Providing incentives that make alternative transportation modes an attractive alternative to commuters is a crucial step towards reducing single occupancy vehicle (SOV) use. Most incentives focus on subsidizing transit use or penalizing SOV use. While traditional financial incentives have proved useful, new incentives, both monetary and non-monetary, can accelerate a modal shift away from SOVs. Recent research and innovative tools developed by the private sector incorporate financial rewards as well as other psychological motivations.

Conventional transportation demand management strategies prescribe a combination of negative and positive financial incentives. Positive incentives include transit vouchers and parking “cash out” programs. The Commuter Check program in the San Francisco Bay area provides subsidized transit benefits to employees. The program, based on Section 132(f) of the federal tax code, allows employers to offer employees a variety of financial incentives for the use of alternative commute modes, including buses, trains, and vanpools (Commuter Check Program). About a third (31%) of the employees who receive Commuter Checks increased their use of transit. An estimated 17 million vehicle miles and 61 million tons of pollutants were removed from Bay Area roads in 1994 due to Commuter Check (Victoria Transport Policy Institute 2011).

The suburban city of Pleasanton, CA operates a parking cash out program that offers $1.50 per day to employees who use a commute alternative instead of driving to work alone. The program has resulted in an annual savings of 20,625 trips, which translates into 12,375 gallons of fuel and 123 tons of CO2 (Victoria Transport Policy Institute 2011). GEICO (Friendship Heights, MD) adopted a parking management program when it consolidated 2,500 employees into a new headquarters. GEICO restricted on-site parking to 1,020 spaces; charged $30-$60/month for the parking garage and $10/month for a surface lot; allowed free parking for car and vanpools; subsidized vanpools and offered transit subsidies. Just 40% of GEICO’s employees drive alone to work, 20% rideshare and 31% use transit. Compared to nearby employers with similar conditions, GEICO’s worksite requires 39% fewer parking spaces (Parking Management).

Negative incentives include congestion pricing and HOT lanes. Since February 2003, the city of London has charged a fee for driving private automobiles in its central area during weekdays as a way to reduce traffic congestion and raise revenues to fund transport improvements. Vehicle speed has increased by 37%. Peak period delays have decreased by 30%. Bus delays have decreased by 50%. Transit ridership has increased by 14% (Litman 2011). High Occupancy Toll (HOT) lanes are designated lanes motorists driving alone can use if they pay a toll, allowing them to avoid traffic delays in the adjacent regular lanes. HOT lanes are usually combined with High Occupancy Vehicle (HOV) lanes. Toll-paying drivers and toll-free carpools/vanpools share the lane (MTC Planning 2011). California currently leads the nation in use of HOT lanes with nine HOT lane projects underway. HOT lanes incentivize use of transit vehicles by offering access to faster moving lanes, which entices some commuters to
switch from automobiles to express buses or commuter-shuttle vans (Poole and Orski, 1999). While the methods described above have been successful, new research is being performed that gets at incentives that change driving behavior and choice of travel mode in a different way using principles of behavioral psychology. A fascinating new study by Ian Reagan, James P. Bliss, Ron Van Houten, and Bryan W. Hilton tests an alerting system and a monetary incentive system with the objective of reducing speeding more than 5 mph faster than the posted speed limit (Reagan et al. 2012). Drivers drove vehicles fitted with a GPS unit that displayed the driver’s speed and issued a visual and auditory alert of changes in the speed limit. The monetary incentive system was structured as a

“bonus system with a delayed incentive and an immediate disincentive. Individuals in the MI condition began Weeks 2 and 3 with $25.00. In a manner similar to Harms et al. (2007), the bonus declined by 3 cents every 6-s period that the driver remained 5 to 8 mph faster than the limit. The penalty increased to 6 cents if the driver was 9 mph or more faster than the limit during any segment of the 6-s period. A visual display, analogous to a meter in a taxicab, provided updated bonus amounts but displayed the information only when the ignition was turned on or off” (Reagan et al. 2012, 5).

The researchers found that the monetary incentive consistently increased the percentage of time driving at or slower than the speed limit and reduced the percentage of time driving 5 mph faster than the posted speed limit (Reagan et al. 2012, 9). In addition to the monetary rewards, researchers found that some drivers turned the exercise into a game. According to Reagan, “at least one driver said they made a game out of it. They wanted to see if they could keep that incentive amount of $25” (Vedentam 2012). The report’s findings could lead to the deployment of speed adaptation systems in conjunction with insurance premiums to improve traffic safety (Reagan et al. 2012, 12).

RideAmigos, a Santa Monica based transportation consultant, designs virtual transportation programs that enable both financial and non-financial incentives. RideAmigos’ Virtual Transportation Management Organization

“offers a unique incentive program by blending human desires to ‘do the right thing’ with aspiration for achievement. For example, a community of registered users is educated on the environmental and health benefits of their transit options. Each option is assigned points based on a tiered system (e.g., biking to work provides higher points than carpooling). Users that accumulate the highest points over the course of a given period are awarded with free bikes, food; transit passes etc. by a community of local supporters (e.g., government, businesses, non-profits, etc.). Companies that have employees participating in the platform can also provide internal reward programs to encourage transit use” (Community Virtual
Transportation Program)

RideAmigos’ Virtual TMO uses competition as an incentive to ‘do the right thing’. By assigning points to environmental and health benefits, RideAmigos cleverly incentivizes users to consider the environmental impact of their travel mode. Prizes provide a tangible reward, but the process of competition, an innately compelling human endeavor, is its own reward as well. RideAmigos’ system can complement and enhance existing financial incentives by tapping into non-financial motivations and desires.

The Center for Neighborhood Technology (CNT), “a creative think-and-do tank” has developed an innovative tool that helps people understand the true cost of living in a particular location. Their Housing and Transportation (H+T®) Affordability Index measures the comprehensive costs of your neighborhood and it helps people choose location efficient communities in which to live.

However, realistically, many families will still choose to live in areas further from their workplaces if they are able to provide other things like excellent schools or quality open space. Creative developers are finding that in addition to building green and energy efficient homes, offering transportation choices in historically non-transit friendly suburbs is another tool to attract home buyers.

Aside from a commuter rail line, South Orange County, California is nearly devoid of public transit. Connecting residents to the jobs centers in San Diego and North Orange County and Los Angeles means clogging up freeways and toll roads. One South County developer is hoping to change the SOV-dominated culture and offer his residents alternative ways to get to work, school, and recreation. In collaboration with the developer and the local transit agency, RideAmigos will deploy a suburban community-based multi-modal program. Like their virtual TMO’s in more urban areas, residents will be able to track their bicycle, telecommuting, train rides, and walks to work and compete with other residents for rewards. But, the system will also provide a flexible means to rideshare. Via an on-line registry and reservation system, residents will be able to form traditional vanpools and carpools, and they will also be able to join a van one to four days a week. By simply reserving a seat the night before and showing up at the van the next day, residents can vary their commute. The hope is that by providing people with transportation choices in a fun and flexible way, we can wean them from their SOVs, save them money, and make our communities more livable.

In a time of extreme fiscal constraints, more efficient means of motivating travelers to use alternative modes of transportation need to be explored. The research described above shows that for little financial reward, travelers change their traveling habits dramatically. Companies like RideAmigos are providing communities a valuable tool at relatively little cost that incentives transit, vanpooling, bicycling, and other modes. Programs and policies that tap into psychological motivations that drive travel mode choice are powerful tools adaptable to any community in any economic climate.
Works Cited