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LEGISLATIVE COUNCIL

REPORT TO THE

COLORADO GENERAL ASSEMBLY

PORTS OF ENTRY IN COLORADO

PART II

RESEARCH PUBLICATION NO. 11-1

1955

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The Legislative Council, which is composed of five Senators, six Representatives, and the presiding officers of the two houses, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions research activities are concentrated on the study of relatively broad problems formally proposed by legislators and the publication and distribution of factual reports to aid in their solution. During the session the emphasis is on supplying legislators on individual request with personal memoranda providing them with information needed to handle their own legislative problems. Reports and memoranda both give pertinent data in form of facts, figures, arguments and alternatives without these involving definite recommendations for action. Fixing upon definite policies is, however, facilitated by the facts provided and the form in which they are presented.

*Resigned

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PORTS OF ENTRY IN COLORADO

PART II

Colorado Legislative Council
Research Report No. 11 - 1
January, 1955

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	i
CHAPTER I DESCRIPTION OF PROCEDURES FOLLOWED	1
Road Block Procedures	1
Analysis Procedures	3
Estimate of Tax Loss Procedure	4
CHAPTER II SUMMARY OF ROAD BLOCK STATISTICS	8
List of Road Block Positions	8
Destination and Origin of Traffic	14
Type of Cargo Hauled	16
Size and Weight	17
State of Registry	18
Port of Entry Contacts	19
Time of Traffic	20
Estimate of Tax Loss	21
Cost of Expanded Port System	24

FOREWORD

In accordance with the terms of House Resolution No. 5, 39th General Assembly, 1954 regular session, the Legislative Council prepared a study of Colorado's ports of entry. Part I of this survey was published as Research Report 11, in December, 1954, and Part II of the survey is herewith presented. This portion of the study is an analysis of the data secured in the road block of truck traffic which was conducted by the State Patrol in the fall of 1954.

In a complete 24 hour cycle, 36,146 trucks were checked at 142 road block locations. This was three and one-half times the maximum number of trucks which the council had been informed would be involved. Because of the enormous volume of statistical material which resulted from this road check, it is not possible for the Council to publish the complete analysis of the truck traffic at each of the 142 locations at which such traffic was checked. This data is however, available in the offices of the Legislative Council in a form which makes it readily useable by interested members of the General Assembly, as well as others with an interest in the problem. This printed report, does however, summarize the data, in total, for all of the locations.

The statistical procedures used in making the analysis are fully explained in the text of the report. The sub-committee which investigated the problem was composed of Representative Ted Parsons, Chairman, and Representatives A. W. Hewett, Walter Stalker, Bill Yersin and Arthur Wyatt. The survey was prepared by Harry S. Allen, Senior Research Analyst of the Council.

HIGHLIGHTS

	<u>Page</u>
...36,146 trucks were stopped in a complete 24 hour cycle	3
...16,639 trucks were empty and 16,656 of the loaded vehicles were subject to net ton-mile tax	4
...17% of all trips made by carriers subject to net ton-mile taxes were made by trucks without proper P.U.C. certification	5
Fifty-three per cent of all truck trips were intra-state, having both their origin and destination within Colorado	14
The largest single group of commodities carried are agricultural products	16
More than 2/3 of all loaded vehicles had Colorado license plates	18
Only 6.7% of all loaded vehicles cleared a Colorado Port of Entry	19
Truck traffic in appreciable amounts appears "around the clock" on Colorado roads	20
Using a conservative set of assumptions, it appears that the minimum net ton-mile tax loss, using 1953 collections, was \$710,121, and that the maximum tax loss was \$1,074,000. These figures do not include possible losses in fuel tax	21
Operating costs for a complete port of entry program, involving the operation of 15 ports on a full time basis, and administering such ports through the Revenue Department appear to be about \$250,000 annually	24

Note: In Part I of this study, which was published in December, 1954, the estimates of revenue lost through tax evasion were those which were presented to the Council in testimony. On page 18, of that report is found the following statement: "Estimates of revenue loss as presented to the Legislative Council seemed to center around the figure of \$1,000,000 as the probable loss. A representative of the P.U.C. estimated that about \$300,000 to \$500,000 was lost in highway use taxes and an equal amount in fuel taxes. The revenue department felt that the figure \$1,000,000, might not be out of line. Representatives of the State Patrol made estimates as high as \$2,500,000."

As will be noted, these figures were presented as the estimates of others, and their wide range was the reason a more comprehensive analysis was needed through the road block procedure. The estimates of tax loss in Part II are the ones made by the Legislative Council as a result of its analysis of truck trips as checked in a 24 hour road block of truck traffic.

CHAPTER I

DESCRIPTION OF PROCEDURES FOLLOWED

Road Block Procedures

During testimony at a hearing of the sub-committee in May, 1954 it was pointed out that no reliable data was available on the percentage of tax evasion of the net ton-mile tax, nor was there any reliable data on the extent to which carriers were operating without proper P. U. C. certification. In order to get accurate information on these subjects it was proposed that a 24 hour road block be made by the State Patrol. The following principle items were checked:

1. Location and volume of truck traffic within Colorado.
2. Number and percentage of trucks cleared through the existing port of entry system.
3. Number of trips made by trucks without proper P. U. C. certification.
4. Trips made by properly certified carriers which were not reported and upon which no net ton-mile tax was being paid.
5. The composition of Colorado truck traffic insofar as inter-state and intra-state hauls were concerned.
6. The type of cargo being hauled particularly the amount of agricultural and fuel products being carried.
7. The percentage of trucks running empty.

The fact that this road block was to be held was widely publicized in the press, and no effort was made by the council or the patrol to carry out the check behind a veil of secrecy. As a matter of fact during the course of the road block there was discussion between members of the Motor Carriers Association and Legislative Council's staffs on its progress. A questionnaire to

determine the desired data was devised in the office of the Legislative Council and was evaluated by staff members of the Revenue Department, State Patrol, and Public Utilities Commission. It was recognized that the weight data being called for was not as detailed a breakdown as is normal in a weight study. This was done for several reasons. It was recognized that very complete studies on weight had been made by other groups including the State Highway Department, the Long Range Highway Planning Commission, and the University of Denver. These studies were all very detailed, and it was felt that the road block would not add any significantly new data on weights over and above that which was already available. (See Truck Size and Weight Study, 1953, Department of Highways). On the opposite side of the coin, a complete weight study on the basis of a road block would have complicated the Highway Patrol procedures to a considerable extent, and would have added considerably to the cost of analysis. Therefore it was decided that the questions on weight would be generalized.

The road block was planned in a series of meetings between staff members of the Legislative Council and the State Patrol and was conducted during the period of September 27, 1954 and November 10, 1954. The location of each of the 142 positions at which traffic was checked was determined by the district captains of the Patrol for their respective districts. Also the Patrol determined the details of conducting the checks. The Legislative Council set forth the basic framework of the check which included the following points:

1. The material gathered was confidential insofar as actual enforcement of laws was concerned. It was made clear that any evasion which was encountered would not be used by the Council in any way other than for study purposes.

2. Each location was to be checked through a complete 24 hour cycle.

3. The ports of entry were to be operated on their normal schedule.

At each position, a check was made for about three hours at a time, and then another three hours was accomplished on a subsequent day, until each position had been checked through a complete 24 hour cycle. Road blocks were arranged so as to produce as little duplication as possible. If there were road blocks on highways east of a city, the highways west of a city were not checked on the same day. Furthermore the hours at which the blocks were conducted were also staggered. In addition, as each day's questionnaires were returned to the Council by the State Patrol, they were checked and duplicate trips were taken out. Particularly in the blocks around major cities such as Pueblo and Denver a number of local trips were stopped twice on the same day. Only one of the trips was retained in the sample. Thus duplication of trips has been largely eliminated within the samples used in this analysis. While undoubtedly there are still a few duplicates, the size of the sample together with the compensating fact that a number of trucks were known to have by-passed the checks, insures that there is no real distortion of the statistics.

TYPES OF TRUCKS IN THE SAMPLE

The Patrol was under instructions to check all trucks, including farm and ranch vehicles. In making the analysis, however, all farm and ranch private use, empty, and other vehicles which were not subject to the net ton tax were eliminated.

ANALYSIS PROCEDURES

All of the 36,146 questionnaires have been kept according to road block position as the basic unit. The first sort, made in the office of the Council, was to eliminate all empty vehicles from the sample and distribute

these vehicles, according to weight and distance traveled empty. There were 16,639 such trips reported. It is hoped that a further sort of empty vehicles may be made so as to provide additional data on the types of vehicles which were running without a load at the time they were checked. After the empty vehicles were eliminated, the remaining 19,507 questionnaires were coded manually in the Legislative Council office, and then placed on punch cards commercially. All punch cards were checked for accuracy, and then tabulated in a machine sort. The complete punch card analysis is available in the office of the Legislative Council, but its size, coupled with the limited funds available to the Council precludes reproduction in its entirety. Also available are the punch cards as well as the questionnaires from which the cards were prepared, should any interested group wish to use the material for further analyses.

In the first machine sort, the 2,851 farm and ranch vehicles were eliminated from the sample, (all other vehicles not subject to tax were eliminated prior to the punching). The remaining 16,656 cards represent the total number of trucks, stopped in a 24 hour period, which were subject to the net ton-mile tax.

ESTIMATE OF TAX LOSS

The estimate of tax loss is computed on the basis of the percentage of truck trips subject to the tax which were not reported. The computations of tax loss involve the evasion by carriers properly certified by the P.U.C. as well as those which were found to be operating without a P.U.C. license. In order to arrive at these estimates it was first necessary to determine the percentage of P.U.C. licensed vehicles which were not reporting their trips. As will be noted in the text of the report itself there were 16,656 vehicles checked in a 24 hour cycle which were subject

to net ton-mile tax. Of these, 13,863 were properly licensed by the P.U.C. A five percent sample of the licensed vehicles was selected at random from each of the 142 road block positions. Statistical practice indicated that a five percent sample should be sufficient. This sample of truck trips was then checked against the monthly reports file with the P.U.C. for the month during which the trip was picked up in the road block.

In the case of the unlicensed vehicles, the entire 17% of the trips which were made by trucks operating without P.U.C. certification was assumed to be unreported. It seems obvious that if a vehicle is not licensed, then its trips will not be reported.

The licensed trips were checked according to the categories of permits. That is, trips made by common carriers, commercial carriers, and so on, were all checked individually and a percentage of evasion for each class of carrier was arrived at. In order to determine how much evasion there was in terms of tax dollars, the percentage figures had to be applied to a tax payment. It was obvious that the percentages should not be applied across the board to the total tax paid by each class of carriers, since some carriers were fully licensed and fully reporting their taxes. In order to arrive at a figure to which the percentages might be applied, discussions were held with staff members of the P.U.C.

It was their view that the larger carriers were fully licensed and fully reporting their ton miles for tax purposes. According to the P.U.C. this group paid approximately 56.9% of the ton-mile tax collected from common and private carriers. It should be noted that this study was not able to verify or disprove the P.U.C. contention since these carriers report their trips on a monthly total basis rather than on an individual trip basis. Thus the individual trips made cannot be checked against the records filed with

the state. On the basis of the P.U.C. view, however, 56.9% of the tax paid by the Common and Private Carriers was deducted from the total ton-mile tax collections of fiscal 1953 in order to arrive at the base to which the percentage of evasion should be applied. In the case of the Commercial Carriers, the P.U.C. felt that evasion was applicable to all carriers in the class and that therefore the percentages could be applied to all of the revenue from this group.

Computations on the above assumptions produce a "minimum" tax loss. This study also computes a maximum tax loss on the assumption that the percentage of evasion in each class of carriers is uniformly applicable to all of the carriers within the group. The detailed tax loss calculations are found in the text of this report.

In summary, the following procedures were used:

1. A road check of all truck traffic in Colorado was made over a 24 hour cycle which extended over a period of several weeks. Blocks were staggered as to day and time to eliminate as much duplication as possible.
2. The questionnaires were checked as they came to the Legislative Council, duplicate trips, empty, private use, and other vehicles exempt from the tax were eliminated. (farm and ranch trucks were eliminated in a separate sorting).
3. After the initial review the information on each questionnaire was transferred to a punch card, and the cards were sorted to eliminate the farm and ranch vehicles. After this sort was accomplished, the remainder of the cards represented truck trips made by vehicles which were subject to the ton-mile tax. This figure 16,656, is referred to in the study as the net truck trips. This

is the number of trips in a 24 hour cycle which were subject to net ton-mile tax.

4. The number of truck trips was then analyzed for each of the 142 separate locations, on the basis of the questions asked.
5. After the machine sorting was accomplished using the punch cards, the original questionnaires were again checked on a random sample basis against the trip reports filed with the P.U.C. It should be noted this check against P.U.C. records was started on December 13. The trips checked, all occurred during the month of October and should have been reported no later than November 15.
6. For study purposes it was assumed that the large interstate carriers were fully reporting their trips. A list of these carriers which were eliminated in the checking process is available in the Legislative Council office. It should be noted that this assumption has neither been verified or disproved by this survey, but that the procedure of allowing these carriers to report in total made it impossible to check the individual trips without an audit of the company records. The use of this procedure in the study should not be taken as any indication on the part of the sub-committee or the Legislative Council, that any one particular group of motor carriers is more guilty of tax evasion than any other. The study, had to analyze those statistics and data which was subject to analysis.

As a result of the limitations placed upon the committee by the reporting system allowed for the larger carriers, the statistics have not been applied to the revenue paid by these carriers.

The sub-committee is in no position to estimate the accuracy of the reporting by those carriers eliminated from the sampling.

CHAPTER II

SUMMARY OF ROAD BLOCK STATISTICS

TABLE I
LIST OF ROAD BLOCK POSITIONS

No.	Position	County	Net Truck Trips
1	U. S. 85 at Adams City	Adams	565
2	U. S. 87, 4 mi. N. of Denver	Adams	532
3	U. S. 287, 3 mi. S. of junction of U. S. 287 and Colo. 168	Adams	143
4	U. S. 87 and Colo. 68 junction, S. E. of Denver	Arapahoe	102
5	U. S. 286, 3 mi. W. of Morrison	Jefferson	61
6	U. S. 40 at Mt. Vernon	Jefferson	58
7	U. S. 6 at W. Golden City limits	Jefferson	216
8	U. S. 6, 3 mi. N. of Derby	Adams	327
9	U. S. 40 E. of Aurora	Arapahoe	377
10	U. S. 85 5 mi. S. of Littleton	Arapahoe	425
11	U. S. 287, 1 mi. S. of Loveland	Larimer	101
12	U. S. 287, 1 mi. S. of Ft. Collins	Larimer	120
13	Colo. 51, $\frac{1}{2}$ mi. S. of U. S. 6 at Holyoke	Phillips	37
14	U. S. 40 and Colo. 131 S. of Steamboat Springs	Routt	35
15	U. S. 138, 1 mi. S. of U. S. 138 and Colo. 113 junction	Logan	387
16	U. S. 6 and Colo. 63 junction at Atwood	Logan	425
17	Colo. 14, 8 mi. W. of Sterling	Logan	81
18	U. S. 6, 2 mi. E. of Sterling	Logan	90
19	Colo. 113, Nebraska State Line	Logan	76
20	U. S. 6 at Wiggins	Morgan	516
21	U. S. 85-87 and Colo. 105 junction at Monument	El Paso	481
22	U. S. 85 and Colo. 69 N. of Walsenburg	Huerfano	308
23	U. S. 34 and Colo. 37 junction at Kersey	Weld	174

TABLE I (Continued)

No.	Position	County	Net Truck Trips
24	U.S. 85, $\frac{1}{2}$ mi. N. of Platteville	Weld	234
25	Colo. 12 at Cokedale	Las Animas	92
26	Colo. 10 E. of Walsenburg	Huerfano	26
27	U.S. 50-350 and Colo. 10 junction W. edge of La Junta	Otero	237
28	U.S. 160 and Colo. 89 junction at Bartlett	Baca	9
29	U.S. 50 and Colo. 51 junction at Granada	Prowers	92
30	U.S. 50 and Colo. 101 junction S. edge of Las Animas	Bent	211
31	U.S. 85 at Pinion, 12 mi. N. of Pueblo	Pueblo	389
32	U.S. 24, and Colo. 67 junction at Divide	Teller	29
33	U.S. 50 and Colo. 120 junction at Canon City	Fremont	156
34	Colo. 115 and U.S. 50 junction near Penrose	Fremont	32
35	U.S. 50, 3 mi. E. of Pueblo at Blende	Pueblo	238
36	Colo. 84 and U.S. 24 junction at Colorado Springs	El Paso	48
37	Colo. 165, and U.S. 85 junction at Crow	Pueblo	266
38	U.S. 287, 2 mi. S. of Campo	Baca	212
39	U.S. 50 at E. edge of Gunnison	Gunnison	53
40	U.S. 160 and Colo. 111 junction, 11 mi. W. of Walsenburg	Huerfano	159
41	U.S. 85-87, 2mi. S. of Walsenburg	Huerfano	206
42	U.S. 285, 8 mi. S. of Alamosa	Alamosa	215
43	U.S. 85 at Starkville	Las Animas	217
44	Colo. 71, 1 mi. S. of U.S. 6-34 and Colo. 71 junction	Morgan	83
45	Colo. 52, 4 mi. N. of Ft. Morgan	Morgan	46
46	Colo. 96, N. of Avondale	Pueblo	122
47	Colo. 13, 1 mi. S. of Colorado-Wyoming line	Moffat	31
48	Colo. 141, and U.S. 50 junction at Whitewater	Mesa	192

TABLE I (Continued)

No.	Position	County	Net Truck Trips
49	U.S. 50 and Colo. 69 junction	Fremont	121
50	U.S. 6 and Colo. 91 junction, 10 mi. W. of Dillon	Summit	153
51	U.S. 50 and Colo. junction, 18 mi. W. of Pueblo	Pueblo	141
52	U.S. 287 and Colo. 196 junction at Wiley	Prowers	150
53	U.S. 50 and Colo. 194 junction at Las Animas	Bent	285
54	U.S. 87 and Colo. 60 junction	Weld	337
55	U.S. 85 at Nunn	Weld	165
56	U.S. 287, 16 mi. N. of Ft. Collins	Larimer	169
57	U.S. 87, 6 mi. N. of Wellington	Larimer	93
58	U.S. 34, 1½ mi. W. of Nebraska State Line	Yuma	119
59	U.S. 138 at E. edge of Julesburg	Sedgwick	266
60	U.S. 36 at Kansas State Line	Yuma	58
61	U.S. 34, 9 mi. W. of Loveland	Larimer	15
62	U.S. 36, 13 mi. E. of Holyoke	Phillips	15
63	Colo. 89 and U.S. 50 junction at Holly	Prowers	117
64	Colo. 96 and Colo. 51 junction at Sheridan Lake	Kiowa	37
65	Colo. 52 and Colo. 79 junction at Prospect Valley	Weld	44
66	S. of U.S. 36 and Colo. 51 junction	Yuma	46
67	Colo. 51, 2 mi. S. of Wray	Yuma	58
68	U.S. 350 and U.S. 160 junction E. of Trinidad	Las Animas	39
69	U.S. 24 at Kansas line	Kit Carson	148
70	Colo. 14, 4 mi. E. of Ault	Weld	49
71	28 mi. N. of Stoneham on county road	Weld	34
72	Colo. 17 and Colo. 112 junction at Hooper	Alamosa	46
73	Colo. 13, 1 mi. N. of Rifle	Garfield	263

TABLE I (Continued)

No.	Position	County	Net Truck Trips
74	U.S. 6, 3 mi. E. of Dillon	Summit	138
75	U.S. 6, 4 mi. E. of Palisade	Mesa	184
76	U.S. 160 and Colo. 112 junction at Del Norte	Rio Grande	63
77	U.S. 50 and Colo. 291 junction at Salida	Chaffee	130
78	U.S. 6 and 24 at Edwards	Eagle	101
79	U.S. 285, 6 mi. S. of Buena Vista	Chaffee	27
80	U.S. 6 and 24, 2 mi. W. of Glenwood Springs	Garfield	105
81	Colo. 141, 2 mi. W. of Uravan	Montrose	42
82	U.S. 550, $\frac{1}{2}$ mi. S. of Montrose	Montrose	108
83	U.S. 6 and 50, 2 mi. E. of Utah State Line	Mesa	82
84	U.S. 6 and 24, W. of Rifle	Garfield	129
85	U.S. 6 and 50, 2 mi. W. of Grand Junction	Mesa	132
86	U.S. 50, 3 mi. N. of Montrose	Montrose	160
87	Colo. 90, 2 mi. W. of Montrose	Montrose	25
88	Colo. 92, $\frac{1}{2}$ mi. E. of Delta	Delta	128
89	U.S. 160, $\frac{1}{2}$ mi. E. of Walsh	Baca	23
90	U.S. 287 and Colo. 116, 10 mi. N. of Springfield	Baca	222
91	U.S. 160, 8 mi. E. of Alamosa	Alamosa	130
92	U.S. 6-24 and Colo. 82 in Glenwood Springs	Garfield	59
93	Junction of U.S. 34 and 40	Grand	41
94	Junction of U.S. 40 and Colo. 84, N. of Kremmling	Grand	59
95	Colc. 9, 2 mi. S. of Kremmling	Grand	4
96	Junction of U.S. 40 and Colo. 51 at Cheyenne Wells	Cheyenne	44
97	Junction of U.S. 40 and Colo. 317 at Hayden	Routt	50
98	Junction of U.S. 50 and Colo. 115 at Penrose	Fremont	132

TABLE I (Continued)

No.	Position	County	Net Truck Trips
99	U. S. 160, 2 mi. W. of Dove Creek and junction of old Colo. 80	Dolores	63
100	Old Colo. 90 at Paradox near Utah State line	Montrose	16
101	U. S. 285, 2 mi. N. of Antonito	Conejos	68
102	Colo. 62, 4 mi. E. of Pacerville	San Miguel	58
103	U. S. 84, 1 mi. S. of Pagosa Springs	Archuleta	6
104	Junction of Colo. 99 and Colo. 159 at San Luis	Costilla	26
105	U. S. 666, 14 mi. S. of Cortez	Montezuma	59
106	U. S. 160, 1 mi. W. of Mancos	Montezuma	59
107	Colo. 145, 1 mi. W. of Dolores	Montezuma	29
108	U. S. 550, 10 mi. S. of Durango	La Plata	69
109	U. S. 550, 3 mi. S. of Durango	La Plata	35
110	Colo. 172 at Ignacio	La Plata	25
111	U. S. 160, 18 mi. E. of Durango	La Plata	82
112	Junction of U. S. 285 and Colo. 114 at Saguache	Saguache	36
113	Colo. 141, 3 mi. W. of Naturita	Montrose	99
114	Colo. 135, 3 mi. E. of Hotchkiss	Delta	56
115	Colo. 92, $\frac{1}{2}$ mi. E. of Delta	Delta	6
116	Colo. 65, $\frac{1}{2}$ mi. S. of Eckert	Delta	68
117	U. S. 6-150, 2 mi. W. of Grand Junction	Mesa	33
118	U. S. 24, 1 mi. W. of Buena Vista	Chaffee	25
119	Colo. 82, N. of Aspen	Pitkin	12
120	Colo. 114, 9 mi. S. E. of Gunnison	Gunnison	3
121	Colo. 135, N. of Gunnison city limits	Gunnison	23
122	County road, 1 mi. S. E. of Silt	Garfield	8
123	Colo. 82, 1 mi. S. of Glenwood Springs	Garfield	75

TABLE I (Continued)

No.	Position	County	Net Truck Trips
124	Junction of Colo. 82 and Colo. 133 at Carbondale	Garfield	4
125	Junction of Colo. 67 and Colo. 96	Custer	12
126	U.S. 24, 1 mi. S. of Leadville	Lake	33
127	Colo. 9, 3 mi. N. of Dillon	Summit	6
128	Junction of Colo. 14 and Colo. 125	Jackson	45
129	Colo. 13, 20 mi. S. of Craig at Lloyd	Moffat	48
130	Junction U.S. 40 and Colo. 318 at Maybell	Moffat	22
131	Junction of U.S. 40 and Colo. 64 at Artesia	Moffat	80
132	Junction of Colo. 14 and Colo. 52 at New Raymer	Weld	44
133	Junction of U.S. 36 and Colo. 63	Washington	48
134	Junction of U.S. 34 and Colo. 61 at Otis	Washington	157
135	Junction of U.S. 36 and Colo. 71 at Last Chance	Washington	7
136	County road, 5 mi. S. of Ft. Morgan	Morgan	47
137	Colo. 51, $\frac{1}{2}$ mi. S. of U.S. 138 at Julesburg	Sedgwick	15
138	County road, Nebraska State Line, N. of Ovid	Sedgwick	21
139	Junction of Colo. 71 and Colo. 96 at Ordway	Crowley	71
140	U.S. 287, N. edge of Eads	Kiowa	213
141	Junction of Colo. 109 and Colo. 194, N. of La Junta	Otero	71
142	Junction of U.S. 50-287 and Colo. 169 at Lamar	Prowers	368

TABLE II
DESTINATION AND ORIGIN OF TRUCK TRAFFIC

Fifty-three percent of all truck traffic in Colorado is intra-state - that is it has both its origin and destination within the borders of the state, while 77% of all traffic has a Colorado destination regardless of point of origin. These figures seem to indicate that Colorado's position is not so much a "bridge state" for cross country traffic as it is a consumer of truck hauled commodities. These statistics were arrived at by a analysis of all trips on the basis of origin and destination. The trips were sorted according to origin by states, and each state of origin was then sorted by destination. The following three tables indicate the geographic distribution of points of origin and points of destination by states. It will also be noted that 75.7% of all truck trips originate within Colorado's boundaries.

STATE OF ORIGIN OF LOADED TRUCKS ^{a/}

<u>State</u>	<u>No. of Trucks</u>	<u>% of Total</u>
California	276	1.7
COLORADO	12,613	75.7
Illinois	234	1.4
Kansas	435	2.6
Missouri	138	.8
Nebraska	766	4.6
New Mexico	354	2.1
Oklahoma	150	.9
Texas	412	2.5
Utah	312	1.9
Wyoming	548	3.3
All Other	418	2.5
	<hr/>	<hr/>
Total	16,656	100.0

^{a/} Excludes farm and ranch vehicles.

TABLE III
DESTINATION OF ALL LOADED TRUCKS BY STATE a/

<u>State</u>	<u>No. of Trucks</u>	<u>% of Total</u>
California	276	1.7
COLORADO	12,813	77.0
Illinois	234	1.4
Kansas	435	2.6
Missouri	138	.8
Nebraska	766	4.6
New Mexico	354	2.1
Oklahoma	150	.9
Texas	412	2.4
Wyoming	548	3.3
All Other	530	3.2
<hr/>		
Total	16,656	100.0

a/ Excludes farm and ranch vehicles.

TABLE IV
DESTINATION OF COLORADO ORIGINATED TRAFFIC a/

<u>State</u>	<u>No. of Trucks</u>	<u>% of Total</u>
Stop in COLORADO	8,829	70.0
California	192	1.5
Illinois	186	1.4
Kansas	475	3.7
Missouri	103	.8
Nebraska	597	4.7
New Mexico	420	3.6
Oklahoma	225	1.8
Texas	632	5.0
Utah	277	2.2
Wyoming	363	2.8
All Other	314	2.5
<hr/>		
Total COLORADO Originated Trucks	12,613	100.0

a/ Excludes farm and ranch vehicles.

TABLE V

TYPE OF CARGO HAULED BY LOADED VEHICLES

The largest single group of commodities hauled by Colorado trucks are agriculture products. Tabulation of the cargo for all of the 19,507 vehicles stopped in the road block which were carrying a load shows that nearly one-third were either hauling agricultural products on a "for hire" basis, or were farm owned vehicles. While the latter group were not subject to the ton-mile tax, they were included for determination of the overall cargo characteristics of truck traffic. It is interesting to note that the annual report of the Public Utilities Commission for the year ending June 30, 1953 indicates that 32.4% of the vehicles hauled livestock and other agricultural products. The road block indicated a percentage of 31.8. A complete tabulation by the four basic categories used in the analysis follows:

<u>Type of Cargo</u>	<u>No. of Trucks</u>	<u>% of Total</u>
Mixed Freight	10,781	55.7
Fuel	1,664	8.5
Agricultural	6,202	31.8
All Other	611	3.2
Data not available	159	.8
	<hr/>	<hr/>
Total	19,507 ^{a/}	100.00

^{a/} Includes 2,851 loaded farm or ranch owned vehicles.

SIZE AND WEIGHT OF TRUCKS

As indicated previously the principle purpose of the study was for purposes other than weight analysis. Nonetheless, even with the very broad weight categories used, it is obvious that a substantial portion of Colorado truck traffic consist of heavy vehicles. Only 46.4% of the 16,656 non-farm loaded vehicles had empty weights of less than 18,000 pounds. The weights were those given by the truckers on their permits. The balance of the trucks had a tare weight in excess of 18,000 pounds. Further indication of the character of truck traffic may be had by the fact that only 31.4% of the vehicles were two axle trucks, while 68.6% of the trucks had three or more axles. These figures again eliminate the farm and ranch vehicles. Most of the truck traffic consists of trailer-tractor combinations. This type of vehicle accounted for 58.8% of all loaded non-farm and ranch vehicles.

TABLE VI
STATE OF REGISTRY OF TRUCKS

The state of registry of truck traffic was checked in the road block. In those cases where a truck was registered in, and had a motor vehicle license in several states, the state which was considered headquarters of the company was used as the state of registry. Slightly more than two-thirds of all loaded trucks were licensed in Colorado. (These licenses are not to be confused with P.U.C. certification.) The second largest number of vehicles were registered in Nebraska. There were vehicles stopped in the check from every state of the union, but the preponderance of trucks, outside of Colorado vehicles, are registered in the states bordering on Colorado. A breakdown according to states having more than 100 trucks stopped in the check are list below:

STATE OF REGISTRY OF CARGO CARRYING VEHICLES

<u>State</u>	<u>No. of Trucks</u>	<u>% of Total</u>
COLORADO	11,289	67.8
Kansas	401	2.4
Nebraska	1,067	6.4
New Mexico	626	3.7
Oklahoma	463	2.8
Texas	875	5.3
Utah	464	2.7
Wyoming	296	1.8
Iowa	165	1.0
Indiana	105	.6
California	163	1.0
Missouri	149	.9
All Other	<u>593</u>	<u>3.6</u>
Total	16,656	100.0

TABLE VII

PORT OF ENTRY CONTACTS

Of the 16,656 truck trips subject to net ton-mile taxation, 1,108 or 6.7% were cleared through a Colorado Port of Entry. The remainder were not checked through any of the state's six existing ports. Since the existing ports are located to only check some of the state traffic, it would be natural that many vehicles were not contacted by them. An analysis was therefore made of the truck traffic which was checked at positions immediately before and immediately after each of the ports. In order to make this analysis the ports were kept open on their normal schedule for the period, and road block positions were set up at locations which would stop traffic that would normally be expected to go through one of the Ports. For example: the effectiveness of the Port of Entry at Brush may be gauged by an analysis of the truck traffic on U.S. 34 on either side of Fort Morgan, as well as the truck traffic on U.S. 6 northeast of Fort Morgan. These are the principle routes which the Fort Morgan Port might be expected to check. Similar analyses may be made of the other six ports of entry in the state.

This type of analysis indicates that the Port of Entry on U.S. 85 at Starkville, south of Trinidad is the most effective of Colorado's six Ports, while the one at Limon was the least effective. Tabulated below is an analysis of trucks checked through each of the six existing Ports.

PORT OF ENTRY CONTACTS AT EXISTING PORTS #	
<u>Location of Port</u>	<u>% of Vehicles Contacted</u>
Brush	12
U.S. 85 at Starkville	26.7
Lamar	19.1
Limon	9.0
Greeley	10.0
Ft. Collins	25.7

Percent of vehicles at each station on opposite sides of each Port of Entry checked.

TABLE VIII
DISTRIBUTION OF TRUCK TRAFFIC BY TIME OF DAY

Truck traffic in appreciable amounts appears virtually "around the clock" in Colorado. The heaviest volume of traffic takes place between 12:00 noon and 6:00 p. m., while the lightest volume of traffic is in the midnight to 6:00 a. m. period. There is some variation as to this time distribution in various sections of the state, but it is apparent that in most locations, a Port of Entry should be operated virtually 24 hours in order to make the maximum number of truck contacts. Shown below is the time distribution of all 16,656 vehicles subject to ton-mile tax.

<u>Time Period</u>	<u>No. of Trucks</u>	<u>% of Total</u>
12:00 Noon to 6:00 p. m.	5,658	34
6:00 p. m. to 12:00 Midnight	3,344	20
12:00 Midnight to 6:00 a. m.	2,187	14
6:00 a. m. to 12:00 Noon	5,467	32
Total	16,656	100

TAX LOSS

It appears that the minimum tax loss of net ton-mile tax, on the basis of 1953 collections, was \$731,121, and the maximum loss was \$1,074,163. These estimates were arrived at in the following manner: Five percent of all loaded vehicles registered with the P.U.C. that were counted in the road block were checked against the reports filed with the P.U.C. for the period during which the road block contact was made. This sample was selected proportionately from each of the 142 road block positions. In other words 5% of the total P.U.C. registered vehicles at each station were checked. These vehicles were selected at random, but the percentage of vehicles in various P.U.C. categories in the sample was checked against the total vehicles in each category as listed in the P.U.C. annual reports; and it was determined that the random selection was in approximately the same ratio. In other words the sample had the same proportion of Commercial Permits as they were Commercial Permits on file with the commission, etc.

In checking the trips in the sample, each category of P.U.C. permit was analyzed separately. This analysis indicated that 33.0% of the commercial carriers had not reported their trips, as picked up on the road block, to the P.U.C. (this is the category of trucks exempted from P.U.C. regulation by House Bill 9). In the Common and Private Class categories 15% of the trips were unreported. These percentages of evasion were then applied to the total tax paid by each class of carriers in 1953, except in the case of common carriers. In the case of common carriers the minimum tax loss took into consideration the fact that a substantial portion of the tax is paid by the larger carriers, who in the opinion of the P.U.C. are fully reporting their tax. Furthermore, since these larger carriers report their trips on a total rather than an individual basis it was not

possible to check their individual trips as picked up on the road block. Therefore the tax loss from this group of carriers was computed both on the basis of assumed full reporting by the larger carriers and on the basis that evasion among this class of carriers is approximately the same as among other classes of carriers. The latter computation will produce the maximum tax evasion.

MINIMUM TAX LOSS CALCULATION

This calculation assumes (a) the evasion by commercial carriers is uniform throughout the class and that therefore the percentage of unreported trips may be applied to the total tax paid by this group of P.U.C. licensees, (b) 56.9% of the ton-mile tax paid by common and private carriers represent collections from the larger carriers and there is no evasion in this group. Trips by non P.U.C. certified carriers are limited to other than the so-called "main line" carriers. A tax loss based on these assumptions is made as follows:

Type of Carrier	Total Tax in 1953	Less Tax by Main Line Carriers	Net Tax on which Loss is based	% Un- reported Trips	Estimated Tax Loss
Commercial	\$ 870,321	-0-	\$ 870,321	33.0	\$ 287,205
Common & Pvt.	<u>1,996,888</u>	<u>\$1,137,627</u>	<u>859,261</u>	<u>15.0</u>	<u>128,888</u>
Tax loss from Certified Carriers	\$2,867,209	\$1,137,627	\$1,729,582		\$ 416,093
Tax loss from non-certified carriers			\$1,729,582	17% ^{a/}	<u>294,028</u>
TOTAL MINIMUM LOSS					<u>\$ 710,121</u>

^{a/} Percentage of truck trips made by non P.U.C. licensed vehicles.

MAXIMUM TAX LOSS CALCULATION

The maximum tax loss calculation is based on the following assumptions:

(a) the percentage of unreported trips within a group of carriers is uniformly applicable to all carriers within that class. In other words all common and private carriers are failing to report in the same percentage, (b) that tax loss from non P.U.C. registered vehicles is uniform for all classes of carriers. In other words the 17% loss from failure to get a P.U.C. permit applies to total tax revenue. A tax loss based on these assumptions is as follows:

<u>Type of Carrier</u>	<u>Total Tax in 1953</u>	<u>% Unreported Trips</u>	<u>Estimated Tax Loss</u>
Commercial	\$ 870,321	33.0	\$ 287,205
Common & Private	<u>1,996,888</u>	<u>15.0</u>	<u>299,533</u>
Tax Loss from Certified Carriers	\$2,867,209		\$ 586,738
Add: Tax Loss from non-certified carriers	\$2,867,209	17%	<u>\$ 487,425</u>
TOTAL MAXIMUM TAX LOSS			\$1,074,163

Note: All the above calculations assume that the tons carried and miles travelled by the trucks in the sample are average for the group from which the sample was taken.

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TOTAL MAXIMUM TAX LOSS			\$1,074,163

Note: All the above calculations assume that the tons carried and miles travelled by the trucks in the sample are average for the group from which the sample was taken.

COST OF EXPANDED ENFORCEMENT PROGRAM

The best guide to the cost of administering an expanded enforcement program is probably a study of the subject made by the Stanford Research Institute in August, 1954 of the Oregon gross ton-mile tax administration. This study determined that the administrative cost of administering the gross ton-mile tax in Oregon was 4.38% of the total tax collections. To this cost would be added the cost of Oregon's truck weighing stations which in effect are the state's ports of entry under a different name. The truck weighing program in Oregon costs about \$425,000 a year. Following is an excerpt from the Stanford study which gives in detail the cost of administering the Oregon program.

Calculations made previously for 1951 and 1952 showed a cost of administering the truck-mile tax ranging between 3.89 and 4.55 percent of annual motor vehicle cash receipts. At the request of the Legislative Highway Interim Committee, a new calculation has been made, based on accounting data supplies by the Public Utilities Commissioner for the fiscal year ending June 30, 1954. The fiscal year was chosen because it gave a more ready cost breakdown and because the beginning of this period in July 1953 coincided with the inauguration of the Machine Records Section in the P.U.C.

The more detailed analysis in the attached table is based on June 1954 salaries and wages in four subdivisions of the P.U.C. which contribute to the collection and administration of the truck-mile tax. The share of each of these groups was based on labor costs in June 1954; with one exception the percentages calculated in this manner were used to allocate total costs to the "revenue function." As in the past, it was assumed that the two other main cost elements--General Operation and Maintenance, and Capital Outlay--could be allocated in the same proportion as direct labor. On this basis, it was determined that the over-all cost of collecting and administering the truck-mile tax could reasonably be fixed at 4.38 percent of the cash revenue from the tax in the same period.

In addition to reflecting a more accurate allocation of costs, this figure differs from the earlier estimates in two important respects:

- a) It includes for the first time the cost of the Machine Records Section, amounting to over \$100,000. A substantial portion of the staff involved here, estimated at 6 persons in a total of 23 and representing possibly \$30,000 of annual cost, is occupied

in developing motor vehicle statistics--a function previously handled by the Highway Department.

- b) Prior calculations were based on total motor carrier income, including fees for plates, temporary passes and hearings, and certain other miscellaneous items which belong to the regulatory functions of the P.U.C. and not to its revenue--collecting work. In this calculation a deduction is made from total cash receipts, based on a detailed analysis of accrued income in 1953 which shows this portion to be regulatory in nature.

If the cost estimate presented to the Committee in 1952 is used, together with the above adjustments (added cost of \$30,000 for statistical work and a deduction from income of 1.94148 percent for regulatory revenue), these cost ratios result, in comparison with the one calculated herein:

Calendar year 1941	4.64%
Calendar year 1952	4.55%
Fiscal year 1953-54	4.38%

COSTS ALLOCATED TO P.U.C. REVENUE FUNCTIONS
(Truck-Mile Tax)
Fiscal Year 1953-54

	<u>Total Cost</u> ^{2/}	<u>Allocation of Cost to Truck-Mile Tax</u>		<u>Percentage Figures Used in Prior Calculations</u>
		<u>Percent</u>	<u>Amount</u>	
Administrative, incl. Cashier	\$ 103,253	28.0%	\$ 28,911	10; 20
Audit & Acc't'g.	342,571	88.0%	301,462	80.5
Machine Records	110,881	93.4%	103,563	0; 20
Permit	119,332	12.7% ^{1/}	25,315	
Other	78,838	-	-	-
Totals	\$ 834,875	55.0%	\$459,251	
Total P.U.C. Cash				\$10,695,366
Less: Allowance for Regulatory Income (1.94148%)				207,648
Net Cash Income from Truck-Mile Tax				\$10,487,718
Truck-Mile Tax--Cost of Collection and Administration, in Relation to Net Cash Revenue				4.38%

^{1/} Permit share was calculated at 5.4%, but this is averaged with earlier estimated 20%.

^{2/} Does not include \$425,000 for Weighing Stations.

ESTIMATED ANNUAL OPERATING COST OF
EXPANDED PORT OF ENTRY PROGRAM IN COLORADO

On the assumption that an expanded port of entry program would be operated as a function of the Department of Revenue it is possible to make some fairly reliable estimates on the annual operating cost, based on the assumption that 15 permanent ports of entry will be created. (This is approximately the maximum number of permanent ports which is indicated as being necessary by the road block analysis.) The Revenue Department feels that in a number of instances its existing field offices can be operated from a port of entry. There are 14 such field offices for which an annual rental of approximately \$7,200 is being paid. Much of this rental could be saved by operating from state owned quarters. The Department estimates that for the operation of a port of entry which also housed a district office, a building of approximately 400 sq. ft., on the average, is needed.

Under a combined operation, nearly all of the clerical, administrative, and supervisory costs of the port program would be absorbed within the Department. Assuming the use of existing personnel within the Revenue Department to take care of administrative functions at the port, it is estimated that about 60 additional inspectors would be required to operate the 15 ports on a 24 hour, seven day a week schedule. On the basis of the duties which these inspectors would have, and the wage scales in the classified service, salaries would be about \$300.00 per month per man on the average. For 60 men, this amounts to \$216,000 a year to which must be added the state's share of retirement or another \$10,800 a year. This makes total personnel costs \$226,800. It is estimated that additional costs of manning 15 ports would bring the total annual operating budget to approximately \$250,000.

ESTIMATED CONSTRUCTION AND EQUIPMENT COSTS

Construction and equipment costs are in large measure determined by the type of weighing equipment installed in the port. If an automatic type printing scale, capable of weighing the entire truck is installed in the port the scales installed in the pit would cost approximately \$8,500 each. This price is the average of several informal retail quotations received by the committee. It could be expected that there would be some reduction from this price in a large order placed for bids. The type of scale mentioned above is a 60'x10' platform scale which automatically prints the weight of the vehicle as it stops on the platform. The scale will weigh up to 50 tons. It is possible to reduce the price of the weighing equipment by weighing on an axle load basis instead of weighing the entire vehicle. If axle load scales are installed the cost is reduced to approximately \$4500 per unit installed including the cost of the pit.

In addition to the scales, ramps, must be constructed as well as the buildings themselves. If state forces are used for construction it is estimated that a port of entry complete with scales on both sides of the highway, a 400 sq. ft. weigh house and all necessary driveways and ramps can be constructed for approximately \$25,000. This is based on using axle load scales and construction of a simple design port building at an average cost of \$10.00 per sq. ft. This would bring construction cost to approximately \$375,000 at a minimum. While this cost represents a heavy initial outlay, it should be remembered that the cost could be amortized over a number of years.