In a recent study by Farmers Insurance Group, more than a third of motorists surveyed admitted to driving through a red light in the past year—an alarming statistic, given the fact that roughly 800 people die every year as a result of red light running in the United States. Thousands more are injured. Roughly half of those killed are not the signal violators themselves, but pedestrians and occupants of other vehicles. In Minnesota, there were 9 deaths and 1,666 injuries—84 of which were life-changing—due to red light running incidents in 2006.

Automated traffic signal enforcement using cameras mounted at intersections may be the most promising tool to reduce red light running. Several studies carried out in cities around the country have shown that the presence of intersection cameras can dramatically reduce the number of red light violations. Drivers are much less likely to willfully run a red light if they know their actions will be recorded.

However, acceptance of such automated enforcement measures—by the driving public and by political leaders—is complicated by several issues. Here in Minnesota, for example, deployment of cameras at several Minneapolis intersections was halted in part by concerns over how the criminal liability for red light violations would be assigned to drivers based solely on the image of a vehicle (rather than an identifiable individual).

Pursuing our mission to develop “human-centered technology,” the ITS Institute is currently supporting research into the legal issues raised by automated enforcement. Leading this effort is the TechPlan research group, an interdisciplinary group of faculty and researchers whose work focuses on the use of ITS technologies in the fields of planning and policy.

TechPlan leader Frank Douma, a research fellow at
the University’s Hubert H. Humphrey Institute of Public Affairs whose background includes degrees in public affairs and law, has formed a productive collaboration with professor Stephen Simon and associate professor William McGeeveran of the Law School. Their work is developing a clearer picture of the rapidly evolving relationship between privacy law and emerging technologies in transportation.

With this research and several other studies now in progress, TechPlan is building on the work begun by the Sustainable Technologies Applied Research (STAR) Initiative, led by Lee Munnich of the Humphrey Institute.

In the case of red light running, the central issue is vicarious criminal liability—whether criminal liability can be assigned to the owner of a vehicle that runs a red light without direct evidence that the vehicle’s owner was operating it at the time the infraction was committed.

Without revisions to state law establishing vehicle owners’ vicarious criminal liability for red light running, automated enforcement would require the ability to identify vehicle drivers. Though well within the capabilities of current camera technology, this type of enforcement raises even more thorny privacy issues with ramifications extending all the way to the Fourth Amendment of the U.S. Constitution.

Clearly, ITS technology and public policy are inextricably linked. Effective technological solutions cannot be developed without considering the policy framework governing their implementation; nor is it possible to formulate sound transportation policy without understanding the technological tools being developed to manage and improve the transportation system.

The issues raised by red light cameras are just one example of the critical dialogue between technology and public policy—a dialogue that will continue to evolve as the public demands faster, safer, and more reliable transportation options.

Finally, I would like to take this opportunity to thank five departing members of the ITS Institute Board: Kathryn Swanson, who served as director of the Minnesota Department of Public Safety’s Office of Traffic Safety; Toni Wilbur, technical director of operations research and development at the Federal Highway Administration; Randy Halvorson, director of the Minnesota Department of Transportation’s program management division; Vince Magnuson, vice chancellor for academic administration at the University of Minnesota Duluth; and Anthony Strauss, assistant vice president of patents and technology on the University’s Twin Cities campus. During their tenure on the Board, all made important and vital contributions to the Institute’s mission; their abilities and enthusiasm will be missed.

Max Donath, Director
ITS Institute