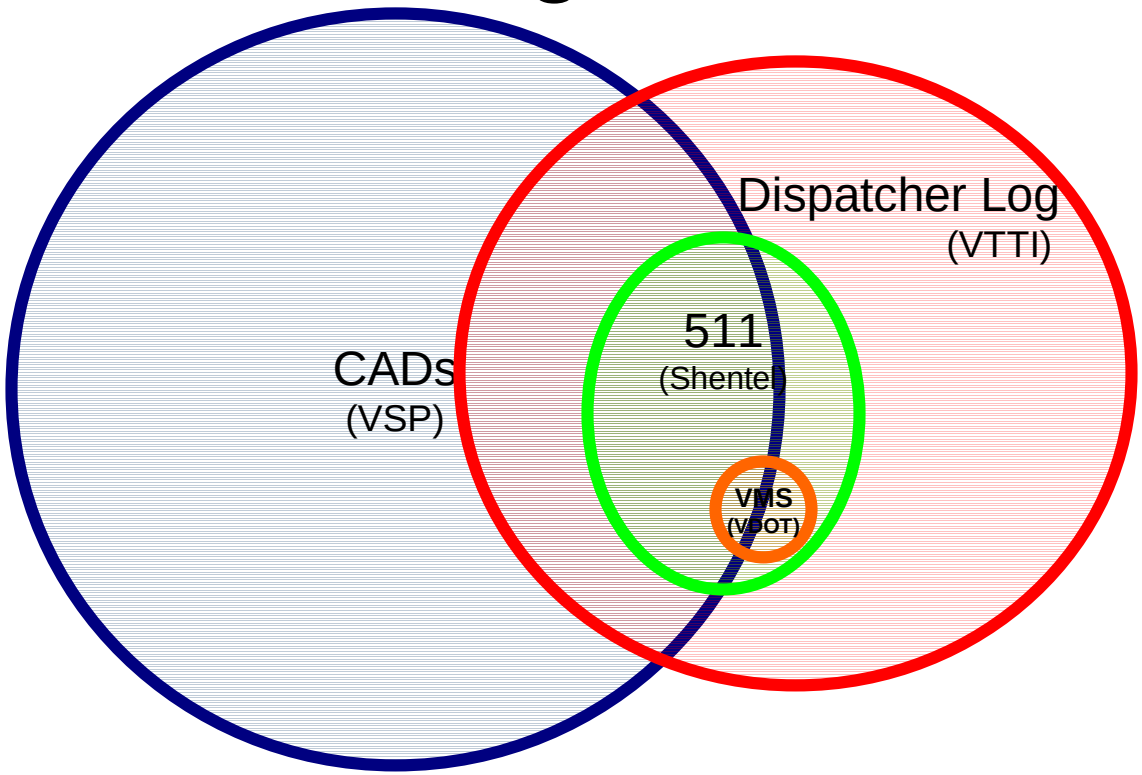
I-81 Framework: Data Analysis for Staunton District

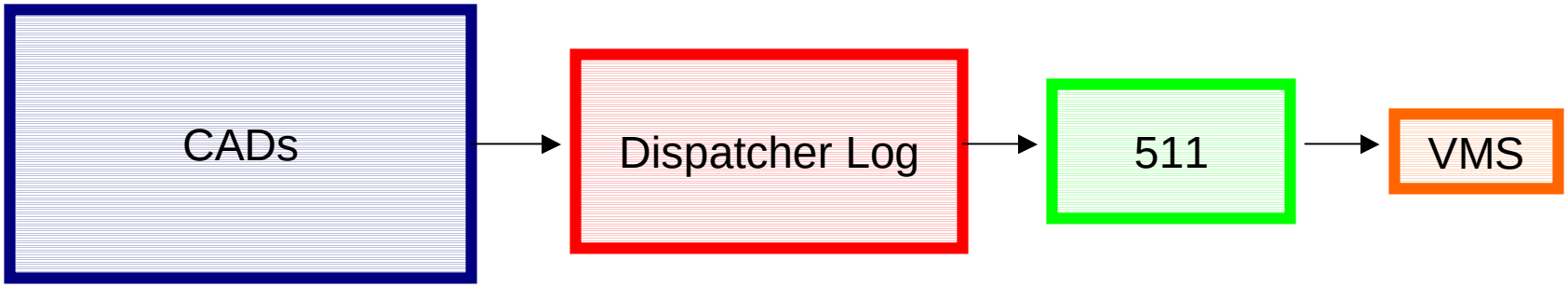
Compiled by Virginia Tech Transportation Institute

Background Information

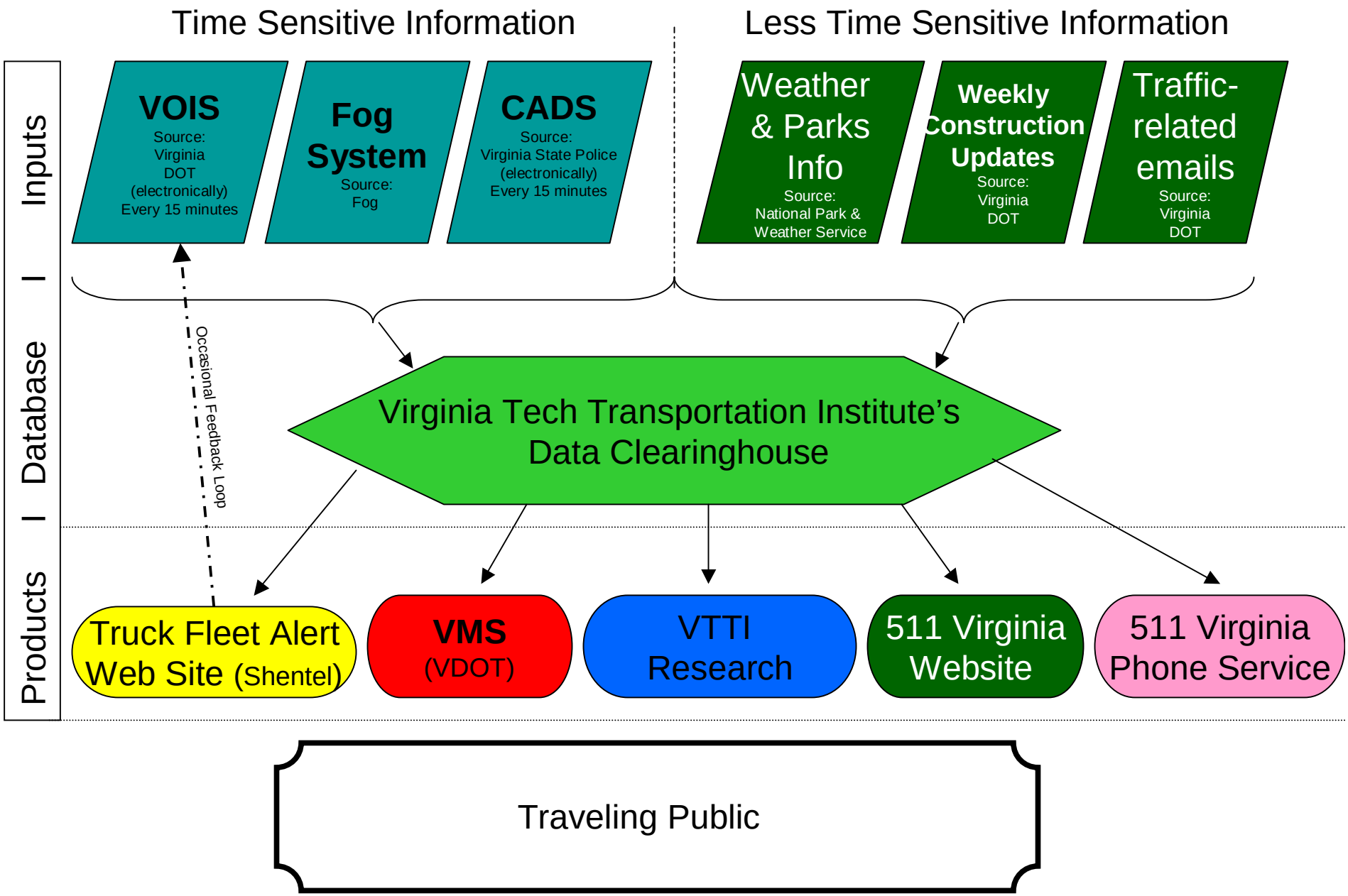
VTTI's Data Clearinghouse

Source Relationships of Clearinghouse Data





How the Data Flows in the IOC


Time Sensitive Information
Less Time Sensitive Information
Inputs
Database
Products
VOIS
Source: Virginia DOT (electronically) Every 15 minutes
Fog System
Source: Fog
CADS
Source: Virginia State Police (electronically) Every 15 minutes
Weather & Parks Info
Source: National Park & Weather Service
Weekly Construction Updates
Source: Virginia DOT
Traffic-related emails
Source: Virginia DOT
Occasional Feedback Loop
Virginia Tech Transportation Institute's Data Clearinghouse
Truck Fleet Alert Web Site (Shentel)
VMS (VDOT)
VTTI Research
511 Virginia Website
511 Virginia Phone Service
Traveling Public

Information Derived from the Dispatcher Log

Virginia Tech Transportation Institute

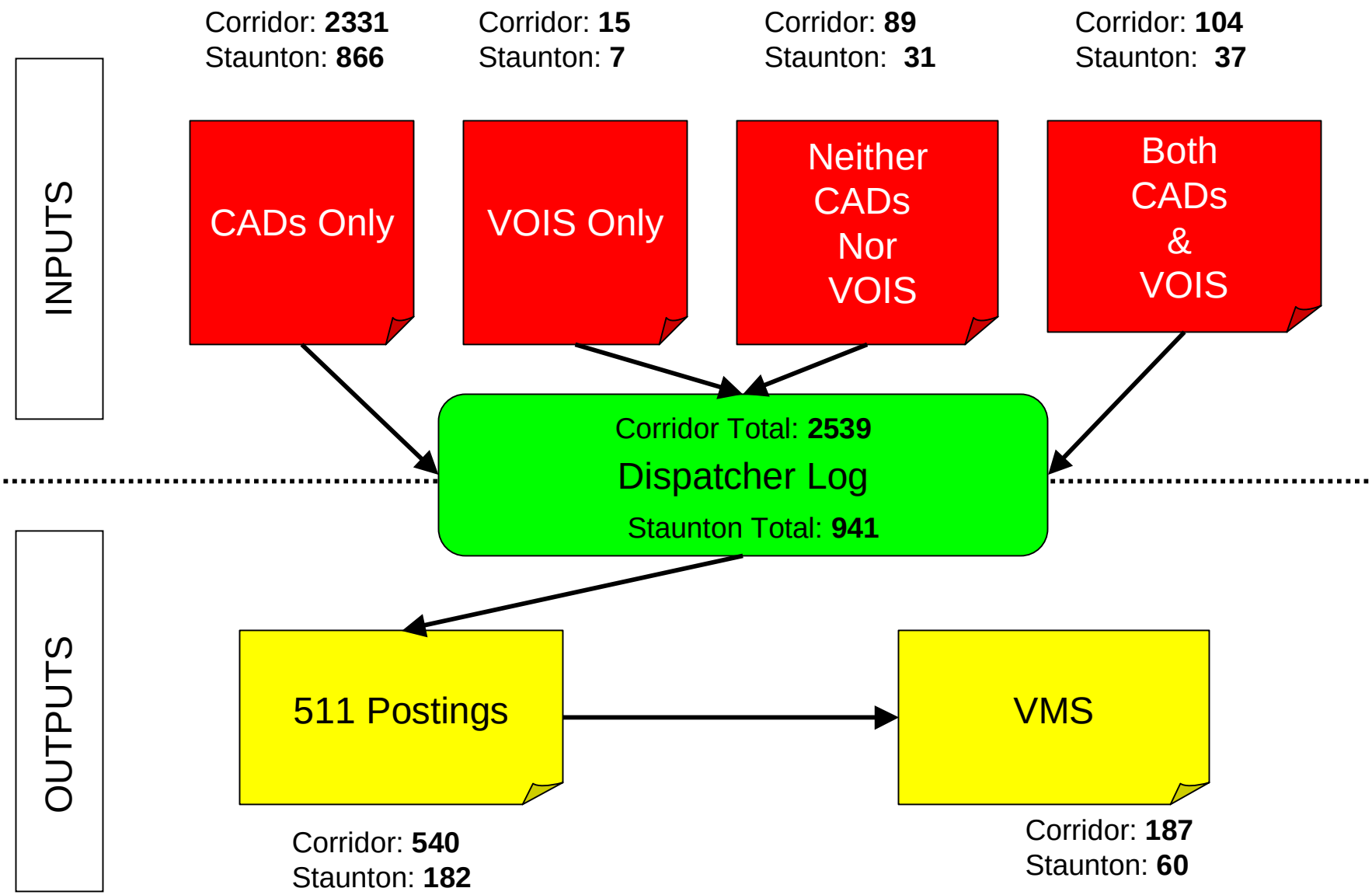
Total Events Reported on 511 in April – June 2003

(All Districts)

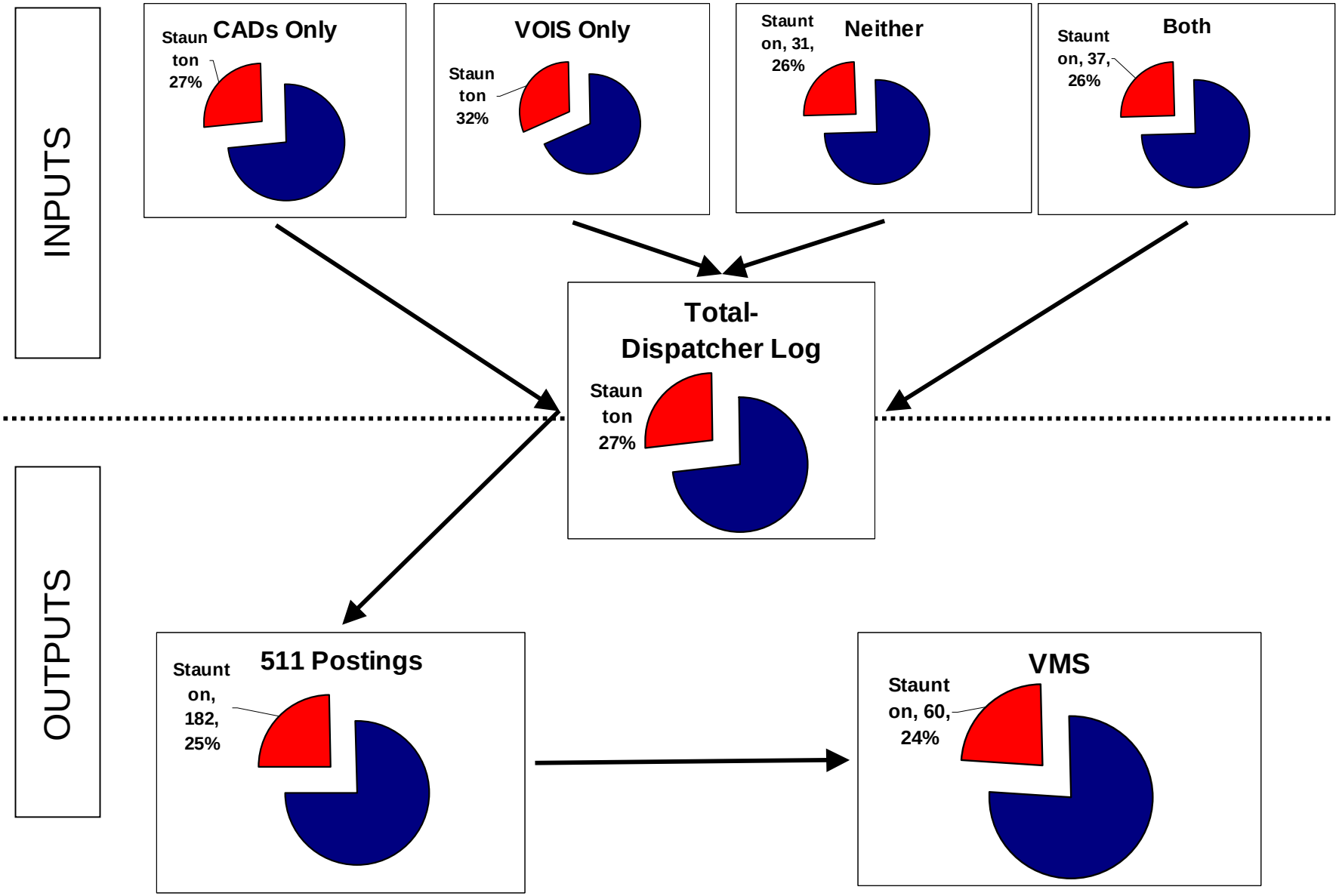
540

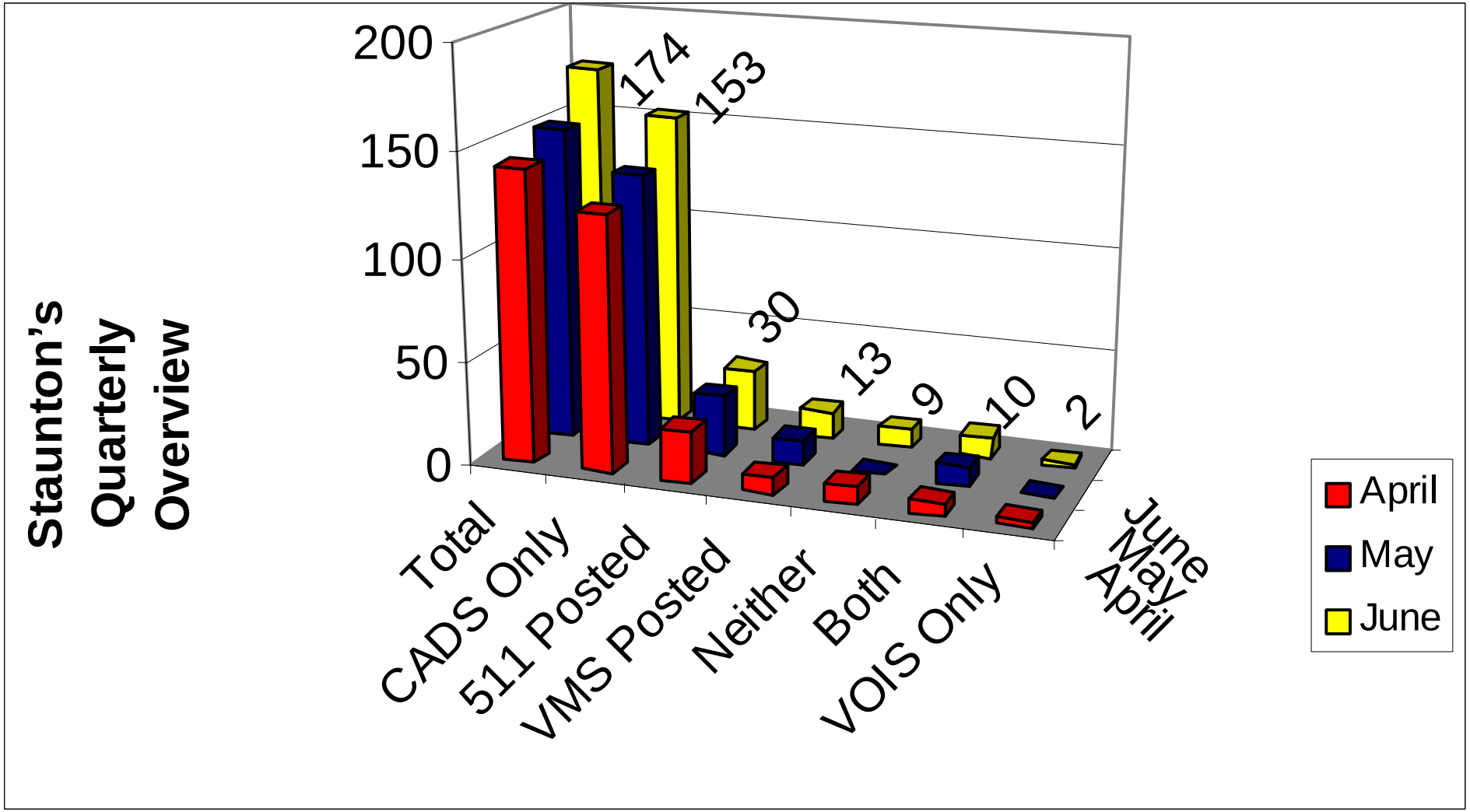
- Total Events Reported in CADS: 2,539
- 322 CADS Events posted to 511
- Percentage CADs events posted to 511: 12.7%
- 0 Reports from VOIS reported on 511
- 187 VMS Signs posted during this period

April – June 2003 Clearinghouse Events



April - June 2003 Clearinghouse Events

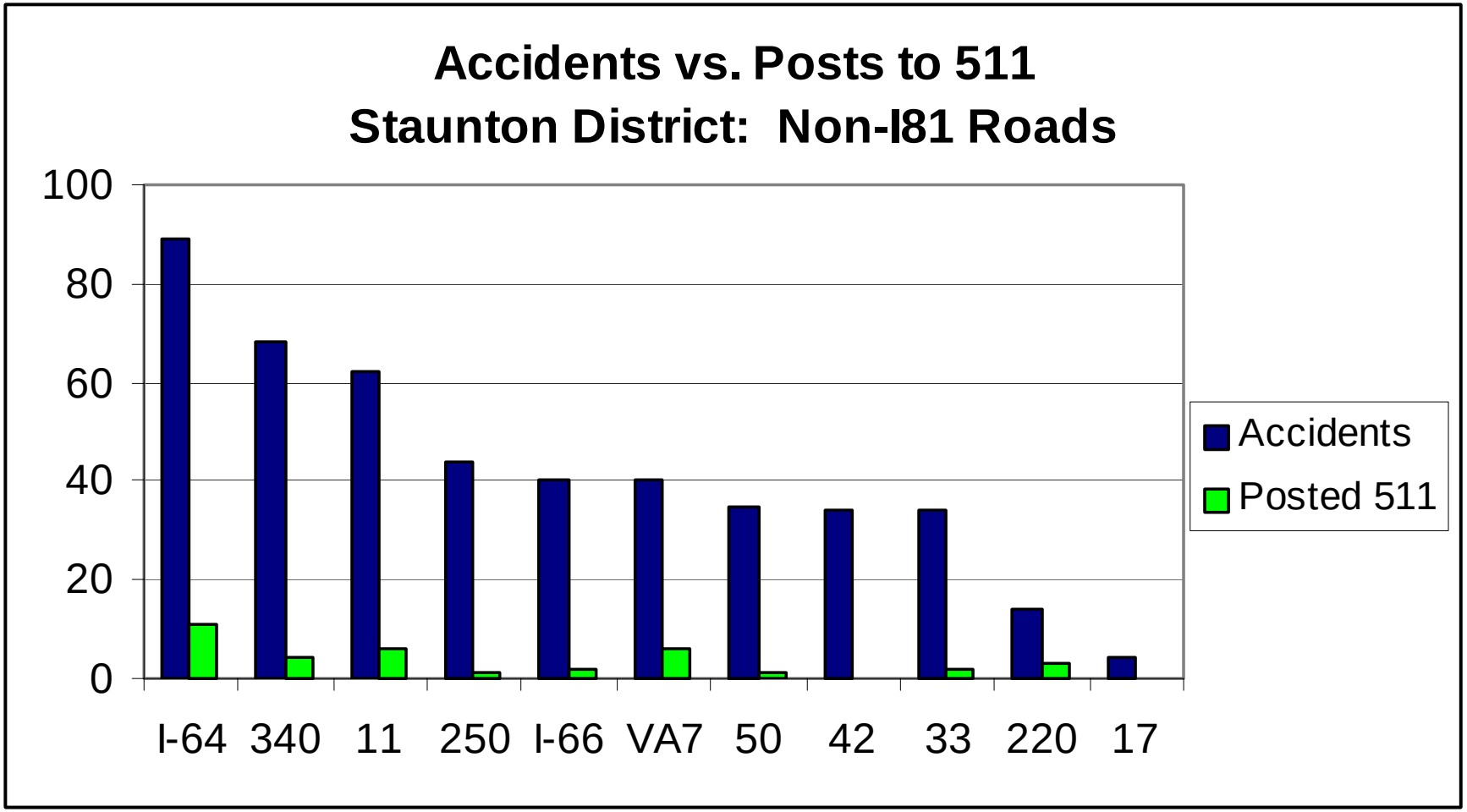


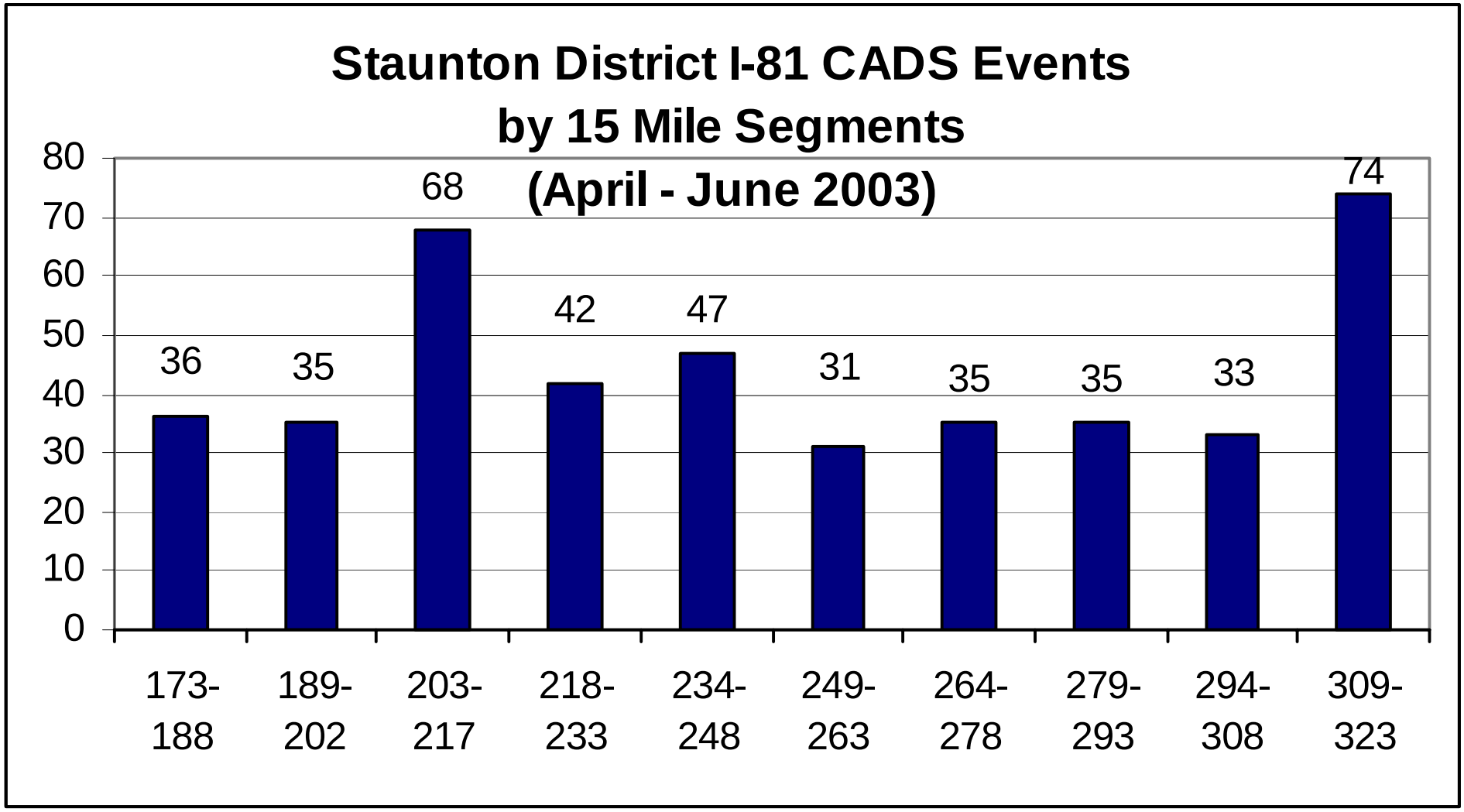

Staunton's Quarterly Overview
200
150
100
50
0
174
153
30
13
9
10
2
Total
CADS Only
511 Posted
VMS Posted
Neither
Both
VOIS Only
June
May
April
April
May
June

Information by Mile Marker

(Source: Dispatcher Log)

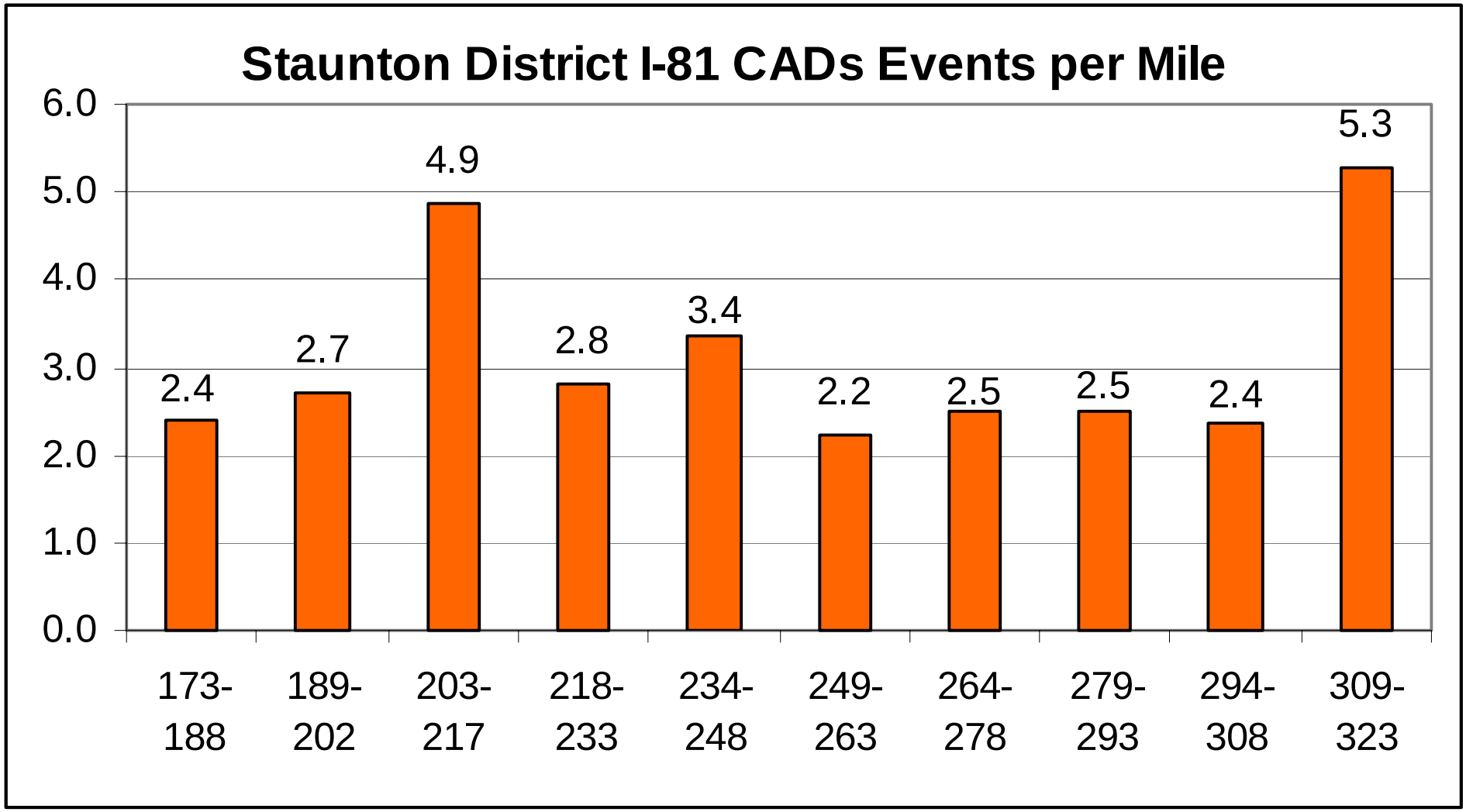
April – June 2003
Staunton's Non-I-81Events




Staunton District I-81 CADS Events
by 15 Mile Segments
(April - June 2003)
80
70
60
50
40
30
20
10
0
36
35
68
42
47
31
35
35
33
74
173-188
189-202
203-217
218-233
234-248
249-263
264-278
279-293
294-308
309-323

Accidents per Mile

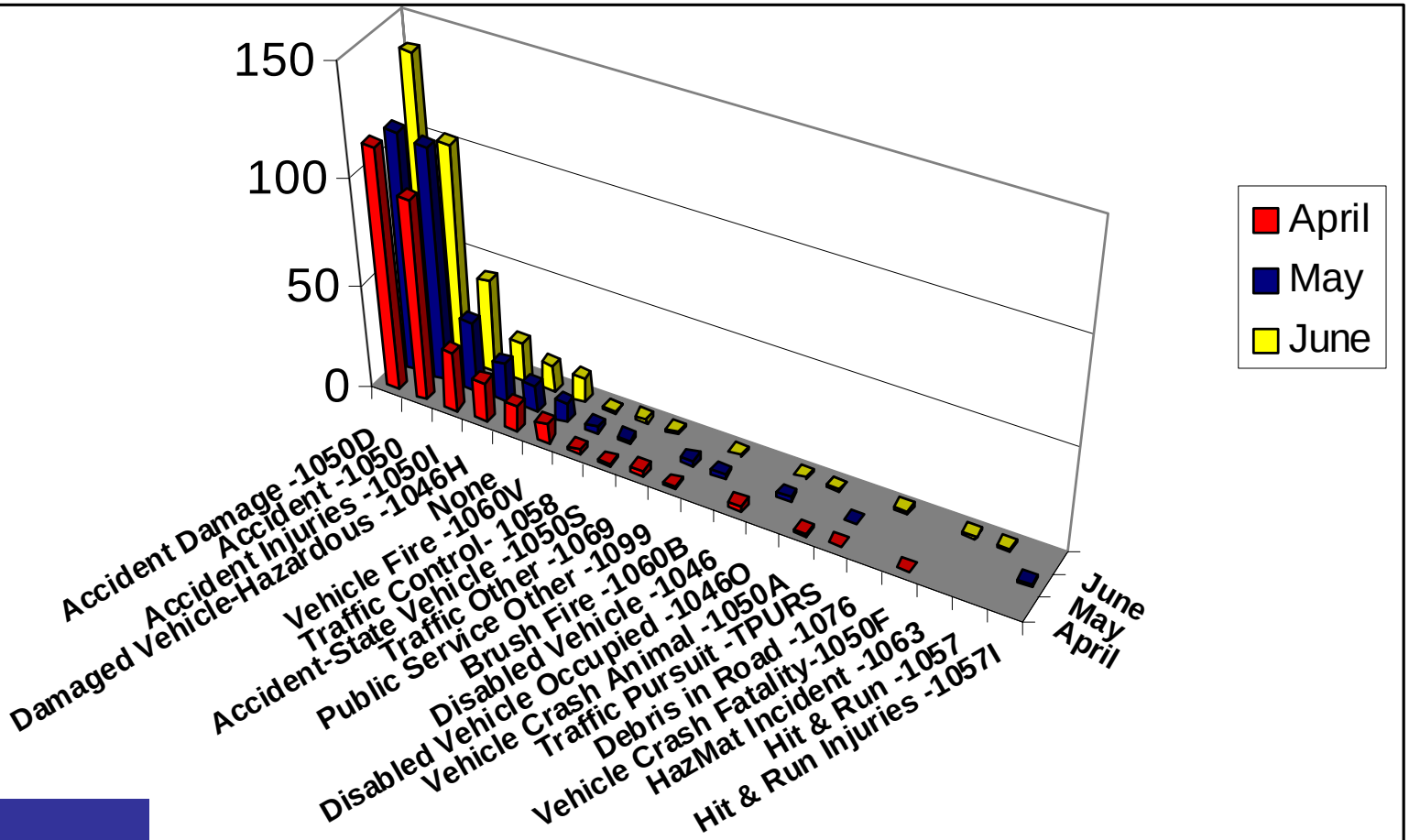
April – June 2003



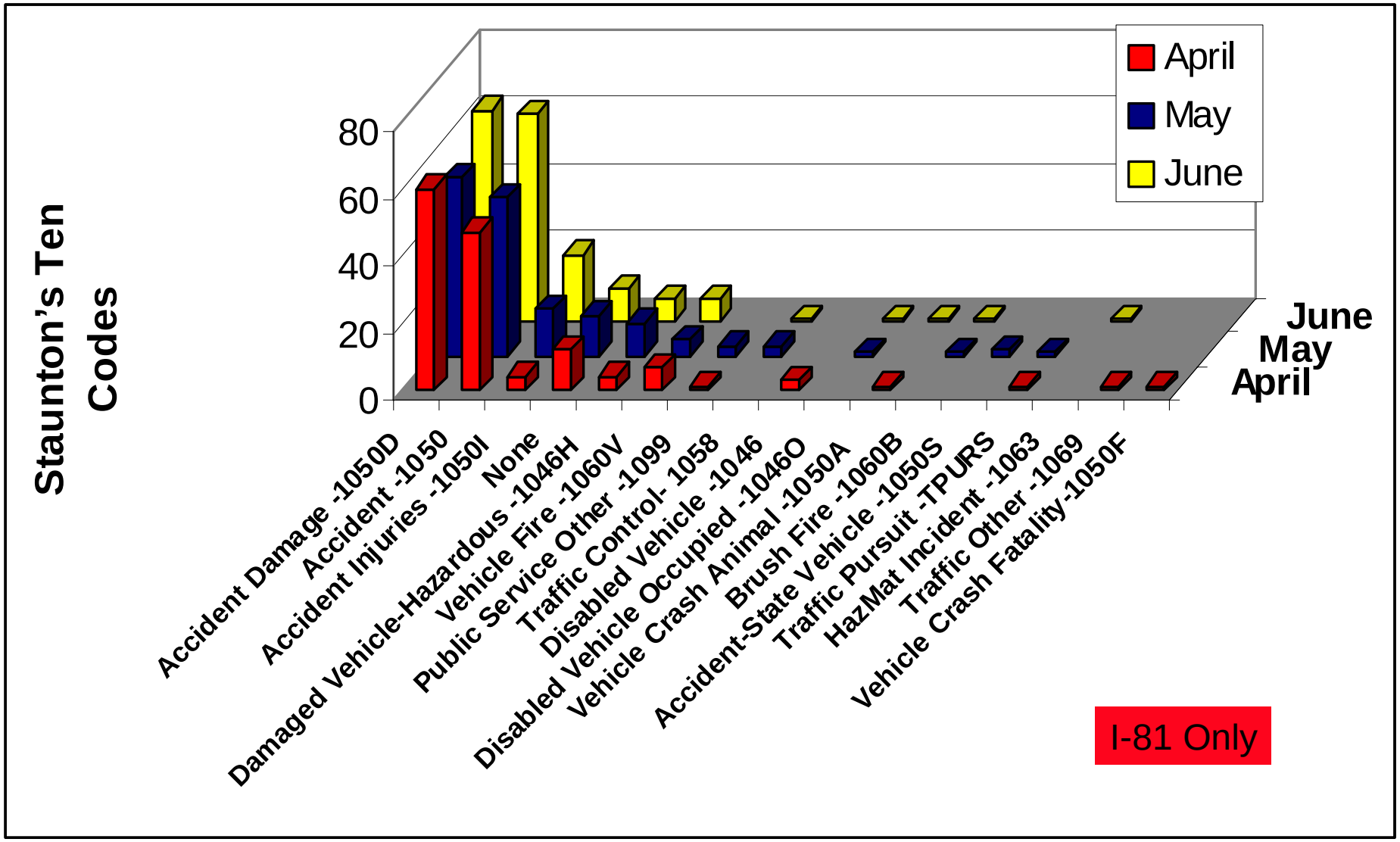
Information by Type

(Source: Dispatcher Log)

Ten Codes
April - June
2003

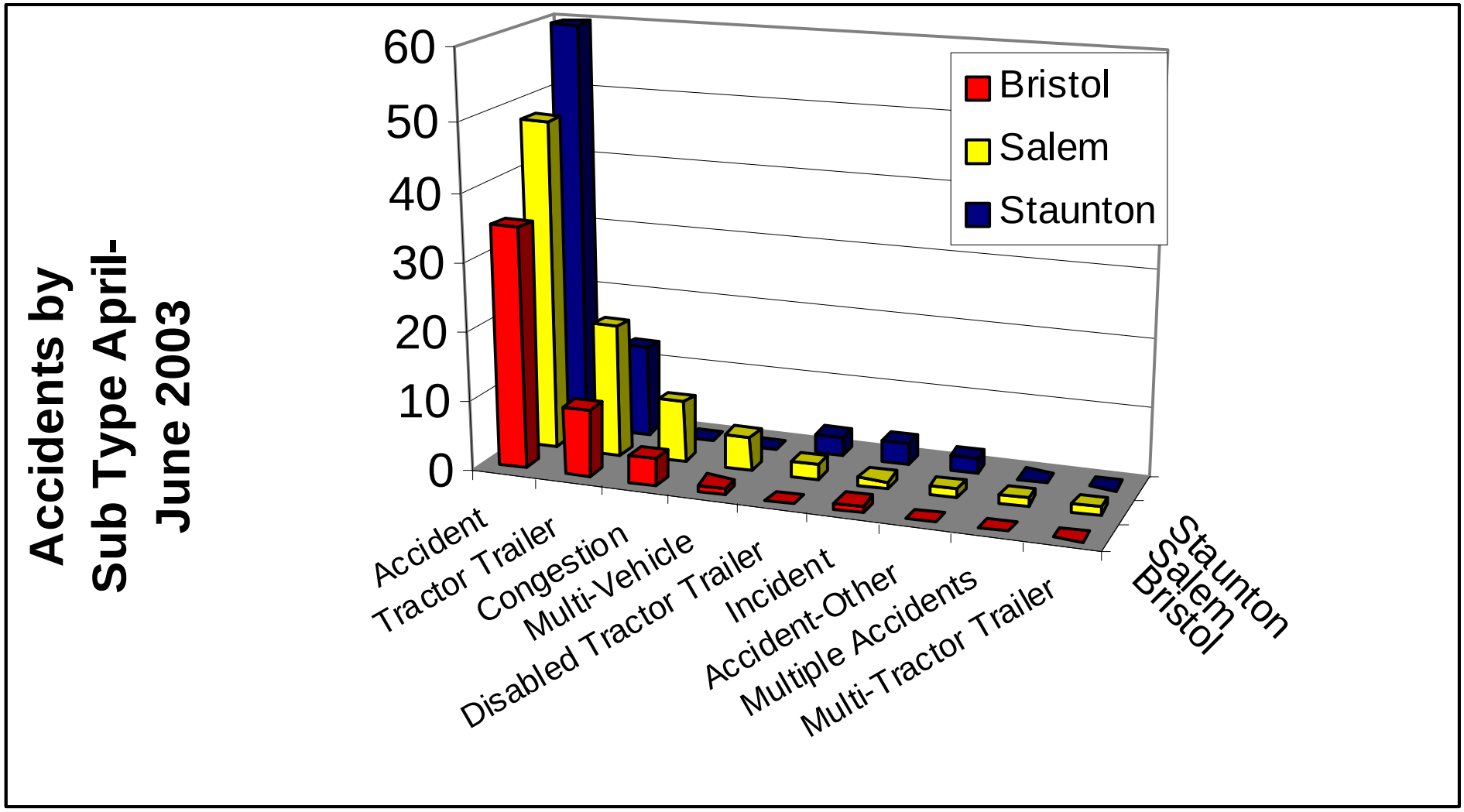


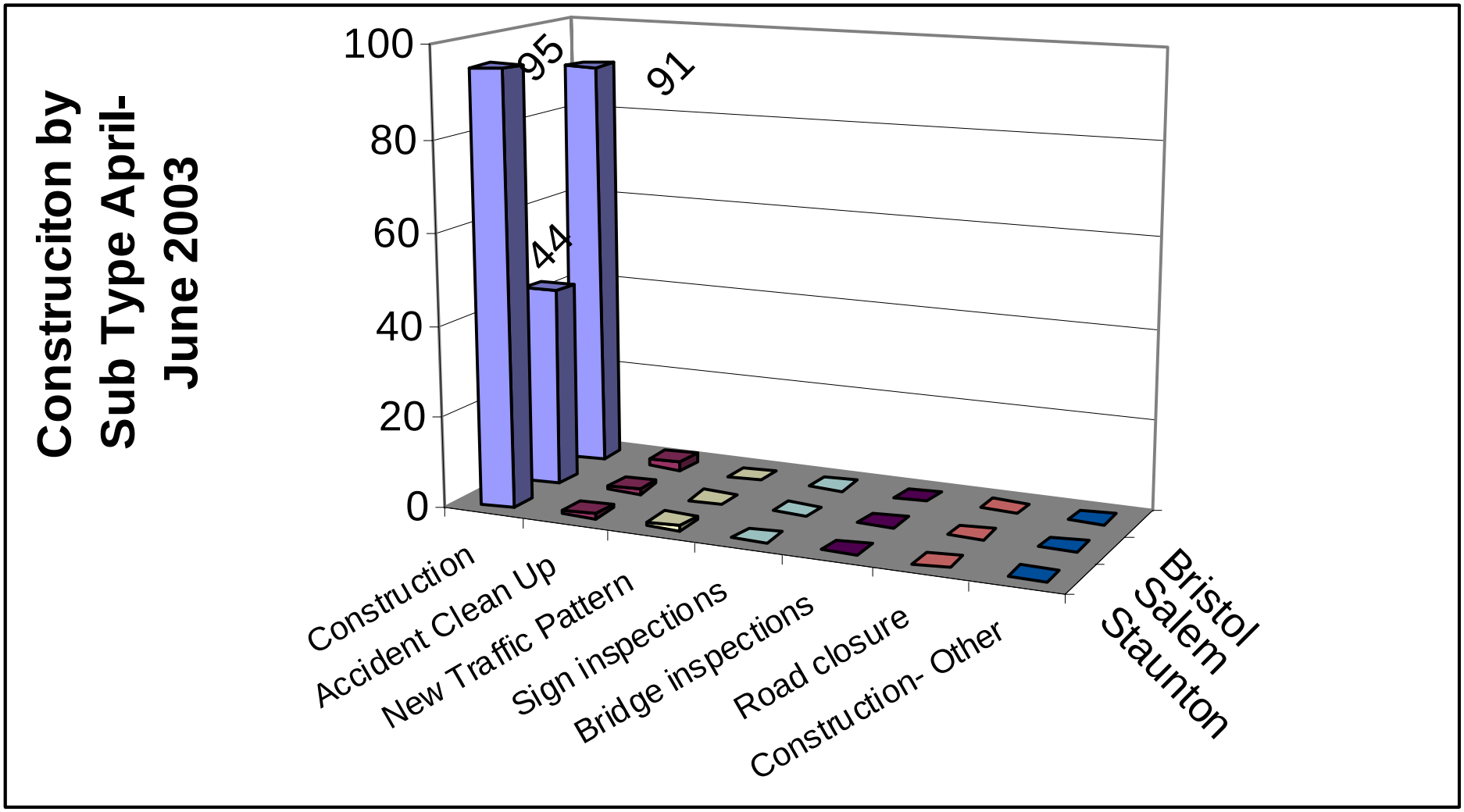
All Roads-
Staunton District Only

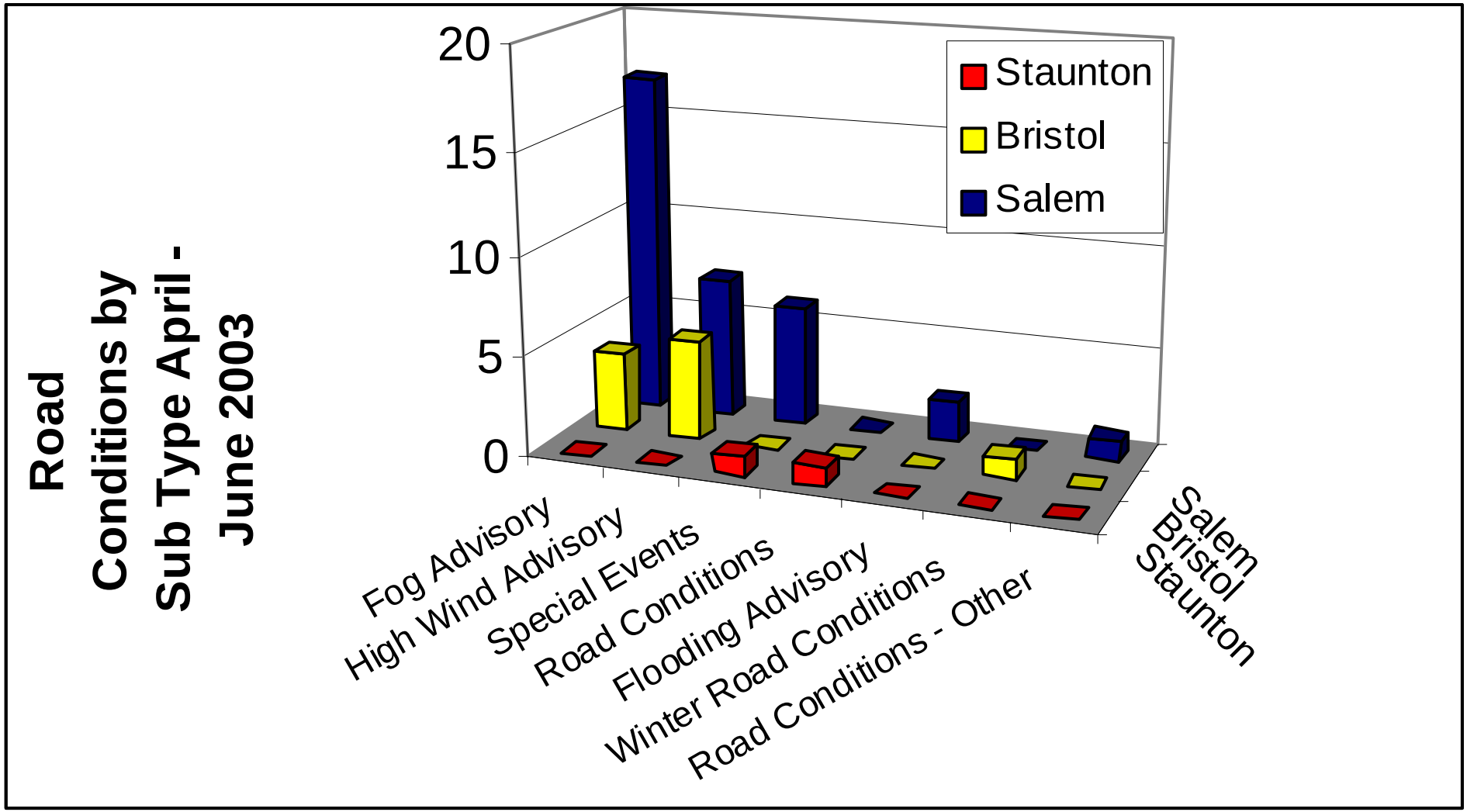

Staunton's Ten Codes
80
60
40
20
0
April
May
June
June
May
April
Accident Damage -1050D
Accident -1050
Accident Injuries -1050I
None
Damaged Vehicle-Hazardous -1046H
Vehicle Fire -1060V
Public Service Other -1099
Traffic Control- 1058
Disabled Vehicle -1046
Disabled Vehicle Occupied -1046O
Vehicle Crash Animal -1050A
Brush Fire -1060B
Accident-State Vehicle -1050S
Traffic Pursuit -TPURS
HazMat Incident -1063
Traffic Other -1069
Vehicle Crash Fatality-1050F
I-81 Only

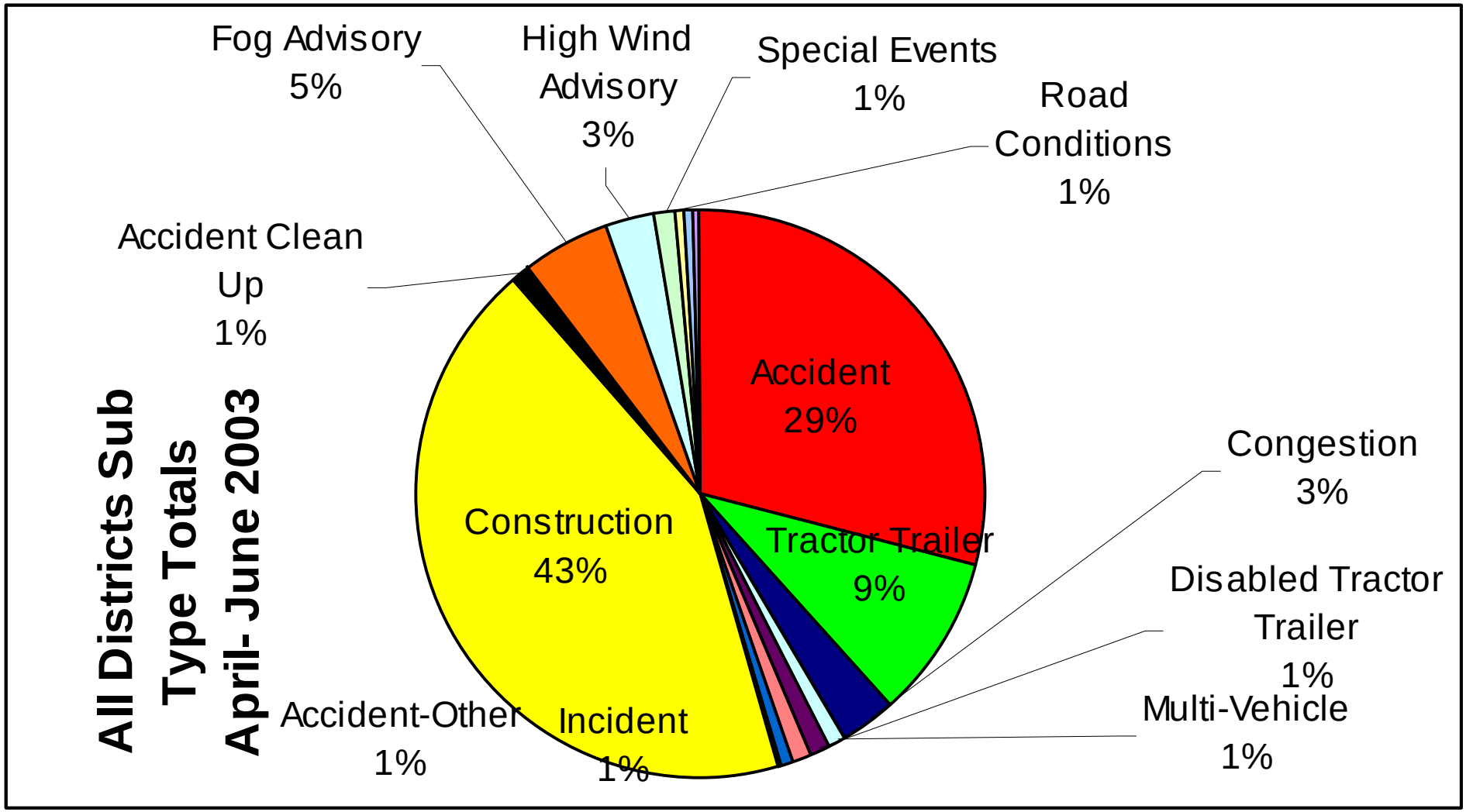
Information Derived from the 511 Postings Log

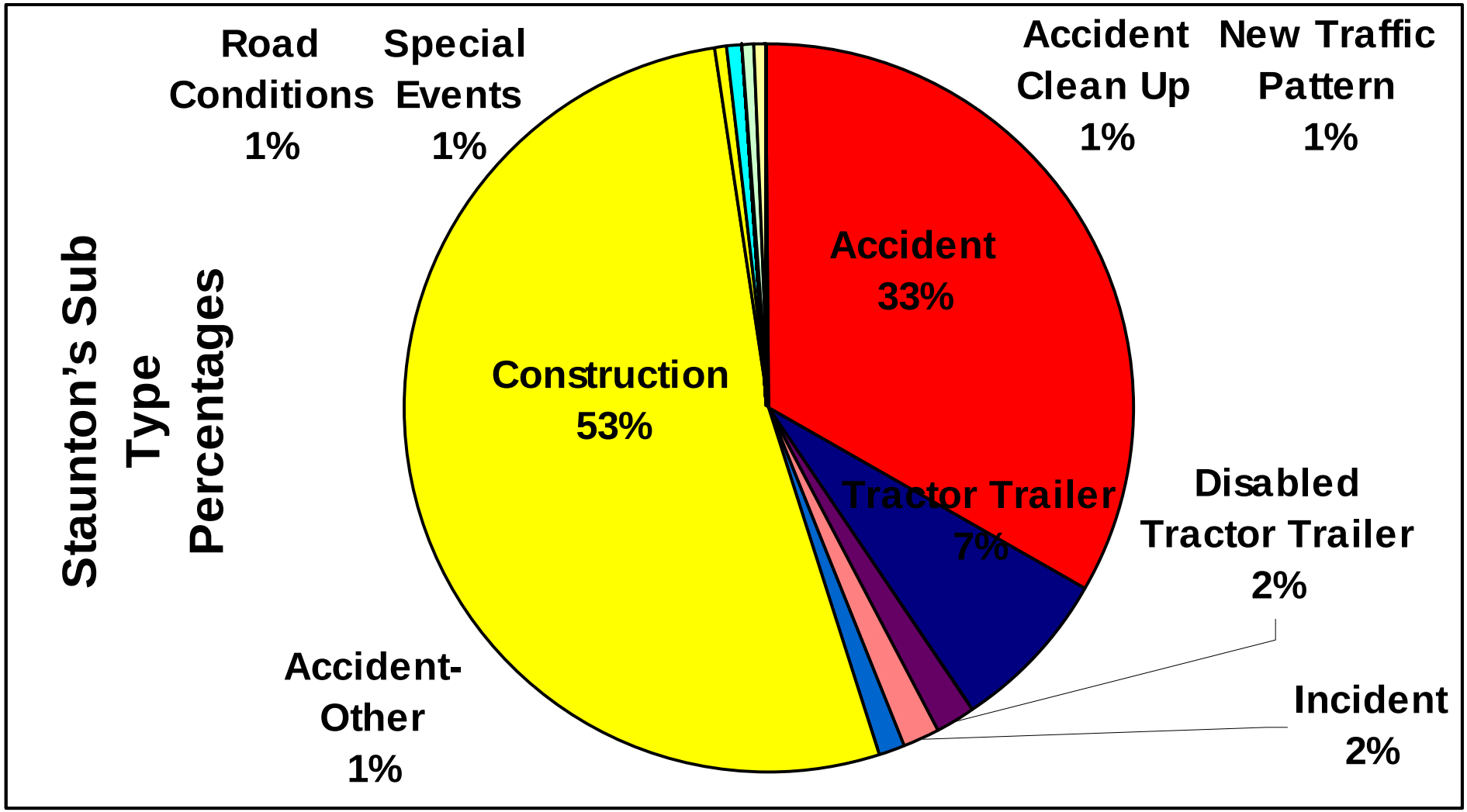
Virginia Tech Transportation Institute


Accidents by Sub Type April-June 2003
60
50
40
30
20
10
0
Bristol
Salem
Staunton
Accident
Tractor Trailer
Congestion
Multi-Vehicle
Disabled Tractor Trailer
Incident
Accident-Other
Multiple Accidents
Multi-Tractor Trailer
Staunton
Salem
Bristol

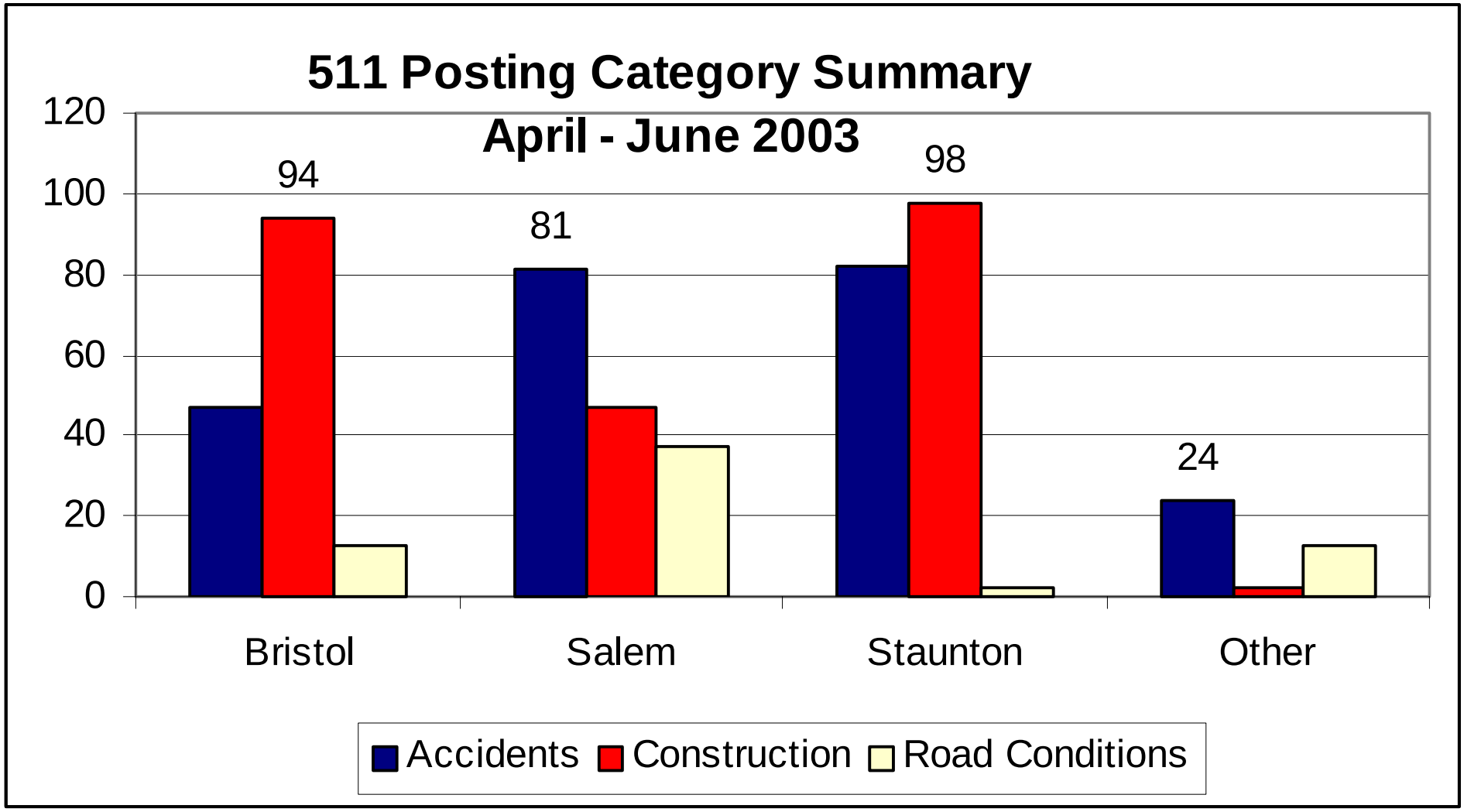

Construciton by Sub Type April-June 2003
100
80
60
40
20
0
95
44
91
Construction
Accident Clean Up
New Traffic Pattern
Sign inspections
Bridge inspections
Road closure
Construction- Other
Bristol
Salem
Staunton

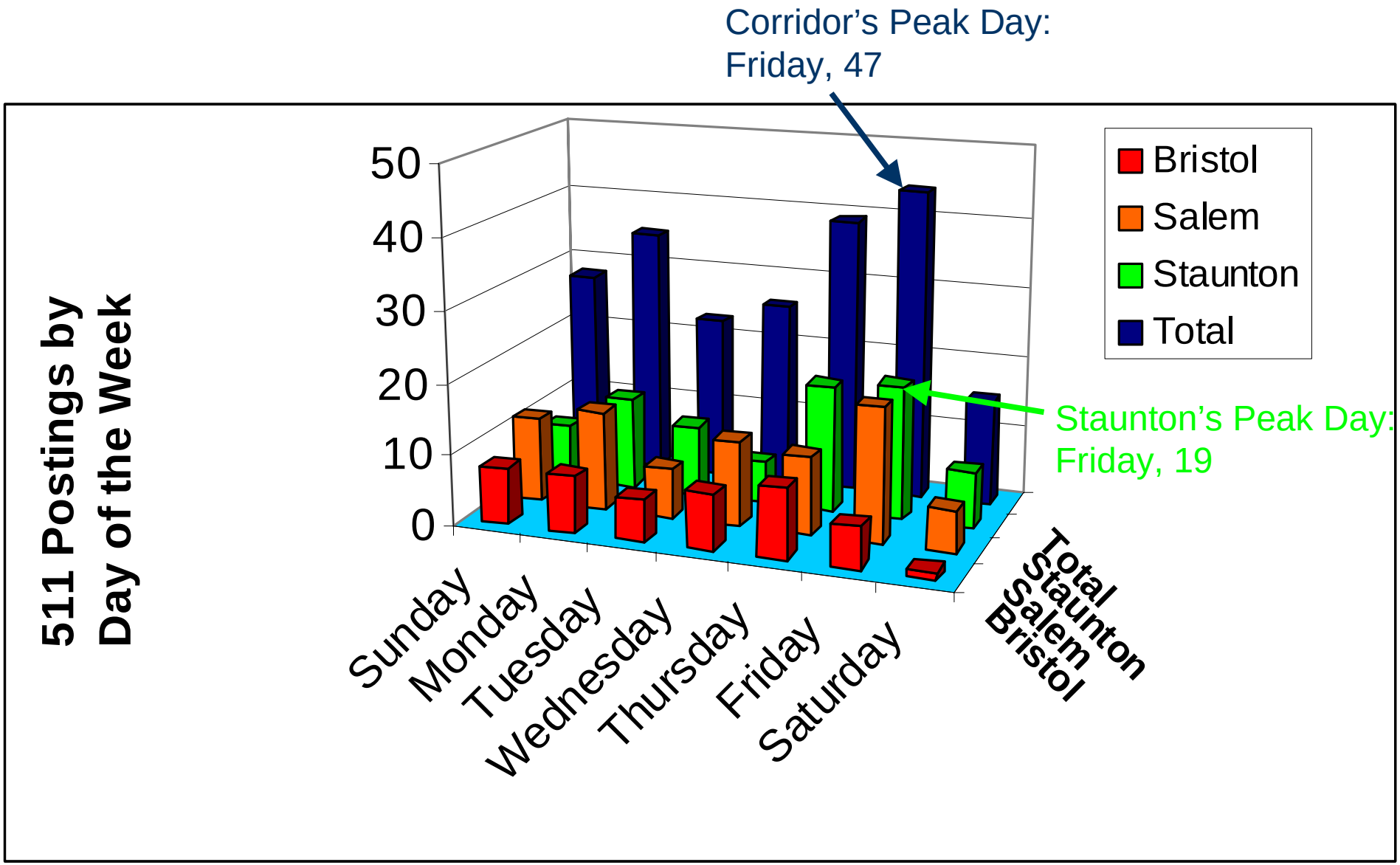

Road Conditions by Sub Type April - June 2003
20
15
10
5
0
Staunton
Bristol
Salem
Fog Advisory
High Wind Advisory
Special Events
Road Conditions
Flooding Advisory
Winter Road Conditions
Road Conditions - Other
Salem
Bristol
Staunton

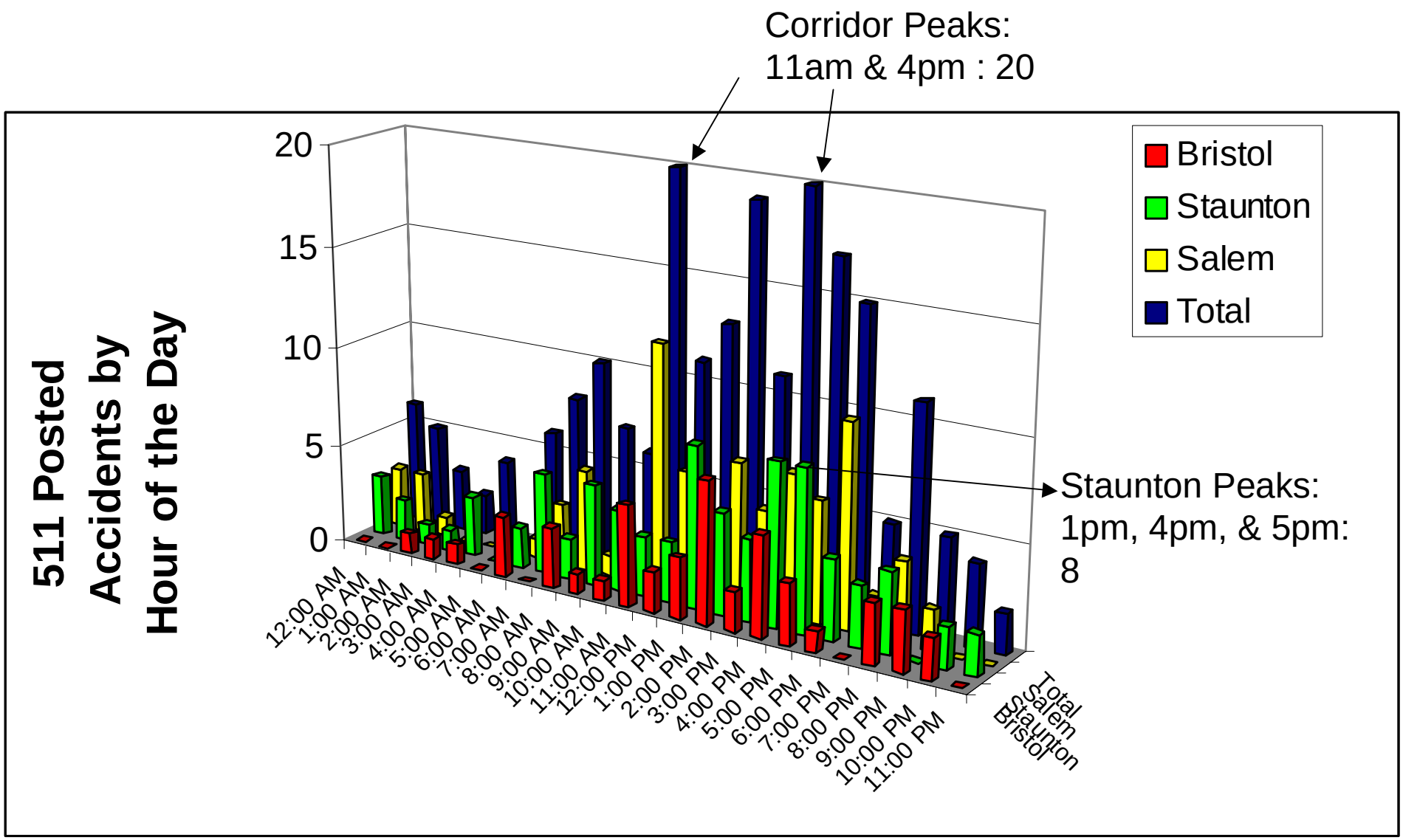

All Districts Sub
Type Totals
April- June 2003
Fog Advisory
5%
High Wind
Advisory
3%
Special Events
1%
Road
Conditions
1%
Accident Clean
Up
1%
Accident
29%
Congestion
3%
Construction
43%
Tractor Trailer
9%
Disabled Tractor
Trailer
1%
Accident-Other
1%
Incident
1%
Multi-Vehicle
1%

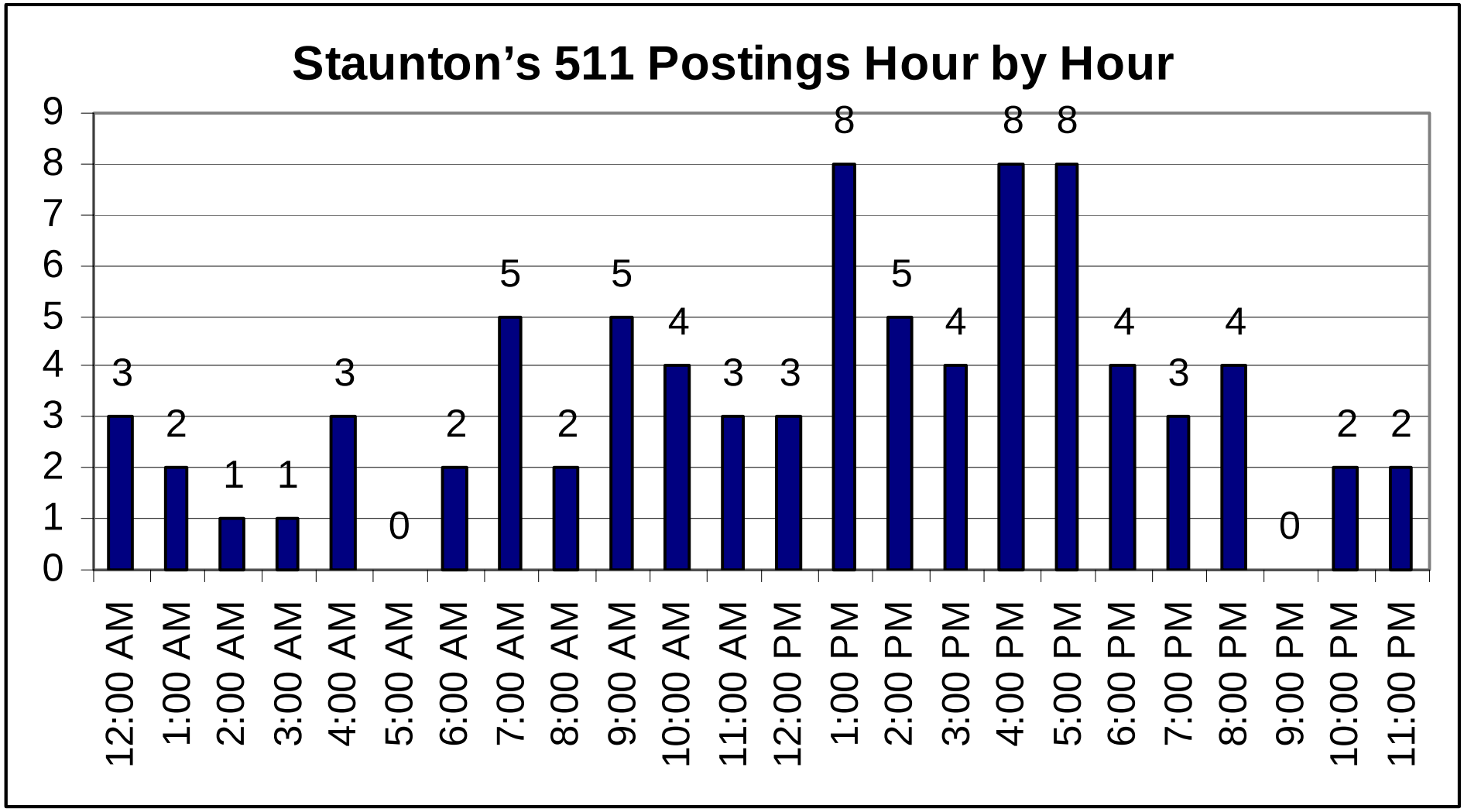


April – June 2003


511 Posting Category Summary
April - June 2003
120
100
80
60
40
20
0
94
81
98
24
Bristol
Salem
Staunton
Other
Accidents
Construction
Road Conditions


511 Postings by
Day of the Week
Corridor's Peak Day:
Friday, 47
Staunton's Peak Day:
Friday, 19
50
40
30
20
10
0
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Bristol
Salem
Staunton
Total
Bristol
Salem
Staunton
Total


511 Posted Accidents by Hour of the Day
Corridor Peaks:
11am & 4pm : 20
Staunton Peaks:
1pm, 4pm, & 5pm:
8
Bristol
Staunton
Salem
Total
20
15
10
5
0
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM

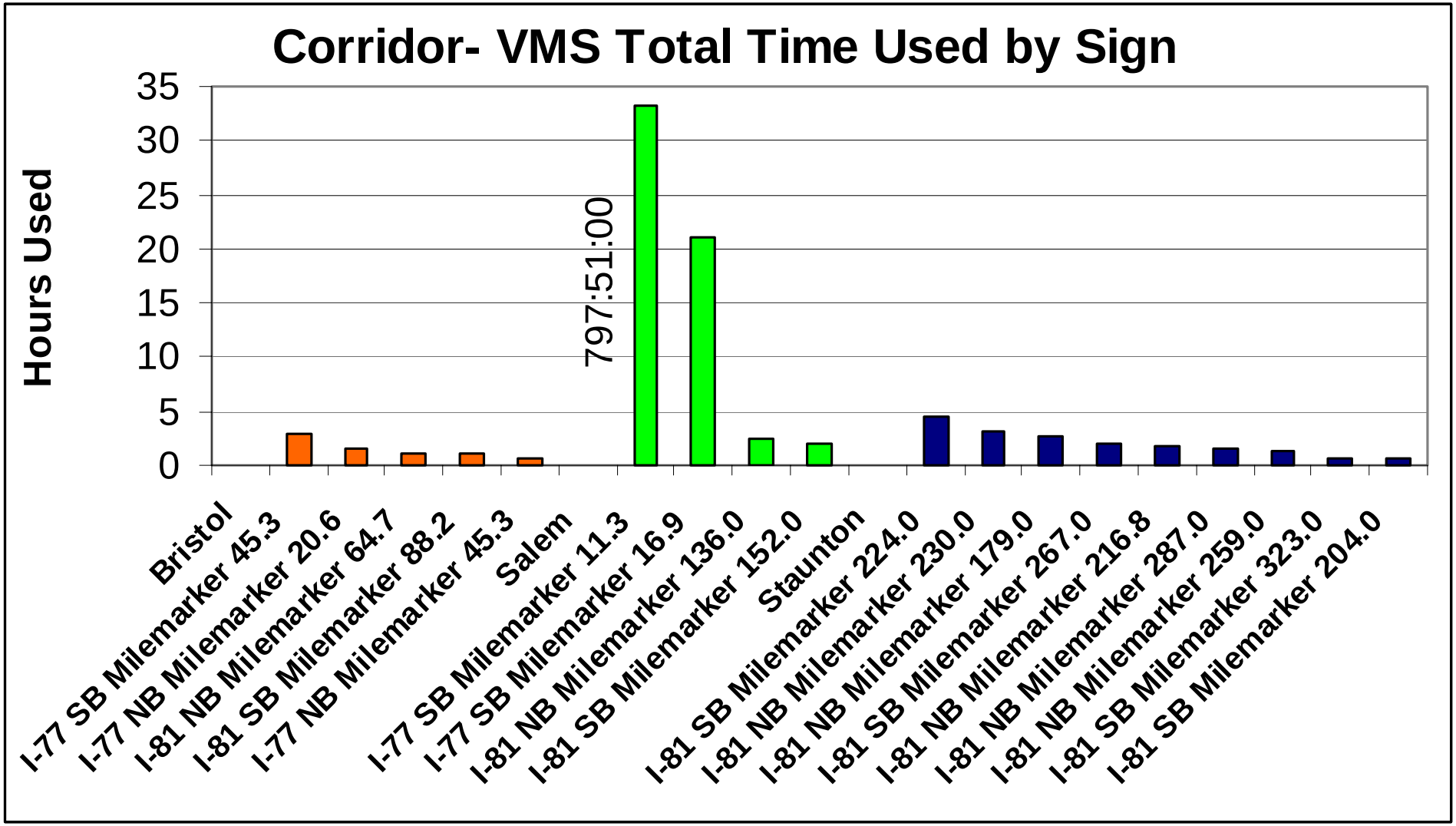

Staunton's 511 Postings Hour by Hour
0
1
2
3
4
5
6
7
8
9
3
2
1
1
3
0
2
5
2
5
4
3
3
8
5
4
8
8
4
3
4
0
2
2
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM

Information Derived from the VMS Log

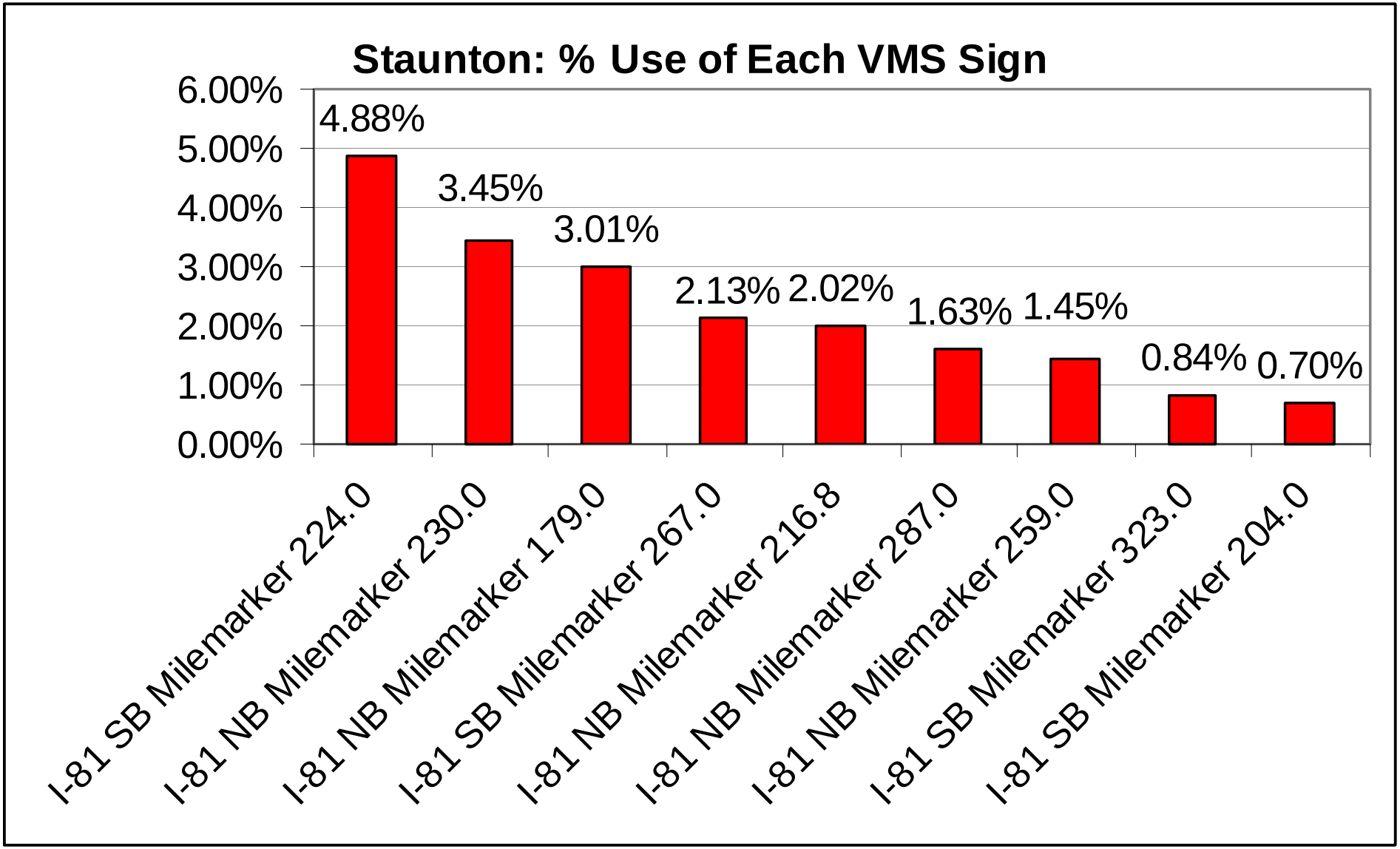
Virginia Tech Transportation Institute

VMS Usage- Corridor

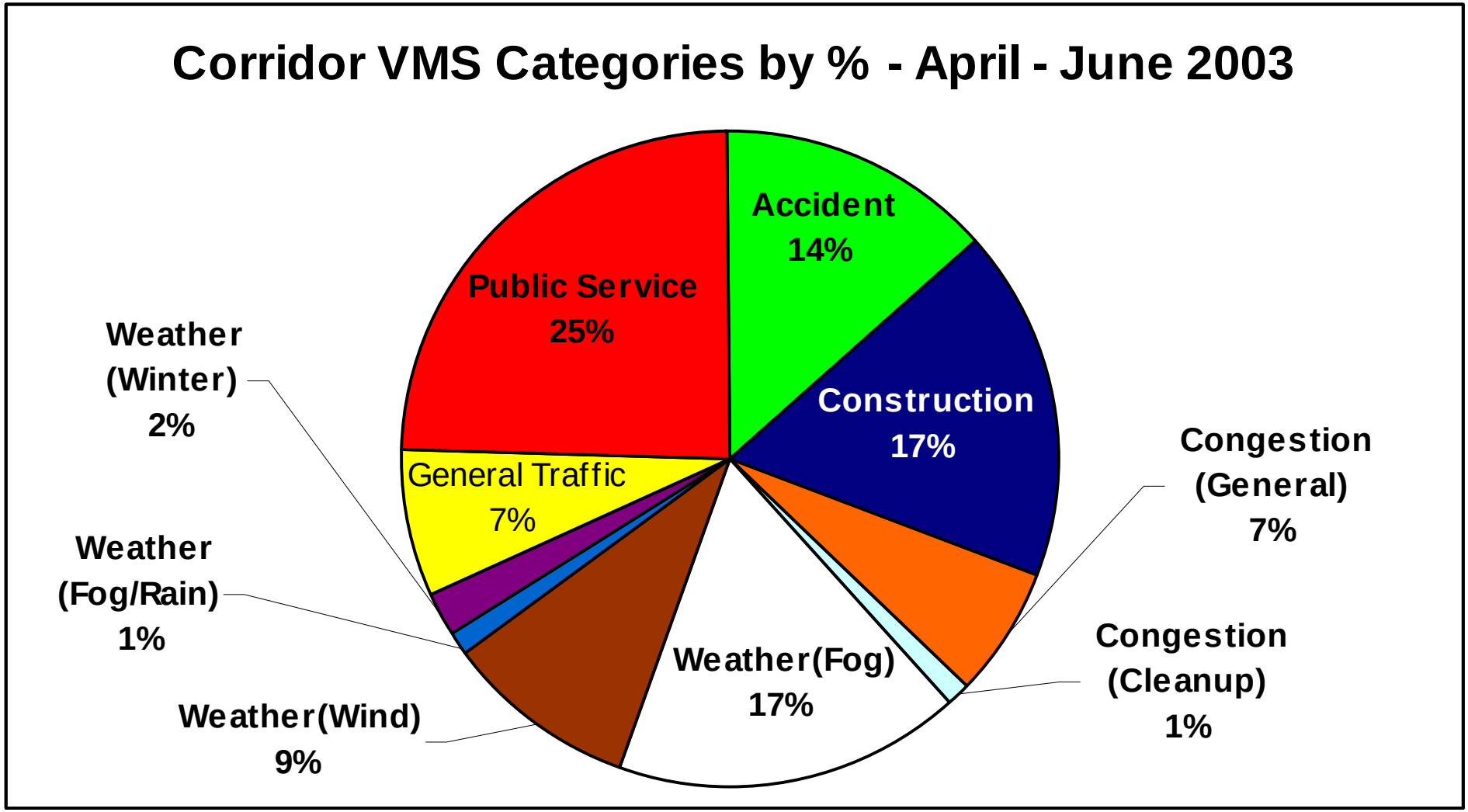
April - June 2003

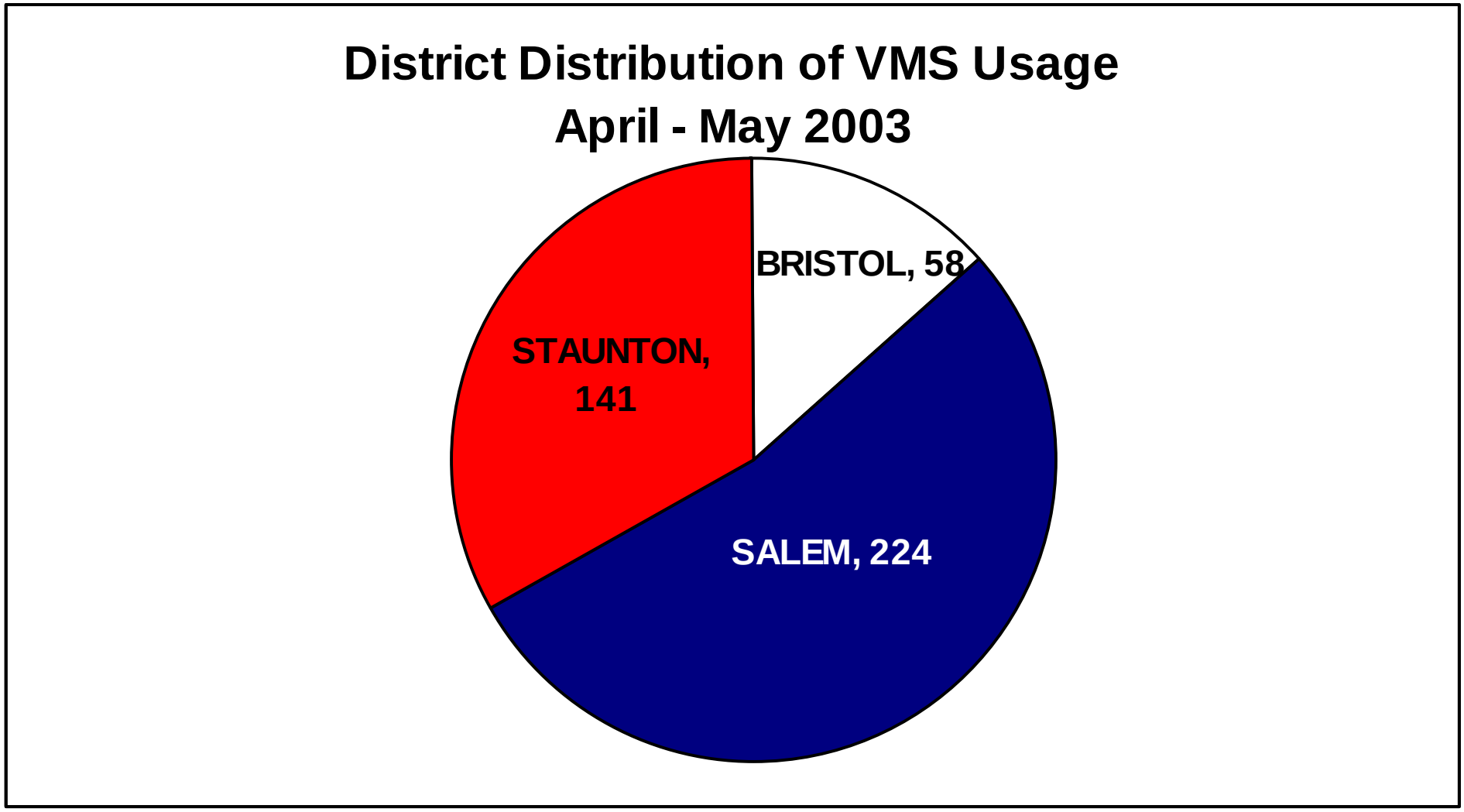


April – June 2003

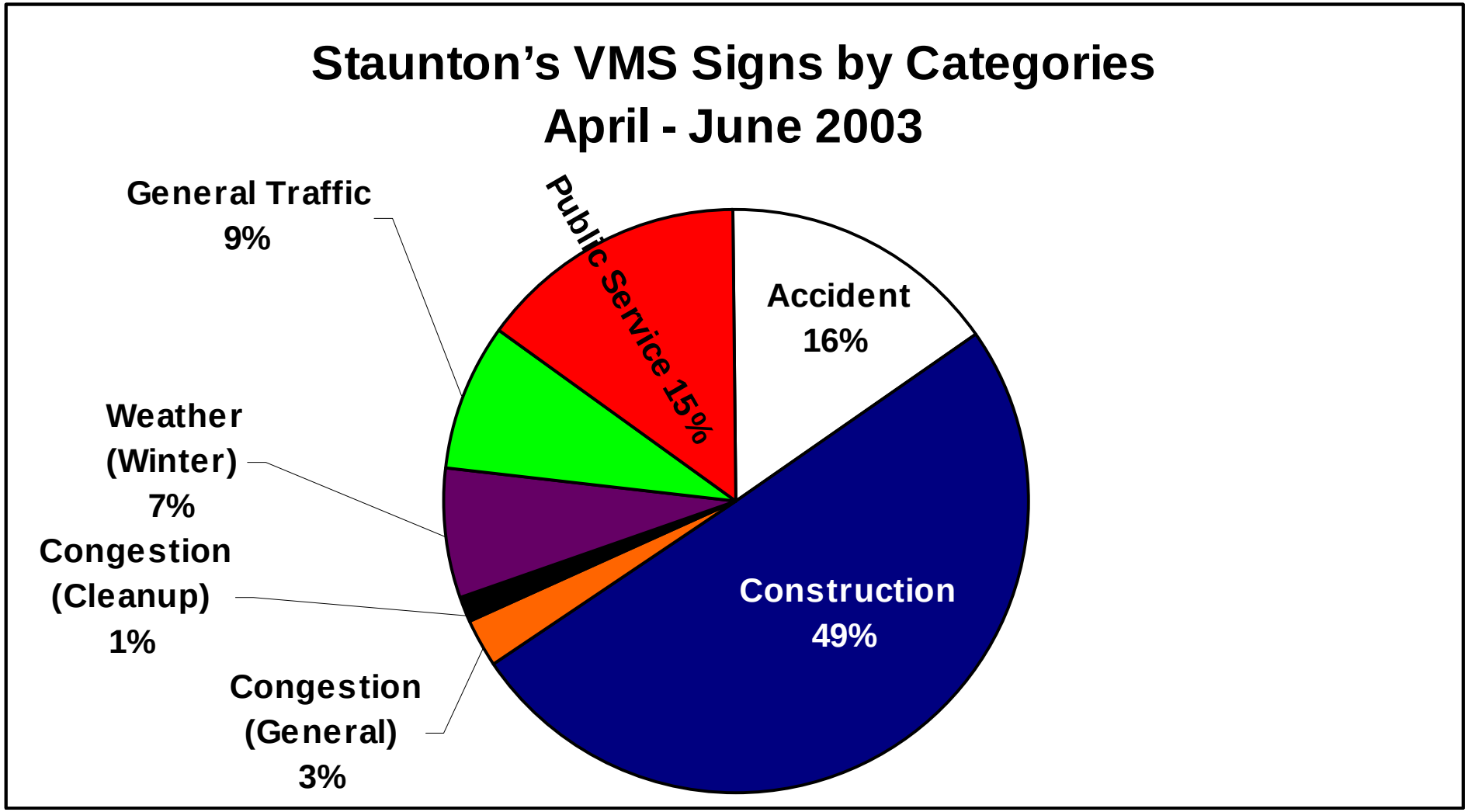


VMS Categories - Corridor




District Distribution of VMS Usage
April - May 2003
BRISTOL, 58
STAUNTON, 141
SALEM, 224

VMS Categories - Staunton

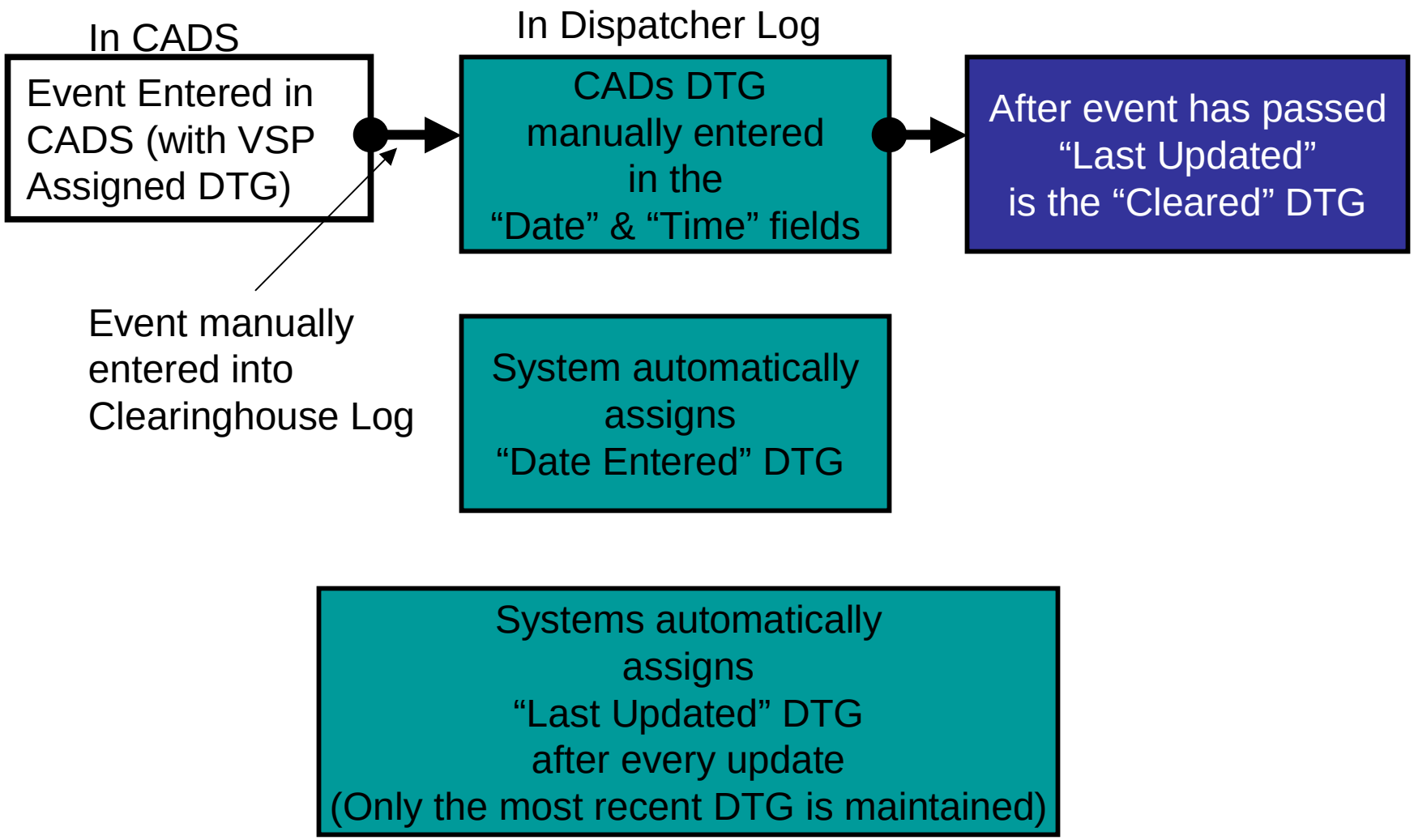


How Time Stamps Work in the IOC

* **DTG** = **D**ate **T**ime **G**roup

CADS Events – Not 511 Alert

Non-traffic-disturbing Accidents and other CADS Events



CADS Events – 511 Alerts

Accidents & Other Traffic Disturbing Events

In CADS

Event Entered in CADS (with VSP Assigned DTG)

Event manually entered into Clearinghouse Log

In Dispatcher Log

CADs DTG manually entered in the "Date" & "Time" fields

System automatically assigns "Date Entered" DTG

In 511 Postings

System assigns Date Entered and Last Updated for 511 Postings Log

Set Expiration "Date" & "Time"

Or, Option when Updating:

"Expire Now" System Time Stamps w/ Current System Time

Systems automatically Assigns "Last Updated" DTG After every update (Only the most recent DTG is maintained)

Non-CADS Events – in 511

(Construction, Weather, etc.)

In Dispatcher Log

System automatically assigns
“Date Entered” DTG

In 511 Postings

System automatically assigns
“Date Entered” DTG

Systems automatically
Assigns
“Last Updated” DTG
After every update
(Only the most recent DTG is maintained)

Systems automatically assigns
“Last Updated” DTG

Set Expiration
“Date” & “Time”

After event has passed
“Last Updated”
is the cleared DTG

Or, Option when updating:

“Expire Now”
System Time Stamps w/
Current System Time