



Vespanomics Platform

Introduction:

If America is serious about ending its "oil addiction," consumers must be encouraged to curb their rampant use of gasoline for transportation purposes – by far the largest and fastest growing use of oil in the U.S. According to the Federal Highway Administration, personal transportation in the U.S. accounts for 55% of all petroleum consumption annually².

While research into the development of new fuel technologies is clearly a smart investment of taxpayer funds, practical use of these new technologies is many years away. Consequently, in the short-to-medium-term Americans must confront their transportation-based energy issues in other ways.

In order to meet the President's goal of reducing America's addiction to oil, consumers will need to change their attitudes and behaviors regarding personal transportation in ways that offer the potential to significantly reduce energy consumption and environmental impact. There is no single approach that can solve the problem; rather, a broad set of initiatives may be able to provide a meaningful solution.

Piaggio Group Americas, manufacturer of the Vespa scooter, is at the forefront of this issue. Along with other scooter and motorcycle manufacturers, Piaggio believes that motor scooters and other street-legal two-wheel vehicles offer an important and viable means of transportation in many situations, and could bring a lasting, positive impact on domestic energy stability and America's dependence on foreign oil.

Piaggio Group Americas advocates making U.S. cities more scooter friendly so that scooters will become a vital component toward stemming the U.S.'s "oil addiction".



Situation Analysis:

Currently, the United States consumes more than 25% of the world's total supply of oil³. As a result, the U.S. produces a significant amount of the world's carbon emissions. Oil consumption in the U.S. is increasing at a rate of approximately 2% annually. Over the next 50 years, the use of energy specifically for transportation is expected to nearly double⁴. In the absence of technological changes, transportation-related consumption of oil will continue to grow:

- According to the Federal Highway Administration, in 2004, American passenger cars consumed a record 208 million gallons of gasoline per day, which was 1.5 million gallons more per day than the previous year⁵.
- According to a May 2006 survey conducted by ICR on behalf of Piaggio Group Americas, 30% of U.S. consumers indicated they would be extremely or somewhat likely to consider using a scooter for 35% of the mileage currently traveled by car, truck or SUV – yielding a 10% reduction in daily fuel usage.
 - If Americans switch 10% of their mileage to scooters, they will consume 14 million gallons less per day, thereby keeping demand under control.
- In 2005, the U.S. imported 9.5 million barrels of oil on average per day (from the top 15 importers). This was an increase of approximately 330,000 barrels per day from the previous year.
 - Switching 10% of mileage to scooters might significantly reduce the annual increase in oil imports by 341,000 barrels per day in the intermediate term.

With more Americans commuting to work (the average annual time spent commuting is over 100 hours per person), the roads are becoming increasingly congested. With increased congestion comes a corresponding rise in wasteful gas consumption.

- In 2003, Americans were delayed 3.7 billion hours due to traffic congestion, compared to 2.4 billion in 1993 and .7 billion in 1982⁶.

Metropolitan areas continue to expand as residents move to suburban and exurban communities seeking affordable housing. Commuting costs are becoming a growing budget item for these residents, who will increasingly need to explore new, cost-effective means of transportation, both for daily commuting and access to local transit hubs.

- Americans spend an increasing amount of money on transportation. According to the Consumer Expenditure Survey from 2003, the average American household spent \$7,781 annually.



Scooters: A Viable Solution to Stem U.S. Oil Addiction

In countries around the world, millions of people use motor scooters to meet their personal transportation needs. Throughout Europe and Asia, people have recognized the economy and convenience of motor scooters for decades. Consistently high gas prices, expensive vehicle registration fees and crowded highways in these regions have, in combination, positioned the two-wheeled option as a highly attractive personal transportation solution.

2005 Two-Wheel Vehicle Sales

- Italy – 395,000 scooter sales; 155,000 motorcycle sales; 550,000 total
- UK – 40,000 scooter sales; 91,000 motorcycle sales; 131,000 total
- Spain – 172,000 scooter sales; 121,000 motorcycle sales; 293,000 total
- France – 168,000 scooter sales; 155,000 motorcycle sales; 323,000 total
- Belgium – 20,000 scooter sales; 19,000 motorcycle sales; 39,000 total
- Germany – 99,000 scooter sales; 140,000 motorcycle sales; 239,000 total
- Japan – 707,000 total power two wheel sales
- Taiwan – 794,000 total power two wheel sales
- India – 1,215,000 scooter sales; 5,580,000 motorcycle sales; 6,795,000 total

Despite the obvious benefits of this transportation alternative – one enthusiastically embraced across the world – scooters and other two-wheel vehicles are only marginally used in the U.S.

Americans drive their cars, trucks and SUVs each day in situations where motor scooters would be perfectly appropriate and convenient. For example, scooters provide a smart option for taking short trips, commuting each day to work or to local transportation hubs, conducting errands, etc. By utilizing two-wheel transportation in these and other scenarios, Americans could experience an immediate, significant reduction in gasoline usage and emission of air pollutants.

- If Americans were to utilize one of the latest eco-friendly motor scooters available in the market, they would, on average, reduce their fuel consumption by 58% and carbon dioxide emissions by 80%.

Independent research shows that Americans would consider utilizing motor scooters for up to 10% of the mileage currently traveled in a car, truck or SUV⁷. If they did the savings would be as follows:

- Oil consumption per day – savings of 14.4 – 18.4 million gallons
- Carbon dioxide emissions per day – a decrease of 324 million lbs



Encouraging Behavioral Change:

In an effort to position motor scooters and motorcycles as a viable solution for America's oil dependency problems, Piaggio Group Americas is encouraging local and federal government agencies to consider adopting parking and traffic reforms that facilitate the use of two-wheel vehicles as a transportation alternative available to the general public.

Underscoring its position, Piaggio Group Americas placed an open letter addressed to all U.S. Mayors in the New York Times on February 21, 2006. The full-page message outlined the benefits of scooters in saving fuel and reducing air pollution, and it encouraged the Mayors to engage in a new, open dialogue about energy self-sufficiency in this country.

I. Suggested Solution – Introduce Two-Wheel Parking:

Just as parking spaces for compact cars and handicapped parking stalls have increased efficiency and convenience in urban and suburban communities, officially designated two-wheel parking facilities can do the same.

Government agencies should consider removing the two-wheeler from the four-wheeler parking space and placing it in its own, scaled down zone. This is a simple concept that can be embraced by city councils, urban planners, local merchants, contractors, shopping center management and private businesses whenever parking for motor vehicles is provided.

Suggestions for Motorcycle/Scooter Parking:

Street-legal parking – convert a number of existing parking spaces every couple of streets to motorcycle/scooter parking

- Spaces can be metered or un-metered
- The smaller size of two-wheel vehicles allows them to fit into unoccupied areas on streets and sidewalks, creating efficiencies in urban planning and increasing city revenues (if metered).
- Six motorcycles, scooters or limited-access motorcycles carrying from six to twelve people can be parked in the area normally taken up by one automobile. If, however, no motorcycle parking facility is provided in the area, one would possibly find those six motorcycles occupying up to six separate automobile spaces.
- For example, the Philadelphia, PA, City Council unanimously approved a measure to replace a number of handicapped spaces for two-wheel vehicle parking.

Convert unused space – cement curbs of a certain size can be converted to two-wheel parking. A specialized parking area for motorcycles and scooters not only leaves more space for the automobiles, but also caters to the riders' needs by providing a well-lit, convenient and secure location in which they may confidently leave their vehicle. Such facilities can be small in area and can usually be located near a building entrance or at the end of a parking island.



Parking garages – designate parking spaces in municipal garages for two-wheel vehicles. Create a more equitable rate structure for two-wheel vehicle parking in private garages.

Sidewalk parking – permit scooters and motorcycles to be parked in designated areas on sidewalks and locked to structures which currently accommodate bicycles.

Global Best Practices

Toronto, Canada – The City Council recently amended the parking by-laws to allow motorcycles and scooters to park for free on city streets with on-street parking meters. In addition, Toronto is pursuing allocating certain spaces in city lots for two-wheel vehicle parking as well as examining if two-wheel vehicles can park on city sidewalks.

San Francisco, CA – The city designated 1,696 parking spaces specifically for motorcycles and scooters, both metered and un-metered. In addition the city has begun replacing single-spaced meters with multi-space meters to better accommodate motorcycles. Metered parking is prorated for motorcycles ranging from \$.10 – \$.25 per hour depending on location. (San Francisco Dept. of Parking & Traffic)

Philadelphia, PA – The city council has approved a recommendation by Councilman DiCicco to convert a number of handicapped spaces to motorcycle/scooter spaces. One handicapped space will accommodate 5 scooters. The city determined that 40% of handicapped spots go unused on a daily basis and has a motorcycle/scooter parking initiative in the works. The plan is to devote a handicapped parking space on every other block for two-wheel vehicle parking. (City Paper, 1/4/06)

Seattle, WA – The city installs reserved motorcycle parking spaces where the adjacent business caters to motorcycles and requests such parking. They also install parking in areas where a higher use of motorcycles exists (i.e., near universities). 100 parking spaces have been installed to date. (Seattle DOT)

Massachusetts – A bill was introduced in 2005 to allow motorcycles to use the shoulder in certain traffic situations. (www.motorcycle-blog.com, 6/25/05)

London, UK – The government developed the Advisory Group on Motorcycling in 1999 in response to a study indicating that motorcycles are a cost-effective, alternative means of transportation. Many reforms have been implemented: local governments can install secure motorcycle parking devices, the government has started an experiment regarding motorcycles traveling in bus lanes, and approximately 75 motorcycle parking areas have been developed. (www.cityoflondon.gov.uk; London Department for Transport)

Paris, France – In 2003 Paris implemented 1,000 motorcycle parking areas for up to 5 motorcycles each. In addition the city has created special lanes for two-wheeled vehicles and allows many scooter riders to ride with only a motorcycle license. (www.motorbiker.org)



Sydney, Australia – The city has established approximately 300 motorcycle parking spaces. (www.cityofsydney.nsw.gov.au)

Vancouver, British Columbia – In collaboration with Easy Park, the city has established motorcycle parking spaces in 3 parking lots costing \$.25–\$.50 per hour. In addition the city created motorcycle lanes on select roadways. (British Columbia Coalition of Motorcyclists: www.bccom-bc.com)

Current Statistics:

The following chart compiles data in support of this discussion. Specifically, it illustrates how scooters compare to other popular forms of transportation on fuel consumption and cost.

Comparative Figures*	MPG	Gallons per Year (12,000 miles)	Fuel Cost (for 12,000 miles)	MSRP (avg)
Vespa	72	167	\$390	\$4000
Hummer	10	1200	\$2808	\$53280
Toyota Camry	30	400	\$936	\$20375
Toyota Prius	55	218	\$511	\$21725

Sources: * Federal Highway Administration, "Annual Vehicle Distance Traveled in Kilometers and Related Data – 2004"; (\$2.34 regular gas per gallon); Toyota Camry calculated by average of city and country MPG

- The Vespa scooter delivers more than double the mileage per gallon of the Toyota Camry (probably the most popular car in the U.S) and seven times more MPG than a Hummer
- The Vespa also beats the Toyota Prius hybrid car by more than 15 MPG on average

Fuel Economy:

- Scooters, on average, can travel 50–70 MPG
- To fill an empty tank, a scooter costs approximately \$5, compared to about \$50 to fill an SUV
- Driving a scooter costs less than half the cost of driving an automobile. Estimated saving is 58 %



Emissions⁸

Carbon dioxide emissions (lbs/mile):

- Vespas and similar scooters reduce emissions by approximately .40 lbs/mile vs. the average car, which, when applied to driving 15,000 miles per year equates to approximately 6,000 lbs of emissions or a 65% reduction
- Vespas offer a reduction of 1,500 lbs of carbon dioxide emissions if compared to a hybrid vehicle

Scooter Sales in the U.S.:

- The number of scooters sold in the U.S. by major manufacturers increased 19% annually (CAGR) from 2001 to 2005 (56,899 sold in 2005)
- Some scooter dealers saw a 300% sales increase in 2004

Conclusion:

Local and national government leaders are charged with establishing transportation policies that address both short-term and long-term problems, are environmentally responsible and truly benefit the American consumer. With the support of federal, state and local governments, new options like scootering can bring immediate and substantial economic and environmental benefits to Americans and the communities in which they live.

To facilitate the adoption of scootering, U.S. Mayors and other elected officials should consider providing dedicated parking for scooters and motorcycles.

Now is the time to broaden the dialogue about America's addiction to oil and its dependency on foreign imports in a way that includes technological as well as behavioral solutions.

About The Piaggio Group:

Established in 1884 by Rinaldo Piaggio and based in Pontedera (Pisa, Italy), the Piaggio Group is one of the world's top manufacturers of two-wheel motor vehicles. With over 6,000 employees in 50 countries, the Piaggio Group has a consolidated leadership in the European 2-wheeler market, and a particularly strong presence in the scooter and 50cc vehicles segment, with 40 percent market share in Europe and 48 percent in Italy. Its production includes scooters, motorcycles and mopeds in the 50cc to over 1000 cc displacement range, marketed under the Piaggio, Vespa, Gilera, Derbi, Aprilia, Moto Guzzi and Scarabeo brands. The Piaggio Group is controlled by Immsi S.p.A., an industrial and services holding listed on the Milan Stock Exchange, and is headed by Chairman Roberto Colaninno and Chief Executive Officer Rocco Sabelli.



Across its more than 120-year history, the company has been active in almost every area of transport including: naval fittings; the construction of locomotives and rolling stock; engines for the aeronautics sector; seaplanes; and civil and military aircraft. Since the introduction of the Vespa scooter in 1946, Piaggio has led the way in meeting the growing demand for personal mobility. A universally recognized symbol of Italian style, Vespa is an outstanding success story with more than 16 million scooters produced to date.

2. Energy Information Administration – Department of Energy – (http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/Demand_text.htm)
3. Federal Highway Administration, "Annual Vehicle Distance Traveled in Kilometers and Related Data – 2004"
4. Based on DANGEROUS ADDICTION: Ending America's Oil Dependence, a January 2002 report by the Natural Resources Defense Council and the Union of Concerned Scientists
5. Based on MIT Transportation White Paper
6. Department of Energy "Crude Oil and Total Petroleum Imports, Top 15 Countries", December 2005
7. Texas Transportation Institute "2005 Urban Mobility Report"
8. Omnibus Survey – ICR – 2006. Note: Survey results show that at least 30% of U.S. car drivers would be extremely or somewhat likely to use a scooter on a daily basis for an average of 35% of the miles currently traveled by car, truck or SUV
9. Source: Vespa EPA Report; EPA – Emission ratings on vehicles; Texas State Energy Conservation Office