March 21, 2002 By DAVID KOCIENIEWSKI

TRENTON, March 20 - Two years ago, when the Justice Department forced New Jersey officials to adopt new policies to discourage racial profiling by state troopers, it also told the state to study the driving habits of black and white motorists on the New Jersey Turnpike.

The task was complicated, but the reason for it was simple: numerous studies have shown that police officers in New Jersey and elsewhere stop black and Hispanic drivers for speeding more often than they stop whites. What is less certain is why - how much of that disparity is because of racial profiling and how much, if any, is attributable to differences in driving behavior, which have never been adequately documented.

But rather than clarifying the issue, the study created its own muddle. Justice Department officials say they have such serious questions about the methods used to gather the data that they have asked New Jersey's attorney general not to release the findings. It is not clear whether they will be made public.

The study involved photographing tens of thousands of drivers on the turnpike last spring while clocking speed with a radar gun. It found that black drivers sped much more than other drivers, according to three people who have reviewed the unreleased report. The racial gap was far wider than officials had expected and, in the politically charged controversies over profiling, the data could be used by defenders of the state police to argue that one reason black drivers are stopped more often than whites is that they are more likely to speed.

There is evidence that racial profiling was common practice in the New Jersey State Police in the 1990's: internal police memos; testimony by troopers; and training materials that encouraged officers to stop and search minority drivers. Most striking are police records that show that black and Hispanic motorists, who make up 30 percent of the drivers on the turnpike, were subjected to more than 80 percent of the searches.

There are interpretive disputes over all these issues, but none more vigorous than the debate over how to quantify racial profiling on the nation's highways. In North Carolina, for example, a professor hired in 2000 by the National Institute of Justice to study whether there are identifiable differences in driving behavior based on race, assigned teams of students to travel roads at the speed limit, record the race of drivers who passed them and use stopwatches to time the drivers' speed. Though the study has not yet been released, civil rights groups have dismissed its methods as "loony science" and called Matthew T. Zingraff, the lead researcher from North Carolina State University, a racist and a police apologist. Mr. Zingraff has said he was merely trying to find new data to quantify racial profiling.

The analysis of speeders on the New Jersey Turnpike was designed to reduce human error by using high-speed photography to help identify the race of drivers.

The study used specially designed radar gun cameras, which are used to photograph the license plates of speeders and whose photos are accepted as evidence in many courts around the country, to capture images of drivers in a variety of locations on the turnpike. The study defined speeding as exceeding the speed limit by 15 miles per hour, and officers are instructed to focus on the most egregious speeders.

Researchers then showed the photos of 38,747 drivers to teams of three evaluators who tried to determine each driver's race, without knowing whether the driver had sped or not. At least two evaluators were able to agree on the race of 26,334 of the drivers photographed, and an analysis of those motorists found that the disparity between white and black drivers widened at higher speeds.

In the southern segment of the turnpike, where the speed limit is 65 m.p.h., 2.7 percent of black drivers were speeders, compared with 1.4 percent of white drivers. Among drivers going faster than 90 m.p.h., the disparity was even greater.

By contrast, blacks were no more likely to speed than whites when the limit was 55 m.p.h. In those geographical segments of the turnpike, 13.1 percent of black drivers were speeders, compared with 13.5 percent of white drivers.

Those results startled officials in the state attorney general's office, who had assumed that the radar study would bolster their case that profiling was widespread. Instead, the study concluded that blacks make up 16 percent of the drivers on the turnpike and 25 percent of the speeders in the 65 m.p.h. zones, where complaints of profiling have been most common.

Recent state police figures showed that 23 percent of the traffic stops on the turnpike involve black drivers. Before 1999, when New Jersey agreed to allow a federal monitor to oversee the force, the best available data showed that about 27 percent of all turnpike stops involved black drivers, although troopers were allowed to ignore rules that they record the driver's race in each stop, so many analysts suspect that the actual percentage was far higher.

While the new report has only been officially circulated at the Justice Department and among top officials in the state attorney general's office, word of its results are being whispered about in state police barracks and have cheered those who argue that racial profiling has been exaggerated by lawyers and journalists.

"People who are being stopped are being stopped because of the way they're operating their vehicles, not because of their race," said David Jones, vice president of the New Jersey State Troopers Fraternal Association, who has not seen the report.

When New Jersey officials prepared to release the report in January, Mark Posner, a lawyer with the Justice Department's special litigation section, asked the state attorney general's office to withhold it. Mr. Posner wrote that he feared that the report's results may have been skewed by factors like glare on windshields, weather and camera placements on roadsides.

"Based on the questions we have identified, it may well be that the results reported in the draft report are wrong or unreliable," Mr. Posner wrote.

The company, Public Service Research Institute, says the research methods are sound and that none of those factors would have affected the results because they would not have affected black drivers any more than other drivers.

"We're quite confident in the validity of the report," said Robert B. Voas, a senior researcher on the project, who would discuss only the methodology of the study. "If we were allowed to release it, we're confident it would be approved by peer review and be published." The Justice Department also raised concerns about which photos were eliminated from the study, because researchers discarded photos if no evaluators agreed on a driver's race, but included a photo if two of three agreed. So the consulting firm performed another analysis of the data, using only those cases in which there was unanimous agreement, and the racial breakdown of speeders was virtually identical.

Researchers have acknowledged one apparent weakness in the study: Only 4.8 percent of the drivers in the photo study were classified as Hispanic, compared with 14.2 percent of the drivers who identified themselves as Hispanic during a survey the firm conducted two years ago by interviewing 4,000 drivers as they stopped to pay tolls. But the combined total of white and Hispanic drivers was the same in both studies, as was the number of blacks. The study's authors suggest that Hispanic drivers may have been undercounted in the photo/radar study because evaluators identified some Hispanic drivers as white.

Troopers' union officials said that the study is being held to an unduly high standard because its findings weaken the Justice Department's contention that racial profiling is pervasive on the turnpike. The most in-depth previous study of New Jersey roadways, conducted by professors from Temple and Carnegie Mellon Universities in 1994, classified the race of drivers on the turnpike by stationing students on the roadside with binoculars. Troopers argued that the 1994 study, which concluded that blacks were four times more likely to be stopped than whites, received far less public scrutiny, even though it used far less rigorous scientific methods.

K. Jack Riley, director of criminal justice research at the Rand Institute, said he considered the methods in the new study "a good start" because cameras and teams of evaluators were used to reduce human error. But he said researchers' inability to determine the race of nearly one-third of those drivers who were photographed will very likely leave the study open to questions. He suggested that a second camera be used in future studies to photograph license plates, allowing researchers to doublecheck the race of drivers.

Authors of the study offered two theories to explain why they found more speeding by blacks. Demographic research has shown that the black population is younger than the white population, and younger drivers are more likely to speed. The researchers also wrote that their survey of drivers two years ago found that black drivers were more likely to be from out of state and driving long distances than whites, and those factors might make them more prone to speed.

Whatever the reasons for the speeding rates found in the study, civil rights advocates and lawyers said they cannot obscure the state's acknowledgment that racial profiling was an accepted tactic in the department for years.

"Even if it turns out that there was evidence that blacks drive differently from whites, it doesn't account for the fact that blacks are four or five times more likely to be searched," said William H. Buckman, a lawyer who won the first New Jersey case in which a judge acknowledged the existence of racial profiling. "It also doesn't account for the fact that state police gave a handout giving troopers a whole list of traffic violations to use as a pretext for racial profiling. There is so much out there that no one can credibly deny that racial profiling is a reality."