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WORKING PAPER

Traffic Projections
August 25, 1976

prepared by the
Colorado Division of Highways

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TRAFFIC PROJECTIONS - GLENWOOD CANYON

INTRODUCTION

As part of the Glenwood Canyon Design Process, the Citizens Advisory Committee (CAC) requested information on the basis of traffic projections. A presentation was made by Mr. Rich Cutler of the Colorado Division of Highways to the CAC on August 11, 1976. This Working Paper is a summary of that presentation.

Public facilities are usually designed to accommodate not only existing demand but also some increased level of use in the future. Examples of facilities commonly planned on this basis are highways, schools and hospitals. On Federally funded highway projects it is requested to estimate the number of vehicles that will use the highway 20 years from the year of design.

Usual procedures for estimating traffic volumes 20 years hence is to take data collected during periodic spot counts in an area near the project and supplement it with trends established from permanent counting stations placed throughout the State. Factors are then applied based on historical trends on that or similar highways, to come up with a figure for estimated traffic volumes 20 years from the design year.

Only on rare occasions is a permanent counter located within a project study area. This is the case with the Glenwood Canyon project. Precise data is, therefore, available from which to project future traffic volumes through Glenwood

Canyon. A permanent counter, located in the "No Name" area east of Glenwood Springs, has been reporting traffic volumes and sending this information to Denver by phone line for nearly 20 years. During the early workshop discussions, some doubt was expressed as to the adequacy of this counter. Therefore, the Division of Highways installed a second counter within Glenwood Canyon near the east end, adjacent to the turn to the Golden Bair Ranch. This counter went into service July 1, 1976, and has been recording hourly traffic counts since that date. Comparisons between hourly and daily counts for these two counters are found in Table 1 and in the Appendix of this report. They indicate a high level of accuracy for data on existing traffic. These tabulations indicate that "No Name" traffic influences the westerly counter in the amount of 500 to 700 vehicles per day. Greater differences in daily and hourly counts between the two counters come as a result of internal circulation in the Canyon or travel between Glenwood Springs and the Grizzly or Hanging Lake areas. This traffic becomes a part of the volume to be accommodated in the final design of the Canyon highway. We can, therefore, expect fewer vehicles to be registered at the easterly counting station than one would find if counts were made in the vicinity of Hanging Lake or the Grizzly Creek area. The difference in traffic volumes, however, is relatively insignificant and has no influence on the design requirements of the highway.

The trend of growth in traffic volumes can be established by plotting data made available from the permanent counting station near "No Name". A definite steepening of increasing traffic volumes became evident at this station in about 1970. One reason for this is the diversion of traffic to Interstate 70 from other east-west highways including US 40 to the north

Table 1

COMPARISON OF TRAFFIC COUNTS
IN GLENWOOD CANYON

Hour	Monday August 16, 1976		Tuesday August 17, 1976		Wednesday August 18, 1976		Thursday August 19, 1976	
	New Counter	No Name Counter	New Counter	No Name Counter	New Counter	No Name Counter	New Counter	No Name Counter
Mid-1	83	84	74	76	92	97	77	90
1-2	50	50	53	59	71	69	39	47
2-3	29	37	54	45	62	69	55	52
3-4	57	43	48	39	68	50	51	56
4-5	65	61	38	39	32	41	60	61
5-6	71	74	61	65	69	75	56	68
6-7	109	131	101	124	111	129	118	115
7-8	181	215	174	217	175	215	144	205
8-9	249	336	258	298	308	377	303	354
9-10	411	445	392	492	434	480	402	457
10-11	507	598	539	619	452	501	453	521
11-Noon	620	644	566	619	524	567	576	630
Noon-1	588	636	583	667	616	639	676	692
1-2	509	640	548	597	553	608	587	684
2-3	631	628	497	575	523	573	557	642
3-4	570	630	475	509	442	571	600	601
4-5	537	592	486	532	477	509	482	528
5-6	523	593	471	621	604	638	531	604
6-7	375	439	394	429	375	483	377	421
7-8	291	398	408	487	275	374	282	380
8-9	216	275	237	296	225	275	216	265
9-10	175	218	156	220	162	213	162	235
10-11	133	147	131	176	146	210	160	152
11-Mid	85	101	92	102	100	132	97	130
TOTAL	7,065	8,015	6,836	7,903	6,896	7,895	7,061	7,990

and US 50 to the south. Some of this diversion is due to completion of segments of Interstate 70 outside of Colorado. With the opening of segments in Utah, the trip from Denver to Las Vegas has now been cut by about 50 miles. Completion of one bore of the Eisenhower tunnel and other segments within Colorado has also contributed to this diversion. This diversion will end with the completion of the Interstate system, now estimated to occur by 1980. A second reason has been the development of large-scale recreation facilities in western Colorado during the late 1960's and early 1970's. The Aspen-Snowmass area is typical of these types of facilities. Many people from east slope towns travel to the western slope communities for summertime activities. This is reflected in the trend lines shown in Figure 1.

August has traditionally been the busiest month for the Canyon highway. It has been expressed in an earlier study titled "Glenwood Canyon Route Study, Traffic Assignment Supplement No. 1, January 1971, I 70-2(11)", prepared by the Division of Highways that if the conditions become intolerable in the month of August then it is unacceptable the entire year. Therefore, Figure 1 is a projection of peak hour and peak day August traffic volumes.

ESTIMATED TRAFFIC VOLUMES FOR GLENWOOD CANYON

An explanation of trend lines shown on Figure 1 is as follows:

1. Average Daily Peak Hour in August--Represents the average of the peak hours for every day in August.

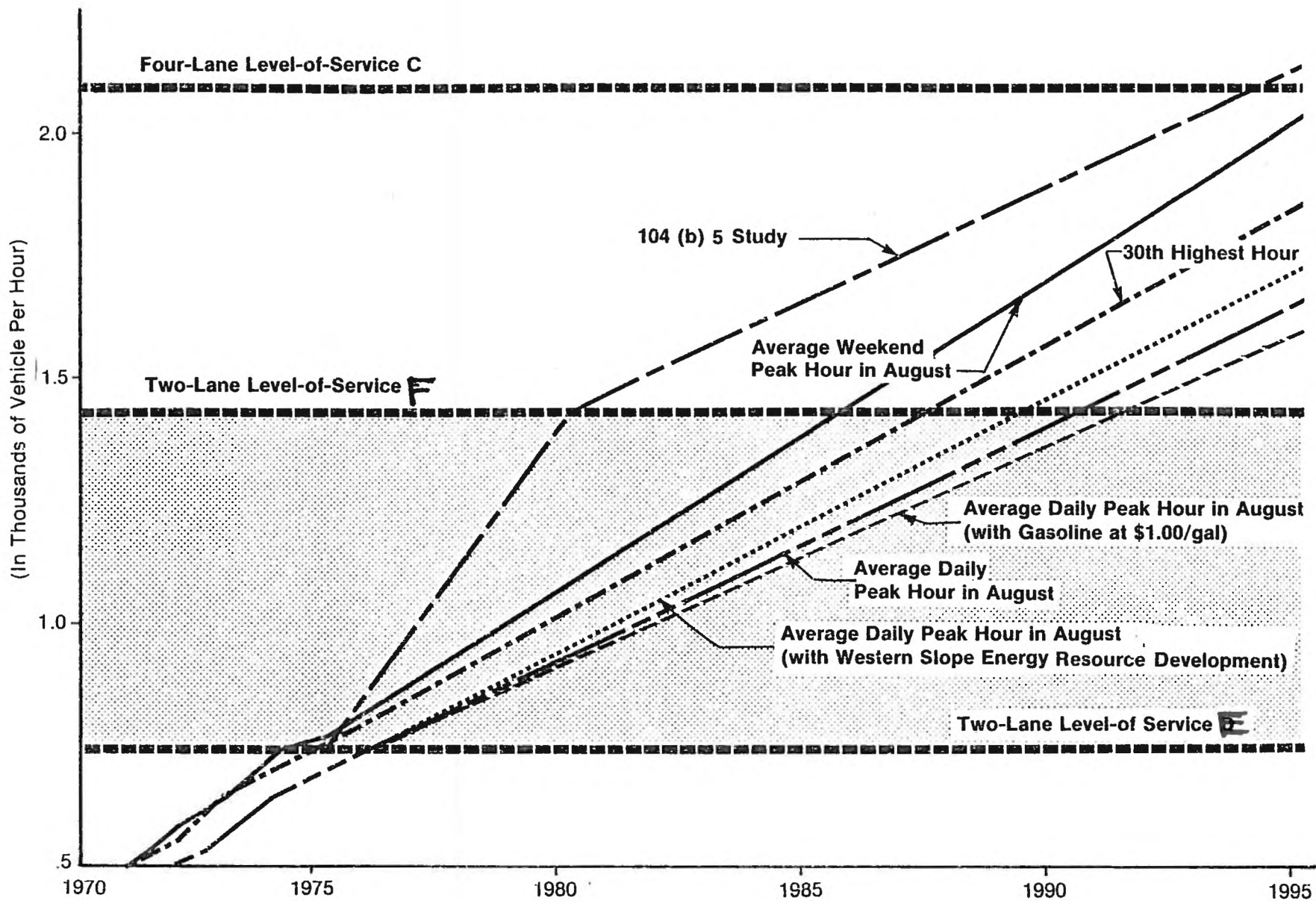


Figure 1

**Peak Hour Traffic Projections
for Glenwood Canyon**

2. Average Weekend Peak Hour in August--Represents the average of the peak hour for all Saturdays and Sundays in August.
3. 30th Highest Hour--Is shown for comparison and is dependent on the average yearly traffic, not the average August traffic.

All trend lines are developed from a linear regression of 1970 through 1975 volumes after an adjustment for cutting off interstate diversions after 1980.

Modifications to the trend lines:

1. The effect of energy resource development on the Canyon traffic is shown on Figure 1 and estimated as follows:

The 1969 Origin and Destination Study information presented in Table 6 of the "Glenwood Canyon Route Study, Traffic Assignment Supplement No. 1, January 1971, I 70-2(11)" shows 859 trips per day between Colorado zones east of Gypsum and Northwest Colorado zones.

These 859 trips would reach 1,685 trips per day by 1996 if the population projections of the Governor's Oil Shale Task Force Report are applied. Thus, 1,685 minus 859 yields an increase of 826 vehicles per day, or 75 vehicles per hour by 1996.

2. The effect of increasing gasoline prices on travel demands was estimated by comparing the amount of personal income spent for gasoline and oil between years 1975 and 1996.

3. The effect of reducing population growth rates has been evaluated and results in no change in the trend lines. For 1996 there will be a very slight reduction in potential drivers between the ages of 21 and 23. This influence would be offset by the large number of drivers between the ages of 25 and 54, the group who drive the most miles per year.

The 104(b)5 study traffic volume data, also identified on Figure 1, are estimated from procedures established by a Highway Planning Manual prepared by the Department of Transportation, and is not an analysis of trends. This procedure for estimating future traffic for Interstate highways is established by the formula:

Future ADT=AG (1.0+SLI) where:

- A = Existing traffic plus diverted traffic
- G = Generation factors for vehicle trips due to the improved highway (This factor is 1.60)
- S = Statewide percentage increase (This factor is .60)
- L = Factor to convert statewide percentage increase to local percentage increase (This factor is 1.15)
- I = Factor reflecting the more rapid growth along the Interstate system (This factor is 1.15)

CAPACITY AND LEVELS-OF-SERVICE

In a strict sense, the word "capacity" is used to indicate the maximum volume of traffic under ideal road conditions, which can be carried by a facility. Capacity is characterized by

high traffic density and relatively low uniform speed. As the volume of traffic becomes unstable, any mishap which causes traffic to slow further may produce stoppages of traffic and result in the breakdown of the facility. Because of these restrictive operational characteristics, the capacity condition is not desirable for planning and design purposes. To insure that a highway provides an acceptable quality of operation for the road user, it is necessary for the volume to be lower than the capacity figure. A level-of-service concept was introduced in the "Highway Capacity Manual" published in 1965. Level-of-service is a qualitative measure of the effect of a number of factors including speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Highway capacities and the maximum number of vehicles that can be carried at a selected level-of-service were calculated for the Canyon using the "Highway Capacity Manual" procedures.

The "Highway Capacity Manual" provides factors that modify passenger car capacities for appropriate highway segments and correct for particular roadway geometrics, traffic composition, average highway speed, and time variations in volume. Table 2 shows estimated volumes, speeds, and operating conditions for all levels-of-service.

Capacity and level-of-service calculations used to develop Figure 1 are shown below. For a two-lane improved highway, assuming 12-foot lanes, six-foot (or greater) shoulders, ten percent trucks for the peak hours, average highway speed 45 miles per hour and 42 percent of the total length of the Canyon with sufficient passing sight distances: (See Table 3).

Table 2

LEVEL-OF-SERVICE DEFINITIONS
FOR A GLENWOOD CANYON FACILITY

Level-of-Service	Two-Lane Facility		Four-Lane Facility	
	Approximate Vehicle Volume	Description of Level-of-Service	Approximate Vehicle Volume	Description of Level-of-Service
B				
C				
	Levels A and B cannot be reached in Glenwood Canyon due to restricting geometrics.			
D	450 vehicles/hour Both directions	Stable flow 40 MPH or greater	2,090 vehicles/hour Both directions	Stable flow 50 MPH or greater
E	740 vehicles/hour Both directions	Unstable flow Approximately 35 MPH	3,720 vehicles/hour Both directions	Unstable flow Approximately 40 MPH
F	1,420 vehicles/hour Both directions	At capacity Unstable flow 30 MPH, but may vary considerably	5,600 vehicles/hour Both directions, with little fluctuation within an hour	At capacity Unstable flow 30-35 MPH

Source Information: Highway Capacity Manual, page 302.

Table 3

ANALYSIS OF NO-PASSING ZONES
WITHIN GLENWOOD CANYON

Eastbound Lane				Westbound Lane			
Milepost	Locations	Length of No-Passing		Milepost	Locations	Length of No-Passing	
		Miles	Feet			Miles	Feet
131.76 to 131.90		.14	740	131.88 to 132.04		.16	845
131.34	131.51	.17	900	131.48	131.62	.14	740
130.54	131.17	.63	3,330	130.72	131.30	.58	3,060
129.75	129.85	.10	530	129.90	130.12	.22	1,160
129.00	129.45	.45	2,380	129.11	129.59	.48	2,530
128.65	128.89	.24	1,270	128.78	129.00	.22	1,160
128.23	128.31	.08	420	128.31	128.46	.15	790
127.39	128.01	.62	3,270	127.49	128.12	.63	3,330
125.40	126.86	1.46	7,710	126.83	127.02	1.19	1,000
124.22	125.20	.98	5,170	125.54	126.69	1.15	6,070
123.83	123.97	.14	740	124.38	125.35	.97	5,120
123.18	123.29	.11	580	123.98	121.13	.15	790
122.67	123.07	.40	2,110	123.29	123.43	.14	740
121.22	121.86	.64	3,380	122.80	123.18	.38	2,010
120.37	120.74	.37	1,950	121.36	122.01	.68	3,590
				127.50	120.89	.39	2,060
				120.21	120.34	.13	690
Total No-Passing Zone		6.53 miles				6.76 miles	
		57.2 percent of total length*				59.2 percent of total length*	

Assume 42 percent of existing facility in Glenwood Canyon
has adequate sight distance for passing.

* One-way distance = 11.42 miles

Level-of-Service	C	$2000 \times .87 \times .32 = 450$
Level-of-Service	D	$2000 \times .71 \times .52 = 740$
Level-of-Service	E	$2000 \times .71 = 1420$

For a four-lane improved highway, assuming 12-foot lanes, six-foot (or greater) shoulders, ten percent trucks for the peak hours, average highway speed 55 miles per hour, and a directional flow of 55 percent:

Level-of-Service	C	$(2000 \times 2 \times .77 \times .45 \times .83) \div 55 = 2090$
Level-of-Service	D	$(2000 \times 2 \times .77 \times .80 \times .83) \div 55 = 3720$
Level-of-Service	E	$(2000 \times 2 \times .77) \div 55 = 5600$

Modifications were made to level-of-service "E" to demonstrate the effect which one percent trucks would have on this level-of-service.

Comparisons of "No Name" interchange and the Bair Ranch traffic counts is shown on Table 1. The origin and destination information collected in the 1969 study indicates 12 percent of the vehicle trips have either an origin or a destination in the Canyon itself.

To better illustrate the level-of-service concept, the Division of Highways began to take time-lapse photography during peak hour situations on July 16, 1976. Pictures were taken at one second intervals along the tangent section where the upper permanent counting station is located near the Bair Ranch. With this time-lapse photography, it will, therefore, be possible to go to the counter on a specific day to tell people that between certain hours "x" number of vehicles passed through the counter and this is what the traffic flow looked like for that

particular hour. Citizens should then be able to better judge the significance of the various levels-of-service and congestion associated with those volumes.

SUMMARY

Volumes as projected on Figure 1 of this report are the best estimates that can be derived from estimating procedures based on the better than usual data available from the permanent counter in Glenwood Canyon. Based on these estimates, it is projected that an improved two-lane highway having 12-foot lanes and six-foot shoulders will be operating within the band of level-of-service E for 592 hours in 1985, 246 of these hours occurring in the month of August. By the 1996 design year, it is estimated that the improved two-lane highway would be operating at level-of-service E for 858 hours. The same two-lane facility would be operating at level-of-service D for 2,806 hours by 1985 and 4,239 hours by 1996.

A four-lane facility by 1996 would never operate at a level-of-service less than C.

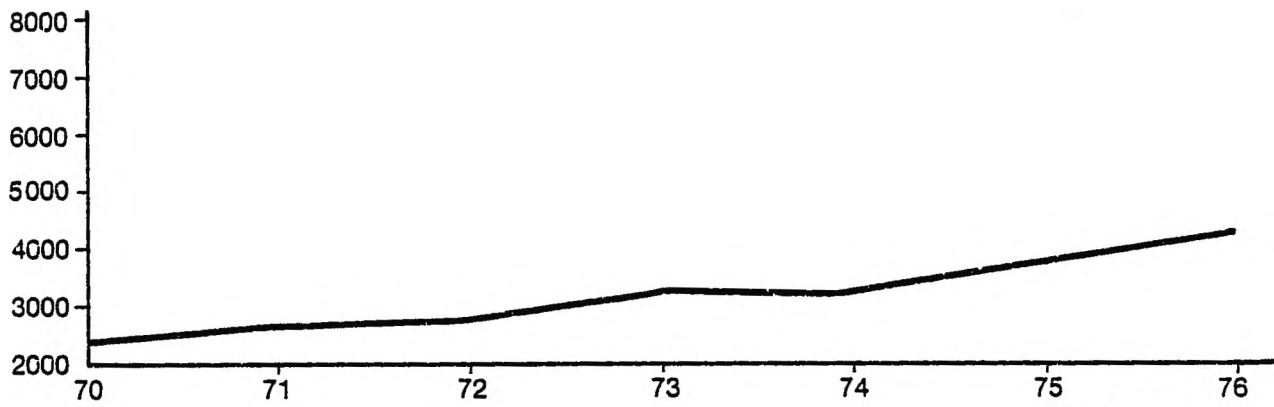
Any length of two-lane facility, even lengths as short as 1,000 feet, will limit the highway to the capacity of a two-lane highway, even though substantial lengths may be built with additional lanes.

BIBLIOGRAPHY

"Highway Capacity Manual, 1965," Highway Research Board
Special Report 87, National Academy of Sciences--
National Research Council Publication 1328.

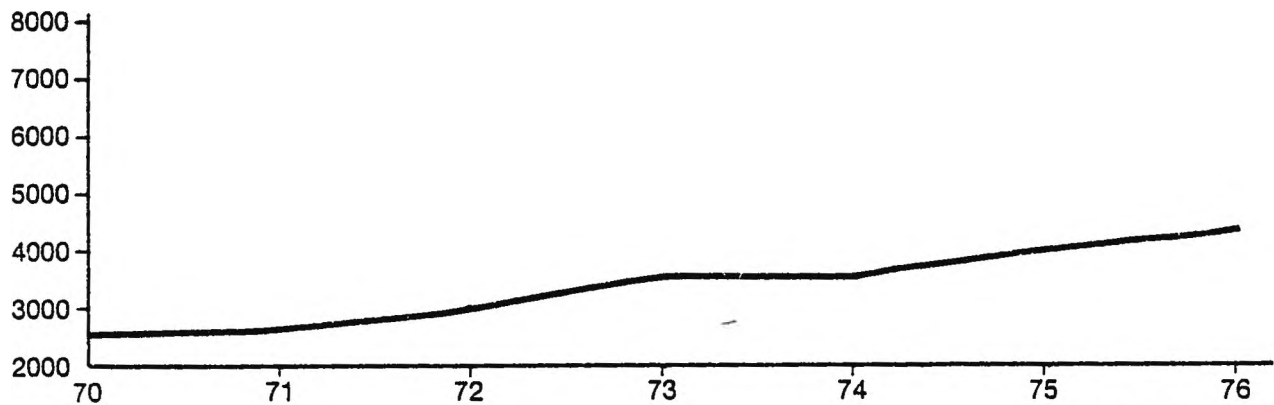
"Glenwood Canyon Route Study, Traffic Assignment Supplement
No. 1, January 1971, I 70-2(11)," State Department
of Highways, Division of Highways--State of Colorado,
Planning and Research Division.

APPENDIX



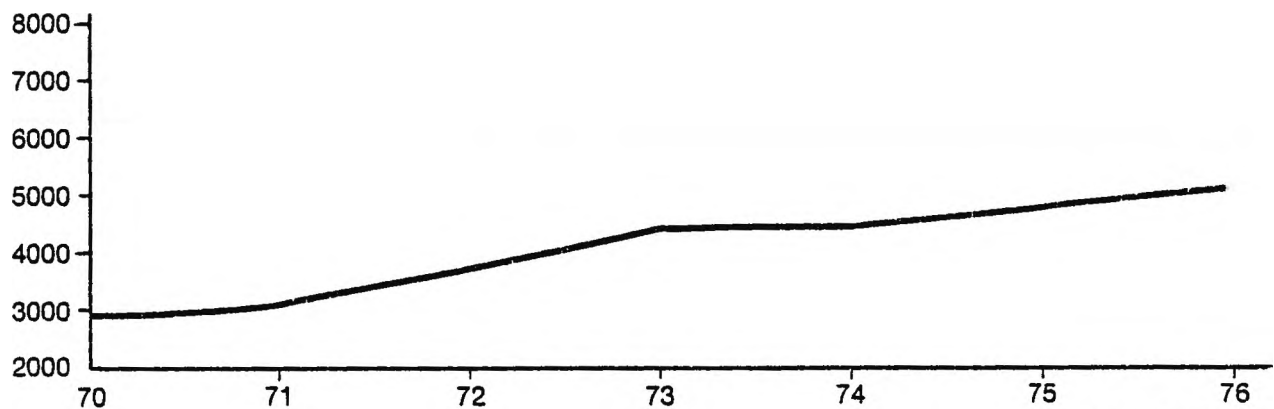
Month of January

Figure 2



Month of February

Figure 3



Month of March

Figure 4

(Counts Taken at the No Name A.T.R. Station)

**Average Daily Traffic
in Glenwood Canyon**

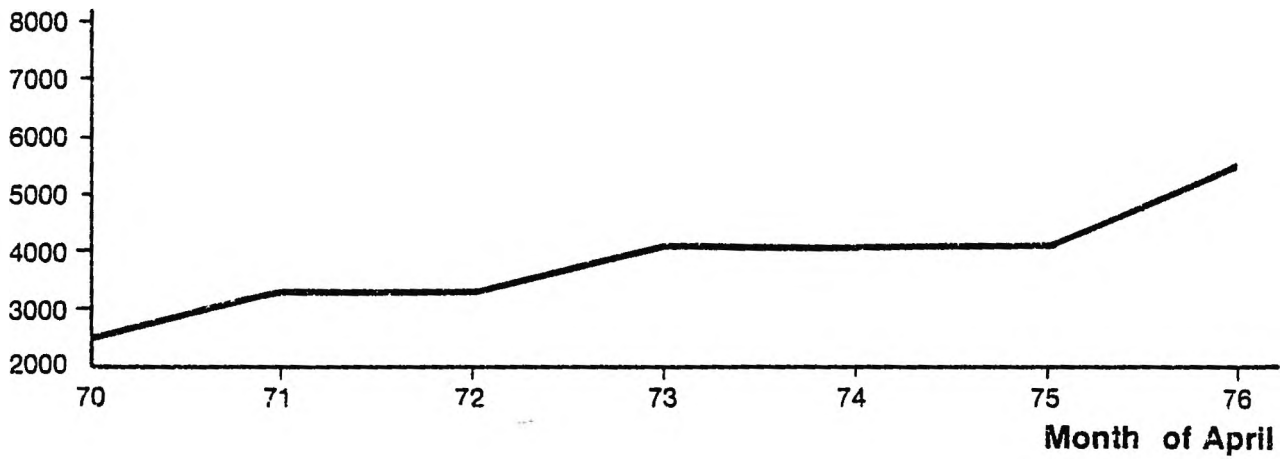


Figure 5

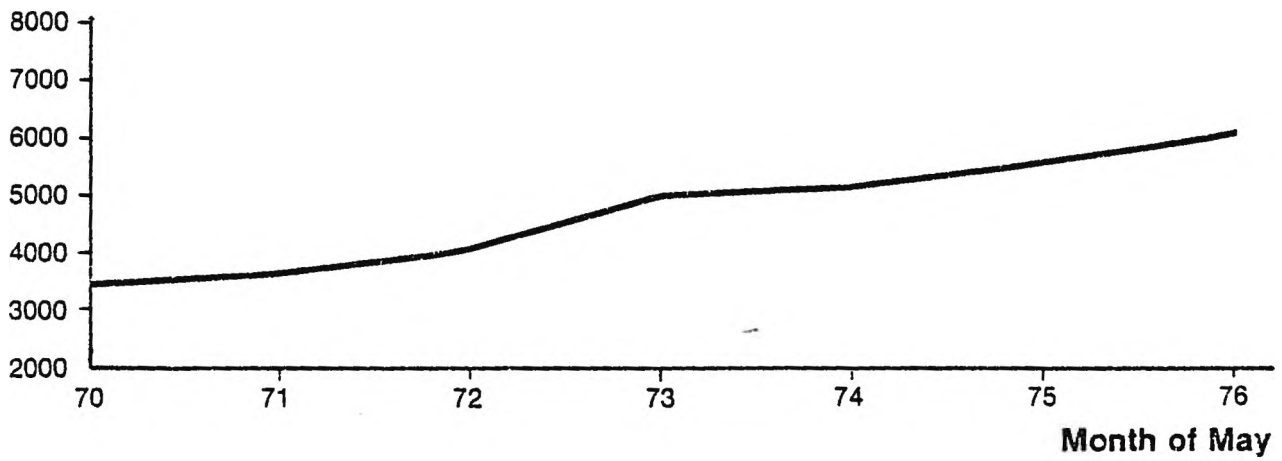


Figure 6

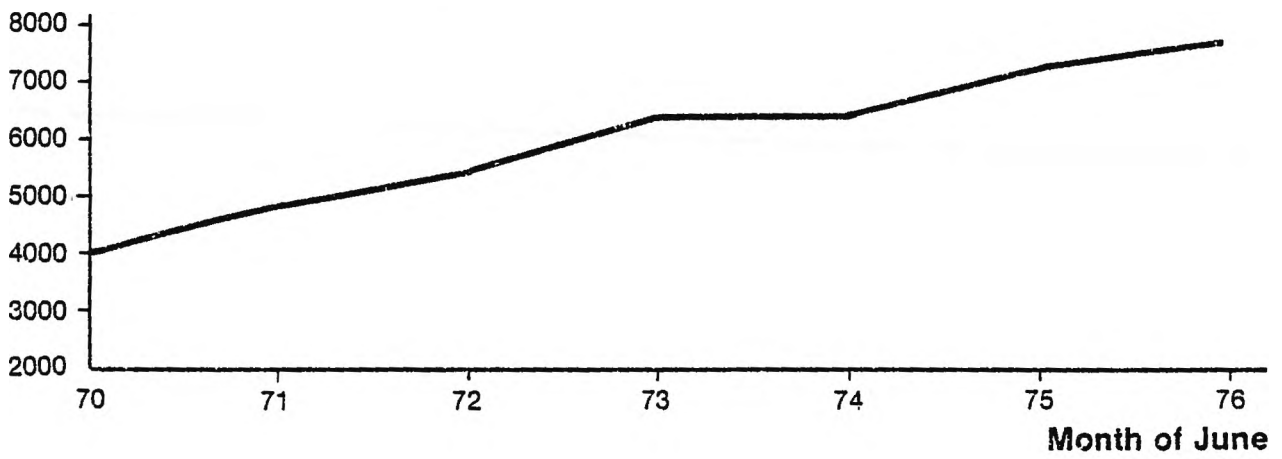


Figure 7

(Counts Taken at the No Name A.T.R. Station)

**Average Daily Traffic
in Glenwood Canyon**

WORKSHEET NO. (14-01)150
 October 17, 1972

Division of Highways - State of Colorado
 Planning and Research Division

AUTOMATIC RECORDER RECORD

SPECIAL ATR

Route I-70
 Week Beginning July 1, 1976

Station No. EAST END OF GLENWOOD CANYON
 Direction of Flow TOTAL HIGHWAY

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date					7-1-76	7-2-76	7-3-76	
Hour	A. M.							
12-1						67	153	
1-2						52	114	
2-3						53	75	
3-4						59	61	
4-5						54	65	
5-6						65	92	
6-7						133	142	
7-8						220	204	
8-9						282	347	
9-10				-		413	529	
10-11					BEGIN	535	613	
11-12					420	599	688	
Hour	P. M.							
12-1					491	538	653	
1-2					512	597	627	
2-3					531	557	585	
3-4					516	585	586	
4-5					467	481	540	
5-6					454	692	501	
6-7					414	689	392	
7-8					330	529	315	
8-9					257	437	294	
9-10					186	323	186	
10-11					169	351	174	
11-12					123	258	148	
Total					4870	8629	8084	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

AUTOMATIC RECORDER RECORD

Special ATP

East end of Glenwood Canyon

Route I-70
 Week Beginning July 4, 1976

Station No. _____
 Direction of Flow Total Highway

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	7-4-76	7-5-76	7-6-76	7-7-76	7-8-76	7-9-76	7-10-76	
Hour	A.M.							
12-1	102	92	74	68	72	68	112	
1-2	56	51	52	49	58	63	92	
2-3	45	37	53	55	50	52	60	
3-4	37	32	49	41	36	48	42	
4-5	37	26	41	47	56	60	60	
5-6	43	57	77	73	79	77	85	
6-7	60	81	127	128	133	118	137	
7-8	129	112	227	208	195	189	176	
8-9	157	208	295	244	323	259	337	
9-10	324	412	415	350	385	377	465	
10-11	449	648	555	379	504	539	566	
11-12	515	735	535	474	517	522	677	
	P. M.							
12-1	434	780	565	427	507	495	548	
1-2	507	867	574	429	468	576	548	
2-3	493	728	515	417	437	574	582	
3-4	439	773	521	349	426	532	531	
4-5	472	700	400	515	489	512	493	
5-6	363	538	576	448	513	465	500	
6-7	343	425	330	327	382	669	382	
7-8	257	444	303	280	267	377	310	
8-9	227	296	184	178	233	348	256	
9-10	126	230	114	156	155	212	177	
10-11	131	172	112	138	129	233	146	
11-12	123	118	88	108	100	147	110	
Total	5772	8678	6902	4222	4528	7578	7382	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

AUTOMATIC RECORDER RECORD

Special 117R

East end of Glenwood Canyon

Station No. _____

Direction of Flow Total Highway

Route I-70
 Week Beginning July 11, 1972

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	7-11-72	7-12-72	7-13-72	7-14-72	7-15-72	7-16-72	7-17-72	
Hour	A.M.							
12-1	96	85	73	72	43	50	110	
1-2	93	63	60	64	52	41	26	
2-3	45	37	45	57	49	20	24	
3-4	47	25	37	60	59	22	72	
4-5	35	46	60	41	40	22	61	
5-6	46	80	68	77	77	20	76	
6-7	82	136	97	115	125	100	132	
7-8	157	201	192	196	222	200	125	
8-9	254	269	270	250	371	300	272	
9-10	337	393	356	377	418	421	429	
10-11	514	442	416	461	537	501	590	
11-12	622	530	515	467	464	593	574	
Hour	P.M.							
12-1	655	555	372	525	477	122	600	
1-2	570	479	272	436	459	415	503	
2-3	725	513	506	511	525	516	573	
3-4	637	543	424	482	457	521	517	
4-5	643	456	423	451	458	320	514	
5-6	605	434	376	409	240	524	478	
6-7	482	370	212	285	222	200	269	
7-8	475	245	227	199	242	210	214	
8-9	317	213	123	186	125	257	225	
9-10	240	127	110	150	155	200	177	
10-11	125	109	112	107	132	222	155	
11-12	132	109	92	104	93	162	115	
Total	8130	1512	6093	6114	6361	7277	7317	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks: 7/17/72 Time slow

AUTOMATIC RECORDER RECORD

*Special ATIS
 East end of Glenwood Canyon*

Route I-70
 Week Beginning July 18 1972

Station No. _____
 Direction of Flow Total Highway

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	7/18	7/19	7/20	7/21	7/22	7/23	7/24	
Hour	A.M.							
12-1	71	95	67	61	96	68	139	
1-2	71	44	33	38	64	61	82	
2-3	73	45	44	49	54	52	65	
3-4	37	43	36	44	57	61	50	
4-5	45	63	45	42	51	38	49	
5-6	44	77	64	66	84	68	61	
6-7	101	136	120	102	132	124	120	
7-8	133	179	147	143	166	167	120	
8-9	272	275	244	321	316	254	274	
9-10	402	378	352	322	350	377	427	
10-11	532	477	377	444	294	438	539	
11-12	616	520	473	522	402	538	535	
	P.M.							
12-1	669	514	471	529	420	541	524	
1-2	610	545	420	421	427	526	538	
2-3	667	544	461	477	523	538	535	
3-4	576	545	494	495	512	415	517	
4-5	629	546	518	494	410	434	431	
5-6	557	454	384	464	433	575	375	
6-7	517	346	349	341	349	497	393	
7-8	378	264	277	275	207	415	217	
8-9	304	200	177	202	206	282	244	
9-10	215	146	160	168	123	245	232	
10-11	139	166	161	130	121	202	131	
11-12	110	92	80	92	98	157	132	
Total	7774	6145	5920	6302	6467	7112	6907	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

WORKSHEET NO. (14-01)150
 October 17, 1972

Division of Highways - State of Colorado
 Planning and Research Division

AUTOMATIC RECORDER RECORD

Route 70
 Week Beginning July 20 1972

Station No. Special ATR
End of 51st road day
 Direction of Flow Southbound

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	7/25	7/26	7/27	7/28	7/29	7/30	7/31	
Hour	A.M.							
12-1	78	61	69	62	59	67	119	
1-2	47	49	50	47	57	50	70	
2-3	45	26	34	41	50	54	64	
3-4	55	33	37	40	43	33	66	
4-5	45	47	41	47	48	48	53	
5-6	45	69	54	43	57	68	80	
6-7	65	130	108	101	107	122	126	
7-8	137	173	143	149	149	167	215	
8-9	235	224	230	247	222	274	310	
9-10	349	357	330	331	409	413	446	
10-11	451	423	409	375	456	505	522	
11-12	531	467	437	434	455	555	579	
	P.M.							
12-1	556	451	358	433	508	543	661	
1-2	521	491	436	510	445	497	522	
2-3	528	421	450	441	448	573	563	
3-4	633	460	491	422	470	540	694	
4-5	517	435	418	403	511	590	568	
5-6	474	388	356	378	441	554	602	
6-7	412	293	295	295	355	532	491	
7-8	315	213	229	276	281	428	342	
8-9	252	178	174	198	193	336	235	
9-10	172	120	122	138	153	212	149	
10-11	136	102	92	87	123	234	177	
11-12	109	52	86	77	100	172	101	
Total	1264	574	5491	5643	1230	7164	7557	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

AUTOMATIC RECORDER RECORD

Route J-70
 Week Beginning Aug 1, 76

Station No. Special ATK East end of Glenwood Canyon
 Direction of Flow Total Highway

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	8/1	8/2	8/3	8/4	8/5	8/6	8/7	
Hour	A.M.							
12-1	101	85	71	61	71	83	108	
1-2	55	36	52	51	59	72	84	
2-3	70	53	38	47	56	55	79	
3-4	60	46	45	34	50	58	60	
4-5	56	41	54	34	47	58	61	
5-6	54	72	47	64	67	69	68	
6-7	102	121	121	112	114	113	120	
7-8	144	122	120	155	161	168	204	
8-9	264	223	248	277	250	256	320	
9-10	400	432	354	322	419	426	495	
10-11	523	552	503	536	450	525	585	
11-12	623	611	539	550	560	550	664	
	P.M.							
12-1	740	613	575	521	542	650	596	
1-2	679	527	512	514	525	534	652	
2-3	742	600	497	521	512	572	654	
3-4	717	613	507	511	578	521	624	
4-5	618	501	455	543	425	532	501	
5-6	596	427	422	432	402	553	420	
6-7	424	326	352	352	352	451	371	
7-8	404	237	223	255	205	425	311	
8-9	295	192	120	223	224	342	264	
9-10	128	157	170	145	172	310	181	
10-11	149	86	127	146	136	242	128	
11-12	104	73	61	26	112	176	110	
Total	8228	6955	1332	6514	6661	7207	7740	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

WORKSHEET NO. (14-01)150
 October 17, 1972

Division of Highways - State of Colorado
 Planning and Research Division

AUTOMATIC RECORDER RECORD

Special ATP
 East end of Glenwood Canyon

Route I-70
 Week Beginning Aug 8 '76

Station No. _____
 Direction of Flow Total Highway

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	8/8	8/9	8/10	8/11	8/12	8/13	8/14	
Hour	A.M.							
12-1	89	85	80	69	88	90	102	
1-2	66	84	52	76	52	57	76	
2-3	62	56	48	64	66	57	66	
3-4	46	61	48	47	42	52	53	
4-5	45	46	49	40	49	59	59	
5-6	41	60	62	66	55	83	86	
6-7	89	135	105	120	134	119	134	
7-8	147	195	152	180	161	190	211	
8-9	264	276	277	310	287	285	314	
9-10	416	413	358	392	394	462	467	
10-11	519	519	503	530	549	550	630	
11-12	662	572	557	595	551	637	617	
Hour	P.M.							
12-1	633	541	542	548	620	646	690	
1-2	744	597	550	547	522	605	630	
2-3	622	557	508	589	554	707	667	
3-4	711	589	567	518	513	668	568	
4-5	638	574	532	566	588	571	609	
5-6	612	395	432	477	473	524	543	
6-7	508	374	416	355	440	568	440	
7-8	349	233	247	291	306	395	310	
8-9	299	196	221	219	172	310	282	
9-10	207	153	153	185	205	389	207	
10-11	156	124	119	130	156	252	160	
11-12	101	109	106	85	117	192	121	
Total	8086	6947	6686	6999	7091	8462	8048	
% Av. Day Wk.								100.0
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

WORKSHEET NO. (14-01)150
 October 17, 1972

Division of Highways - State of Colorado
 Planning and Research Division

AUTOMATIC RECORDER RECORD

Special ATR
East end of Glenwood Canyon

Route I-70
 Week Beginning Aug

Station No. _____
 Direction of Flow Total Highway

Unusual Events								
Day	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Total
Date	8/15	8/16	8/17	8/18	8/19	8/20	8/21	
Hour	A. M.							
12-1	91	83	74	92	77	93		
1-2	49	50	53	71	39	50		
2-3	55	89	54	62	55	71		
3-4	53	57	48	68	51	57		
4-5	45	65	38	32	60	57		
5-6	51	71	61	69	56	68		
6-7	88	109	101	111	118	144		
7-8	140	181	174	175	144	168		
8-9	262	249	258	308	303	299		
9-10	367	411	392	434	432	402		
10-11	527	507	539	452	453	560		
11-12	701	620	566	524	570	627		
Hour	P. M.							
12-1	726	522	583	616	673	566		
1-2	740	507	548	553	527	645		
2-3	723	631	497	523	557	625		
3-4	748	570	475	442	600	620		
4-5	720	537	486	477	482			
5-6	599	523	471	604	531			
6-7	499	375	394	375	357			
7-8	448	291	408	275	222			
8-9	288	216	237	225	216			
9-10	233	175	156	162	162			
10-11	199	133	131	143	160			
11-12	101	85	92	100	97			
Total	8433	7065	6836	6873	7061			
% Av. Day Wk.								1000
8A. to 4P. Traffic								
8-24 Hr. %								

Remarks:

