M E M O R A N D U M

July 14, 2003

TO: Mayor and City Council

FROM: Gary Boldizsar, Chief of Police
Jon Nelson, City Manager

SUBJECT: Stop Data Collection Project

ISSUE:

A subcommittee of the Corvallis Police Department's Community Policing Forum was formed in November of 2002 to review and attempt to analyze stop data collected by the Police Department. This report provides the details of that analysis.

BACKGROUND:

The Police Department has participated in a voluntary stop data collection effort in cooperation with the State of Oregon Law Enforcement Contacts Policy and Data Review Committee since April 2001. The Committee, appointed by Governor Kitzhaber, was charged with the responsibility of soliciting Oregon law enforcement agencies to collect stop data and to submit their data for analysis. The Corvallis Police Department and ten other Oregon police agencies agreed to participate in this effort. The data analysis was to be performed by the Data Review Subcommittee, however, as of November of 2002, the subcommittee had not started data analysis.

DISCUSSION:

One of the basic data analysis premises was that an agency would need to collect data from a minimum of 10,000 stops for the data to be statistically significant. The Police Department began its data collection effort in April of 2001 after the 17 point data collection scanable form (Attachment A) was developed by the Community Policing Forum. The Police Department reached the 10,000 stops level during the summer of 2002 and asked the Data Review Subcommittee if they were prepared to receive the data and provide an analysis. The Police Department was advised by the Committee that it was not at that time prepared to receive the data and it could not accurately predict when it might be ready to proceed.

The Community Policing Forum members were very interested in the project and were anxiously awaiting the result. In November 2002, a subcommittee of the Community Policing Forum was formed to take on the task of stop data analysis as the State's Data Review Committee could not provide information on when they felt they could proceed with data analysis. Members of the

subcommittee included Peter Leung, Bill Oye, Rob Gándara, Jon Sassaman, Pam Roskowski, and Gary Boldizsar. The subcommittee met and agreed to solicit the assistance of Fred Ramsay, an OSU Professor of Statistics, and Bob O'Donnell of Hewlett Packard, who holds a PhD in Statistics. The Corvallis stop data was provided to them in late December of 2002. The following basic statistical analysis questions were asked pertaining to these specific outcomes:

Two data point comparisons (Figures 1 through 12)

1)	Outcome: Search Requested	Comparison: Women and Men
2)	Outcome: Search Requested	Comparison: Non-white and White
3)	Outcome: Search Requested	Comparison: Student Aged and Older
4)	Outcome: Citation and/or Arrest	Comparison: Women and Men
5)	Outcome: Citation and/or Arrest	Comparison: Non-white and White
6)	Outcome: Citation and/or Arrest	Comparison: Student Aged and Older
7)	Outcome: Stop Duration > 15 minutes	Comparison: Women and Men
8)	Outcome: Stop Duration > 15 minutes	Comparison: Non-white and White
9)	Outcome: Stop Duration > 15 minutes	Comparison: Student Aged and Older
10)	Outcome: Stop Duration > 30 minutes	Comparison: Women and Men
11)	Outcome: Stop Duration > 30 minutes	Comparison: Non-white and White
12)	Outcome: Stop Duration > 30 minutes	Comparison: Student Aged and Older

Three data point comparisons (Figures 13 through 20)

13)	Subgroup: White Outcome: Stop Duration > 15 minutes	Comparison: Student Aged and Older
14)	Subgroup: Non-White Outcome: Stop Duration > 15 minutes	Comparison: Student Aged and Older
15)	Subgroup: Older than Student Aged Outcome: Stop Duration > 15 minutes	Comparison: Non-white and White
16)	Subgroup: Student Aged Outcome: Stop Duration > 15 minutes	Comparison: Non-white and White

17) Subgroup: White
Outcome: Stop Duration > 30 minutes Comparison: Student Aged and Older

18) Subgroup: Non-white
Outcome: Stop Duration > 30 minutes Comparison: Student Aged and Older

19) Subgroup: Older than Student Aged
Outcome: Stop Duration > 30 minutes Comparison: Non-white and White

20) Subgroup: Student Aged
Outcome: Stop Duration > 30 minutes Comparison: Non-white and White

At the May 14, 2003, Community Policing Forum Meeting, the two data point comparison results of the analysis was provided by Fred Ramsay and Bob O'Donnell. The presentation included both a verbal explanation of the results supported by graphical representations of the data analyzed. During the discussion, additional analysis requests were made specific to Stop Duration and the three data point comparison analysis resulted. Additionally, the statistical method used to analyze the data was explained as follows:

In analyzing this data the objective is to determine if there is a systematic deviation that is so great that it cannot be explained by random chance. For example, if a coin is flipped three times it is highly probable that heads will appear 67% of the time. If a coin is flipped 100 times it is highly unlikely that heads will occur with a frequency of 67%. But if you flipped 100 coins 100 times it is likely one of the coins would produce 67% heads, but very unlikely that most of the coins would land 67% heads. And it is still unlikely that one of the coins would land 90% heads.

This analysis is designed to determine if the stop outcomes are biased in a manner that cannot be explained by random chance. For each question we determine if the protected class biases an officer's behavior systematically and if there is an overall bias when examining the force as a whole. This is done with a graphical method with each data point describing an officer's potential bias. If a data point lies on the diagonal line the impact of the protected class had no effect on making decisions. The further from the line the more likely the bias.

To assist in interpretation in addition to the diagonal line there are two significance bars. If the data falls outside these lines for an individual data point there is statistical evidence that the designation has an impact on the outcome of the stop. If a group of points fall outside these lines then there is statistical evidence that a bias exists over the whole population. See Attachment "B" for graphical explanation of analysis methodology.

The below graphs, figures 1 through 20, depict the twenty comparisons. For the purposes of this analysis, "student aged" was defined as under 25 years of age and "system wide" was defined to mean that 50% or more of the data points fell either within the expected lottery result or outside the expected lottery result.

Figure 1 shows that search requests of men exceeds lottery expectations. Not system wide.

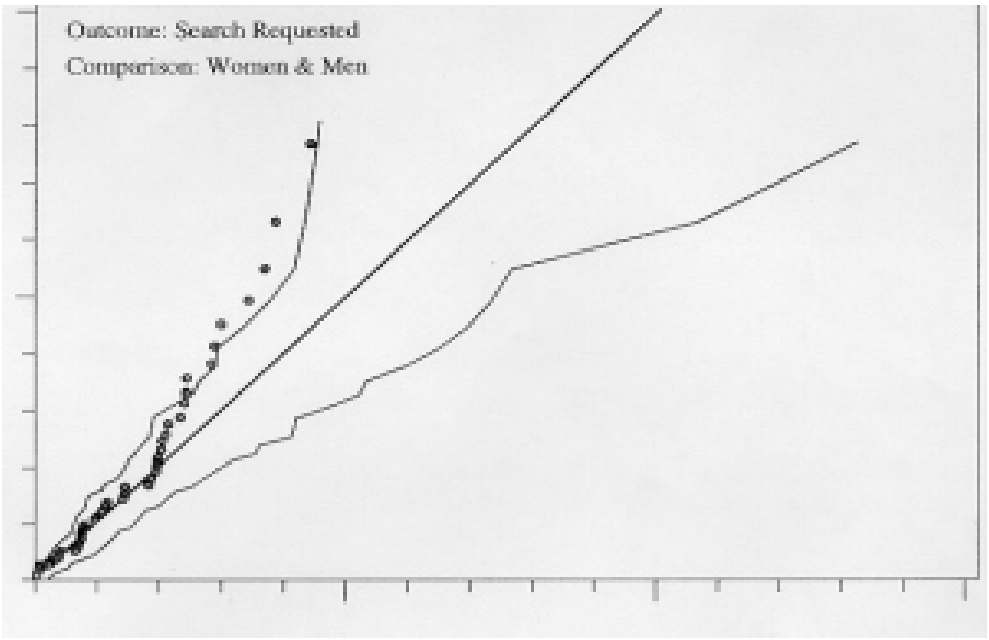


Figure 2 shows that search requests of non-white exceeds lottery expectations. Not system wide.

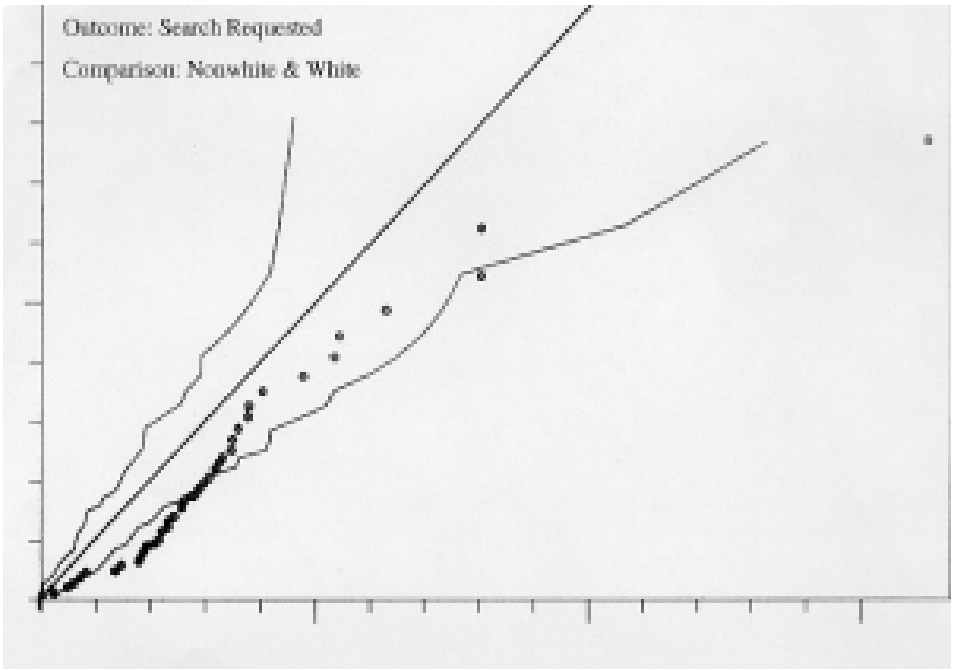


Figure 3 shows that search requests of student aged versus older within lottery expectations. System wide.

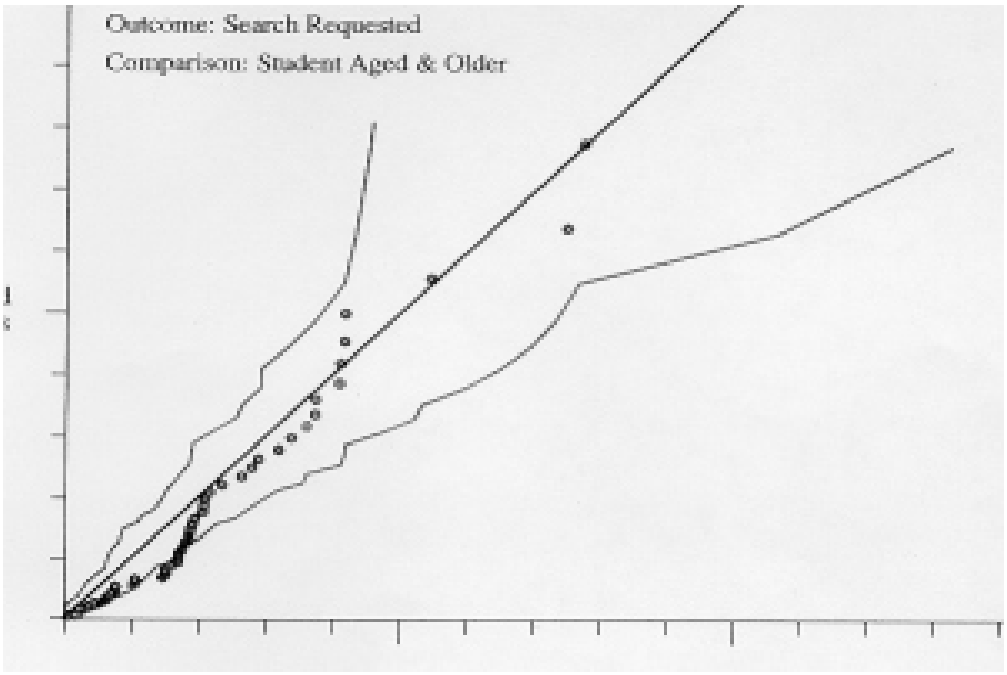


Figure 4 shows that citations and/or arrest of women versus men within lottery expectations. System wide.

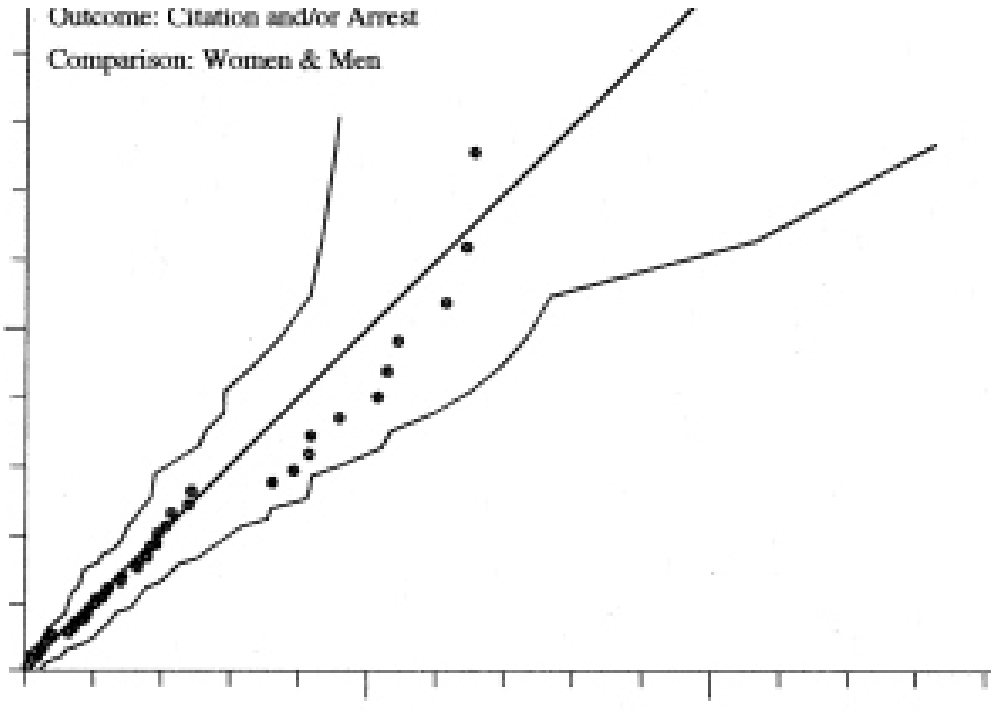


Figure 5 shows that citations and/or arrest of non-white versus white within lottery expectations. System wide.

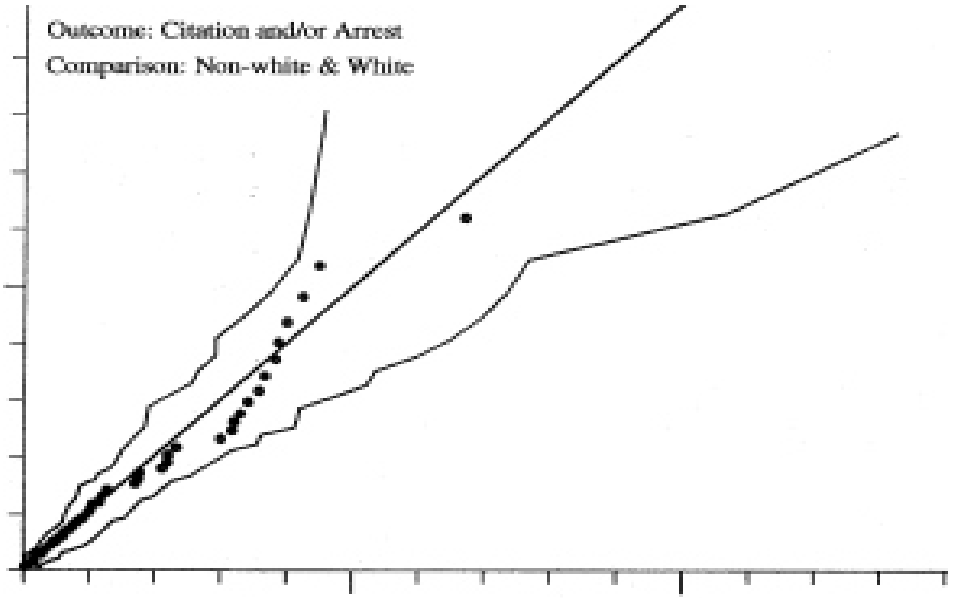


Figure 6 shows that citations and/or arrest of student aged versus older within lottery expectations. System wide.

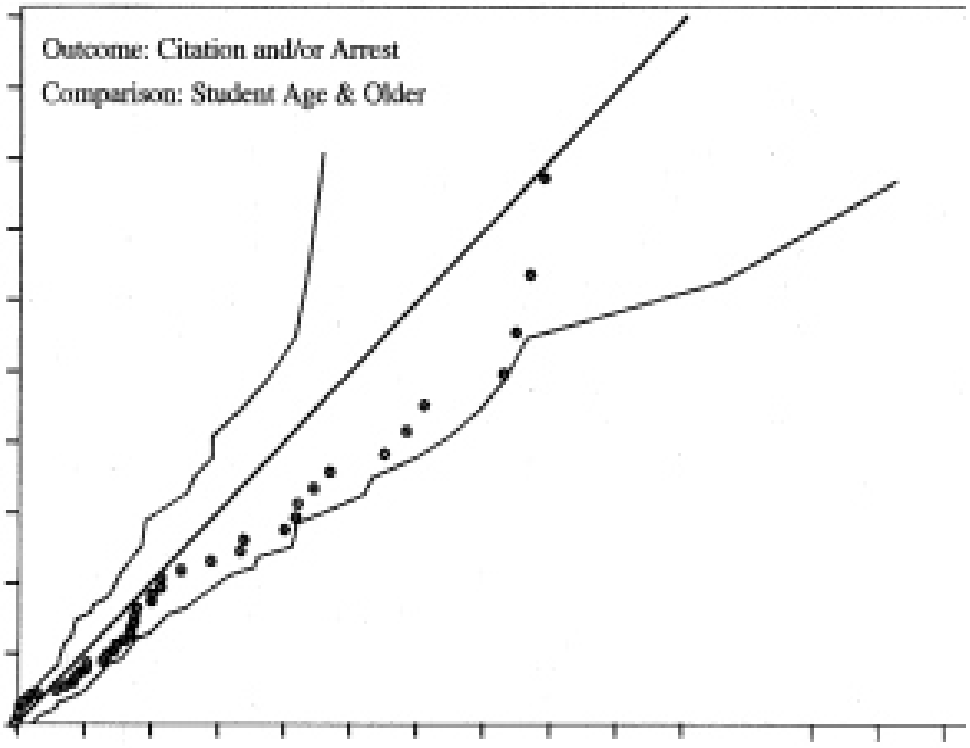


Figure 7 shows stop duration over 15 minutes women versus men exceeds lottery expectations with stops of men more likely to exceed 15 minutes. System wide.

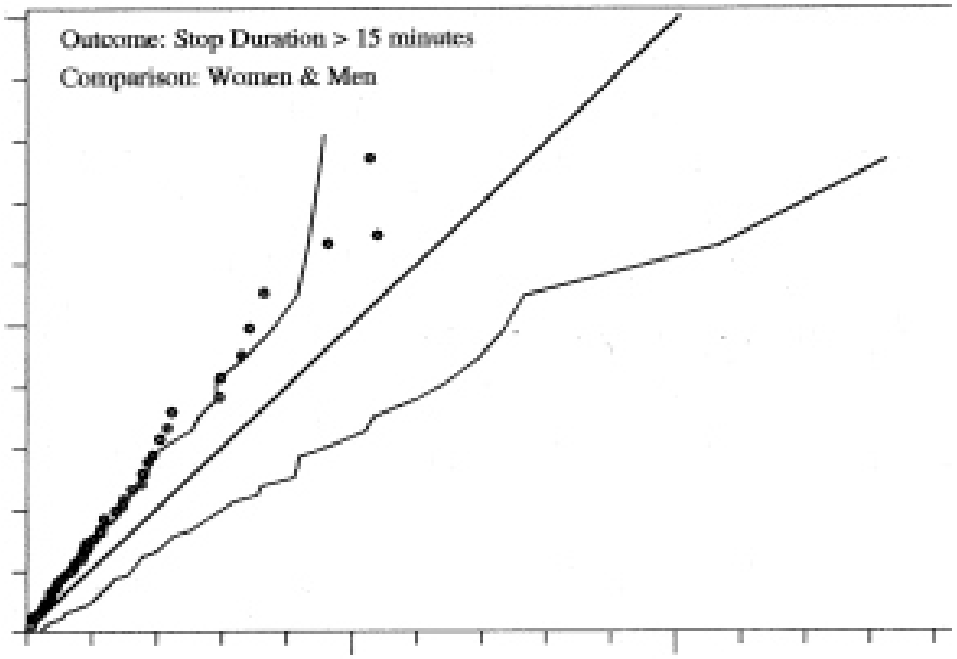


Figure 8 shows stop duration over 15 minutes non-white versus white exceeds lottery expectations with stops of non-white more likely to exceed 15 minutes. System wide.

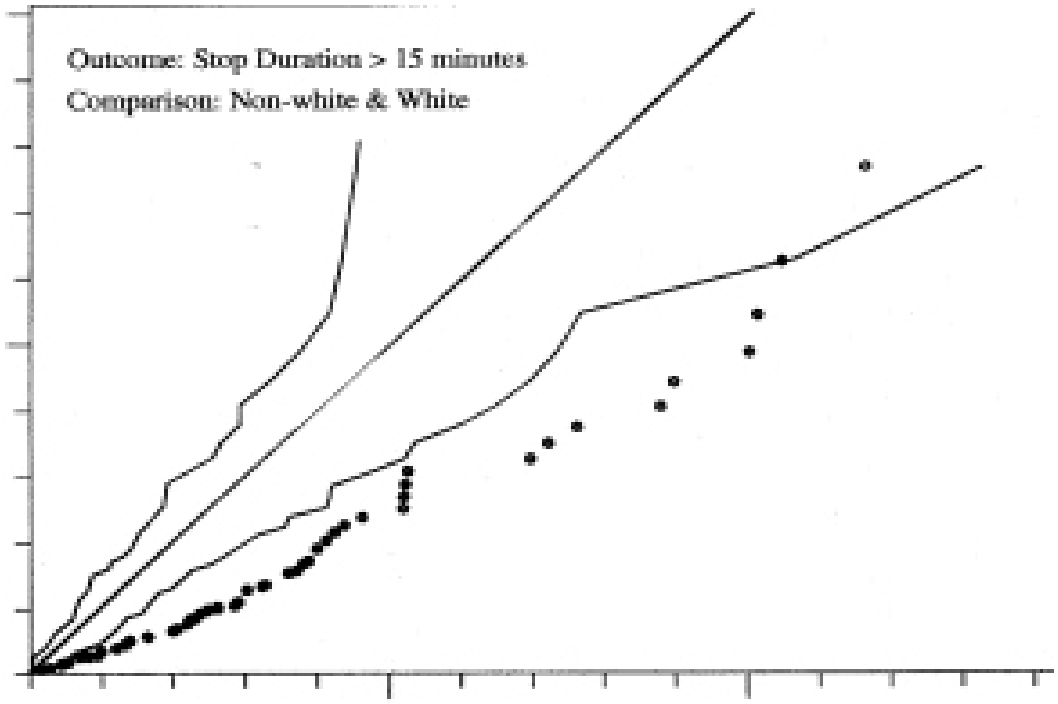


Figure 9 shows stop duration over 15 minutes student aged versus older within lottery expectations. System wide.

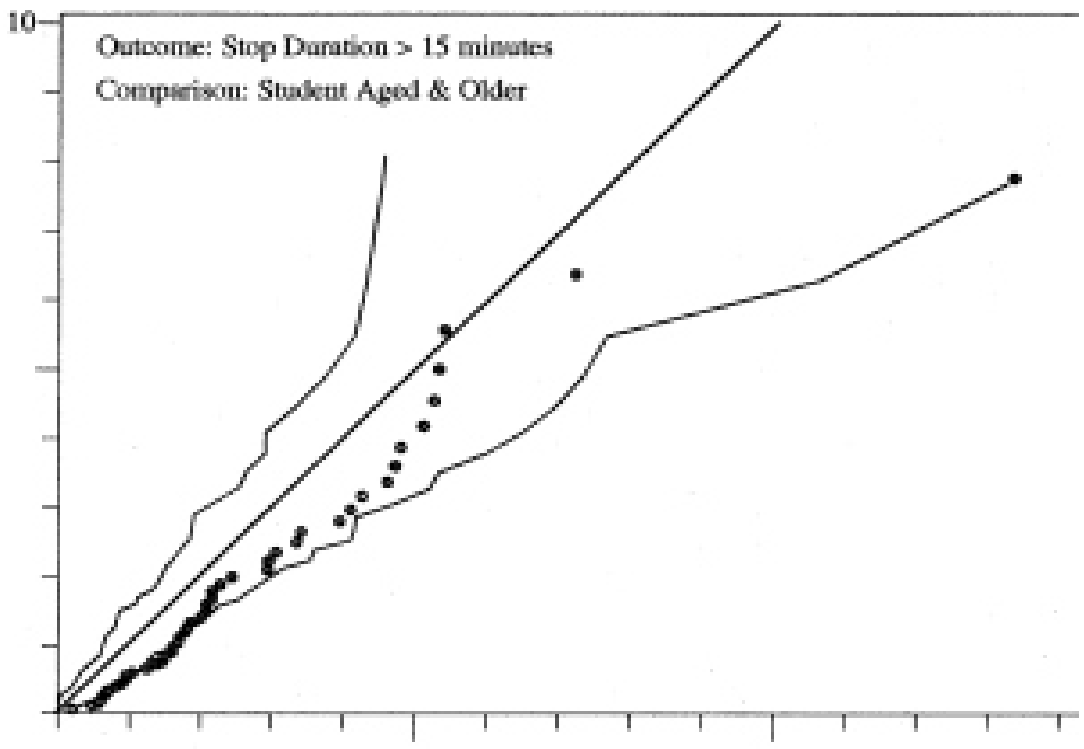


Figure 10 shows stop duration over 30 minutes women versus men exceeds lottery expectations. Graph shows that duration, in some cases, exceeds lottery expectations in both categories.

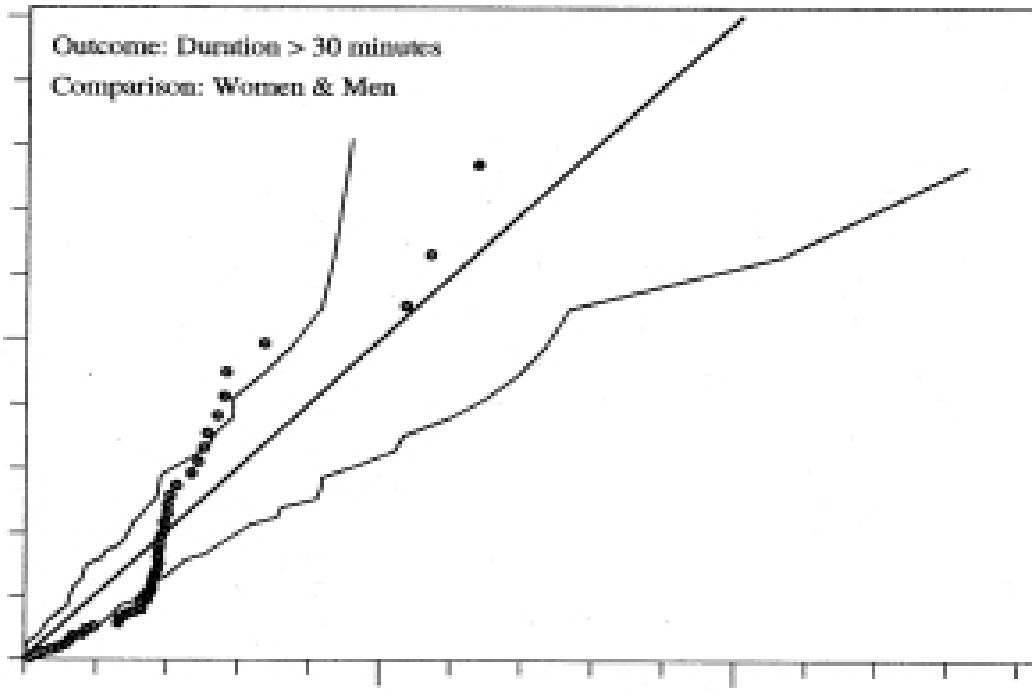


Figure 11 shows stop duration over 30 minutes non-white versus white exceeds lottery expectations with stop of non-white more likely to exceed 30 minutes. System wide.

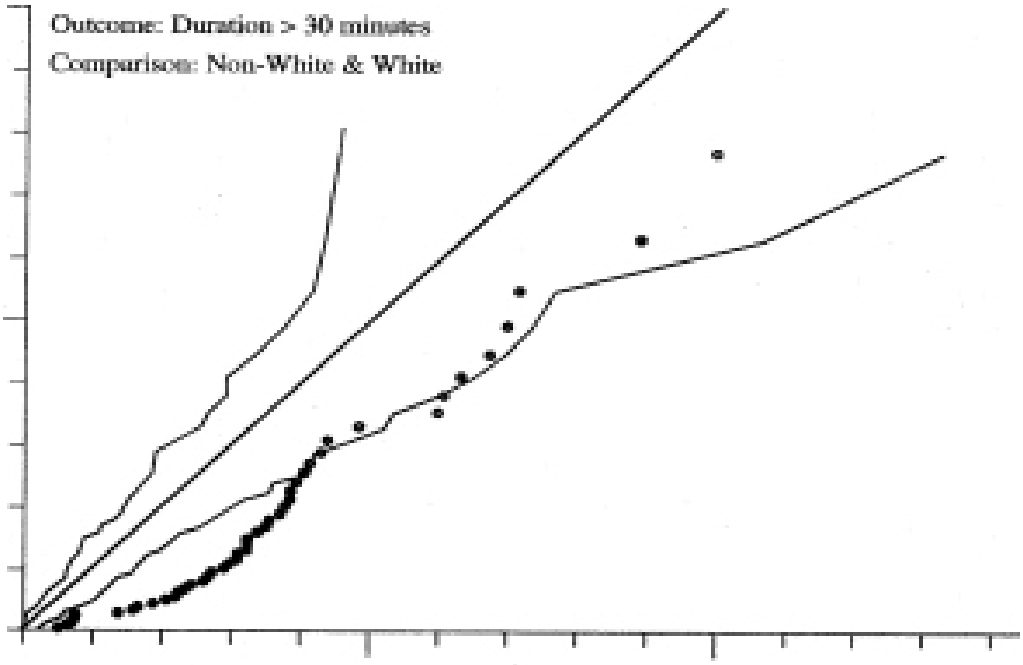


Figure 12 shows stop duration over 30 minutes of student aged versus older exceeds lottery expectation with stop of older exceeding lottery expectations. Not system wide.

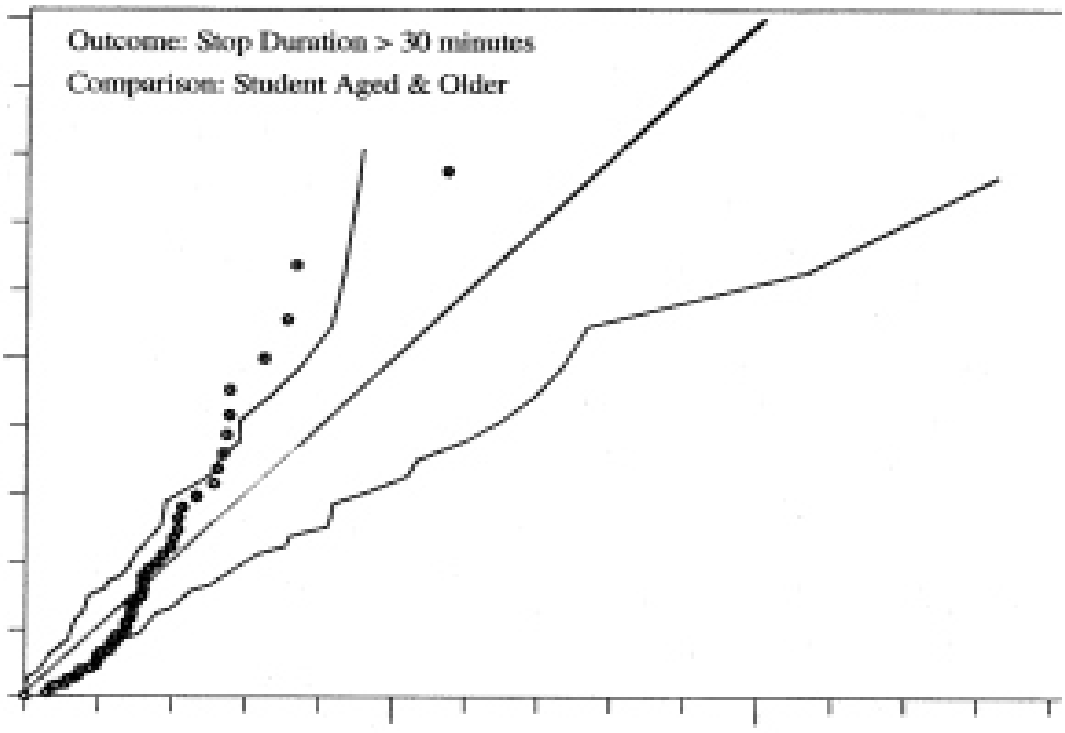


Figure 13 shows stop duration over 15 minutes for white who are student aged versus older are within lottery expectations. System wide.

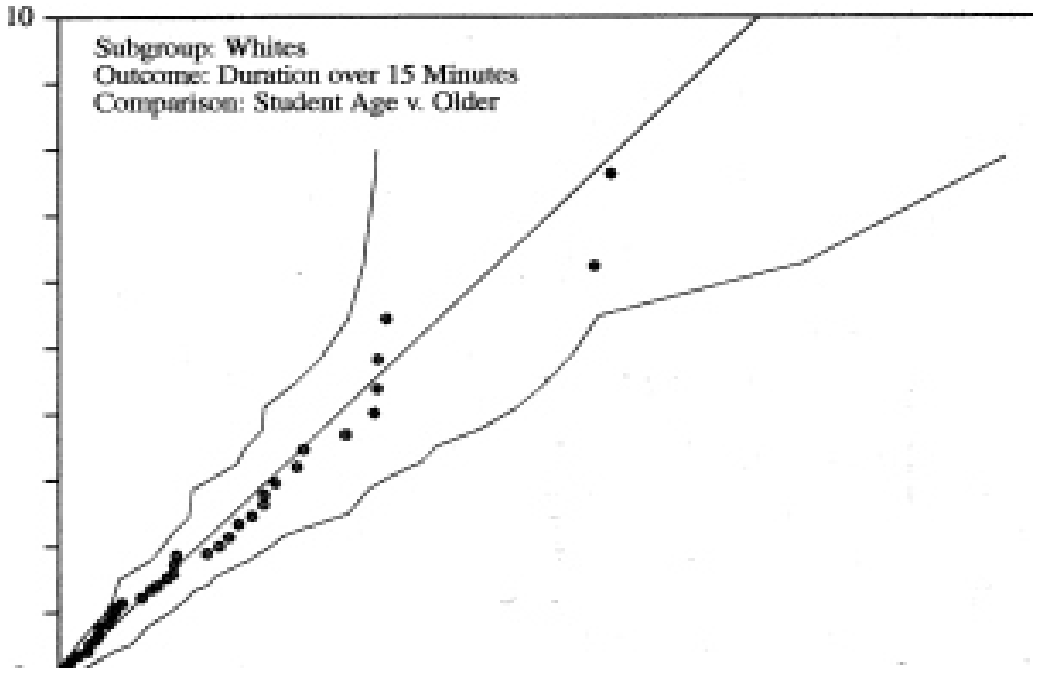


Figure 14 shows stop duration over 15 minutes for non-white who are student aged versus older are within lottery expectations. System wide.

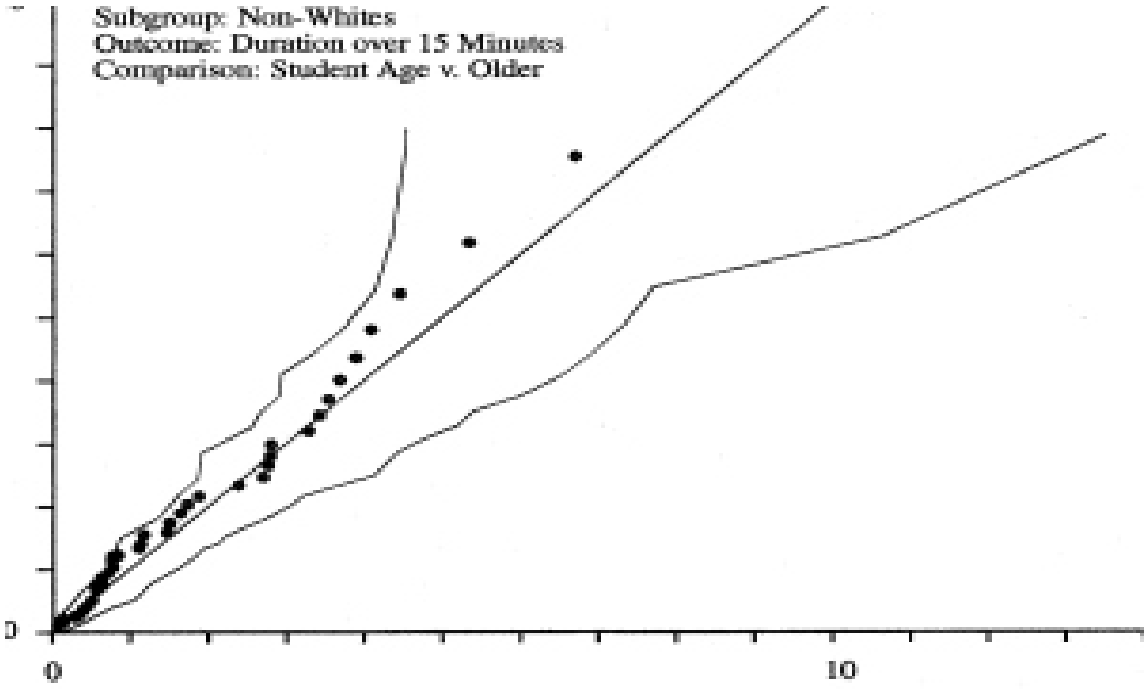


Figure 15 shows stop duration over 15 minutes for older than student aged non-white versus white are within lottery expectations. System wide.

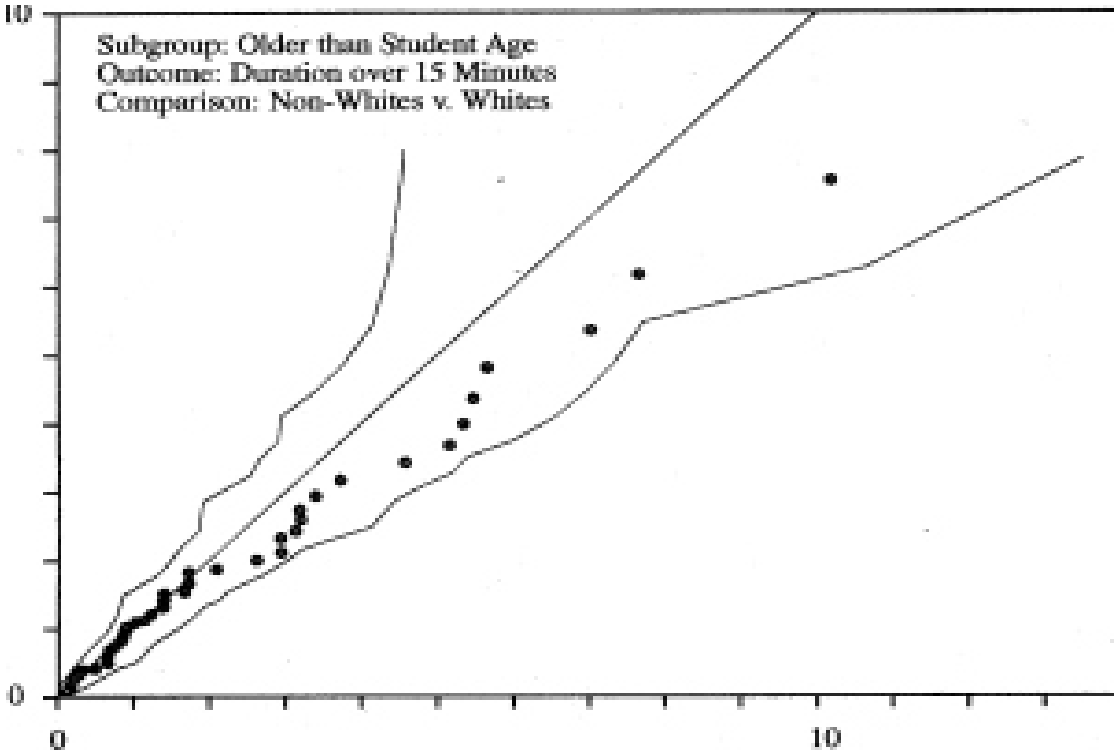


Figure 16 shows that stop duration over 15 minutes for student aged non-white versus white exceeds lottery expectations for non-white. System wide.

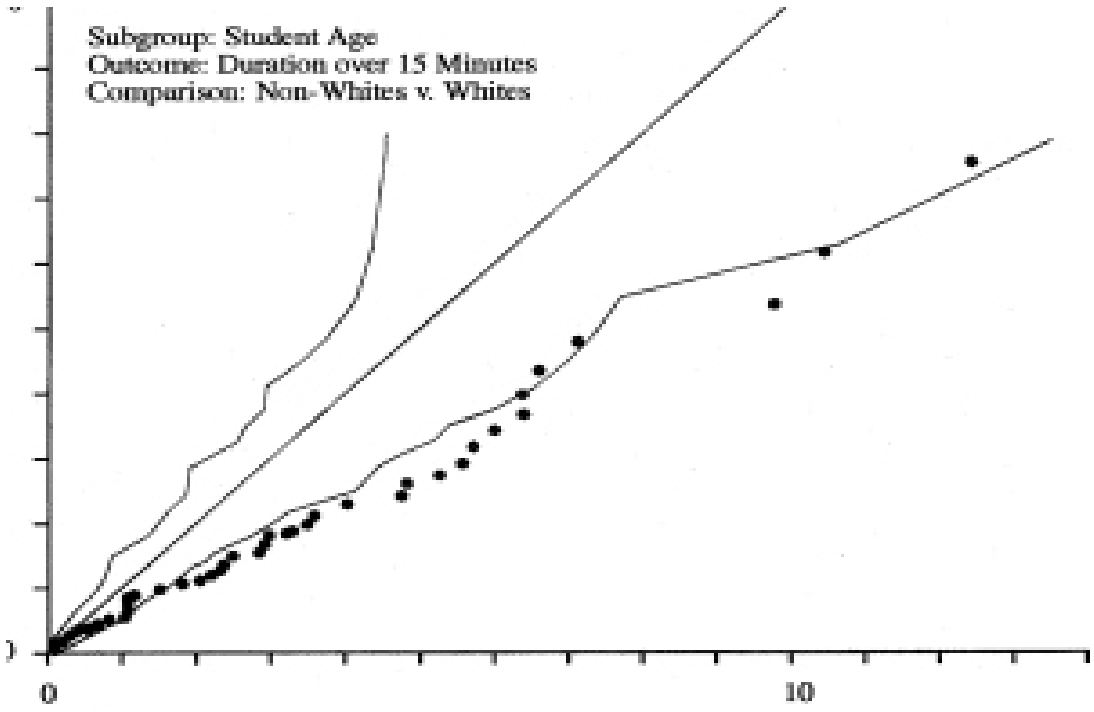


Figure 17 shows that stop duration over 30 minutes for white who are student aged versus older exceeds lottery expectations for older. System wide.

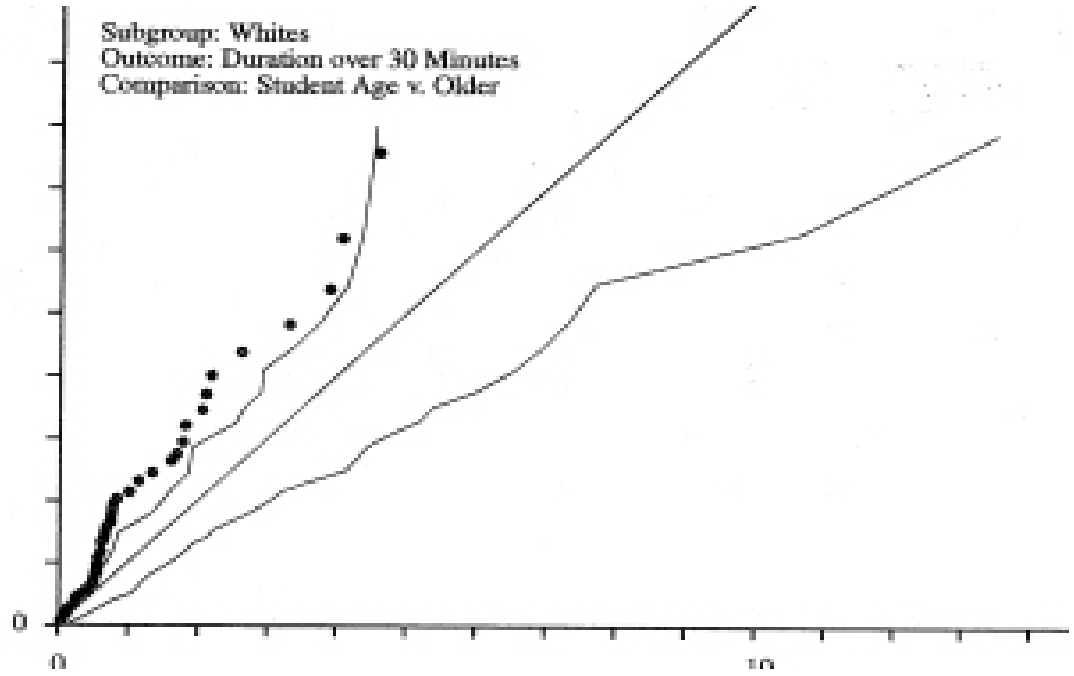


Figure 18 shows that stop duration over 30 minutes for non-white who are student aged versus older exceeds lottery expectations for older. System wide.

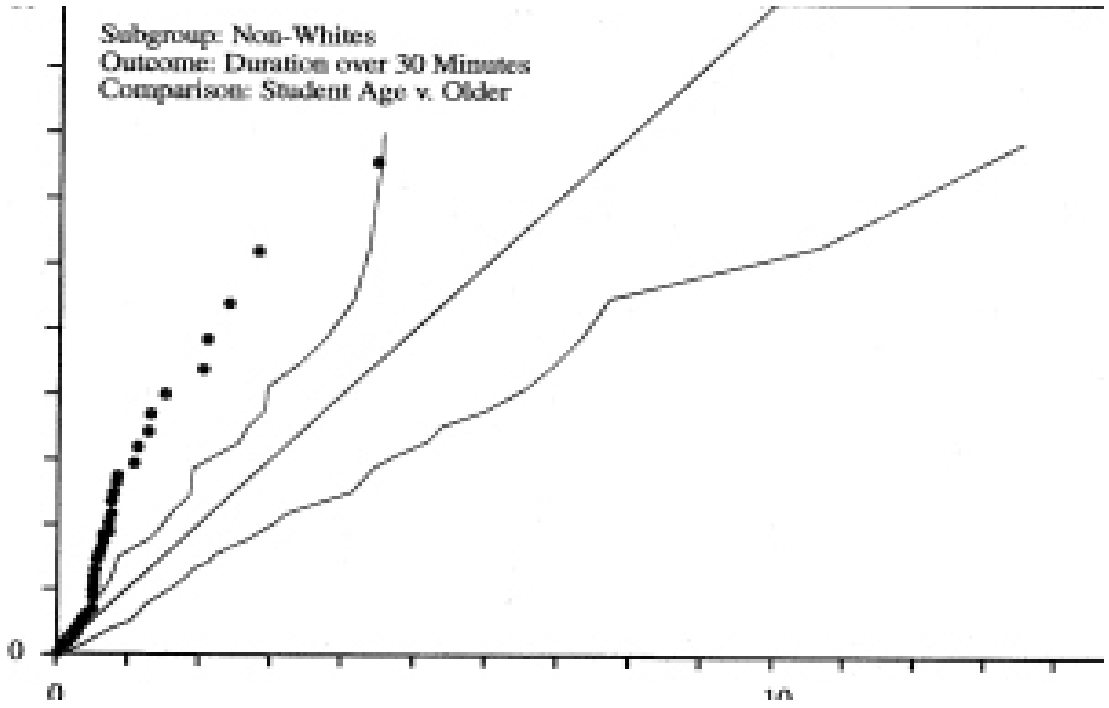


Figure 19 shows that stop duration over 30 minutes for older than student aged for non-white versus white are within lottery expectations. System wide.

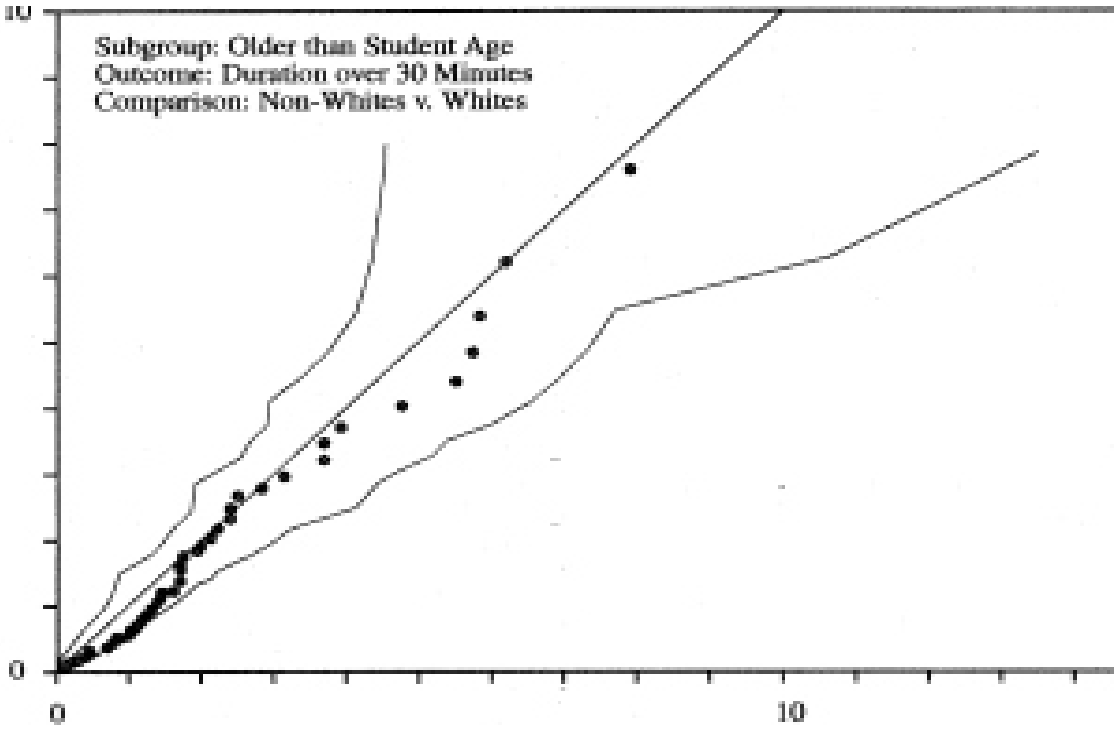
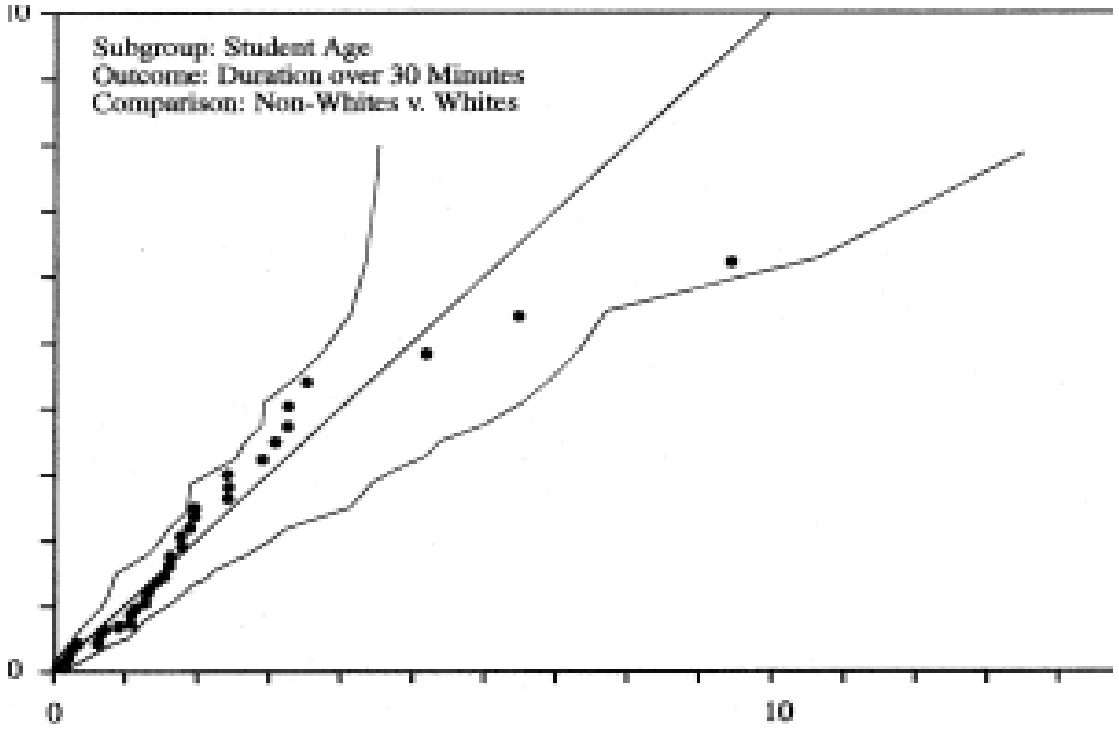


Figure 20 shows that stop duration over 30 minutes for student aged non-white versus white are within lottery expectations system wide except for a single officer for non-white.



Professor Ramsay described the results of the three point comparisons (Fig 13 through 20) as follows:

DURATION OVER 15 MINUTES

WHITE: No evidence of difference between age groups
NON-WHITE: No evidence of difference between age groups
AGE OVER 25: No evidence of difference between racial groups
AGE 25 & UNDER: Positive evidence that non-white are more frequently held over 15 minutes. Systems wide.

DURATION OVER 30 MINUTES

WHITE: Evidence that the over 25 group are more frequently held over 30 minutes. System wide.
NON-WHITE: Evidence that the over 25 group are more frequently held over 30 minutes. System wide.
AGE OVER 25: No evidence of difference between racial groups.
AGE 25 & UNDER: Evidence that one officer hold non-white over 30 minutes more frequently than white.

In reviewing all the data it appears that there is no evidence of bias in citation and/or arrest between white and non-white; no evidence of bias in citation and/or arrest between men and women; no evidence of bias in citation and/or arrest between student aged and older. Data shows evidence of a bias in search requests of men over women and of non-white over white. While a typical car stop takes from 15 to 20 minutes, stops in excess of 30 minutes are infrequent with only 335 (1.92%) of all stops lasting 30 minutes or more. In reviewing the data pertaining to stops with a duration in excess of 30 minutes, the data shows that there is evidence of bias against olders for both white and non-white.

To examine this "bias" further a break down by race of these 335 stops was conducted with the following results:

RACE	**STOPS**	**ARRESTS**	**% of TOTAL**
African American	9	2	2.69%
American Indian	4	1	1.19%
Asian	5	4	1.49%
Hispanic	60	29	17.91%
Haw/Pacific Islander	1	0	.30%
Some other Race	2	1	.60%
White	254	133	75.82%
	335	170	100%

In examining this data it is apparent that the significant indication of bias occurs with the Hispanic stops. Although no detailed examination has been conducted to date, upon reviewing this

information with staff, officers indicate that stops involving arrests typically take considerably longer than those where no action is taken or just a citation is written. Stops involving arrests quite frequently involve waiting for a tow truck to tow the vehicle. It has also been suggested that stops of Hispanics often involves a language difficulty, adding time to the duration of the stop.

In March of 2003, Meredith Bliss of the Oregon Criminal Justice Division, the State agency that oversees the Law Enforcement Contacts Policy and Data Review Committee, contacted the Police Department and advised that they were ready to receive Corvallis data. A copy of the Corvallis data was sent and it was included in the state analysis and 2002 Annual Report (Attachment C). While the other police agencies providing data only provide six data points (date/time of stop; location of stop; sex; race; action taken ie. citation, arrest, warning, etc; vehicle searched) compared to the 17 points provided by Corvallis, the results of the 600,000 stops collected from all of the participating agencies was very similar to the findings of the Corvallis analysis. The findings in the Annual Report state in part that, "While searches resulting from traffic stops are very infrequent, preliminary Oregon data suggests that members of minority groups tend to be searched slightly more frequently than the stopped population generally."

The Annual Report also states, "It is unclear to what extent a police officer would be able to know the race or ethnicity of a driver until after the stop has been made. It remains unknown then, to what extent any intentional discrimination could be determined from the stop data. Due to these considerations, the committee believes it can more productively focus its analytical efforts on post-stop activities such as searches, arrests, citations, and warnings."

The Police Department concurs with this assessment from the State Data Review Committee in their 2002 report and will add this point. In 1997, the Corvallis Police Department added the following to its General Orders as G.O. 1.9.3(AAS) Person Stops: It is a fundamental duty of every member of this agency to observe, respect, and protect the constitutional rights of every person with whom we come in contact. No person shall be subjected to any stop, detention, or search by members of this agency when such a stop, detention, or search is based solely and impermissibly on the person's race, color, sex, national origin, or sexual orientation, or upon the member's perception of any person's race, color, sex, national origin, or sexual orientation.

G.O. 1.9.3(AAS) is a strict operational directive that is fully understood by the members of the Police Department. The one year of data analyzed in this study represents a small snapshot in time and the data collection effort must continue to provide for a more complete analysis of data to aid in the determination of changing behaviors.

RECOMMENDATION:

There is a tremendous amount of data that will be shared with the members of the Police Department. The identified bias will be discussed in departmental training. The collection of stop data will continue and another analysis will be conducted in one year with the results being compared to the previous year to determine evidence of changes in behavior. The Police Department will continue to provide stop data to the State of Oregon Law Enforcement Contacts Policy and Data Review Committee.