

## MUSINGS FROM THE OIL PATCH

May 13, 2008

Allen Brooks  
Managing Director

---

**Note:** *Musings from the Oil Patch* reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating oilfield service companies. The newsletter currently anticipates a semi-monthly publishing schedule, but periodically the event and news flow may dictate a more frequent schedule. As always, I welcome your comments and observations. Allen Brooks

---

### Rockefeller Heirs' Message: Exxon Needs To Change

**The backdrop for the family's support seems to be a desire to be on the "right" side of the environmentalist movement**

The media was all atwitter several weeks ago when heirs of the founder of ExxonMobil (XOM-NYSE) announced they were supporting a number of activist shareholder initiatives involving the company's governance and its business strategy. The stories broke barely hours before the world's largest corporation (by stock market capitalization) announced the second largest quarterly profits ever earned in U.S. corporate history - \$10.9 billion, up 17% from the prior year's results. The backdrop for the family's support seems to be a desire to be on the "right" side of the environmentalist movement. *The Wall Street Journal* in an editorial about the issue questioned whether the family's move to embrace "the eco-enthusiasms of the day" was really their way of "assuaging any guilt over a multibillion-dollar fortune built on carbon." We sure wouldn't mind suffering from that guilt trip.

**Portfolio managers often tell corporate executives to stay focused on doing what the company does best and let the investor do the diversifying**

The reality, however, is that the Rockefeller heirs, who only own 0.006 percent of the company's 5.4 billion shares outstanding, may be failing their heirs by taking this action because it violates major investment and corporate tenants that have proven successful over decades. One major investment guideline is for investors to diversify their portfolio holdings in order to protect against stock market and business cycle risk. Institutional investors generally are usually mandated to diversify their portfolio holdings, unless they are running a specialized industry investment fund. In doing that, the portfolio managers often tell corporate executives, who quiz these savvy investors about diversification efforts, to stay focused on doing what the company does best and let the investor do the diversifying. In ExxonMobil's case it has consistently followed that mantra. In fact, in recent years the company's CEOs have proclaimed that

---

**ExxonMobil has a reputation for careful budgeting, superb project execution and for avoiding speculative risks**

ExxonMobil is an oil and gas company – not an energy company. (As an aside, ExxonMobil is listed, along with the other major integrated oil companies, under the classification of Petroleum Refining, and not Energy, within *Fortune* magazine's 500-company ranking.) The company is good at what it does – find, develop, produce, refine and market oil and gas resources.

ExxonMobil is known for being disciplined in its operation. It has a reputation for careful budgeting, superb project execution and for avoiding speculative risks. This discipline has produced outstanding returns – 14% compounded total return to shareholders over the decade 1997-2007. Yes, this return was not the top earner for shareholders within the petroleum refining sector – ExxonMobil ranked 10<sup>th</sup> out of 12 companies. However, when you are trying to propel a company with a March 8, 2008, market capitalization of \$456 billion, 2007 revenues of \$373 billion, assets of \$40.6 billion and shareholders' equity of \$122 billion, even ExxonMobil's \$40.6 billion in profits last year wasn't enough to put it at the top of the heap. The company lost out to Frontier Oil Company (FTO-NYSE), a niche refiner with slightly over \$5 billion in revenues last year and almost a half a billion in profit.

**Exhibit 1. ExxonMobil's Outstanding Returns In Recent Years**



Source: Big Charts

**Within the petroleum refining sector, ExxonMobil's 2007 profit margin exceeded every one of its competitors**

In praising the performance of ExxonMobil, *The Wall Street Journal* pointed out that the company's earnings per dollar of sales was 10.7% compared to the larger oil and gas companies that averaged 8.3% and the 7.8% for the companies in the Dow Jones Industrial Average. Within the petroleum refining sector, ExxonMobil's 2007 profit margin exceeded every one of its competitors even Frontier Oil, the only other company in the group to post a double digit profit margin on revenues.

The Rockefeller heirs seem to be more concerned with supporting the Connecticut state pension fund's effort to convince shareholders to split the roles of chairman and CEO. Historically, ExxonMobil has

**It is not a given that excellent oil and gas people are good at running solar power or wind power operations**

always combined those two positions and the person filling that position is the only corporate insider on the board, but corporate governance “best practices” standards in recent years, largely due to the Enron scandal-era, has recommended that corporations to split them. (In full disclosure, my wife and I both own shares of ExxonMobil and we did vote in favor of that shareholder initiative. We voted against the others.) But part of the Rockefeller, and probably Connecticut’s state pension fund, effort is to try to influence the board to be more environmentally-friendly and in turn influence the management. This is another effort that can fall into a trap. That trap is the unstated idea that the board members are not independent of management. Additionally, there is the belief that the board members can be influenced into pushing management into making strategic business moves that might turn out to be mistakes in catering to the agendas of the environmentalists. For example, it is not a given that excellent oil and gas people are good at running solar power or wind power operations. Now oil refining people might be very good at running ethanol plants, but even that is not a given. Besides that, ExxonMobil could always sit out the shakeout phase of these alternative energy businesses and buy one of the survivors with seasoned management that would minimize the financial risk of charging into a business the company does not know or posses the skill set to operate.

**We would suggest the Rockefeller heirs and their supporters should review the history of ExxonMobil in the 1960s and 1970s**

We believe these are legitimate investor concerns. Corporate history is replete with examples of managements that thought they were so good doing what they knew best that that they could operate other businesses just as well only to find out they couldn’t and in that effort destroyed shareholder value they had previously built up in the company. In fact, we would suggest the Rockefeller heirs and their supporters should review the history of ExxonMobil in the 1960s and 1970s and especially the period following the institution of windfall profits legislation in the mid 1970s.

**“The future of Exxon is in hard-rock minerals”**

We followed ExxonMobil’s shares as a Wall Street analyst at that point and enjoyed a special relationship with the newly-retired chairman, Ken Jamison, and other senior operating officers of the company. In those days, ExxonMobil, which at that time had only recently been renamed Exxon, was deeply involved in the coal and hard-rock mining industries and had an emerging effort underway to exploit oil shale. At one private lunch, the retired Exxon chairman, who had been behind the development of much of that corporate strategy, told me in no uncertain terms. “The future of Exxon is in hard-rock minerals.”

It was also during this period that Exxon decided it would enter the office equipment business – another unmitigated disaster. And does anyone remember Exxon’s purchase of Reliance Electric Company because it had proprietary technology would allow it to develop a “perpetual motion” pump? Dig those histories out of the dust bin. But when the 1970s commodity boom collapsed, as inflation was reigned in and the Malthusian/Club of Rome view of the globe’s future and the presumed worldwide shortage of minerals and energy

**The management of ExxonMobil is charged with managing the company to maximize shareholder returns over the long-term and not to solve the impending energy crisis or global warming crisis**

was refuted, Exxon became a victim rather than a hero to the sad detriment of its shareholders. At the end of the day, these diversification efforts cost the shareholders between \$6 billion to \$7 billion.

We understand the Rockefeller heirs concern about environmental issues. Whether the company's stand about those issues would change with a separate chairman and CEO remains an open question. But the management of ExxonMobil is charged with managing the company to maximize shareholder returns over the long-term and not to solve the impending energy crisis or global warming crisis. It is clear that the Rockefeller heirs are convinced that ExxonMobil is ignoring alternative fuels to the detriment of our globe's warming (assuming it is), and possibly the long-term future of the company. That view was stated by Peter O'Neil, the founder's great-great-grandson and head of the family committee, who said, "They are fighting the last war, and they're not seeing they're facing a new war."

As the saying goes, he who does not know his history is bound to repeat it. We suggest the Rockefeller heirs and the many others who promote the idea of ExxonMobil diversifying in order to catch the emerging green-industry wave, should review the company's previous diversification history closely. The management of this company hasn't established its modern financial record by making too many dumb decisions.

#### **Exhibit 2. Rockefeller Heirs State Their Case To The Media**



Peter O'Neil, left, Neva Rockefeller Goodwin, center, and Stephen B. Heintz are three of the Rockefeller family members urging Exxon to focus on alternative energy.

**Source: *The New York Times***

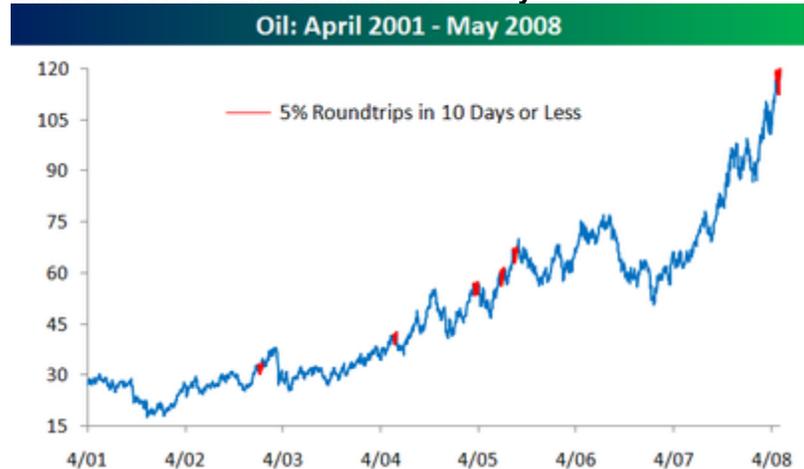
## Record Crude Oil Bull Market Is Aging

**Through April 22, this bull market had lasted 460 days and had produced a gain of 136.5%, both measures are about double the historical averages**

The Bespoke Investment Group (BIG) recently prepared an analysis of the length of time of crude oil bull markets that shows the current one has lasted well beyond any historical standards. Since 1986, the average bull market (defined as a 20% rally preceded by a 20% decline) in crude oil has lasted 242 calendar days and averaged a gain in price of 67.85%. The current bull market started on January 18, 2007, and reached an intermediate peak on April 22. At that point, this bull market had lasted 460 days and had produced a gain of 136.5%; both measures are about double the historical averages. While this bull market has continued to rise, it is well beyond any historical period's performance.

What was more impressive was that within ten days after a 5% price correction, oil rallied to a new high. There have only been five other times since 2001 when that pattern has been replicated. According to BIG, the average one week and one month returns following that pattern were -3.9% and -4.5%, respectively. Based on the recent performance, it appears those performance records are being blown away.

### Exhibit 3. Crude Oil's Dramatic Recovery



Source: Bespoke Investment Group

That is especially true when one focuses on the fact that through last Friday, oil had advanced for six straight days. It is up almost \$16 a barrel since the beginning of May. But six-day advances have happened 37 times since 1986. The average changes in price for the next day (Monday) and the next week were positive 53% and 58% of the time, respectively.

## Exhibit 4. The Record Of 6-Day Up Trends For Crude Oil

## Oil Up Six Days in a Row

Date	Price	Up Days				
		in a Row	% Change	Next Day	Next Week	
6/18/1987	20.52	6	3.53	↑ 0.68	↓ -4.29	
7/15/1987	22.15	6	6.80	↑ 0.86	↓ -2.71	
3/22/1988	16.37	6	5.75	↑ 2.99	↑ 3.73	
4/18/1988	18.52	6	9.72	↓ -0.86	↓ -1.35	
1/18/1989	19.26	6	8.88	↑ 0.10	↓ -5.92	
9/11/1989	19.76	6	4.94	↓ -0.30	↑ 0.61	
8/6/1990	28.05	6	39.97	↑ 0.93	↓ -4.56	
3/4/1991	20.25	6	13.07	↑ 0.89	↓ -6.22	
7/2/1991	20.82	6	4.20	↓ -0.72	↑ 2.93	
2/25/1993	20.61	6	6.62	↓ -0.05	↑ 2.23	
6/20/1994	20.75	6	12.28	↓ -3.42	↓ -8.39	
12/23/1994	17.35	6	3.71	↑ 1.67	↑ 0.52	
2/13/1996	18.91	6	7.81	↑ 0.26	↑ 4.23	
3/18/1996	23.27	6	18.66	↑ 4.60	↓ -3.74	
9/29/1997	21.26	6	9.87	↓ -0.38	↑ 3.15	
5/4/1999	18.92	6	7.13	↑ 0.32	↓ -4.55	
8/11/1999	21.52	6	6.01	↓ -0.19	↔ 0.00	
9/13/1999	24.21	6	12.66	↓ -1.45	↑ 0.33	
1/18/2000	28.85	6	19.12	↑ 2.39	↓ -1.98	
1/28/2002	20.05	6	11.57	↓ -2.34	↑ 0.10	
8/15/2002	29.06	6	9.66	↑ 0.93	↓ -0.76	
1/21/2003	34.61	6	9.25	↓ -5.09	↓ -5.61	
2/19/2003	37.16	6	7.77	↓ -1.00	↑ 1.45	
10/6/2003	30.47	6	8.20	↓ -0.20	↑ 4.86	
11/14/2003	32.37	6	6.97	↓ -1.98	↓ -2.35	
9/23/2004	48.46	6	11.20	↑ 0.87	↑ 2.43	
2/28/2005	51.75	6	8.86	↓ -0.14	↑ 4.14	
3/9/2005	54.77	6	5.98	↓ -2.25	↑ 3.09	
5/31/2005	51.97	6	11.05	↑ 5.06	↑ 3.44	
8/25/2005	67.49	6	6.70	↓ -2.02	↑ 2.93	
6/28/2006	72.19	6	4.71	↑ 1.84	↑ 4.09	
2/28/2007	61.79	6	6.41	↑ 0.34	↑ 0.05	
3/27/2007	62.93	6	11.20	↑ 1.83	↑ 2.72	
7/5/2007	71.81	6	5.96	↑ 1.39	↑ 0.96	
9/10/2007	77.49	6	5.63	↑ 0.95	↑ 3.97	
10/16/2007	87.61	6	10.87	↓ -0.24	↓ -2.67	
5/9/2008	125.39	6	11.44	?	?	
				Median	↑ 0.18	↑ 0.42
				% Up Events	52.8%	58.3%

Source: Bespoke Investment Group

**At this point, the crude oil market feels much like either the dead of winter or the Dog Days of summer**

At this point, the crude oil market feels much like either the dead of winter or the Dog Days of summer when we ponder whether the temperature will ever go up or down, respectively. We would caution to watch out when the oil price does change because the change may be marked by conditions similar to a summer rain storm deluge or a Canadian Chinook. The landscape becomes totally different awfully quickly.

## Politics Of The Global Warming Debate

**It has recently been reported that the working relationship between William Gray, the emeritus professor of atmospheric science, and Colorado State University, his employer, was nearly severed over the global warming debate**

Challenging the conventional beliefs about the rise in global warming and the role humans are playing in that trend can be a dangerous position to be in. It has recently been reported that the working relationship between William Gray, the emeritus professor of atmospheric science, and Colorado State University (CSU), his employer, was nearly severed over the global warming debate. Professor Gray, the dean of tropical storm research and forecasting has, in recent years, stepped back from leading that effort to devote increased attention to forecasting the landing of tropical storms on the U.S. coast line and to investigating the issue of global warming and what role it might play in generating more and stronger hurricanes. As a result of his global warming research, Professor Gray has become a leading skeptic of the case being made by the environmentalists, which appears to be at the root of the souring relationship with CSU. His experience also points out what we and others have observed and have been told by academics about the global warming movement. It's all about the money – especially government grants and money from foundations. At the present time, that money is flowing to support global warming research.

**Since the academic business is a business it must focus on the money**

Since the academic business is a business it must focus on the money. The fact that CSU officials told Professor Gray that handling media inquires related to his hurricane forecasting required too much time of the school's sole media relations person and was detracting from his efforts to promote other professors' work was their backhanded way of saying his position was hurting the university. Gray challenged the rationale behind that statement with a memo to Dick Johnson, the head of CSU's Department of Atmospheric Sciences. Professor Gray's view was that the school was caving in to critics who wanted to stifle his criticism of global warming and global warming-hurricane theories. As Professor Gray was quoted in an article in *The Houston Chronicle*, "You see, so many people in our department make a living off the global warming threat. So I think that's part of why they came to me."

**Professor Gray's criticism of other researchers has drawn fire in the past**

CSU has relented in the struggle and said it intends to continue to support the release of Professor Gray's forecasts as long as they continue to be co-authored by Dr. Phil Klotzbach, one of his former students, and as long as Dr. Klotzbach remains at the university. Professor Gray's criticism of other researchers has drawn fire in the past. In 2005, Georgia Tech scientist Peter Webster co-authored a paper suggesting global warming had caused a spike in major hurricanes. When Professor Gray labeled him and others promoting that thesis as "medicine men" that were misleading the public, Mr. Webster complained to Dr. Johnson.

The most interesting twist in this debate is the recent conversion of one of those global-warming hurricane-related theorists. A new paper has been published by Kerry Emanuel, a professor at the Massachusetts Institute of Technology (MIT) and some colleagues

**Dr. Emanuel should be given credit for doing what a good scientist should do, which is to look at the data and draw conclusions rather than trying to fit the data to pre-conceived conclusions**

**“The models are telling us something quite different from what nature seems to be telling us...”**

**Now, though, comes some new data showing that our climate appears to have moved into a cooling phase**

in the March issue of *Bulletin of the American Meteorological Society*. Dr. Emanuel has developed a new technique for predicting future hurricane activity. The new method suggests that even in a dramatically warming world hurricane frequency and intensity may not rise substantially during the next two centuries. This is a reversal of his position of 2005, which drew much media attention because it was published shortly before Hurricane Katrina ravaged New Orleans. However, the larger issue with the New Orleans experience was the failure of its levees rather than the hurricane damage.

The new paper and the policy shift by Dr. Emanuel appear to be a breath of fresh air in an otherwise politically-charged debate. Dr. Emanuel should be given credit for doing what a good scientist should do, which is to look at the data and draw conclusions rather than trying to fit the data to pre-conceived conclusions. Last year, Dr. Emanuel wrote a non-scientific article that framed the politicalization of the global warming debate, entitled “Phaeton’s Reins.” In it he said, “The extremists are being exposed and relegated to the sidelines, and when the media stop amplifying their views, their political counterattacks will have nothing left to stand on. When this happens, we can get down to the serious business of tackling the most complex and perhaps the most consequential problem ever confronted by mankind.

“Like it or not, we have been handed Phaeton’s reins, and we will have to learn how to control climate if we are to avoid his fate.”

In his most recent paper, he acknowledged that the data was not supporting the models. In a statement he made to the media, Dr. Emanuel said, “The models are telling us something quite different from what nature seems to be telling us. There are various interpretations possible, e.g. a) The big increase in hurricane power over the past 30 years or so may not have much to do with global warming, or b) The models are simply not faithfully reproducing what nature is doing.” This is an important acknowledgement, but a correct one, from a scientist. It is an important acknowledgment for the global warming debate because it recognizes: The debate over the role and cause of global warming, at least as far as their role with hurricanes, is not settled, contrary to Al Gore, the UN Intergovernmental Panel and other leaders of the environmentalist movement.

Dr. Emanuel’s new paper and altered position about the role of global warming and the intensity of hurricanes supports Professor Gray’s position. Maybe with this shift, the officials at CSU will back off from pressuring Professor Gray to stop talking about this debate. However, the debate probably will continue to rage on since the global warming movement recently has grabbed everyone’s attention with the melting of the Arctic ice cap. Now, though, comes some new data showing that our climate appears to have moved into a cooling phase, at least as measured by the oscillation in both Atlantic and Pacific Ocean temperatures. This shift is thought to

**The outcome of their effort – that predicts a slight cooling of Europe and North America**

exert an overall temporary cooling of the climate. That prospect has filtered into the latest forecast attempt by members of two German ocean and climate research centers who have developed a decade-based forecast of the global climate. The outcome of their effort – that predicts a slight cooling of Europe and North America – was reported in a short paper in the journal *Nature* published on May 1st.

**The pendulum of public opinion has moved far to one side in this debate, criticizing any aspect of the issue is considered heretical**

The scientists reporting this outlook expressed concern that people understand that this pause in the warming trend represented only a temporary blunting of the centuries of rising temperatures that scientists have been predicting due to the buildup of carbon dioxide in the atmosphere. One scientist even went so far as to say he was concerned that this study would become ammunition for ExxonMobil and its skepticism of the global warming phenomenon, although even its view is moderating somewhat. All of these developments highlight how the global warming movement has become political and is driven by money that supports various academicians who are researching the issue. But since the pendulum of public opinion has moved far to one side in this debate, criticizing any aspect of the issue is considered heretical. That was the refreshing aspect of Dr. Emanuel's admission that he had to change his view since the real world wasn't following the computer models. We also just learned that April's temperatures were among the coolest for that month in the records of the U.S. government.

**Models are really the start of a debate, not the end**

We would counsel Dr. Emanuel that he is not alone in having to face up to the reality of the weather data. We would introduce him to the Noble Laureate economists behind Long Term Capital and the wiz-kids behind the sub-prime debt debacle, all of whom found that relying on computer models to predict the real world can be a very dangerous endeavor. Models are really the start of a debate, not the end.

## **Energy Conundrum: Can Growth and High Prices Coexist?**

**For decoupling to work, two key assumptions must prove true: 1) Fuel subsidies paid by certain governments are not increased; and 2) Exports of goods to more developed economies continue to grow**

Energy demand forecasters and investors remain convinced that a global economic slowdown will be avoided this year despite a weakening economy in the United States and slowing growth among European economies. Their view is predicated on the assumption that developing economies, especially the more prominent ones in Asia, and accelerating economic growth among Middle Eastern countries will drive energy demand. But that scenario depends upon two key assumptions proving true: 1) Fuel subsidies paid by certain governments are not increased; and 2) Exports of goods to more developed economies continue to grow.

One of those tenants may be at risk. Indonesia, whose economy has been helped by the rise in commodity prices, especially oil and gas, although it is the only member country in OPEC that is importing more oil than it is exporting, is facing a serious inflationary and budgetary situation. The government subsidizes domestic fuel use, keeping local gasoline and diesel prices at about half that of

**If the government cut local fuel and electricity subsidies, their rise would probably push the consumer price index up at double digit rates of increase – creating a potentially explosive social problem**

**The challenge for the government is to try to balance its budgetary issues from fuel and electricity subsidies against the economic impact of raising energy costs**

**Exports from Asian countries to the U.S. and European Union are slowing noticeably**

average international levels. That subsidy has thrown the government's 2008 budget out of whack and is posing a huge challenge for the political leaders who are facing an election next year. They are wanting to avoid raising fuel prices, but the subsidies for fuel and electricity, as oil prices hit the \$120 per barrel mark, could end up costing the government \$20 billion this year, more than twice what was originally forecast, and represent a fifth of total government spending.

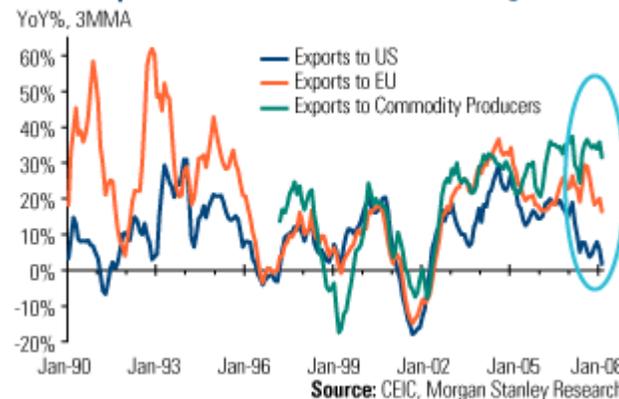
The double whammy of rising fuel and food prices is creating another economic challenge for Indonesia – inflation. A week ago, the government announced that the consumer price index in April rose 8.96% from a year ago, and above the 8.17% rise reported in March. If the government cut local fuel and electricity subsidies, their rise would probably push the consumer price index up at double digit rates of increase – creating a potentially explosive social problem. Even with these huge economic challenges, the government continues to project that the Indonesian economy will grow by 6% this year, one of the fastest rates of growth in the world.

In facing up to this dilemma, the government needs to remember what happened to its economy in 2005 and 2006 when it last raised fuel prices. In October 2005, the Indonesian government allowed fuel prices to rise by 126%. Economic growth that had been accelerating at a 5.7% rate slowed by about three-tenths of one percent, as higher oil and gas prices helped buoy the economy. Consumer price inflation ran at slightly over 10% in 2005 and climbed to over 13% in 2006. Importantly, new car sales in the country dived by 40% in 2006. The challenge for the government is to try to balance its budgetary issues from fuel and electricity subsidies against the economic impact of raising energy costs. This dilemma is being faced by many countries around the world, including other oil and gas exporters with large populations.

The other tenant of the decoupling theory of economic activity and energy demand growth is the ability of the developed economies to continue to absorb more imports from Asian countries. The chart in Exhibit 5 suggests that exports from Asian countries to the U.S. and European Union are slowing noticeably. If that trend continues, these countries will be facing decisions about shutting down some of their manufacturing operations and having to lay off workers unless their domestic economies can consume the output. Since most of these developing economies have relatively immature domestic consumption, they are not likely to be able to fully withstand the export fall-off. In most of these countries, jobs are very important for their political and social stability. Political and/or social instability will not help the economies, their financial health or their energy consumption.

While recognizing all the factors that have driven crude oil prices to \$125 per barrel – lack of non-OPEC oil production growth; the inability or lack of willingness of OPEC to boost its oil production; a growing global population; and demands by developing country

### Exhibit 5. U.S. and EU Imports From Asia Falling Asian Exports to the EU are Also Moderating



Source: U.S. Global Investors

**We would caution readers to understand that a collapse in oil prices will be self-correcting, albeit not necessarily back to the same level**

citizens to enjoy improved living standards – we have probably about reached the tipping point where oil demand is beginning to be choked off sufficiently to undercut the price. Just as the rise in world oil prices during the past six to nine months has been spectacular, the fall could be equally as dramatic. Once again, we would caution readers to understand that a collapse in oil prices will be self-correcting, albeit not necessarily back to the same level. What we have learned over the past eight years is that there is an oil price level at which the world can function and both producers and consumers can prosper. That price level is probably a sub-\$100 per barrel price. But even at that price, the wheels of change – supply, consumption and technology – will begin to impact the future of the business for the next 30-50 years of its existence.

## Planes, Ships and Automobiles – Facing Higher Prices

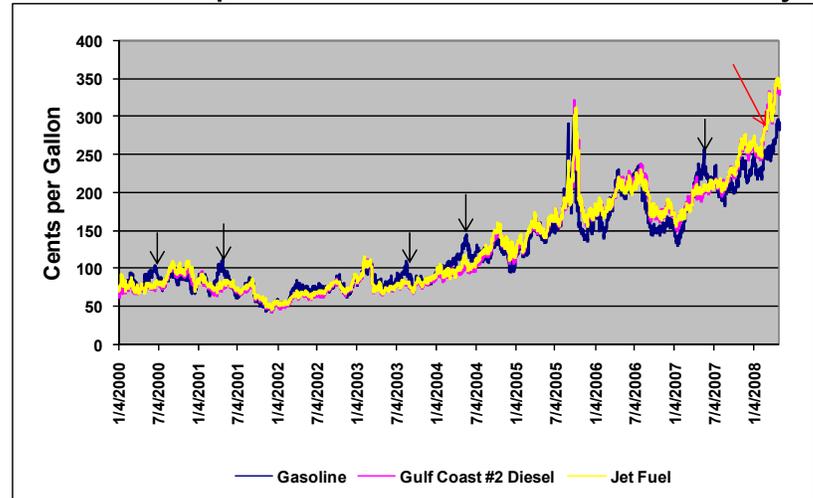
**The media has begun paying increased attention to the changes in transportation industry operating procedures and consumer mass transit use patterns**

In recent months there has been an inexorable rise in the price of the fuels that power the globe's planes, ships and automobiles. While most of the media attention has been focused on the impact of higher gasoline pump prices on consumer budgets and ultimately consumption, there has been a noticeable increase in media attention on shifts underway in automobile buying patterns. There has also been an increase in the number of media stories detailing the growth in mass transit usage. Buried by the focus on the gasoline story have been some interesting articles on changes in operating procedures for ships and planes. Additionally, there have been stories about long-term changes in how companies adjust their product distribution strategies to compensate for continued high and rising fuel prices and even the potential for inadequate petroleum supplies in the future.

The increased attention to these issues has come due to the continued climb in gasoline, diesel and jet fuel prices. In Exhibit 6, we have plotted those prices since the turn of the century through the end of April. Clearly, with current crude oil prices about 8%

higher than at the start of May, these fuel prices have increased even more. What is interesting is to note the seasonal pattern of fuel prices and how it has changed in recent weeks, suggesting that the movement in crude oil prices is having a greater than normal impact on non-gasoline fuel prices.

**Exhibit 6. Transportation Fuel Prices Have Risen Dramatically**



Source: EIA, PPHB

**In the past six to nine months this lockstep movement of fuel prices appears to have been altered as jet fuel and Gulf Coast #2 diesel, the fuel of the maritime industry, have risen much faster than gasoline prices**

**So far this year, there have been 15 attempts by the domestic airline industry to raise airfares with ten being successful**

Traditionally, as noted by the numerous black arrows on the chart, gasoline prices rise as we move into the first half of the summer vacation/driving season before falling back as that season peaks and winds down. In general, all three fuel prices have tended to move together reflecting the trend in underlying crude oil prices. But in the past six to nine months this lockstep movement of fuel prices appears to have been altered as jet fuel and Gulf Coast #2 diesel, the fuel of the maritime industry, have risen much faster than gasoline prices. While it may seem far-fetched to believe, we suspect that this altered pattern is the result of changing consumer driving habits coupled with a more competitive retail gasoline market. The ability of the airline and shipping businesses to adjust their operations fast enough to reduce fuel consumption requirements is limited. But these industries are making adjustments that will trim fuel consumption at the margin in the future.

In the airline industry, marginal changes in operating procedures are helping to offset the recent sharp rise in jet fuel, but boosting fares has been the primary industry reaction. So far this year, there have been 15 attempts by the domestic airline industry to raise airfares with ten being successful. The industry's introduction of a fee, usually \$25 to check a second bag, is another attempt to reclaim the cost of carrying additional luggage for passengers who desire to lug more possessions with them on their trips. Airlines have also moved to reduce the weight they carry in the plane by eliminating pillows, blankets, and in some cases food service. Even within the food

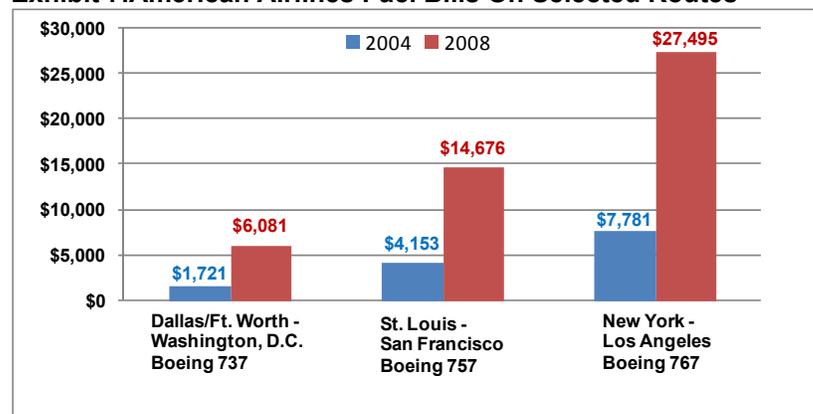
**We remember laughing at the economic arguments about eliminating peanuts**

service area, the types of food and the volume served are being adjusted. We remember laughing in the past at the economic arguments made by various airlines about their decision to eliminate peanuts. But we are now seeing reports of the substitution of thinner chips and bags with fewer chips as ways to reduce the amount of weight carried.

**While the jump in fuel cost appears dramatic, the ratio of the cost of the flights is the same**

The airplane manufacturers have been working very diligently to reduce the weight of the components that are used to build the planes. Substituting components made from more light-weight, exotic materials, although maybe more costly initially, produce long-term operating cost savings through their reduced energy consumption. American Airlines (AMR-NYSE) has pointed out the rise in its average fuel cost over the past four years for several of its flights. What is interesting in the data is that while the jump in fuel cost appears dramatic, the ratio of the cost of the flights is the same, which means that the length of the trip is the primary driver of the total fuel cost.

**Exhibit 7. American Airlines Fuel Bills On Selected Routes**



Source: American Airlines, *Fortune*, PPHB

**One step is to slow down the speed at which the planes fly**

What comes from this analysis is that steps the airlines can undertake to reduce the use of fuel are the primary actions they should be taking. One step is to slow down the speed at which they fly. We are always aware of this happening as we approach the destination airport and the pilot reported that air traffic control had slowed us down for our approach. That phrase always terrorizes the passengers because it can mean the difference between making or missing connections, or having to run versus walk between gates. But in general, most airlines are flying their planes slightly slower – often so marginally slower that passengers barely note the difference.

Southwest Airlines (LUV-NYSE) started flying its planes slower about two months ago and is projected to save \$42 million in fuel costs this year, while only extending each flight by one to three minutes. For Northwest Airlines (NWA-NYSE), by flying its plane on a trip from Minneapolis to Paris at an average speed of 532 miles

**JetBlue has added just under two minutes to each of its flights that will save it about \$13.6 million a year in jet fuel bills**

per hour (mph) rather than its usual speed of 542 mph, it saved 162 gallons of fuel, a savings of \$535, while only adding eight minutes to the usual eight hours and 50 minutes flight duration. By adding four minutes to its flights to and from Hawaii by flying slower, Northwest will save \$600,000 a year in fuel costs on those flights alone.

JetBlue (JBLU-NASDAQ) has added just less than two minutes to each of its flights that will save it about \$13.6 million a year in jet fuel bills. But not all the airlines are taking this step. Some may not because they are concerned about the impact of lengthening flight times, which can impact labor costs for the crews and the ground service people. One such company is American that has employed other steps to minimize its fuel bills. One step has been to install those small vertical stabilizers called winglets to the ends of some aircraft wings, which boosts fuel efficiency by improving aerodynamics. They also keep the planes plugged in to ground-based power and air conditioning for as long as possible to conserve fuel, and it pushes air traffic controllers to assign its flights to altitudes where they will have less headwind or greater tailwind.

In the marine industry we have learned recently of some of the steps vessel operators are taking to try to save fuel. Since 2000, U.S. Gulf Coast No. 2 diesel has jumped by more than five times. Some tug operators are repositioning their tugs to try to reduce the running time between jobs on the Mississippi River. In other cases, operators have their tugs shut down their main engines and run slow until they need the additional power. One tug operator has determined he can reduce his fuel consumption by 10% to 15% an hour when running at 80% of power instead of 100% on light boats going up the river.

**By dropping their engine speed from 1,900 to 1,700 revolutions per minute (rpm) or from 1,800 to 1,600 rpm, the fuel consumption rate falls by 10%**

A ferry operator has figured out that loading quicker and getting away from the dock earlier can help offset the time increase from running slower and it can save money. They have determined that by dropping their engine speed from 1,900 to 1,700 revolutions per minute (rpm) or from 1,800 to 1,600 rpm, the fuel consumption rate falls by 10%. These reductions mean the ferries run about 1.5 knots slower, but with the previously mentioned changes in operating procedures can manage to stay on schedule.

Other operators are looking at new vessel designs and changes in engines. One Los Angeles-based company is taking delivery of a hybrid powered tug that should reduce emissions (a significant issue in that West Coast port), be quieter to operate and burn less fuel. In another case, an Alaskan tour vessel operator has switched to an aluminum catamaran hydrofoil vessel design and away from its conventionally-designed vessel. The company's older vessel, a 90' boat at 80% power going 22 knots used 150 gallons per hour (gph), with an annual fuel bill of \$720,000 at \$3 per gallon. The new 83' vessel hits 22 knots at 49.5% power and burns 75.1 gph, with an annual fuel bill of \$360,480.

Another option is to repower existing vessels. In certain cases,

operators estimate they expect to save 12% to 15% in fuel by going from 4,000 horsepower (hp) engines to 6,000 hp and get 15% more towing capacity compared to older 6,000-hp engines. One of the key issues when repowering vessels is to also make sure that the jets and props are matched to the engine's output to help boost the overall drive system's efficiency.

**The trucking company has to balance the increased labor cost of keeping the driver on the road for that additional time versus the fuel savings**

The trucking industry is also addressing the rising cost of diesel fuel. In Pittsburgh, diesel fuel cost \$4.46 per gallon on April 30, up \$1.50 per gallon over the past year. Pitt Ohio Express, a local trucking company, is now expecting to spend \$52.4 million on diesel fuel in 2008, up \$10 million above its prior budget and about \$17 million more than it spent last year. The company has resorted to turning back its governors, the device that regulates the maximum speed the truck can go, from 67 and 65 mph to 62 mph. The impact of this change is to boost the truck's efficiency to 6.8 -6.9 miles per gallon (mpg) from its prior 6.4-6.5 mpg average. While this adjustment will improve the fleet's fuel efficiency, it will add as much as half an hour to the length of the longest trips the company operates. Again, the trucking company has to balance the increased labor cost of keeping the driver on the road for that additional time versus the fuel savings. That measurement is complicated by the fact that some of these trucks make both long- and short-haul trips. Many other trucking companies are reporting that they have turned back their truck governors, but some are also resorting to other fuel-conserving actions such as using auto-engine shut off equipment to reduce idling and by purchasing aerodynamic tractors. Other steps involve adding auxiliary power units, automatic tire-inflation systems and even switching from large tractor-trailers to smaller trucks when delivering in congested cities. More distribution companies are adopting the travel route plans of United Parcel (UPS-NYSE) that designs all its routes to minimize the number of left turns the truck has to make in congested areas, which reduces the waiting time at intersections.

**The relocation of distribution centers has reduced customer miles (the miles driven from a center to a customer) by 2.8 million and cut fuel use by 500,000 gallons**

One of the more significant changes underway for the trucking industry is the whole nature of the distribution of goods across America. For example, Kimberly-Clark (KMB-NYSE) designed its "network of the future" some three years ago, which involves moving the company's distribution centers closer to end-users in major markets. The relocation of distribution centers has reduced customer miles (the miles driven from a center to a customer) by 2.8 million and cut fuel use by 500,000 gallons. The new network configuration has also enabled Kimberly-Clark to use more intermodal transport, in particular, "trailer on flat car," in which the long-haul portion of a product's trip is by rail. This step saved the company almost two million gallons of fuel in 2007 alone.

Another action companies are undertaking is to improve their truck loading. While this may be somewhat of a science, putting more product on a pallet may mean less-frequent trips and fewer trucks. For Unilever (UL-NYSE), by eliminating an outer carton from its Knorr vegetable-soup mix and creating a new shipping and display

**The company found that it needed to change its habit of packing Windex glass cleaner and Ziploc bag products in separate loads because by mixing them, it could utilize the vehicle's maximum load weight more efficiently**

box, it halved the volume of packaging. That meant it shipped 280 fewer pallets and used six fewer trucks a year to transport the same quantity.

S. C. Johnson saved a total of \$1.6 million, cut fuel use by 168,000 gallons and used 2,098 fewer truck trips in 2007 through a "truckload utilization project." The company found that it needed to change its habit of packing Windex glass cleaner and Ziploc bag products in separate loads because by mixing them, it could utilize the vehicle's maximum load weight more efficiently. The company also started using more "day cabs" (trucks with no sleeping compartments) since they are 3,000 pounds lighter and can hold more product. Wal-Mart is also expanding its distribution center locations with a goal of reducing the distance between the centers and the surrounding stores to lower the mileage its truck fleet needs to travel.

**This shift to smaller and lighter vehicles with better mileage is a significant blow to domestic automakers**

The transportation industry change receiving media attention in recent days has been the shift in vehicle buying habits, with a commensurate impact on fuel consumption. That shift is happening among the industry's automobile and light-truck segments. According to an analysis by J.D. Power & Associates, 42% of all vehicles sold in April were equipped with four-cylinder engines, compared to 38% for six-cylinder engines. "It's easily the most dramatic segment shift I have witnessed in the market in my 31 years here," said George Pipas, chief sales analyst for Ford Motor Company (F-NYSE). This shift to smaller and lighter vehicles with better mileage is a significant blow to domestic automakers. Not only do the manufacturers lack competitive products in this growing market segment, but they are losing sales in the most profitable segment – S.U.V.'s and pickup trucks.

"This shift appears to be a permanent situation," said Jesse Toprak, chief industry analyst for the auto information Web site Edmunds.com. "These new products have become more fashionable, just like small, fuel-efficient cars are in Europe." One popular model recently written up in the automobile column of The Wall Street Journal was Honda Motor Company's (HMC-NYSE) Fit. The column focused on the 2008 Honda Fit Sport compared to the Chevrolet Tahoe, one of the best-selling S.U.V.'s. The Fit gets double the mileage – 30 mpg versus 16 mpg, according to the government's fuel efficiency estimates. Based on \$3.51 per gallon, that means a savings of \$1,538 a year in gasoline purchases to travel 15,000 miles.

**The Fit weighs 2,551 pounds compared to 5,233 pounds for the Tahoe**

A big reason for the increased fuel efficiency is the weight differential. The Fit weighs 2,551 pounds compared to 5,233 pounds for the Tahoe. But importantly, the Fit scored a five-star rating for front passenger protection in the federal government's crash tests and a five-star rating for side-impact protection for front-seat passengers. For rear-seat passengers, the side-impact score was three stars. Those safety ratings were similar to the Tahoe, except it achieved a five-star rating for rear-seat passengers.

If you notice the trend in the average curb-weight of vehicles since 1970, when oil prices first exploded to the upside, the growth of smaller cars in the nation's vehicle fleet resulted in a meaningful weight loss. That was also accomplished by switching materials from heavy steel to lighter metals, composites and plastics. The growth in large vehicles and light-duty trucks has reversed that average vehicle weight even as the amount of steel in vehicles continues to fall.

**Exhibit 8. Steel In Autos Has Declined Helping Fuel Efficiency**

Auto Weight and Steel Content	1970	1975	1980	1985	1990	1995	2000	2001	2004
Average CW, in pounds	3,620	3,730	2,870	2,870	2,910	3,050	3,130	3,150	3,240
Average steel content per vehicle, in pounds	3,160	2,830	2,460	2,250	2,170	2,170	2,140	2,130	2,150
Percent steel content per vehicle	87.3	75.9	85.7	78.4	74.6	71.1	68.4	67.6	66.4

Source: US Dept of Interior, USGS, PPHB

**My friend believes that getting the weight out of cars is the key to improving fuel efficiency and that in the future Americans will shift to buying small cars and rent larger vehicles for those few times they need greater carrying capacities**

A friend of ours who is an engineer and an auto-buff, urged me at lunch a couple of weeks ago to go test-drive the FIT (before it was written up in the press) because, in his opinion, it had the best ride and drive of any small car he had ever driven. He currently drives a small BMW, so that was quite a statement. He told me that the key was the front suspension system that was designed on a computer, which enabled engineers to perfect it before they designed the rest of the car around it. They also moved the fuel tank to the middle of the car allowing the seats to fold flatter and lower to the ground to increase the cargo capacity. My friend believes as I do that consumer auto-buying patterns are shifting and will shift further. He believes that getting the weight out of cars is the key to improving fuel efficiency and that in the future Americans will shift to buying small cars and rent larger vehicles for those few times they need greater carrying capacities.

The surprising shift underway among Americans is toward increased use of mass transit. The media has been reporting significant mass transit use as a result of the rise in gasoline prices since last fall. Last Saturday, *The New York Times* featured as its lead news story, the right-hand column of the front page, an article entitled "Gas Prices Send Surge of Riders to Mass Transit." The story started by pointing out that as gasoline pump prices have climbed toward \$4 per gallon, commuters are abandoning their autos and boarding trains and buses.

**In the South and West, where the driving culture is most developed, the increases in mass transit use have been 10% to 15% or more over the past year**

According to William W. Miller, president of the American Public Transportation Association, "In almost every transit system I talk to, we're seeing very high rates of growth the last few months. It's very clear that a significant portion of the increase in transit use is directly caused by people who are looking for alternatives for paying \$3.50 a gallon for gas." What the NYT found interesting was that in cities with long-established public transit systems such as New York City and Boston, there have been ridership increases of 5% or more so far this year. However, in the South and West, where the driving culture is most developed, the increases have been 10% to 15% or more over the past year.

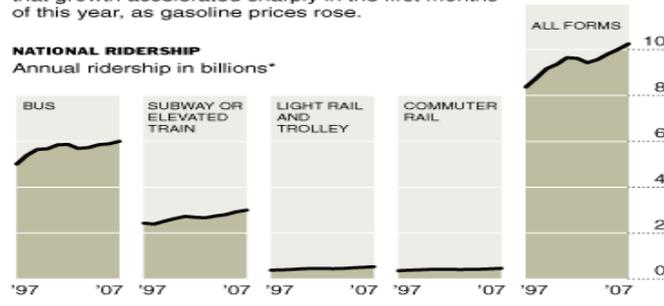
**In New York City, the ridership was up for the first quarter of 2008 by more than 5%, while in Denver it was up 8%**

In New York City, the Metropolitan Transportation Authority reports that ridership was up for the first quarter of 2008 by more than 5% on the Long Island Rail Road and the Metro-North Railroad, while the M.T.A. bus ridership increased 10.9%. New York City subway use increased 6.8% for the first two months of this year and the use of the New Jersey Transit trains was up more than 5%. But out west in Denver, its transit ridership increased 8% for the first three months of the year.

Other increases were reported by transit systems such as Caltrain, the commuter line that serves the San Francisco Peninsula and the Santa Clara Valley, which experienced a 9.3% jump in average weekday ridership in February. The commuter rail system from Miami to Fort Lauderdale and West Palm Beach in Florida experienced an increase in ridership of more than 20% for March and April. Minneapolis-St. Paul's transit system had a 16% average monthly increase for the first four months of this year.

**Exhibit 9. Mass Transit Usage Up Across The Nation  
Riding the Rails**

The top chart, with data through the end of 2007, shows that transit ridership has been rising steadily for years. The figures at the bottom illustrate how, for many transit systems, that growth accelerated sharply in the first months of this year, as gasoline prices rose.



**LOCAL RIDERSHIP**

City	Transit System	Year	Total Ridership	Year-over-Year Change	
Minneapolis-St. Paul	Metro Transit Hiawatha light rail line	TOTAL RIDERSHIP FIRST QUARTER		YEAR-OVER-YEAR CHANGE IN RIDERSHIP, 2007 - 8	
		2007	1,770,000	2008	2,060,000
		YEAR-OVER-YEAR CHANGE		JAN.	+16%
				FEB.	+19%
				MARCH	+15%
Miami	Tri-Rail commuter train	TOTAL RIDERSHIP FIRST QUARTER		YEAR-OVER-YEAR CHANGE IN RIDERSHIP, 2007 - 8	
		2007	890,567	2008	1,008,074
		YEAR-OVER-YEAR CHANGE		JAN.	+10%
				FEB.	+15%
				MARCH	+14%
Denver	RTD light rail line	TOTAL RIDERSHIP FIRST QUARTER		YEAR-OVER-YEAR CHANGE IN RIDERSHIP, 2007 - 8	
		2007	4,525,661	2008	4,850,899
		YEAR-OVER-YEAR CHANGE		JAN.	+1%
				FEB.	+11%
				MARCH	+10%
		APRIL	n.a.		

\*Includes figures from all agencies reporting to the American Public Transportation Association, covering about 250 transport systems.

Sources: American Public Transportation Association, South Florida Regional Transportation Authority, Minneapolis Metropolitan Council, Denver Regional Transportation District

THE NEW YORK TIMES

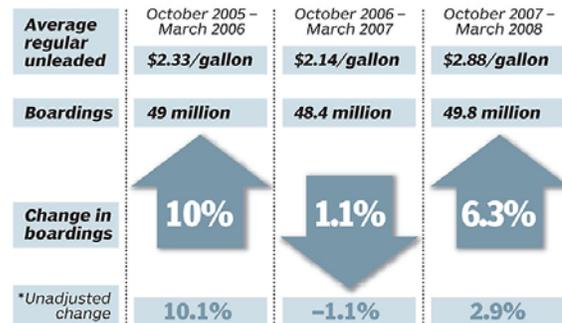
Source: *The New York Times*

**Ridership counts for October through March in Houston were nearly 3% higher than the same period a year ago**

Even Houston has experienced a noticeable increase in the use of its mass transit system. Ridership counts for October through March were nearly 3% higher than the same period a year ago, and based on Metro’s new more accurate sensor counts, the increase may have been double that amount. *The Houston Chronicle* did a study to examine the impact of ridership changes and gasoline pump prices. In looking at the Park & Ride data, for October 2007 through March 2008, gasoline prices increased 35% while ridership was up 13%. For March, gasoline prices were up 32% over March 2007, and ridership jumped 16%. Metro attributes about 40% of that increase to the opening of two new Park & Ride lots.

**Exhibit 10. Even Houston Mass Transit Use Is Up  
FILLING UP THE BUSES**

*When gasoline prices in the Houston area went up in late 2005, so did transit ridership. A year later, in the same 6-month period October through March, fuel prices were lower and so was transit use. The latest Metropolitan Transit Authority estimates, for the period October 2007 through March, show ridership up again – along with the price of filling the tank.*



\* Note: Counts are adjusted for differences in the number of workdays. Since October 2007, riders have been counted by electronic sensors, so earlier data from fareboxes were adjusted to reflect the change. Metro says the current counts are more accurate.  
Source: Metropolitan Transit Authority, AAA Texas CHRONICLE

**Source: *The Houston Chronicle***

**“Nobody believed that people would actually give up their cars to ride public transportation. But in the last year, and last several months in particular, we have seen exactly that.”**

Just as Houston is experiencing a rise in its transit system usage, the trend of increased mass transit usage nationally appears well entrenched. Daniel Grabauskas, general manager of the Massachusetts Bay Transportation Authority serving Boston put it, “If we are in a recession or economic downturn, we should be seeing a stagnation or decrease in ridership, but we are not. Fuel prices are without question the single most important factor that is driving people to public transportation.” But the key point about the changes in mass transit usage, and all the other changes in the way the transportation business is addressing the rise in fuel prices was best summed up by Joseph J. Giulietti, executive director of the South Florida Regional Transportation Authority. He said, “Nobody believed that people would actually give up their cars to ride public transportation. But in the last year, and last several months in particular, we have seen exactly that.” It appears a tipping point has been reached.

**Contact PPHB:**  
1900 St. James Place, Suite 125  
Houston, Texas 77056  
Main Tel: (713) 621-8100  
Main Fax: (713) 621-8166  
[www.pphb.com](http://www.pphb.com)

**Parks Paton Hoepfl & Brown is an independent investment banking firm providing financial advisory services, including merger and acquisition and capital raising assistance, exclusively to clients in the energy service industry.**