accidents, higher repair costs, and higher theft rates. This is especially the case in a no-fault state that limits the liability of drivers for damage or injury to others. This market failure could lead to an inefficiently larger share of light/heavy trucks on our roads and highways simply because the safety benefits of driving a light/heavy truck or SUV are higher than the cost of damages and injuries to occupants of other vehicles and pedestrians (external costs).

Several policies might help to internalize the costs that light/heavy trucks and SUVs impose on other vehicle occupants and pedestrians. For example, corrective taxes could be imposed in the form of an excise tax on heavier vehicles. In Minnesota, the registration tax for passenger-class vehicles such as cars, vans, SUVs, and pickups is determined by the base value and age of the vehicle, not vehicle type. Alternatively, gasoline taxes could be increased to ensure light/heavy trucks and SUVs pay an optimal amount of gasoline taxes. Although gasoline taxes do not vary by vehicle type, light/heavy trucks and SUVs consume more gasoline, and thus would be subject to higher taxes. Another alternative is a gasoline tax that is proportional to a vehicle’s weight, or one that varies by a vehicle’s make and model. However, the enforcement of such a tax would be problematic.

Finally, policy makers could consider imposing more stringent safety regulations and licensing requirements on heavier vehicles to reduce accident risks associated with them.

Evaluating the optimal amount of corrective taxes or other corrective policies to internalize the costs that light/heavy trucks and SUVs impose on society is beyond the scope of this article, but such calculations would require quantifying the cost implications of light/heavy trucks and SUVs not only on standard passenger car occupants, but also on other types of vehicle occupants, pedestrians, bicyclists, and motorcyclists. Moreover, a broad range of external-cost implications other than hospitalization costs should be included in this calculus. For example, other monetary and nonmonetary costs of injury, pain and suffering, disability, and fatality need to be considered. In future work, we aim to study and quantify the implications of fatalities in accidents involving light/heavy trucks and SUVs statewide in Minnesota, differentiating between urban and rural settings.

Several policies might help to internalize the costs that light/heavy trucks and SUVs impose on other vehicle occupants and pedestrians. For example, corrective taxes could be imposed in the form of an excise tax on heavier vehicles. In Minnesota, the registration tax for passenger-class vehicles such as cars, vans, SUVs, and pickups is determined by the base value and age of the vehicle, not vehicle type. Alternatively, gasoline taxes could be increased to ensure light/heavy trucks and SUVs pay an optimal amount of gasoline taxes. Although gasoline taxes do not vary by vehicle type, light/heavy trucks and SUVs consume more gasoline, and thus would be subject to higher taxes. Another alternative is a gasoline tax that is proportional to a vehicle’s weight, or one that varies by a vehicle’s make and model. However, the enforcement of such a tax would be problematic.

Finally, policy makers could consider imposing more stringent safety regulations and licensing requirements on heavier vehicles to reduce accident risks associated with them.

Evaluating the optimal amount of corrective taxes or other corrective policies to internalize the costs that light/heavy trucks and SUVs impose on society is beyond the scope of this article, but such calculations would require quantifying the cost implications of light/heavy trucks and SUVs not only on standard passenger car occupants, but also on other types of vehicle occupants, pedestrians, bicyclists, and motorcyclists. Moreover, a broad range of external-cost implications other than hospitalization costs should be included in this calculus. For example, other monetary and nonmonetary costs of injury, pain and suffering, disability, and fatality need to be considered. In future work, we aim to study and quantify the implications of fatalities in accidents involving light/heavy trucks and SUVs statewide in Minnesota, differentiating between urban and rural settings.

Pinar Karaca-Mandic is assistant professor in the Division of Health Policy and Management at the University of Minnesota’s School of Public Health.

Chunying Xie Awarded CURA Dissertation Research Grant

Chunying Xie, a doctoral student in the Department of Economics at the University of Minnesota, was awarded the 2012 CURA Dissertation Research Grant. The grant provides one year of support to a Ph.D. candidate in good academic standing at the University of Minnesota for the purpose of completing dissertation research on a significant issue or topic related to urban areas in the upper Midwest region.

Xie’s research focuses on the MnPASS program’s dynamic pricing mechanism. Minnesota has been a pioneer in introducing dynamic pricing into its highway network, beginning with the introduction of the MnPASS program on Interstate 394 in 2005. Motorists who wish to use the special-access MnPASS lanes are charged a variable price that changes every three minutes based on current traffic conditions. If traffic is light, access to MnPASS lanes may cost only $1.25; during heavily congested rush hours, the price could rise to $8.00. This variable pricing mechanism serves an important economic allocation function, ensuring that the price is not so high that it discourages use of the MnPASS lanes, resulting in underutilization, and not so low that it encourages too many vehicles to use the lanes, resulting in congestion that slows buses and carpools.

Xie’s research will model how individuals respond “on the fly” to variable prices for MnPASS lanes using a newly available dataset from the Minnesota Regional Transportation Management Center. The dataset includes data in 30-second intervals on traffic volume, congestion, and speed for every lane, entrance, and exit on Interstate 394, as well as corresponding data on the MnPASS lane prices that drivers would have seen at every instant. The model will allow Xie to evaluate the traffic-efficiency gains of the program for drivers in the MnPASS lanes and regular lanes, and provide recommendations for modifying the pricing formula MnPASS uses to make the program more efficient.

An article summarizing Xie’s dissertation research will appear in a future issue of the CURA Reporter. For more information about the CURA Dissertation Research Grant program, visit www.cura.umn.edu/Dissertation.