

The Cities Transportation Energy Effectiveness Challenge

What: A challenge between transportation corridor management teams to achieve a big and ongoing improvement in the transportation energy effectiveness of their corridors, in return for a nice prize and bragging rights. We will define a metric and set a stretch target. We will establish rules and source a prize purse in the order of \$1 million. We think the metric should add together all the miles people travel, by whatever mode, and divide it by (or into) the sum of all the energy used, or the emissions generated by, all the transport modes used.

Who: Self formed teams of people and organisations, public and private, who are connected along transport corridors and want to take a shot at winning the prize by working together, including (probably) engaging their citizenry, and implementing solutions that make their systems work significantly better.

Why: Transportation is a large user of energy, and much of it is wasted through ineffective use. Even relatively efficient vehicles use energy ineffectively when stuck in traffic. We know there are ways to make transportation more effective, but we fail, day in and day out, to change the way our transport systems operate. In many cases this is because the components of the system operate as silos. In many cases there could be small tweaks to the system but the players do not seem to be incentivized to make them.

Offering a prize is an acknowledged mechanism (see www.xprize.org) for motivating people to action. Similarly people will put incredible effort into competitions where the only prize is being able to brag (the Olympics comes to mind). We need to do something to get action, for energy security, for reduced emissions, and for better economic productivity. The Challenge could be a catalyst for experimentation and behavior-change and will benefit all cities (whether participants or not) through the development of new practises and technologies.

Where: We expect that every urban area in the world, if they have a congestion problem or not, is using transportation energy in a sub-optimal way. Every urban area could enter this challenge. We might need a handicapping system to account for cities where there are existing significant advantages (though we prefer not to have too much complexity).

When: We are currently seeking endorsement and support for the concept of a challenge. There is much to do. We would like to announce the Challenge, with everything in place (metric, target, rules, prize purse, etc.), early in 2010: the sustainable transport challenge for the new decade. The Challenge will be expected to run for several years, perhaps even the whole decade, with a target that really stretches the capabilities of the participating cities and requires new solutions that have not yet been thought of. Entries might be open throughout 2010. We envisage interim annual sub-challenge activity (the Transportation Energy Effectiveness Olympics?) that would help to bring new ideas into the mainstream and recognise those who have been making the greatest progress. The prize would be awarded as soon as a team achieved the stretch target.

Who: This initiative is supported by a growing list of people, including, in alphabetical order, on first names basis: Clark Kellogg (Partner, Collective Invention.com, Advisor, Sustainable Mobility Summits, Bd. of Directors, Sustainability Educator, UC Berkeley, Spark Int'l Design Awards, USA),

Dan Sperling (author of the book: Two Billion Cars, and Director, Institute of Transportation Studies; Acting Director, Energy Efficiency Center; Professor, Civil & Environmental Engineering; Professor, Environmental Science and Policy; University of California, Davis, USA),

Dan Sturges (founder of Intrago, USA),

Derek Toups (Member, TRB Emerging and Innovative Public Transport and Technologies Committee (AP020) and transportation professional, USA),

Eric Britton (Managing Editor of World Streets, France),

Eric Schreffler (chair, TRB Transportation Policy Section, USA),
 Kevin Luten (President - Transportation Demand Management Institute; Director, UrbanTrans ANZ, Australia),
 Lori Diggins (chair of the TRB TDM committee, USA),
 Lynn Overcashier (511 Contra Costa, and member of the TRB TDM committee, USA),
 Paul Minett (Co-Founder and Chief Executive Officer of Trip Convergence Ltd, New Zealand),
 Paul Toliver (former chair and member of the Board of the Mineta Transportation Institute, USA),
 Phil Winters (TDM Program Director Center for Urban Transportation Research University of South Florida, USA),
 Sue Zielinski (CEO of SMART at University of Michigan, USA), and
 Susan Shaheen (Honda Distinguished Scholar in Transportation, ITS-Davis & Co-Director, Transportation Sustainability Research Center University of California, Berkeley, USA).

Next: We need to expand the group of people who are considering this idea; find corporate sponsors; initiate workshops to agree the metric, the prize, and the rules; develop a marketing program; launch.

Timeline:

- Find corporate sponsor or family of sponsors who would like to associate themselves with this initiative
- As soon as possible, convene workshops to agree metric, prize, rules
- As early as possible in 2010, launch challenge

Table 1: Preliminary Comparison based on Texas Transportation Institute 2005 Urban Mobility Report

City	P-MPG	San Antonio, TX	20.66
New York-Newark, NY-NJ-CT	23.94	San Francisco - Oakland, CA	20.61
Honolulu, HI	23.17	Cincinnati, OH-KY-IN	20.58
Spokane, WA	22.93	Birmingham, AL	20.58
Corpus Christi, TX	22.46	Washington, DC-VA-MD	20.57
Las Vegas, NV	21.95	Buffalo, NY	20.56
Little Rock, AR	21.81	Pittsburgh, PA	20.55
Salem, OR	21.73	Charleston-North Charleston, SC	20.46
Columbia, SC	21.52	Providence, RI-MA	20.45
Kansas City, MO-KS	21.52	Oxnard-Ventura, CA	20.43
Cleveland, OH	21.51	Boulder, CO	20.37
Rochester, NY	21.46	Tulsa, OK	20.36
Anchorage, AL	21.36	Allentown-Bethlehem, PA-NJ	20.34
Albany-Schenectady, NY	21.35	Charlotte, NC-SC	20.32
New Haven, CT	21.34	Toledo, OH-MI	20.32
Bakersfield, CA	21.26	Riverside-San Bernardino, CA	20.29
Brownsville, TX	21.18	Nashville-Davidson, TN	20.25
Beaumont, TX	21.18	Seattle, WA	20.22
Richmond, VA	21.17	Austin, TX	20.21
Akron, OH	21.04	Baltimore, MD	20.19
Eugene, OR	21.02	Colorado Springs, CO	20.17
Hartford, CT	20.97	Bridgeport-Tamford, CT-NY	20.16
Salt Lake City, UT	20.96	Laredo, TX	20.11
Springfield, MA-CT	20.89	Jacksonville, FL	20.1
St. Louis, MO-IL	20.87	Grand Rapids, MI	20.04
Boston, MA-NH-RI	20.78	Raleigh-Durham, NC	20.03
Fresno, CA	20.75	Louisville, KY-IN	20.02
Oklahoma City, OK	20.7	Milwaukee, WI	20.01
Dayton, OH	20.69	El Paso, TX-NM	20.01

Chicago, IL-IN	20	Houston, TX	19.42
Columbus, OH	20	Atlanta, GA	19.35
Portland, OR-WA	19.97	Indianapolis, IN	19.33
Memphis, TN-MS-AR	19.92	Pensacola, FL-AL	19.31
Virginia Beach, VA	19.9	Omaha, NE-IA	19.13
Philadelphia, PA-NJ-DE-MD	19.8	Denver-Aurora, CO	19.03
Albuquerque, NM	19.8	Orlando, FL	19.03
New Orleans, LA	19.74	Sarasota-Bradenton, FL	18.93
Cape Coral, FL	19.72	Tucson, AZ	18.88
Minneapolis-St. Paul, MN	19.56	San Jose, CA	18.79
Sacramento, CA	19.52	Miami, FL	18.53
San Diego, CA	19.45	Los Angeles-LBch-Santa Ana, CA	18.46
Phoenix, AZ	19.44	Tampa-St. Petersburg, FL	18.29
Dallas-FortWorth-Arlington, TX	19.44	Detroit, MI	18.26

Method for Table 1: The statistics from the 2005 Urban Mobility Report have been used, together with mode split averages from the American Community Survey (ACS)(travel to work). Fuel efficiency for public transport has been assumed to be 50 person-miles per gallon for bus transit, and 200 person-miles per gallon for rail transit, applied as national averages, based on mode split percentages from the ACS, pending sourcing more reliable public transportation energy efficiency statistics. Cycling and walking have not been taken into account, though we think they should be.

Needed:

- comparative information for a range of non-US cities
- further refinement of the above US city calculations

The potential impact of the Challenge on US cities:

Energy impact of all equalling the best: Reduced annual energy use in these 85 cities of 6.4 billion gallons.

Energy impact of all equalling 100 p-mpg-e: Reduced annual energy use in these 85 cities of 32.1 billion gallons.

For more information, to volunteer to help, or to be added to the list of supporters, please contact the City Transportation Energy Effectiveness Challenge Secretariat, c/o Paul Minett, Trip Convergence Ltd, paulminett@tripconvergence.co.nz, +64 9 524 9850 (New Zealand), or 1 206 631 9702 (USA).