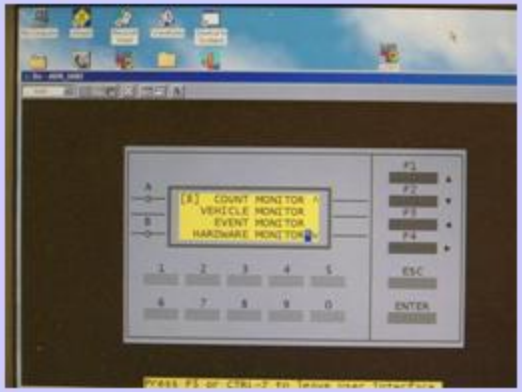
DIVISION OF PLANNING
Traffic and Equipment Management Team

Traffic Count Process

KENTUCKY TRANSPORTATION CABINET

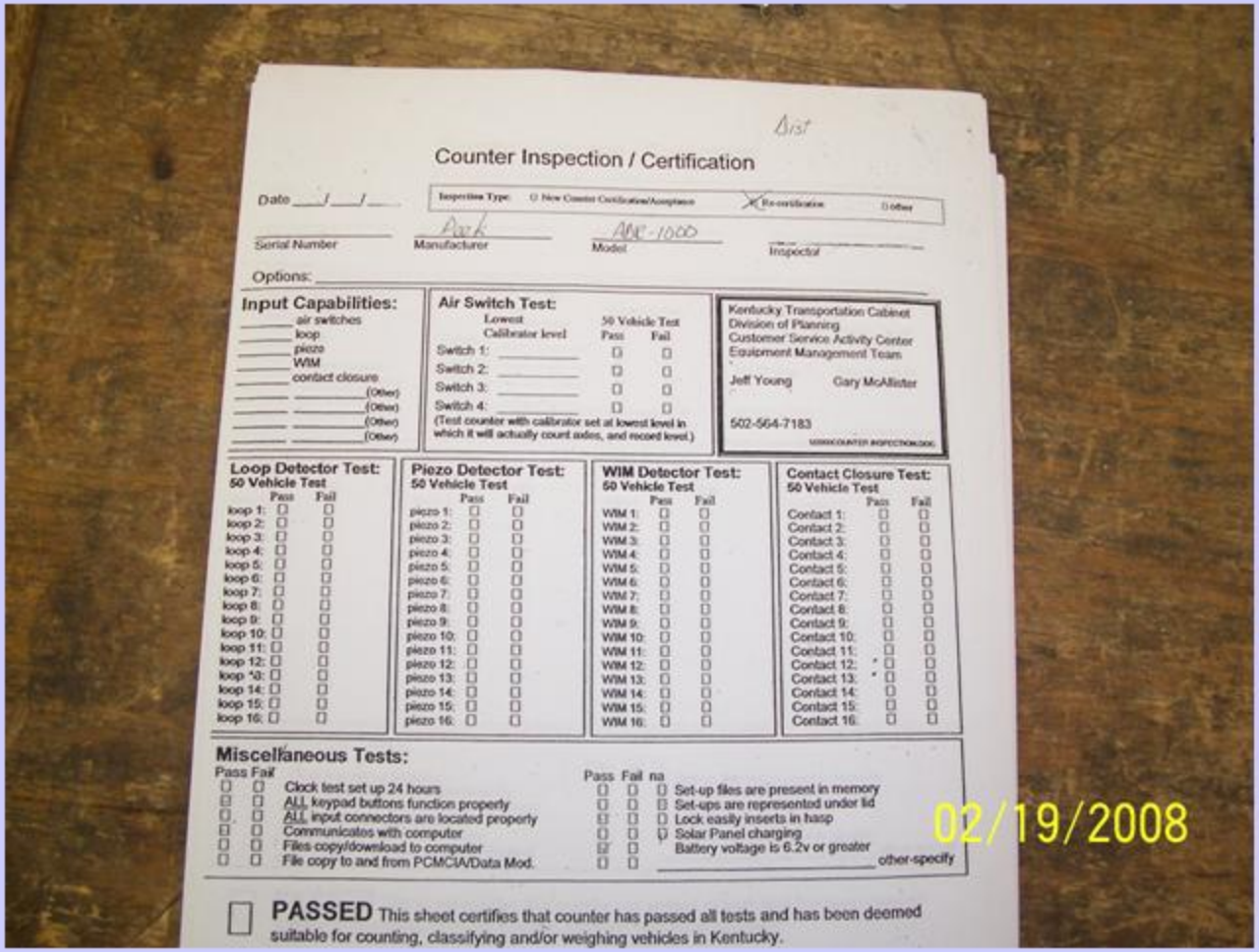
Certification of ADR's

(Automatic Data Recorder)



All ADR's are certified each year to ensure accuracy and functionality as required by FHWA.

Certification of ADR's



Counter Inspection / Certification

Date ___/___/___

Inspection Type: ☐ New Counter Certification/Acceptance ☒ Re-certification ☐ Other

Serial Number | Manufacturer: Peek | Model: ADR-1000 | Inspector

Options: _____

Input Capabilities:

_____ air switches
_____ loop
_____ piezo
_____ WIM
_____ contact closure
_____ _____(Other)
_____ _____(Other)
_____ _____(Other)
_____ _____(Other)

Air Switch Test:

	Lowest Calibrator level	50 Vehicle Test Pass	Fail
Switch 1:	_____	☐	☐
Switch 2:	_____	☐	☐
Switch 3:	_____	☐	☐
Switch 4:	_____	☐	☐

(Test counter with calibrator set at lowest level in which it will actually count axles, and record level.)

Kentucky Transportation Cabinet
Division of Planning
Customer Service Activity Center
Equipment Management Team

Jeff Young Gary McAllister

502-564-7183

Loop Detector Test: 50 Vehicle Test

	Pass	Fail
loop 1:	☐	☐
loop 2:	☐	☐
loop 3:	☐	☐
loop 4:	☐	☐
loop 5:	☐	☐
loop 6:	☐	☐
loop 7:	☐	☐
loop 8:	☐	☐
loop 9:	☐	☐
loop 10:	☐	☐
loop 11:	☐	☐
loop 12:	☐	☐
loop *3:	☐	☐
loop 14:	☐	☐
loop 15:	☐	☐
loop 16:	☐	☐

Piezo Detector Test: 50 Vehicle Test

	Pass	Fail
piezo 1:	☐	☐
piezo 2:	☐	☐
piezo 3:	☐	☐
piezo 4:	☐	☐
piezo 5:	☐	☐
piezo 6:	☐	☐
piezo 7:	☐	☐
piezo 8:	☐	☐
piezo 9:	☐	☐
piezo 10:	☐	☐
piezo 11:	☐	☐
piezo 12:	☐	☐
piezo 13:	☐	☐
piezo 14:	☐	☐
piezo 15:	☐	☐
piezo 16:	☐	☐

WIM Detector Test: 50 Vehicle Test

	Pass	Fail
WIM 1:	☐	☐
WIM 2:	☐	☐
WIM 3:	☐	☐
WIM 4:	☐	☐
WIM 5:	☐	☐
WIM 6:	☐	☐
WIM 7:	☐	☐
WIM 8:	☐	☐
WIM 9:	☐	☐
WIM 10:	☐	☐
WIM 11:	☐	☐
WIM 12:	☐	☐
WIM 13:	☐	☐
WIM 14:	☐	☐
WIM 15:	☐	☐
WIM 16:	☐	☐

Contact Closure Test: 50 Vehicle Test

	Pass	Fail
Contact 1:	☐	☐
Contact 2:	☐	☐
Contact 3:	☐	☐
Contact 4:	☐	☐
Contact 5:	☐	☐
Contact 6:	☐	☐
Contact 7:	☐	☐
Contact 8:	☐	☐
Contact 9:	☐	☐
Contact 10:	☐	☐
Contact 11:	☐	☐
Contact 12:	☐	☐
Contact 13:	☐	☐
Contact 14:	☐	☐
Contact 15:	☐	☐
Contact 16:	☐	☐

Miscellaneous Tests:

Pass	Fail	
☐	☐	Clock test set up 24 hours
☐	☐	ALL keypad buttons function properly
☐	☐	ALL input connectors are located properly
☐	☐	Communicates with computer
☐	☐	Files copy/download to computer
☐	☐	File copy to and from PCMCIA/Data Mod.

Pass	Fail	na	
☐	☐	☐	Set-up files are present in memory
☐	☐	☐	Set-ups are represented under lid
☐	☐	☐	Lock easily inserts in hasp
☐	☐	☐	Solar Panel charging
			Battery voltage is 6.2v or greater

_____ other-specify

☐ **PASSED** This sheet certifies that counter has passed all tests and has been deemed suitable for counting, classifying and/or weighing vehicles in Kentucky.

02/19/2008

KENTUCKY TRANSPORTATION CABINET

DIVISION OF PLANNING

2007 COUNT ASSIGNMENT
Franklin County

Co	Sta ID	Cnt Type	Route	Street Name	Begin MP	Begin MP Description	End MP	End MP Description	Lst Cnt	Lst Cnt Yr
37	H62		US 60		5.172	KY 2817-HAWKEGAN DRIVE	5.62	MEADOW VIEW DRIVE	13439	2006
37	B21		US 60		5.62	MEADOW VIEW DRIVE	6.33	US 127	12788	2004
37	A24	C	US 60		7.131	KY 2271	8.117	BRIDGE STREET	8957	2004
37	A19		US 60		8.556	KY 420 (EAST MAIN)	9.004	KY 1784	15806	2002
37	A91		US 60		9.004	KY 1784	9.338	KY 1669	14668	2002
37	A84	C	US 60		10.667	US 460	11.163	LYONS DRIVE	34016	2004
37	268		US 60		13.308	I 64 INTERCHANGE	15.989	KY 1681	21378	2002
37	520	C	US 127		0	ANDERSON COUNTY LINE	0.787	KY 2820 (GREEN WILSON RD/MILLS	15493	2004
37	A84	C, I	US 127		5.194	KY 676 (EAST WEST CONNECTOR)	5.102	US 60	30310	2006
37	B60	C, L	US 127		6.107	US 60	7.247	KY 1005 (PIERCE LANE)	18799	2004
37	R10	C	US 127		9.09	KY 420 (MERO STREET)	10.11	REILLY ROAD AND FAIR OAKS LN	20069	2006
37	781		US 127		12.66	BLACK OAK DRIVE/KY 898	15.76	KY 1262/STEELE BRANCH ROAD	6201	2002
37	754		US 127		16.774	KY 2919/SWALLOWFIELD ROAD	21.4	OWEN COUNTY LINE	3337	2002
37	R46		US 421		1.583	INDUSTRIAL-CHENAULT ROAD	3.072	US 60 NEAR JETT JUNCTION	11020	2006
37	A61	C, L	US 421		3.86	SCHENKEL LANE	4.523	US 127 (WILKINSON BLVD) JUNCT	23605	2006
37	B61	C	US 421		4.523	US 127 (W FRONT-PLAZA RD) DEPA	6.75	KY 1570	4056	2004
37	751		US 421		11.132	KY 12	16.947	KY 561	1153	2001
37	A62		US 460		0	US 60/US 421	0.459	HIAWATHA TRAIL	19566	2001
37	750		KY 12		0	SHELBY COUNTY LINE	3.405	US 421	382	2002
37	755		KY 12		11.401	POLSGROVE ROAD	12.456	HENRY COUNTY LINE	158	2003
37	006		KY 388		0	SCOTT COUNTY LINE	2.931	KY 1707	331	2002
37	574		KY 420		0	US 127	0.133	LAWRENCEBURG RD/KY 3153	3915	2002
37	A52		KY 420	CAPITOL AVENUE	3.763	CAPITAL AVENUE	4.122	US 60 JUNCTION	6439	2004
37	A33	C	KY 420	MERO STREET	4.381	KY 2261	4.792	US 127 (WILKINSON BLVD)	4875	2004
37	A35		KY 420 N	ANN STREET	4.471	KY 2661 (ANN STREET)	4.29	ANN STREET/WEST MAIN STREET	4939	2004
37	R95		KY 676		0	US 127	0.612	COLLINS LANE	14874	2002
37	A73		KY 676		3.172	KY 1669 (MARTIN L KING BLVD)	5.287	US 60 (VERSAILLES ROAD)	17135	2002
37	556		KY1005		1.624	KY 1665	6.608	HIGHBOG ROAD	1764	2004
37	007		KY1262		6.615	KY 1900	8.527	KY 1707	664	2002
37	541		KY1570		0	US 421	2.927	KY 1665	340	2002
37	A67	C	KY1669		5.358	KY 676	4.086	UK 60	16125	2002
37	826		KY1665		0	LAWRENCEBURG ROAD	2.222	SOUTH BENSON ROAD	6015	2002
37	533		KY1665		5.946	PEA RIDGE ROAD	8.018	KY 1005 JUNCTION	220	2002
37	270		KY1681		0	WOODFORD COUNTY LINE	0.963	US 60 JUNCTION	6213	2002
37	268		KY1689		1.228	LUCAS LANE	3.03	KY 1262	870	2002
37	021		KY1707		0	KY 1262	0.767	KY 2919	932	2002
37	A51		KY1784	OLD GLENNS CREEK RD	0.99	KY 676	2.532	US 60	2148	2004
37	A12		KY2261		0	KY 420	0.162	KY 420 JUNCTION	2526	2004
37	539		KY2615		0	KY 1005	3.65	KY 12	228	2002
37	519		KY2820		0	ANDERSON COUNTY LINE	2.53	US 127 AT FARMDALE	733	2002
37	948		KY2822		0	US 460 (FRANKFORT-STOWN ROAD)	0.716	POWHATAN TRAIL	6017	2004
37	589		KY3163		0	KY 420	0.484	END OF STATE MAINTENANCE	1098	2004
37	944		KY3300		0	ENTR TO WATER FILTRATION PLANT	0.399	KY 1784 (COFFEE TREE ROAD)	189	2002
37	A63		CR1117	INDUSTRIAL CHENAULT RD	0	US 60 (VERSAILLES ROAD)	1.662	US 421 (LEESTOWN ROAD)	2741	2004
37	A74		CS1002	SCHENKEL LANE	1.047	TETON TRAIL	1.227	US 421	11313	2004
37	A57		CS1023	HIAWATHA TRAIL	0.398	PUEBLO TRAIL	0.816	US 60 (E GEORGETOWN ROAD)	1622	2004
37	C28		CS1161	JACKSON DRIVE	0.255	ROLLING ACRES DRIVE	0.274	JOHNSON AVENUE	1338	2004
37	C31		CS1319	SAINT CLAIR S	0.024	WAPPING STREET	0.11	WEST MAIN STREET	4280	2004
37	B27		CS1370	WILKINSON STREET	0.169	WEST MAIN STREET	0.271	WAPPING STREET	3126	2004
37	C57		CS1410	KINGS DAUGHTERS DRIVE	0	DOCTORS DRIVE	0.418	US 127	8388	2006
37	C56		CS1426	DOCTORS DRIVE	0	C MICHAEL DAVENPORT BLVD	0.265	KINGS DAUGHTERS DRIVE	7697	2006
37	C55		CS1429	C MICHAEL DAVENPORT BLV	0	C MICHAEL DAVENPORT BLVD	0.385	DOCTORS DRIVE	6728	2006

Traffic count assignments are distributed each year to the district offices.

KENTUCKY TRANSPORTATION CABINET

DIVISION OF PLANNING

The Division collects various types of traffic data. This data consists mostly of vehicular :

- volume,
- classification,
- speed and
- weights.

TRAFFIC DATA IMPACTS OUR (KY's) FUNDING!!!

Goes into calculating Vehicle Miles Traveled (VMT)

- For **Interstate Maintenance Funding VMT is 1/3** of the factor
- For **National Highway System Funding VMT is 35%** of the factor
- For **Statewide Transportation Plan Funding VMT is 40%** of the factor

Counts are Used for:

- Budgeting
- Capacity analyses
- Economic decisions
- Traffic forecasts and models
- Performance Measures
- Traffic signal design
- Highway and pavement design
- Bridge design
- **Air quality**
- **Federal funding**
- **FHWA reporting**
- Crash analyses
- Safety Studies
- Speed studies
- and many more

Who performs traffic counts?

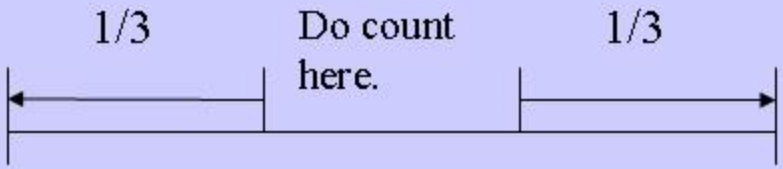
- The Division of Planning - Traffic and Equipment Management Branch
- District Traffic Count Technicians and Consultants

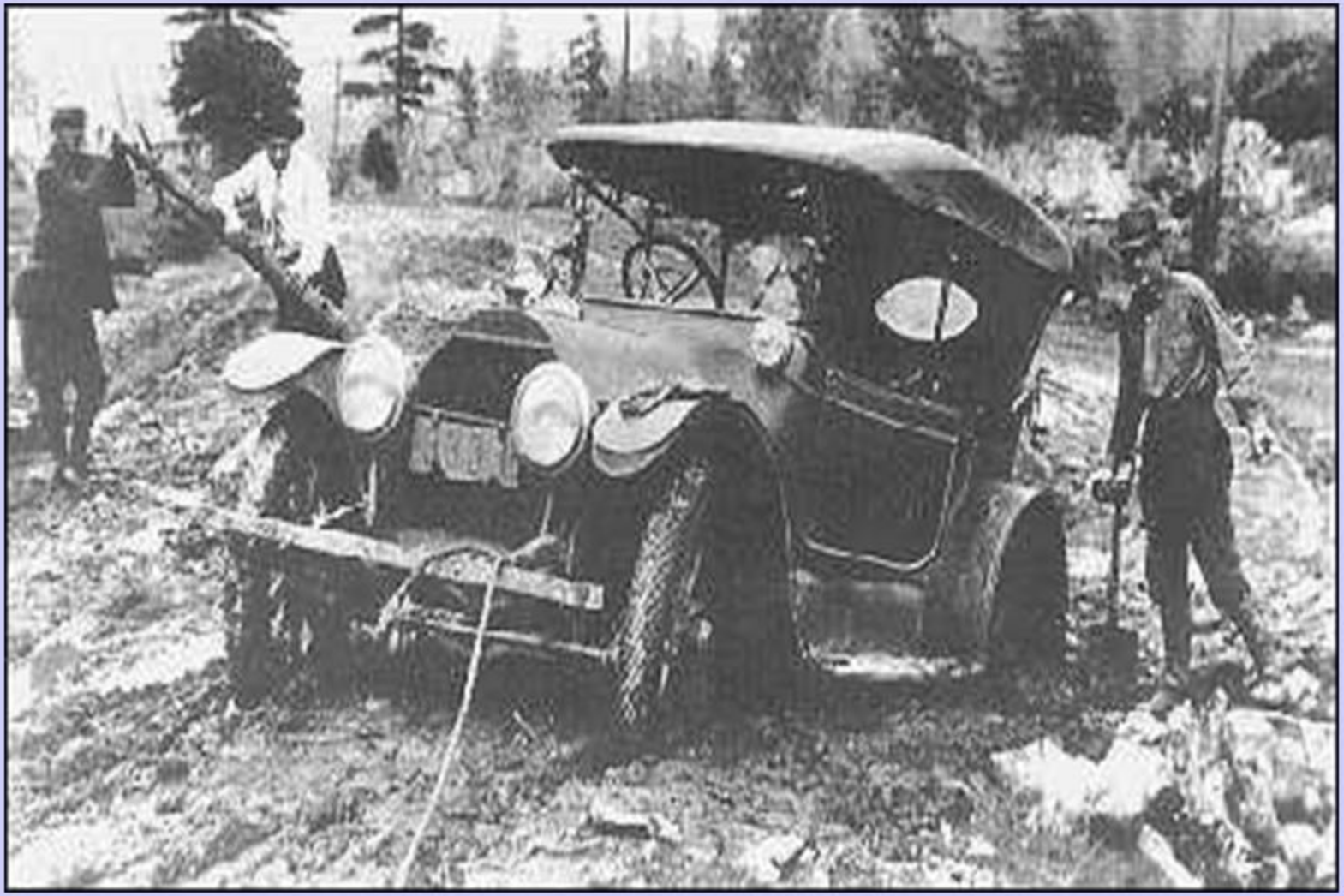
LOCATION, LOCATION, LOCATION

We need the average volume of traffic that travels along the road segment.

LOCATION

- All counts should be taken 1/3 the distance from either end of the count segment.





Bad location for a count

Items used in the installation of a road tube

2-Lane Class Count process

Site selection is important

Secure the loose ends of the road tube with the spikes.

Plug the end of the tubes that do not connect to the ADR with a PK nail.

Drag the rest of the tube across roadway and secure the other end with a spike.
(Watch for traffic, the vehicles can ‘pick-up’ the road tubes.)

Class Counts

Class counts are performed with 2 road tubes parallel to each other. The spacings are important. Speed of the vehicles will determine the spacings.

The road tubes are the same distance apart
on both ends of the tubes

Adjust the tension on the tubes so they do not 'roll or flop'.

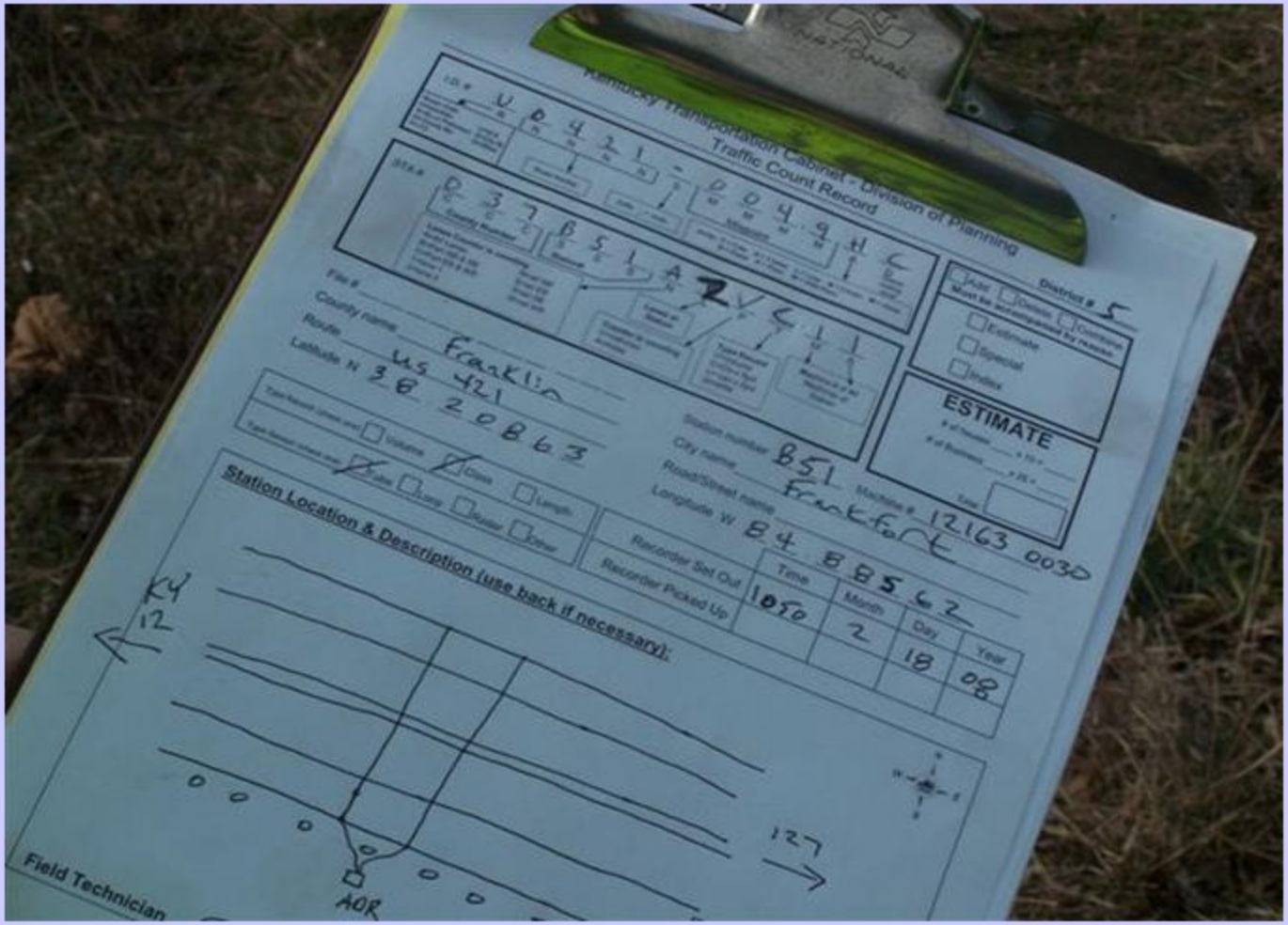
For a class count, the tubes need to be the same length from the edge of the pavement.

Roll up excess tubes.

Install ‘Seal tape’ to help secure tubes

KENTUCKY TRANSPORTATION CABINET

Plug in the tubes in the correct inputs on the ADR. (This is where the ‘Red’ caps (air switch covers) need to be saved)



Fill out the Traffic count record.

Setup the ADR and have it armed to start recording.

Verify the ADR is counting/classifying correctly.

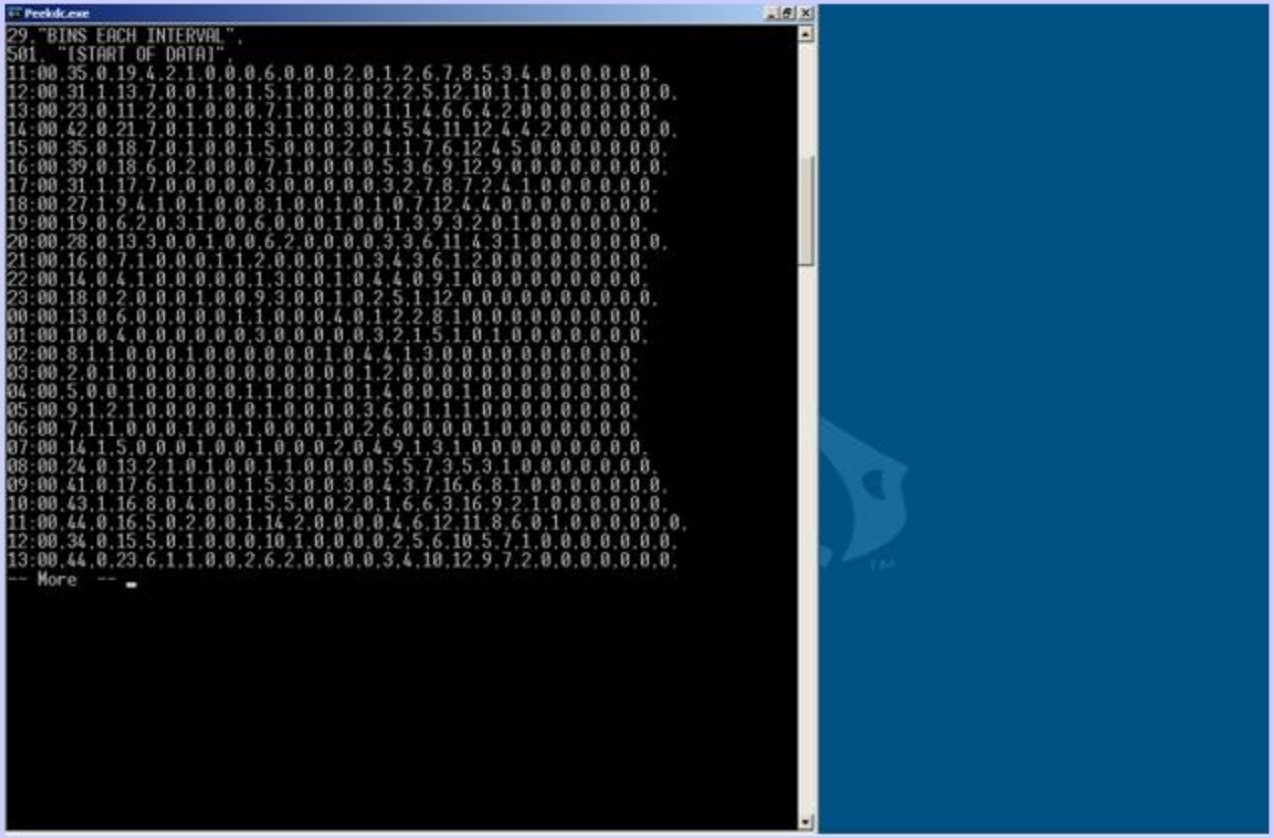
Get in vehicle and go to next station to be counted.

Check on your counts when you can to ensure that everything is still working.

After 48 hours it is time to pick up counts.

Verify the ADR is counting/classifying correctly.

Leave sensors in the roadway and disarm the ADR. Download the data using Peek Data Collector. Verify there is enough good data to submit.
48 hours minimum.



```
1 +++++ Counts Accepted w/Comments +++++
005093K0047013.8 1433 1595 2004 -3.4 0.92 0.95
ADT based on First 24 hours.
COMMENT:  47 hour count
1 +++++ Counts Accepted w/Comments +++++
C57037S1419000.1 7384 0 0 0 0.92 0.95
No Last Actual Count Found is CTS
COMMENT:  count is good
1 +++++ Counts Accepted w/Comments +++++
C56037S1426000.1 6472 0 0 0 0.92 0.95
No Last Actual Count Found is CTS
COMMENT:  count is good
1 +++++ Counts Accepted w/Comments +++++
C55037S1429000.1 4433 0 0 0 0.92 0.95
No Last Actual Count Found is CTS
COMMENT:  count is good
1 +++++ Counts Accepted w/Comments +++++
852037U0060005.3 11632 13435 2006 -13.4 0.92 0.95
ADT difference is Outside Limit of 10%.
COMMENT:  New location, I believe it will go up when school is in session
1 +++++ Counts Accepted w/Comments +++++
755037K0012012.0 68 159 2003 -14.2 0.92 0.95
ADT difference is Outside Limit of 10%.
COMMENT:  This is a very rural route, school, crops, and time of year could affect this station.
1 +++++ Counts Accepted w/Comments +++++
754037U0127018.9 3060 3332 2002 -1.6 0.92 0.95
ADT based on First 24 hours.
COMMENT:  47 hour count
1 +++++ Counts Accepted w/Comments +++++
520037U0127000.1 14259 15493 2004 -2.7 1 0.95
ZERO count during PEAK hours found on Day 10 in Lane 2-2
ZERO count during PEAK hours found on Day 10 in Lane 4-4
ZERO count during PEAK hours found on Day 11 in Lane 2 2
DAYS counted exceeds SEVEN.  Remaining days ignored.
ADT based on First 24 hours.
Consecutive ZERO counts Found!
COMMENT:  Count looks good to me
1 +++++ Counts Accepted w/Comments +++++
519037K2820001.8 1930 733 2002 32.7 0.92 0.95
ADT difference is outside Limit of 10%.
COMMENT:  New location, I expected this count to go high, count looks good
1 +++++ Counts Accepted w/Comments +++++
007037K1262007.4 471 664 2002 -5.8 0.92 0.95
ADT based on First 24 hours.
COMMENT:  47 hour count
2 +++++ Counts Accepted +++++
823037K0676000.3 17416 14874 2002 3.4 0.92 0.95
2 +++++ Counts Accepted +++++
823037K0676000.3 17416 14874 2002 3.4 0.92 0.95
2 +++++ Counts Accepted +++++
821037U0060006.1 12696 12785 2004 -0.2 0.92 0.95
2 +++++ Counts Accepted +++++
751037U0421012.3 1030 1153 2001 -1.8 0.92 0.95
2 +++++ Counts Accepted +++++
750037K0012002.4 375 382 2002 -0.4 0.92 0.95
2 +++++ Counts Accepted +++++
583037K3163000.1 894 1096 2004 -6.1 0.92 0.95
2 +++++ Counts Accepted +++++
574037K0420000.1 3838 3919 2002 -0.4 0.92 0.95
2 +++++ Counts Accepted +++++
539037K2815000.8 232 229 2002 0.3 0.92 0.95
2 +++++ Counts Accepted +++++
533037K1665006.4 334 229 2002 9.2 0.92 0.95
2 +++++ Counts Accepted +++++
526037K1665000.5 3896 6015 2002 -7 0.92 0.95
2 +++++ Counts Accepted +++++
258037K1689002.1 733 879 2002 -3.3 0.92 0.95
2 +++++ Counts Accepted +++++
021037K1707000.1 460 532 2002 -2.7 0.92 0.95
2 +++++ Counts Accepted +++++
006037K0368001.5 364 331 2002 2 0.92 0.95
```


When the data is Ok, take to your office for validation.

KENTUCKY TRANSPORTATION CABINET

From: Vernon, Jim (KYTC-D05)
Sent: Friday, July 13, 2007 8:54 AM
To: Watson, Debbie (KYTC)
Cc: Bond, Mary A (KYTC-D05)
Subject: Traffic Counts D5

Attachments: CAP_20070713.txt; 2007 Completed Counts.xls; G1000121.L00; F2600051.L00; G0900001.L00; G0900011.L00; G0900021.L00; G0900031.L00; G0900041.L00; G0900051.L00; G0900061.L00; G0900071.L00; G0900081.L00; G1000001.L00; G1000011.L00; G1000021.L00; G1000031.L00; G1000041.L00; G1000051.L00; G1000061.L00; G1000071.L00; G1000081.L00; G1000091.L00; G1000101.L00; G1000111.L00

Following are the completed traffic counts for week ending 7-13-07

CAP_20070713.txt (0 KB)

2007 Completed Counts.xls (37 ...

G1000121.L00 (4 KB) F2600051.L00 (4 KB) G0900001.L00 (4 KB) G0900011.L00 (4 KB) G0900021.L00 (4 KB) G0900031.L00 (4 KB)

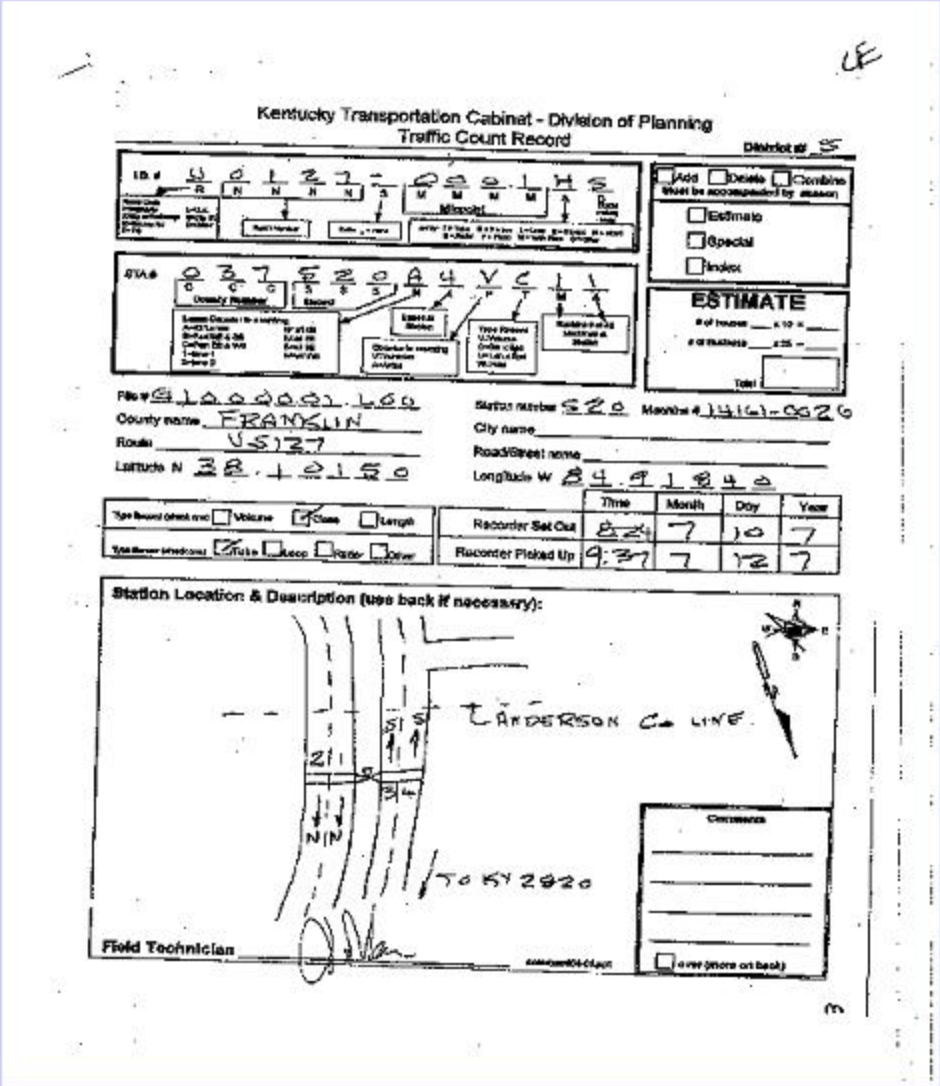
G0900041.L00 (4 KB) G0900051.L00 (4 KB) G0900061.L00 (4 KB) G0900071.L00 (4 KB) G0900081.L00 (4 KB) G1000001.L00 (9 KB)

G1000011.L00 (4 KB) G1000021.L00 (4 KB) G1000031.L00 (4 KB) G1000041.L00 (4 KB) G1000051.L00 (4 KB) G1000061.L00 (4 KB)

G1000071.L00 (4 KB) G1000081.L00 (4 KB) G1000091.L00 (4 KB) G1000101.L00 (4 KB) G1000111.L00 (4 KB)

All files and validation list
are sent to Central Office by E-mail.

KENTUCKY TRANSPORTATION CABINET



Kentucky Transportation Cabinet - Division of Planning
Traffic Count Record

District # 5

ESTIMATE

County name FRANKLIN
Route US127
Latitude N 38.12150
City name
Road/Street name
Longitude W 84.91840

	Time	Month	Day	Year
Recorder Set Out	8:24	7	10	7
Recorder Picked Up	9:37	7	12	7

Station Location & Description (use back if necessary):

ANDERSON Co LINE

TO KY 2920

Field Technician

Make sure you have a count card with each ADR.

Count cards are sent with the scan and e-mail function on your copiers.

Central Office processes traffic count data received from the District Offices

KENTUCKY TRANSPORTATION CABINET-DEPARTMENT OF HIGHWAYS
DIVISION OF TRANSPORTATION PLANNING

PORTABLE TRAFFIC RECORDER REPORT

ROUTE: US0127 FRANKLIN COUNTY STATION 520

WEEK OF JULY 10 TO JULY 16 2007

DATE:	10	11	12	13	14	15	16	
DAY:	TUE	WED	THU	FRI	SAT	SUN	MON	TOTALS
12- 1 AM		130	148					278
1- 2 AM		77	82					159
2- 3 AM		51	62					113
3- 4 AM		60	62					122
4- 5 AM		110	116					226
5- 6 AM		315	339					654
6- 7 AM		837	942					1779
7- 8 AM		1572	1616					3188
8- 9 AM		945	995					1940
9-10 AM	741	746						1487
10-11 AM	754	728						1482
11-12 AM	745	811						1556
12- 1 PM	806	815						1621
1- 2 PM	861	888						1749
2- 3 PM	903	938						1841
3- 4 PM	1128	1184						2312
4- 5 PM	1557	1662						3219
5- 6 PM	1301	1378						2679
6- 7 PM	880	984						1864
7- 8 PM	660	662						1322
8- 9 PM	577	611						1188
9-10 PM	452	528						980
10-11 PM	322	342						664
11-12 PM	240	251						491
TOTALS:	11927	16620	4362					32909

AVERAGE DAILY TRAFFIC: 15960

MONTHLY FACTOR: 97
AXLE FACTOR : 100
TOTAL HOURS : 48
AM HIGH HOUR: 1616 BETWEEN 7- 8 AM ON THURSDAY
PM HIGH HOUR: 1662 BETWEEN 4- 5 PM ON WEDNESDAY

MILE POINT : 0.1
COUNTED BY : DIST 5
DATA SOURCE : CLASS
ARRAY : 2 TUBES
LANES COUNTED: ALL LANES

2 day hourly traffic count data

Kentucky Traffic Counts

Route: US 127 **Street:**

From MP: 0.000 **At:** ANDERSON COUNTY LINE
To MP: 0.787 **At:** KY 2620 (GREEN WILSON RD/MILLS

Station ID: 520 **Station Cnty:** FRANKLIN
Station Type: Rest Areas(RtSuffix=RA) & Rampe(RtSuffix=RP)
Functional Class: RURAL - Principal Arterial

District: 5
County: FRANKLIN
City:

Last Actual Count: 15,960 in 2007

New Road Year:
Impact Year:

Year	Count	Type
2007	16,000	Actual Count
2006	16,000	Computer Estimate
2005		
2004	15,500	Actual Count
2003		
2002		
2001	15,100	Actual Count
2000		
1999		
1998	14,600	Actual Count
1997		
1996		
1995	13,400	Actual Count
1994		
1993		
1992	10,200	Actual Count
1991		
1990		
1989		
1988	7,000	Actual Count
1987		
1986		
1985	6,240	Actual Count
1984	5,800	Actual Count
1983	6,840	Actual Count
1982	5,040	Actual Count
1981	5,330	Actual Count
1980		
1979	5,340	Actual Count
1978		
1977	4,900	Actual Count
1976		
1975	4,010	Actual Count
1974		
1973		
1972		
1971	3,170	Actual Count
1970	2,770	Actual Count
1969		
1968		
1967		

Last Updated: 12/03/2007

CTS

KENTUCKY TRANSPORTATION CABINET

Typical Traffic Count Map

http://www.planning.kytc.ky.gov/maps.asp

Traffic Count Information

County Name	Route	Begin MP	End MP	Current ADT	Source of Current	Last Actual ADT	Year of Count	End Point	Traffic Station	Station Type
FRANKLIN	US 127	0	.787	16,000	2 Day Count	15,960	2007	KY 2820 (GREEN WILSO	037520	Classification
FRANKLIN	US 127	.787	2.224	19,500	Computer Estimate	19,072	2005	KY 1665 (EVERGREEN R	037505	Coverage
FRANKLIN	US 127	2.224	3.691	19,800	Computer Estimate	18,735	2006	KY 420 (OLD LAWRENCE	037565	Coverage
FRANKLIN	US 127	3.691	4.425	26,500	Computer Estimate	25,444	2005	I 64 INTERCHANGE	037554	Coverage
FRANKLIN	US 127	4.425	5.194	28,600	Computer Estimate	25,911	2006	KY 676 (EAST WEST CO	037B68	Classification
FRANKLIN	US 127	5.194	6.102	31,100	2 Day Count	31,051	2007	US 60	037A84	Coverage
FRANKLIN	US 127	6.102	7.247	23,300	Computer Estimate	18,799	2004	KY 1005 (PIERCE LANE	037B60	Classification
FRANKLIN	US 127	7.247	8.542	17,100	Computer Estimate	16,868	2006	US 421 (BALD KNOB RD	037A37	Coverage
FRANKLIN	US 127	8.542	9.03	23,300	Computer Estimate	22,824	2005	KY 420 (MERO STREET)	037C26	Coverage
FRANKLIN	US 127	9.03	10.11	18,700	2 Day Count	18,654	2007	REILLY ROAD AND FAIR	037B16	Classification

HIS information on Internet

Permanent Automatic Traffic Recorders, (ATR's) are polled each day
through modems to a computer in the Central Office. ATR data is processed for monthly FHWA reports.