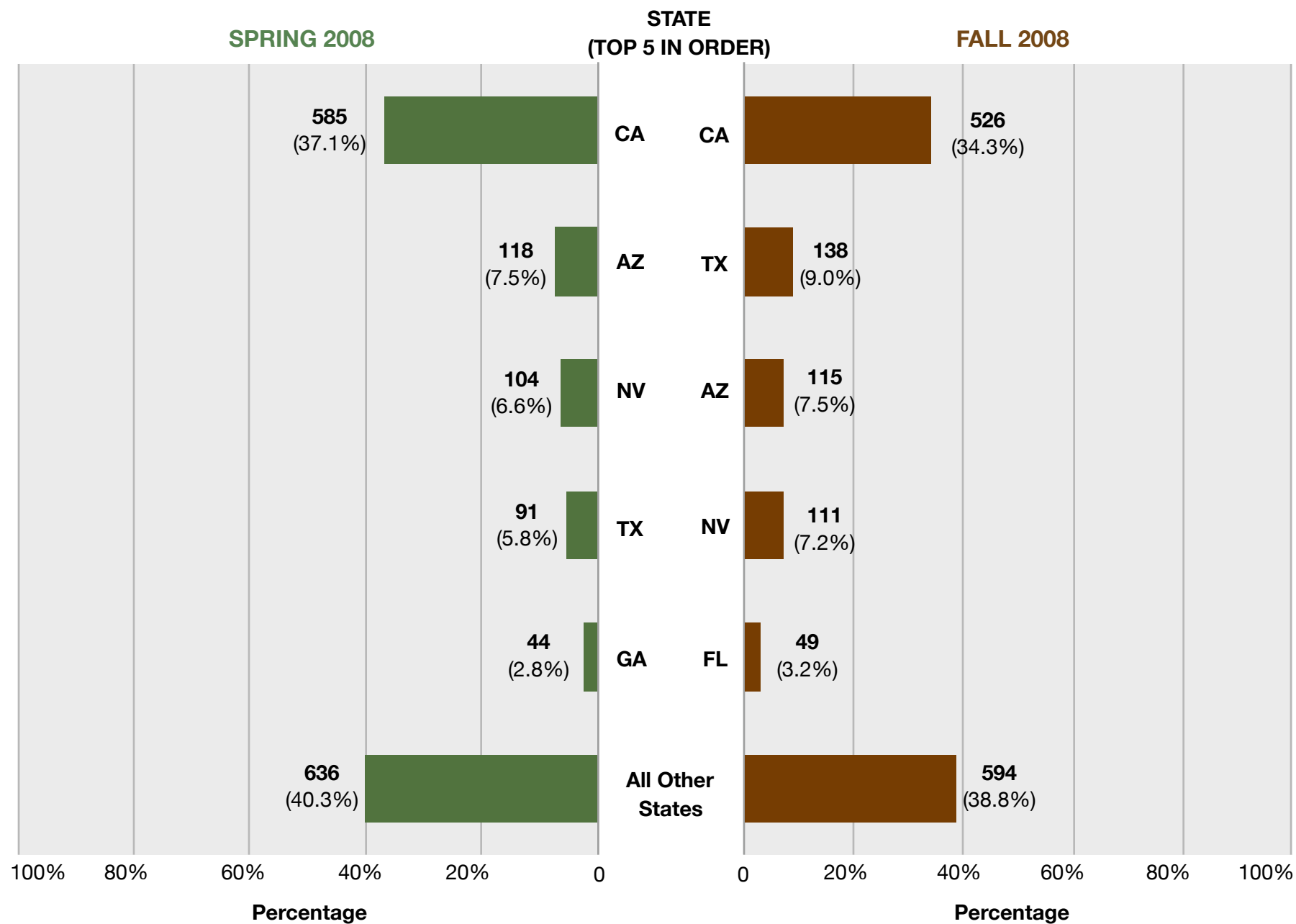
**Table 4-46 Truck Trip Destination By State**

**BORON WESTBOUND**



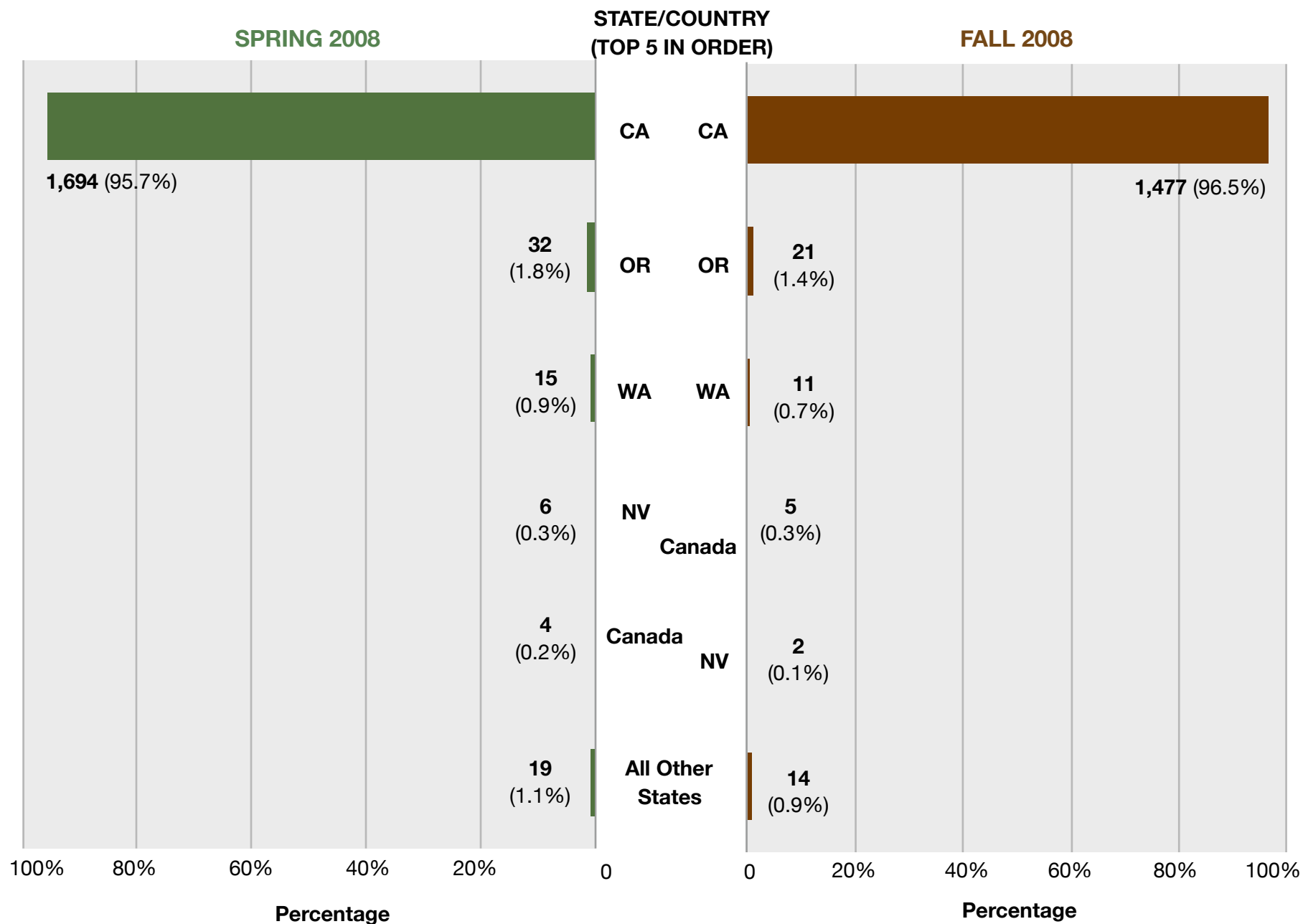
# Table 4-47 Truck Trip Destination By State

CHP EASTBOUND



# Table 4-48 Truck Trip Destination By State

CHP WESTBOUND





Based on the survey data collected, Tables 4-49, 4-50, 4-51 and 4-52 summarize the results surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively, by regions of California.

The summary by region shows that the within California, the final destination of majority (63.4%) of trucks surveyed in the eastbound direction (Boron and CHP) is the Southern California region, followed by the San Joaquin Valley Region. This pattern is consistently observed between both the spring and fall seasons with no noticeable variance.

In the westbound direction (Boron and CHP), the final destination of majority (67.1%) of trucks surveyed is the San Joaquin Valley Region followed by the Bay Area. This pattern is consistently observed between the spring and fall seasons with no noticeable variance.

Based on the survey data collected, Tables 4-53, 4-54, 4-55 and 4-56 summarize the response by county for each survey respondent at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively.

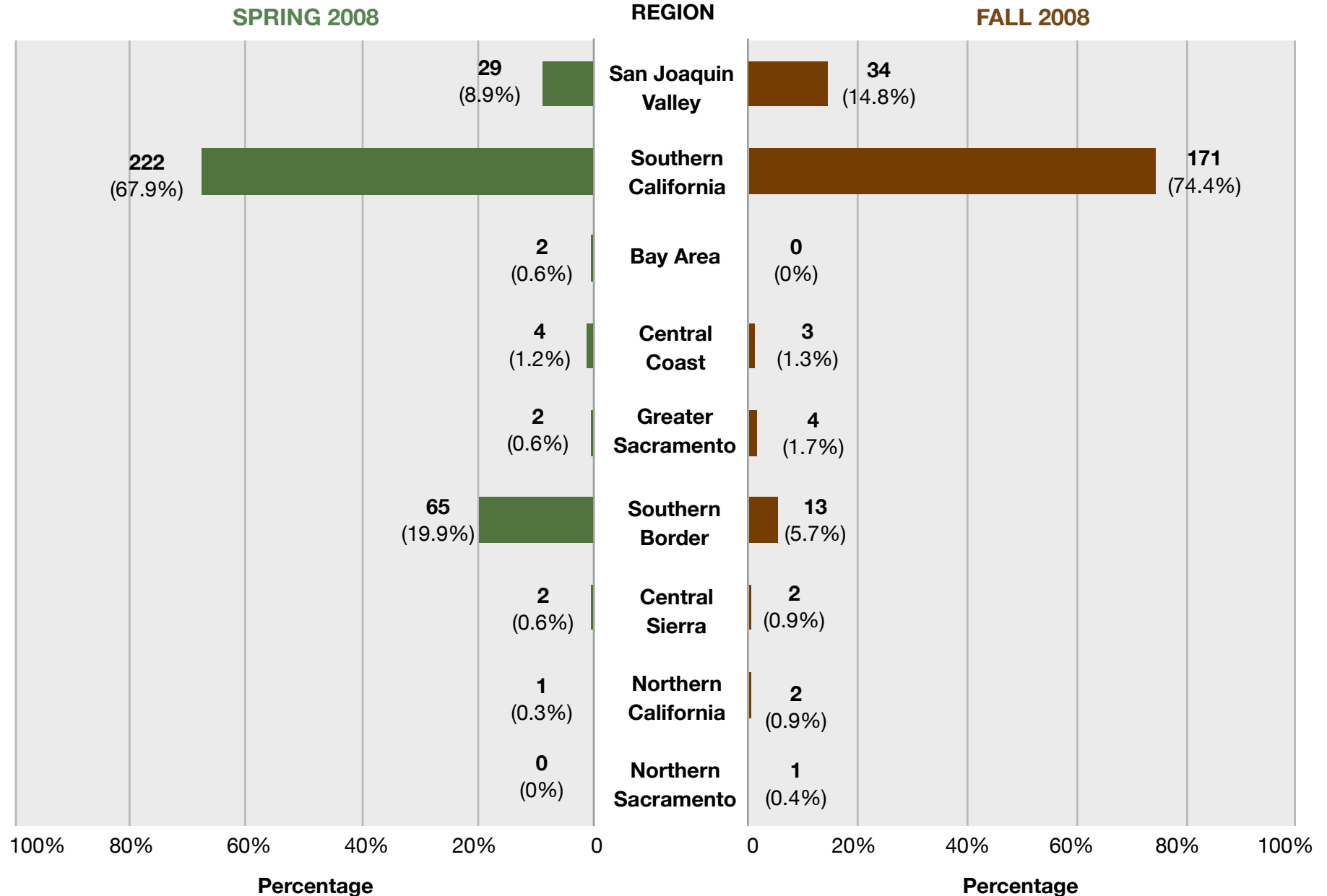
The summary by county provides a list of the top five counties based on percentage of response. The location of the survey and seasonality influences the ordering of the top five, but the results show that most trucks are based in one of the following counties:

- Kern County
- Fresno County
- San Bernardino County
- San Joaquin County
- Los Angeles County
- Tulare County
- Riverside County
- Monterey County
- Imperial County

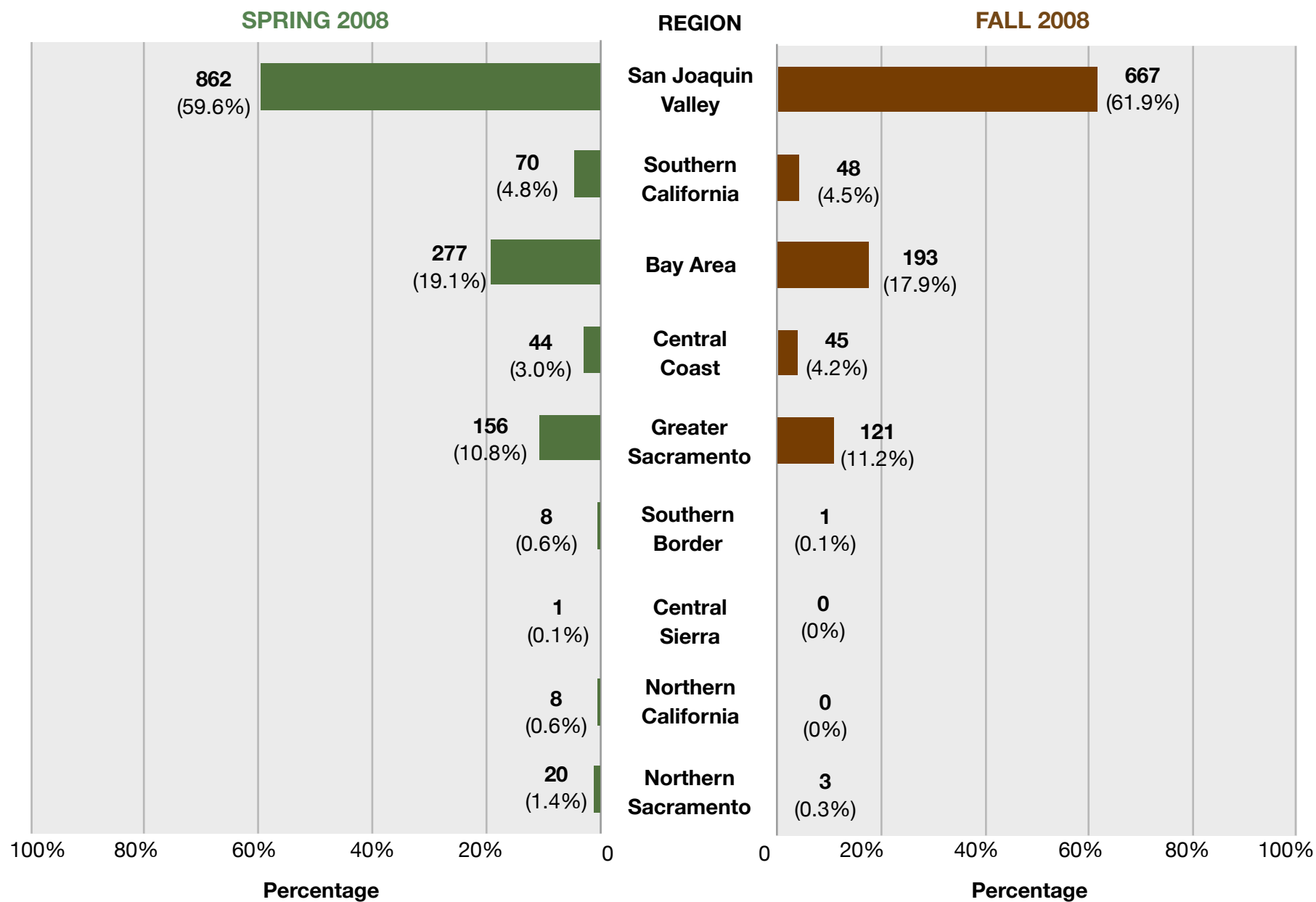
The detailed survey responses are provided in Appendix H.

**Table 4-49 Truck Trip Destination By Region**

**BORON EASTBOUND**

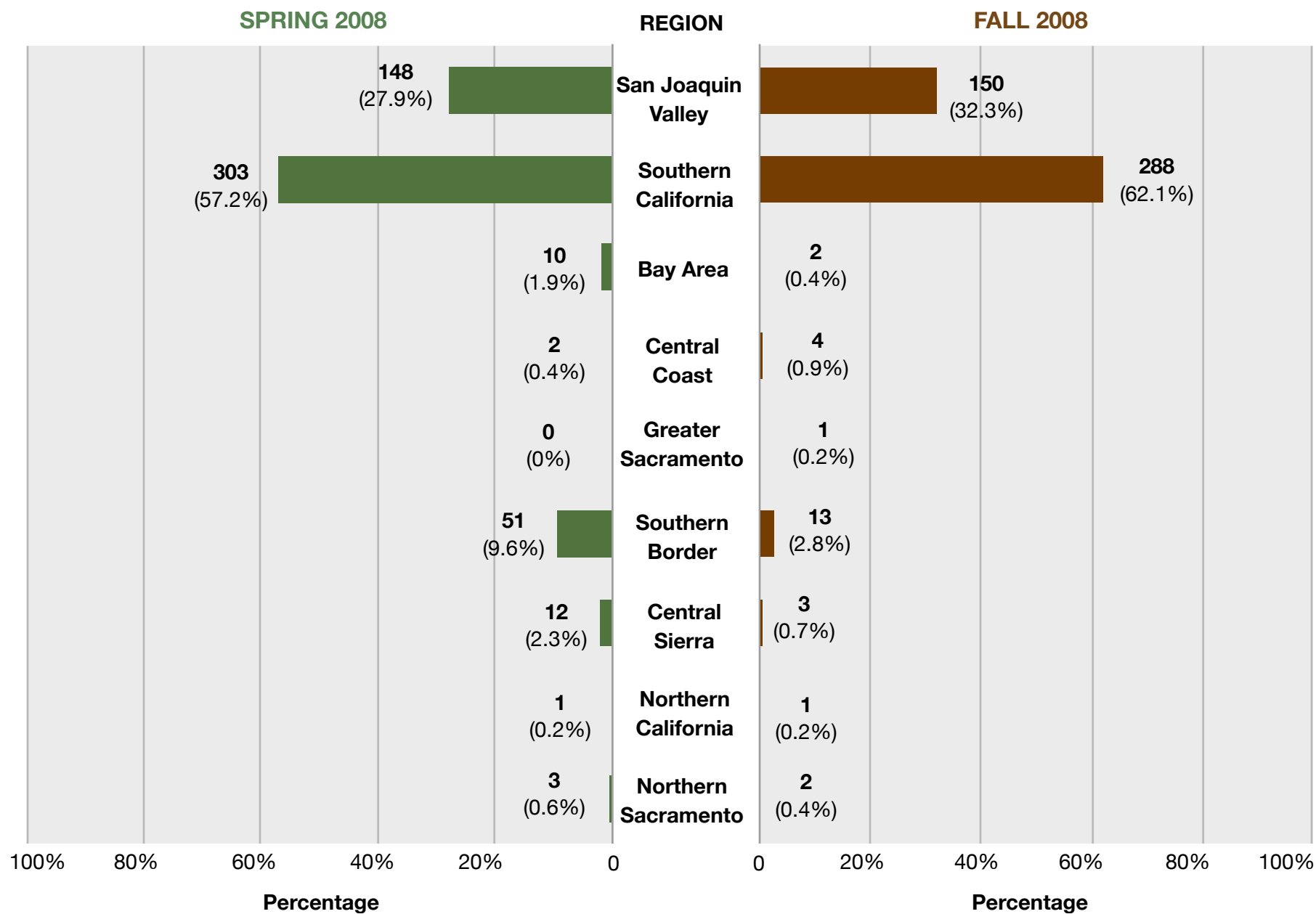


**Table 4-50 Truck Trip Destination By Region**  
**BORON WESTBOUND**



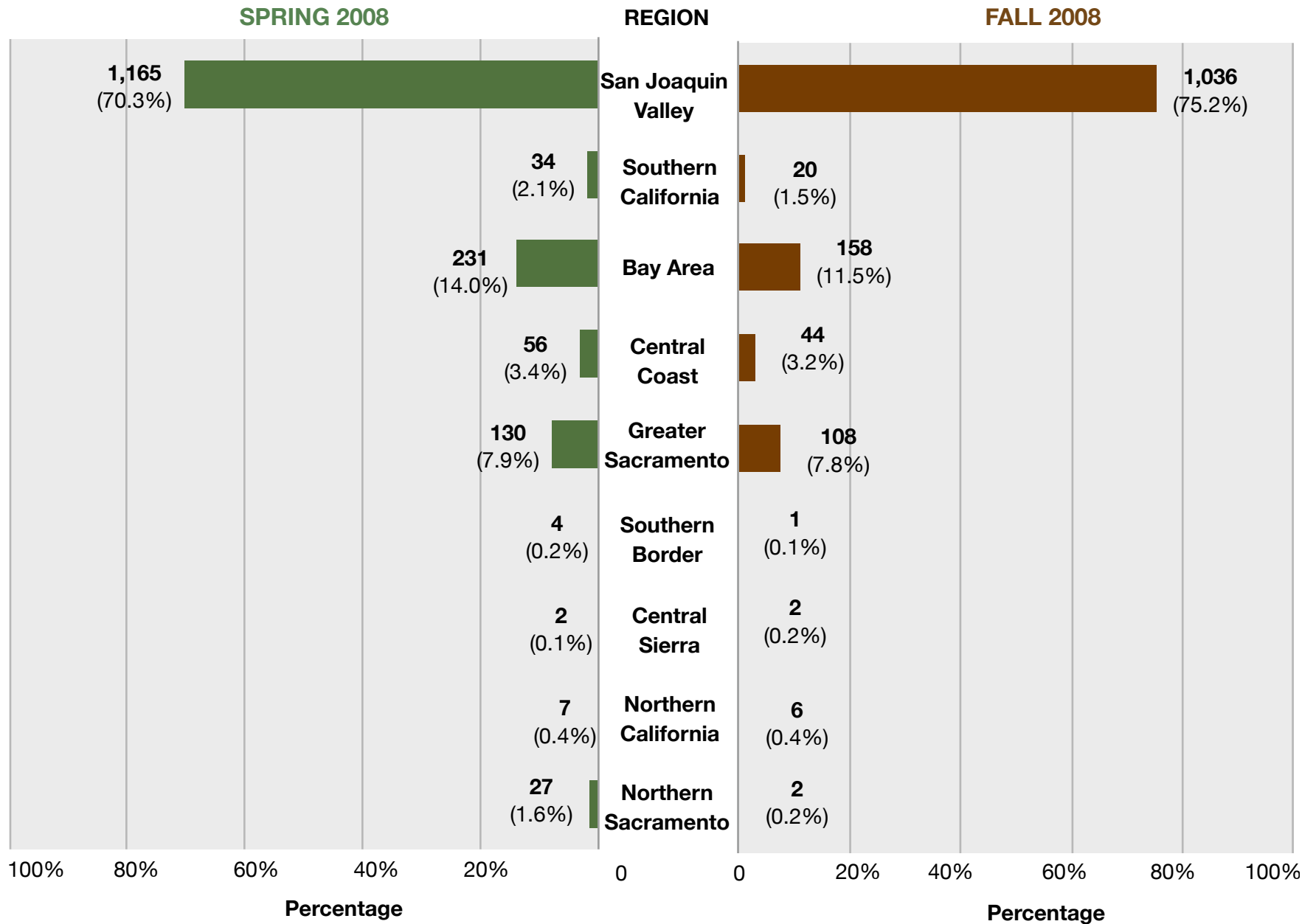
**Table 4-51 Truck Trip Destination By Region**

**CHP EASTBOUND**

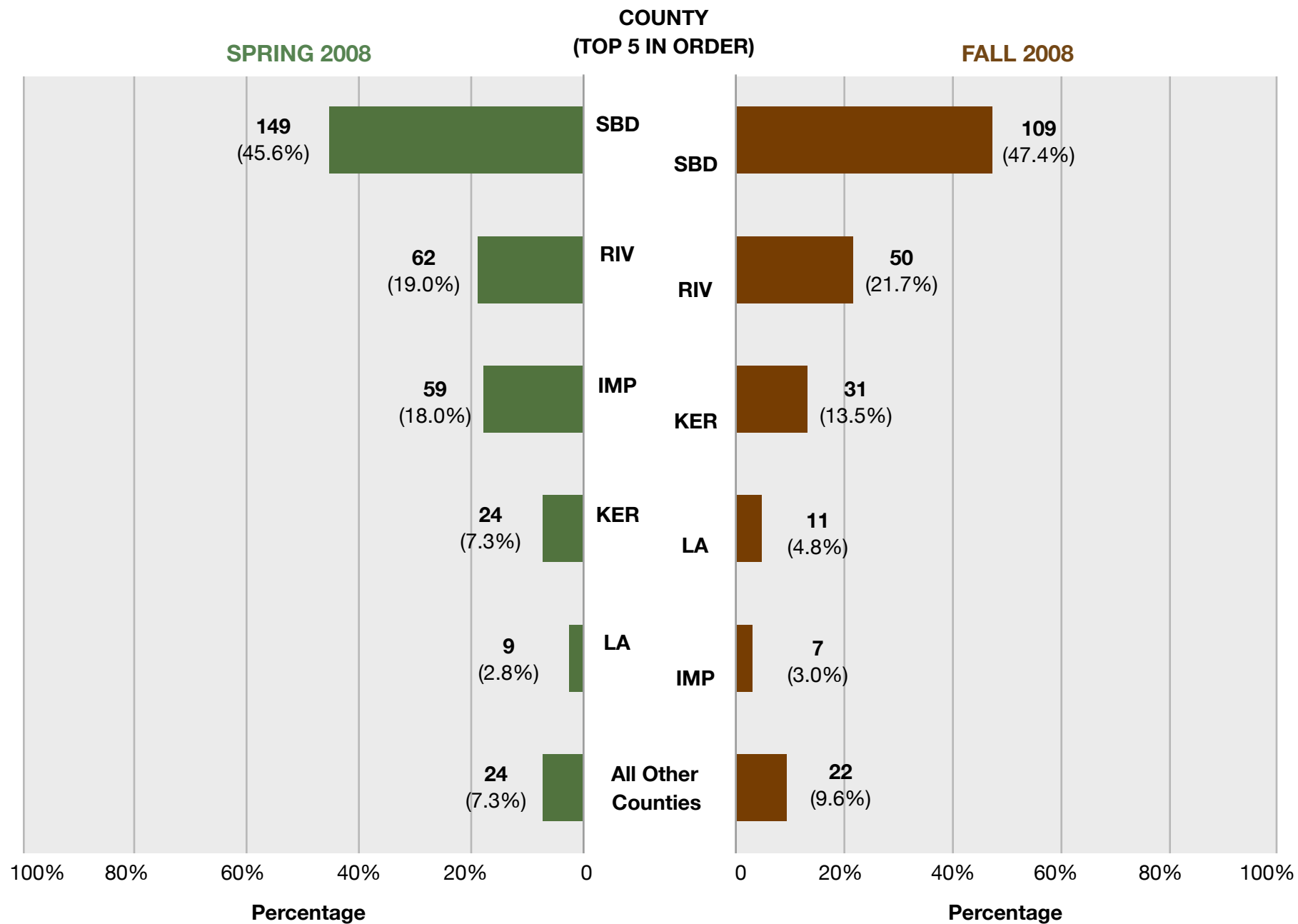


**Table 4-52 Truck Trip Destination By Region**

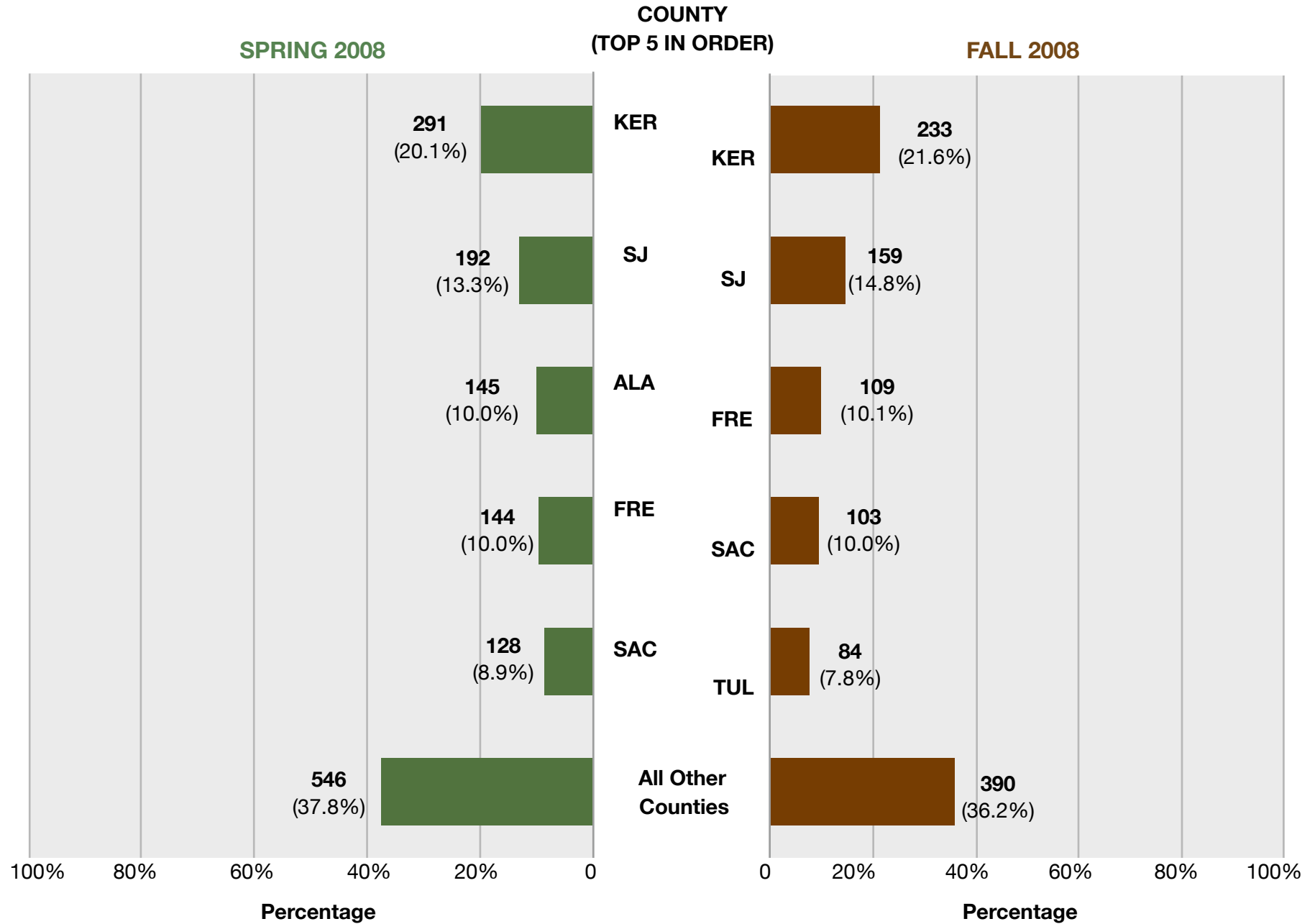
**CHP WESTBOUND**



**Table 4-53 Truck Trip Destination By County**  
**BORON EASTBOUND**

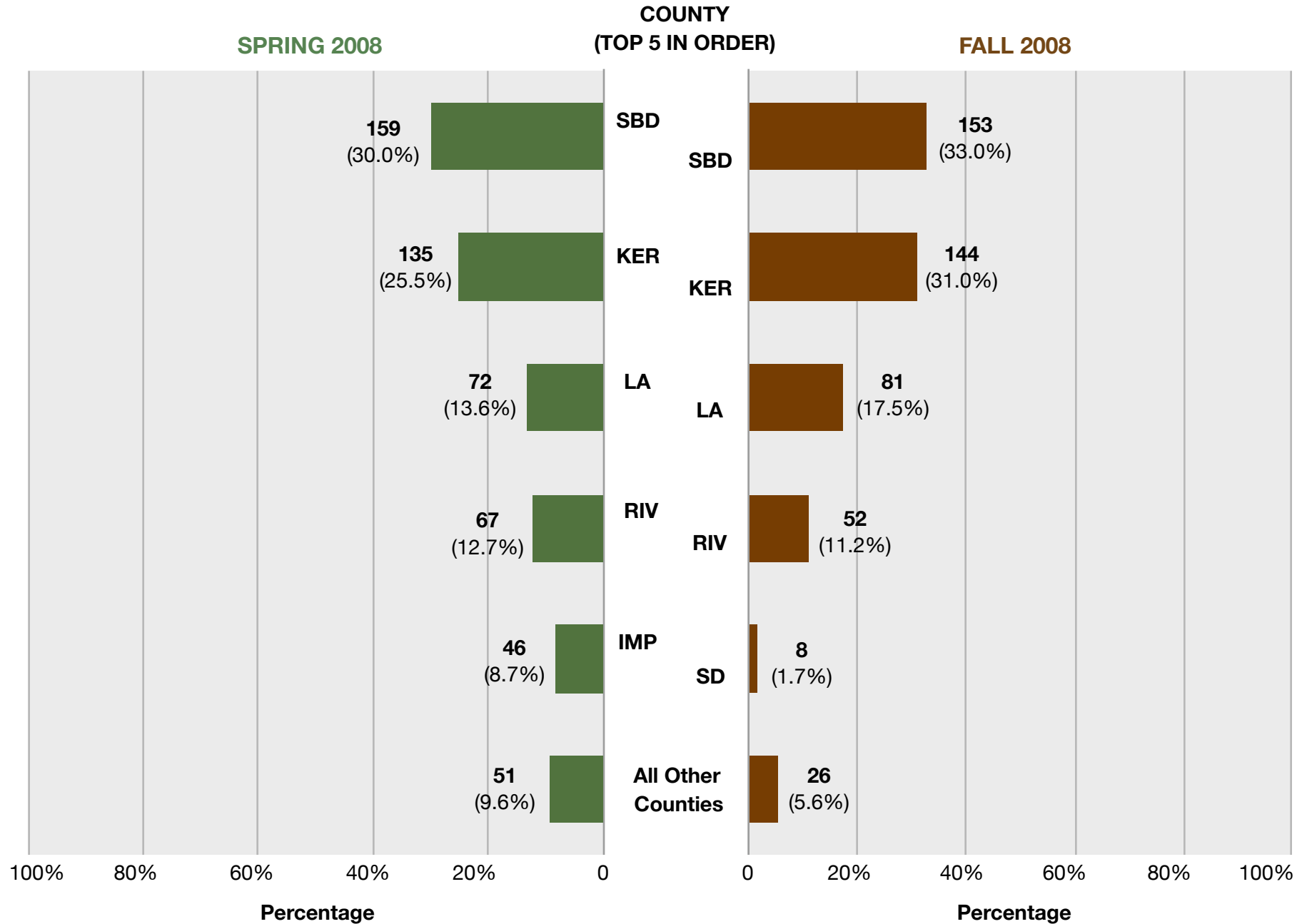


**Table 4-54 Truck Trip Destination By County**  
**BORON WESTBOUND**

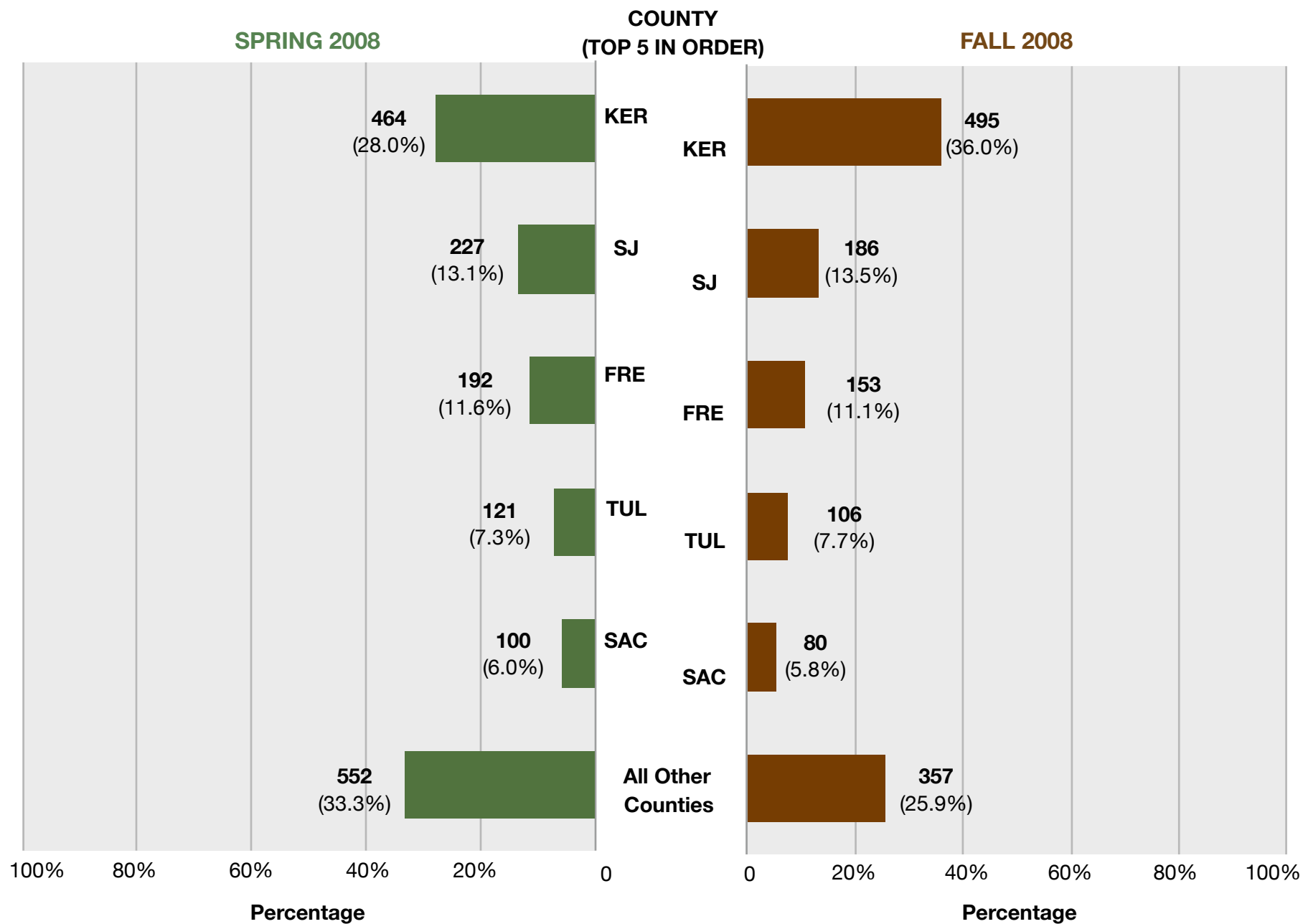




**Table 4-55 Truck Trip Destination By County**  
**CHP EASTBOUND**



**Table 4-56 Truck Trip Destination By County**  
**CHP WESTBOUND**



## 4.6 Place of Destination

Question 7 of the truck intercept survey asked the drivers to identify the type of place where they would end the current leg of their trip. The survey records the following:

- Shipper – the location where goods originate. Example includes: manufacturing plant, distribution center, processing plant and production point.
- Consignee/Receiver – the location where goods are delivered. Example includes: distribution center, manufacturing plant and retail store.
- Yard – the place where trucks are stored and dispatched from.
- Home – the residence of the truck driver. This can also be the point of dispatch for independent truck owners.
- Other

Of the 6,042 surveys conducted during the Spring season, 5,591 valid responses were recorded yielding a question response rate of 92.54%. The following provides a statistical summary by location and direction:

**Table 4-57: Statistical Summary of Question 7 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	944	91.21%
	WB	1,579	1,399	88.60%
CHP Weigh Station	EB	1,629	1,551	95.21%
	WB	1,799	1,697	94.33%
Total		6,042	5,591	92.54%

Of the 5,295 surveys conducted during the Fall season, 5,178 valid responses were recorded yielding a question response rate of 97.79%. The following provides a statistical summary by location and direction:

**Table 4-58: Statistical Summary of Question 7 Responses (Fall)**

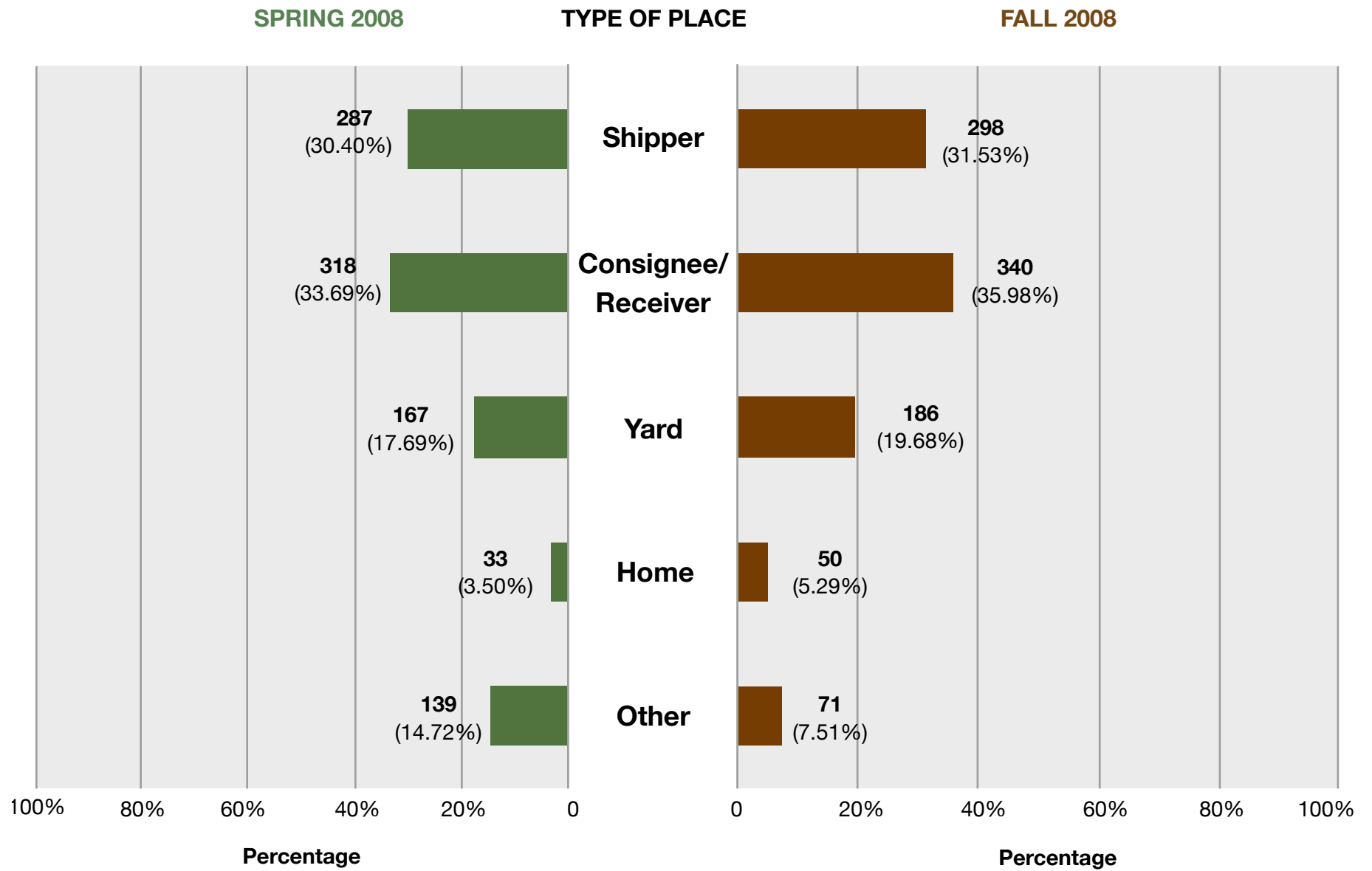
Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	945	98.13%
	WB	1,219	1,194	97.95%
CHP Weigh Station	EB	1,572	1,535	97.65%
	WB	1,541	1,504	97.60%
Total		5,295	5,178	97.79%

Based on the data collected, Tables 4-59, 4-60, 4-61 and 4-62 summarizes the results at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The summary shows the following breakdown:

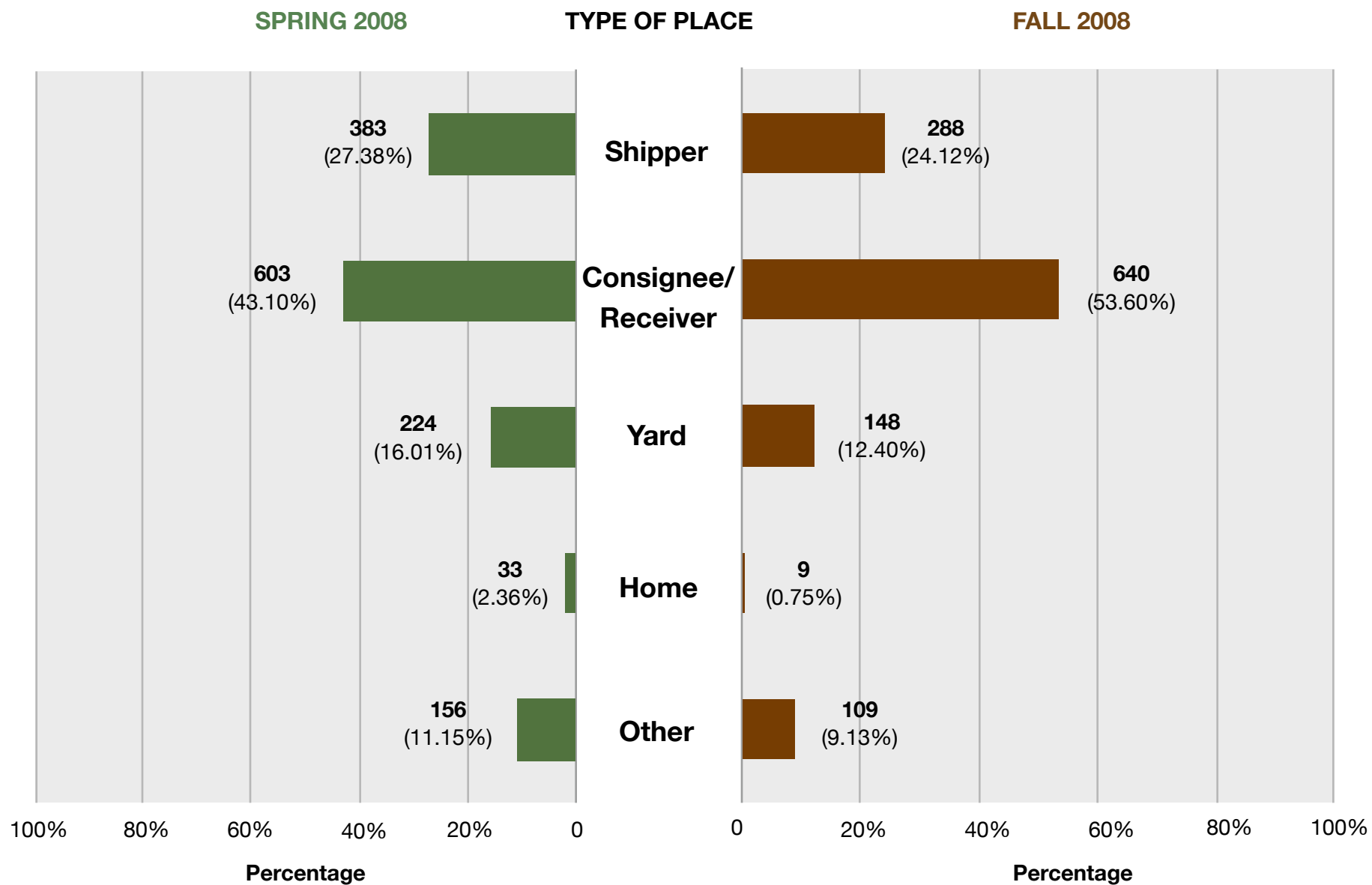
- Consignee/Receiver – 39.4%
- Yard – 19% (this suggests deliveries of raw materials to a plant/processing center)
- Home – 3.5% (this suggests an independent truck driver headed home with a loaded truck)
- Shipper – 26.7% (based on cross-tabulation of commodity replies, a fair number are actually empty-trucks going to a shipper for a pickup)
- Other – 11.4%

The detailed survey responses are provided in Appendix I.

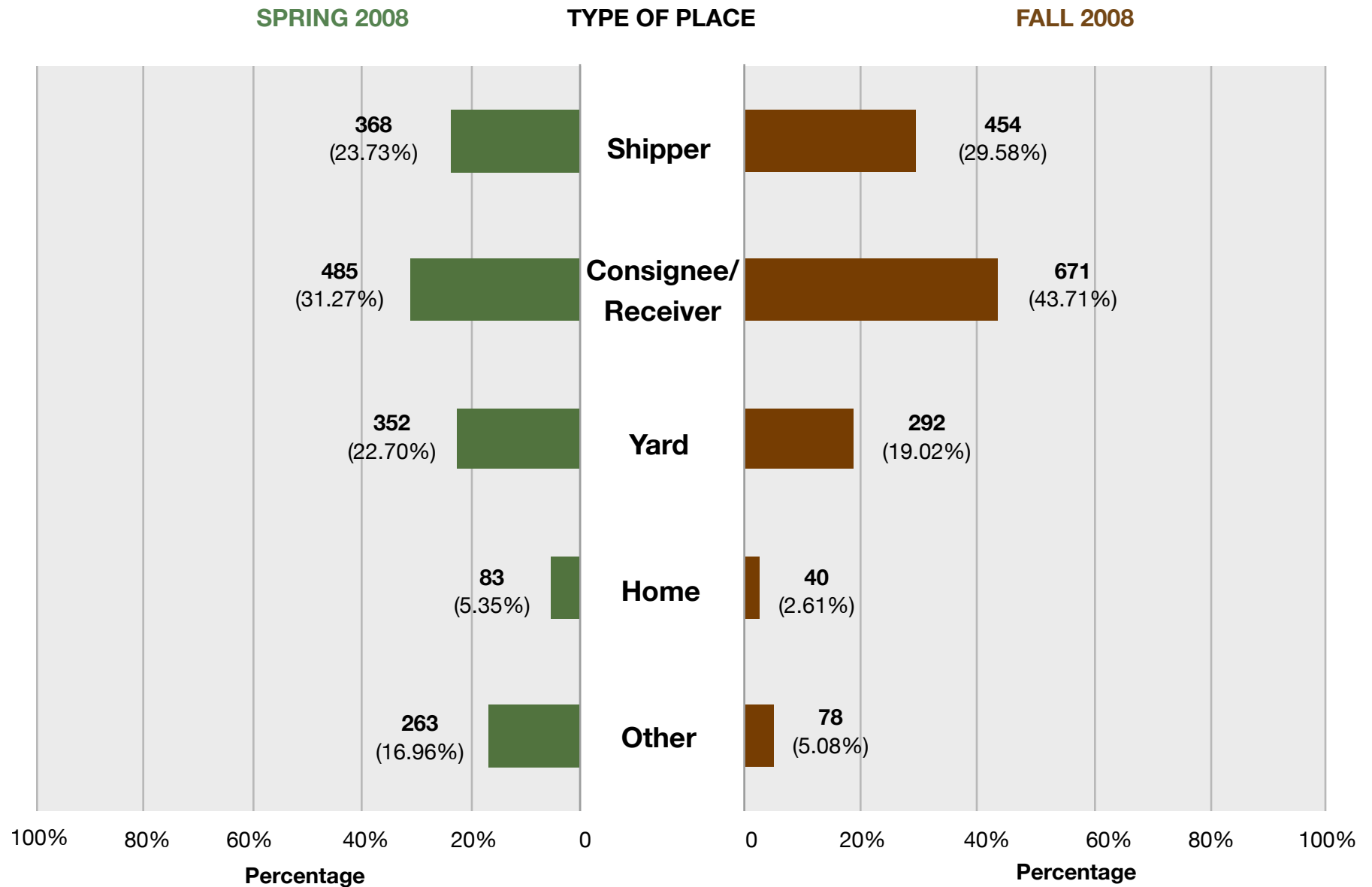
**Table 4-59 Place of Destination**  
**BORON EASTBOUND**



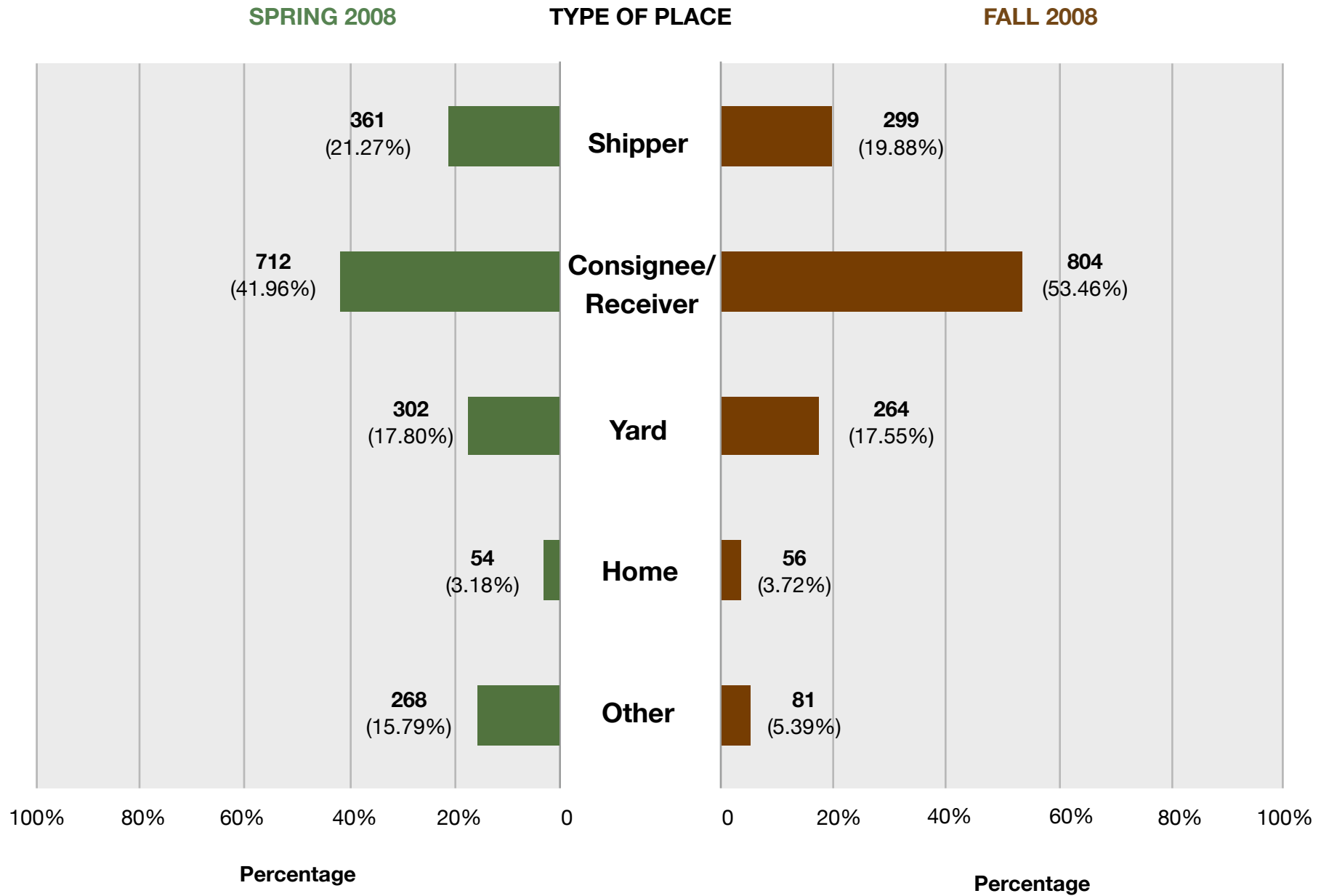
**Table 4-60 Place of Destination  
BORON WESTBOUND**



**Table 4-61 Place of Destination**  
**CHP EASTBOUND**



**Table 4-62 Place of Destination**  
**CHP WESTBOUND**





## 4.7 Truck Flow Patterns

Data from the Spring and Fall surveys were combined to analyze the overall patterns of truck flows eastbound and westbound over SR-58.

Table 4-63 shows the major destination states for eastbound flows. Over a third of all eastbound trips (35%) originating in California stayed in the state. The neighboring states of Arizona and Nevada were the next most common destinations, followed by Texas. The volumes to other states drop off dramatically, with none accounting for more than 3% and most less than 2%.

**Table 4-63: Eastbound Destination States**

Origin	Trips	%	Cumulative Share
CA	1734	35%	35%
AZ	450	9%	44%
NV	399	8%	51%
TX	396	8%	59%
GA	138	3%	62%
FL	121	2%	65%
UT	121	2%	67%
CO	117	2%	69%
OH	107	2%	71%
All Others	1433	29%	100%
<b>Total</b>	<b>5016</b>	<b>100%</b>	<b>100%</b>

Figure 4-4 displays the pattern geographically, with darker green shading indicating larger trip volumes. The pattern suggests that Utah and New Mexico might account for larger volumes if they had larger markets (greater population).

Figure 4-4 : Eastbound Destination Map

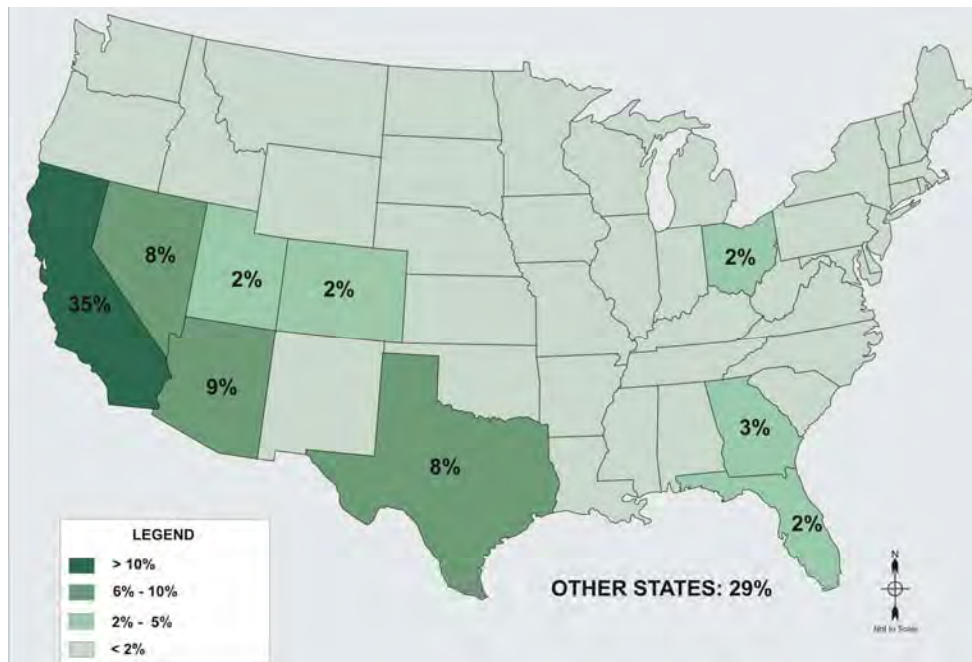


Table 4-64 provides data on origin states of westbound flows. Here too, California itself is the most important origin at 35%. The next states are Arizona, Texas, and Nevada – a different order than in due most likely to the larger agricultural production in Arizona and Texas compared to Nevada. There is a slightly wider spread of origin states compared to Table 4-63 and a 25% larger total. California as a state is a net consumer, and that tendency is reflected in

**Table 4-64: Westbound Origin States**

Origin	Trips	%	Cumulative Share
CA	2242	37%	37%
AZ	643	11%	48%
TX	569	9%	57%
NV	407	7%	64%
UT	183	3%	67%
OK	156	3%	70%
GA	154	3%	72%
TN	142	2%	75%
AR	127	2%	77%
MO	124	2%	79%
NM	121	2%	81%
NC	98	2%	82%
All Others	1057	18%	100%
<b>Total</b>	<b>6023</b>	<b>100%</b>	<b>100%</b>

Figure 4-5 provides the same data in geographic format and shows a close correspondence with Figure 4-4.

Figure 4-5: Westbound Origin Map

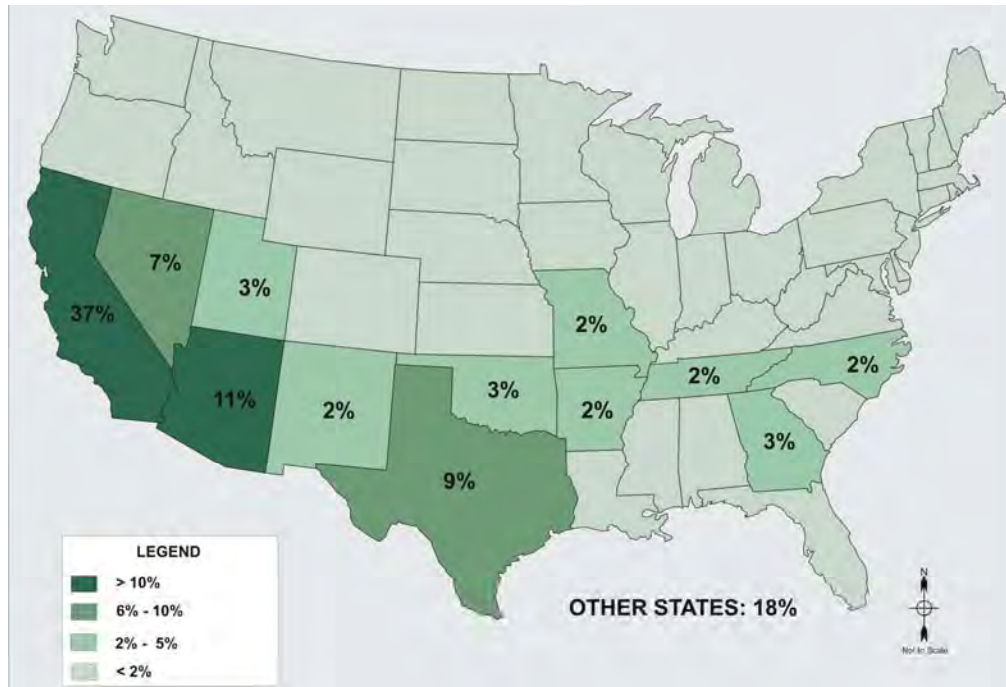
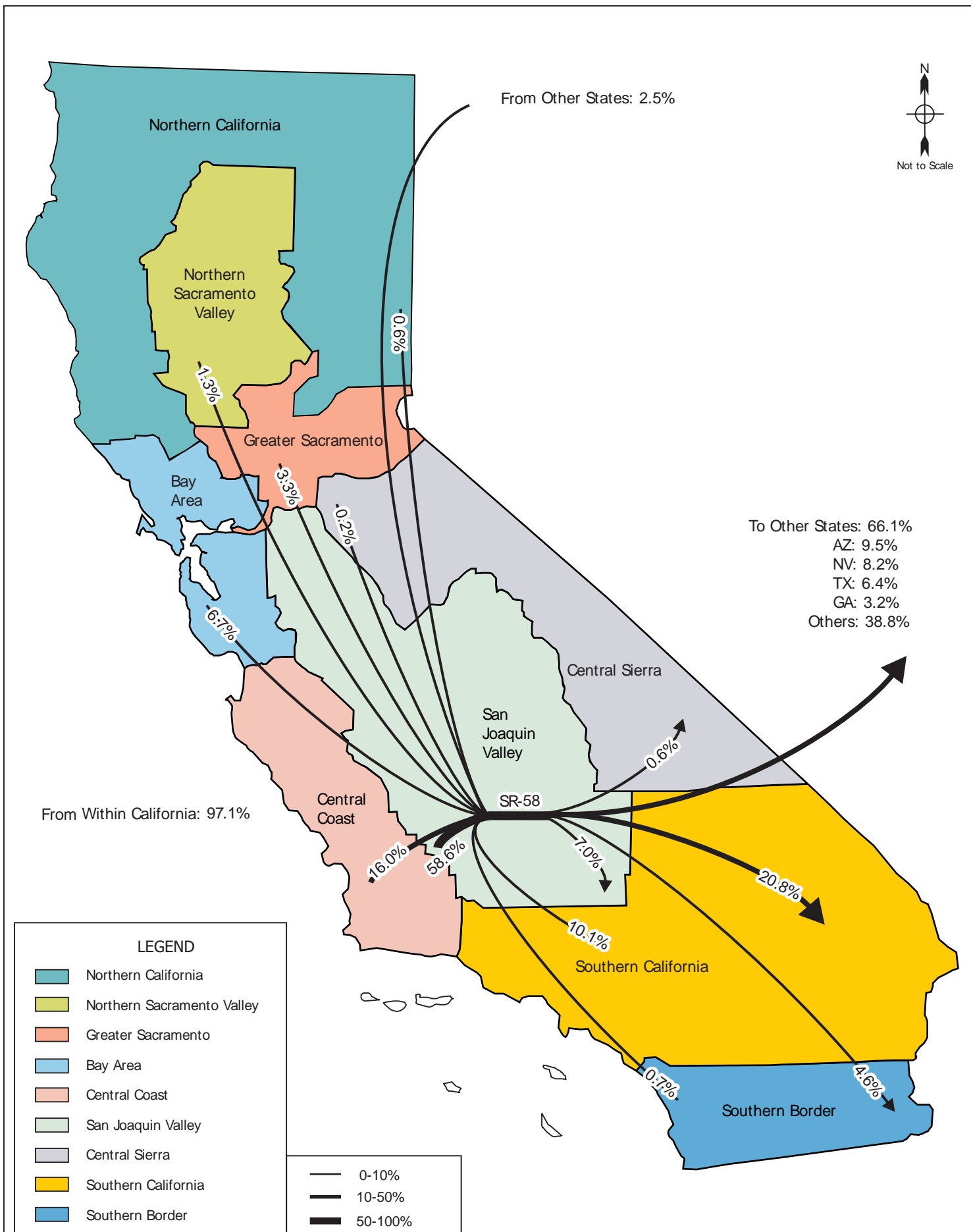
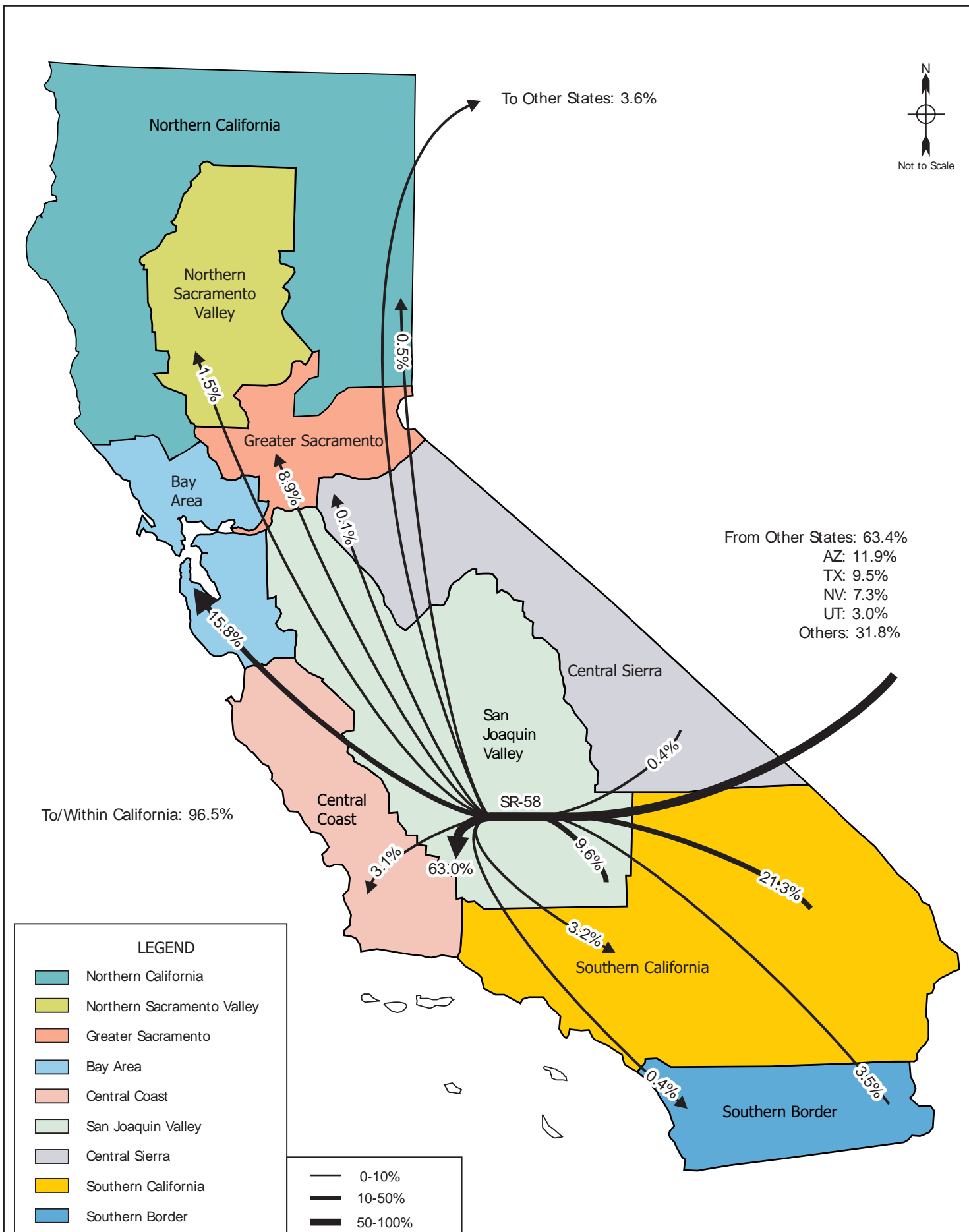


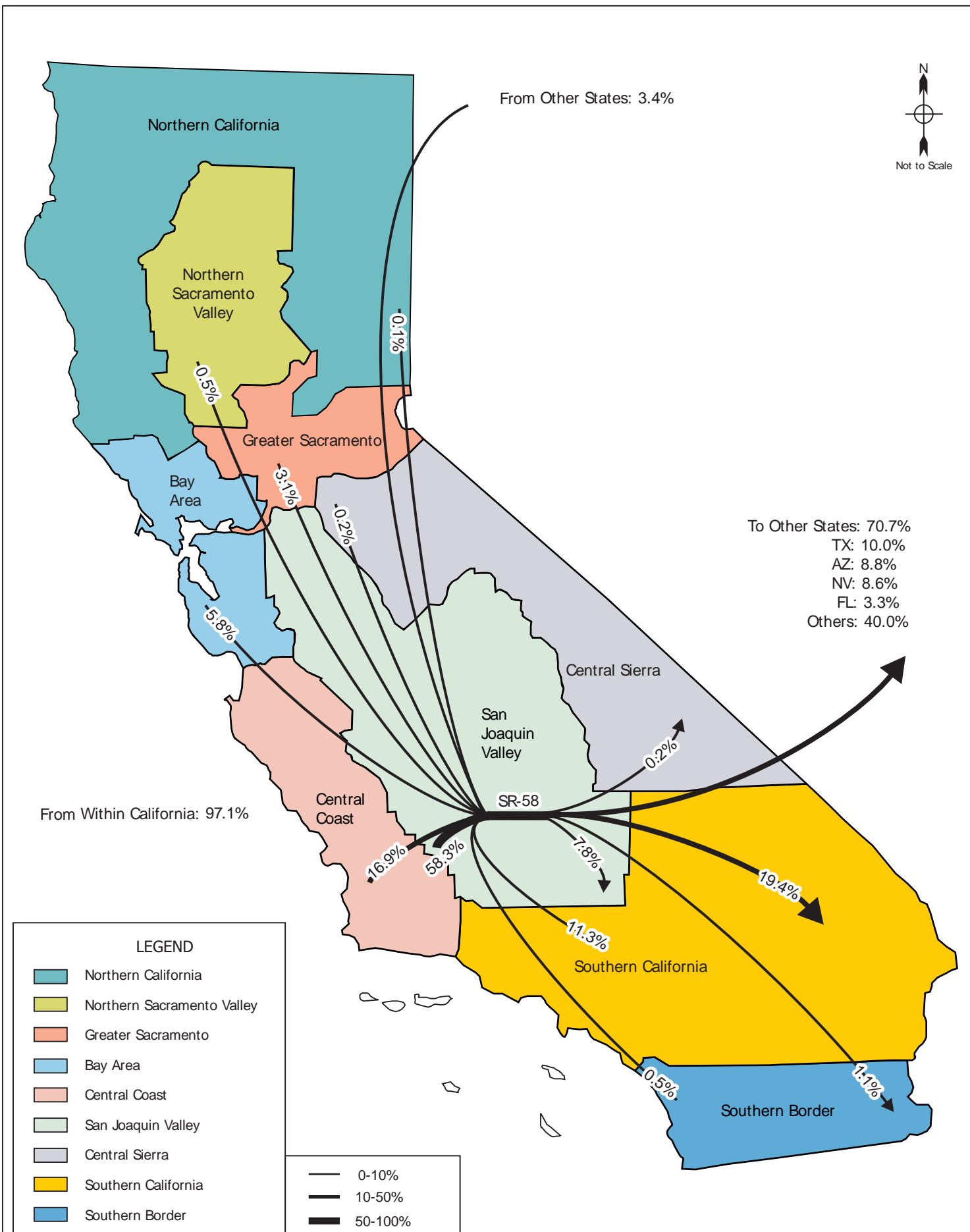
Figure 4-6 and 4-7 summarize the Spring season eastbound and westbound trip patterns within California (region to region), respectively. Figures 4-8 and 4-9 summarize the Fall season eastbound and westbound trip patterns within California (region to region), respectively.

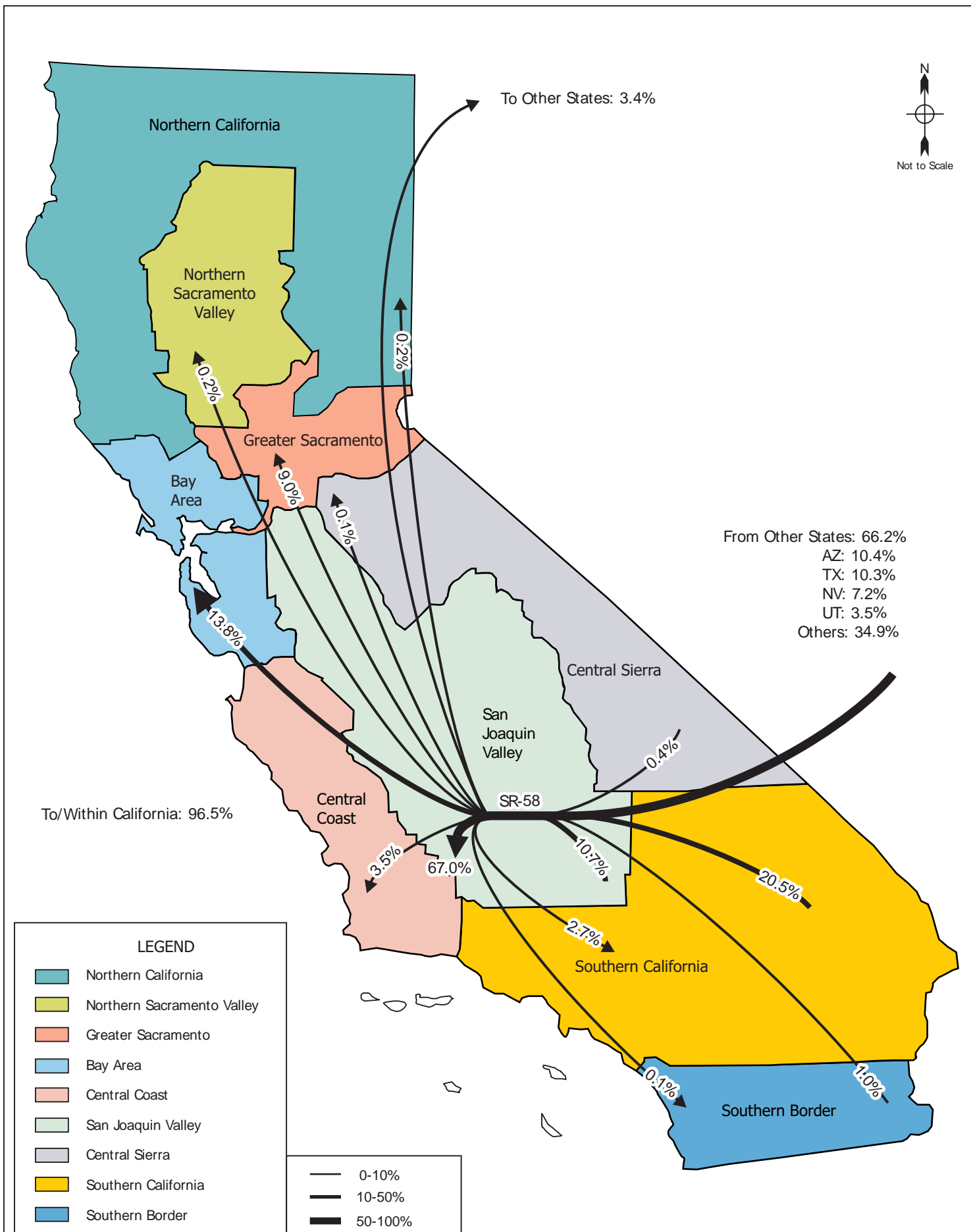
Generally, the trip distribution patterns between the spring and fall seasons are similar with only slight seasonal variations. In the eastbound direction, the majority of trips originate from within California with a large percentage from the San Joaquin Valley Region. Of the total trips, the majority are destined for other states outside of California. Of those trips that are destined for regions within California, the majority are bound for the Southern California Region.

In the westbound direction, the majority of trips originate from other states outside of California. Of those trips that originate from within California, the majority are from the Southern California Region. The results show that the majority of westbound trips are destined for areas within California with a large percentage to the San Joaquin Valley Region.











## 4.8 Travel Routes

Questions 5 and 8 of the truck intercept survey asked drivers what route they took to get to SR-58 and the route they are planning to take from SR-58, respectively. The survey provided a list of major route options for the driver along with an option for the driver to fill in an option not provided on the list.

### Origin Route

Of the 6,042 surveys conducted during the Spring period, 5,591 valid responses were recorded yielding a question response rate of 92.54%. The following provides a statistical summary by location and direction:

**Table 4-65: Statistical Summary of Question 7 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	944	91.21%
	WB	1,579	1,399	88.60%
CHP Weigh Station	EB	1,629	1,551	95.21%
	WB	1,799	1,697	94.33%
Total		6,042	5,591	92.54%

Of the 5,295 surveys conducted during the Fall period, 5,166 valid responses were recorded yielding a question response rate of 97.56%. The following provides a statistical summary by location and direction:

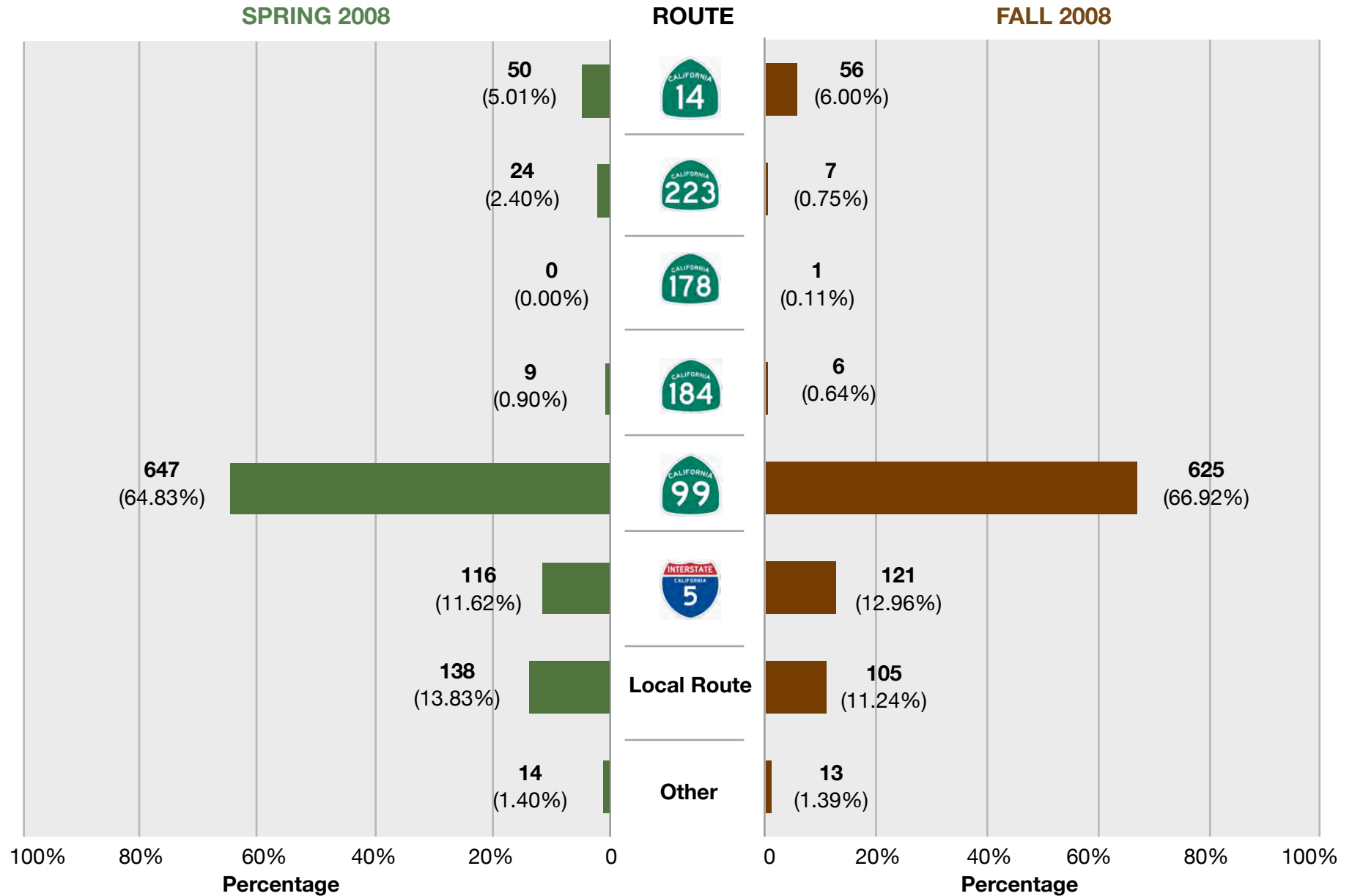
**Table 4-66: Statistical Summary of Question 7 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	934	96.99%
	WB	1,219	1,206	98.93%
CHP Weigh Station	EB	1,572	1,543	98.16%
	WB	1,541	1,483	96.24%
Total		5,295	5,166	97.56%

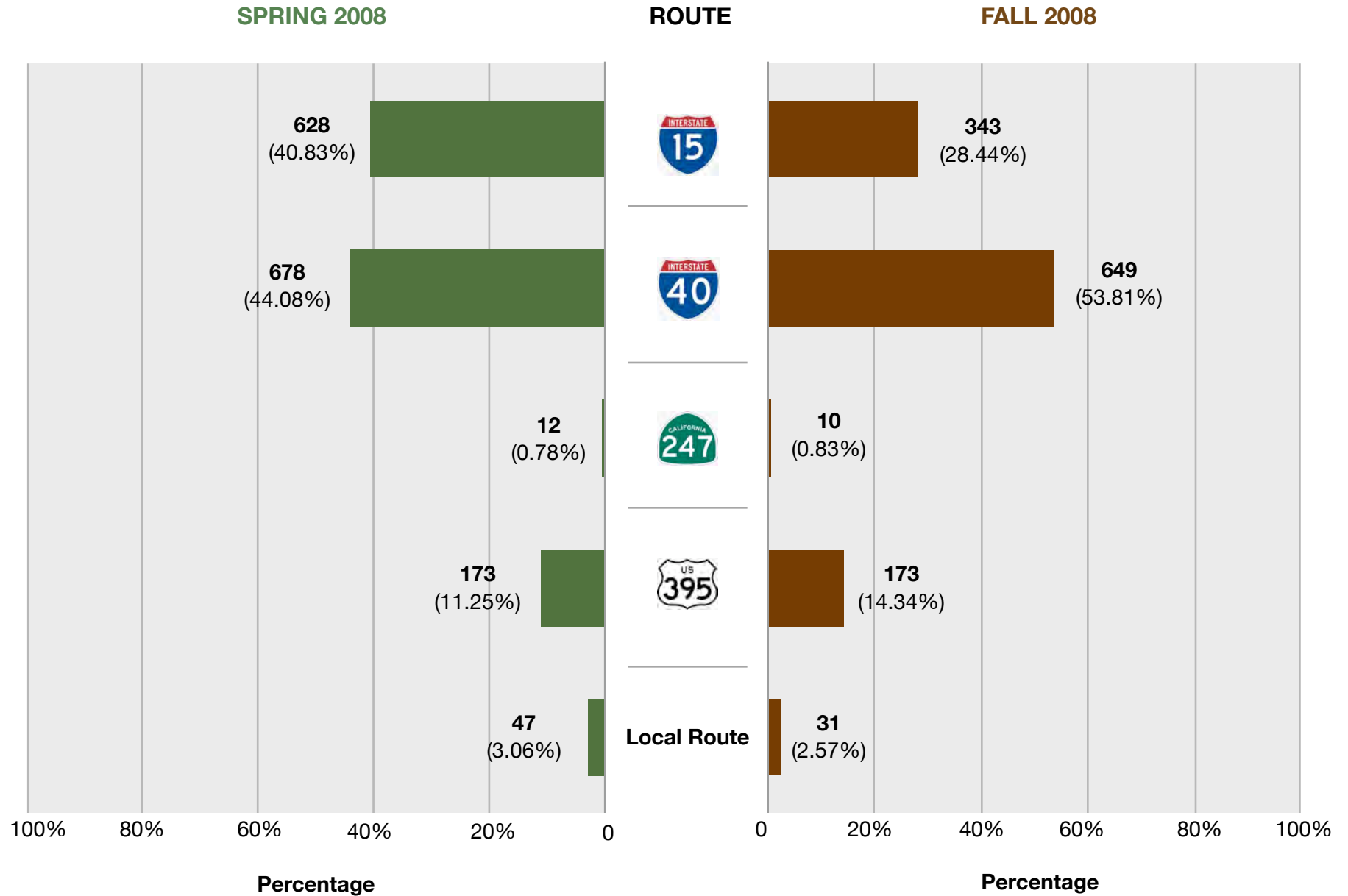
Based on the survey data collected, Tables 4-67, 4-68, 4-69 and 4-70 summarize the results of the truck origin route surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The results indicate that in the eastbound direction (both Boron and CHP), SR-99 north is the predominate route of choice for truck drivers accessing SR-58. The results also indicate that in the westbound direction, I-15 north and I-40 east are the predominate route taken by truck drivers to access SR-58. This pattern suggests that most eastbound truck originate from the Central Valley Region which reflects the concentration of the agricultural industry. The westbound pattern suggests the large percentage of trucks coming into the region from other states.



**Table 4-67 Origin Route**  
**BORON EASTBOUND**

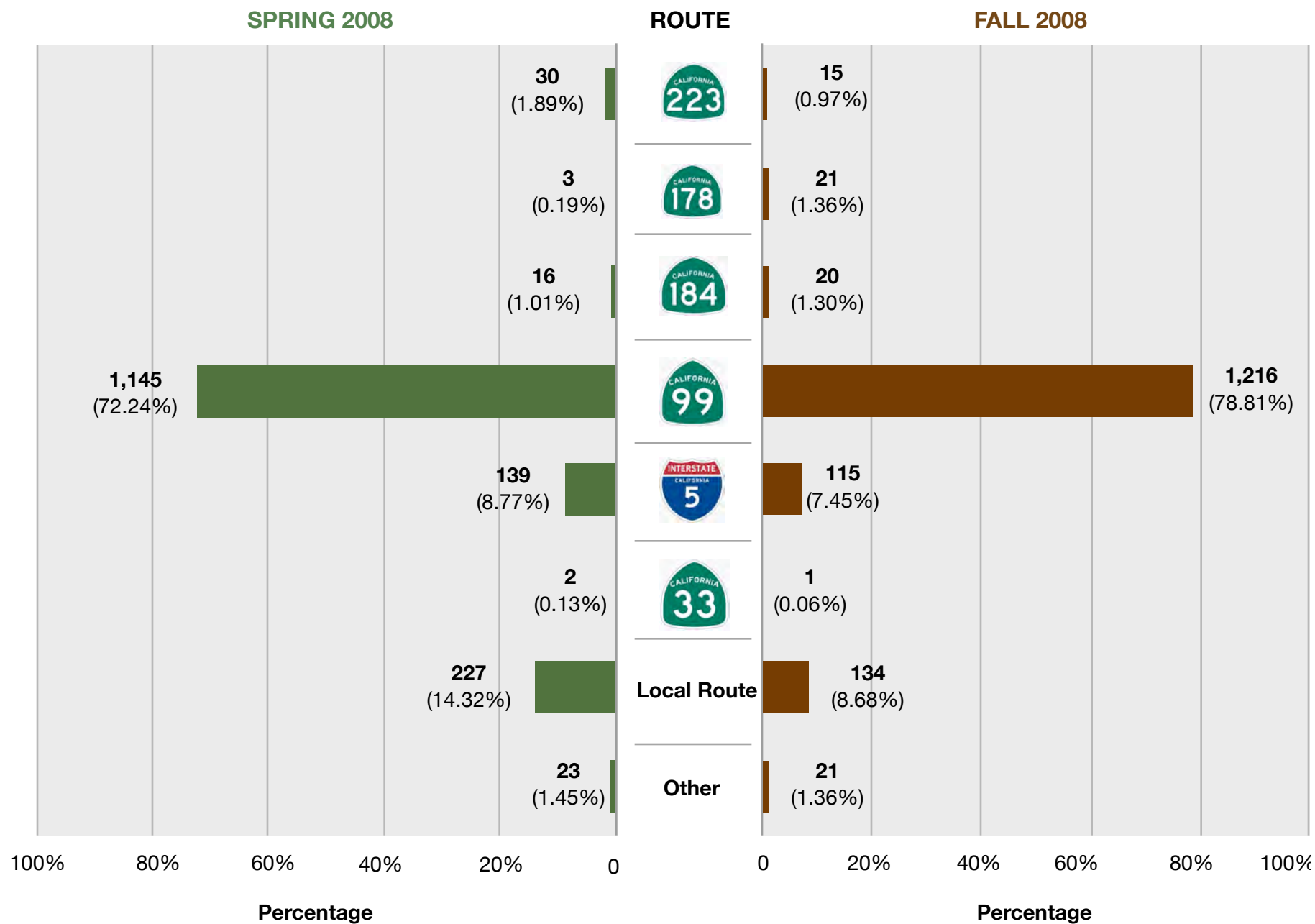


**Table 4-68 Origin Route**  
**BORON WESTBOUND**

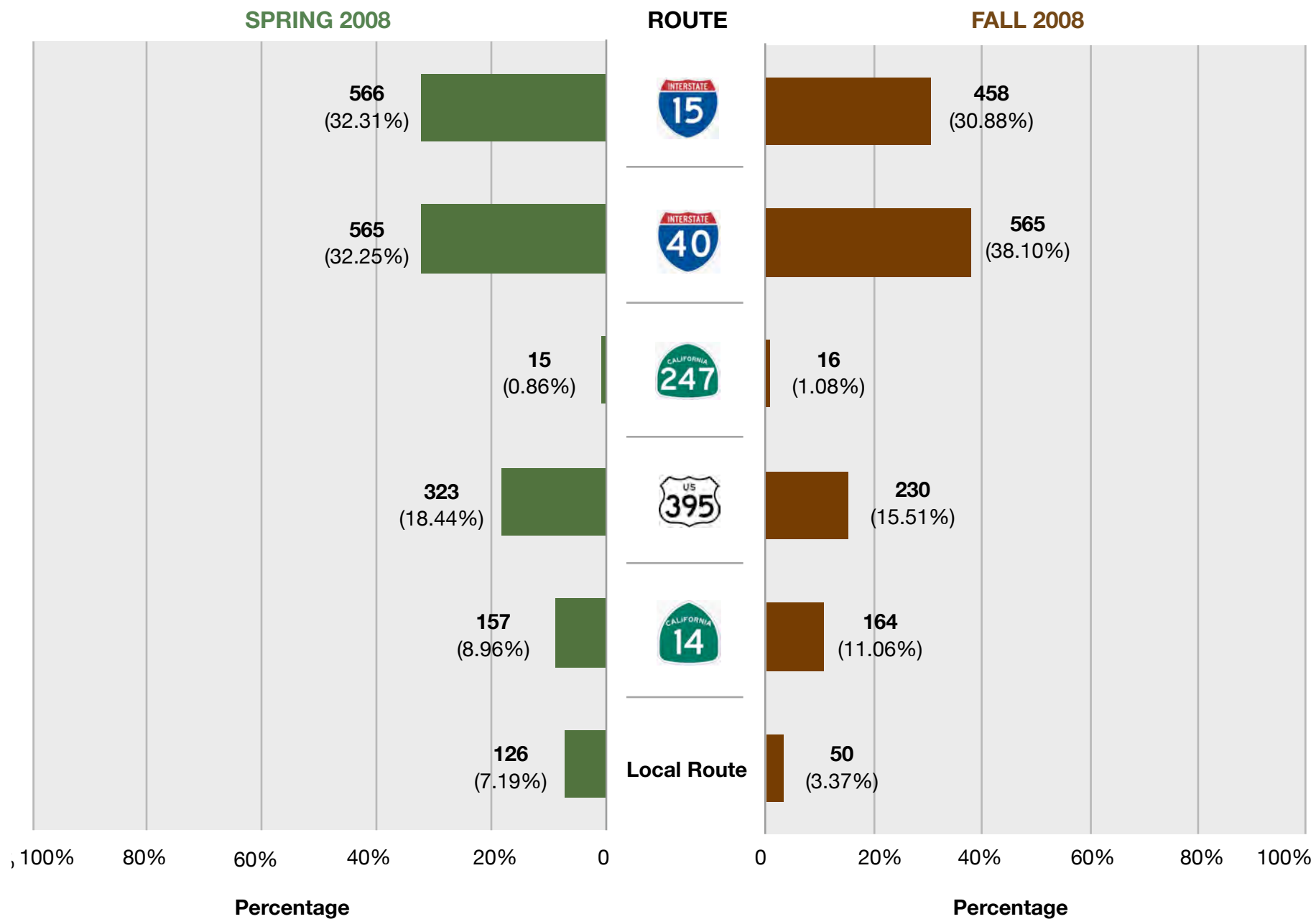


**Table 4-69 Origin Route**

**CHP EASTBOUND**



**Table 4-70 Origin Route  
CHP WESTBOUND**



### Destination Route

Of the 6,042 surveys conducted during the Spring period, 5,867 valid responses were recorded yielding a question response rate of 97.1%. The following provides a statistical summary by location and direction:

**Table 4-71: Statistical Summary of Question 7 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,003	96.91%
	WB	1,579	1,546	97.91%
CHP Weigh Station	EB	1,629	1,550	95.15%
	WB	1,799	1,768	98.28%
Total		6,042	5,867	97.10%

Of the 5,295 surveys conducted during the Fall period, 5,026 valid responses were recorded yielding a question response rate of 94.92%. The following provides a statistical summary by location and direction:

**Table 4-72: Statistical Summary of Question 7 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	923	95.85%
	WB	1,219	1,164	95.49%
CHP Weigh Station	EB	1,572	1,520	96.69%
	WB	1,541	1,419	92.08%
Total		5,295	5,026	94.92%

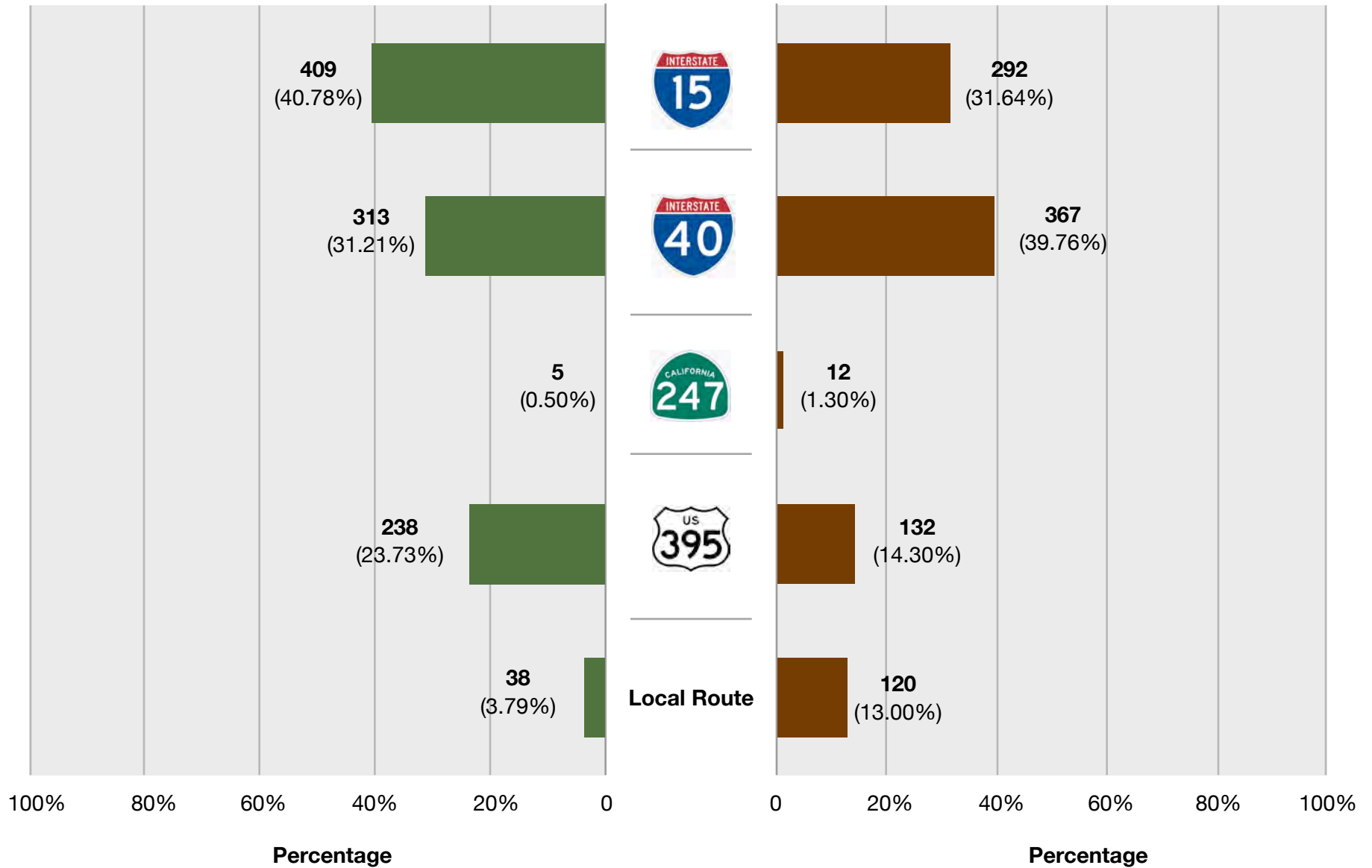
Tables 4-73, 4-74, 4-75 and 4-76 summarize the results of the truck destination route surveyed at the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound weigh station and CHP westbound weigh station, respectively. The results indicate that in the eastbound direction, the predominate routes used to reach the final destination are I-15, I-40 and US-395. The results also indicate that in the westbound direction, SR-99 is the predominate route of choice by truck drivers.

**Table 4-73 Destination Route**  
**BORON EASTBOUND**

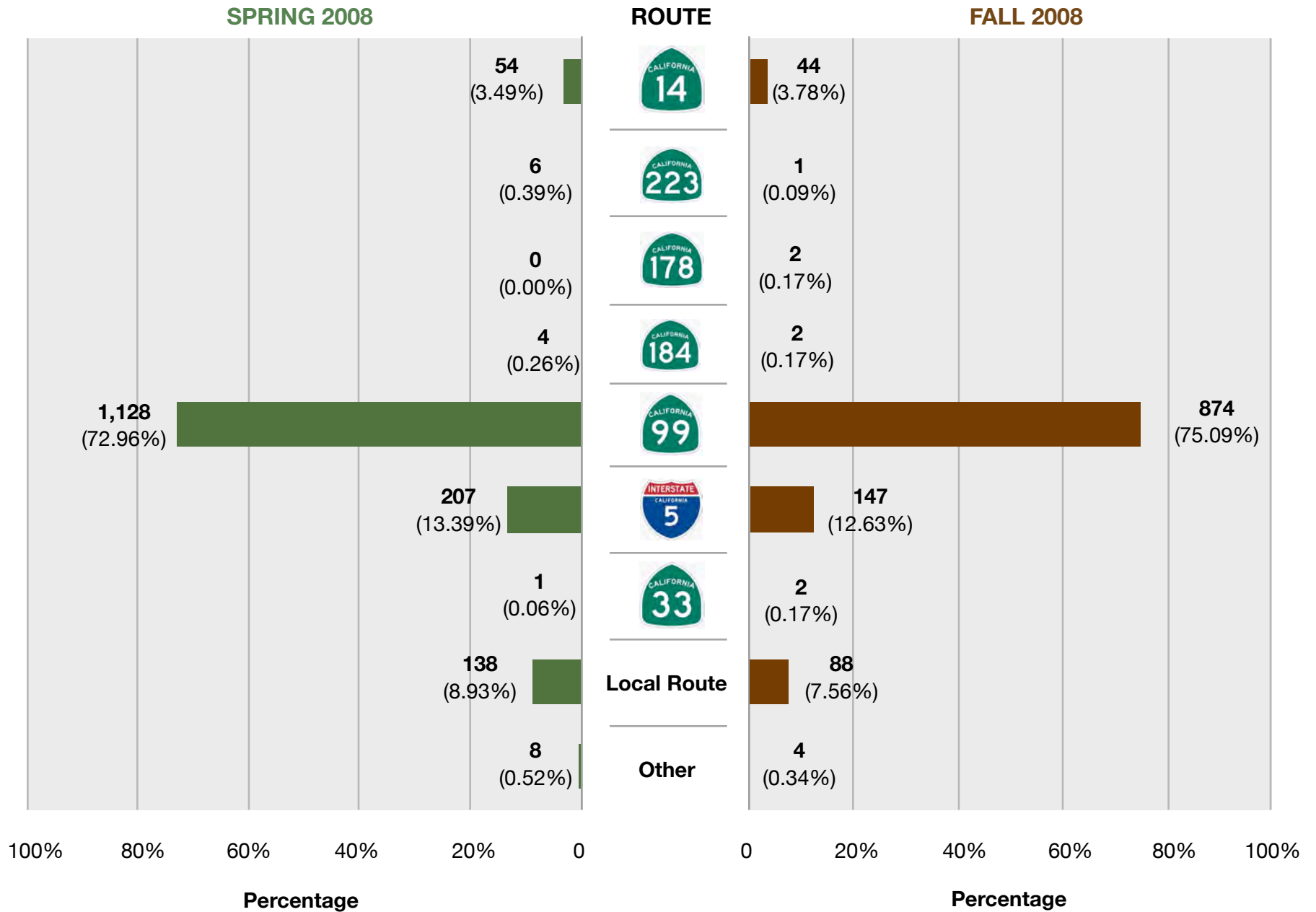
**SPRING 2008**

**ROUTE**

**FALL 2008**

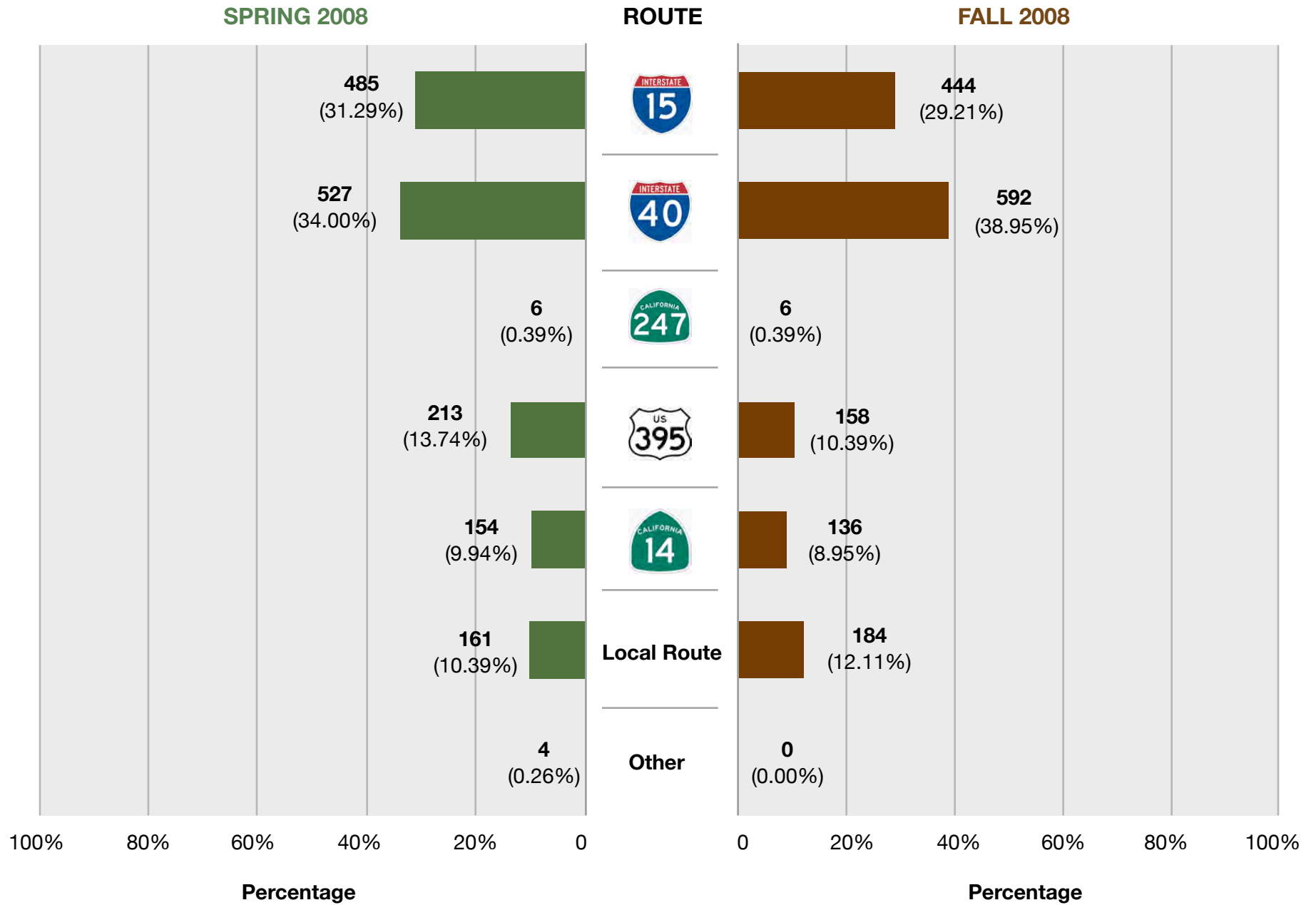


**Table 4-74 Destination Route**  
**BORON WESTBOUND**



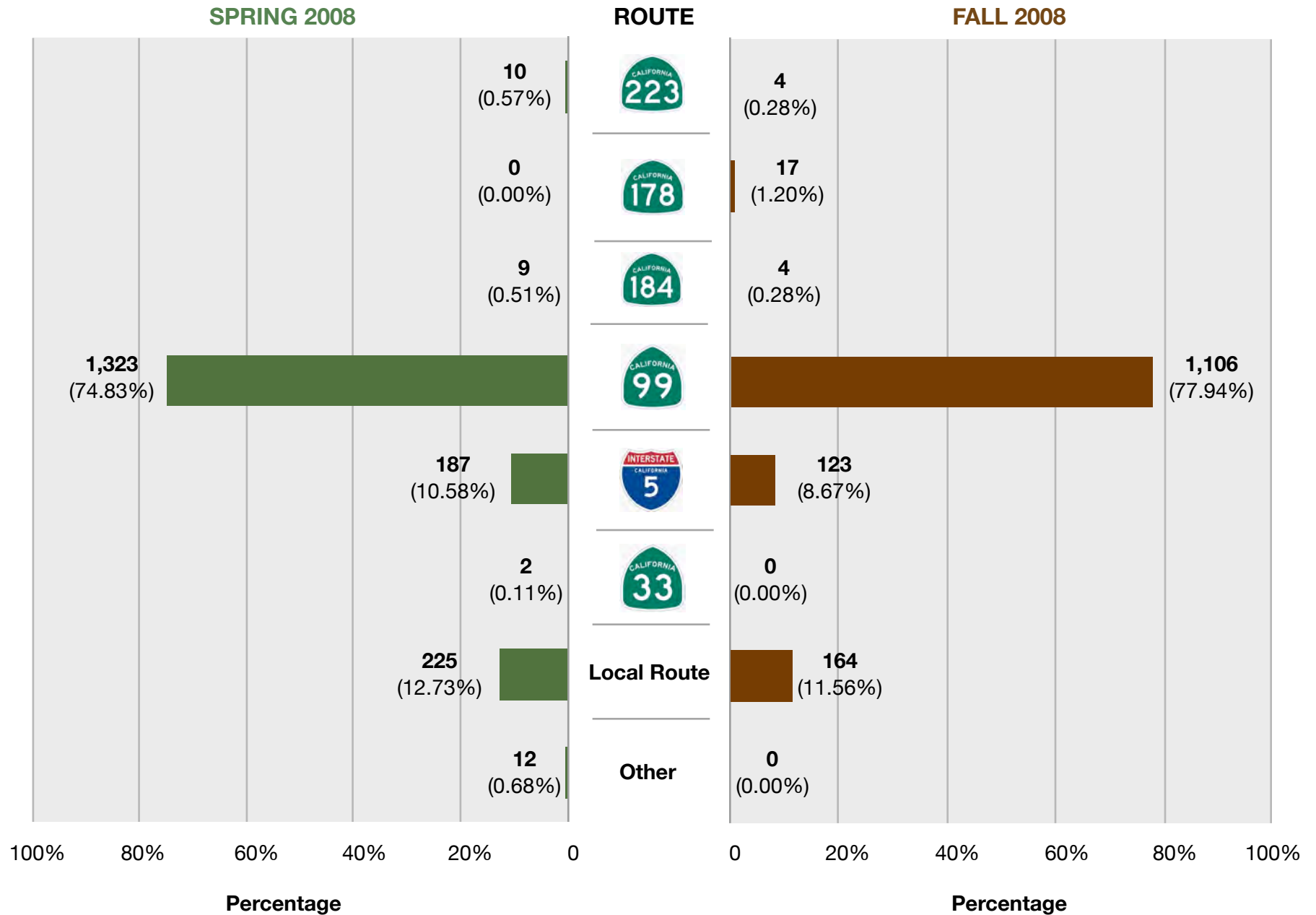
**Table 4-75 Destination Route**

**CHP EASTBOUND**





**Table 4-76 Destination Route**  
**CHP WESTBOUND**



Based on the origin and destination route survey data and also based on the origin and destination of states, region and city, KOA compiled the survey results in graphical format illustrating directional travel patterns at each of the four survey sites for both the Spring and Fall seasons.

#### Boron Rest-Stop

Figures 4-10 and 4-11 illustrate the travel patterns at the Boron Eastbound Rest-Stop based on the Spring and Fall O/D surveys. The results of the survey show that in the eastbound direction, the predominate route of origin is from the Southbound SR-99 into the SR-58 corridor and the predominate destination routes are I-15 North and I-40 East. This pattern is consistent for both the spring and fall seasons.

Figures 4-12 and 4-13 illustrate the travel patterns at the Boron Westbound Rest-Stop based on the Spring and Fall O/D surveys. The results show that in the westbound direction, the predominate routes of origin are the I-15 South and I-40 West freeways and the predominate destination route is SR-99 North. This pattern is consistent for both the spring and fall seasons.

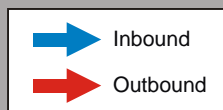
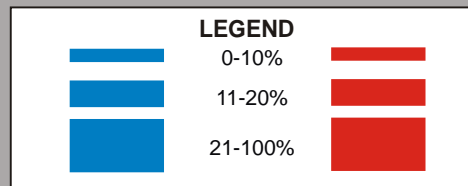
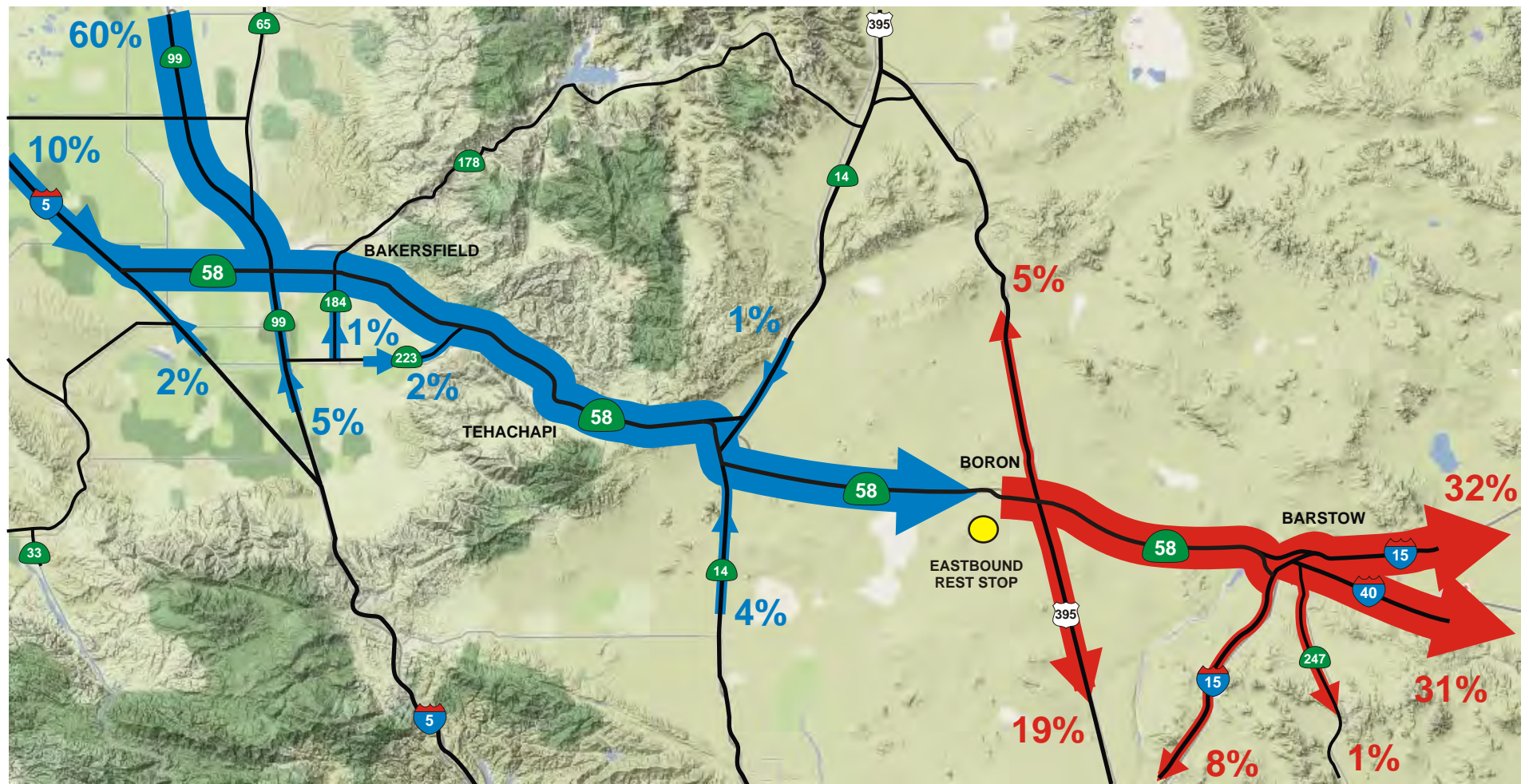
#### CHP Weigh Stations

Figures 4-14 and 4-15 illustrate the travel patterns at the CHP Eastbound Weigh Station based on the Spring and Fall O/D surveys. Similar to the results from the Boron site, the results show that in the eastbound direction, the predominate route of origin is southbound SR-99 into the SR-58 corridor and the predominate destination routes are I-15 North and I-40 East. This pattern is consistent for both the spring and fall seasons.

Figures 4-16 and 4-17 illustrate the travel patterns at the CHP Westbound Weigh Station based on the Spring and Fall O/D surveys. Similar to the results from the Boron site, the results show that in the westbound direction, the predominate routes of origin are the I-15 South and I-40 West freeways and the predominate destination route is SR-99 North. This pattern is consistent between both the spring and fall seasons.

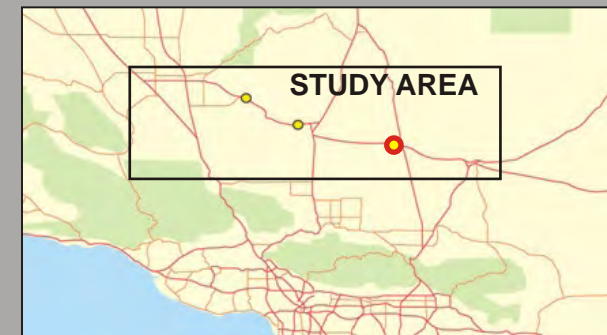
The detailed survey responses are provided in Appendix J.

The overall pattern suggests that trucks traveling within the SR-58 Corridor are primarily between the Central Valley Region (SR-99 north), which is reflective of the agriculture industry in that region, and other states outside of California. While California makes up over a third of these trips (35%) as the primary destination, the remaining trips are destined for other states and thus reflected in the predominate route choice of I-40 east and I-15 north.

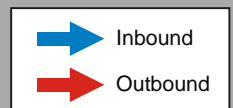
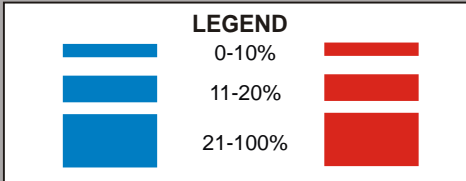
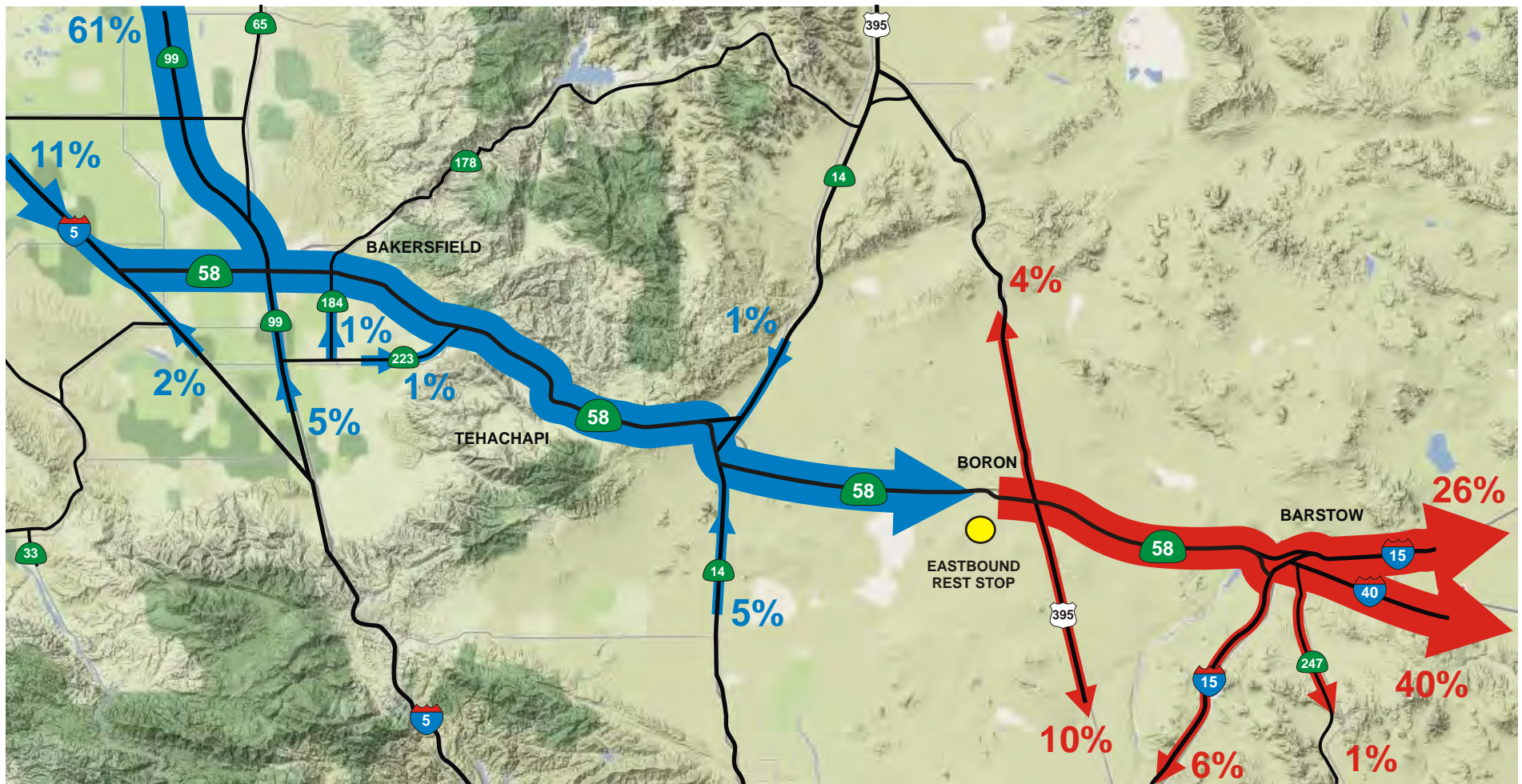


**ROUTES:**  
 Major: 85%  
 Local/Other (Not Shown): 15%

**ROUTES:**  
 Major: 96%  
 Local/Other (Not Shown): 4%





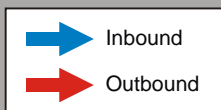
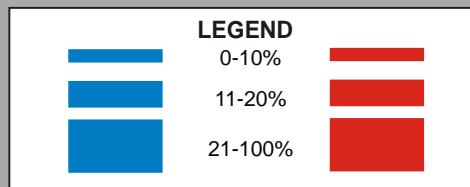
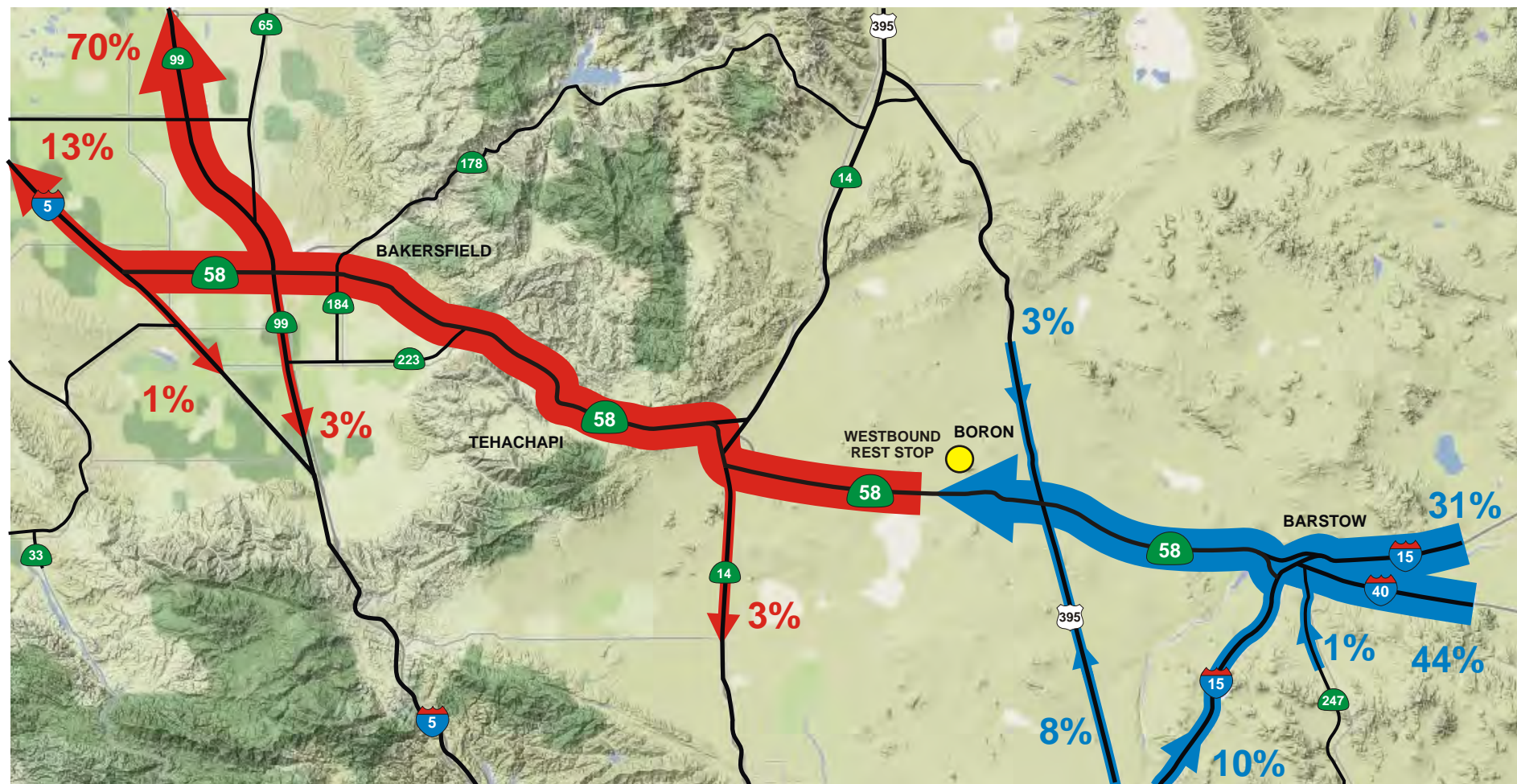


**ROUTES:**  
 Major: 87%  
 Local/Other (Not Shown): 13%

**ROUTES:**  
 Major: 87%  
 Local/Other (Not Shown): 13%

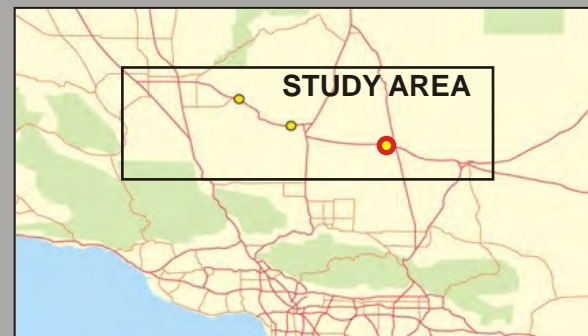




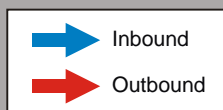
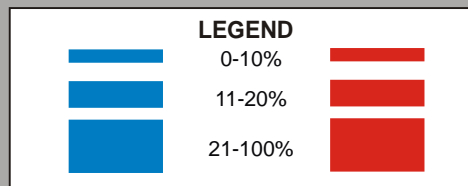
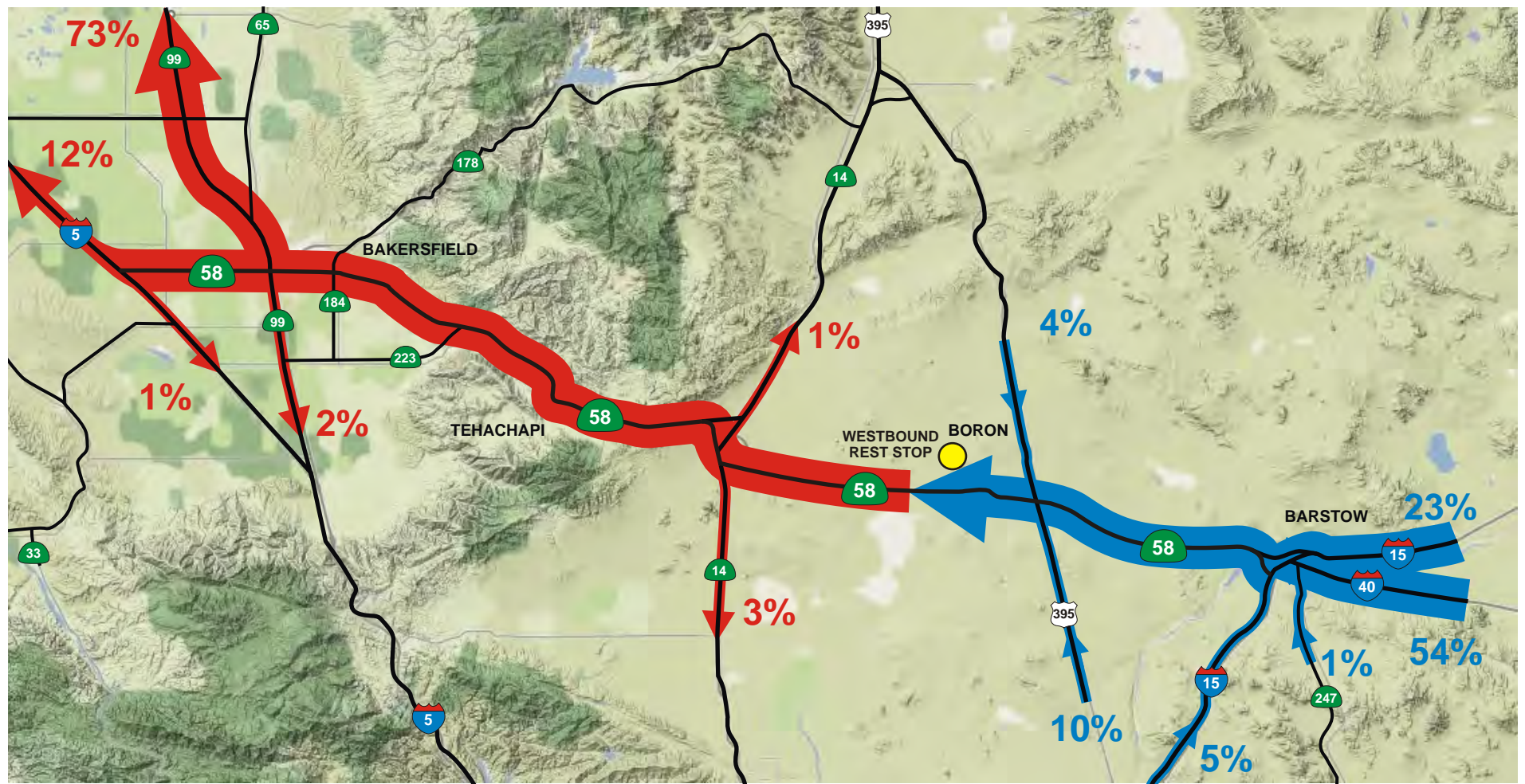


**ROUTES:**  
 Major: 97%  
 Local/Other (Not Shown): 3%

**ROUTES:**  
 Major: 90%  
 Local/Other (Not Shown): 10%

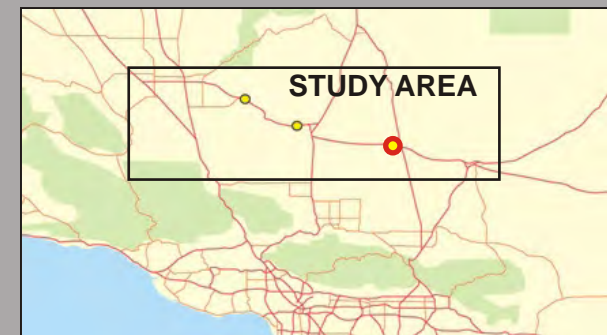




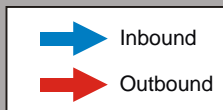
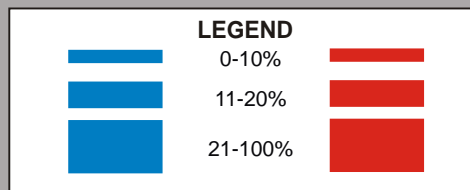
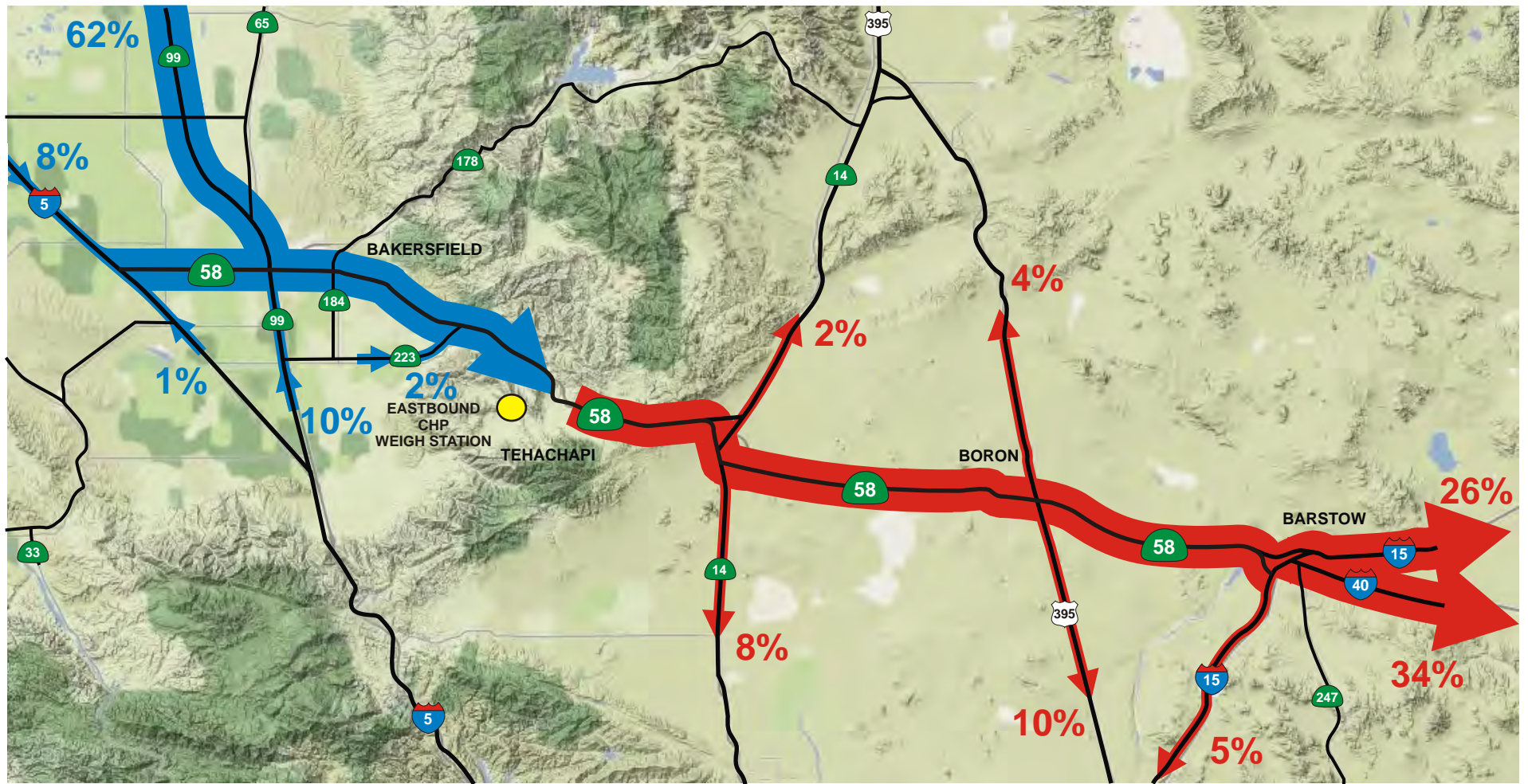


**ROUTES:**  
Major: 97%  
Local/Other (Not Shown): 3%

**ROUTES:**  
Major: 92%  
Local/Other (Not Shown): 8%

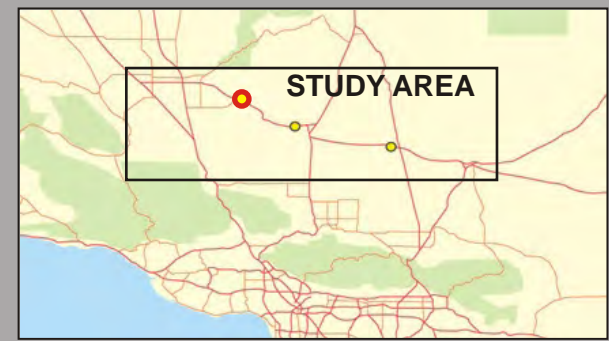




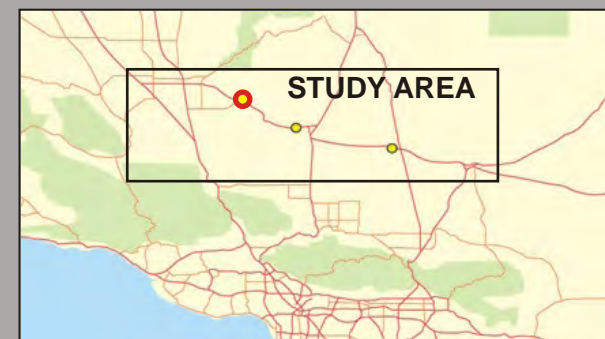
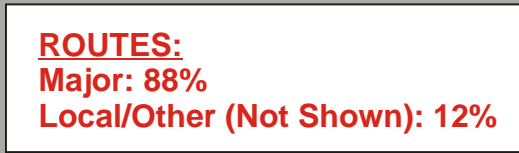
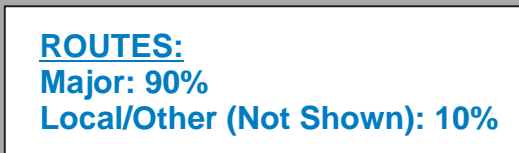
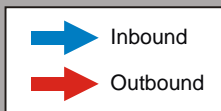
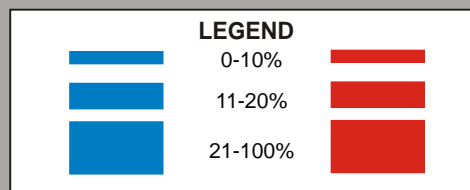
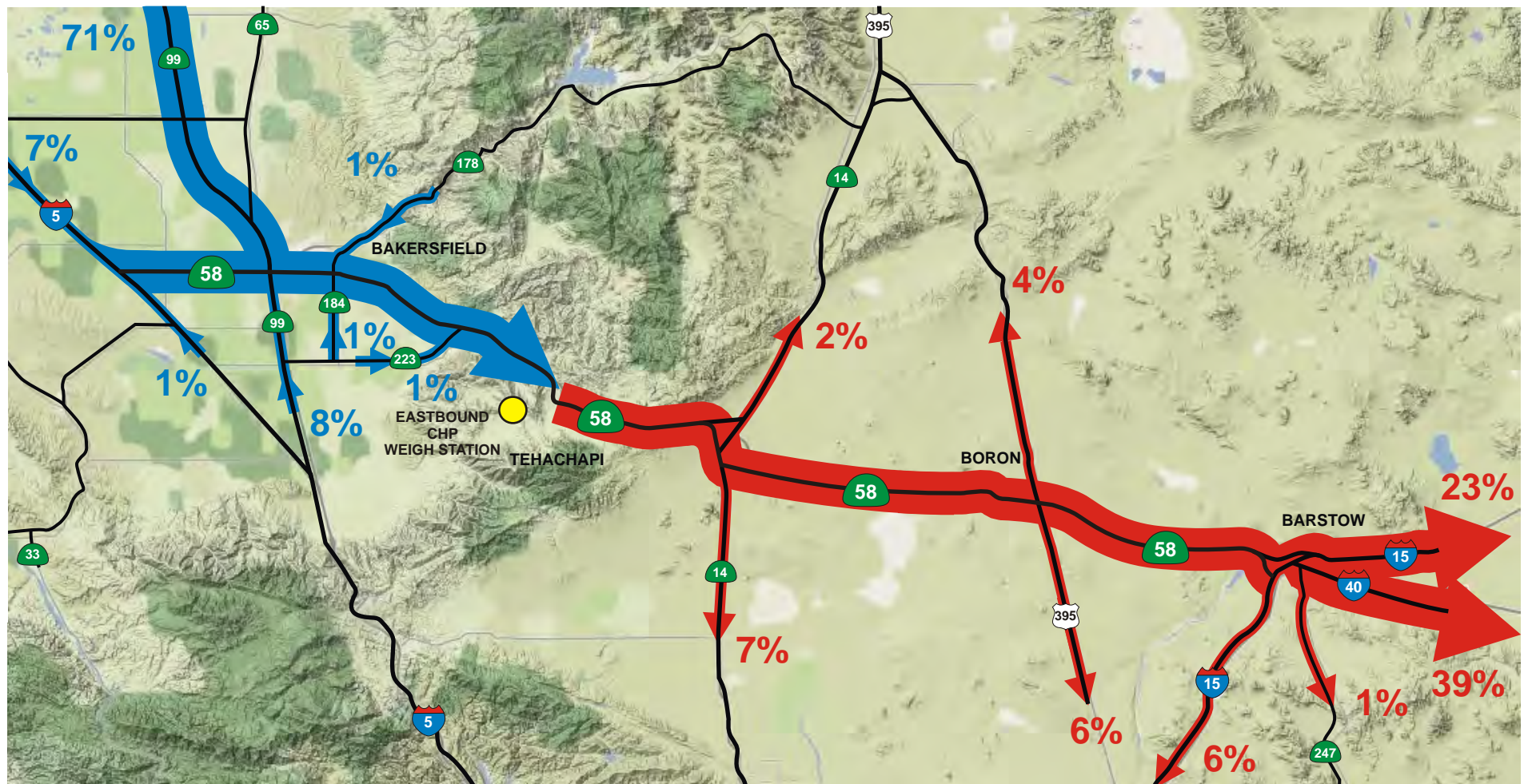


**ROUTES:**  
 Major: 83%  
 Local/Other (Not Shown): 17%

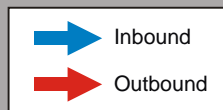
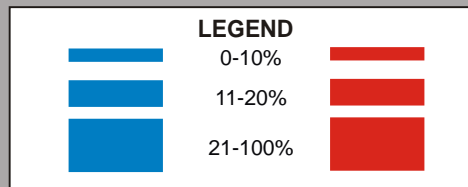
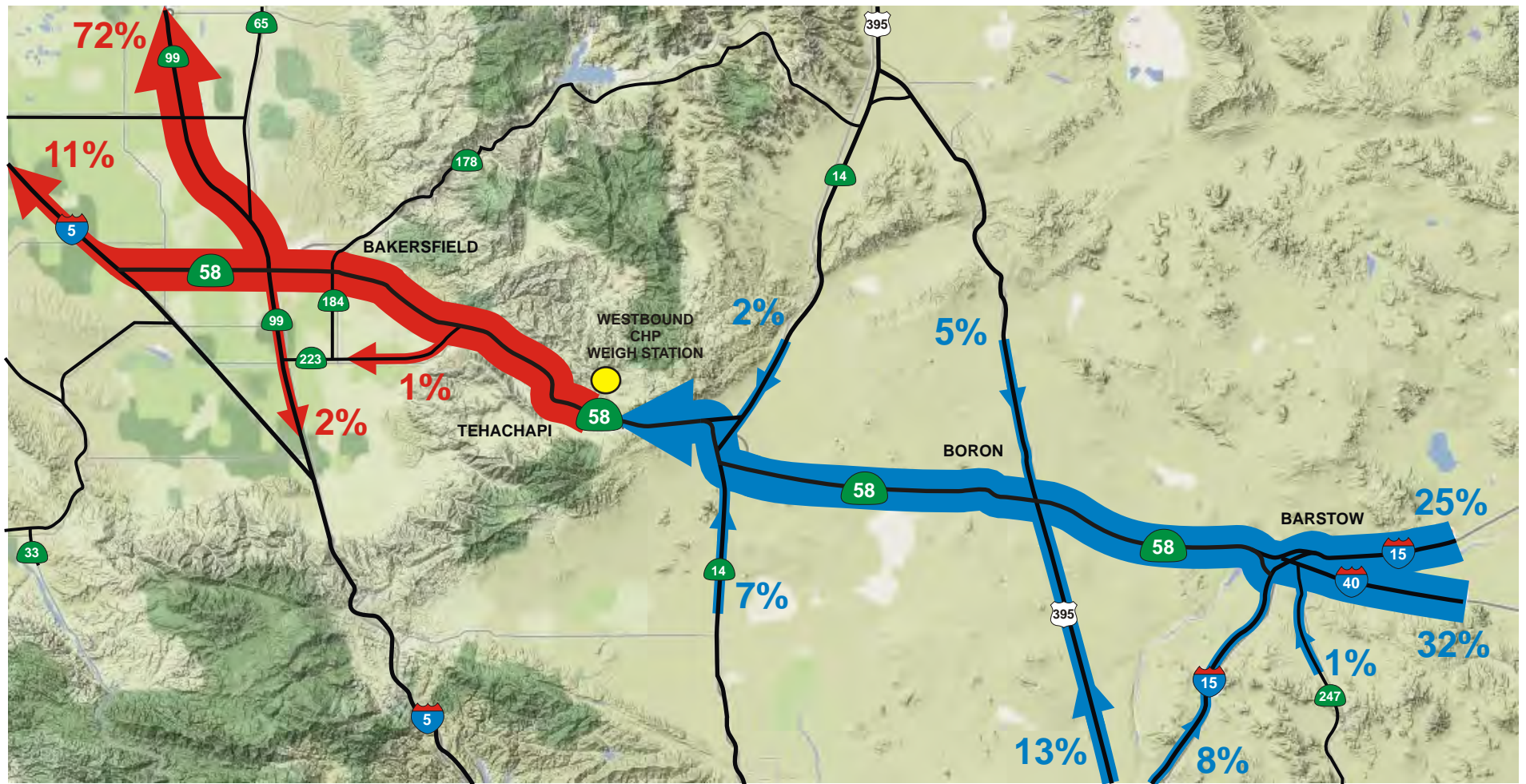
**ROUTES:**  
 Major: 89%  
 Local/Other (Not Shown): 11%





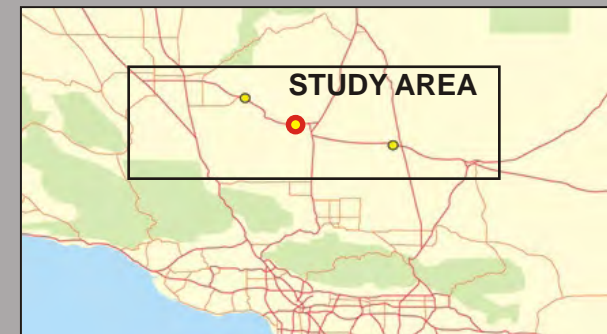




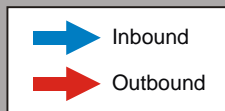
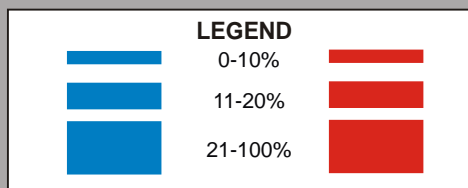
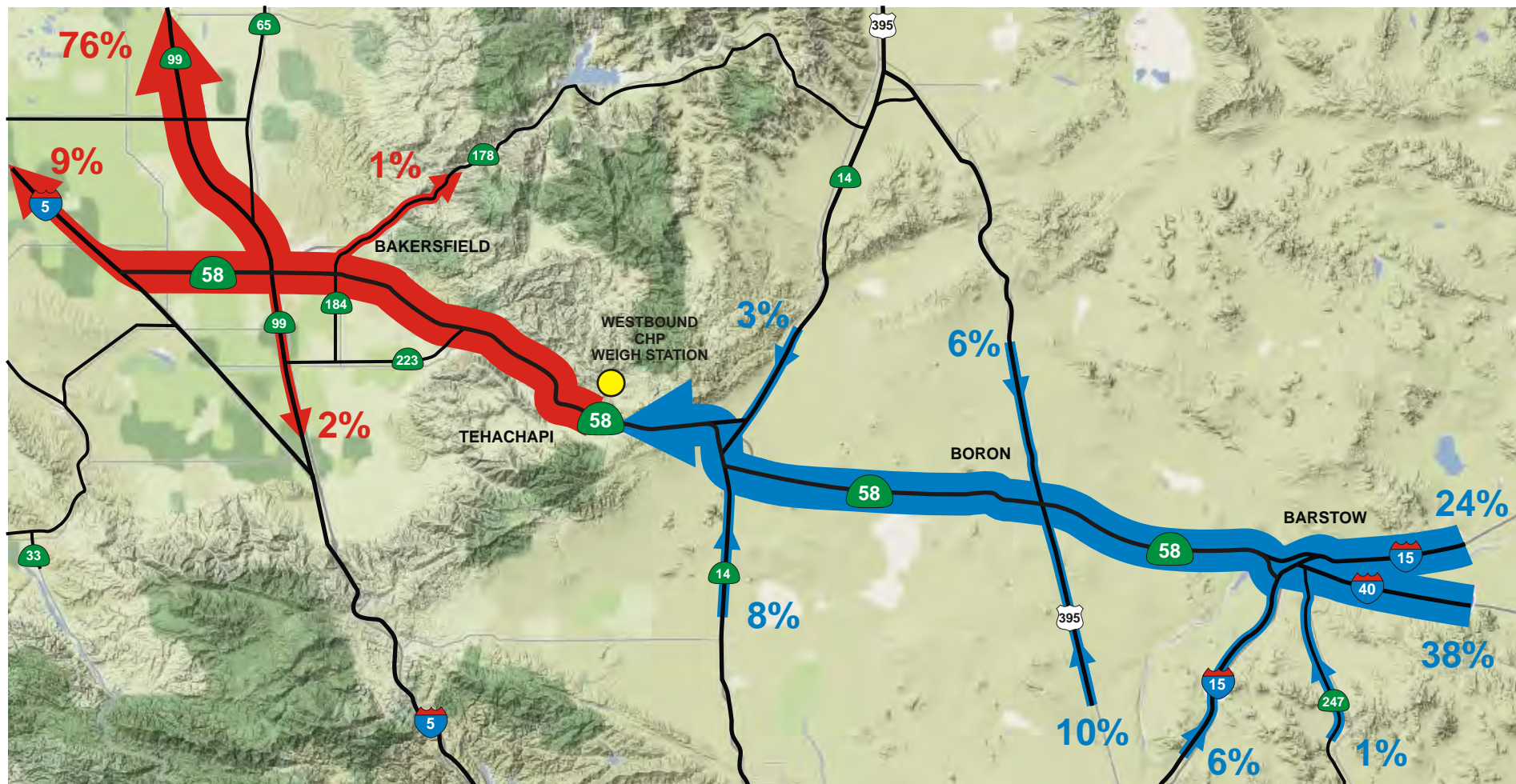


**ROUTES:**  
 Major: 93%  
 Local/Other (Not Shown): 7%

**ROUTES:**  
 Major: 86%  
 Local/Other (Not Shown): 14%

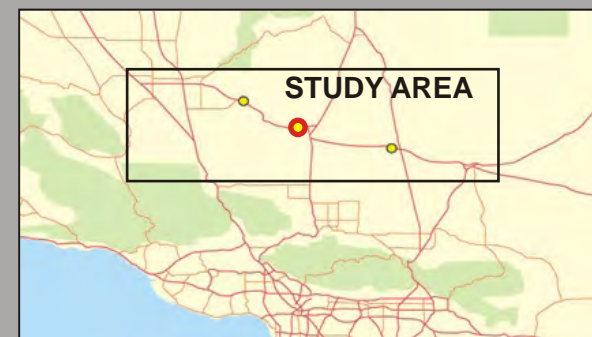






**ROUTES:**  
 Major: 96%  
 Local/Other (Not Shown): 4%

**ROUTES:**  
 Major: 88%  
 Local/Other (Not Shown): 12%



## 4.9 Commodities

Question 9 of the truck intercept survey asks the drivers what they are carrying. Of the 6,042 surveys conducted during the Spring period, 5,788 valid responses were recorded yielding a question response rate of 95.8%. The following provides a statistical summary by location and direction:

**Table 4-77: Statistical Summary of Question 9 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,003	96.91%
	WVB	1,579	1,471	93.16%
CHP Weigh Station	EB	1,629	1,562	95.89%
	WVB	1,799	1,752	97.39%
Total		6,042	5,788	95.80%

Of the 5,295 surveys conducted during the Fall period, 5,082 valid responses were recorded yielding a question response rate of 95.98%. The following provides a statistical summary by location and direction:

**Table 4-78: Statistical Summary of Question 9 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	940	97.61%
	WVB	1,219	1,156	94.83%
CHP Weigh Station	EB	1,572	1,511	96.12%
	WVB	1,541	1,475	95.72%
Total		5,295	5,082	95.98%

The commodities provided during the response to question 9 have been further categorized into the Standard Transportation Commodity Codes (STCC) system. The STCC system was developed in the 1960's as a comprehensive commodity classification system. The hierarchical STCC structure allows data aggregation. This feature enables the summation of meaningful commodity information at various levels. For this study, the STCC system was adopted and the survey data was coded up to the second level. Table 4-79 summarizes the STCC first level of commodities description.

Based on the results of the survey responses, Tables 4-80, 4-81, 4-82 and 4-83 provide the top six commodities (by STCC category) for the Boron eastbound rest-stop, Boron westbound rest-stop, CHP eastbound station and CHP westbound station, respectively. Additionally, for each of the op STCC codes, where appropriate, the top 3 commodities are provided. Any other commodities for the STCC code are grouped as part of the other category.

Table 4-80 (Boron Eastbound Rest-Stop) shows the top five categories are as follows:

- Farm Products (Spring = 35.5 % and Fall = 42.6%)
- Food or Kindred Products (Spring = 13.4% and Fall = 12.8%)
- Clay/Concrete/Glass/Stone Products (Spring = 2.3% and Fall = 4.0%)
- Miscellaneous Freight (Spring = 5.8% and Fall = 7.1%)
- Empty (Spring = 15.2% and Fall = 8.2%)
- Other (Spring = 27.8% and Fall = 25.4%)

Table 4-80 also provides the top 3 sub-categories for each of the major commodities listed above (STCC – second level).

Table 4-81 (Boron Westbound Rest-Stop) shows the top five categories are as follows:

- Farm Products (Spring = 13.2 % and Fall = 8.1%)
- Food or Kindred Products (Spring = 23.2% and Fall = 22.9%)
- Clay/Concrete/Glass/Stone Products (Spring = 4.7% and Fall = 6.2%)
- Miscellaneous Freight (Spring = 7.2% and Fall = 8.8%)
- Empty (Spring = 6.5% and Fall = 12.2%)
- Other (Spring = 45.1% and Fall = 41.8%)

Table 4-81 also provides the top 3 sub-categories for each of the major commodities listed above (STCC – second level).

Table 4-82 (CHP Eastbound Station) shows the top five categories are as follows:

- Farm Products (Spring = 37.1 % and Fall = 44.0%)
- Food or Kindred Products (Spring = 14.9% and Fall = 13.0%)
- Clay/Concrete/Glass/Stone Products (Spring = 2.9% and Fall = 3.4%)
- Miscellaneous Freight (Spring = 5.7% and Fall = 4.5%)
- Empty (Spring = 12.0% and Fall = 10.4%)
- Other (Spring = 27.5% and Fall = 24.8%)

Table 4-82 also provides the top 3 sub-categories for each of the major commodities listed above (STCC – second level).

Table 4-83 (CHP Westbound Station) shows the top five categories are as follows:

- Farm Products (Spring = 17.5 % and Fall = 10.4%)
- Food or Kindred Products (Spring = 15.7% and Fall = 15.4%)
- Clay/Concrete/Glass/Stone Products (Spring = 6.0% and Fall = 4.7%)
- Miscellaneous Freight (Spring = 6.9% and Fall = 8.7%)
- Empty (Spring = 10.1% and Fall = 18.5%)
- Other (Spring = 43.9% and Fall = 42.3%)

Table 4-83 also provides the top 3 sub-categories for each of the major commodities listed above (STCC – second level). Appendix K provides detailed summaries of commodities surveyed by season and location.

**Table 4-79: STCC Classification System**

STCC	Commodity Description
01	Farm Products
08	Forest Products
09	Fresh Fish or Other Marine Products
10	Metallic Ores
11	Coal
13	Crude Petroleum, Natural Gas, or Gasoline
14	Non-metallic Minerals
19	Ordinance or Accessories
20	Food or Kindred Products
21	Tobacco Products, excluding Insecticides
22	Textile Mill Products
23	Apparel or Other Finished Textile Products
24	Lumber or Wood Products, excluding Furniture
25	Furniture or Fixtures
26	Pulp, Paper, or Allied Products
27	Printed Matter
28	Chemicals or Allied Products
29	Petroleum or Coal Products
30	Rubber or Miscellaneous Plastic Products
31	Leather or Leather Products
32	Clay, Concrete, Glass, or Stone Products
33	Primary Metal Products
34	Fabricated Metal Products
35	Machinery, excluding Electrical
36	Electrical Machinery, Equipment, or Supplies
37	Transportation Equipment
38	Instruments, Photographic Goods, Optical Goods, Watches, c
39	Miscellaneous Products of Manufacturing
40	Waste or Scrap Materials
41	Miscellaneous Freight Shipments
42	Containers, Carriers or Devices, Shipping, Returned Empty
43	Mail
44	Freight Forwarder Traffic
45	Shipper Association or Similar Traffic
46	Freights All Kinds
47	Small Packages, LTC or LTL
48	Waste Hazardous Materials or Waste Hazardous Substances
49	Hazardous Materials
50	Bulk Movement in Boxcars

**Table 4-80 Commodities**

**BORON EASTBOUND**

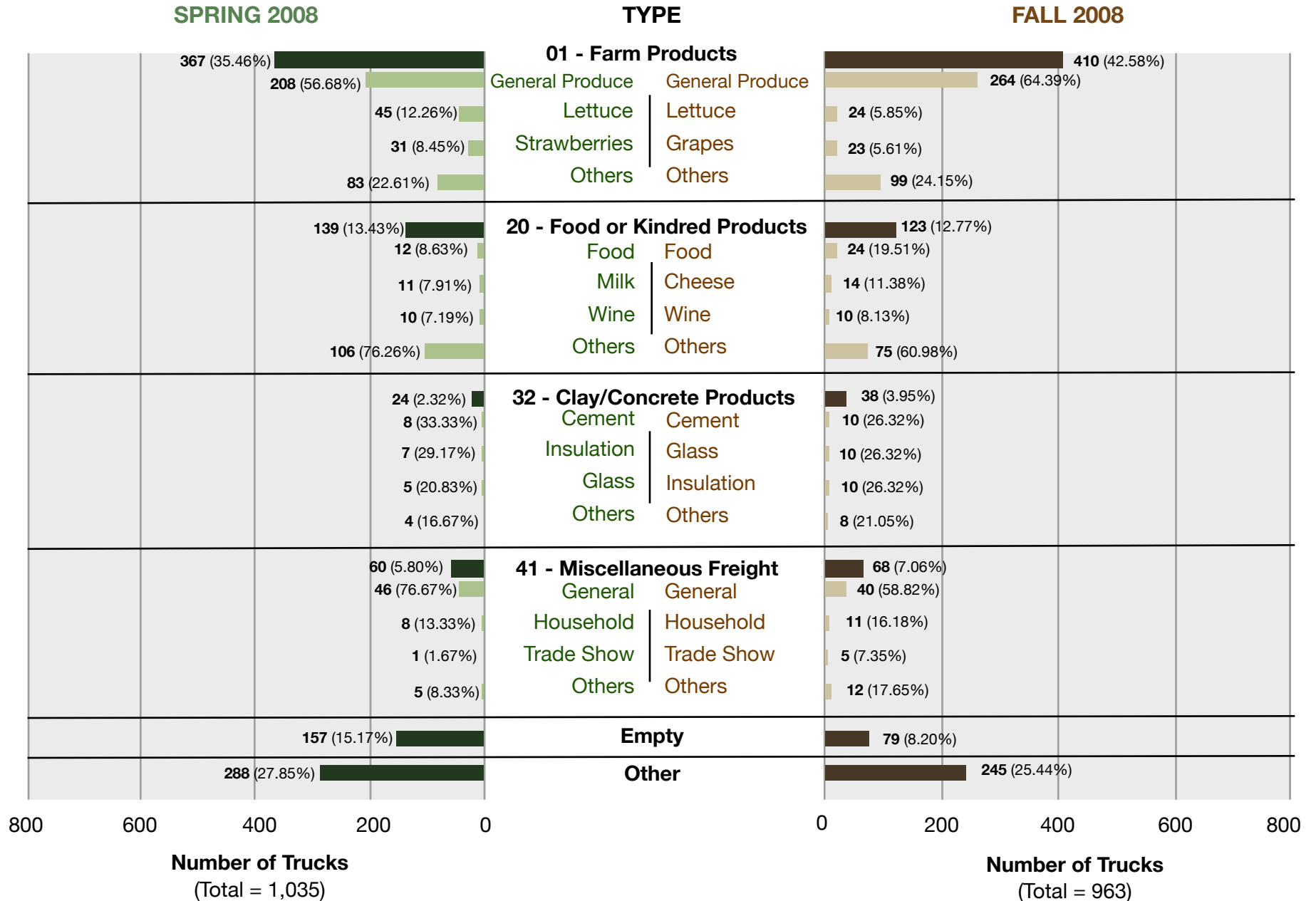




Table 4-81 Commodities

## BORON WESTBOUND

SPRING 2008

TYPE

FALL 2008

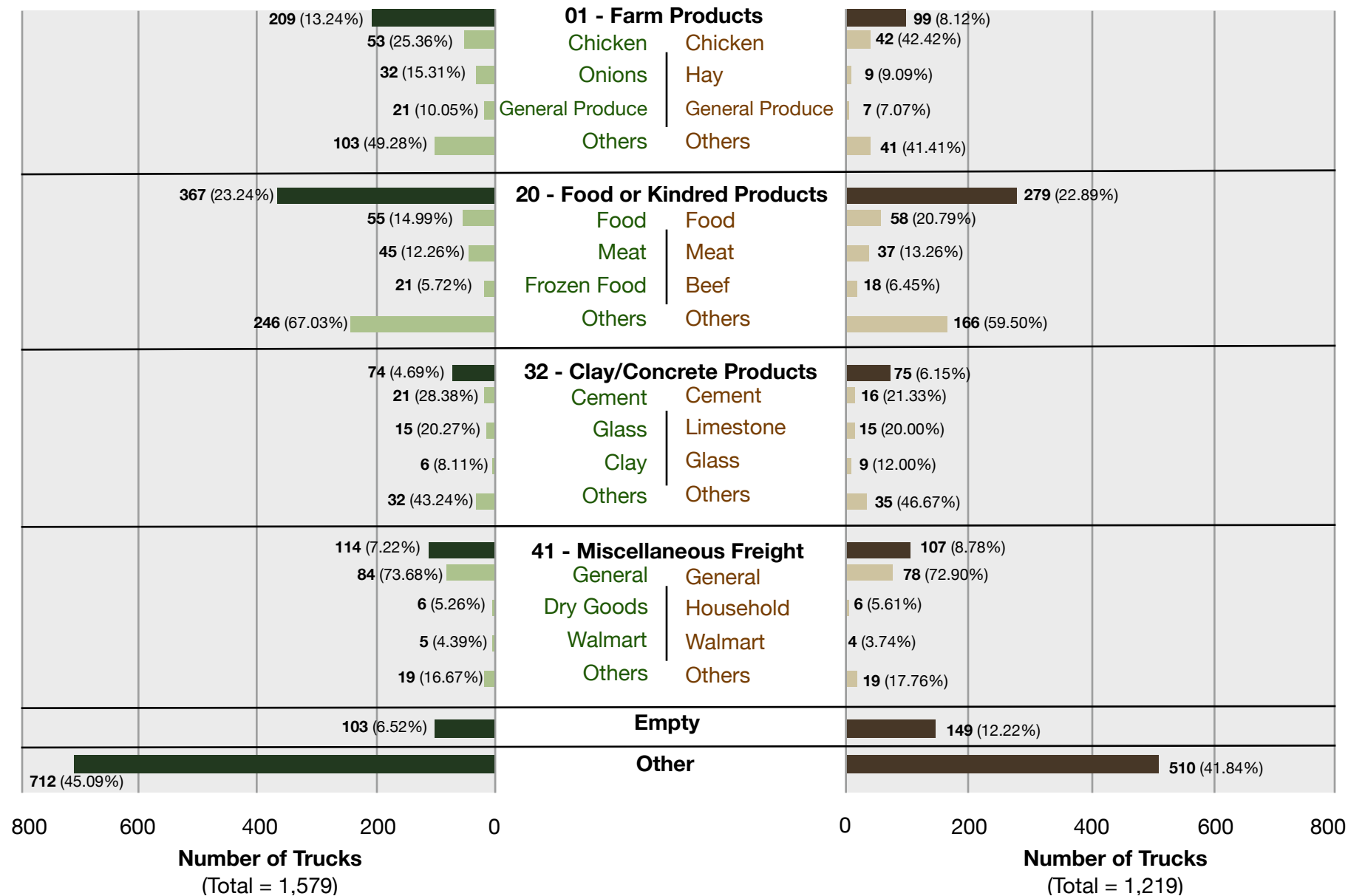
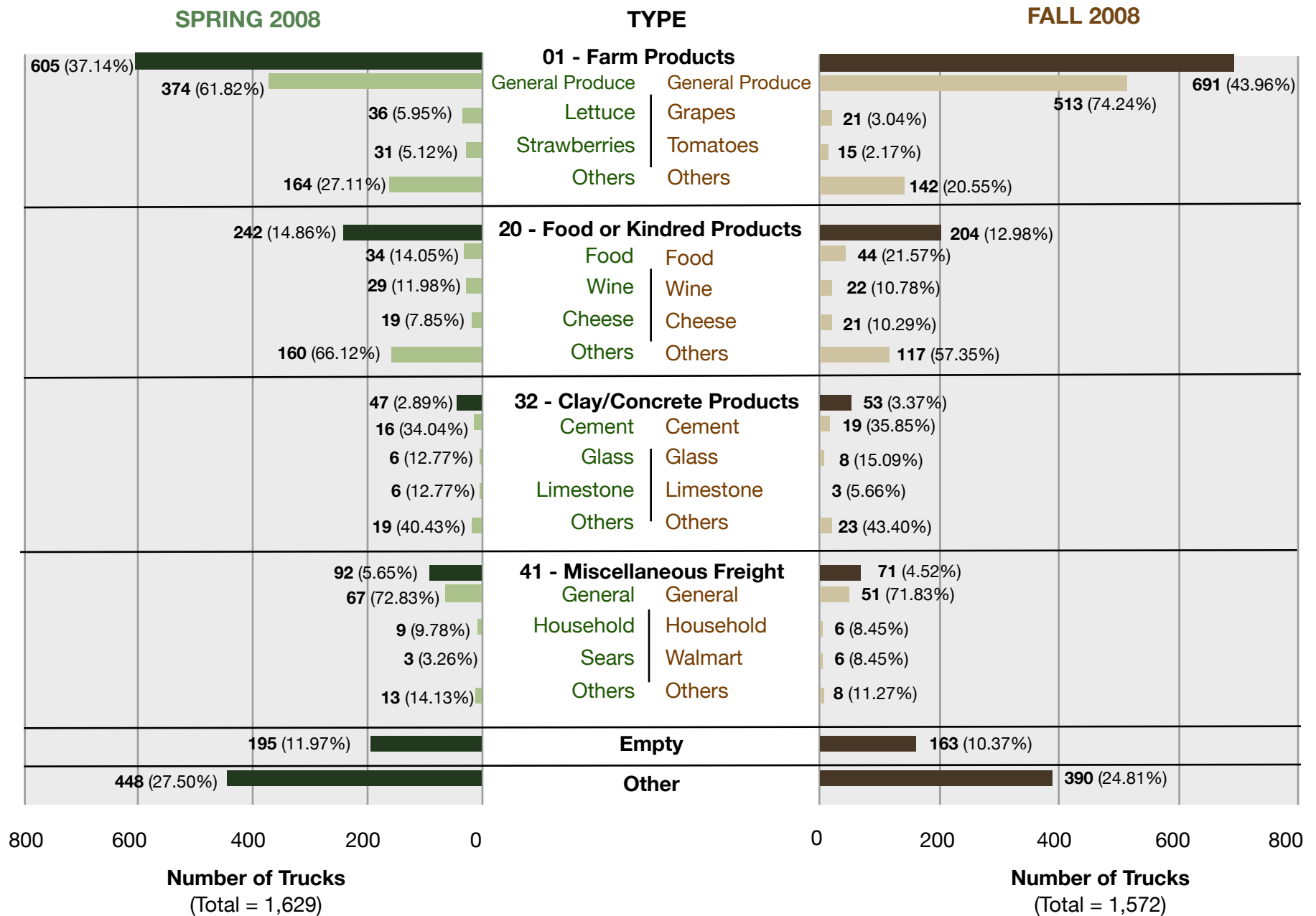




Table 4-82 Commodities

## CHP EASTBOUND



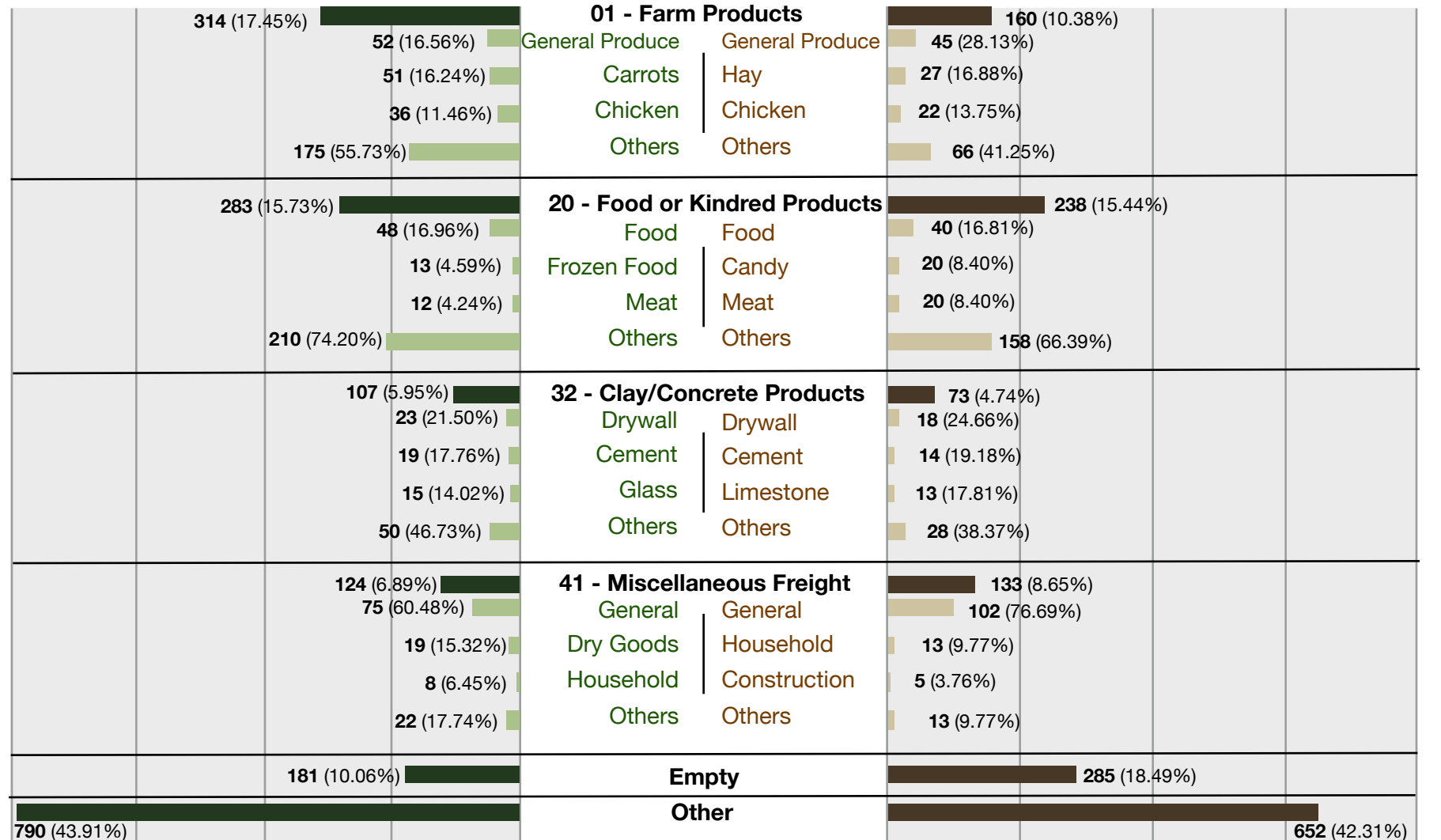
# Table 4-83 Commodities

## CHP WESTBOUND

SPRING 2008

TYPE

FALL 2008



800 600 400 200 0

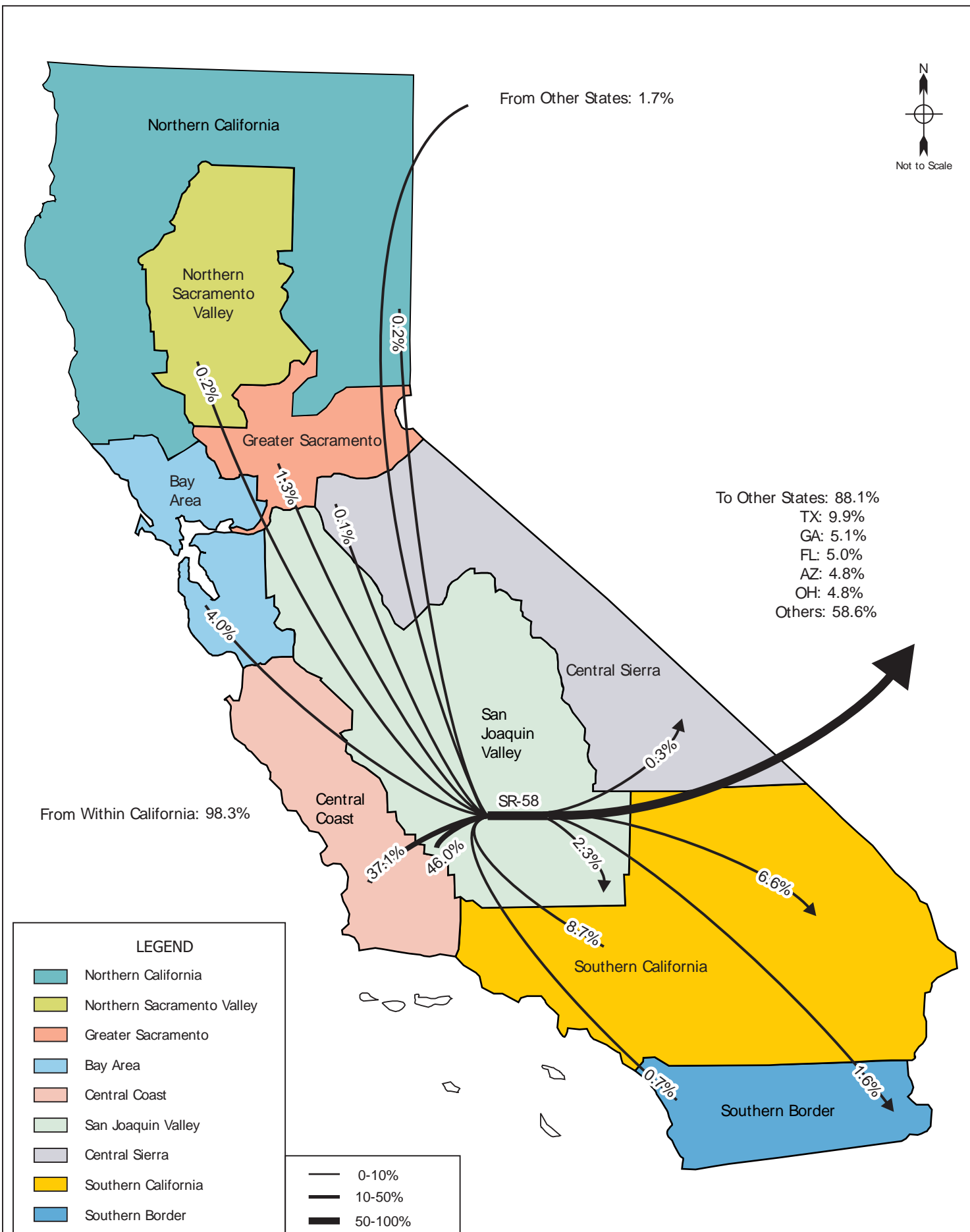
Number of Trucks  
(Total = 1,799)

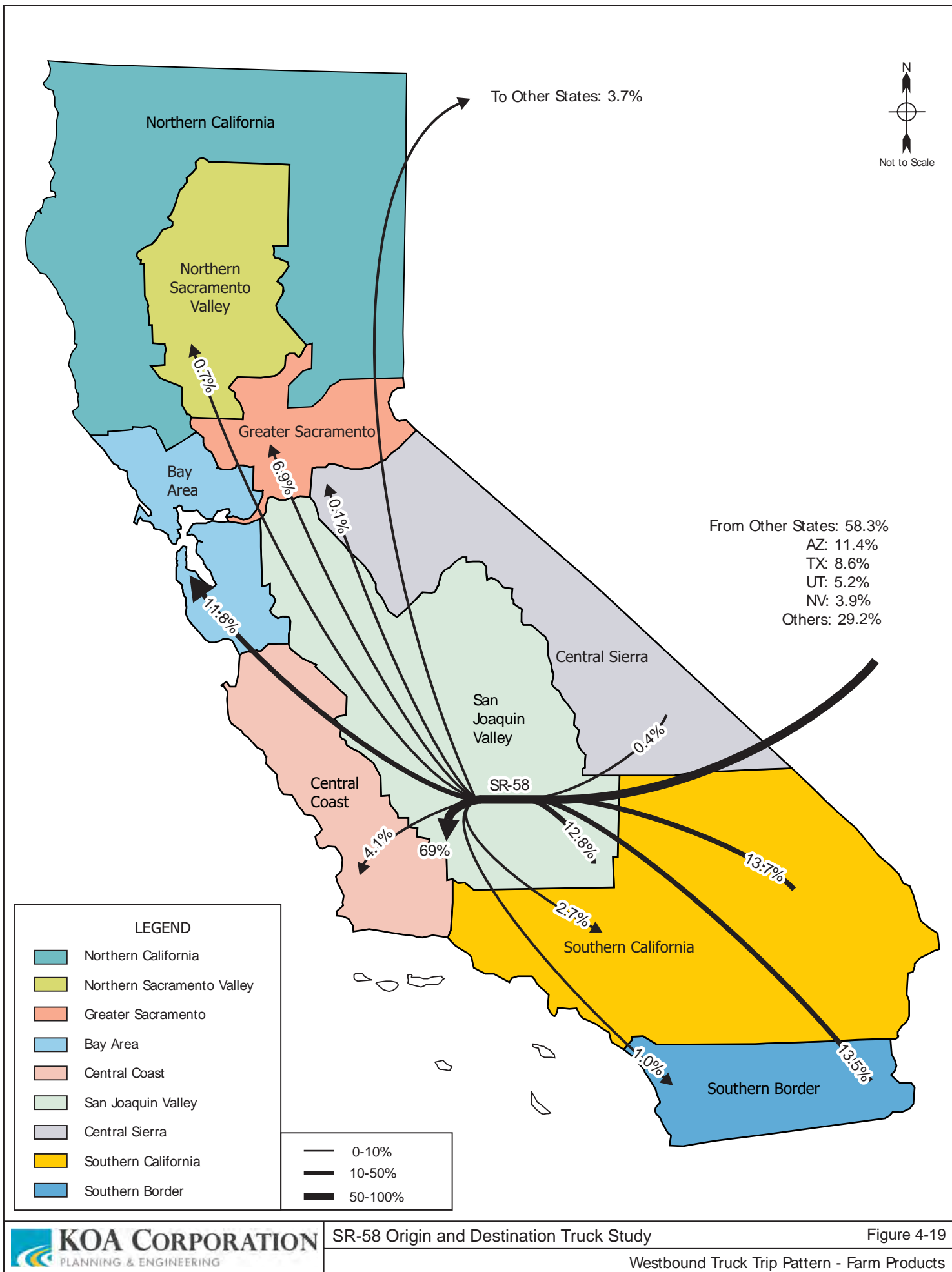
0 200 400 600 800

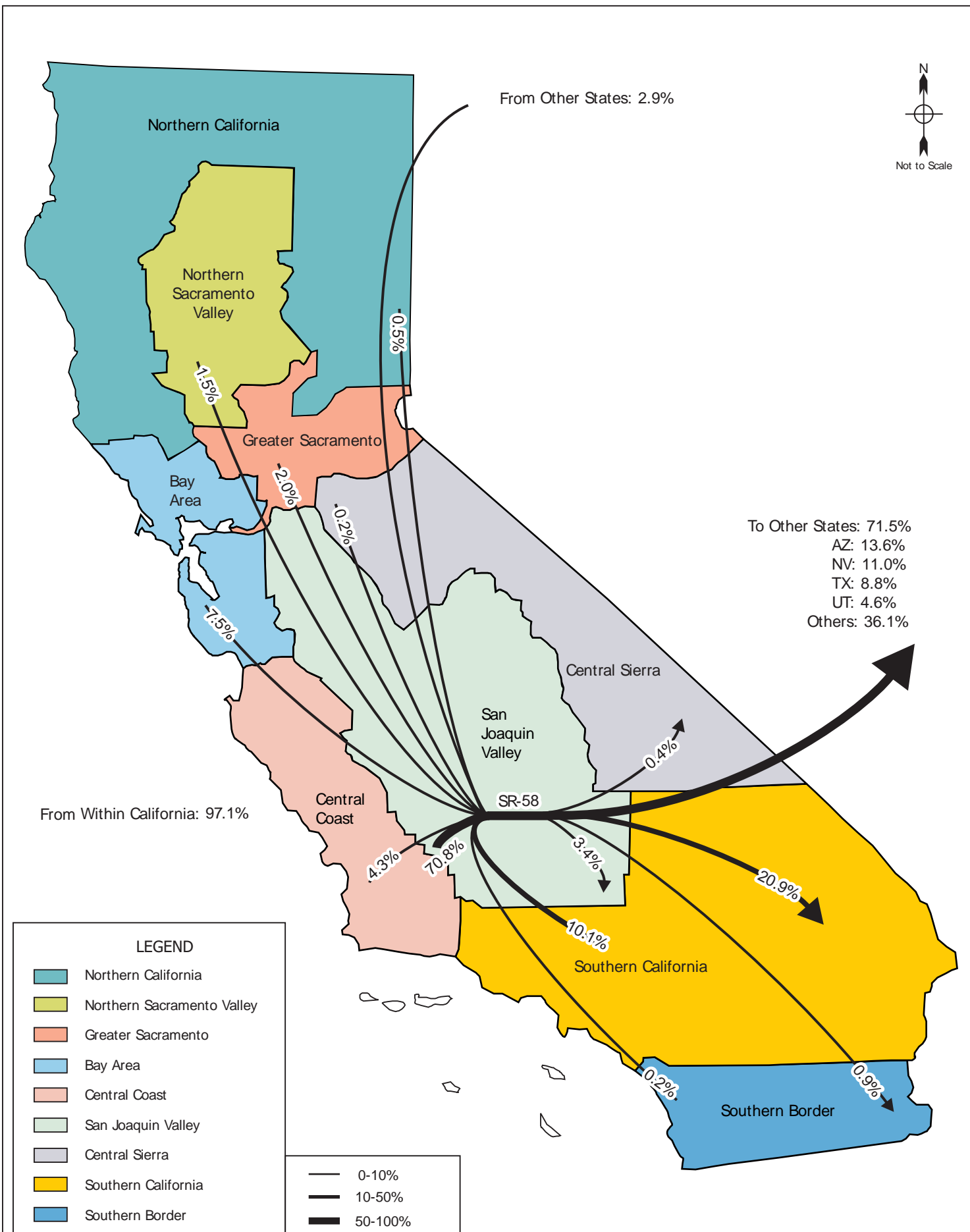
Number of Trucks  
(Total = 1,541)

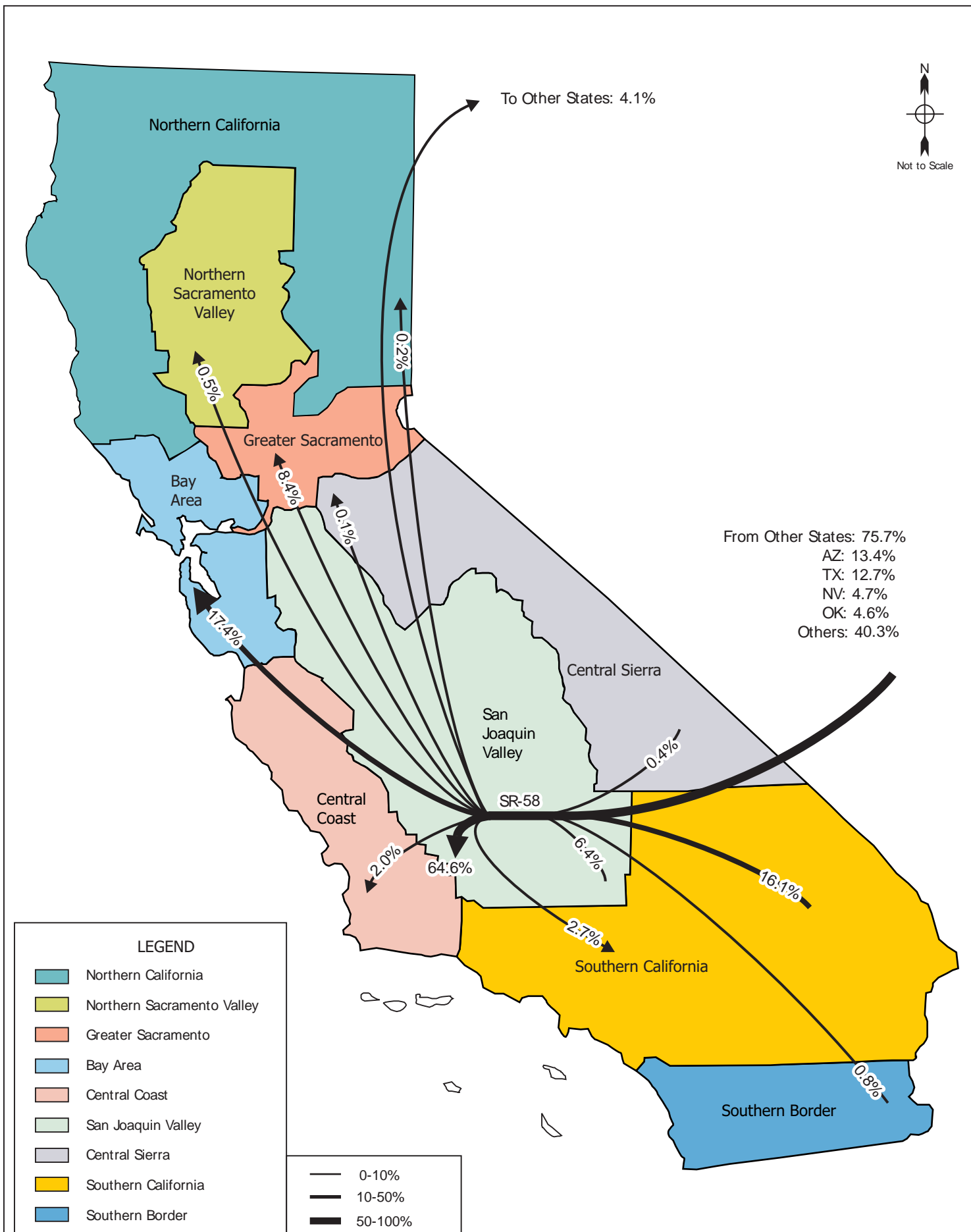
To further illustrate movement of commodities, KOA has developed region-to-region graphics illustrating the regional trip patterns of the top three commodity types (farm products, food products and empty trucks). Below summarizes the results:

- The survey results indicate that 98% of farm products traveling on the Eastbound SR-58 started their trip from within California and 2% from other states. Of the total trips, 46% started their trip from within the San Joaquin Valley Region followed by the Central Coast Region at 37% and the Southern California Region at 9%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 88% are destined for areas outside of California and the remaining 12% are bound for regions within California. Figure 4-18 illustrates the eastbound trip pattern. The survey results indicate produce as the most common farm products carried such as lettuce, grapes strawberries and tomatoes.
- The survey results indicate that 58% of farm products traveling on the westbound SR-58 started their trip from outside of California with the predominate states being: Arizona (11%), Texas (9%), Utah (5%), and Nevada (4%). The 42% trips that originated from within California of which 14% are from the Southern California Region, 14% from the Southern Border Region and 13% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 69% are bound for the San Joaquin Valley Region and 12% are bound for the Bay Area Region. Figure 4-19 illustrates the westbound trip pattern. The survey results indicate chickens and hay as some of the common farm products carried.
- The survey results indicate that 97% of food products traveling on the Eastbound SR-58 started their trip from within California and 3% from other states. Of the total trips, 71% started their trip from within the San Joaquin Valley Region followed by the Southern California Region at 10% and the Bay Area Region at 8%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 72% are destined for areas outside of California and the remaining 28% are bound for regions within California. Figure 4-20 illustrates the eastbound trip pattern. The survey results indicate the most common food products carried are cheese, milk and wine.
- The survey results indicate that 76% of food products traveling on the westbound SR-58 started their trip from outside of California with the predominate states being: Arizona (13%), Texas (13%), Nevada (5%) and Oklahoma (5%). The 24% trips that originated from within California of which 16% are from the Southern California Region, and 6% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 65% are bound for the San Joaquin Valley Region and 17% are bound for the Bay Area Region. Figure 4-21 illustrates the westbound trip pattern. The survey results indicate the most common food products carried are meat and frozen food.









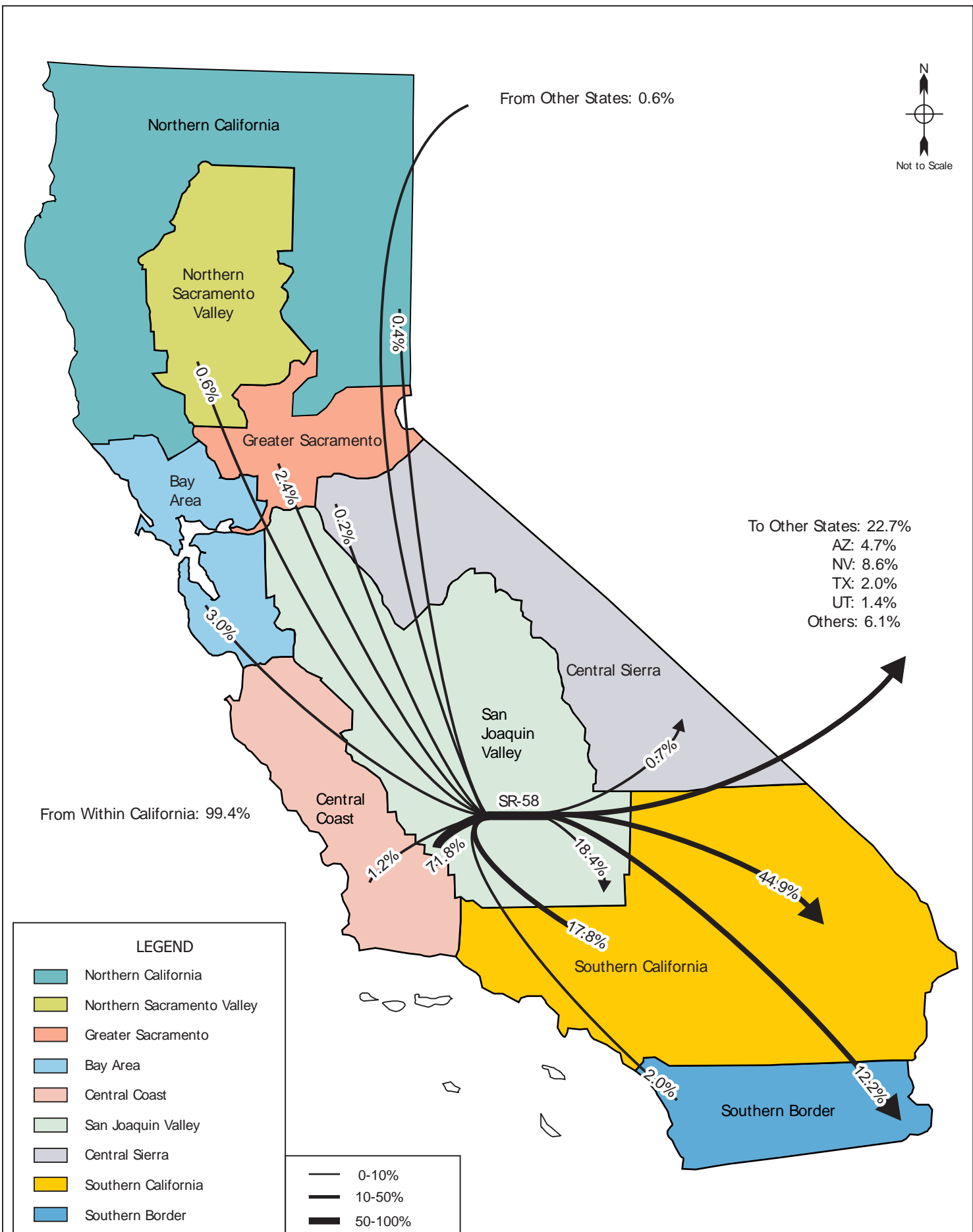


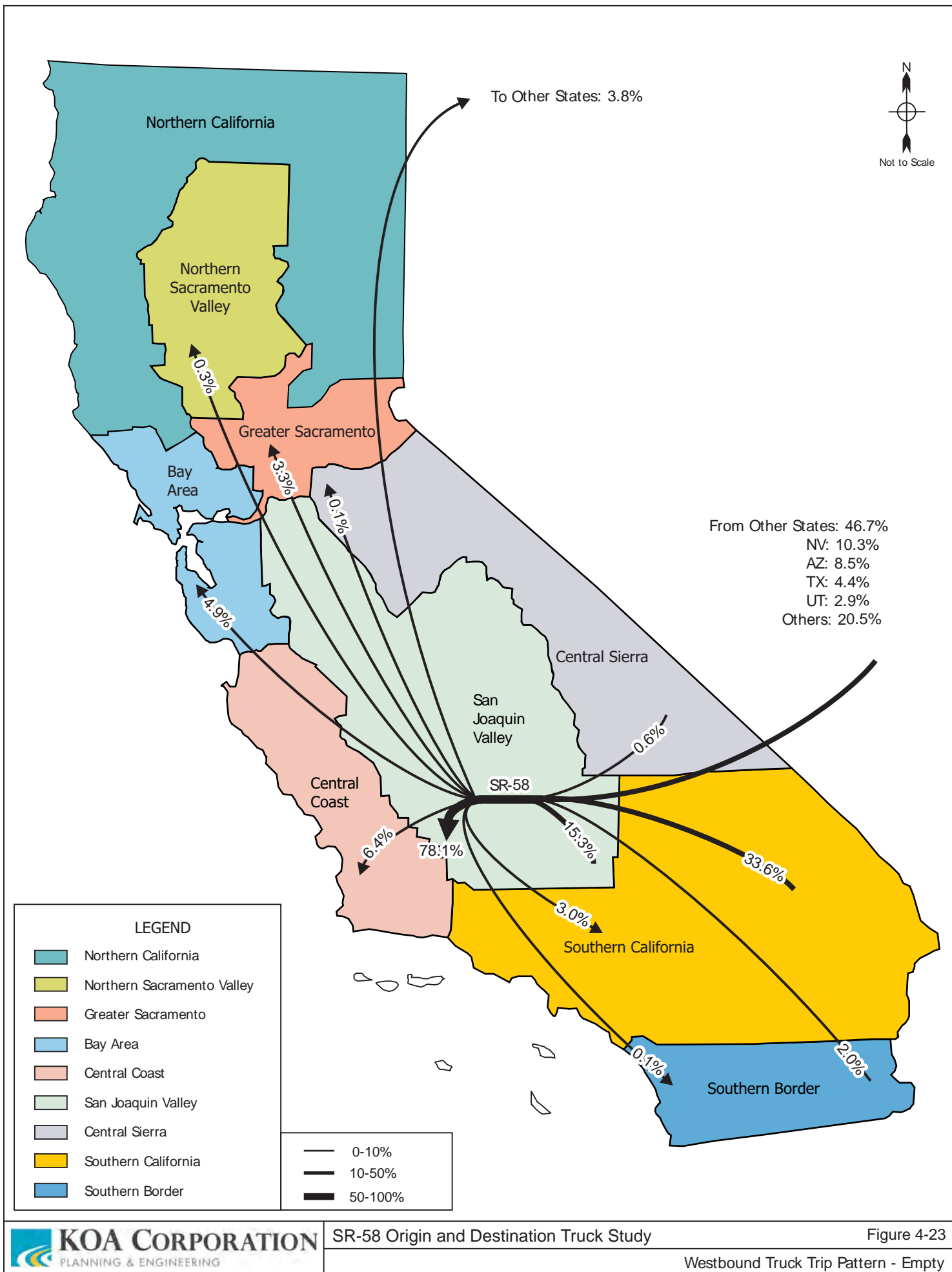
- The survey results indicate that virtually 100% of empty trucks traveling on the Eastbound SR-58 started their trip from within California of which 72% started their trip from within the San Joaquin Valley Region followed by the Southern California Region at 18%. After that, the percentages for the other regions drop off significantly. Of the total eastbound trips, 23% are destined for areas outside of California and the remaining 77% are bound for regions within California. The majority of those trips (45%) are bound for the Southern California Region (likely to San Bernardino and Riverside Counties). Figure 4-22 illustrates the eastbound trip pattern.
- The survey results indicate that 47% of empty trucks traveling on the westbound SR-58 started their trip from outside of California with the predominate states being. The remaining 53% trips that originated from within California of which 34% are from the Southern California Region, and 15% are from the San Joaquin Valley Region. After that, the percentages for the other regions drop off significantly. Of the total westbound trips, 96% are destined for locations within California and the remaining 4% to other states. Of the total trips, 78% are bound for the San Joaquin Valley Region and 6% are bound for the Central Coast Region. Figure 4-23 illustrates the westbound trip pattern.

Due to the vast amount of available data and potential cross-tabulation methods of commodities movements, KOA has compiled a series of matrices to provide a detailed breakdown of movement of goods by states, regions and counties. Appendix L provides the following:

- Matrices of State to State movements of all commodities by seasons and by survey locations
- Matrices of region to region (within California) movements of all commodities by seasons and by survey locations
- Matrices of county to county (within California) movements of all commodities by survey locations

Appendix M provides similar matrices of state-to-state, region-to-region and county-to-county movements for the top three types of commodities.





## 4.10 Commodity Movements

To facilitate analysis of commodity patterns records with blank or unknown commodity fields were removed from the data.

Table 4-84 summarizes the major commodity flows from the Spring and Fall surveys. The first four commodities – Farm Products, Food or Kindred Products, Empties, and Miscellaneous Freight Shipments – ranked the same in both seasons with comparable shares. The two seasons show generally singular commodity shares except for Empties and Waste or Scrap Materials being somewhat more prominent in the Spring, and Farm Products more prominent in the Fall. The total of Farm Products, Empties, and Waste or Scrap Materials is roughly the same in Spring (54%) and Fall (53%). This observation suggests that in the Fall harvest season eastbound trucks were more likely to have Farm Product loads rather than carry Waste or Scrap Materials (e.g. recyclables) or return eastbound empty.

**Table 4-84: Eastbound Commodity Summary**

Product description	Spring Count	Spring Share	Spring Cumulative	Fall Count	Fall Share	Fall Cumulative
Farm Products	972	37%	37%	402	43%	43%
Food or Kindred Products	381	14%	51%	131	14%	57%
Empty	352	13%	64%	79	8%	65%
Miscellaneous Freight Shipments	157	6%	70%	68	7%	72%
Clay, Concrete, Glass, or Stone Products	71	3%	73%	38	4%	76%
Transportation Equipment	66	2%	75%	24	3%	79%
Lumber or Wood Products, excluding Furniture	65	2%	78%	20	2%	81%
Fabricated Metal Products	55	2%	80%	19	2%	83%
Machinery, excluding Electrical	33	1%	81%	19	2%	85%
Waste or Scrap Materials	107	4%	85%	2	2%	87%
Petroleum or Coal Products	59	2%	87%	7	2%	89%
Chemicals or Allied Products	50	2%	89%	15	1%	90%
Non-metallic Minerals	39	1%	90%	13	1%	91%
All Others	256	10%	100%	103	9%	100%
<b>Total</b>	<b>2663</b>	<b>100%</b>	<b>100%</b>	<b>940</b>	<b>100%</b>	<b>100%</b>

Table 4-85 shows the same four leading commodities for westbound trips, but with different proportions. Fall again shows a greater concentration of Farm Products moving in harvest season, but also a larger number of westbound empties. Some of these empty movements may be international containers returning empty to the San Pedro Bay ports in the peak holiday shipping season.

**Table 4-85: Westbound Commodity Summary**

Product description	Spring Count	Spring Share	Spring Cumulative	Fall Count	Fall Share	Fall Cumulative
Food or Kindred Products	650	19%	19%	790	21%	21%
Farm Products	523	15%	35%	881	23%	44%
Empty	284	8%	43%	597	16%	60%
Miscellaneous Freight Shipments	249	7%	51%	310	8%	68%
Rubber or Miscellaneous Plastic Products	131	4%	54%	130	3%	72%
Transportation Equipment	121	4%	58%	114	3%	75%
Pulp, Paper, or Allied Products	96	3%	61%	111	3%	78%
Electrical Machinery, Equipment, or Supplies	75	2%	63%	108	3%	80%
Fabricated Metal Products	124	4%	67%	96	3%	83%
Non-metallic Minerals	102	3%	70%	87	2%	85%
Machinery, excluding Electrical	68	2%	72%	70	2%	87%
Clay, Concrete, Glass, or Stone Products	181	5%	77%	77	2%	89%
Waste or Scrap Materials	158	5%	82%	67	2%	91%
Chemicals or Allied Products	151	4%	86%	66	2%	93%
Primary Metal Products	61	2%	88%	64	2%	94%
Furniture or Fixtures	60	2%	90%	43	1%	95%
All Other	343	10%	100%	171	5%	100%
<b>Total</b>	<b>3377</b>	<b>100%</b>	<b>100%</b>	<b>3782</b>	<b>100%</b>	<b>100%</b>

Table 4-86 through Table 4-88 display the major eastbound commodities originating in California and moving over SR-58. For this analysis records with blank or unknown states were removed from the data as well as those with missing commodity information.

As Table 4-86 shows, the trucks staying in California were empty almost one third of the time (31%). This higher proportion of in-state empties is due to several factors, including:

- one-way loads of cement, propane, building materials, chemicals, gasoline, etc. for which trucks invariably return empty;
- trucks in private fleets delivering from regional distribution centers to local retailers and returning empty (or with empty shipping containers); and
- empty trucks being repositioned short distances between loading points.

Lower-valued commodities such as lumber, non-metallic minerals, and chemicals are more prominent in shorter regional movements, and those commodities show up in Table 4-86 as well.

**Table 4-86: Major Eastbound California Commodities to California Destinations**

Commodity Eastbound CA to CA	Count	Share	Cumulative Share
Empty	311	31%	31%
Farm Products	142	14%	45%
Food or Kindred Products	119	12%	56%
Miscellaneous Freight Shipments	73	7%	64%
Clay, Concrete, Glass, or Stone Products	58	6%	69%
Lumber or Wood Products, excluding Furniture	40	4%	73%
Non-metallic Minerals	33	3%	77%
Chemicals or Allied Products	32	3%	80%
All Others	206	20%	100%
<b>Total</b>	<b>1014</b>	<b>100%</b>	<b>100%</b>

Table 4-87 shows the commodity mix carried in longer trips to Arizona and Nevada over SR-58. Only 8% of these trips are empty compared to 31% within California. Higher-value commodities such as fabricated materials and transportation equipment (chiefly autos) are more prominent. Lower-value commodities such as non-metallic minerals and agricultural chemical are less likely to justify longer truck trips.

**Table 4-87: Major Eastbound California Commodities to Arizona and Nevada**

Commodity Eastbound CA to AZ/NV	Count	Share	Cumulative Share
Food or Kindred Products	117	23%	23%
Farm Products	86	17%	39%
Miscellaneous Freight Shipments	50	10%	49%
Empty	39	8%	56%
Clay, Concrete, Glass, or Stone Products	32	6%	62%
Fabricated Metal Products	24	5%	67%
Transportation Equipment	24	5%	72%
Petroleum or Coal Products	20	4%	76%
Lumber or Wood Products, excluding Furniture	16	3%	79%
Rubber or Miscellaneous Plastic Products	11	2%	81%
All Others	100	19%	100%
<b>Total</b>	<b>519</b>	<b>100%</b>	<b>100%</b>

The longer interstate trips shown in Table 4-88 are even less likely to be empty – only 2%. The dramatic reduction in empty movements from 31% within California to 2% on genuine long-haul movements reflects the underlying economics of trucking. For-hire truckload carriers typically have less than 5% empty miles, and would rarely have a driver make a long trip empty. Instead, the driver will wait or reposition the truck a short distance to pick up a revenue-producing load.

**Table 4-88: Major Eastbound California Commodities to Other Destinations**

Commodity Eastbound CA to Other Destinations	Count	Share	Cumulative Share
Farm Products	884	64%	64%
Food or Kindred Products	205	15%	78%
Miscellaneous Freight Shipments	65	5%	83%
Empty	29	2%	85%
Electrical Machinery, Equipment, or Supplies	19	1%	86%
Transportation Equipment	16	1%	88%
Fabricated Metal Products	14	1%	89%
Rubber or Miscellaneous Plastic Products	14	1%	90%
All Others	144	10%	100%
<b>Total</b>	<b>1390</b>	<b>100%</b>	<b>100%</b>

Table 4-88 also displays a higher-valued commodity mix than Table 4-86 or Table 4-87. Commodities such as cement, stone, lumber, and gasoline are relatively uncommon in true long-haul trucking. Bulk and lower-value commodities are more likely to move long distances by rail than by truck. Farm products moving longer distances by truck are more likely to be higher-valued perishable produce than lower-valued grain or animal feed.

Table 4-89 shows similar patterns for westbound commodity flows. Movements within the state on SR-58 (Table 4-89) are more likely to be empty or involve lower-value commodities. A comparison between Table 4-86 and Table 4-89 shows that trucks moving within California are more likely to be loaded westbound (7% empty) than eastbound (31% empty). Westbound is generally in the direction of the population centers, so this imbalance is logical.

**Table 4-89: Major Westbound California Commodities to California**

Commodity Westbound from CA to CA	Count	Share	Cumulative Share
Empty	293	17%	17%
Farm Products	287	17%	33%
Food or Kindred Products	230	13%	47%
Miscellaneous Freight Shipments	159	9%	56%
Clay, Concrete, Glass, or Stone Products	130	7%	63%
Chemicals or Allied Products	91	5%	68%
Non-metallic Minerals	89	5%	74%
Fabricated Metal Products	57	3%	77%
Petroleum or Coal Products	50	3%	80%
All Others	352	20%	100%
<b>Total</b>	<b>1738</b>	<b>100%</b>	<b>100%</b>



Table 4-90, for westbound AZ/NV origins, shows a reduction in the share of empties, as expected, although not as dramatic as in Table 4-87. Miscellaneous freight shipments are not as prominent westbound (5% in Table 4-90) as eastbound (10% in Table 4-87).

**Table 4-90 : Major Westbound AZ/NV Commodities to California**

<b>Commodity Westbound from AZ/NV to CA</b>	<b>Count</b>	<b>Share</b>	<b>Cumulative Share</b>
Food or Kindred Products	146	18%	18%
Empty	100	13%	31%
Farm Products	98	12%	43%
Clay, Concrete, Glass, or Stone Products	62	8%	51%
Rubber or Miscellaneous Plastic Products	48	6%	57%
Miscellaneous Freight Shipments	40	5%	62%
Fabricated Metal Products	38	5%	67%
Pulp, Paper, or Allied Products	36	5%	71%
Chemicals or Allied Products	34	4%	75%
Transportation Equipment	28	4%	79%
All Others	168	21%	100%
<b>Total</b>	<b>798</b>	<b>100%</b>	<b>100%</b>

Empties decline again in Table 4-91, which covers westbound trips from other origins. As in Table 4-85, the westbound trips show a broader commodity mix than their eastbound counterparts. As in Table 4-88, lower-valued commodities such as lumber and minerals are less prominent on the longer hauls.

**Table 4-91: Major Westbound Other Origin Commodities to California**

<b>Commodity Westbound from Other Origins to CA</b>	<b>Count</b>	<b>Share</b>	<b>Cumulative Share</b>
Food or Kindred Products	473	26%	26%
Farm Products	222	12%	38%
Miscellaneous Freight Shipments	159	9%	46%
Empty	129	7%	53%
Rubber or Miscellaneous Plastic Products	85	5%	58%
Transportation Equipment	82	4%	62%
Chemicals or Allied Products	70	4%	66%
Electrical Machinery, Equipment, or Supplies	70	4%	70%
Fabricated Metal Products	67	4%	73%
Pulp, Paper, or Allied Products	63	3%	77%
Clay, Concrete, Glass, or Stone Products	53	3%	80%
Machinery, excluding Electrical	47	3%	82%
All Others	327	18%	100%
<b>Total</b>	<b>1847</b>	<b>100%</b>	<b>100%</b>

## 4.11 Truck Types and Commodities

The survey data show a very uneven mix of truck types, with semi-tractor trailers (semis) predominating.

- “Straight trucks” include all single-unit trucks (types 5, 6, and 7 in the survey data) and account for 4% of those surveyed;
- “Semis” include all tractor/single trailer combinations (types 8, 9, and 10 in the survey data) and account for 89%; and
- “Doubles” include all two-trailer combinations (types 11, 12, and 13 in the survey data) and account for 7%.

Semis predominate in over-the-road trucking, especially outside urban areas. Within urban areas surveys would typically find a higher percentage of single-unit straight trucks being used for local pickup and delivery and service operations.

Table 4-92 shows the proportion of commodities carried in semis on SR-58. The mix closely parallels the overall study area proportions shown in previous tables. Since semis account for almost 90% of the trucks surveyed, this parallel commodity mix is expected.

As mentioned earlier, long-haul truckload carriers avoid empty moves, so the semis in Table 4-92 display fewer empty moves than the doubles or straight trucks.

**Table 4-92: Commodities Carried in Semi-Tractor Trailers**

Commodities in Semis	Share
Farm Products	26%
Food or Kindred Products	20%
Empty	11%
Miscellaneous Freight Shipments	7%
Clay, Concrete, Glass, or Stone Products	4%
Rubber or Miscellaneous Plastic Products	3%
Transportation Equipment	3%
Fabricated Metal Products	3%
Chemicals or Allied Products	3%
Pulp, Paper, or Allied Products	2%
Electrical Machinery, Equipment, or Supplies	2%
Non-metallic Minerals	2%
Petroleum or Coal Products	2%
Lumber or Wood Products, excluding Furniture	2%
Machinery, excluding Electrical	2%
All Others	9%
<b>Total</b>	<b>100%</b>

Table 4-93 however, shows a noticeably different commodity mix for doubles.

**Table 4-93: Commodities Carried in Double Tractor-Trailers**

Commodities in Doubles	Share
Farm Products	21%
Empty	21%
Miscellaneous Freight Shipments	17%
Clay, Concrete, Glass, or Stone Products	12%
Non-metallic Minerals	4%
Chemicals or Allied Products	4%
Small Packages, LTC or LTL	4%
Transportation Equipment	3%
Food or Kindred Products	3%
Petroleum or Coal Products	2%
All Other	9%

In California, doubles are regularly used for:

- agricultural movements in harvest season, notably fruits and vegetables (Farm Products);
- LTL shipments (Miscellaneous Freight, Small Packages);
- bulk cement and sand (Clay, Concrete, etc.); and
- minerals such as gypsum or borax that must be kept dry (Non-metallic Minerals).

This usage pattern accounts for many of the differences between Table 4-92 and Table 4-93. The agricultural, cement, and mineral shipments are one-way, accounting for the higher percentage of empties.

The commodity mix for straight trucks is shown in Table 4-94, and is dominated by empty movements. This greater frequency of empty movements is likely attributable to the heavier use of straight trucks for local and regional pickup and deliver moves with empty returns.

**Table 4-94: Commodities Carried in Straight Trucks**

<b>Commodities in Straight Trucks</b>	<b>Share</b>
Empty	24%
Farm Products	17%
Miscellaneous Freight Shipments	9%
Food or Kindred Products	7%
Clay, Concrete, Glass, or Stone Products	5%
Transportation Equipment	5%
Machinery, excluding Electrical	4%
Fabricated Metal Products	3%
Electrical Machinery, Equipment, or Supplies	3%
Chemicals or Allied Products	2%
Mail	2%
Non-metallic Minerals	2%
Primary Metal Products	2%
Petroleum or Coal Products	2%
Furniture or Fixtures	2%
Miscellaneous Products of Manufacturing	2%
All Others	8%
<b>Total</b>	<b>100%</b>

The four most prominent commodity classifications in the SR-58 survey data.

- Farm Product movements are dominated by semis with 92% of the total and the rest in a mix of straight trucks and doubles.
- Food and Kindred Products which are typically packaged foods that have undergone some degree of processing, are moved almost exclusively in semis. This category includes packed produce, canned goods, frozen foods, juices, and wines that are likely to move long distances by truck instead of rail.
- Miscellaneous Freight is more likely to move in straight trucks and doubles than are farm or food products. The difference reflects the use of straight trucks and doubles by private delivery fleets and LTL carriers.
- Empties consist of about 81% semis, less than the overall percentage of semis. This finding is consistent with earlier observations regarding efforts by truckload carriers to avoid empty trips.

## 4.12 Route Choice

Question 10 of the truck intercept survey asks the drivers why they chose the travel routes used. Of the 6,042 surveys conducted during the Spring period, 5,879 valid responses were recorded yielding a question response rate of 97.3%. The following provides a statistical summary by location and direction:

**Table 4-95: Statistical Summary of Question 10 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	1,012	97.78%
	WB	1,579	1,561	98.86%
CHP Weigh Station	EB	1,629	1,523	93.49%
	WB	1,799	1,783	99.11%
Total		6,042	5,879	97.30%

Of the 5,295 surveys conducted during the Fall period, 5,218 valid responses were recorded yielding a question response rate of 98.55%. The following provides a statistical summary by location and direction:

**Table 4-96: Statistical Summary of Question 10 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	940	97.61%
	WB	1,219	1,209	99.18%
CHP Weigh Station	EB	1,572	1,556	98.98%
	WB	1,541	1,513	98.18%
Total		5,295	5,218	98.55%

The answers to the question from the Spring and Fall surveys are summarized for all locations. Tables 4-97 and 4-98 provide the summary of the responses.

The most common survey responses include the following:

- Truck Based On This Route
- Trip Stop/Start On This Route
- Shortest/Fastest Route
- Better Weather
- Least Congestion
- Easier Grades or Road Conditions
- Personal Business On This Route
- Other

**Table 4-97: Summary of Route Choice – Spring Season**
**Location: Boron Rest Stop**
**Eastbound**

Reason Route Chosen	Total	%
Truck based on this route	196	19.37%
Trip stop/start on this route	40	3.95%
Shortest/fastest route	589	58.20%
Better weather	5	0.49%
Least congestion	79	7.81%
Easier grades or road conditions	24	2.37%
Personal business on this route	10	0.99%
Other	69	6.82%
Total	1,012	100.00%

**Westbound**

Reason Route Chosen	Total	%
Truck based on this route	106	6.79%
Trip stop/start on this route	53	3.40%
Shortest/fastest route	1,259	80.65%
Better weather	5	0.32%
Least congestion	44	2.82%
Easier grades or road conditions	18	1.15%
Personal business on this route	4	0.26%
Other	72	4.61%
Total	1,561	100.00%

**Location: CHP Weigh Station**
**Eastbound**

Reason Route Chosen	Total	%
Truck based on this route	236	15.50%
Trip stop/start on this route	44	2.89%
Shortest/fastest route	1,051	69.01%
Better weather	32	2.10%
Least congestion	64	4.20%
Easier grades or road conditions	48	3.15%
Personal business on this route	7	0.46%
Other	41	2.69%
Total	1,523	100.00%

**Westbound**

Reason Route Chosen	Total	%
Truck based on this route	144	8.08%
Trip stop/start on this route	16	0.90%
Shortest/fastest route	1,496	83.90%
Better weather	8	0.45%
Least congestion	55	3.08%
Easier grades or road conditions	13	0.73%
Personal business on this route	5	0.28%
Other	46	2.58%
Total	1,783	100.00%

**Overall Totals: Spring & Fall**

Reason Route Chosen	Total	%
Truck based on this route	1,122	10.25%
route	270	2.47%
Shortest/fastest route	8,699	79.46%
Better weather	67	0.61%
Least congestion	352	3.22%
conditions	163	1.49%
route	47	0.43%
Other	228	2.08%
Total	10,948	100.00%

**Table 4-98: Summary of Route Choice – Fall Season**
**Location: Boron Rest Stop**
**Eastbound**

Reason Route Chosen	Total	%
Truck based on this route	181	20.02%
Trip stop/start on this route	28	3.10%
Shortest/fastest route	648	71.68%
Better weather	3	0.33%
Least congestion	31	3.43%
Easier grades or road conditions	13	1.44%
Personal business on this route	0	0.00%
Other	0	0.00%
Total	904	100.00%

**Westbound**

Reason Route Chosen	Total	%
Truck based on this route	40	3.50%
Trip stop/start on this route	18	1.58%
Shortest/fastest route	1,058	92.64%
Better weather	2	0.18%
Least congestion	20	1.75%
Easier grades or road conditions	3	0.26%
Personal business on this route	1	0.09%
Other	0	0.00%
Total	1,142	100.00%

**Location: CHP Weigh Station**
**Eastbound**

Reason Route Chosen	Total	%
Truck based on this route	172	11.18%
Trip stop/start on this route	28	1.82%
Shortest/fastest route	1,234	80.18%
Better weather	10	0.65%
Least congestion	38	2.47%
Easier grades or road conditions	40	2.60%
Personal business on this route	17	1.10%
Other	0	0.00%
Total	1,539	100.00%

**Westbound**

Reason Route Chosen	Total	%
Truck based on this route	47	3.17%
Trip stop/start on this route	43	2.90%
Shortest/fastest route	1,364	91.91%
Better weather	2	0.13%
Least congestion	21	1.42%
Easier grades or road conditions	4	0.27%
Personal business on this route	3	0.20%
Other	0	0.00%
Total	1,484	100.00%

**Overall Totals:**

Reason Route Chosen	Total	%
Truck based on this route	440	8.68%
Trip stop/start on this route	117	2.31%
Shortest/fastest route	4,304	84.91%
Better weather	17	0.34%
Least congestion	110	2.17%
Easier grades or road conditions	60	1.18%
Personal business on this route	21	0.41%
Other	0	0.00%
Total	5,069	100.00%



### 4.13 Truck Driver Suggestions

Question 11 of the truck intercept survey asks the drivers if they have any suggestion to improve transportation for truckers in the area. Of the 6,042 surveys conducted during the Spring period, 3,723 valid responses were recorded yielding a question response rate of 61.6%. The following provides a statistical summary by location and direction:

**Table 4-99: Statistical Summary of Question 11 Responses (Spring)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	1,035	697	67.34%
	WB	1,579	1,294	81.95%
CHP Weigh Station	EB	1,629	779	47.82%
	WB	1,799	953	52.97%
Total		6,042	3,723	61.62%

Of the 5,295 surveys conducted during the Fall period, 3,102 valid responses were recorded yielding a question response rate of 58.58%. The following provides a statistical summary by location and direction:

**Table 4-100: Statistical Summary of Question 11 Responses (Fall)**

Location	Direction	Surveys	Responses	
		Total	Total	%
Boron Rest Stop	EB	963	499	51.82%
	WB	1,219	953	78.18%
CHP Weigh Station	EB	1,572	752	47.84%
	WB	1,541	898	58.27%
Total		5,295	3,102	58.58%

The answers to the question from the Spring and Fall surveys are summarized for all locations. Tables 4-101 and 4-102 provide the summary of responses.

**Table 4-101: Summary of Transportation Improvements – Spring Season**

**Location: Boron Eastbound Rest Stop**

	Response	Approximate %
1	Increase the speed limit	25%
2	Add/widen lanes	20%
3	Repair/maintain the road	15%
4	More rest stops	5%
5	Everything is good	5%
6	No split in speed limit	5%
7	Cheaper gas	5%
8	Cleaner rest areas	Less Than 5%
9	No more surveys	Less Than 5%
10	Reduce CHP presence	Less Than 5%

**Location: Boron Westbound Rest Stop**

	Response	Approximate %
1	Add/widen lanes	30%
2	Increase the speed limit	25%
3	Repair/maintain the road	5%
4	More rest stops	5%
5	Cheaper gas	5%
6	Everything is good	Less Than 5%
7	No split in speed limit	Less Than 5%
8	Wind warnings	Less Than 5%
9	Allow trucks to idle	Less Than 5%
10	Remove railroad tracks	Less Than 5%

**Location: CHP Eastbound Weigh Station**

	Response	Approximate %
1	Increase the speed limit	40%
2	Repair/maintain the road	20%
3	Add/widen lanes	15%
4	Everything is good	15%
5	More rest stops	10%
6	Cheaper gas	5%
7	No split in speed limit	Less Than 5%
8	More lighting on roads	Less Than 5%
9	Less scales	Less Than 5%
10	Too many hills	Less Than 5%

**Location: CHP Westbound Weigh Station**

	Response	Approximate %
1	Increase the speed limit	35%
2	Add/widen lanes	20%
3	Repair/maintain the road	10%
4	More rest stops	5%
5	Cheaper gas	5%
6	No split in speed limit	5%
7	Everything is good	Less Than 5%
8	More lighting on roads	Less Than 5%
9	More signage	Less Than 5%
10	Less scales	Less Than 5%

**Table 4-102: Summary of Transportation Improvements – Fall Season**
**Location: Boron Eastbound Rest Stop**

	Response	Approximate %
1	Increase the speed limit	40%
2	Repair/maintain the road	20%
3	Add/widen lanes	15%
4	More rest stops	5%
5	Everything is good	5%
6	No split in speed limit	5%
7	More parking	Less Than 5%
8	More lighting	Less Than 5%
9	Loosen idle regulations	Less Than 5%
10	Driver education	Less Than 5%

**Location: Boron Westbound Rest Stop**

	Response	Approximate %
1	Increase the speed limit	30%
2	Repair/maintain the road	25%
3	More rest stops	15%
4	Add/widen lanes	10%
5	More parking	5%
6	Everything is good	Less Than 5%
7	No split in speed limit	Less Than 5%
8	Fix the railroad tracks	Less Than 5%
9	More CHP	Less Than 5%
10	Driver education	Less Than 5%

**Location: CHP Eastbound Weigh Station**

	Response	Approximate %
1	Increase the speed limit	20%
2	Repair/maintain the road	20%
3	Add/widen lanes	15%
4	More rest stops	15%
5	No split in speed limit	10%
6	Everything is good	5%
7	More parking	Less Than 5%
8	Better signage	Less Than 5%
9	Move weigh station because of blind curve	Less Than 5%
10	Keep speed limit the same	Less Than 5%

**Location: CHP Westbound Weigh Station**

	Response	Approximate %
1	Add/widen lanes	35%
2	Increase the speed limit	20%
3	Repair/maintain the road	15%
4	More rest stops	5%
5	Everything is good	5%
6	No split in speed limit	5%
7	More parking	Less Than 5%
8	More lighting	Less Than 5%
9	More trees in rest areas	Less Than 5%
10	Driver education	Less Than 5%

## 5.0 COMMERCIAL FLEET OPERATOR SURVEY

### 5.1 Approach

This chapter summarizes results from telephone interviews with firms that use SR-58 between Bakersfield and Barstow. Using multiple sources, Tioga compiled a list of likely fleet truck operators for this survey. This list included both businesses in the study area that were likely to operate their own vehicles, and trucking companies likely to operate in the study area. That list contained over 300 names, Table 5-1 shows the list of businesses. All telephone numbers were called, multiple times if required. This process resulted in contact with 267 firms (other firms did not respond or return calls).

Most participants either did not operate their own trucks, or did not use the route enough to respond to the survey. Only 27 indicated that they operated their own trucks and used the route regularly. Tioga completed interviews with 20 of those (others were not able to complete the interview or did not have sufficient information to do so).

Figure 5-1 shows the locations of these candidate firms in the study area. As the map suggests, trucking fleets are typically located near population centers – e.g. Bakersfield, Tehachapi, Mojave, and Barstow. Some are also located at production points such as quarries and growing areas.

Based on responses that gave other names or firms, Tioga augmented its original list and obtained responses from additional firms using the study route. From the Kern COG Tioga also received a list of distribution centers located in or near Kern County. Table 5-2 summarizes the list of distribution centers.

Tioga contacted each of these and, where appropriate, other firms that provided trucking services to or from the distribution centers. The survey results reflect information received from these contacts.

Tioga also contacted truck stops and truck tow and repair services along the route to inquire about other fleet operators that may have been overlooked. This resulted in a small number of additional names, all of which were contacted. Overall, 32 firms from all sources said they used the study route and completed interviews.

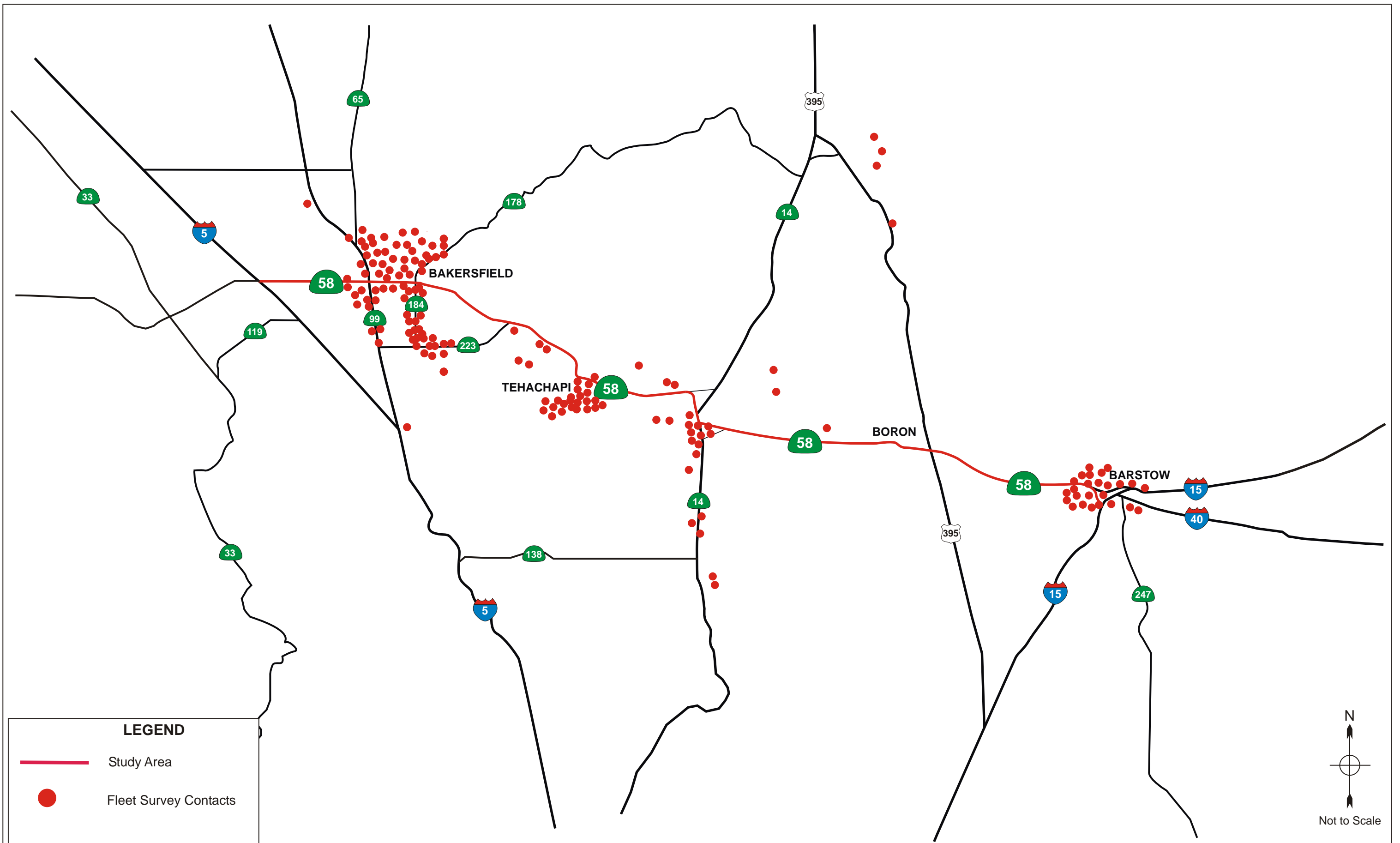
Table 5-3 gives the final list of firms that responded to the survey and used SR-58.

**Table 5-1: Initial Survey Candidate List**

Name	City	Name	City	Name	City	Name	City
Agricare	Arvin	Quality Fabrics & Supply Co.	Bakersfield	HPS Mechanical Inc.	Bakersfield	ARC Towing	Barstow
Key Cold Storage	Arvin	Calcot Ltd	Bakersfield	Kim Marrs Excavation	Bakersfield	Barstow Repair Center	Barstow
ALG Enterprises	Arvin	Progressive Farms	Bakersfield	Pacific Pipeline System	Bakersfield	Fast Trac Towing	Barstow
Caliente Farms	Arvin	Johnston Farms	Bakersfield	Ruben's Pipeline	Bakersfield	Paso Auto Towing	Barstow
El Rancho Farms	Arvin	Cummins West Inc	Bakersfield	Sandoval Construction	Bakersfield	Y2k Auto Wrecking	Barstow
Grimmway Farms	Arvin	Banner Farms Inc	Bakersfield	Ventura Directional Drilling	Bakersfield	Extreme Marine	Barstow
Grimmway Farms	Arvin	Cattani & Sons	Bakersfield	West Valley Construction Co	Bakersfield	California Cylinder Corp	Barstow
Bugni Hardware & Feed	Arvin	Corotto Co.	Bakersfield	Mojave Pipeline Operating Co	Bakersfield	Arrowhead Rockdrill Inc	Barstow
Hydratec	Arvin	Grimmway Farms	Bakersfield	GE Aeroderivative & Package	Bakersfield	De Loss Crane & Rigging Inc	Barstow
Arvin Glass	Arvin	Johnston Farms	Bakersfield	Landstar Inway inc	Bakersfield	De Loss Crane & Rigging Inc	Barstow
Garcia Family Farms	Arvin	Kundert Brothers Farms	Bakersfield	Valley Propane Service	Bakersfield	H & B Mechanical Inc	Barstow
Gold Ribbon Potato Co.	Arvin	Lehr Brothers, Inc.	Bakersfield	ATB Material Handling	Bakersfield	H & E Do It Yourself Center	Barstow
Green Valley Packers LLC	Arvin	Toy's Turf	Bakersfield	Newby Rubber Co.	Bakersfield	T E Deloss Equipment Rentals	Barstow
John J Kovacevich & Sons	Arvin	William Bolthouse Farms Inc	Bakersfield	Bulk Yard	Bakersfield	Apple Valley Dairy	Barstow
Kern Ridge Growers LLC	Arvin	San Joaquin Valley Dairy Equipment	Bakersfield	Triple E Trucking	Bakersfield	Consolidated Electrical Distributor	Barstow
Kerschman Enterprises	Arvin	Sunrise Sprayers	Bakersfield	Armstrong Distributing Co	Bakersfield	Smith's Feed & Farm Supply	Barstow
Scale House	Arvin	Bakersfield Irrigation Co.	Bakersfield	Frazier Industrial Co.	Bakersfield	McCoy's Country Feed & Supply	Barstow
Sunview Vineyards	Arvin	C & W Irrigation Inc.	Bakersfield	Agro Chemical	Bakersfield	Barstow Fuel	Barstow
Trino Packing & Cold Storage	Arvin	J H Biotech Inc.	Bakersfield	Best Weigh Scale Co inc.	Bakersfield	Appliance & Furniture Outlet	Barstow
White Wolf Potato Co.	Arvin	M&M Boys Irrigation	Bakersfield	Delta Scale	Bakersfield	Armando's Furniture Warehouse	Barstow
Green Earth Resources Inc	Arvin	Mazzei injector Corp	Bakersfield	Fleet Parts & Instruments Co	Bakersfield	Barstow Flooring & Home	Barstow
Blackburn Oil Co. LLC	Arvin	Pacific Irrigation Inc.	Bakersfield	FMP Vineyards	Bakersfield	Hometown Furniture	Barstow
De Le Garza Trucking Co.	Arvin	Sierra Valley Ag Supply	Bakersfield	General Scales Inc	Bakersfield	All Star Glass	Barstow
Ojeda Trucking	Arvin	Simplot Soilbuilders	Bakersfield	Kern River Scale	Bakersfield	Barstow Glass & Mirror	Barstow
Bakersfield Auto Auction	Bakersfield	Western Nutrients Corp/Western Mixers	Bakersfield	D-J Manufacturing Inc	Bakersfield	Haver Glass Co	Barstow
Best Value Furniture Warehouse	Bakersfield	World Seed	Bakersfield	Brock's Trailers	Bakersfield	Home Depot	Barstow
Copart Salvage Auto Auctions	Bakersfield	Alvarez Feed & Pet	Bakersfield	Bartley Trucking	Bakersfield	Valley Ace Lumber & Hardware	Barstow
Dunlap Auto Sales	Bakersfield	East Hill Feed & Supply	Bakersfield	Cox Petroleum Transport	Bakersfield	Barstow Industrial Supply	Barstow
Benchmark Apiaries	Bakersfield	Re Screen & Glass	Bakersfield	Cox Petroleum Transport Co.	Bakersfield	High Desert Appliances	Barstow
Happie Bee Co.	Bakersfield	Bolt house Farms -- Shipping Dept.	Bakersfield	ISD Transportation	Bakersfield	Metal Shop	Barstow
Arvin Building Materials	Bakersfield	David L Moore Farms	Bakersfield	Pacific Transport Refrigeration	Bakersfield	Allstate Express Moving	Barstow
E. A. Shields Inc.	Bakersfield	Stillwell Equipment Sales	Bakersfield	Bakersfield Cotton Warehouse	Bakersfield	Barsrow Transfer & Storage	Barstow
Mid-Cal Materials Inc.	Bakersfield	Sully & Sons Hydraulics Inc	Bakersfield	BS&E Co Inc.	Bakersfield	Fidelity Moving Co Inc	Barstow
Vulcan Materials Co.	Bakersfield	Golden State Metals	Bakersfield	Flashco	Bakersfield	Pro Flame	Barstow
Walco International	Bakersfield	Sunridge Nurseries	Bakersfield	Virginia Ford Trucking, Inc.	Bakersfield	Silver Valley Propane	Barstow
Kern Chemical & Equipment Co.	Bakersfield	Zack's Big Tree Nursery	Bakersfield	Western Warehouse	Bakersfield	Barstow Refrigeration	Barstow
Sierra Recycling & Demolition	Bakersfield	Atlantic Oil Co.	Bakersfield	Indoff inc	Bakersfield	Clemmer Services Inc	Barstow
Bakersfield Cold & Dry Storage	Bakersfield	Jr Pallets	Bakersfield	Galbraith's Horse Trailer Sales	Bakersfield	H & B Refrigerations Service	Barstow
Kern Ice & Cold Storage Co.	Bakersfield	Kimber Pallets	Bakersfield	Barstow Auto Sales	Barstow	High Desert Refrigeration	Barstow
United States Cold Storage	Bakersfield	Kimber Pallets	Bakersfield	Eugene Villanueva Jeep	Barstow	Ice Machine Service	Barstow
R & N Enterprises	Bakersfield	Kern Oil & Refining	Bakersfield	Ideal Auto Center	Barstow	Barstow Transfer & Storage	Barstow
Central Valley Packaging	Bakersfield	Wholesale Fuel, Inc.	Bakersfield	Soutar's Chrysler Dodge Jeep	Barstow	Miller Transfer & Storage	Barstow
Frank H. Guidera Co	Bakersfield	Brown & Fowler Construction	Bakersfield	Soutar's Ford Lincoln Mercury	Barstow	Cardiff Trucking	Barstow
Peter Deboer Dairy	Bakersfield	Griffith Co	Bakersfield	A-I Auto Wreckers	Barstow	G E Transportation	Barstow

**Table 5-1: Initial Survey Candidate List (Continued)**

Name	City	Name	City	Name	City	Name	City
Garrett Moving & Storage	Barstow	Progress Rail Service	Mojave	Bidart Bros Apple Packing	Shafter	Tehachapi Furniture & Mattress	Tehachapi
M V Transportation	Barstow	Valpey's Auto & Truck Salvage	Mojave	H & D Trucking	Squaw Valley	Integrity Glass	Tehachapi
Pilot Transportation	Barstow	Bell Aviation Service	Mojave	Unique Bacterial Distributors	Tehachapi	Safelite Auto Glass	Tehachapi
Roman Trucking	Barstow	Capsed Ltd	Mojave	Dublos Chemical	Tehachapi	Tehachapi Auto Glass	Tehachapi
Burtec Waste/Desert Disposal Service	Barstow	Derringer Aircraft Co LLC	Mojave	Adee Honey Farms	Tehachapi	Hartnett Apple Farm	Tehachapi
Big Snowy Resources LP	Boron	Hidden Valley Helicopters	Mojave	L W Spiro & Assoc	Tehachapi	Tehachapi Mountain Vineyard	Tehachapi
US Borax Inc	Boron	National Test Pilot School	Mojave	Double R Car Co	Tehachapi	Central Valley Steel Buildings	Tehachapi
Cal Sanitation-Kramer Service	Boron	P & M Aircraft	Mojave	Tehachapi Auto Sales	Tehachapi	Home Depot	Tehachapi
Lift Tech	California City	Voyager Aerospace	Mojave	Front Line Auto Sales	Tehachapi	Pioneer Home Center	Tehachapi
Benz Propane	California City	Antelope Valley General Aviation	Mojave	Hiway Motors	Tehachapi	Tehachapi Lumber Co	Tehachapi
Whites Auto Dismantling	California City	Kieff & Sons Ford	Mojave	Abbey Carpet of Tehachapi	Tehachapi	A-I Appliance & Air Conditioning	Tehachapi
McClusky Machinery	Edison	Paradise Motorz	Mojave	Cottage Carpets	Tehachapi	A-I Appliance & Air Conditioning	Tehachapi
Buds Oil Co.	Edison	Proto Flight	Mojave	Inner-Spec Tile & Design	Tehachapi	Oak Valley Appliance	Tehachapi
Desert View Dairy	Hinkley	Carder's truck Repair	Mojave	Moses-Master Carpet	Tehachapi	Quartz Hill Mechanical	Tehachapi
Austin & Austin	Keene	Mojave Motors	Mojave	B S & E Equipment Rental	Tehachapi	Sears Roebuck & Co	Tehachapi
Maxco Supply	Lamont	Ramos-Strong Inc	Mojave	Benz Sanitation/Tehachapi Sanitation	Tehachapi	Just Johnson Tehachapi	Tehachapi
Grimmway Farms	Lamont	Doomid Inc.	Mojave	Solveson Crane Co	Tehachapi	Carlton Global Resources LLC	Tehachapi
Cal Organic Farms	Lamont	Ramos-Strong Inc	Mojave	Tehachapi Dismantling & Equipment	Tehachapi	CTV	Tehachapi
Kirschenmann Enterprises, inc	Lamont	S & Y Carpet & Furniture	Mojave	Foothill Farms	Tehachapi	Benz Propane	Tehachapi
Calpine Containers	Lamont	Highway Glass	Mojave	Keene Ranch	Tehachapi	Tehachapi Rock & Landscape	Tehachapi
Del Campo Trucking	Lamont	Jaco Oil	Mojave	Loop Ranch	Tehachapi	Ward Automatic Machine Products	Tehachapi
Mountain Propane	Lancaster	Paramount Petroleum Corp	Mojave	Morning Star Ranch	Tehachapi	Wasco Inc	Tehachapi
Suburban Propane	Lancaster	Oasis Protective Covers	Mojave	Mountain Delights	Tehachapi	H B Trucking	Tehachapi
Nickolson Trucking	Minden	ESI Operating Svc	Mojave	Nunes Ranch	Tehachapi	West-Mark	Tehachapi
Interorbital Systems	Mojave	Ridgetop Energy LLC	Mojave	Old Town Ranch	Tehachapi	Wade Trucking	Tehachapi
Voyager Aerospace	Mojave	Got Rocks	Mojave	Pass Creek Ranch	Tehachapi	M L Enterprise Warehouse	Tehachapi
Xcor Aerospace	Mojave	United Rentals	Ridgecrest	Tanglewood Farm	Tehachapi	Hartman's H2o Trucking	Tehachapi
Nikior Chemical	Mojave	Mom's Furniture	Ridgecrest	Tranquility Farm	Tehachapi	American Borate Co	Yermo
PPG Aerospace	Mojave	BCI Trucking	Ridgecrest	Hemme Hay & Feed	Tehachapi		
Desert Truck Service	Mojave	Bertrand Enterprises	Ridgecrest	Ranch Service & Supply Co	Tehachapi		
Doomid, Inc.	Mojave	Boydston Construction Co.	Ridgecrest	Alton's Furniture Gallery	Tehachapi		
East Kern Airport District	Mojave	SPG Fork Lift	Rosamond	Furniture Outlet New & Used	Tehachapi		
Hansen Enterprises	Mojave	Feed Works	Rosamond	Hillside Interiors	Tehachapi		
Price Saver Truck Stop	Mojave	Delta Liquid Energy	Rosamond	R & P Designs	Tehachapi		





**Table 5-2: Distribution Center List**

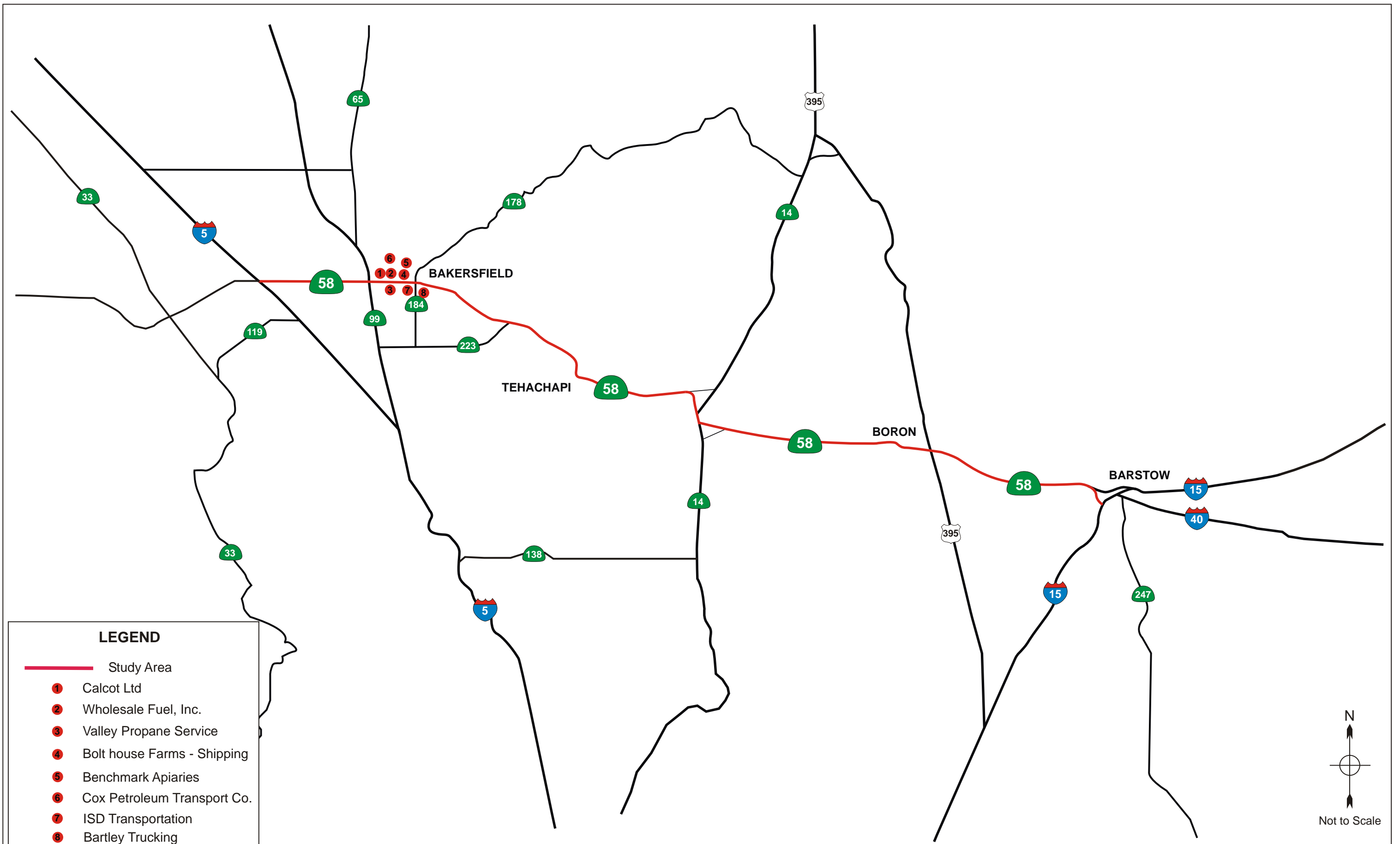
Name	Street Address	City	Type
Target Dist. Center	3880 Zachary Avenue	Shafter	Retail
Cal Cot	P.O. Box 259	Bakersfield	Agriculture
Frito Lay	22801 Highway 58	Bakersfield	Food
Car Quest	34928 McMurty Avenue	Bakersfield	Retail
Walmart	1250 W. Henderson Ave.	Porterville	Retail
Paramount	1901 S. Lexington St.	Delano	Agriculture
Tejon Ranch/IKEA Dist.Center	4436 Lebec Road	Lebec	Information
Nestles	7301 District Boulevard	Bakersfield	Food
Heidelberg Cement	13573 Tehachapi Blvd.	Tehachapi	Industrial
Portland Cement	9350 Oak Creek Road	Mojave	Industrial
Western United Dairymen	1315 K Street	Modesto	Agriculture
Rio Bravo Tomato Co. LLC	PO Box 515	Buttonwillow	Agriculture

**Table 5-3: Fleet Survey Respondents**

Name	Type	Use	Comments on SR-58 Use
Barstow Fuel	Fuel Oil	Infrequent	Too infrequently to comment
Bartley Trucking	Trucking	Weekly to Daily	Uses SR-58, but gave no details
Benchmark Apiaries	Beekeeper	Frequent - small trucks	Use often, but only with pickups
Benz Propane	Propane Distributor	Weekly to Daily	Daily propane distribution runs
Benz/Tehachapi Sanitation	Sanitation	Weekly to Daily	Uses daily, but gave no details.
Bolthouse Farms	Grower-Shipper	Infrequent	Very rarely use, but not regularly enough to comment
Calcot Ltd	Cotton sales	Outside truckers	Only use outside truckers
Carquest	Auto Parts	Frequent - small trucks	Daily deliveries as far as Bishop
Cox Petroleum Transport	Trucking	Multiple Daily	Petroleum products -- est. 1,000+ weekly trips
Cox Petroleum Transport Co.	Trucking		See above
De Le Garza Trucking Co.	Trucking	Seasonal/Project	About 20 trips/week in season. (Jan-Mar) Carrots
Delta Liquid Energy	Petroleum products	Weekly to Daily	Regular delivery of petroleum products
Frito-Lay	Food Products	Frequent - small trucks	21 weekly delivery routes use SR-58. Sometimes to LA
Garrett Moving & Storage	Trucking	Weekly to Daily	Use 1 - 5 times weekly for household goods moving
Grimmway Farms	Farm	Seasonal/Project	Many times daily in season, but Juarez does all trucking
Happie Bee Co.	Beekeeper	Frequent - small trucks	Use often, but only with pickups
ISD Transportation	Trucking	Weekly to Daily	7+ weekly rt's. Produce to East, Gen'l merchandise to West
Keystone Transportation	Target Dedicated Trucker	Weekly to Daily	Use daily to Palmdale, Lancaster & Apple Valley
Lawson Trucking	Trucking	Seasonal/Project	No trips now, but sometimes 100+ weekly. Rock, etc.
Lehigh/Southwest Cement	Cement	Infrequent	60 weekly trips. Deliver cement, return empty. Regional
Mountain Propane	Gas Sales	Weekly to Daily	Regular propane deliveries
Patterson Motor Freight	Trucking	Weekly to Daily	2 weekly trips each direction. Oilfield equip to TX & WY
Pro Flame	Propane Distributor	Weekly to Daily	Twice weekly for propane deliveries
Ramos-Strong Inc	Fuel Dealer	Weekly to Daily	Uses daily for petroleum product delivery
Silver Valley Propane	Propane Distributor	Infrequent	Use for propane deliveries, but too little to comment
Suburban Propane	Lubricating Oils	Weekly to Daily	Regular delivery of petroleum products
Swift Transportation	Target Dedicated Trucker	Infrequent	Use SR-58 only if Grapevine closed
Tehachapi Lumber Co	Lumber	Infrequent	Uses infrequently for lumber delivery in local area
Triple E Trucking	Sand & Gravel	Multiple Daily	Around 300 weekly trips. Sand, gravel, etc.
Valley Propane Service	Propane Sales	Weekly to Daily	Regular propane delivery route ( 14 times weekly)
Virginia Ford Trucking, Inc.	Trucking	Multiple Daily	100's of weekly trips. Sand, gravel, etc. Kern County only
Wade Trucking	Trucking	Multiple Daily	15-20 trips weekly. Carries bulk cement
Wholesale Fuel, Inc.	Petroleum Products	Multiple Daily	Runs regular petroleum product delivery routes (70+/wk)

The respondents provide a good variety of operators and services. About two-thirds of the respondents were commercial carriers, and the remainder were private fleets. The respondents represent about equal numbers of national, regional and local carriers. About half of the respondents were based in Bakersfield, about forty percent were based elsewhere in the study area, and about ten percent were based outside the study area. Figure 5-2 shows a sample of truck fleet locations near SR-58 in Bakersfield.

The commodities hauled varied from produce and food products to petroleum products, general merchandise and specialized equipment.



## **5.2 Local Users**

Haulers of sand, gravel, rock and asphalt reported the heaviest local use of SR-58. One respondent in this category reported “hundreds of trips per day” on that route. Another estimated over 300 trips per week. These firms reported that their use of SR-58 depending largely on paving projects. Their use increased in the summer, and virtually halted in the winter. They normally did not re-route their trucks during storms because there was no paving work done during a storm. Their overall use of the study route increased in the last five years. No other large category of users estimated usage in these magnitudes.

One petroleum hauler had its operations adjacent to SR-58 in eastern Bakersfield, and reported extremely heavy usage (running at perhaps 2,000 to 3,000 trips per week). Its use has increased as oil prices have risen, and Kern County pumping has changed.

Other local carriers involved wholesale delivery of petroleum products (primarily gasoline and propane) to dealers, and to individual customers. There were similar periodic delivery routes for food products and auto parts. Most Less-than-Truckload (LTL) activity reported fell into this category (i.e. supplying local outlets on periodic delivery routes). There were also various service routes such as apiaries and septic service, but these involved pickup-sized vehicles rather than large trucks.

Most of the local activity centered on Bakersfield, but there were also some local delivery routes in the area from Tehachapi to Mojave, and in the area surrounding Barstow.

## **5.3 Regional Activities**

The great bulk of the regional activity reported came in hauls to and from the Los Angeles area. Here, truckers use SR-58 for at least three different reasons:

- As a primary route for shipment, usually to the eastern areas such as San Bernardino and Riverside Counties;
- As an alternative to I-5 over the Grapevine during storms; and
- As a preferred alternative to I-10 and I-210 for shipments to eastern Los Angeles County when traffic congestion slows the Los Angeles County east-bound routes.

Virtually all of the users to or from the Los Angeles and Inland Empire areas reported using US-395 through Adelanto to connect with SR-58, although a few reported using SR-14 through Lancaster and Palmdale.

A very great number of respondents reported that SR-58 is less affected by adverse weather and route conditions than is I-5, and they re-route trucks over SR-58 often during the winter months. In addition, almost all respondents found SR-58 less crowded than the Los Angeles County eastbound freeways, such as I-10 or I-210, and I-5. Although the overall length of I-5 was shorter, it often took longer. Many of the dispatchers commented that their drivers had far fewer complaints about SR-58 than they did about other routes, although virtually all of them expressed concern about the area near Kramer Junction (see discussion below).

## **5.4 National Activities**

Those reporting national activities largely used SR-58 to haul goods to points east using I-15 through Las Vegas, although some reported using I-40 and I-10. Produce was the most common commodity reported on eastbound shipments, with general merchandise most likely to come west. Other than at Bakersfield, no carrier with national operations reported any base, terminal or layover location on the study route.

## **5.5 Study Area Fleets**

There were a variety of fleets based in the study area. All of these were in Bakersfield, except for one moving company in Barstow. The rock/sand/gravel/asphalt and the petroleum delivery fleets dispatch their trucks several times a day, and account for the great bulk of total trips reported. Most of these reported only regional or local activity.

The only LTL deliveries reported were those making regular delivery routes for petroleum products, food products and auto parts.<sup>1</sup> These were also the only respondents reporting regular use of SR-14 northbound to the Bishop area. These respondents usually reported that they would make deliveries on a regular schedule, regardless of the amount of the load, and were usually equipped to supply product to customers in severe weather.

There were also a few operators of fleets with national scope in Bakersfield. They would normally dispatch one vehicle or less eastbound per day, and would receive one vehicle westbound as well. This was full truckload service. One respondent, who hauled oilfield equipment nationwide, reported making LTL shipments, however.

## **5.6 Operational Metrics**

### **5.6.1 Usage**

Since most of the respondents did not report usage of SR-58, these results reflect only those who actually reported use of the study area. Most reported between 10-20 weekly trips. About fifteen percent reported fewer than 10 weekly trips, while about twenty percent reported 20-50 trips per week. As reported earlier, the paving and construction material suppliers and petroleum transporters reported the heaviest usage; one estimated over 2,000 weekly trips. The construction material haulers emphasized that their usage depended on the number of paving and construction jobs, and thought they may see less activity if construction continues to decrease. Conversely, the petroleum haulers believed

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<sup>1</sup> This study did not attempt to contact parcel services such as UPS or Federal Express. This is discussed in this section on suggested future study.

that they were seeing increased activity due to the higher price of petroleum, and that this would probably continue if the price of petroleum stayed high.

The LTL delivery route operators reported between two and three supply trips weekly each. They all reported additional trips as needed, however. The full truckload operators reported trips originating daily, although there appeared to be fewer doing so on Sundays.

Two carriers reported lower business in the last five years. Five reported increases. Most reported fairly steady business during that time period.

### **5.6.2 Seasonality**

While most operators reported some seasonality, there was no uniformity as to the season. General merchandise carriers reported increases in October and November. Produce haulers generally reported more traffic in summer and little in winter, but carrot haulers reported January – March as their biggest season. Construction-dependent operators reported more activity in summer and very little from December – March. Petroleum product suppliers reported variations in amounts delivered through the seasons, but most reported that this affected the load, rather than the frequency of trips.

### **5.6.3 Equipment and Commodities Transported**

Most carriers operate semi tractor-trailers (a separate tractor pulling one or more trailers), although the petroleum-product and cement suppliers often use straight trucks (a single unit such as a cement mixer or dump truck). The respondents reported a great variety of goods transported, from foodstuffs to petroleum products. No generalization was possible with the responses provided.

### **5.7 Adverse Weather**

Most respondents reported changes in the use of SR-58 during adverse weather. Specifically, most reported re-routing trucks from I-5 over the Grapevine to SR-58. Most felt that SR-58 was less subject to closure during adverse weather. Some respondents, however, noted that SR-58 was more susceptible to blowing dust, and closure, than I-5. The rock/gravel/sand/asphalt haulers reported no re-routing in adverse weather – if the weather was bad, there would be no need for their product that day.

### **5.8 Comments On Operating Conditions On SR-58**

The most common response was that SR-58 was a relatively good route, and that there were few driver complaints compared with alternatives. There were nonetheless certain matters mentioned almost uniformly:

- There is a two-lane stretch at and around Kramer Junction that virtually everyone using that route reported to be dangerous, crowded and slow.
- Most appreciated the added lane at the SR-99/SR-58 junction, but felt that the extra lane should extend further to the east.

- A few respondents felt that there were increased sand and dust problems west of Mojave after the bypass was built, due to inadequate ground cover. All emphasized, however, that they appreciated that bypass.
- Those respondents whose operations were most localized around Bakersfield felt that the road there needed general reconditioning or rebuilding.

Overall, with the exceptions noted above, most respondents felt that their drivers liked the route.