

9/27/04

| Scenario | HBPurpose | Surveys | VehicleTrips | PersonTrips |
|--|-----------|---------|--------------|-------------|
| Bi-regional auto trips through three stations | ALL | 3952 | 60485 | 82284 |
| Bi-regional auto trips through three stations | HBO | 1581 | 22741 | 33685 |
| Bi-regional auto trips through three stations | HBW | 1206 | 20010 | 23711 |
| Bi-regional auto trips through three stations | NHB | 970 | 14382 | 19589 |
| Bi-regional auto trips through three stations | Unknown | 195 | 3352 | 5299 |
| Bi-regional auto trips through three stations with correct endpoints | ALL | 3523 | 53984 | 72974 |
| Bi-regional auto trips through three stations with correct endpoints | HBO | 1380 | 19892 | 29294 |
| Bi-regional auto trips through three stations with correct endpoints | HBW | 1082 | 17992 | 21145 |
| Bi-regional auto trips through three stations with correct endpoints | NHB | 886 | 13082 | 17832 |
| Bi-regional auto trips through three stations with correct endpoints | Unknown | 175 | 3018 | 4703 |
| NI25 Model Bi-Regional CTPP Trips by RSA exclude overlap | HBW | 0 | 28264 | 38156 |
| NI25 Model Bi-Regional CTPP Trips by TAZ | HBW | 0 | 28428 | 38378 |
| NI25 Model Bi-Regional CTPP Trips by TAZ exclude overlap | HBW | 0 | 28206 | 38078 |
| Roadside HBW Bi-Regional Trips by TAZ | HBW | 1082 | 17992 | 21145 |
| Roadside HBW Bi-Regional Trips by TAZ exclude overlap | HBW | 1066 | 17695 | 20689 |
| Total auto trips through three stations | ALL | 4530 | 71076 | 99665 |
| Total auto trips through three stations | HBO | 1857 | 27770 | 42286 |
| Total auto trips through three stations | HBW | 1297 | 21738 | 26349 |
| Total auto trips through three stations | NHB | 1117 | 16989 | 23562 |
| Total auto trips through three stations | Unknown | 259 | 4579 | 7467 |

w/ 'original' data MPO
 and points in areas

all us + ds

Brian's survey spreadsheet



Board Officers

Melanie A. Worley, Chairman
Lorraine M. Anderson, Vice Chairman
Will Toor, Secretary
Richard M. Sheehan, Treasurer
Sharon Richardson, Immediate Past Chairman
Guillermo "Bill" V. Vidal, Executive Director

January 9, 2004

Chris J. Primus
Senior Transportation Planner
Carter & Burgess, Inc.
216 Sixteenth St. Mall, Suite 1700
Denver, CO 80202-5131

Dear Chris:

Please find enclosed the TBI Data Non-Disclosure Agreement Between DRCOG and Carter & Burgess, Inc. Please have the agreement signed and returned to DRCOG. We can normally get a CD prepared and sent with 2-3 business days after the signed non-disclosure agreement is returned.

If you have any questions, call me at 303-480-6751.

Sincerely,

John Coil
Transportation Programming and Data Manager

js

enclosures



Board Officers

Melanie A. Worley, Chairman
Lorraine M. Anderson, Vice Chairman
Will Toor, Secretary
Richard M. Sheehan, Treasurer
Sharon Richardson, Immediate Past Chairman
Guillermo "Bill" V. Vidal, Executive Director

January 9, 2004

Chris J. Primus
Senior Transportation Planner
Carter & Burgess, Inc.
216 Sixteenth St. Mall, Suite 1700
Denver, CO 80202-5131

Dear Chris:

Please find enclosed the TBI Data Non-Disclosure Agreement Between DRCOG and Carter & Burgess, Inc. Please have the agreement signed and returned to DRCOG. We can normally get a CD prepared and sent with 2-3 business days after the signed non-disclosure agreement is returned.

If you have any questions, call me at 303-480-6751.

Sincerely,

John Coil
Transportation Programming and Data Manager

js

enclosures

**TBI Data Non-Disclosure Agreement
Between the Denver Regional Council of Governments (DRCOG)
and Carter & Burgess, Inc.**

WHEREAS, **Carter & Burgess (CB)** requests a copy of the TBI Survey Data for research purposes, and;

WHEREAS, DRCOG made commitments to the households, motorists and businesses on the use of information provided by them and stipulated to the households, motorists and businesses requested to participate in the surveys that:

“The Council of Governments is committed to keeping the information collected confidential. The information collected will only be used to help in determining the best highway, public transits and bicycle facility improvements to make in the future. It will not, I repeat, will not be sold, rented or given to others, nor will it be used in any marketing program. Nothing will be published that attaches your name or address to your survey responses. Reports will present totals of what the selected survey households or businesses tell us – not individual data.”

WHEREAS, TBI data was collected on a random sample of the households within the region, of the motorists on the surveyed roads, and of the businesses within the region. The households survey sampled less than 0.5 percent of the region’s households. The Front Range Travel survey sampled varying rates for each roadside survey site. The commercial vehicle survey used stratified random sampling with varying rates in each stratum. As such, the survey data is subject to sampling error.

THEREFORE, **CB** will be provided a copy of the TBI data, provided it agrees to abide by the limitations on use and provisions as noted below:

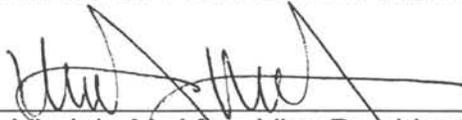
TBI Data Limitations on Use

1. **CB** agrees that TBI data can only be used for research.
2. DRCOG holds copyright to all TBI data and grants permission to **CB** to use the data provided that any products credit the Denver Regional Council of Governments as the source.
3. **CB** recognizes that all geographic and tabular data on CD-ROM provides for **CB**’s use (see Attachment A) is the property of DRCOG and cannot be publicly released by **CB**. **CB** will refer all requests for a copy of all or part of the geographic and tabular data to DRCOG except if such request is made

pursuant to federal or state law. If a request for the data is made pursuant to federal or state law, **CB** will consult with DRCOG prior to disclosure of the data.

4. **CB** recognizes the individual privacy commitments on the TBI data and will use the data in accordance with this privacy commitment. **CB** will not present data that would allow others to determine the specific residence, employer or places visited even from the placement of a dot on a map (i.e., using maps with a scale finer than 1:50,000 except for internal analysis).
5. **CB** agrees to report any household, roadside and commercial vehicle survey data as, (a) unweighted survey results, or (b) weighted and calibrated survey results on all maps and tables.
6. **CB** recognizes that the TBI data released at this time is not final and is subject to revisions and updates.
7. **CB** will inform all its employees given access to this data of the use limitations as noted herein and require their adherence to them.

IN WITNESS OF AGREEMENT HERETO:

By:  Date: 1-12-04
Virginia McAfee, Vice President
Principal
Agency/Organization: Carter & Burgess, Inc.

Attachment A

The TBI CD-ROM (for Carter & Burgess, Inc.) contains the following:

- A Microsoft Access databases known as:
 - "HouseholdSurvey.mdb" that contains the random household survey data,
 - "FrontRangeSurvey.mdb" that contains the random roadside survey data, and
 - "Commercial.mdb" that contains the commercial vehicle survey data.

The survey data excludes household, employer and place address information as these tables are linked to ArcInfo point coverages geocoded to 500-foot positional accuracy in the NAD83 State Plane Coordinate System – Colorado Central Zone. The databases also include a number of built-in forms to view the data and built-in queries showing how the sample weighting and expansion factors are applied.

- A Microsoft Access database known as "DataDictionary.mdb" that contains a dictionary of the tables and fields in the TBI database and the built-in linkages between tables.
- ArcInfo coverages of the TBI household, roadside and commercial vehicle survey household, employer, and place points and trip lines. The TBI data points in the region have been geocoded to the DRCOG purchased GDT Street Centerline file. The TBI data points outside the region were either geocoded to specific addresses in an available TIGER file or to "places", such city or county center from whatever source was available. As such, the digitized point locations could be up to 300 feet away from the same locations on other base maps.
- ArcInfo coverages of DRCOG region, Colorado counties, RSA, and TBI analysis sub-regions and development areas with all coverages registered to the GDT Street Centerline file. These coverages are provided as projections in the NAD83 State Plane Coordinate System – Colorado Central Zone. The user must supply background road coverages.
- Power Point versions of the household, Front Range (external) and commercial vehicle survey data users workshops.
- An electronic copy of the TBI technical reports in Adobe Acrobat (pdf) format.

While the overall random household survey results meet a 95 percent confidence level, margins of error also apply to specific responses to questions. The TBI Household Survey Report discusses margins of error for specific question responses (Chapter III – Survey Validation and Calibration, pages 61-62 and

Table 14). The TBI Front Range Travel Survey Report discusses quality of data by vehicle type and site for the roadside survey samples (Chapter III – Survey Validation and Calibration). The TBI Commercial Vehicle Survey Report discusses quality of data for the commercial company/vehicle and vehicle travel surveys (Chapter III – Survey Validation and Calibration).

Revisions may be made at any time as DRCOG completes further data review. As such, the coverages may be replaced with new versions. Also, DRCOG, for itself or at the request of others, may create new derived data fields to be made a permanent part of the database.

Primus, Chris J.

From: Hoeschen, Brian D.
Sent: Tuesday, August 31, 2004 9:14 AM
To: Primus, Chris J.
Subject: CTPP JTW & HBW

Chris,
I looked at the Bi-regional trip table I created from the CTPP by RSA and distributed to TAZ. I extracted the following trips between MPOs by TAZ:

JTW: 28254
HBW: 38142

Brian ————— JTW converted to HBW w/1.35

Brian Hoeschen
Carter::Burgess
707 17th Street, Suite 2300
Denver, CO 80202
☎ phone: 303.820.4879
☎ fax: 303.820.2402
✉ email: hoeschenbd@c-b.com

Brief Description

DRCOG 1998 Roadside Survey

- ▶ DRCOG, RTD, CDOT, and the Regional Air Quality Council (RAQC) initiated in 1996 four primary surveys comprising the Travel Behavior Inventory (TBI):
 - Household survey (conducted fall 1997)
 - Transit on-board survey (conducted fall 1997)
 - Commercial vehicle survey (conducted fall 1998)
 - Roadside survey (conducted spring 1998)

- ▶ Purpose of the TBI was to provide a picture of travelers in the Denver region and to collect data to develop travel models.

- ▶ The roadside survey collected information on people and vehicles traveling through, into, or out of the Denver region, such as information and places they visited and the purpose of their trip

- ▶ Nine outbound roadside sampling sites were included:
 - I-25 north
 - I-25 south
 - I-70 east
 - I-70 west
 - I-76
 - US-85
 - US-285
 - US-287
 - SH-86

- ▶ Four inbound roadside sampling sites were included:
 - I-25 north
 - I-25 south
 - US-85
 - US-287

**DRCOG 1998 Roadside Survey
Trip Summary of Northern Survey Sites**

| SITENAME | TripsDay | AvgTripLength | DRCOGtoDRCOG | DRCOGtoNFR | DRCOGtoExt | ExternaltoDRCOG | NFRtoNFR | NFRtoDRCOG | NFRtoExt | ExternaltoNFR | ExternaltoExt | DRCOGtoOverl | NFRtoOverlap | OverlaptoDRCOG | OverlaptoNFR | OverlaptoOverl | OverlaptoExt | ExternaltoOverl |
|-----------------------|----------|---------------|--------------|------------|------------|-----------------|----------|------------|----------|---------------|---------------|--------------|--------------|----------------|--------------|----------------|--------------|-----------------|
| I-25 North NB, Mead E | 21,577 | 120.9 | 351 | 14,071 | 2,571 | 155 | 161 | 0 | 16 | 1,136 | 1,028 | 1,877 | 20 | 0 | 80 | 34 | 59 | 18 |
| I-25 North SB, Mead E | 20,814 | 112.0 | 423 | 60 | 68 | 2,881 | 75 | 13,566 | 1,078 | 17 | 869 | 19 | 1,499 | 71 | 19 | 37 | 22 | 110 |
| US 287 NB, south of B | 7,268 | 28.7 | 251 | 6,764 | 172 | 0 | 17 | 0 | 0 | 56 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 |
| US 287 SB, south of B | 7,073 | 31.7 | 380 | 10 | 0 | 236 | 10 | 6,372 | 55 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| US-85 NB, south of S | 6,979 | 62.2 | 23 | 4,898 | 165 | 0 | 313 | 18 | 96 | 279 | 18 | 74 | 14 | 0 | 1,043 | 8 | 9 | 19 |
| US-85 SB, 1.1 Miles S | 7,364 | 41.5 | 31 | 0 | 0 | 183 | 74 | 5,283 | 301 | 12 | 0 | 8 | 1,361 | 76 | 0 | 12 | 0 | 24 |

Source: 1998 Roadside Survey, DRCOG

Percentage Summary

| SITENAME | Trips per Day | Avg Trip Leng | DRCOG to DRCOG | DRCOG to NFR | DRCOG to Ext | External to DRCOG | NFR to NFR | NFR to DRCOG | NFR to Ext | External to NFR | External to Ext | DRCOGtoOverl | NFRtoOverlap | OverlaptoDRCOG | OverlaptoNFR | OverlaptoOverl | OverlaptoExt | ExternaltoOverl |
|-----------------------|---------------|---------------|----------------|--------------|--------------|-------------------|------------|--------------|------------|-----------------|-----------------|--------------|--------------|----------------|--------------|----------------|--------------|-----------------|
| I-25 NB, Mead Exit | 100.0% | 120.9 | 1.6% | 65.2% | 11.9% | 0.7% | 0.7% | 0.0% | 0.1% | 5.3% | 4.8% | 8.7% | 0.1% | 0.0% | 0.4% | 0.2% | 0.3% | 0.1% |
| I-25 SB, Mead Exit | 100.0% | 112.0 | 2.0% | 0.3% | 0.3% | 13.8% | 0.4% | 65.2% | 5.2% | 0.1% | 4.2% | 0.1% | 7.2% | 0.3% | 0.1% | 0.2% | 0.1% | 0.5% |
| US 287 NB, south of B | 100.0% | 28.7 | 3.5% | 93.1% | 2.4% | 0.0% | 0.2% | 0.0% | 0.0% | 0.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| US 287 SB, south of B | 100.0% | 31.7 | 5.4% | 0.1% | 0.0% | 3.3% | 0.1% | 90.1% | 0.8% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| US-85 NB, south of S | 100.0% | 62.2 | 0.3% | 70.2% | 2.4% | 0.0% | 4.5% | 0.3% | 1.4% | 4.0% | 0.3% | 1.1% | 0.2% | 0.0% | 15.0% | 0.1% | 0.1% | 0.3% |
| US-85 SB, 1.1 Miles S | 100.0% | 41.5 | 0.4% | 0.0% | 0.0% | 2.5% | 1.0% | 71.7% | 4.1% | 0.2% | 0.0% | 0.1% | 18.5% | 1.0% | 0.0% | 0.2% | 0.0% | 0.3% |

| | | | |
|--|----------------------|-----------------------|---------------------|
| Of NFR IE trips, how many are regional-external? | US-85 5.3% | US-287 0.8% | I-25 7.0% |
| Of NFR EE trips, how many are super-external? | 5.0% | 0.0% | 25.8% |
| Of COG IE trips, how many are regional-external? | 2.7% | 3.0% | 15.7% |
| Of COG EE trips, how many are super-external? | 3.1% | 0.0% | 46.2% |

**DRCOG 1998 Roadside Survey
Trip Summary of Northern Survey Sites**

| SITENAME | TripsDay | AvgTripLength | DRCOGtoDRC | DRCOGtoNFR | DRCOGtoExt | ExternaltoDRC | NFRtoNFR | NFRtoDRCOG | NFRtoExt | ExternaltoNFR | ExternaltoExt | DRCOGtoOverl | NFRtoOverl | OverlptoDRCOG | OverlptoNFR | OverlptoOver | OverlptoExt | ExternaltoOverl |
|-----------------------|----------|---------------|------------|------------|------------|---------------|----------|------------|----------|---------------|---------------|--------------|------------|---------------|-------------|--------------|-------------|-----------------|
| I-25 North NB, Mead E | 21,577 | 120.9 | 351 | 14,071 | 2,571 | 155 | 161 | 0 | 16 | 1,136 | 1,028 | 1,877 | 20 | 0 | 80 | 34 | 59 | 18 |
| I-25 North SB, Mead E | 20,814 | 112.0 | 423 | 60 | 68 | 2,881 | 75 | 13,566 | 1,078 | 17 | 869 | 19 | 1,499 | 71 | 19 | 37 | 22 | 110 |
| US 287 NB, south of B | 7,268 | 28.7 | 251 | 6,764 | 172 | 0 | 17 | 0 | 0 | 56 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 |
| US 287 SB, south of B | 7,073 | 31.7 | 380 | 10 | 0 | 236 | 10 | 6,372 | 55 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| US-85 NB, south of S | 6,979 | 62.2 | 23 | 4,898 | 165 | 0 | 313 | 18 | 96 | 279 | 18 | 74 | 14 | 0 | 1,043 | 8 | 9 | 19 |
| US-85 SB, 1.1 Miles S | 7,364 | 41.5 | 31 | 0 | 0 | 183 | 74 | 5,283 | 301 | 12 | 0 | 8 | 1,361 | 76 | 0 | 12 | 0 | 24 |

Source: 1998 Roadside Survey, DRCOG

Percentage Summary

| SITENAME | Trips per Day | Avg Trip Length | DRCOG to DRC | DRCOG to NFR | DRCOG to Ext | External to DRC | NFR to NFR | NFR to DRCOG | NFR to Ext | External to NFR | External to Ext | DRCOG to Overl | NFR to Overl | Overlpto DRCOG | Overlpto NFR | Overlpto Over | Overlpto Ext | External to Overl |
|-----------------------|---------------|-----------------|--------------|--------------|--------------|-----------------|------------|--------------|------------|-----------------|-----------------|----------------|--------------|----------------|--------------|---------------|--------------|-------------------|
| I-25 NB, Mead Exit | 100.0% | 120.9 | 1.6% | 65.2% | 11.9% | 0.7% | 0.7% | 0.0% | 0.1% | 5.3% | 4.8% | 8.7% | 0.1% | 0.0% | 0.4% | 0.2% | 0.3% | 0.1% |
| I-25 SB, Mead Exit | 100.0% | 112.0 | 2.0% | 0.3% | 0.3% | 13.8% | 0.4% | 65.2% | 5.2% | 0.1% | 4.2% | 0.1% | 7.2% | 0.3% | 0.1% | 0.2% | 0.1% | 0.5% |
| US 287 NB, south of B | 100.0% | 28.7 | 3.5% | 93.1% | 2.4% | 0.0% | 0.2% | 0.0% | 0.0% | 0.8% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| US 287 SB, south of B | 100.0% | 31.7 | 5.4% | 0.1% | 0.0% | 3.3% | 0.1% | 90.1% | 0.8% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| US-85 NB, south of S | 100.0% | 62.2 | 0.3% | 70.2% | 2.4% | 0.0% | 4.5% | 0.3% | 1.4% | 4.0% | 0.3% | 1.1% | 0.2% | 0.0% | 15.0% | 0.1% | 0.1% | 0.3% |
| US-85 SB, 1.1 Miles S | 100.0% | 41.5 | 0.4% | 0.0% | 0.0% | 2.5% | 1.0% | 71.7% | 4.1% | 0.2% | 0.0% | 0.1% | 18.5% | 1.0% | 0.0% | 0.2% | 0.0% | 0.3% |

85 of NFR I-E Trips, how many are regional-ext? 85: $\frac{279+301}{4895+279+5283+301+279+76} = 5.3\%$ 25: $\frac{1136+1078}{14071+1136+13566+1078+1877+71} = 7.0\%$

287: $\frac{55+56}{6764+36+6372+55} = 0.8\%$

of NFR E-E Trips, how many are super-ext? 85: $\frac{18}{165+18+183} = 4.9\%$ 287: 0% 25: $\frac{1028+869}{2571+1028+2881+869} = 25.8\%$

of COG I-E Trips, how many are regional-ext? 85: $\frac{165+183}{165+183+4898+5283+361+1043} = 2.7\%$ 287: $\frac{172+236}{172+236+6764+6372+1077} = 3.0\%$ 25: $\frac{2571+2881}{2571+2881+14579+13566+1477+19} = 15.8\%$

of COG E-E Trips, how many are super-ext? 85: $\frac{18}{14+279+301} = 3.0\%$ 287: 0% 25: $\frac{1028+869}{1028+869+1078+1136} = 46.1\%$

**DENVER REGIONAL TRAVEL BEHAVIOR INVENTORY
Front Range Travel Survey Report**

May 1, 2000

**Prepared by
Denver Regional Council of Governments
and
Parsons Transportation Group, Inc.**

Denver Regional Council of Governments
2480 West 26th Avenue, Suite 200B
Denver, Colorado 80211-5580

Preparation of this report has been funded in part through grants from the U.S. Department of Transportation, the Federal Highway Administration, and the Colorado Department of Transportation.

**Table 7
Actual Survey Dates**

| Survey Site | Scheduled Date |
|--|-----------------------|
| SH-83 southbound south of Franktown (Pilot Test) | April 8, 1998 |
| I-76 eastbound at Kersey Road Interchange (Exit 34) | April 30, 1998 |
| I-70 eastbound at Peoria (Town) Interchange (Exit 322) | April 29, 1998 |
| SH-86 eastbound at CR-13 in Elizabeth | April 28, 1998 |
| I-25 northbound at Greenland Ranch Road (Exit 163) | May 14, 1998 |
| I-25 southbound at County Line Road (Exit 163) | May 14, 1998 |
| US-285 westbound at Pine Junction | May 6, 1998 |
| I-70 westbound at Fall River Road (Exit 238) | May 13, 1998 |
| US-287 northbound, south of Boulder / Larimer Co. Line | May 12, 1998 |
| US-287 southbound, south of Boulder / Larimer Co. Line | May 12, 1998 |
| I-25 northbound at Mead Interchange (Exit 245) | May 19, 1998 |
| I-25 southbound at Mead Interchange (Exit 245) | May 19, 1998 |
| US-85 northbound, between Platteville and SH-60 | May 7, 1998 |
| US-85 southbound, between Platteville and SH-60 | May 7, 1998 |

I-76 at Kersey Road - At this site, a motorist pulling a trailer backed into another vehicle while trying to leave the platoon. The motorist had already been asked to remain in the platoon by the interviewer, and had sufficient room to pull out of the platoon without backing up. The motorist seemed unaware that contact had been made with the vehicle behind him, and left the survey site. The vehicle behind him received no damage, and apparent damage to the trailer was minimal. The vehicle that was hit did not wish to file a report and left the survey site. After this incident, the interviewers were reminded that vehicles should not be allowed to leave the platoon except in emergencies, and additional space was provided between vehicles to reduce the possibility of motorists backing up to exit the platoon.

I-70 at Fall River Road - At this site, a motorist in the platoon refused the survey. The interviewer asked the motorist to wait until the survey being administered to the vehicle in front of him was completed, but the motorist ignored this request. The motorist accelerated quickly out of the platoon, hit a cone separating the platoon from the traffic lane, and the passenger side mirror of his car hit the back of the surveyor performing the survey for the vehicle ahead of his position. The motorist, apparently unaware someone had been hit, drove back onto the interstate. The surveyor received a bruise to his lower back and was startled, but was otherwise uninjured, and returned to work. A police report was filed, but the license plate of the vehicle was not available. After this incident, cone spacing in the interview area was modified, and an interviewer buffer area was created to better protect the interviewers. The injured surveyor was replaced by the relief person at about 6 p.m. to allow him to rest for the remainder of the day. He was instructed to see a doctor and obtain a doctor's release prior to returning to work.

Data Entry

Once the forms were received by the data entry subcontractor, each site was assigned to a group of data entry staff. The staff then keyed the information on each form into a computer database, using the pre-defined data dictionary developed with the forms.

Typically, keypunching of alpha-numeric data returns about 75 percent accuracy. In other words, 75 percent of the data on the forms would be entered into the computer correctly. This was not considered sufficient for the needs of the Front Range Travel Survey so a verification step was requested. In this step, after the form has been keyed, it is passed to a second operator, who independently re-keys the entire form.

**Table 8
Machine Count Data**

| Survey Site | Count in Direction of Survey | | 24-Hour 2-Way Count |
|---|------------------------------|---------|------------------------|
| | 13-Hour | 24-Hour | |
| SH-83 s/b south of Franktown | (1) | | |
| I-25 n/b at Mead Interchange | 19,809 | 25,741 | 50,590 |
| I-25 s/b at Mead Interchange | 19,082 | 24,849 | 50,590 |
| I-25 n/b at Greenland Ranch Road | 18,480 | 24,128 | 47,902 |
| I-25 s/b at County Line Road | 17,748 | 23,774 | 47,902 |
| I-70 e/b at Peoria (Town) Interchange | 2,764 | 3,688 | 7,536 |
| I-70 w/b at Fall River Road | 9,643 | 11,449 | 24,474 |
| I-76 e/b at Kersey Road Interchange | 3,842 | 4,215 | 8,805 |
| SH-86 e/b at CR-13 in Elizabeth | 3,697 | 4,379 | 9,023 |
| US-285 w/b at Pine Junction | 4,668 | 5,777 | 11,630 |
| US-287 n/b, south of Boulder/Larimer Line | 6,245 | 7,566 | 14,833 |
| US-287 s/b, south of Boulder/Larimer Line | 5,968 | 7,267 | 14,833 |
| US-85 n/b, between Platteville & SH-60 | 6,551 | 7,772 | 15,958 |
| US-85 s/b, between Platteville & SH-60 | 5,876 | 8,186 | 15,958 |

Notes: (1) Pilot Test count data was only collected for the survey period to test count procedures

The data entry software then compares the two versions of the data, and highlights any differences. A third operator then reviews the highlighted differences with the original survey form, and decides which entry is appropriate. The incorrect entries were then deleted, and a final database was produced. With this type of verification, the resulting data entry accuracy is better than 98 percent.

Once the data for a site was keyed, the data entry form compiled the data in both ASCII and dBase formats for the consultant team. The files were then e-mailed to the consultant, and the original forms were returned. The consultant then reviewed the database for obvious errors and forwarded it to DRCOG for geocoding, as described below.

**Table 9
Manual Classification Count Data**

| Survey Site | Percent Small Vehicles¹ | Percent Large Trucks¹ |
|---|---|---|
| SH-83 s/b south of Franktown (Pilot Test) | (2) | (2) |
| I-25 n/b at Mead Interchange | 83.8 | 16.2 |
| I-25 s/b at Mead Interchange | 83.8 | 16.2 |
| I-25 n/b at Greenland Ranch Road | 88.2 | 11.8 |
| I-25 s/b at County Line Road | 87.7 | 12.3 |
| I-70 e/b at Peoria (Town) Interchange | 56.6 | 43.4 |
| I-70 w/b at Fall River Road | 86.4 | 13.6 |
| I-76 e/b at Kersey Road Interchange | 76.7 | 23.3 |
| SH-86 e/b at CR-13 in Elizabeth | 94.1 | 5.9 |
| US-285 w/b at Pine Junction | 94.6 | 5.4 |
| US-287 n/b, south of Boulder/Larimer Line | 96.1 | 3.9 |
| US-287 s/b, south of Boulder/Larimer Line | 97.3 | 2.7 |
| US-85 n/b, between Platteville and SH-60 | 89.8 | 10.2 |
| US-85 s/b, between Platteville and SH-60 | 89.9 | 10.1 |

Notes: (1) Small vehicles include passenger cars, pickup trucks, passenger/mini vans, and other two-axle, four-tire vehicles. Large trucks include large (panel) vans and single-unit trucks having two axles with dual rear tires, single-unit vehicles with three or more axles, and all combination trucks.

(2) Pilot test count data was only collected for the survey period to test count procedures.

Survey Geocoding

After keypunching, the small vehicle and large truck records were forwarded to DRCOG for geocoding. During the geocoding process, a geographic information system was used to determine the physical location (latitude and longitude) for each address collected. The external survey geocoding was performed by DRCOG, the Pikes Peak Area Council of Governments and the North Front Range Transportation and Air Quality Planning Council. The Pikes Peak Area Council of Governments geocoded the places within El Paso County and North Front Range Transportation and Air Quality Planning Council geocoded the places in Larimer County and Weld County. DRCOG geocoded the other places.

The matching of collected data to the roadway network presented several challenges which were addressed by DRCOG.

- Many survey respondents provided valid addresses for both trip ends. These records could be geocoded automatically using routines developed in the geographic information system software.
- Some respondents provided a street intersection for one or both trip ends. Although not as accurate as actual addresses, these intersection records were deemed

**Table 10
Roadside Survey Response Rate by Survey Site**

| Survey Site | Total Traffic Stream | | | Small Vehicles | | | Large Trucks | | | | |
|--|----------------------|----------------|----------------|----------------|-------------|----------------|----------------|-------------|----------------|----------------|-------------|
| | Target Samples | Actual Samples | Percent Target | 13-hour Volume | Sample Rate | Actual Samples | 13-hour Volume | Sample Rate | Actual Samples | 13-hour Volume | Sample Rate |
| | | | | | | | | | | | |
| I-25 n/b at Mead Interchange | 960 | 1,174 | 122% | 19,809 | 5.9% | 1,052 | 16,857 | 6.2% | 122 | 3,080 | 4.0% |
| I-25 s/b at Mead Interchange* | 960 | 1,170 | 122% | 19,082 | 6.1% | 1,044 | 16,600 | 6.3% | 126 | 2,482 | 5.1% |
| I-25 n/b at Greenland Ranch Road* | 480 | 557 | 116% | 18,480 | 3.0% | 460 | 16,389 | 2.8% | 97 | 2,091 | 4.6% |
| I-25 s/b at County Line Road | 960 | 826 | 86% | 17,748 | 4.7% | 755 | 15,708 | 4.8% | 71 | 2,040 | 3.5% |
| I-70 e/b at Peoria (Town) Interchange | 450 | 579 | 129% | 2,764 | 20.9% | 420 | 1,654 | 25.4% | 159 | 1,110 | 14.3% |
| I-70 w/b at Fall River Road | 940 | 1,049 | 112% | 9,643 | 10.9% | 940 | 8,572 | 11.0% | 109 | 1,071 | 10.2% |
| I-76 e/b at Kersey Road Interchange | 450 | 585 | 130% | 3,842 | 15.2% | 503 | 2,952 | 17.0% | 82 | 890 | 9.2% |
| SH-86 e/b at CR-13 in Elizabeth | 440 | 624 | 142% | 3,697 | 16.9% | 587 | 3,474 | 16.9% | 37 | 240 | 15.4% |
| US-285 w/b at Pine Junction | 450 | 531 | 118% | 4,668 | 11.4% | 515 | 4,258 | 12.1% | 16 | 428 | 3.7% |
| US-287 n/b, south of Boulder/Larimer line | 460 | 671 | 146% | 6,245 | 10.7% | 637 | 6,012 | 10.6% | 34 | 233 | 14.6% |
| US-287 s/b, south of Boulder/Larimer line* | 460 | 653 | 142% | 5,968 | 10.9% | 641 | 5,793 | 11.1% | 12 | 175 | 6.9% |
| US-85 n/b, between Platteville & SH-60 | 460 | 654 | 142% | 6,551 | 10.0% | 610 | 5,875 | 10.4% | 44 | 676 | 6.5% |
| US-85 s/b, between Platteville & SH-60* | 460 | 566 | 123% | 5,876 | 9.6% | 536 | 5,875 | 9.1% | 30 | 668 | 4.5% |

Notes: Percent of Target is Actual Samples divided by the Target Samples
Sample Rate is Actual Samples divided by 13-hour volume
* Inbound site

**Table 13
Statistical Significance and Survey Proportional Error**

| Survey Site | Small Vehicles | | Combinations | | Single-units | | Total Vehicles | |
|--|----------------|-------|--------------|-------|--------------|-------|----------------|-------|
| | Samples | Error | Samples | Error | Samples | Error | Samples | Error |
| I-25 north n/b at Mead Interchange | 1052 | 0.029 | 122 | 0.087 | (3) | (3) | (1) | (1) |
| I-25 north s/b at Mead Interchange* | 1044 | 0.030 | 126 | 0.085 | (3) | (3) | (1) | (1) |
| I-25 south n/b at Greenland Ranch Road* | 460 | 0.045 | 96 | 0.098 | (3) | (3) | (1) | (1) |
| I-25 south s/b at County Line Road | 755 | 0.035 | 65 | 0.120 | (3) | (3) | (1) | (1) |
| I-70 e/b at Peoria (Town) Interchange | 420 | 0.043 | 154 | 0.075 | (3) | (3) | (1) | (1) |
| I-70 w/b at Fall River Road | 940 | 0.030 | 102 | 0.093 | (3) | (3) | (1) | (1) |
| I-76 e/b at Kersey Road Interchange | 503 | 0.040 | 77 | 0.107 | (3) | (3) | (1) | (1) |
| SH-86 e/b at CR-13 in Elizabeth | 587 | 0.037 | (2) | (2) | (3) | (3) | 624 | 0.037 |
| US-285 w/b at Pine Junction | 515 | 0.041 | (2) | (2) | (3) | (3) | 531 | 0.041 |
| US-287 n/b, south of Boulder/Larimer line | 637 | 0.037 | (2) | (2) | (3) | (3) | 671 | 0.036 |
| US-287 s/b, south of Boulder/Larimer line* | 641 | 0.037 | (2) | (2) | (3) | (3) | 653 | 0.037 |
| US-85 n/b, between Platteville & SH-60 | 610 | 0.038 | (2) | (2) | (3) | (3) | 654 | 0.037 |
| US-85 s/b, between Platteville & SH-60* | 536 | 0.041 | (2) | (2) | (3) | (3) | 566 | 0.040 |

Notes: * Inbound Sites

Error is maximum +- proportional error at the 95 percent confidence level

- 1 Not applicable due to non random sample of single-unit trucks
- 2 Not applicable -- few available combination truck samples group together for calibration
- 3 Not applicable -- few single-unit truck samples grouped together for calibration

Source: 1998 roadside survey, DRCOG

**Table 14
Small Vehicle Hourly Calibration Factors by Survey Site**

| Survey Site | Time (from - to) | | | | | | | | | | | | Daily One-way Factor | Daily Two-way Factor | | |
|--|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|----------------------|-------|-------|
| | 6:30 | 7:30 | 8:30 | 9:30 | 10:30 | 11:30 | 12:30 | 13:30 | 14:30 | 15:30 | 16:30 | 17:30 | | | 18:30 | 19:30 |
| | 7:30 | 8:30 | 9:30 | 10:30 | 11:30 | 12:30 | 13:30 | 14:30 | 15:30 | 16:30 | 17:30 | 18:30 | | | 19:30 | |
| I-25 north n/b at Mead Interchange | 14.45 | 13.00 | 13.01 | 15.85 | 13.96 | 13.88 | 13.63 | 12.78 | 15.43 | 22.99 | 22.69 | 26.86 | 11.60 | 1.280 | 1.965 | |
| I-25 north s/b at Mead Interchange* | 22.09 | 15.42 | 14.83 | 14.77 | 11.25 | 13.51 | 14.55 | 15.21 | 17.65 | 21.17 | 19.40 | 15.16 | 12.07 | 1.254 | (2) | |
| I-25 south n/b at Greenland Ranch Rd* | (1) | 29.42 | 24.92 | 25.79 | 18.87 | 17.57 | 15.88 | 15.11 | 15.42 | 20.30 | 25.52 | 19.74 | 31.44 | 1.413 | 1.970 | |
| I-25 south s/b at County Line Road | (1) | 47.28 | 41.07 | 36.31 | 43.31 | 36.45 | 30.00 | 37.30 | 43.59 | 32.50 | 34.02 | 29.88 | 24.50 | 1.314 | (2) | |
| I-70 e/b at Peoria (Town) Interchange | 3.15 | 3.78 | 3.56 | 4.67 | 4.26 | 3.67 | 4.44 | 4.36 | 3.56 | 3.49 | 4.84 | 3.49 | 4.11 | 1.263 | 1.875 | |
| I-70 w/b at Fall River Road | 7.90 | 7.33 | 8.20 | 35.05 | 11.78 | 9.25 | 9.28 | 8.63 | 8.30 | 9.56 | 7.96 | 8.62 | 7.07 | 1.154 | 2.093 | |
| I-76 e/b at Kersey Road Interchange | 7.15 | 5.07 | 4.91 | 5.92 | 5.68 | 4.84 | 5.14 | 6.08 | 5.65 | 5.56 | 6.28 | 7.45 | 7.93 | 1.196 | 1.934 | |
| SH 86 e/b at CR-13 in Elizabeth | 3.72 | 4.40 | 3.36 | 5.45 | 4.53 | 5.38 | 5.42 | 4.49 | 6.12 | 7.24 | 8.52 | 8.43 | 7.48 | 1.186 | 2.043 | |
| US 285 w/b at Pine Junction | 4.87 | 3.96 | 4.24 | 4.73 | 6.39 | 5.58 | 19.69 | 12.90 | 5.17 | 5.94 | 17.56 | 16.23 | 32.53 | 1.247 | 2.030 | |
| US 287 n/b at Boulder/Larimer line | 5.18 | 7.07 | 5.81 | 5.89 | 6.58 | 6.95 | 10.22 | 8.91 | 9.38 | 16.08 | 15.93 | 13.13 | 8.72 | 1.209 | 1.973 | |
| US 287 s/b at Boulder/Larimer line* | 14.48 | 10.74 | 8.42 | 6.34 | 6.37 | 7.07 | 8.22 | 7.58 | 8.31 | 8.13 | 11.10 | 13.43 | 7.46 | 1.221 | (2) | |
| US 85 n/b between Platteville & SH-60 | 19.20 | 7.53 | 6.42 | 8.73 | 7.08 | 9.10 | 7.30 | 8.10 | 11.45 | 17.06 | 21.35 | 10.67 | 6.45 | 1.188 | 2.055 | |
| US 85 s/b between Platteville & SH-60* | (1) | 8.32 | 7.13 | 7.47 | 7.78 | 9.43 | 9.33 | 9.58 | 13.95 | 33.65 | 14.05 | 7.60 | 5.92 | 1.253 | (2) | |

Note: * Inbound site

- 1 Insufficient samples to calculate a factor for the 6:30-7:30 a.m. period. The daily one-way factors were adjusted for just 12 survey hours.
- 2 Two-way factors are not calculated for inbound sites.

Source: 1998 roadside survey, DRCOG

One-way Daily Factors

An additional (multiplicative) factor is required to estimate daily small vehicle traffic characteristics. The one-way daily factor is estimated by dividing the 24-hour daily small vehicle traffic by the 13-hour survey period small vehicle traffic as noted in this relationship:

$$EF_{s,one-way,d} = \frac{TV_{s,one-way,d}}{TV_{s,survey\ period,d}}$$

An example calculation for US-85 follows:

$$EF_{US-85\ N/B,one-way,outbound} = \frac{TV_{US-85\ N/B,one-way,outbound}}{TV_{US-85\ N/B,6:30am-7:30pm,outbound}} = \frac{6977}{5875} = 1.188$$

The one-way daily factors are shown in Table 14.

Two-way Daily Factors

A final expansion factor was required to represent two-way daily volumes. Specifically, the ratio of the two-way daily small vehicle volume to the one-way (outbound) small vehicle daily volume provided this factor, as shown below. An example follows, and the calculated two-way daily expansion factors are shown in Table 14.

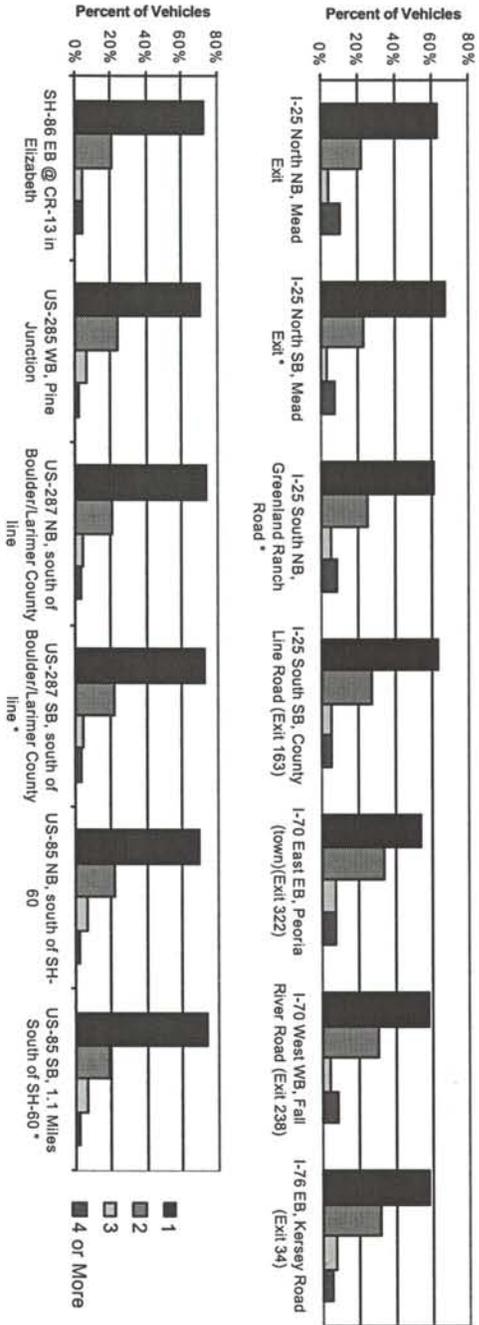
$$EF_{s,daily,two-way} = \frac{TV_{s,total\ two-way\ volume}}{TV_{s,one-way,survey\ direction(outbound)}}$$

$$EF_{SH86,daily,two-way} = \frac{TV_{SH86\ total\ two-way\ volume}}{TV_{SH86\ E/B,daily,outbound}} = \frac{(4295 + 4119)}{4119} = 2.043$$

The two-way daily factor was only calculated for the outbound survey sites. However, this factor is not needed at the four sites where both directions were surveyed as the one-way data from each direction can be summed. The two-way daily factors are shown in Table 14.

It should be noted that the small vehicle calibration factors were highest on I-25 (both north and south sites) as the sampling rate was the lowest. This can be attributed to the higher volumes on I-25, and changes in flagging methodologies required by the higher volumes.

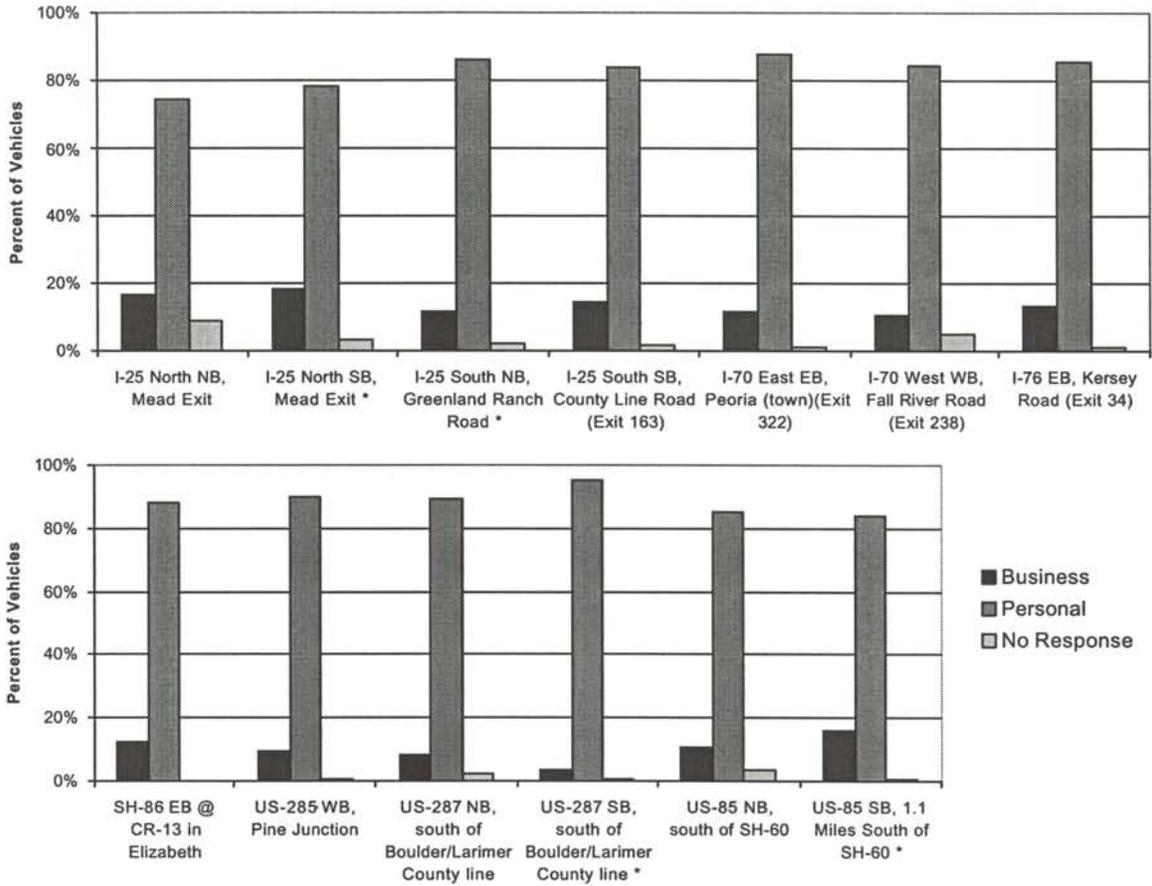
**Figure 5
Small Vehicle Occupancy by Survey Site**



| Survey Site | Small Vehicle Occupancy | | | | Average Occupancy |
|---|-------------------------|---------------|--------------|--------------|-------------------|
| | 1 | 2 | 3 | 4 or More | |
| I-25 North NB, Mead Exit | 13,596 | 4,759 | 893 | 2,329 | 1.43 |
| I-25 North SB, Mead Exit * | 13,827 | 4,827 | 742 | 1,417 | 1.41 |
| I-25 South NB, Greenland Ranch Road * | 13,935 | 5,932 | 1,275 | 1,934 | 1.52 |
| I-25 South SB, County Line Road (Exit 163) | 14,794 | 6,209 | 1,127 | 1,212 | 1.45 |
| I-70 East EB, Peoria (town)(Exit 322) | 1,111 | 692 | 145 | 143 | 1.63 |
| I-70 West WB, Fall River Road (Exit 238) | 5,658 | 3,017 | 411 | 807 | 1.53 |
| I-76 EB, Kersey Road (Exit 34) | 2,021 | 1,091 | 251 | 167 | 1.62 |
| SH-86 EB @ CR-13 in Elizabeth | 2,971 | 848 | 145 | 156 | 1.39 |
| US-285 WB, Pine Junction | 3,715 | 1,256 | 281 | 58 | 1.39 |
| US-287 NB, south of Boulder/Larimer County line | 5,336 | 1,487 | 260 | 185 | 1.35 |
| US-287 SB, south of Boulder/Larimer County line | 5,098 | 1,543 | 230 | 202 | 1.35 |
| US-85 NB, south of SH-60 | 4,866 | 1,522 | 446 | 145 | 1.40 |
| US-85 SB, 1.1 Miles South of SH-60 * | 5,433 | 1,365 | 405 | 161 | 1.40 |
| Total Outbound Sites | 54,067 | 20,882 | 3,960 | 5,202 | 1.45 |
| Inbound Sites | 64.3% | 20.882 | 4.7% | 5.202 | 6.2% |

Universe: Small vehicle samples at the outbound and inbound survey sites.
Source: One-way weighted and expanded data, 1998 roadside survey, DRCOG.

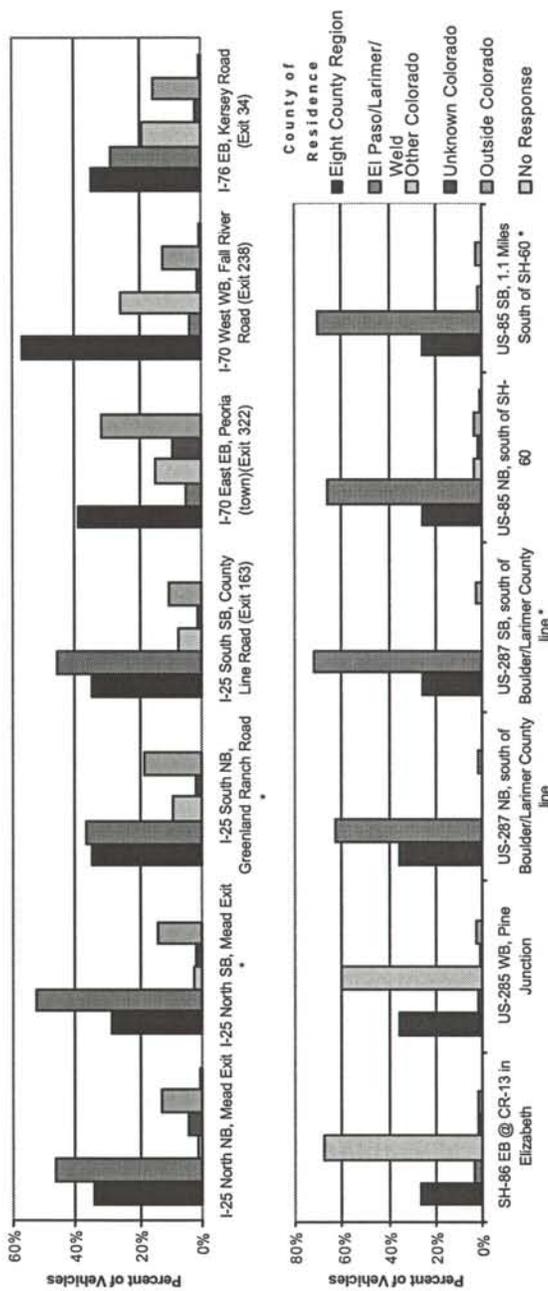
Figure 7
Small Vehicle Personal and Business Use by Survey Site



| SurveySite | Small Vehicle Use | | | Total |
|---|---------------------|---------------------|-------------------|---------------|
| | Business | Personal | No Response | |
| I-25 North NB, Mead Exit | 3,539 16.4% | 16,047 74.4% | 1,991 9.2% | 21,577 |
| I-25 North SB, Mead Exit * | 3,756 18.0% | 16,336 78.5% | 723 3.5% | 20,814 |
| I-25 South NB, Greenland Ranch Road * | 2,647 11.5% | 19,877 86.1% | 553 2.4% | 23,076 |
| I-25 South SB, County Line Road (Exit 163) | 3,395 14.5% | 19,582 83.9% | 366 1.6% | 23,343 |
| I-70 East EB, Peoria (town)(Exit 322) | 237 11.4% | 1,838 87.9% | 15 0.7% | 2,090 |
| I-70 West WB, Fall River Road (Exit 238) | 1,046 10.6% | 8,380 84.7% | 467 4.7% | 9,892 |
| I-76 EB, Kersey Road (Exit 34) | 475 13.5% | 3,033 85.9% | 23 0.6% | 3,530 |
| SH-86 EB @ CR-13 in Elizabeth | 503 12.2% | 3,612 87.7% | 5 0.1% | 4,120 |
| US-285 WB, Pine Junction | 490 9.2% | 4,779 90.0% | 42 0.8% | 5,310 |
| US-287 NB, south of Boulder/Larimer County line | 612 8.4% | 6,468 89.0% | 187 2.6% | 7,268 |
| US-287 SB, south of Boulder/Larimer County line * | 270 3.8% | 6,754 95.5% | 50 0.7% | 7,073 |
| US-85 NB, south of SH-60 | 766 11.0% | 5,969 85.5% | 244 3.5% | 6,979 |
| US-85 SB, 1.1 Miles South of SH-60 * | 1,165 15.8% | 6,165 83.7% | 34 0.5% | 7,364 |
| Total Outbound Sites | 11,063 13.2% | 69,708 82.9% | 3,339 4.0% | 84,110 |

Universe: Small vehicle samples at the outbound and inbound survey sites.
Source: One-way weighted and expanded data, 1998 external summary, DRCOG

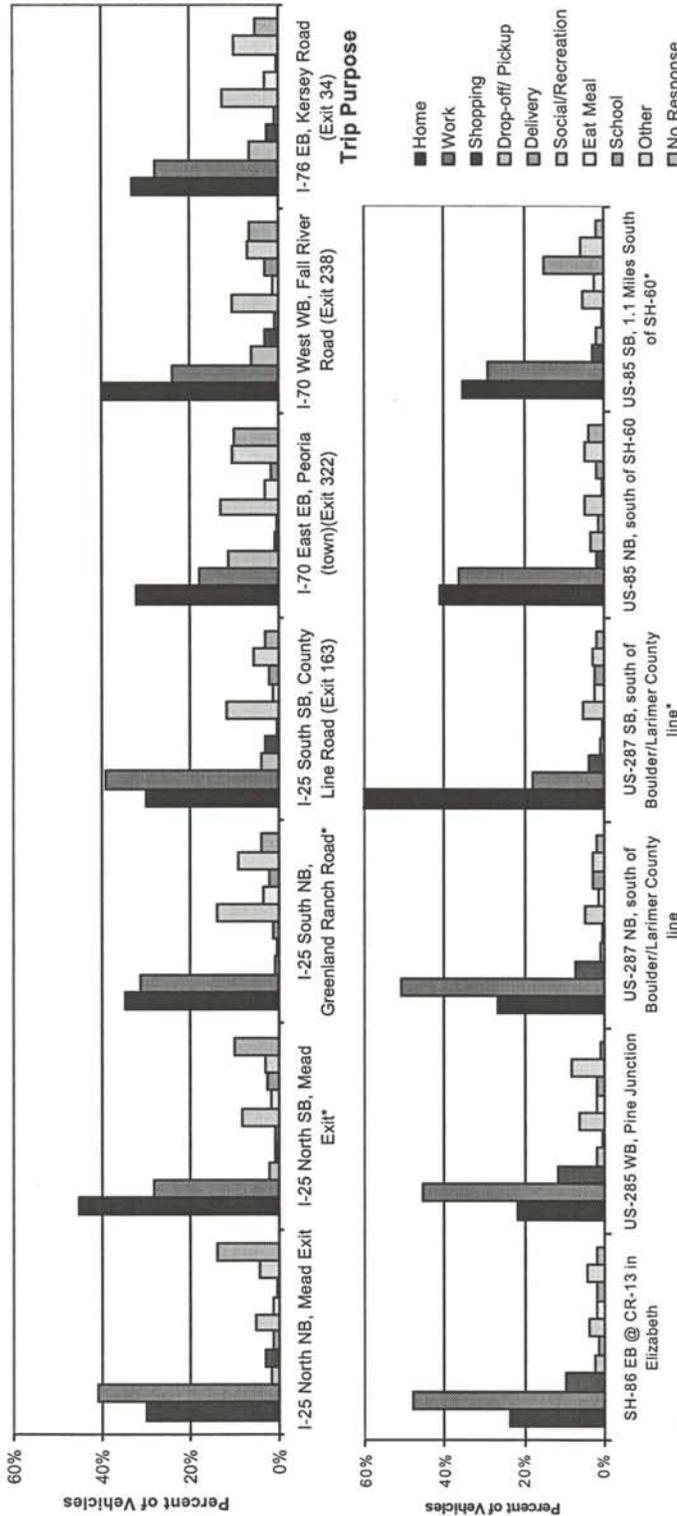
Figure 8
Small Vehicle Driver Residence by Survey Site



| Survey Site | County of Residence | | | | | Total |
|---|---------------------|----------------------|----------------|------------------|------------------|---------------|
| | Eight County Region | El Paso/Larimer/Weld | Other Colorado | Unknown Colorado | Outside Colorado | |
| I-25 North NB, Mead Exit | 7,404 | 9,921 | 298 | 944 | 2,808 | 21,577 |
| I-25 North SB, Mead Exit * | 6,039 | 10,957 | 572 | 359 | 2,868 | 20,814 |
| I-25 South NB, Greenlawn Ranch Road * | 7,955 | 8,516 | 2,067 | 349 | 4,189 | 23,076 |
| I-25 South SB, County Line Road (Exit 163) | 8,190 | 10,678 | 1,738 | 332 | 2,377 | 23,343 |
| I-70 East EB, Peoria (town)(Exit 322) | 817 | 107 | 311 | 187 | 899 | 2,090 |
| I-70 West WB, Fall River Road (Exit 238) | 5,593 | 348 | 2,558 | 127 | 1,215 | 9,892 |
| I-76 EB, Kersey Road (Exit 34) | 1,226 | 1,015 | 673 | 64 | 539 | 3,530 |
| SH-86 EB @ CR-13 in Elizabeth | 1,079 | 119 | 2,821 | 40 | 62 | 4,120 |
| US-285 WB, Pine Junction | 1,889 | 53 | 3,208 | 30 | 118 | 5,310 |
| US-287 NB, south of Boulder/Larimer County line | 2,548 | 4,562 | 15 | 0 | 135 | 7,268 |
| US-287 SB, south of Boulder/Larimer County line * | 1,827 | 5,069 | 0 | 10 | 167 | 7,073 |
| US-85 NB, south of SH-60 | 1,821 | 4,627 | 201 | 62 | 239 | 6,979 |
| US-85 SB, 1.1 Miles South of SH-60 * | 1,903 | 5,150 | 132 | 8 | 170 | 7,364 |
| Total Outbound Sites | 30,569 | 36,330 | 11,823 | 1,786 | 8,156 | 84,110 |
| Total Inbound Sites | | | | | | |

*Inbound Sites
Universe: Small vehicle samples at the outbound and inbound survey sites. Source: One-way weighted and expanded data, 1998 roadside survey, DRCOG.

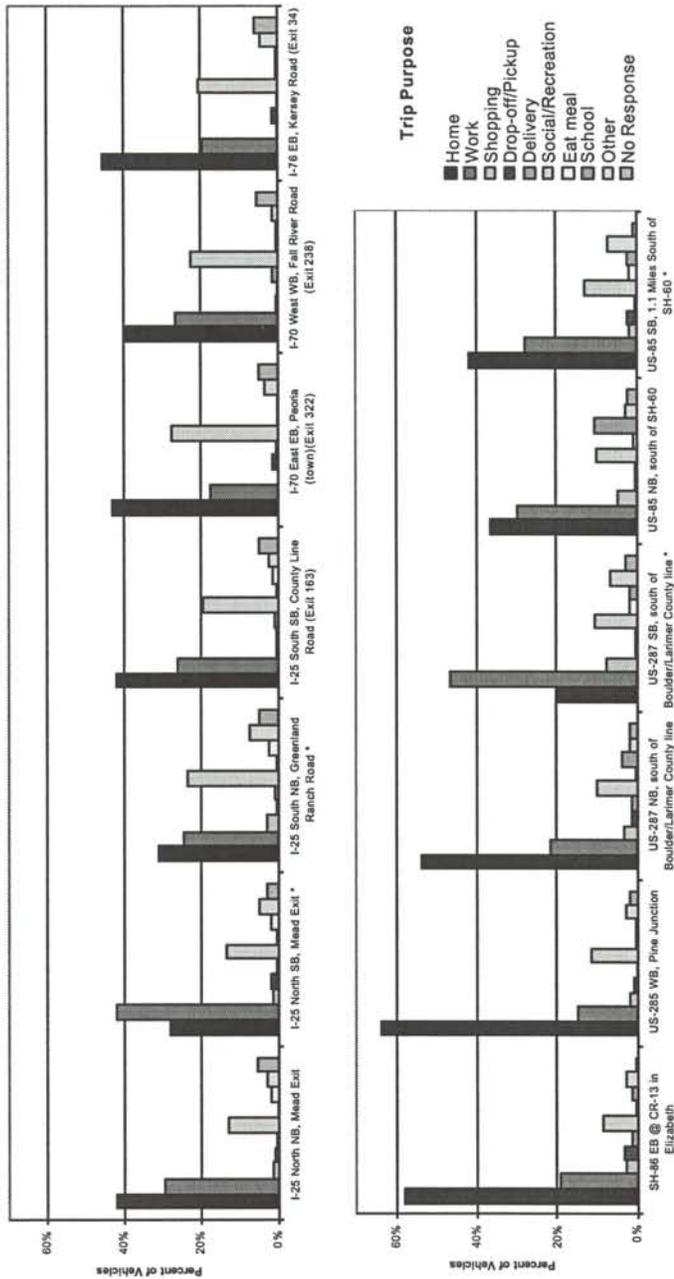
Figure 11
Small Vehicle Trip Origin Purpose by Survey Site



| Survey Site | Trip Origin Purpose | | | | | | | | | | Total | | | | | | | | | | |
|--|---------------------|-------|----------|------------------|----------|-------------------|----------|--------|-------|-------------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|--------|
| | Home | Work | Shopping | Drop-off/ Pickup | Delivery | Social/Recreation | Eat Meal | School | Other | No Response | | | | | | | | | | | |
| I-25 North NB, Mead Exit | 6,469 | 30.0% | 8,768 | 40.6% | 298 | 1.4% | 582 | 2.7% | 186 | 0.9% | 1,057 | 4.9% | 266 | 1.2% | 55 | 0.3% | 929 | 4.3% | 2,968 | 13.8% | 21,577 |
| I-25 North SB, Mead Exit | 9,372 | 45.0% | 5,671 | 28.2% | 348 | 1.7% | 140 | 0.7% | 96 | 0.5% | 1,615 | 7.8% | 294 | 1.4% | 522 | 2.5% | 555 | 2.7% | 2,002 | 9.6% | 20,814 |
| I-25 South NB, Greenland Ranch Road* | 8,025 | 34.8% | 7,171 | 31.1% | 128 | 0.6% | 104 | 0.4% | 293 | 1.3% | 3,124 | 13.5% | 761 | 3.3% | 404 | 1.8% | 2,124 | 9.2% | 941 | 4.1% | 23,076 |
| I-25 South SB, County Line Road (Exit 163) | 7,023 | 30.1% | 9,158 | 39.2% | 950 | 4.1% | 721 | 3.1% | 53 | 0.2% | 2,704 | 11.6% | 284 | 1.2% | 479 | 2.1% | 1,259 | 5.4% | 712 | 3.0% | 23,343 |
| I-70 East EB, Peoria (town)(Exit 322) | 674 | 32.2% | 370 | 17.7% | 234 | 11.2% | 14 | 0.7% | 5 | 0.3% | 273 | 13.1% | 64 | 3.1% | 29 | 1.4% | 217 | 10.4% | 209 | 10.0% | 2,090 |
| I-70 West WB, Fall River Road (Exit 238) | 3,925 | 39.7% | 2,325 | 23.5% | 604 | 6.1% | 265 | 2.7% | 61 | 0.6% | 1,007 | 10.2% | 125 | 1.3% | 299 | 3.0% | 657 | 6.6% | 624 | 6.3% | 9,892 |
| I-76 EB, Kersey Road (Exit 34) | 1,151 | 32.6% | 975 | 27.6% | 227 | 6.4% | 84 | 2.4% | 19 | 0.5% | 436 | 12.3% | 95 | 2.7% | 14 | 0.4% | 348 | 9.9% | 182 | 5.2% | 3,530 |
| SH-66 EB @ CR-13 in Elizabeth | 977 | 23.7% | 1,979 | 46.0% | 405 | 9.8% | 104 | 2.5% | 50 | 1.2% | 164 | 4.0% | 86 | 2.1% | 89 | 2.2% | 184 | 4.5% | 82 | 2.0% | 4,120 |
| US-285 WB, Pine Junction | 1,143 | 21.5% | 2,417 | 45.5% | 603 | 11.4% | 107 | 2.0% | 19 | 0.4% | 316 | 6.0% | 116 | 2.2% | 94 | 1.8% | 448 | 8.4% | 47 | 0.9% | 5,310 |
| US-287 NB, south of Boulder/Larimer County line | 1,940 | 26.7% | 3,708 | 51.0% | 524 | 7.2% | 73 | 1.0% | 32 | 0.4% | 370 | 5.1% | 90 | 1.2% | 225 | 3.1% | 184 | 2.5% | 122 | 1.7% | 7,268 |
| US-287 SB, south of Boulder/Larimer County line* | 4,368 | 61.8% | 1,267 | 17.9% | 283 | 4.0% | 63 | 0.9% | 41 | 0.6% | 390 | 5.5% | 163 | 2.3% | 166 | 2.3% | 201 | 2.8% | 132 | 1.9% | 7,073 |
| US-85 NB, south of SH-60 | 2,868 | 41.1% | 2,520 | 36.1% | 136 | 2.0% | 242 | 3.5% | 96 | 1.4% | 341 | 4.9% | 42 | 0.6% | 110 | 1.6% | 336 | 4.8% | 287 | 4.1% | 6,979 |
| US-85 SB, 1.1 Miles South of SH-60* | 2,607 | 35.4% | 2,139 | 29.0% | 193 | 2.6% | 143 | 1.9% | 41 | 0.6% | 408 | 5.5% | 182 | 2.5% | 1094 | 14.9% | 415 | 5.6% | 142 | 1.9% | 7,364 |
| Total Outbound Sites | 26,170 | 31.1% | 32,218 | 39.3% | 3,982 | 4.7% | 2,191 | 2.6% | 522 | 0.6% | 6,668 | 7.9% | 1,169 | 1.4% | 1,394 | 1.7% | 4,563 | 5.4% | 5,234 | 6.2% | 84,110 |

*Inbound Sites
Universe: Small vehicle samples at the outbound and inbound survey sites. Source: One-way weighted and expanded data, 1998 roadside survey, DRCOG.

Figure 12
Small Vehicle Trip Destination Purpose by Survey Site



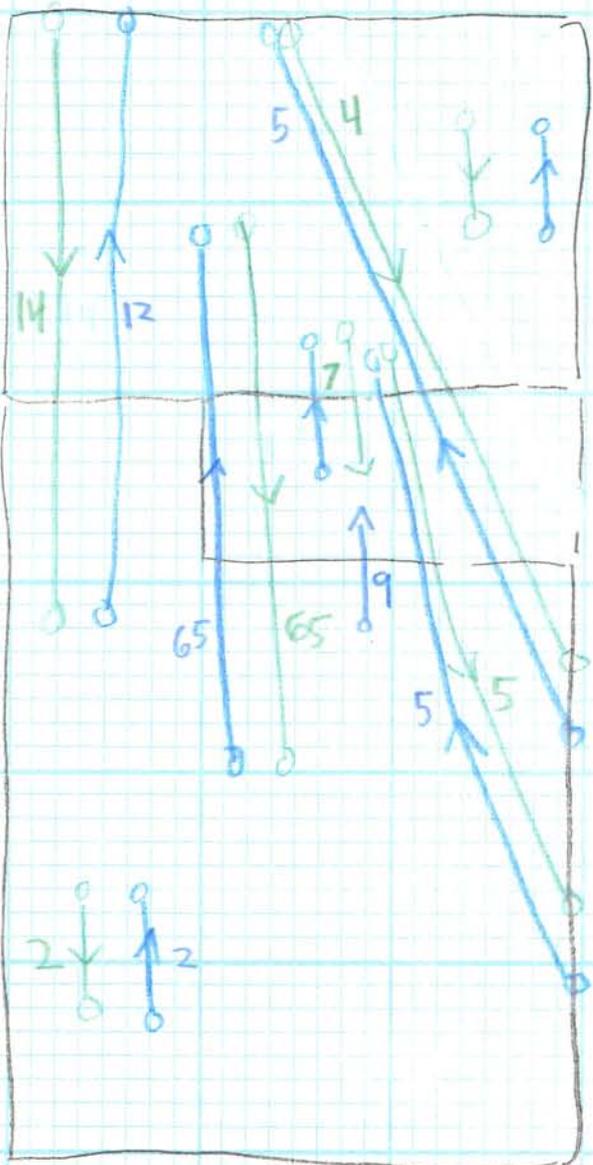
| Survey Site | Small Vehicle Trip Destination Purpose | | | | | | | | | | Total | | | | | | | | | | |
|---|--|-------|----------|-----------------|----------|-----------|--------|-------|-------------|-------|--------|-------|-----|------|-------|-------|-------|------|-------|------|--------|
| | Home | Work | Shopping | Drop-off/Pickup | Delivery | Exit mail | School | Other | No Response | Total | | | | | | | | | | | |
| I-25 North NB, Mead Exit | 9,126 | 42.3% | 6,410 | 29.7% | 381 | 1.8% | 212 | 1.0% | 119 | 0.6% | 2,872 | 13.3% | 75 | 0.3% | 498 | 2.3% | 679 | 3.1% | 1,204 | 5.6% | 21,577 |
| I-25 North SB, Mead Exit * | 5,897 | 28.3% | 8,787 | 42.2% | 349 | 1.7% | 411 | 2.0% | 173 | 0.8% | 2,885 | 13.9% | 180 | 0.9% | 398 | 1.9% | 1,066 | 5.1% | 669 | 3.2% | 20,814 |
| I-25 South NB, Greenland Ranch Road * | 7,253 | 31.4% | 5,710 | 24.7% | 754 | 3.3% | 102 | 0.4% | 273 | 1.2% | 5,481 | 23.8% | 119 | 0.5% | 541 | 2.3% | 1,722 | 7.5% | 1,112 | 4.8% | 23,076 |
| I-25 South SB, County Line Road (Exit 163) | 9,847 | 42.2% | 6,090 | 26.1% | 210 | 0.9% | 130 | 0.6% | 230 | 1.0% | 4,527 | 19.4% | 105 | 0.7% | 298 | 1.3% | 632 | 2.7% | 1,224 | 5.2% | 23,343 |
| I-70 East EB, Peoria (town)(Exit 322) | 900 | 43.1% | 369 | 17.7% | 0 | 0.0% | 30 | 1.4% | 16 | 0.7% | 900 | 27.7% | 6 | 0.3% | 5 | 0.3% | 73 | 3.5% | 112 | 5.3% | 2,092 |
| I-70 West WB, Fall River Road (Exit 238) | 3,910 | 39.5% | 2,645 | 26.7% | 84 | 0.8% | 40 | 0.4% | 127 | 1.3% | 2,821 | 22.9% | 51 | 0.5% | 64 | 0.6% | 128 | 1.5% | 583 | 5.9% | 9,892 |
| I-76 EB, Kersey Road (Exit 34) | 1,006 | 45.5% | 690 | 19.5% | 7 | 0.2% | 47 | 1.3% | 7 | 0.2% | 731 | 20.7% | 28 | 0.8% | 32 | 0.9% | 166 | 4.7% | 217 | 6.1% | 3,550 |
| SH-66 EB @ CR-13 in Elizabeth | 2,399 | 88.2% | 795 | 19.3% | 127 | 3.1% | 141 | 3.4% | 62 | 1.5% | 363 | 8.9% | 35 | 0.9% | 52 | 1.3% | 116 | 2.8% | 30 | 0.7% | 4,120 |
| US-285 WB, Pine Junction | 3,375 | 93.6% | 797 | 15.0% | 117 | 2.2% | 56 | 1.1% | 13 | 0.2% | 617 | 11.6% | 24 | 0.4% | 34 | 0.6% | 167 | 3.1% | 111 | 2.1% | 5,310 |
| US-287 NB, south of Boulder/Larimer County line | 3,908 | 83.8% | 1,569 | 21.6% | 248 | 3.4% | 114 | 1.6% | 87 | 1.2% | 745 | 10.2% | 29 | 0.4% | 278 | 3.8% | 136 | 1.8% | 154 | 2.1% | 7,269 |
| US-287 SB, south of Boulder/Larimer County line * | 1,411 | 19.9% | 3,306 | 46.7% | 557 | 7.9% | 38 | 0.5% | 58 | 0.8% | 747 | 10.6% | 128 | 1.8% | 139 | 2.0% | 481 | 6.8% | 212 | 3.0% | 7,073 |
| US-85 SB, south of SH-60 | 2,535 | 36.3% | 2,072 | 29.7% | 344 | 4.9% | 57 | 0.8% | 58 | 0.8% | 701 | 10.0% | 70 | 1.0% | 748 | 10.7% | 204 | 2.8% | 189 | 2.7% | 6,979 |
| US-85 SB, 1.1 Miles South of SH-60 * | 3,457 | 41.5% | 2,059 | 28.0% | 129 | 1.8% | 174 | 2.4% | 34 | 0.5% | 965 | 13.1% | 139 | 1.9% | 108 | 2.7% | 539 | 7.3% | 71 | 1.0% | 7,366 |
| Total/Outbound Sites | 37,606 | 44.7% | 21,436 | 23.5% | 1,518 | 1.8% | 827 | 1.0% | 719 | 0.9% | 13,396 | 15.9% | 473 | 0.6% | 2,009 | 2.4% | 2,302 | 2.7% | 3,822 | 4.5% | 84,110 |

*Inbound Sites
Source: One-way weighted and expanded data, 1998 external summary, DRCOG
Universe: Small vehicle samples at the outbound and inbound survey sites

PROJECT _____
CLIENT _____
SUBJECT _____

| | | |
|-------------|------|----------|
| JOB NO. | | NO. / |
| DESIGNED BY | DATE | |
| CHECKED BY | DATE | |
| | | OF |

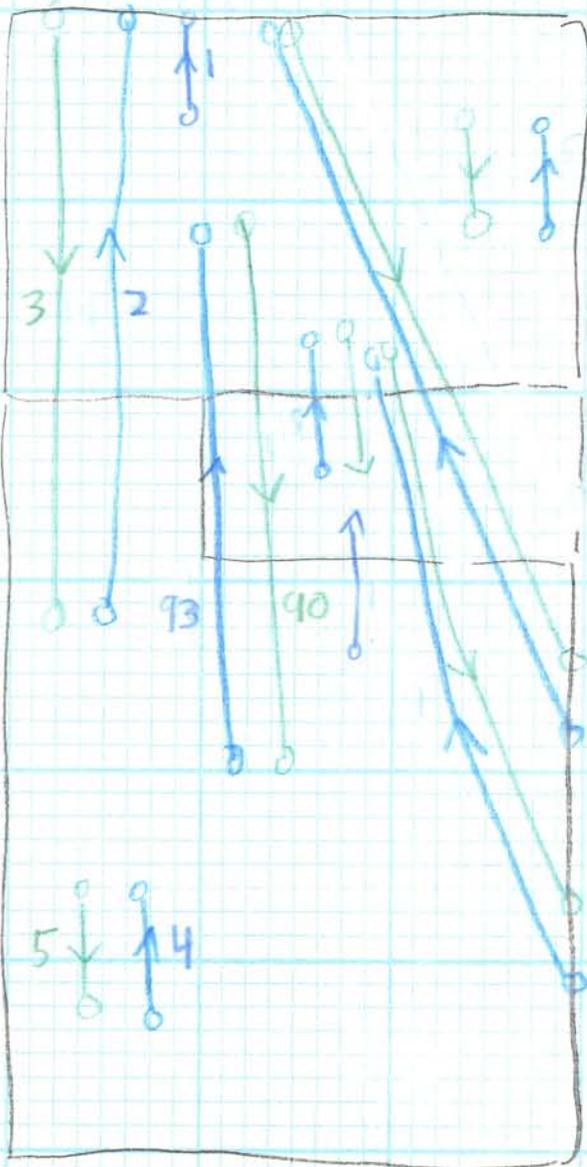
I-25



PROJECT _____
CLIENT _____
SUBJECT _____

| | | |
|-------------|------|----------|
| JOB NO. | | NO. / |
| DESIGNED BY | DATE | |
| CHECKED BY | DATE | |
| | | OF |

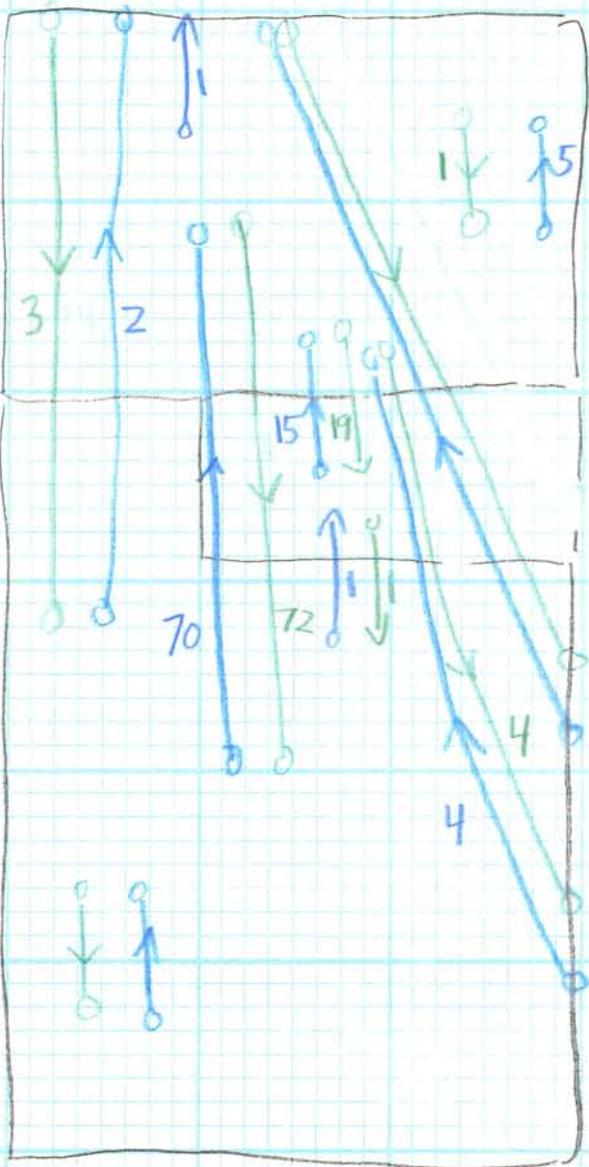
US-287



PROJECT _____
CLIENT _____
SUBJECT _____

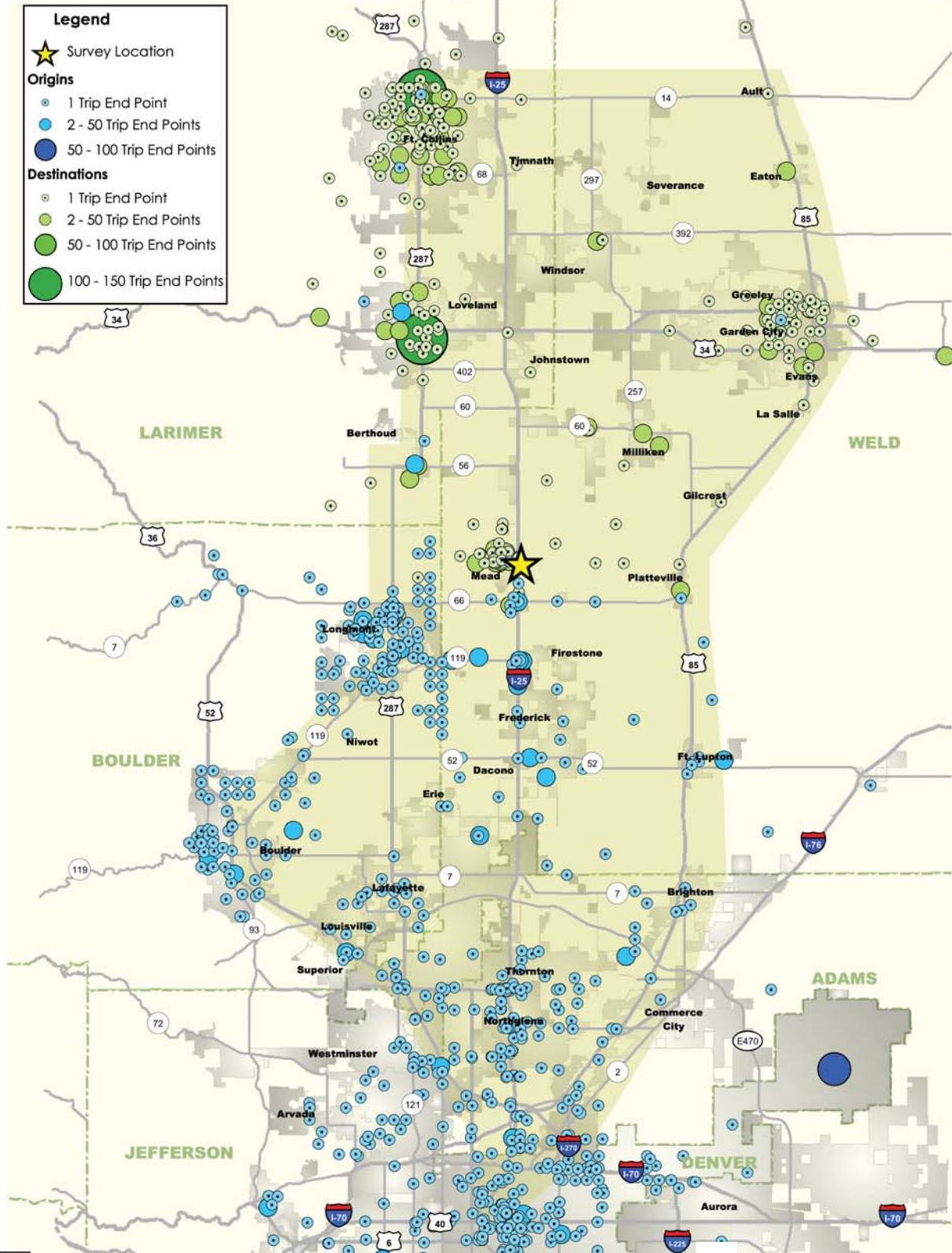
| | | |
|-------------|------|----------|
| JOB NO. | | NO. / |
| DESIGNED BY | DATE | |
| CHECKED BY | DATE | |
| | | OF |

US-85



Origins/Destinations of Trips on Northbound I-25*

DRCOG 1998 Roadside Survey

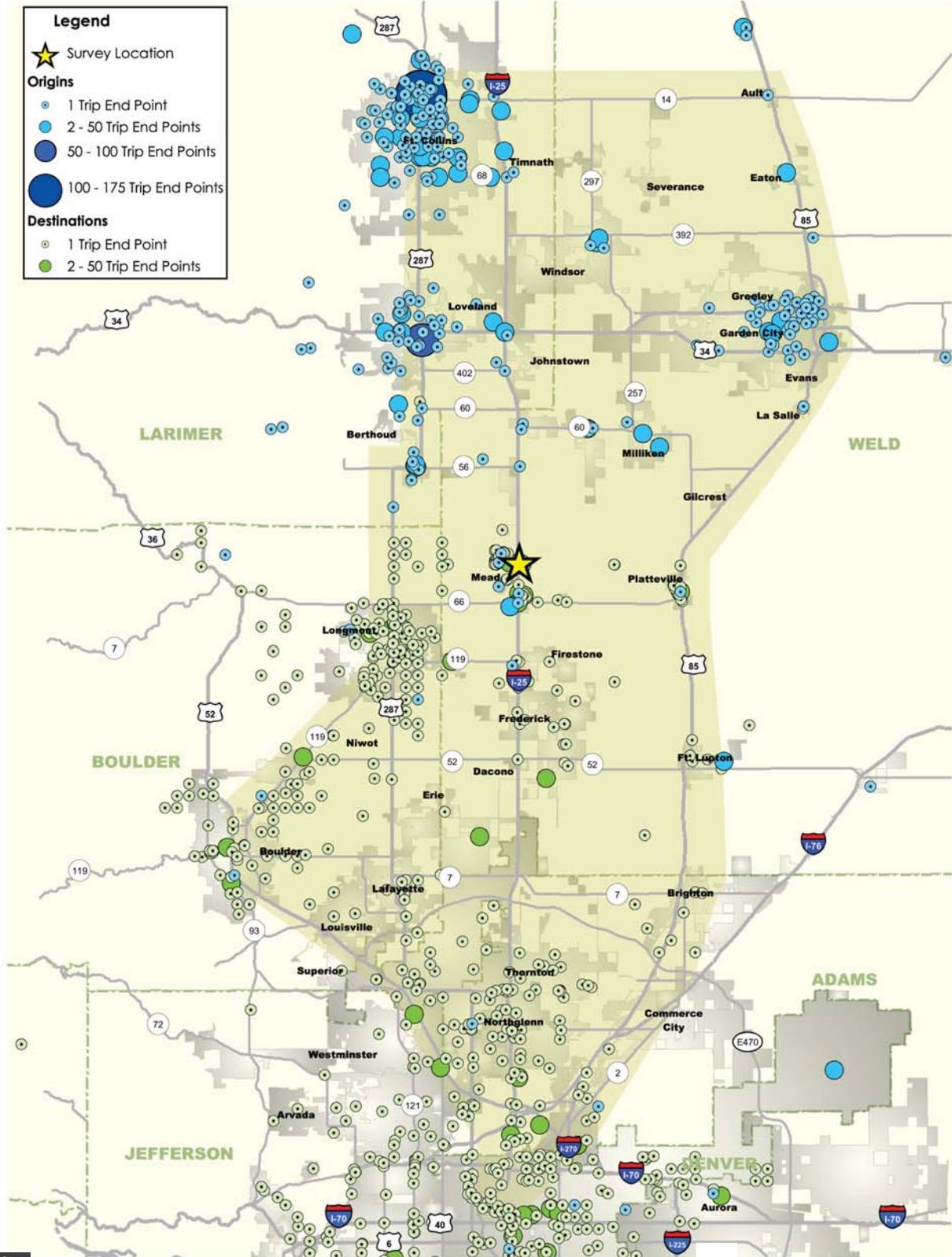


* I-25 Northbound at Mead, all trip purposes
 Source: DRCOG 1998 Roadside Survey



Origins/Destinations of Trips on Southbound I-25*

DRCOG 1998 Roadside Survey



* I-25 Southbound at Mead, all trip purposes
 Source: DRCOG 1998 Roadside Survey

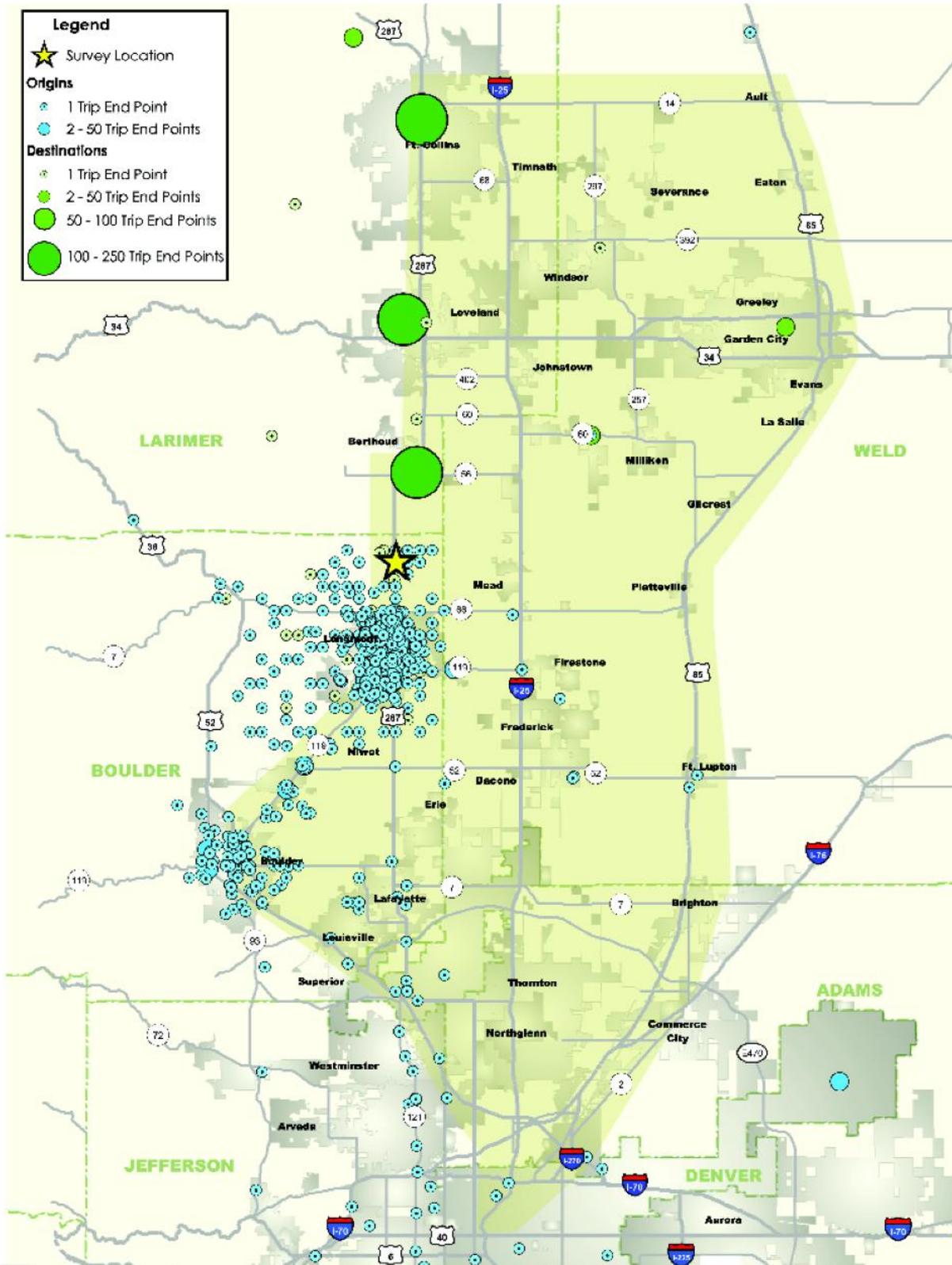


2/10/04



Origins/Destinations of Trips on Northbound US 287*

DRCOG 1998 Roadside Survey

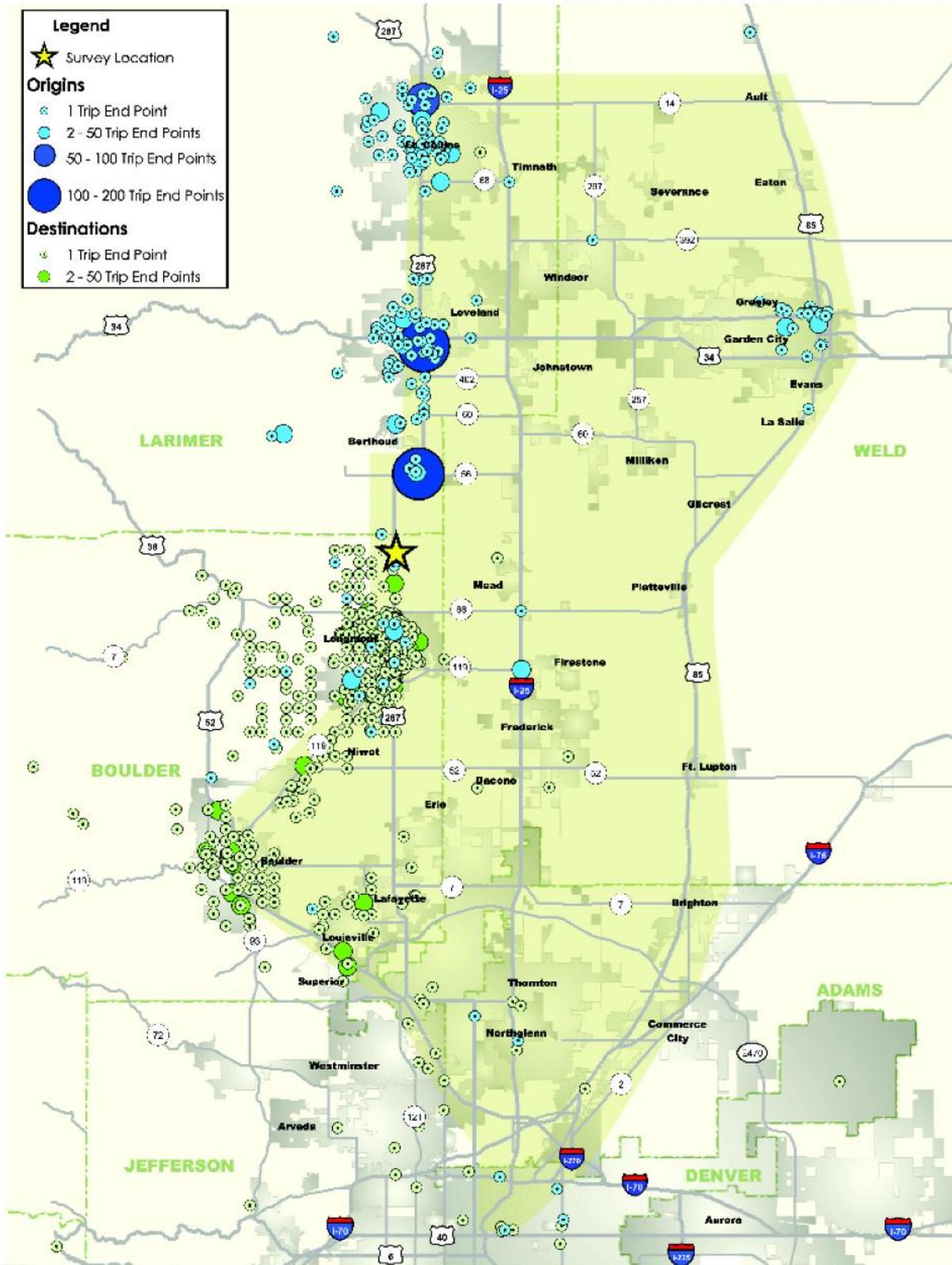


* US 287 Northbound at Boulder/Larimer County Line, all trip purposes
 Source: DRCOG 1998 Roadside Survey



Origins/Destinations of Trips on Southbound US 287*

DRCOG 1998 Roadside Survey



* US 287 Southbound at Boulder/Larimer County Line, all trip purposes
 Source: DRCOG 1998 Roadside Survey

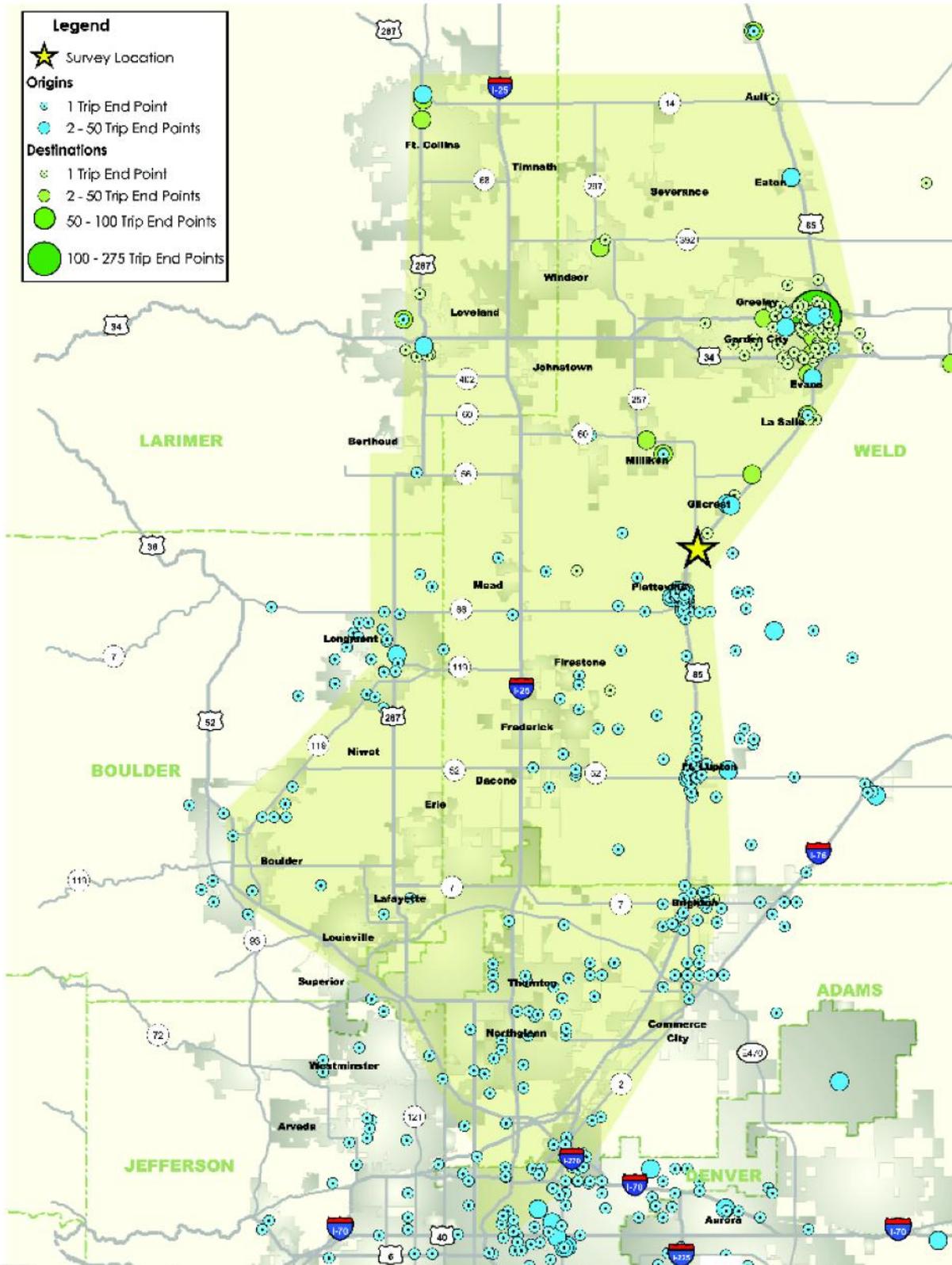


2/10/04



Origins/Destinations of Trips on Northbound US 85*

DRCOG 1998 Roadside Survey

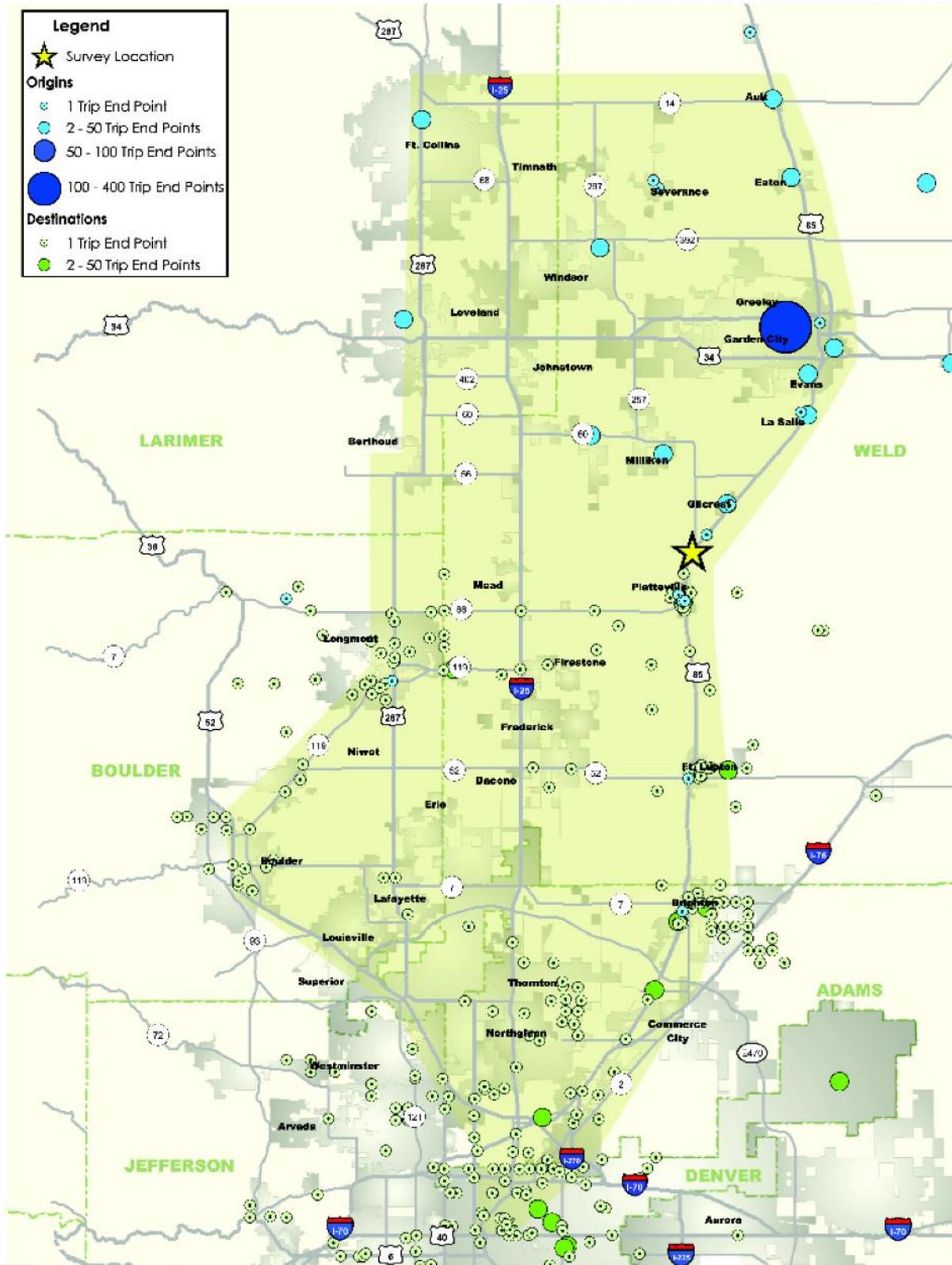


* US 85 Northbound south of SH 60, all trip purposes
 Source: DRCOG 1998 Roadside Survey



Origins/Destinations of Trips on Southbound US 85*

DRCOG 1998 Roadside Survey



* US 85 Southbound south of SH 60, all trip purposes
 Source: DRCOG 1998 Roadside Survey



Roadside Survey Trip Processing

- ❑ Year 2000/2001 vehicle counts on I-25, US-287, and US-85 total approximately 79,000 – 85,000.
- ❑ Bi-regional is defined as those trips with each endpoint within the NFRMPO and the DRCOG model areas. In other words, external trips are excluded.
- ❑ Bi-regional traversal trips are those with one endpoint within the NFRMPO model area and one endpoint in the DRCOG model area.

Roadside Survey Trip Processing

| | All trip purposes | | HBW trip purpose | | |
|---|-------------------|----------------------------------|-------------------|----------------------------------|---------------------------------|
| | Number of Surveys | Expanded Number of Vehicle Trips | Number of Surveys | Expanded Number of Vehicle Trips | Expanded Number of Person Trips |
| Total of all surveyed external stations | 8,710 | 142,440 | 2,200 | 37,730 | - |
| Through North I-25, north US-287, and north US-85 external stations | 4,530 | 71,080 | 1,240 | 20,620 | 23,920 |
| Bi-regional | 3,900 | 59,650 | 1,160 | 19,130 | 22,190 |
| Not unknown purpose | 3,620 | 54,690 | 1,160 | 19,130 | 22,190 |
| Bi-regional traversal | 3,410 | 51,350 | 1,100 | 18,080 | 20,970 |

Source: DRCOG Roadside External Station Survey, 1998

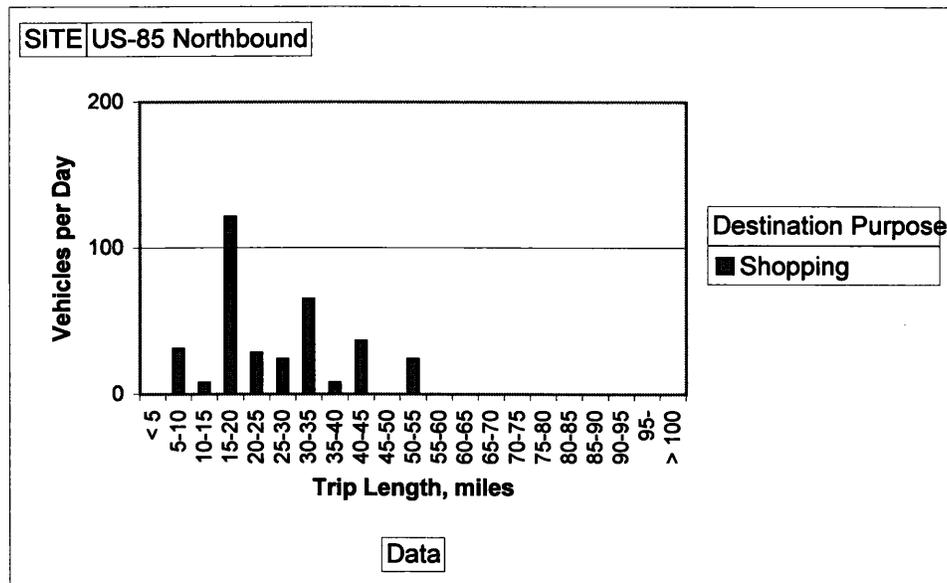
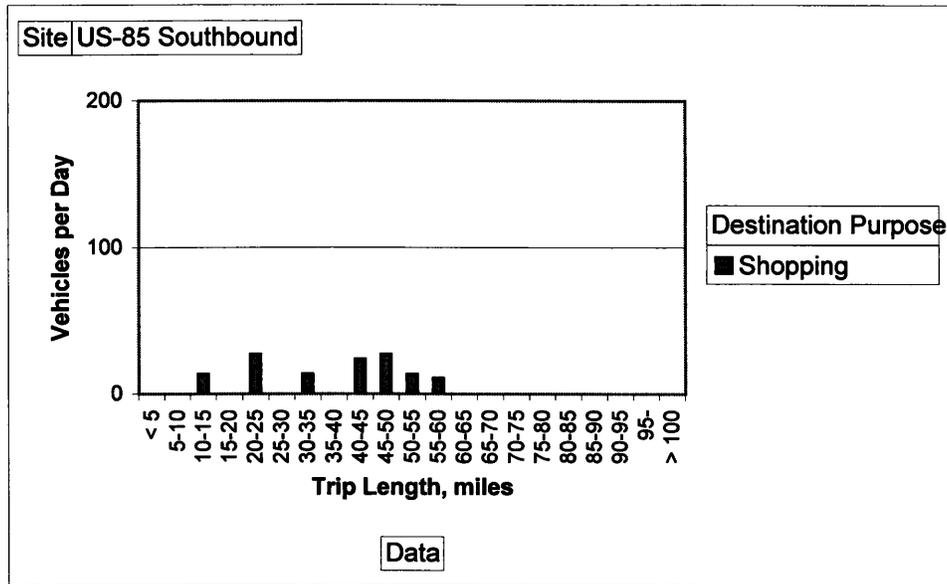
Observation

- ❑ The number of HBW vehicle trips between the north study area and the Denver metropolitan region is about 18,000. Using vehicle occupancy data from the survey, the number of HBW person trips is about 21,000.

- ❑ The roadside survey did not include Boulder CR 23, or Weld CR 13 & 19. The total traffic on these roads amounts to 10,100 vehicles. Assuming 33% are HBW trips (based on approximate average from roadside survey) and assuming an auto occupancy of 1.1 yields an additional 3,700 HBW person trips not accounted for above. The total of HBW trips would be approximately 25,000.

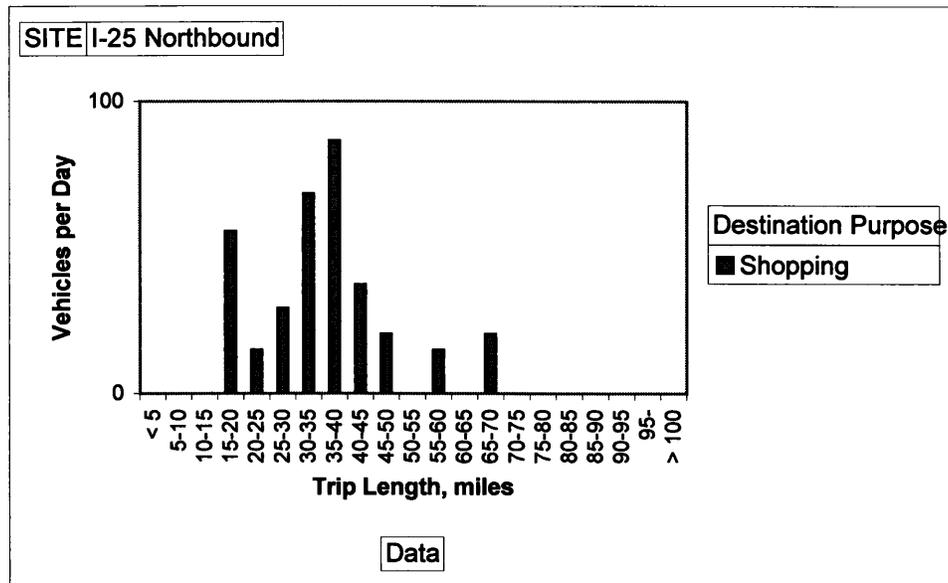
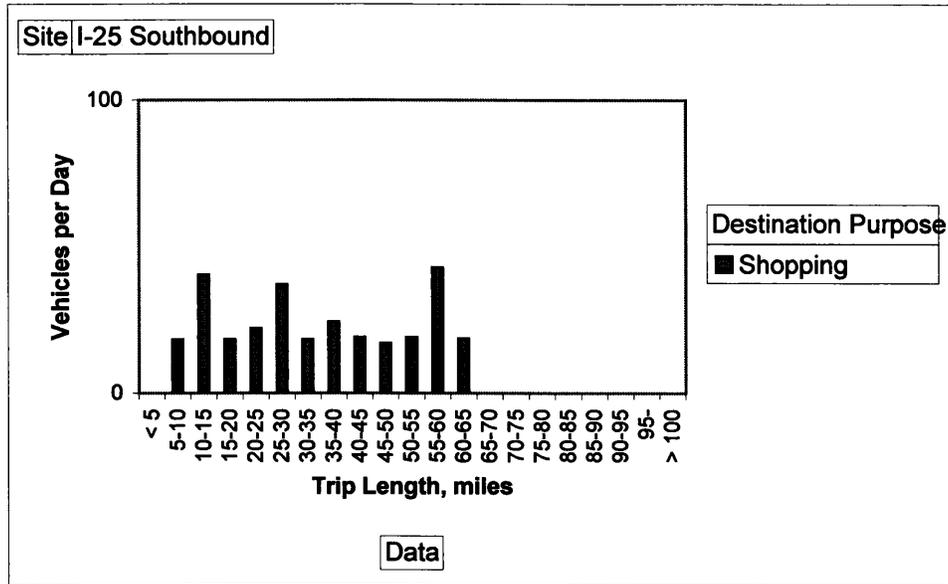
J:_Transportation\071609.400\model\Roadside Survey Trip Processing.doc

**Trip Length Distribution
of Shopping Trips on US-85 (south of SH-60)
DRCOG 1998 Roadside Survey**



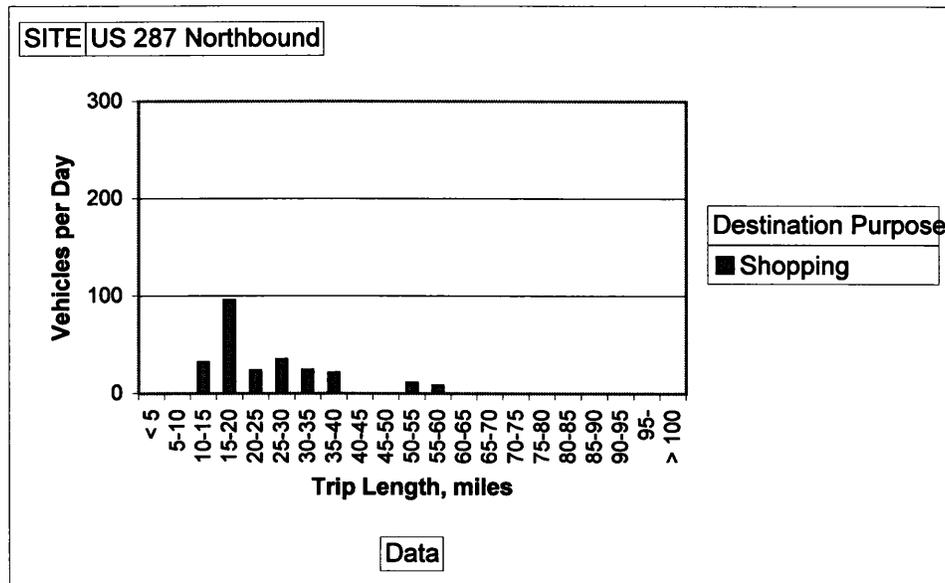
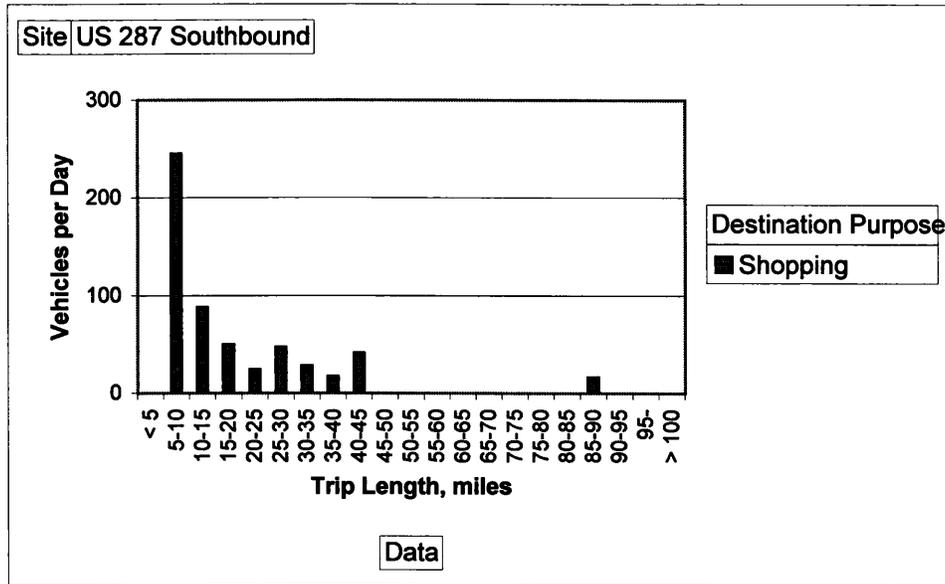
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Shopping Trips on I-25 (at Mead)
DRCOG 1998 Roadside Survey**



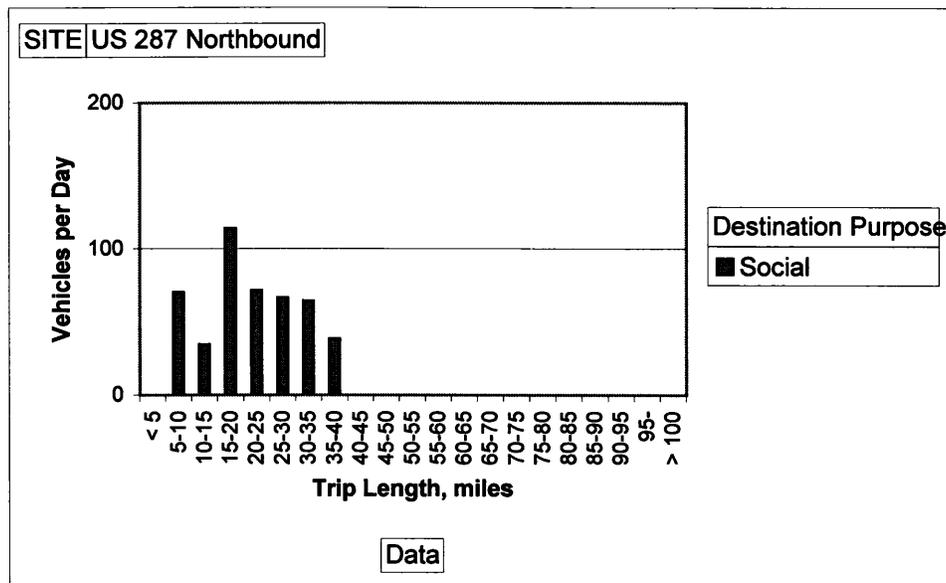
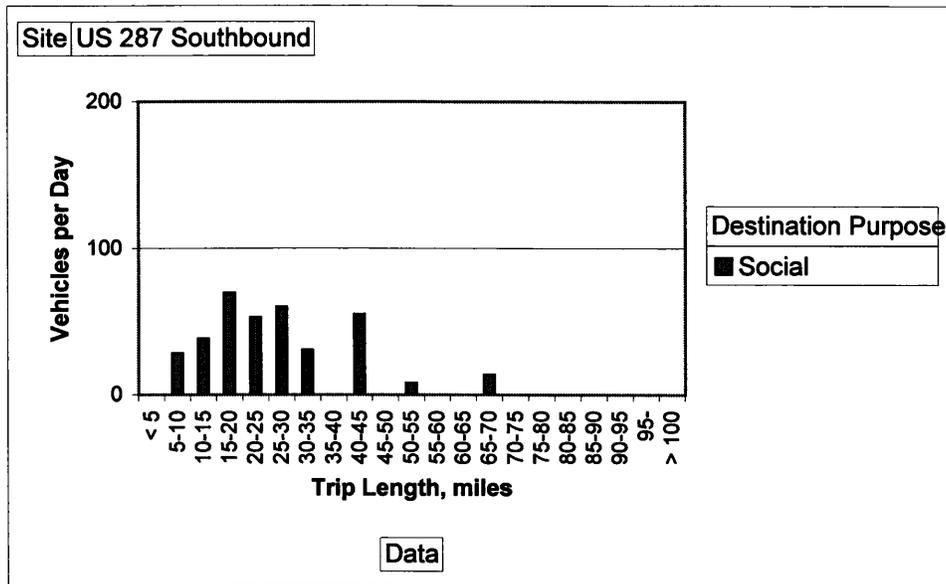
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Shopping Trips on US-287 (south of Boulder/Larimer county line)
DRCOG 1998 Roadside Survey**



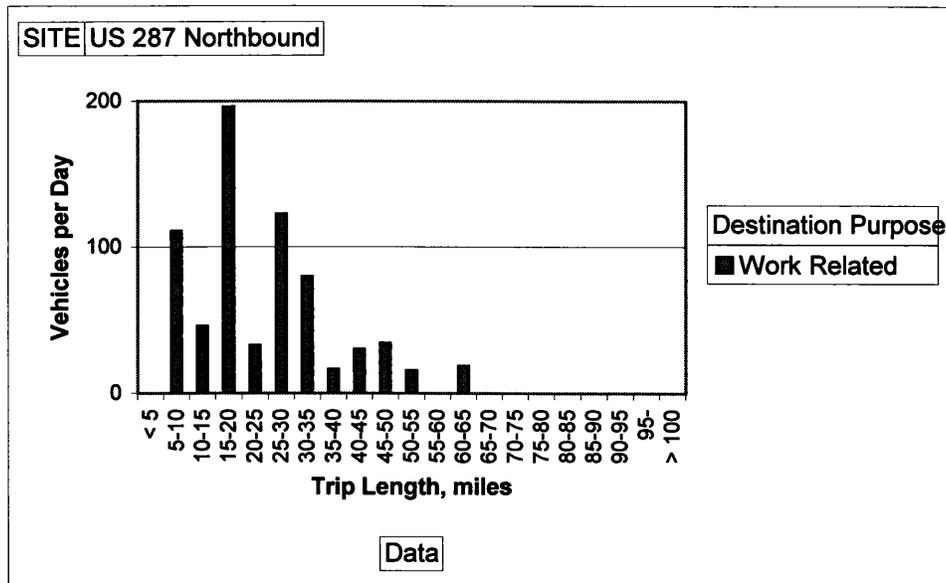
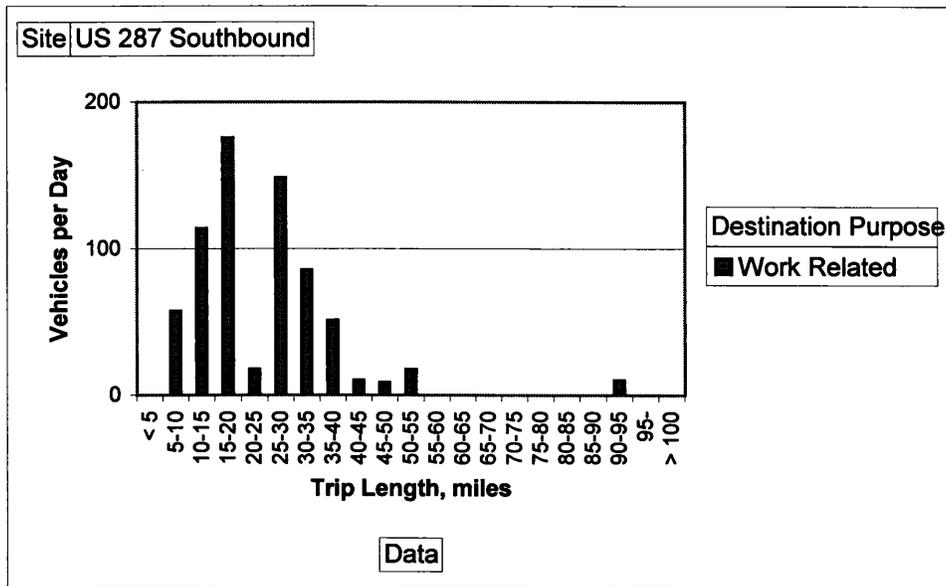
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Social Trips on US-287 (south of Boulder/Larimer county line)
DRCOG 1998 Roadside Survey**



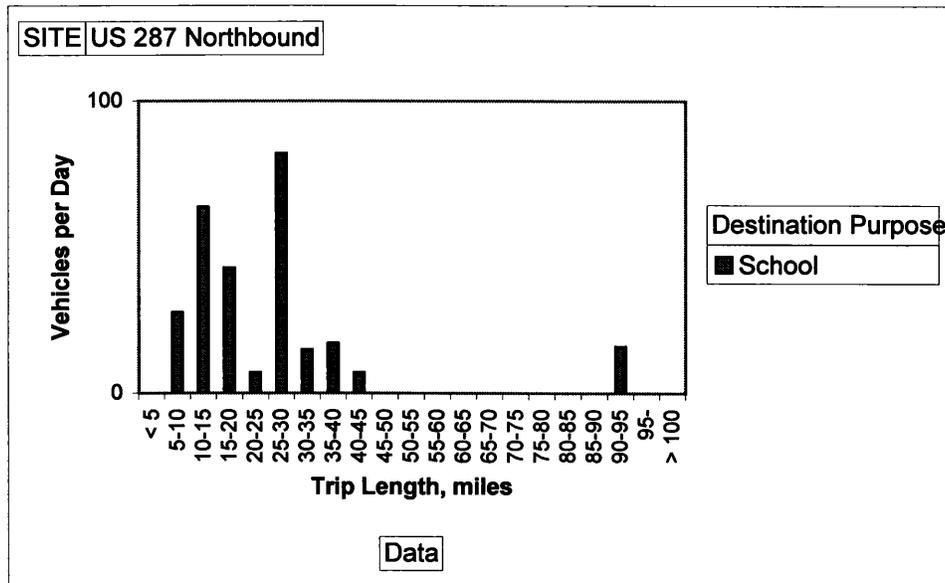
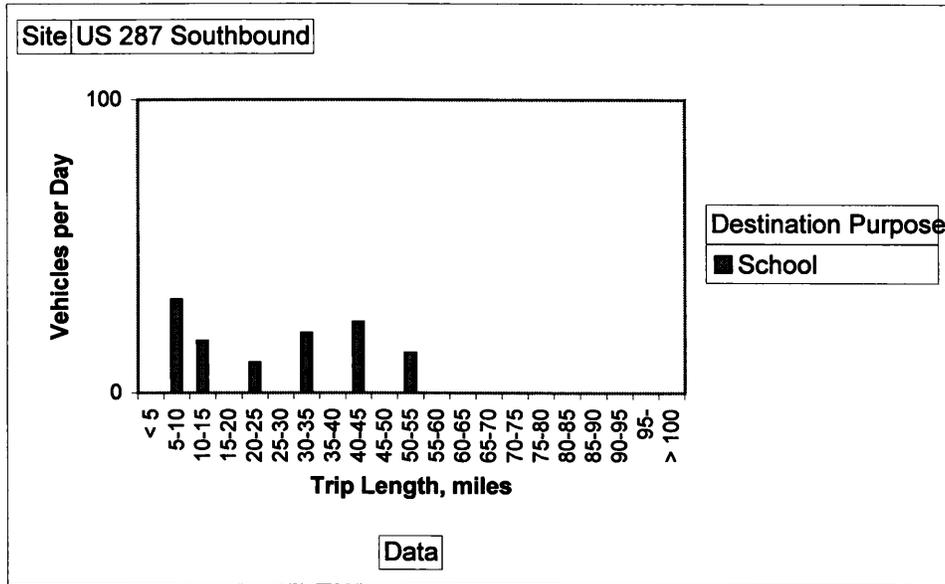
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Work-related Trips on US-287 (south of Boulder/Larimer county line)
DRCOG 1998 Roadside Survey**



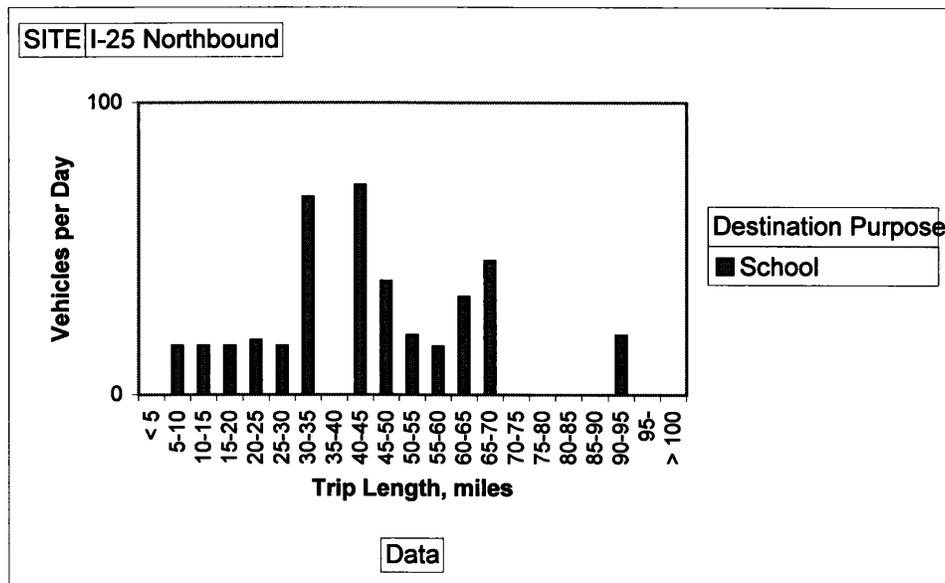
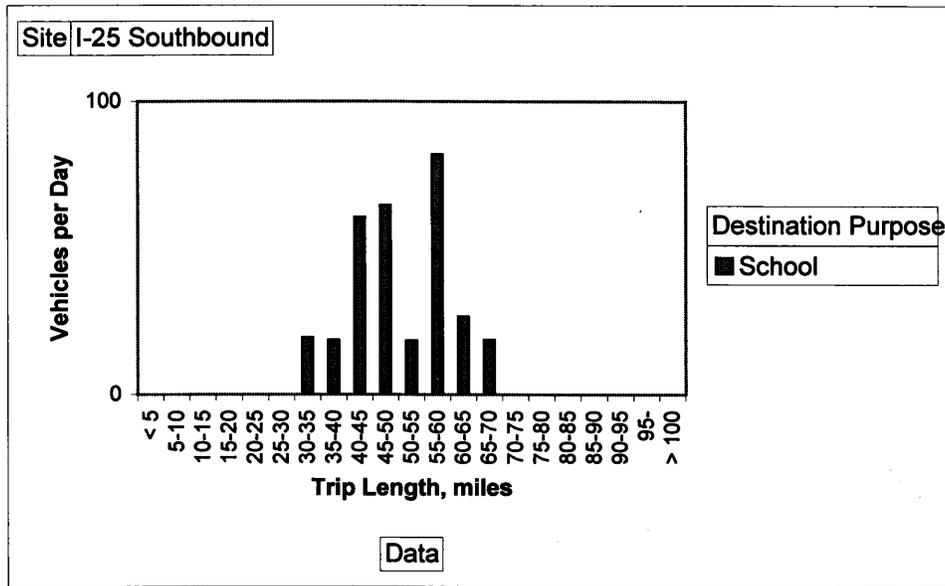
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of School Trips on US-287 (south of Boulder/Larimer county line)
DRCOG 1998 Roadside Survey**



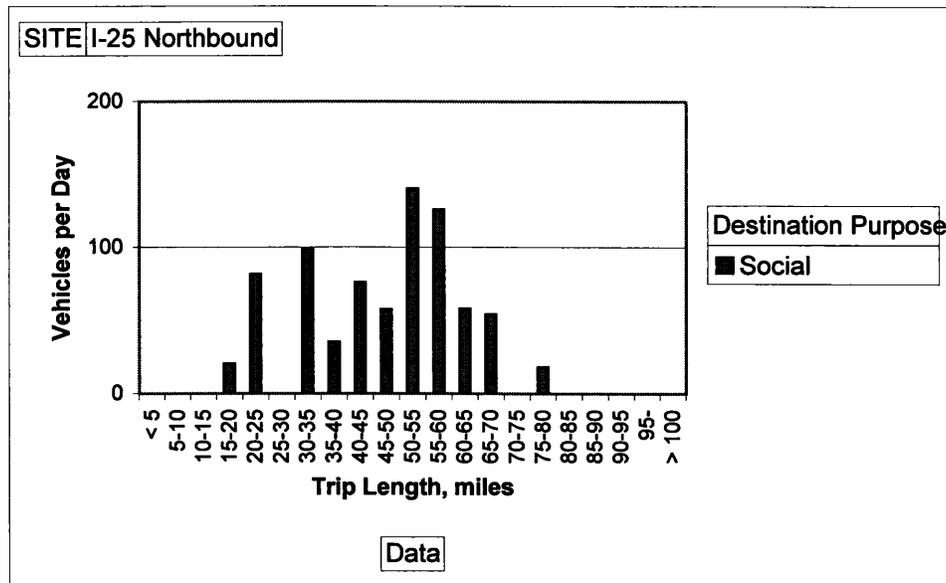
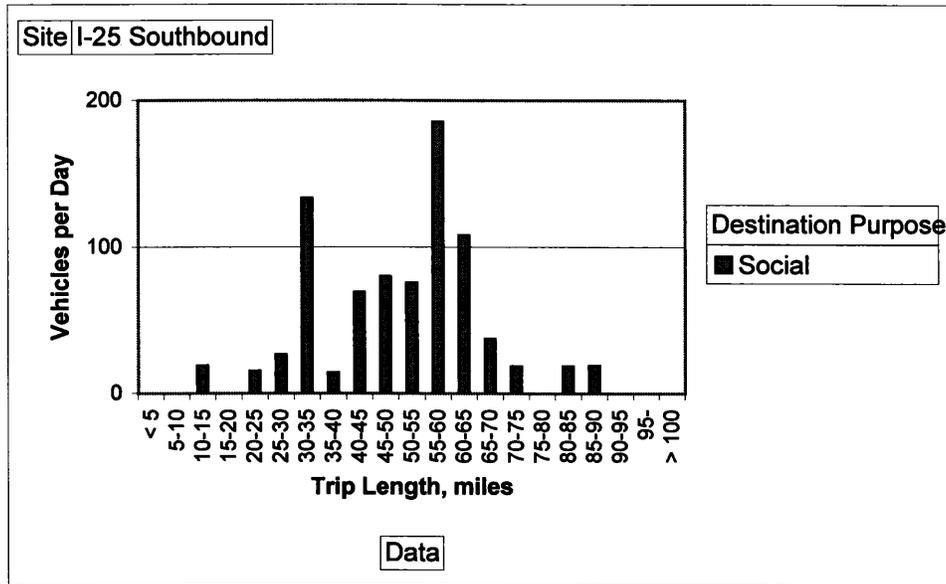
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of School Trips on I-25 (at Mead)**
DRCOG 1998 Roadside Survey



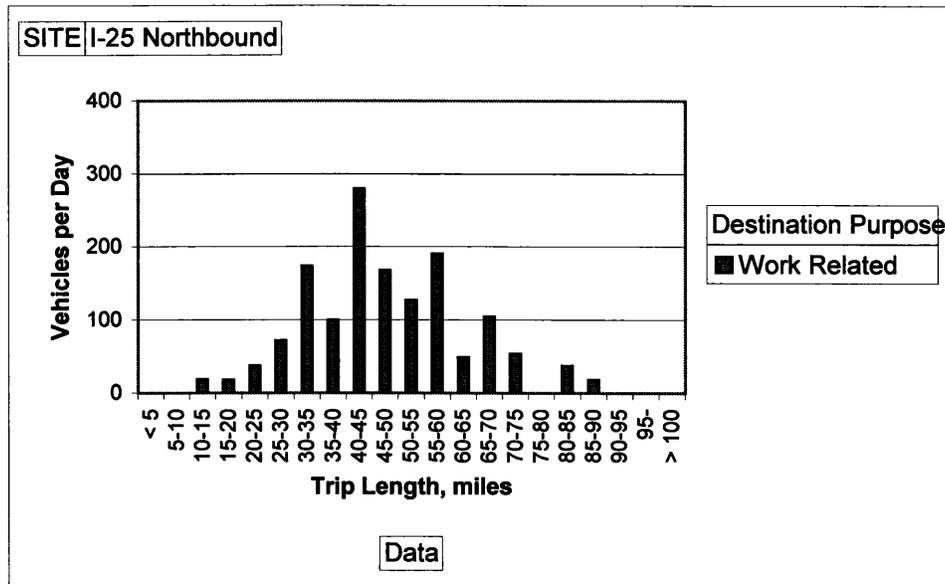
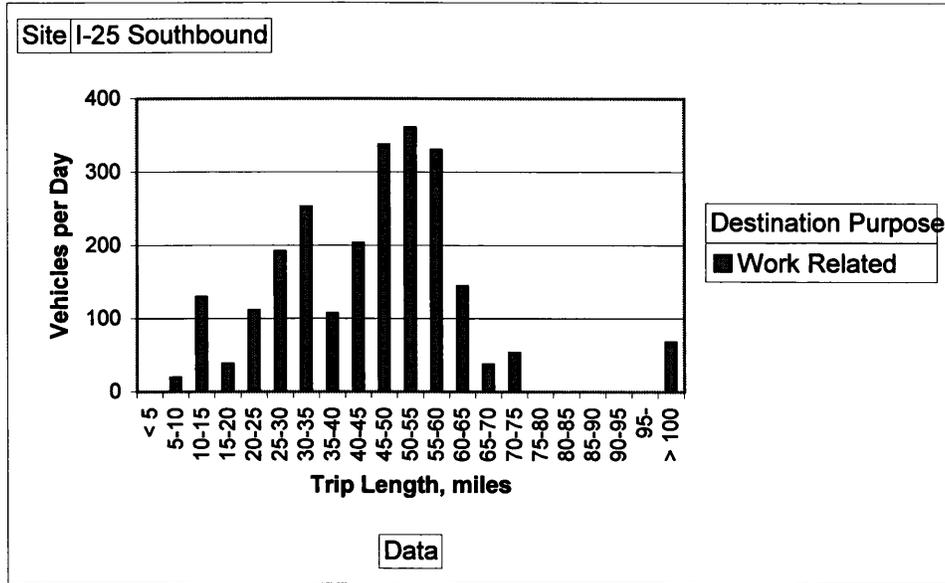
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Social Trips on I-25 (at Mead)**
DRCOG 1998 Roadside Survey



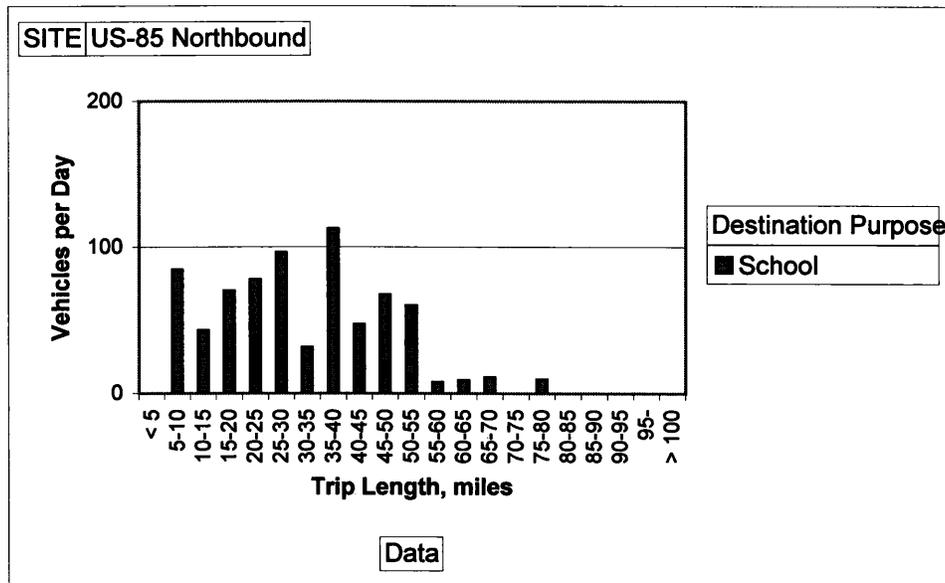
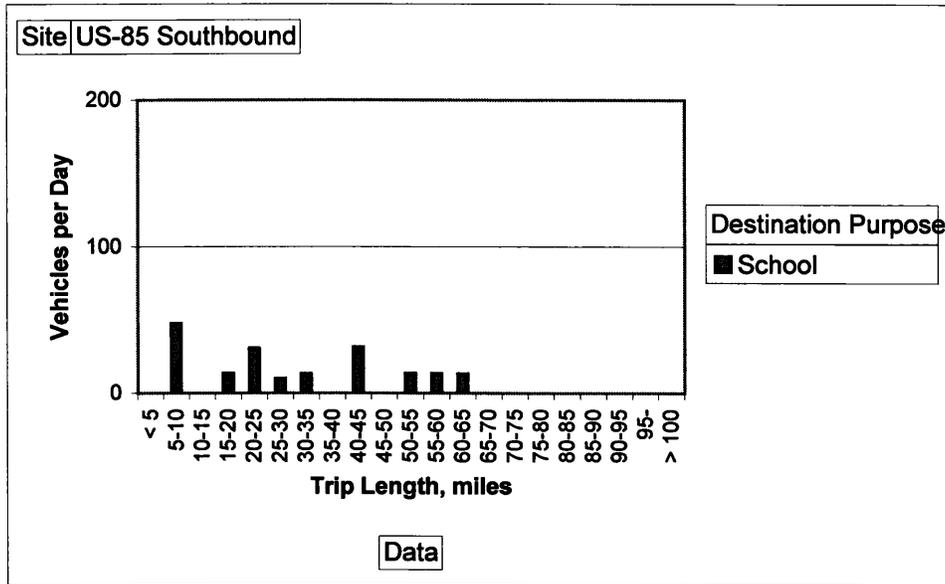
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Work-related Trips on I-25 (at Mead)
DRCOG 1998 Roadside Survey**



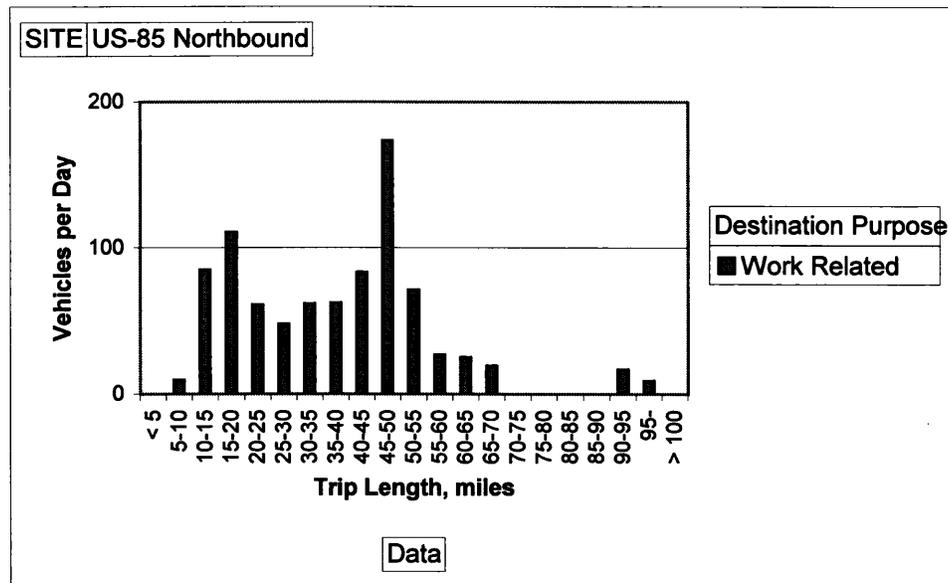
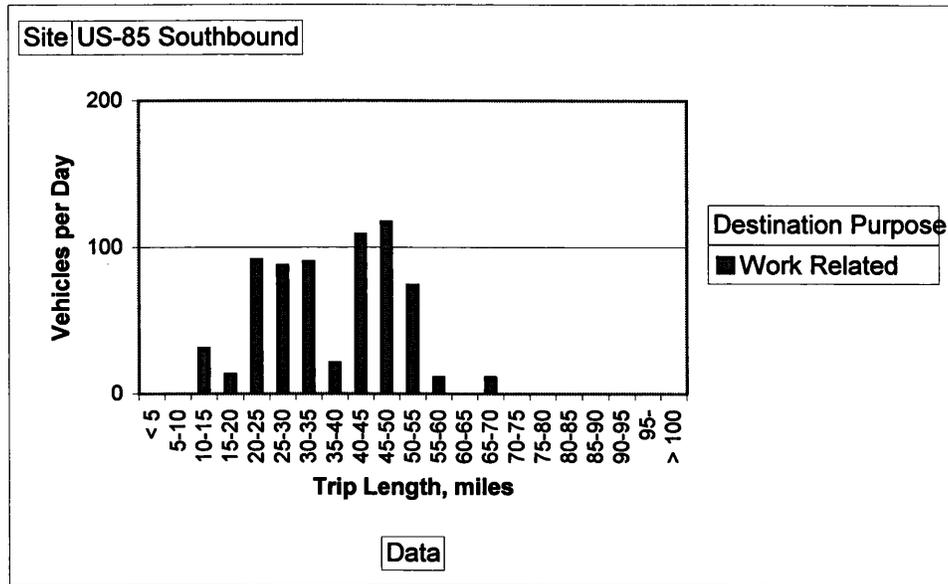
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of School Trips on US-85 (south of SH-60)
DRCOG 1998 Roadside Survey**



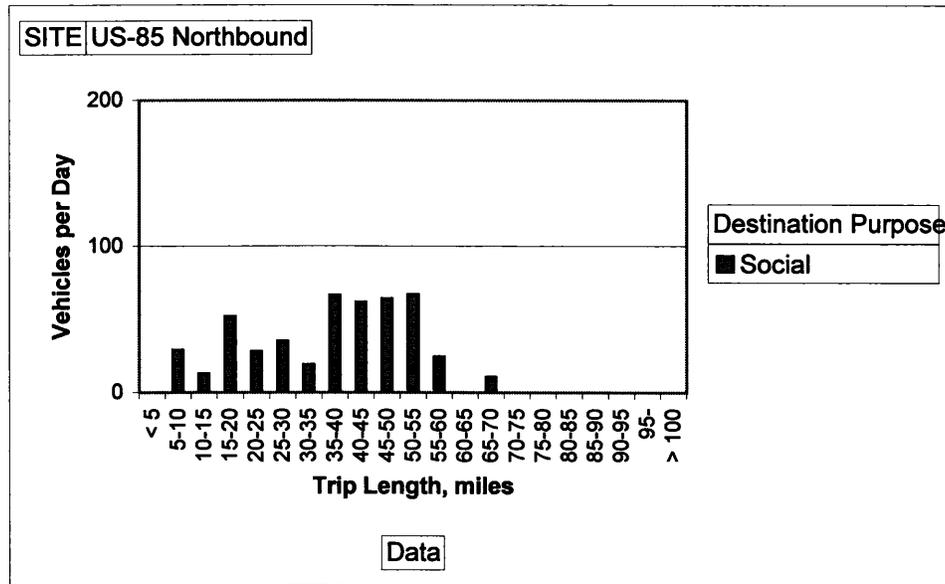
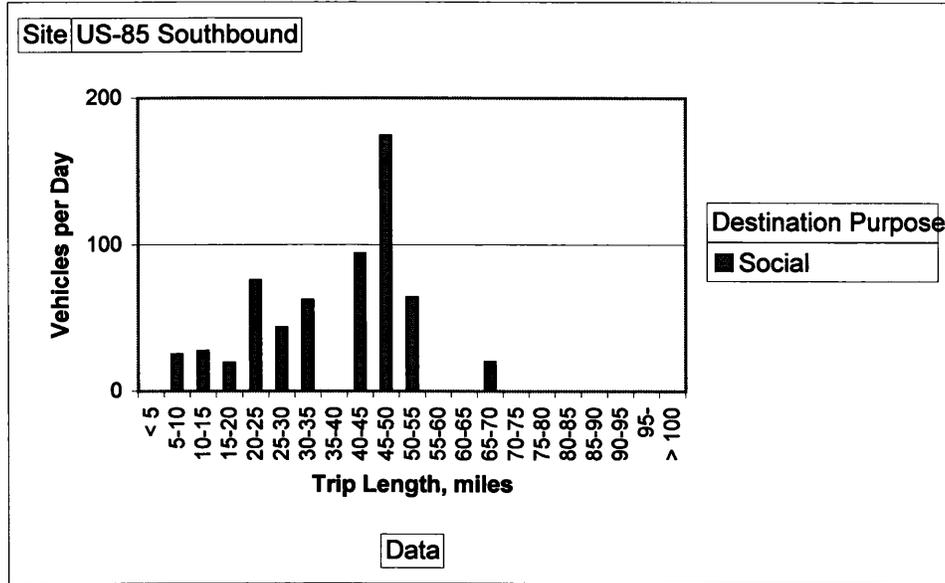
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Work-Related Trips on US-85 (south of SH-60)
DRCOG 1998 Roadside Survey**



Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Social Trips on US-85 (south of SH-60)
DRCOG 1998 Roadside Survey**



Source: 1998 Roadside Survey, DRCOG

Brief Description Addendum
DRCOG 1998 Roadside Survey

- ▶ Two components:
 - Truck survey
 - Small vehicle survey

Small Vehicle Survey

- Survey occurred in April and May of 1998
- Survey period from 6:30 am to 7:30 pm each day (13 hours)
- Hourly vehicle counts collected at survey sites on survey days
- Hourly calibration factors by survey site
- Sample rate ranged from about 6% to 10%.

Survey Site Traffic Counts and Sample Size

| Survey site | Traffic Count in Direction of Survey | | 24-Hour 2-Way Traffic Count | Actual Samples | Sample Rate |
|--|--------------------------------------|---------|-----------------------------|----------------|-------------|
| | 13-Hour | 24-Hour | | | |
| I-25 n/b at Mead | 19,809 | 25,741 | 50,590 | 1,174 | 5.9% |
| I-25 s/b at Mead | 19,802 | 24,849 | 50,590 | 1,170 | 6.1% |
| US-287 n/b, south of Boulder/Larimer county line | 6,245 | 7,566 | 14,833 | 671 | 10.7% |
| US-287 s/b, south of Boulder/Larimer county line | 5,968 | 7,267 | 14,833 | 653 | 10.9% |
| US-85 n/b, south of SH-60 | 6,551 | 7,772 | 15,958 | 654 | 10.0% |
| US-85 s/b, south of SH-60 | 5,876 | 8,186 | 15,958 | 566 | 9.6% |

**Brief Description Addendum
DRCOG 1998 Roadside Survey**

Small Vehicle and Truck Classification Data

Vehicle Classification Data

| Survey Site | Percent Small Vehicles ¹ | Percent Large Trucks ¹ |
|---|-------------------------------------|-----------------------------------|
| I-25 n/b, at Mead | 83.8 | 16.2 |
| I-25 s/b, at Mead | 83.8 | 16.2 |
| US 287 n/b, south of Boulder/Laramie Line | 96.1 | 3.9 |
| US 287 s/b, south of Boulder/Laramie Line | 97.3 | 2.7 |
| US 85 n/b, between Platteville and SH 60 | 89.8 | 10.2 |
| US 85 s/b, between Platteville and SH 60 | 89.9 | 10.1 |

¹Small vehicles include passenger cars, pick-up trucks, passenger/mini vans, and other two-axle, four-tire vehicles. Large trucks include large (Panel) vans and sing-unit trucks having two axles with dual rear tires, single-unit vehicles with three or more axles, and all combination trucks.

Source:

Denver Regional Travel Behavior Inventory, Front Range Travel Survey Report, May 1, 2000, Prepared by Denver Regional Council of Governments

Brief Observations

DRCOG 1998 Roadside Survey

- ▶ Average trip lengths for work trips on I-25 were the longest with the highest frequency occurring between 50 to 60 miles in both northbound and southbound directions
- ▶ Average trip lengths for work trips surveyed on US 287 tend to be shorter than those surveyed on US-85 and I-25
- ▶ Average trip lengths for work trips on US-85 southbound did not exceed 65 miles; in the northbound direction, there were a number of surveyed vehicles with trip lengths over 70 miles
- ▶ Southbound traffic volumes for work trips at all three survey sites (US 287, US-85, and I-25) are greater than northbound volumes
- ▶ The origins and destinations are generally located with the same orientation of the external survey sites--US 85 – east, I-25 – center, US 287 – west
- ▶ Travelers surveyed at the I-25 northbound site originated from locations throughout the metro area and were destined primarily for Greeley, Fort Collins and Loveland; in the southbound direction the pattern is reversed
- ▶ Travelers surveyed at the US 287 southbound site originated from Fort Collins, Greeley and Loveland and were destined primarily to the Boulder County communities of Longmont and Boulder; in the northbound direction, the pattern is reversed.
- ▶ Travelers surveyed on US 85 at SH-60 northbound originated from east of I-25 and were destined primarily to Greeley; the pattern is reversed for southbound travelers.

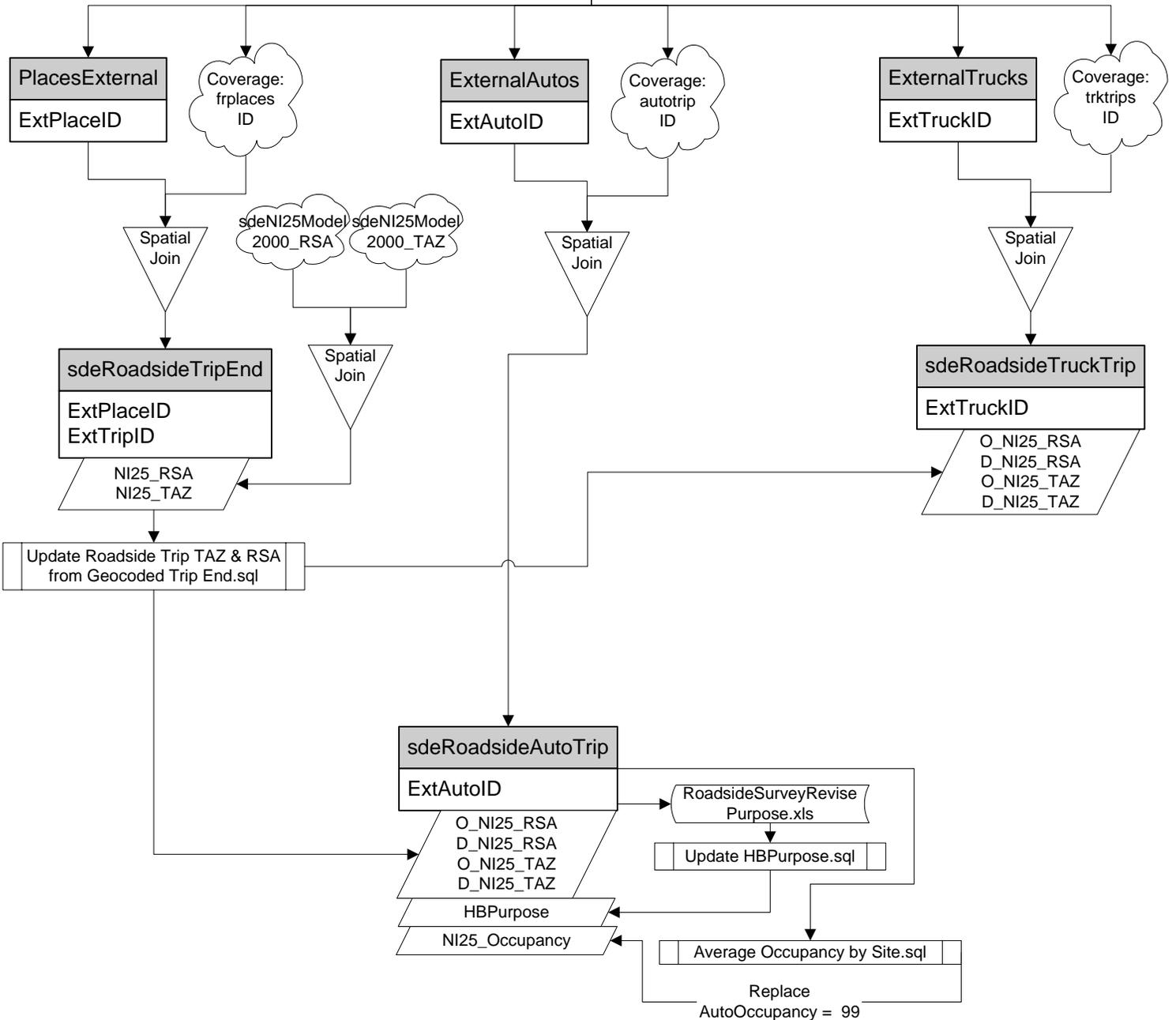
**DENVER REGIONAL TRAVEL BEHAVIOR INVENTORY STUDY
FRONT RANGE TRAVEL SURVEY — AUTOMOBILES**

Interviewer: _____ Station: _____ Date: ___/___/1998

| | Vehicle 1 | Vehicle 2 |
|---|--|--|
| Time: | o 1 - a.m. o 2 - p.m. | o 1 - a.m. o 2 - p.m. |
| Vehicle Type: | o 1 - pass. car o 2 - pickup o 3 - sport util. o 4 - van o 5 - motorcycle | o 1 - pass. car o 2 - pickup o 3 - sport util. o 4 - van o 5 - motorcycle |
| Emissions Sticker: | o 1 - E sticker o 2 - B sticker o 3 - Round st. o 4 - Blue / green o 5 - unknown o 6 - none | o 1 - E sticker o 2 - B sticker o 3 - Round st. o 4 - Blue / green o 5 - unknown o 6 - none |
| Number of people in vehicle: (include infants) | o 1 o 2 o 3 o 4 o more (write): _____ | o 1 o 2 o 3 o 4 o more (write): _____ |
| What kind of fuel does your vehicle use? | o 1 - gasoline o 2 - diesel o 3 - propane o 4 - nat'l gas / o 5 - other CNG | o 1 - gasoline o 2 - diesel o 3 - propane o 4 - nat'l gas / o 5 - other CNG |
| Is this vehicle owned or leased by a person or a business? | o 1 - personal o 2 - business | o 1 - personal o 2 - business |
| What State do you live in? | o Colorado o other (write) _____ | o Colorado o other (write) _____ |
| If Colorado, what county do you live in? (write in) | | |
| What is the name of the place where you last stopped? (e.g., McDonalds, Safeway, home, ...) | <i>Place Name</i> Street Address City State | |
| And, what is the address there? (or intersecting streets—get something!!) | o Colorado o other (write) _____ | o Colorado o other (write) _____ |
| <i>(If coming from outside the DRCOG region)</i> How did you enter the area? (What roadway?) | | |
| What was your main purpose for being there? | o 1 - home o 2 - work o 3 - work-rel.* o 4 - delivery* o 5 - school o 6 - recreation* o 7 - shop* o 8 - eat* o 9 - social* o 10 - pick-up / o 11 - other* drop off pass.* | o 1 - home o 2 - work o 3 - work-rel.* o 4 - delivery* o 5 - school o 6 - recreation* o 7 - shop* o 8 - eat* o 9 - social* o 10 - pick-up / o 11 - other* drop off pass.* |
| <i>[If starred (*) response given, ask for previous trip information after next question on time.]</i> | | |
| What time did you leave from there? | o 1 - a.m. o 2 - p.m. | o 1 - a.m. o 2 - p.m. |
| What is the name of the place where you were before that? (e.g., McDonalds, Safeway, home, etc.) | <i>Place Name</i> Street Address City State | |
| And, what is the address there? (or intersecting streets—get something!!) | o Colorado o other (write) _____ | o Colorado o other (write) _____ |
| <i>(If coming from outside the DRCOG region)</i> How did you enter the area? (What roadway?) | | |
| What was your main purpose for being there? | o 1 - home o 2 - work o 3 - work-rel. o 4 - delivery o 5 - school o 6 - recreation o 7 - shop o 8 - eat o 9 - social o 10 - pick-up / o 11 - other drop off pass. | o 1 - home o 2 - work o 3 - work-rel. o 4 - delivery o 5 - school o 6 - recreation o 7 - shop o 8 - eat o 9 - social o 10 - pick-up / o 11 - other drop off pass. |
| What is the name of the place you are going to next? (e.g., Safeway, McDonalds, home, etc.) | <i>Place Name</i> Street Address City State | |
| And, what is the address there? (or intersecting streets—get something!!) | o Colorado o other (write) _____ | o Colorado o other (write) _____ |
| What is your main purpose for going there? | o 1 - home o 2 - work o 3 - work-rel. o 4 - delivery o 5 - school o 6 - recreation o 7 - shop o 8 - eat o 9 - social o 10 - pick-up / o 11 - other drop off pass. | o 1 - home o 2 - work o 3 - work-rel. o 4 - delivery o 5 - school o 6 - recreation o 7 - shop o 8 - eat o 9 - social o 10 - pick-up / o 11 - other drop off pass. |

Roadside Survey

1998 DRCOG Roadside Survey



North I-25
Trip Purpose Percent Determination

| | | I-25 | US 287 | US 85 |
|--------------|------------------------------|-------------|-------------|-------------|
| Truck | SB | 0.162 | 0.027 | 0.101 |
| | NB | 0.162 | 0.039 | 0.102 |
| | Avg | 0.162 | 0.033 | 0.102 |
| HBW | SB | 0.35 | 0.36 | 0.25 |
| | Unknown | 0.11 | 0.04 | 0.02 |
| | SB Factored for Unkown | 0.39 | 0.38 | 0.26 |
| | NB | 0.33 | 0.34 | 0.27 |
| | Unknown | 0.15 | 0.03 | 0.05 |
| | NB Factored for Unkown | 0.39 | 0.35 | 0.28 |
| | NB/SB Average | 0.39 | 0.36 | 0.27 |
| | NB/SB Avg factored for Truck | 0.33 | 0.35 | 0.24 |

| | | | | |
|------------|------------------------------|-------------|-------------|-------------|
| HBO | SB | 0.30 | 0.42 | 0.50 |
| | Unknown | 0.11 | 0.04 | 0.02 |
| | SB Factored for Unkown | 0.34 | 0.44 | 0.51 |
| | NB | 0.28 | 0.43 | 0.45 |
| | Unknown | 0.15 | 0.03 | 0.05 |
| | NB Factored for Unkown | 0.33 | 0.44 | 0.47 |
| | NB/SB Average | 0.33 | 0.44 | 0.49 |
| | NB/SB Avg factored for Truck | 0.28 | 0.43 | 0.44 |

| | | | | |
|------------|------------------------------|-------------|-------------|-------------|
| NHB | SB | 0.24 | 0.19 | 0.24 |
| | Unknown | 0.11 | 0.04 | 0.02 |
| | SB Factored for Unkown | 0.27 | 0.20 | 0.24 |
| | NB | 0.25 | 0.20 | 0.24 |
| | Unknown | 0.15 | 0.03 | 0.05 |
| | NB Factored for Unkown | 0.29 | 0.21 | 0.25 |
| | NB/SB Average | 0.28 | 0.20 | 0.25 |
| | NB/SB Avg factored for Truck | 0.24 | 0.20 | 0.22 |

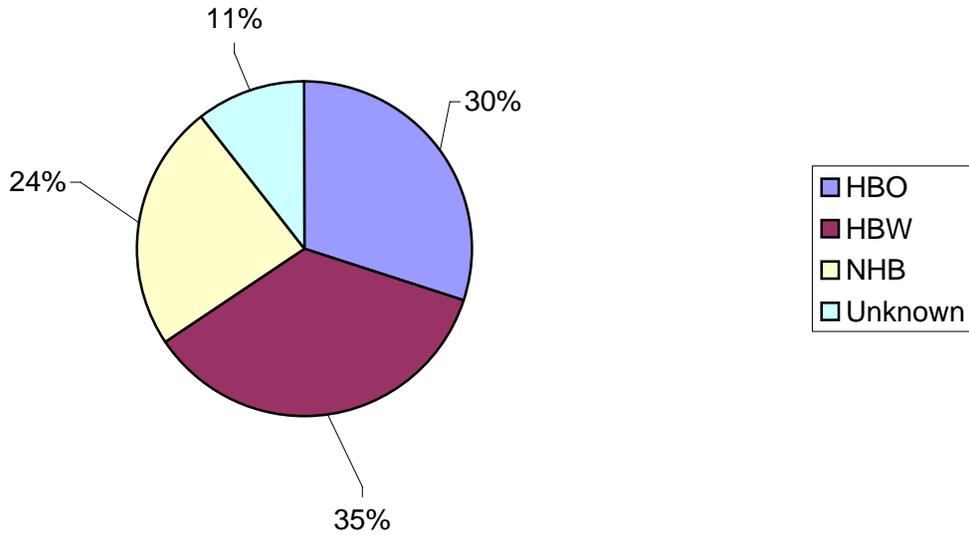
| | | | |
|------------------------|------|------|------|
| Check sum - vs truck | 0.84 | 0.97 | 0.91 |
| Check sum - vs 3 purps | 1.01 | 1.01 | 1.01 |

Source: DRCOG 1998 Roadside Survey

North I-25 EIS

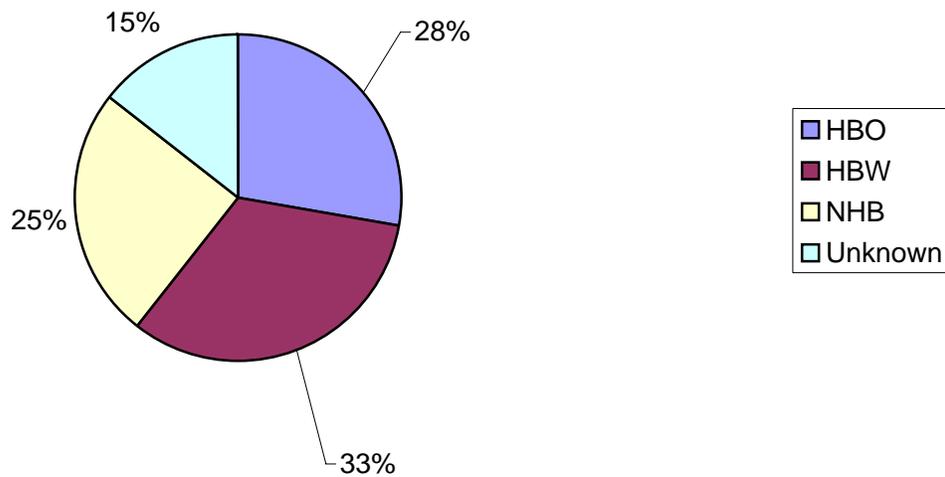
Daily Composite of Trip Purposes on I-25, US-287, and US-85 DRCOG 1998 Roadside Survey

I-25 Southbound at Mead



Source: 1998 Roadside Survey, DRCOG

I-25 Northbound at Mead

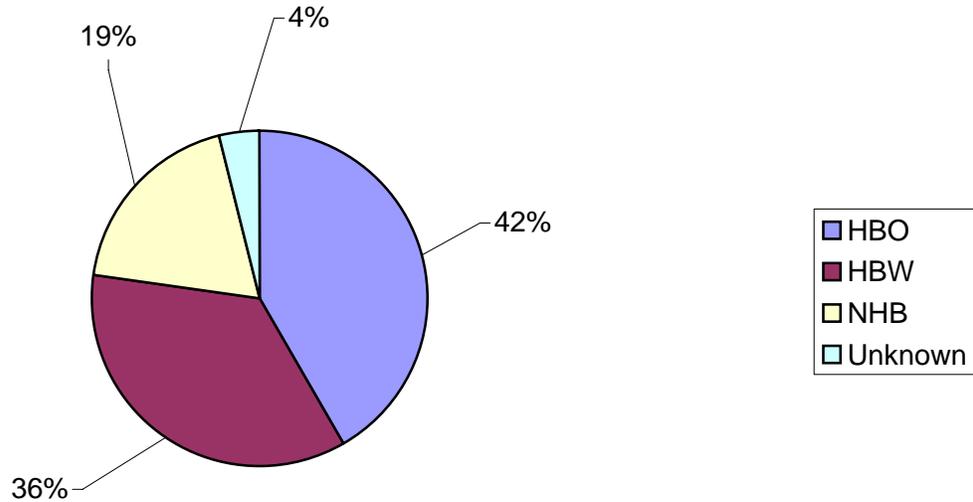


Source: 1998 Roadside Survey, DRCOG

North I-25 EIS

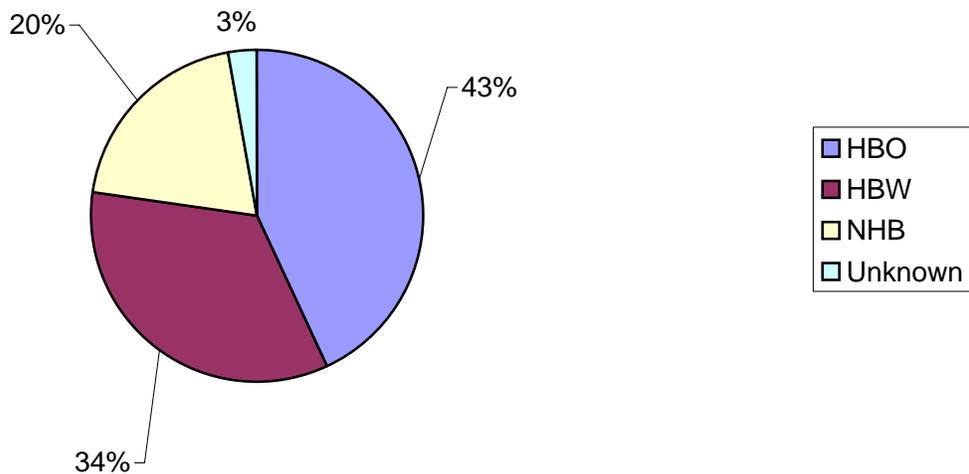
Daily Composite of Trip Purposes on I-25, US-287, and US-85 DRCOG 1998 Roadside Survey

US-287 Southbound at Boulder/Larimer County Line



Source: 1998 Roadside Survey, DRCOG

US-287 Northbound at Boulder/Larimer County Line

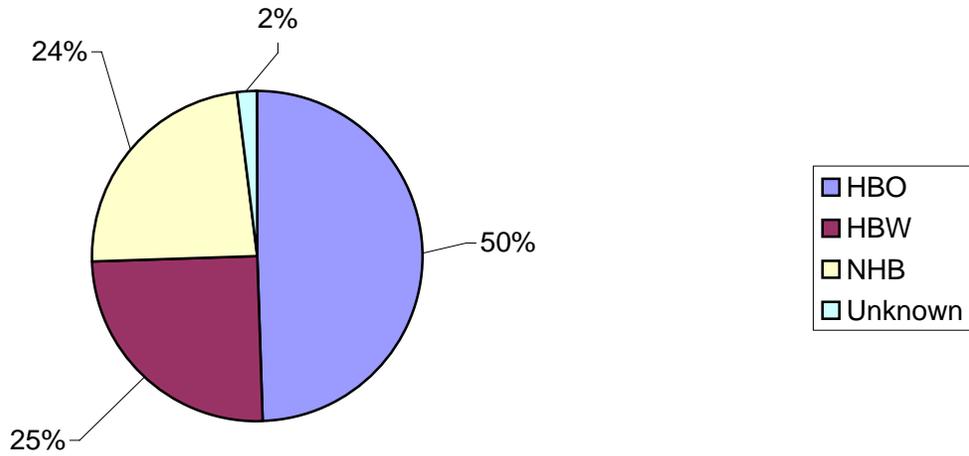


Source: 1998 Roadside Survey, DRCOG

US-85 Southbound South of SH-60

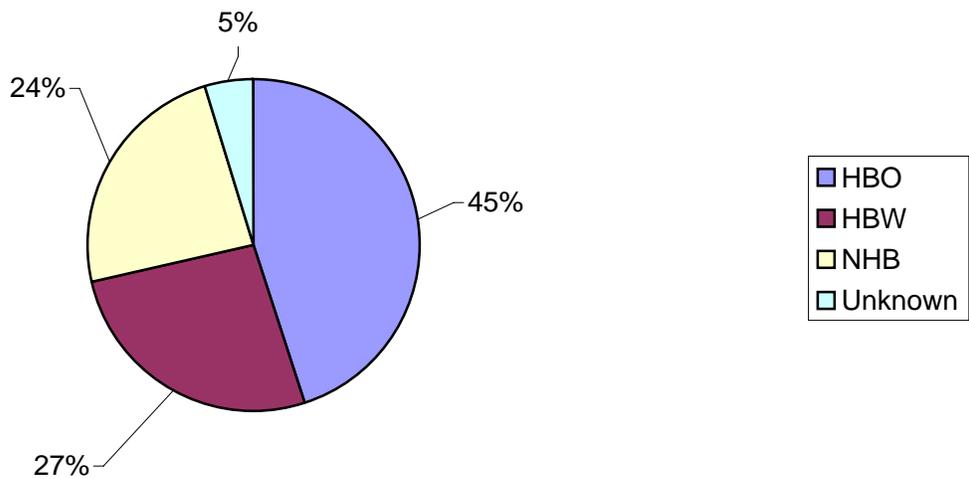
North I-25 EIS

Daily Composite of Trip Purposes on I-25, US-287, and US-85 DRCOG 1998 Roadside Survey US-85 Southbound South of SH-60



Source: 1998 Roadside Survey, DRCOG

US-85 Northbound South of SH-60



Source: 1998 Roadside Survey, DRCOG

**DRCOG 1998 Roadside Survey
Trip Summary of Northern Survey Sites**

All Trip Endpoints

| SITENAME | Total | |
|---|----------|----------------------|
| | TripsDay | AvgTripLength hmi |
| I-25 North NB, Mead Exit | 21,577 | 120.9 |
| I-25 North SB, Mead Exit | 20,814 | 112.0 |
| US 287 NB, south of Boulder/Larimer County line | 7,268 | 28.7 |
| US 287 SB, south of Boulder/Larimer Line | 7,073 | 31.7 |
| US-85 NB, south of SH-60 | 6,979 | 62.2 |
| US-85 SB, 1.1 Miles South of SH-60 | 7,364 | 41.5 |

Both Tripends in MPO areas

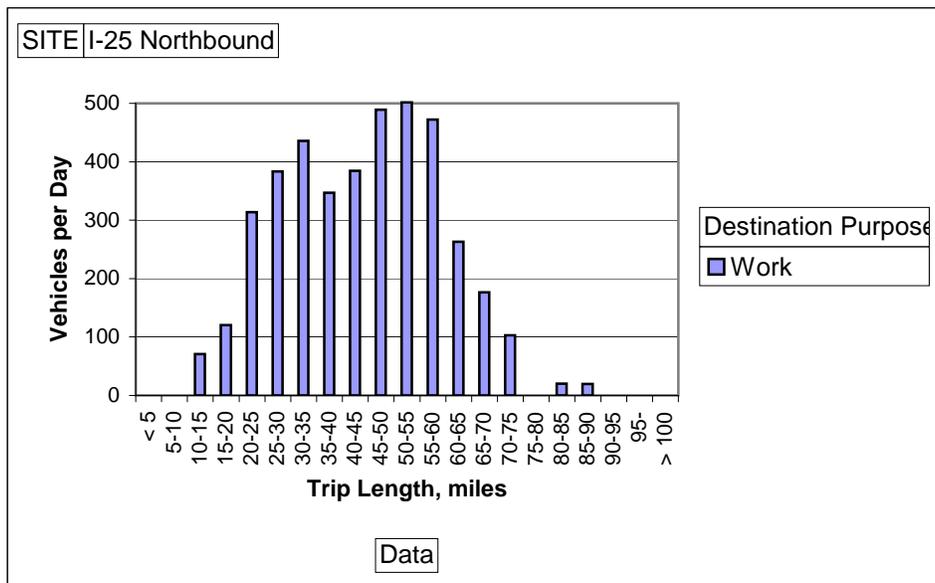
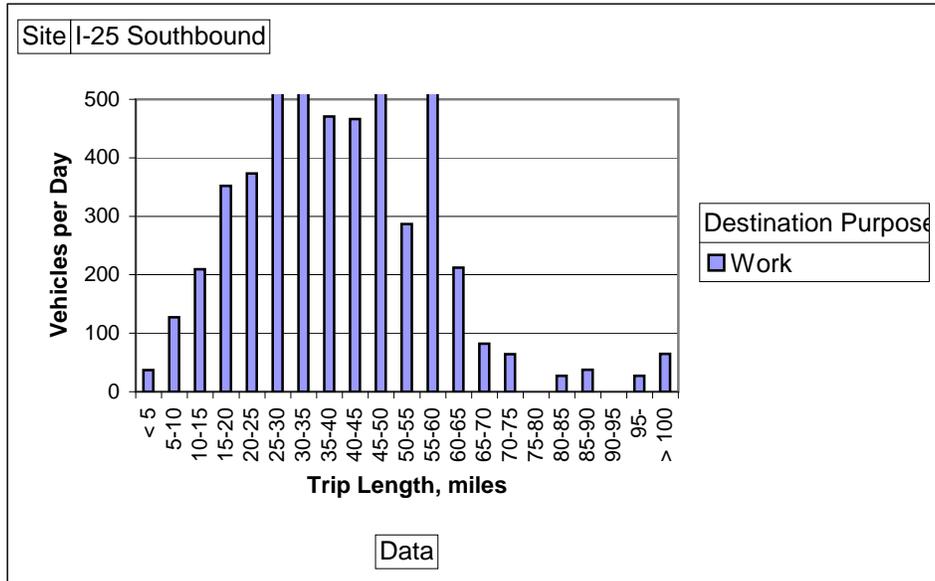
| SITENAME | SubTotal | |
|---|----------|----------------------|
| | TripsDay | AvgTripLength hmi |
| I-25 North NB, Mead Exit | 16,594 | 43.8 |
| I-25 North SB, Mead Exit | 15,769 | 43.6 |
| US 287 NB, south of Boulder/Larimer County line | 7,040 | 21.9 |
| US 287 SB, south of Boulder/Larimer Line | 6,782 | 23.0 |
| US-85 NB, south of SH-60 | 6,392 | 36.5 |
| US-85 SB, 1.1 Miles South of SH-60 | 6,845 | 34.7 |

One or More Tripend(s) out of MPO areas

| SITENAME | SubTotal | |
|---|----------|----------------------|
| | TripsDay | AvgTripLength hmi |
| I-25 North NB, Mead Exit | 4,983 | 361.7 |
| I-25 North SB, Mead Exit | 5,045 | 325.5 |
| US 287 NB, south of Boulder/Larimer County line | 229 | 250.3 |
| US 287 SB, south of Boulder/Larimer Line | 291 | 230.7 |
| US-85 NB, south of SH-60 | 587 | 332.4 |
| US-85 SB, 1.1 Miles South of SH-60 | 519 | 134.9 |

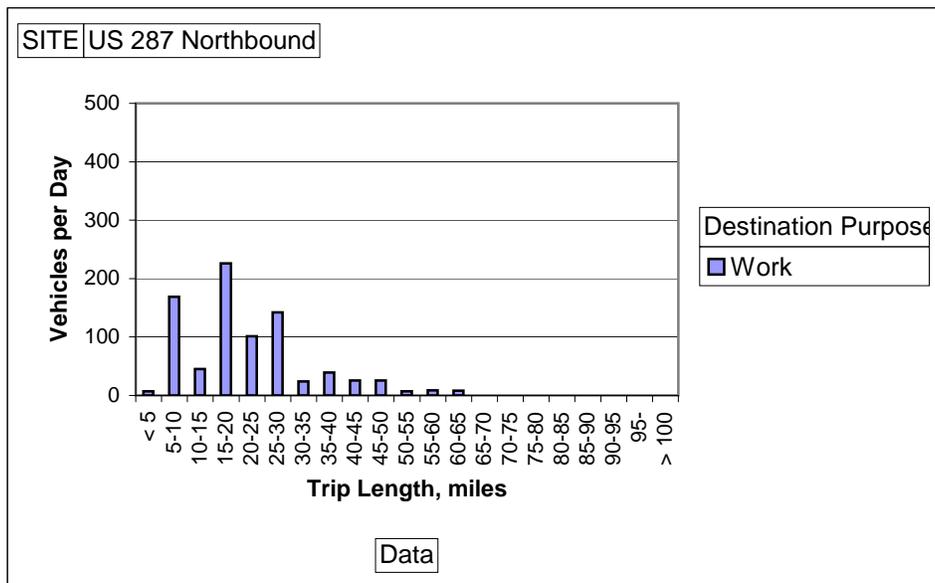
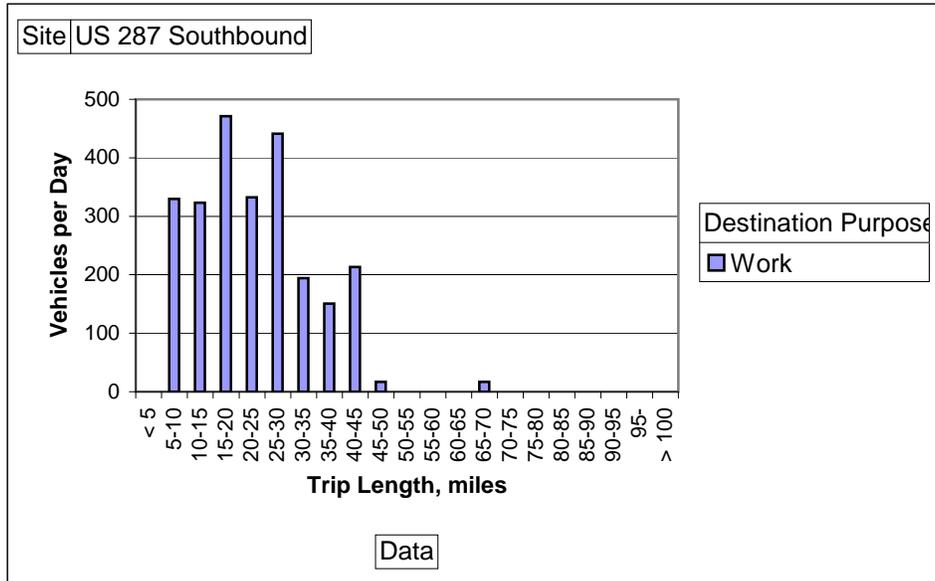
Source: 1998 Roadside Survey, DRCOG

Trip Length Distribution of Work Trips on I-25 DRCOG 1998 Roadside Survey



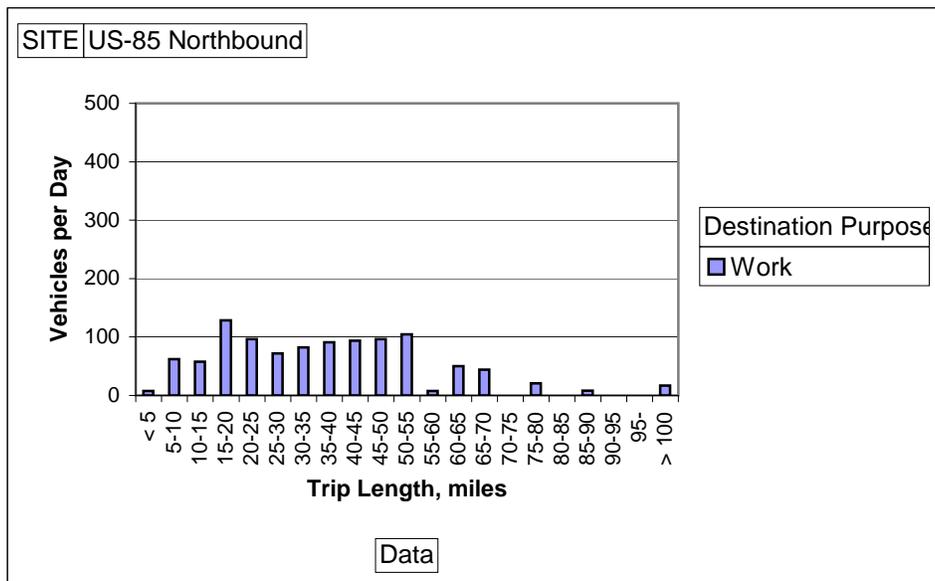
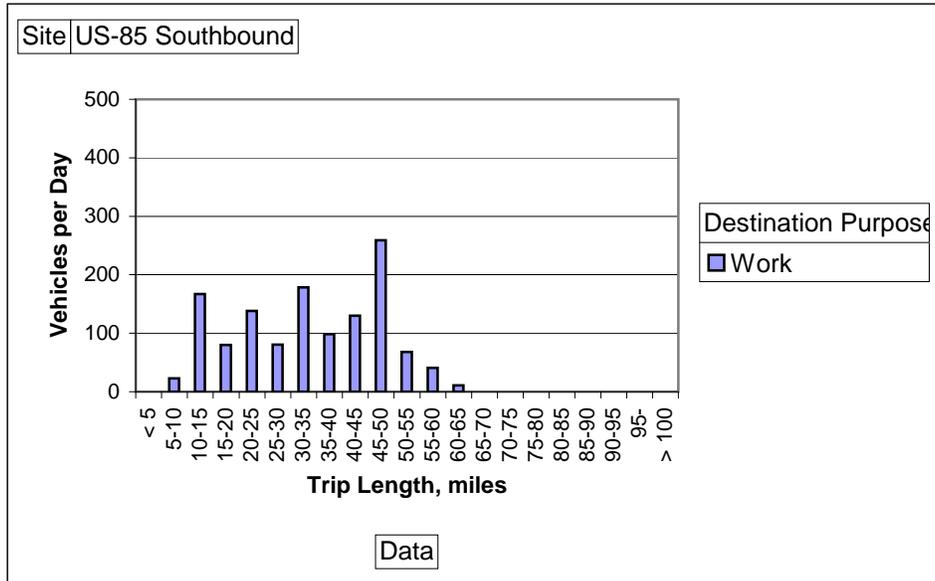
Source: 1998 Roadside Survey, DRCOG

Trip Length Distribution of Work Trips on US-287 DRCOG 1998 Roadside Survey



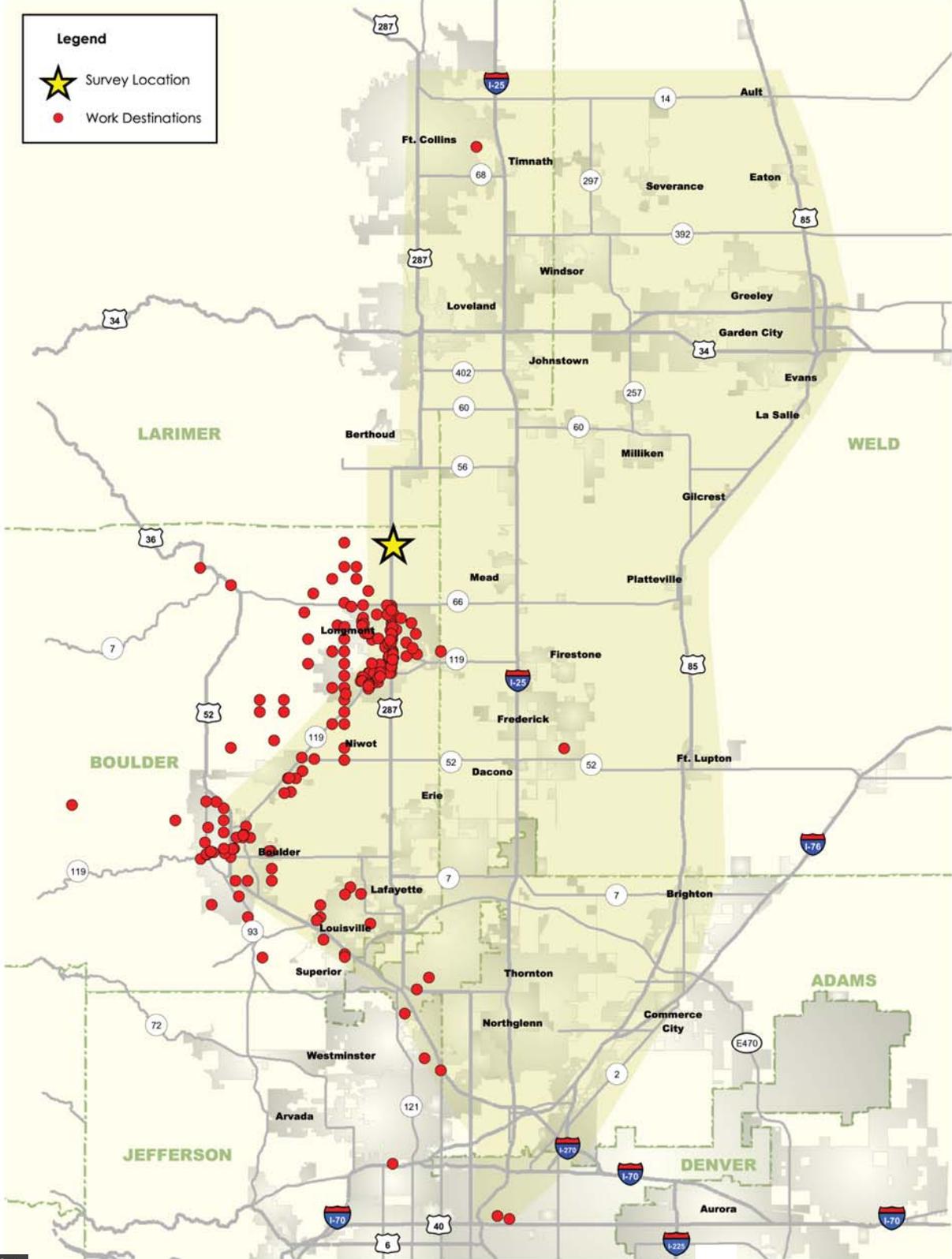
Source: 1998 Roadside Survey, DRCOG

**Trip Length Distribution
of Work Trips on US-85 (south of SH-60)
DRCOG 1998 Roadside Survey**



Source: 1998 Roadside Survey, DRCOG

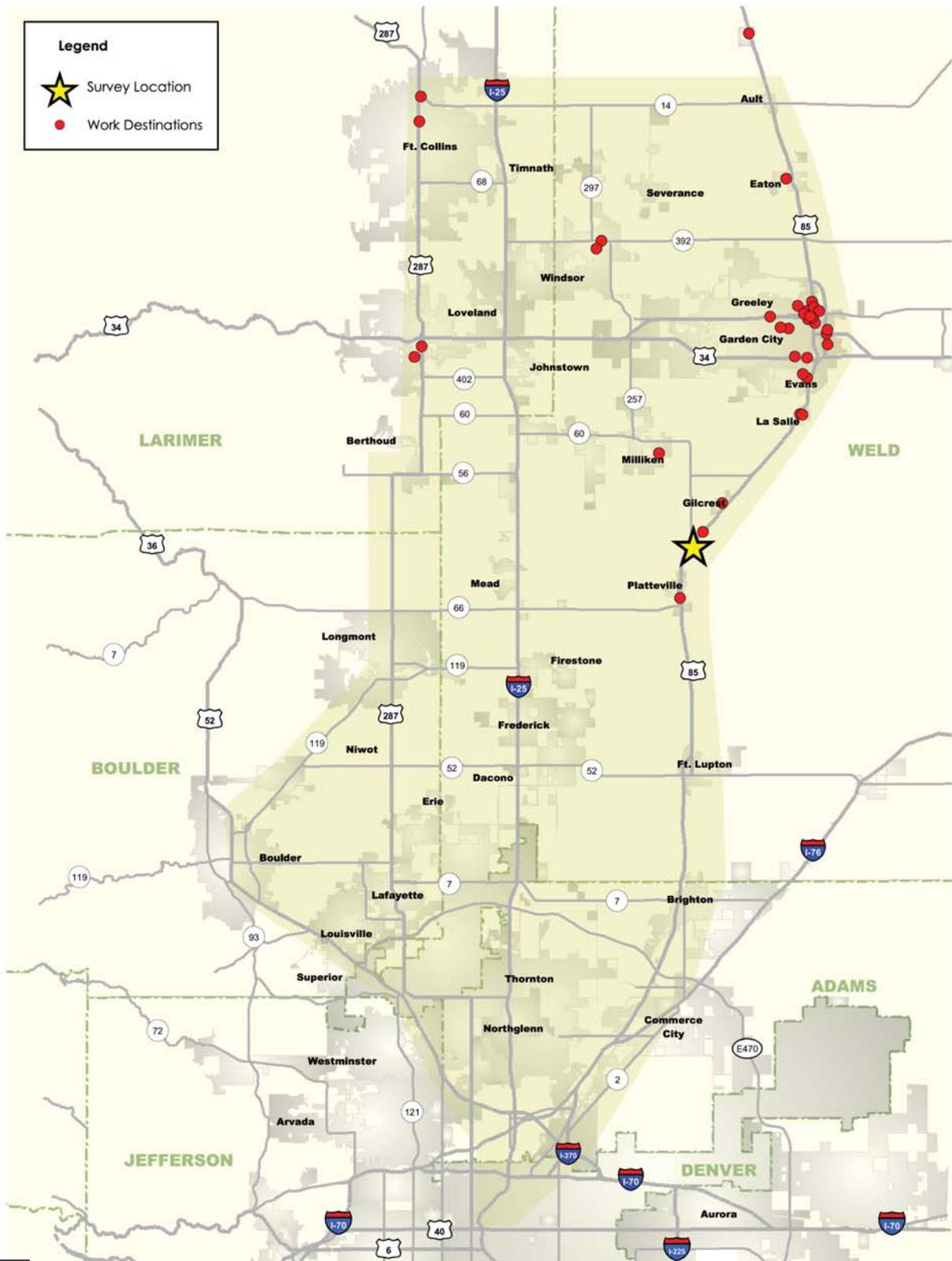
Destinations of Work Trips on Southbound US 287* DRCOG 1998 Roadside Survey



* US 287 Southbound at Boulder/Larimer County Line
Source: DRCOG 1998 Roadside Survey



Destinations of Work Trips on Northbound US 85* DRCOG 1998 Roadside Survey



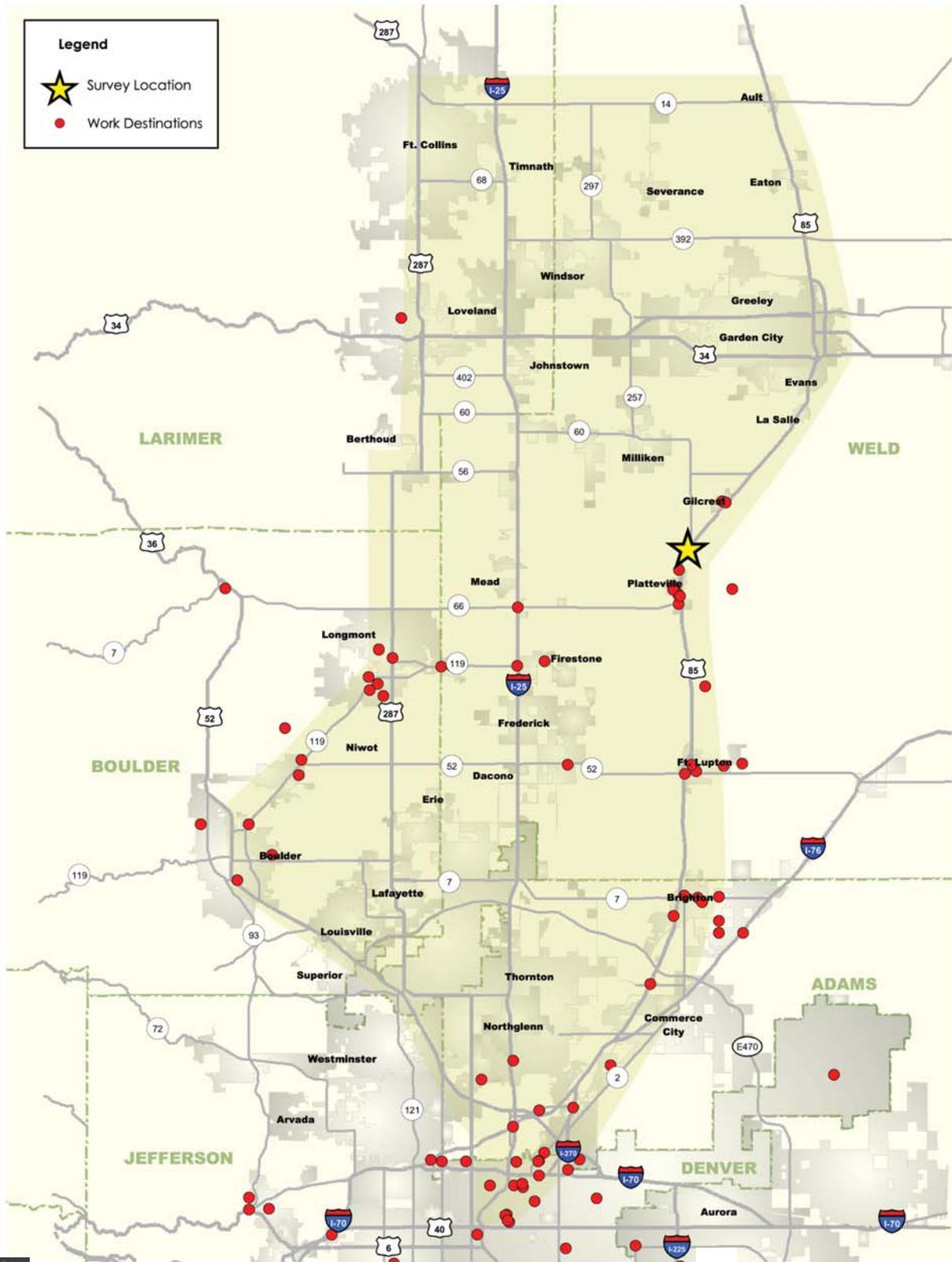
* US 85 Northbound south of SH 60
Source: DRCOG 1998 Roadside Survey



2/10/04



Destinations of Work Trips on Southbound US 85* DRCOG 1998 Roadside Survey



Legend

-  Survey Location
-  Work Destinations

* US 85 Southbound south of SH 60
Source: DRCOG 1998 Roadside Survey



2/10/04

