INTRODUCTION

Let Me Read You Two Quotes to begin:

Paraphrase, National Surface Transportation Infrastructure Finance Commission, February, 2008:

“The growing funding gap and deteriorating system performance raise questions about how to provide more funding for surface transportation as well as ways in which users currently pay for the system. Individual drivers today do not pay the full costs they impose on the system. The average current user fee revenue per vehicle mile traveled is about 3 cents. Yet studies of highway congestion show that the costs of using a highway during congested conditions are on average 10 to 29 cents per vehicle miles traveled. Transit riders around the country are paying user fees that cover from 3% to 20% of total capital and operations cost of their rides. Moreover, the fuel taxes and other fees imposed on heavy trucks fail to cover the costs that those trucks impose in the form of wear and tear on the roadway. In addition, a declining percentage of total surface transportation expenditures (local, state and federal) come from the fuel tax or other user fees and much of the growth in expenditures has come from indirect sources like property and sales taxes.

Absent much higher tax levels and/or major infusions from supplemental sources, the current funding approach is simply inadequate over the long term. The weak link between driving and fees paid – primarily fuel and vehicle taxes – does little to promote efficient use of the system.”

WSJ April 15, 2008: The Wall Street Journal noted that a few weeks ago the National Association of Home Builders threatened to suspend their PAC contributions to Congress “until further notice” – “Meaning until they saw more return on their political investments. Congratulations. That gambit paid off big time. Congress is becoming a tax loophole production factory for the powerful.” - referring to Senate passage of the “Foreclosure Prevention Act” which among other things contains $7000 tax credit for those who buy foreclosed property; a $7500 tax credit for first-time middle income home buyers, $25 billion in tax subsidies for home boulders and industry interests hurt by the housing crunch and $6 billion more (on top of $10 in Energy Bill) in tax deductions for renewable energy producers.
My hope
My hope is that over the next 45 minutes that you will come to appreciate why I began with these words and why I believe that we can solve our transportation dilemmas, as well as a host of other environmental and resources issues, if we applied the concepts I will discuss.

The late Mel Weber, Professor at the University of California at Berkeley and “Dean” of California transportation planners and faculty once said, “One can’t fully understand the problem until you know the solution.”

I do not claim to know the solution per se – but I do believe most of our present governmental policies relating to our resource and environmental issues (which I will characterize as “supply management”) are unsustainable and ineffective and that only by moving toward what I will call “demand management” and “market based” solutions do we as a nation or planet have a chance to survive.

Stewardship
I assume that virtually everyone in this room believes in the stewardship of our resources, sustainability of the earth and is in varying degrees concerned about the externalities of air pollution, carbon use, congestion, water consumption and waste disposal etc. You will probably agree with deceased Kenneth Bolding’s statement that “Sustainability is living off the earth’s income; not the earth’s capital.”

I will be challenging many conventional, if not politically correct, ideas about how to achieve sustainability and stewardship. I can do this because I am retired - though I must say that I am grateful to the many elected officials I have worked for who did give me great flexibility to voice my opinions even when they did not share them.

What I will do: First I will explain the concepts/theory
   Secondly I will discuss examples of the Old and New Paradigms

My purpose will be to articulate a new paradigm; a different way of thinking about solutions to our resources issues and to describe various principles upon which a sustainable nation, environment and economy can be achieved. I will place considerable emphasis on the incentive system – in what ways and by what price cues is our “consumption” behavior influenced. I place less credence in the effectiveness of planning and regulation in influencing our behavior.

Your Reaction
One of your reactions, at least occasionally, will be – yes Norm is probably correct - but what he is saying is not politically acceptable. But this reaction assumes that what is politically acceptable will in fact lead to an improved condition. Yes, we can string things out for a while and play at the margins. But unless we are willing to make fundamental changes about how we expect government policy should be implemented we will not create a sustainable future.
I am going to talk a lot about externalities. Air pollution and congestion are examples of externalities. When I drive I create certain spill-over effects – such as congestion and pollution – for which I do not pay but which are rather borne as a cost or inconvenience to others (third parties.) That is what an externality is: an economic effect that a transaction (my driving) has on third parties. They are costs, side-effects, spillovers, which affect unrelated parties as a result of private behaviors. We drive to work, acting in our own self-interest, in order to maximize our own personal values – even though in doing so, in aggregate, the consequences of our driving behavior create conditions which are not reflective our society’s desire for clean air and mobility.

Why Government Exists
Government exists – largely though not exclusively - as means of reducing the effects of these spillovers – by correcting, mitigating, treating, and preventing these consequences of our private actions which result in external costs. If there were no externalities the scope of government would be greatly reduced.

Rooted in Concepts of Freedom and Choice
Our country is rooted in the concepts of freedom and choice. In context of our democracy the goal of government is thus: How individuals, acting in their own self interest to maximize their values, can behave (i.e. drive, consume, dispose etc.) in ways which are also consistent with what we want in our society in aggregate – clean air, physical mobility and a stable planet.

Our challenge Is: How can we most efficiently change behaviors which are producing negative externalities and still maximize our freedom of individual choice.

New Paradigm for Governmental Intervention
Thus my comments tonight try to set forth a new paradigm for governmental intervention to solve externalities

- one which focuses on personal accountability for our costs,
- one which emphasizes demand – rather than supply management
- and one which uses market mechanisms and honest prices – rather than only planning, regulation and spending as the main tools of government intervention.

My most important message is to present a different way of thinking about our resource, pollution and infrastructure challenges. We know a lot about what changes need to be made. We lack the will to make the changes in our public policies which reflect our supposed commitment to being responsible individuals. That is our hypocrisy.

PRINCIPLE #1: ROLE OF GOVERNMENT - The role of government must shift from just providing services to creating opportunities and an environment for all of us to become more directly responsible and accountable for the costs we inflict on others.
Unless we commit to the ethic of holding the user (consumer) more directly accountable for the consequences of one’s use, we have no chance in the long term – maybe in the short term – to solve and mitigate some of our region’s, country’s and earth’s most challenging issues and dangers.

Norm’s axiom: The inevitable legacy of externalities is that a cost which is not accounted for in the private economy will turn up, sooner or later, as a public cost to our government or our society in the form of pollution or congestion.

We try to manage or treat the externality with the traditional governmental toolbox of spending tax money (as opposed to user fees), regulation or planning. These tools have their place but inevitably increasing externalities spawned by our technological advances will overpower our traditional governmental interventions and mechanisms designed to mitigate the externality.

Our real solution will be to charge the user (beneficiary) more directly the total cost of one’s consumption choices – which are increasingly choices for bigger houses, bigger cars, more frequent and longer trips.

An example: When I drive I create costs (pollution and congestion) for which I am not held directly accountable and thus these costs are passed onto society or to the environment as a whole.

The T.V. passing through the Port of Southern California on its way to Iowa creates pollution and congestion for which the ultimate user (beneficiary) in Iowa does not pay and thus these costs are passed to those of us in Southern California – in the form of unfunded grade separations, freeway congestion, higher road and highway maintenance costs, and air and water pollution risks.

I am advocating a way to use price to better allocate our resource use.

This requires nothing less than a new definition of the role of government.
I will repeat: The role of government must shift from just providing services to creating opportunities and an environment for all of us to become more directly responsible and accountable for the costs we inflict on others.

By interpreting issues of pollution, congestion, global warming as governmental problems (and thus requiring new government programs) and not as issues of individual responsibility and accountability, we perpetuate the false notion that the solution lies in better governmental decisions or more spending or better planning as opposed to better personal decisions.

We have a system in which price related incentives do not hold us individually accountable for the true cost of many of our personal behaviors. Change the price system and we become more individually accountable for our behavior as it affects others. Become individually accountable for our actions via our pocketbook, and we begin to achieve those values we say we want: less smog, less congestion, enough water, adequate basic government services.
The governmental system is **overpowered by the consequences** of our private decisions. We are **asking too much** of our government and **too little** of ourselves. If we want to continue to ask too little of ourselves (by not holding ourselves accountable for the full cost of our actions), the only choice is to increase governmental authority over our lives and for government to spend more money to “buy” our way out. I have doubts that this alternative is ultimately fundable or acceptable in a free society.

The most significant problem of society is not the inefficiency of government services to provide services and facilities; it is that government must deal with too many unwanted leftovers of using privately produced goods.

I don’t expect my neighbor or my employer to pay for the cost of my gasoline to drive to work, but it has become very American to expect that “the public” or my employer will pay for the freeway, the Metrolink or my parking.

Our political rhetoric relishes words like “inefficiency of government,” “bloated bureaucracies and the stated or unstated premise that running government like a “business” is the solution to expanding government. Unfortunately, the infatuation of the public and media with inefficiency in government is a dangerous **diversion** from dealing with the real issues of governmental expansion and productivity. **As a professional government manager,** I believe in the ethic of improving government efficiency, recognizing we have a long way to go. However, the real culprit of increased government spending and intrusion into the economy is not inefficiency. **It is the demand inducing incentives to our consumers and taxpayers in the way we price resources and many government services which creates the perceived need of government to expand and/or to supply more of something.**

Contrary to the view of the typical urban planner – and many others – the primary cause of our dysfunctional urban areas is not the result of bad government decisions or bad planning. It is the inevitable result of not charging all of us, individually, the full and real cost of what we use – road space, air, water etc. Hence the title of this presentation: **“Good planning is always overpowered by bad prices.”**

The issue is not that we haven’t been paying enough taxes (or that government needs more money to solve these problems). It is that we haven’t been paying enough (i.e. full costs) individually for many of our privately consumed goods and products. **This distinction between taxes and user fees is critical** and I will have more to say about this.

The new definition of the role of government (**shifting from just providing services to crating opportunities and an environment for all of us to become more directly responsible and accountable for the cost we inflict on others**”) has a number of important implications:

a. **The “costs we inflict on others”** are externalities and **all** externalities can be reduced if prices of consumption reflect the cost of the externality.

b. **Role of Technology**

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Our governmental tools and approach to dealing with these issues have not evolved to compete effectively with the perverse unintended (and under-appreciated) impact of technological progress: **the increasing ability of technology to enable all of us to impose (external) costs on others as a consequence of our daily consuming lives.**

c. **Nothing is local anymore and scale of externalities is increasing.**
An example: **200 years** when one traveled to work one generated very little impact; virtually no externalities. Horses or walking were the modes. Trips were short. And, yes, horses do produce some localized side effects.

Such commuter behavior was quite different from driving – which has **global effects**; oil spills 3000 miles away; climate change, endangering health. Enabling plants to grow in places they couldn’t before – from airborne nitrates- and thus endangering native plants and animals.

d. **The Relative Portion of Externality Cost is Increasing**
I would submit, and this a quite different way of looking at why we are having difficulty mitigating many of our externalities, is that as a percentage of the total actual cost of consuming a product (i.e. both direct costs and externalities) externality costs are increasingly a greater proportion. **This fact is largely ignored by our economic and political system, especially when trying to treat the social costs of over consumption.**

Technology has enabled us to foist ever increasing costs on others. In other words technology, for all its benefits, is the driving force behind the increase of negative externalities in our economy.

e. Thus, the user pays, ever since the advent of the industrial revolution, less and less of the real, total cost of consuming and this has **two** consequences:

1) It provides an incentive to **over-consume**

2) And, it causes government to try to intervene to **treat the externality** at a higher cost than prevention, using inadequate, expensive, and inefficient tools.

Basically our dominant governmental approach to mitigating externalities of all kinds is to treat or mitigate the pollution or congestion after it has occurred. This is what I call “**pooper-scooper**” government – in which the function of government is to run behind us spending a lot of money to clean up after our spills.

**To repeat:** The basic premise is that the inevitable legacy of externalities is that a cost which is not accounted for in a private economy will turn up, sooner or later, as a public cost to government or society in the form of pollution or congestion. And, the role of government must shift from just providing services to creating opportunities and an environment for all of us to become more directly responsible and accountable for the costs we inflict on others. This means internalizing externalities into our prices.
The unfortunate trend in transportation finance is that there is an increasing disconnect between the transportation user and who pays – for the direct costs; let alone the external costs.

Decline of gas tax/user fee

Some of you are already thinking – but if we do these things, such as charge more for the cost of product - it will hurt the poor.

The answer is, “Not if this issue is dealt with honestly.” It is not the poor who use and consume a disproportionate share of our resources and goods. A policy which shields the consumer from paying the real, total costs of products and consumption is a massive subsidy to the most affluent – who do consume a disproportionate share of goods and finite resources.

Moving to policies which price goods more honestly and using some of the proceeds to provide vouchers or other welfare mechanisms to protect those in need will improve equity and have the added bonus of providing incentives (or disincentives) for the rest of us to conserve and choose more benign products.

This is truly a win-win opportunity and is completely aligned with two powerful and often opposing political ideologies: One which advocates greater equity and protection of the poor and the environment and another which upholds the role of price (rather than government regulation) in allocating resources.

To Summarize:

We have don’t enough governmental resources (especially enough money) to solve the impacts of increasing externalities without holding the user more directly accountable to paying for the total costs of one’s actions and consumption – including the cost of the externalities.


PRINCIPLE #2: DEMAND MANAGEMENT - We cannot reduce or stabilize the cost of government unless we focus attention on how to reduce the demand for government services and for resources which are finite and/or whose consumption impose costs on others.

Demand Management is a different way of perceiving the role of government. The old paradigm is supply management. My education and background as a City Manager, and as a Council of Governments and Transportation Agency Director, has been in supply management. The emphasis has been on supplying government services. If the problem is “not enough of,” the solution is to provide “more of.”

The demand management paradigm defines the problem differently. The problem is not that there is not enough of a resource, a governmental service or tax money, but rather that there is
too much demand on government for its resources and services. The solution then becomes to reduce demand: to focus on policies which reduce demand for resources and government services. This is a fundamental reformulation of the problem of government. The problem becomes that there is too much demand for governmental services and resources. The solution will be to manipulate the demand downward.

The problem of handling solid waste provides one example. Traditionally, the problem is defined as not having enough money to buy enough landfill or incinerators to meet the demand for trash. The problem is “not enough of” (i.e., not enough disposal facilities); the government role is defined as spending, building, and providing more (disposal facilities). Thus, the supply management approach defines the problem as “not enough of something”; the solution, “get more of”.

From a demand management perspective the problem is “too much waste”; the solution is to reduce the volume and toxicity of the waste stream. A different array of governmental tools thus is needed.

The problem of water supply is not that we are running out of water. It is that there is too much demand for water in the first place, largely because a great percentage of our available water is under-priced to some users.

The problem is not that we are running out of energy, it is that the full cost of using energy is not paid for by the consumer.

The problem of health care is not that we don't have enough money to supply enough health care, it is that we have incentives to over use the system.

The problem of the morning commute is not that we don't have enough money to build more freeways, it is that the demand for freeway space is artificially high.

To oversimplify we have two choices: We can raise taxes and revenues to try to overpower the problem by building our way out or bribe people to do the “right” thing (the supply approach). Or we can cause individuals to pay directly for our bad behavior - the costs we inflict on others (the demand approach).

Bribery is very expensive and produces marginal behavioral changes. Get the prices right and people will behave and consume in a much more benign manner. It all comes down to the two very different public policy pillars – bribery or accountability - on which to construct workable solutions to the challenges we face.

PRINCIPLE #3: HONEST PRICES - Price provides the best education. If prices reflect total costs of consumption we consumers are instantly educated to be accountable for the consequences of our actions. When prices do not convey accurate information (i.e. external costs and direct subsidies) they are dishonest prices.
Good planning, regulation, supply management policies and spending money will always be overpowered by dishonest prices.

The purpose of price is to provide information. When externalities are present the market place does not provide honest (accurate) information about the total cost of consuming the product or service. Dishonest prices allow us to fool ourselves that we are paying the real cost of a products – when in effect we are passing some costs to others. It is not honest or responsible that I don’t pay for the costs I inflict.

Both user fees and internalizing externalities improve the honesty of prices. Honest prices are either direct user fees (charging the beneficiary the cost directly) or the added cost to a product or service to account for the cost of the externality. Charging the road user for the actual costs of the highway is an example of a user fee. Charging the driver for the cost of the congestion or air pollution his/her car produces is internalizing the externality.

The penalty for not having honest prices is either suffering from the consequences of the negative impacts (congestion, global warming, cancer etc.) or increasing public expenditures to treat or mitigate these consequences.

Anytime market prices are deceptive, dishonest and do not include all costs of consumption market forces encouraging responsible behavior (stewardship) will be underutilized and the political process will lurch toward greater governmental intervention to “solve” the externalities. In this context creating honest prices – which convey all costs - becomes a basic moral and ethical imperative.

One way to look at internalizing externalities is the imposition of a “using up” fee. That is, if I emit carbon – I am effectively “using up” the world’s atmosphere. Thus, pricing honestly, from a conceptual viewpoint, either by direct user fees or internalizing externalities is very similar – both are fees on consumption.

Why User Fees Are Not Taxes. Those who oppose “honest” user fees on the grounds they are “taxes” don’t understand how a free economy allocates resources; nor how by not holding the consumer accountable for true costs of a product, taxes or other costs for everyone are bound to increase.

When user fees can be imposed (meaning that it is possible to clearly identify the beneficiary of the service or use and assess those beneficiaries) but are not, the costs to society will inevitably be higher and will often lead to higher taxes to mitigate or treat the negative externalities of over use and over consumption.

It is an irony that those who oppose user fees on the grounds that they are “taxes” actually encourage a policy which will increase costs and taxes to society as a whole.

This becomes our ideological stalemate:
**Democrats** protest user fees on grounds that user fees harm the poor even though the more affluent would pay a disproportionate amount of the user fees.

**Republicans** argue against fees by calling them taxes even though honest fees will lower the cost and scope of government.

**Democrats** create many entitlement expansions and subsidies which primarily benefit the more affluent and then advocate higher income taxes on the more affluent to pay for them. **This creates perverse incentives on both ends: the spending and extraction of funds.** (I wrote this one day before WSJ April 15, 2008 wrote: “So we could soon have the worst of all worlds: a leaky tax code full of exceptions for powerful interests, but with ever higher rates to make up for the loopholes. Congress gets PAC contributions in return for the loopholes, plus any extra revenue from the tax hike. The losers are taxpayers who aren’t as powerful or rich enough to afford a tax lobbyist.”)

**Republicans** often go along with (or advocate for) the expanded subsidies and then claim that increased government efficiency will solve the budget problem they have created.

**The solution:** Impose fees based on the principle that the individual who receives the benefit should pay for it. And target assistance to those deemed in need to provide access to the service or resource.

If we had this consensus we could use the market to create solutions to air pollution, global warming, over use of natural resources rather than require increasing government funds and regulatory authority to mitigate (however feebly) the negative impacts of such.

**Not Everything User Fees** I am not arguing that all government services should be funded by user fees. I am arguing that if user fees are assessed directly on those who benefit that greater tax revenues would be available to fund those goods which we clearly deem to be public goods such as public safety, public education etc.

An explicit goal of public policy must be to create a pricing system which will cause the user to pay more directly for the cost of certain services, thus improving the link between those who benefit and those who pay and thereby reducing third party payments which obscure the real costs of, and lead to over-consumption of, the resource or service. **Simply put; create more ratepayers and fewer taxpayers.**

**Examples:**

**Debate About Urban Form:** When users do not pay the full cost of transportation or other regional resources, the spatial configuration of the urban area reflects choices made with inaccurate information. To overcome these “bad” choices enter the regional planner, to whose lot is to wisely allocate patterns of growth and regional resources. The debate regarding the “urban form” is thus framed with appeals for smart growth, livable communities and more compact urban development. This planner approach misses the point. **Without “smart prices”**
smart growth is impossible. If transportation prices reflect full cost, the urban form debate framed in the above terms would be unnecessary.
**Freeways and Telephones** The difference in the way by which we price freeways and telephones is a case in point. Freeways generally (except toll roads) have been considered a “free” good and are publicly produced. Telephones are private goods and users are charged fees. However, telephones and freeways are very similar to the functions they provide. They both are a form of communication. In fact, electronic communication has displaced many types of trips which previously required the physical movement of people or information. Although they serve similar functions for society, the way in which these services are priced is critically different. Telephones are generally not subsidized by taxpayers (or other users); fees are charged for use. These fees take into account time of day and reward non-peak users.

The system is “managed” through price and is extremely efficient. On the other hand, freeways are subsidized by taxpayers, fees are not charged for use, and the system is over-used at peak and under-utilized off peak. Freeways are not really “free” at all. Use of the system is allocated based on driver tolerance of congestion. This allocation system is far from efficient. In fact, the number of cars “served” during congested times is frequently less than when fewer cars are on the freeway.

Depending on whether the costs are paid by taxpayers or ratepayers the amount of resources consumed will vary significantly. **Ratepayers will generate a smaller demand than taxpayers for a given service or product.** Creating more ratepayers thus becomes a goal of demand management policy. Ratepayers demand for government services will be less than taxpayers demand.

The difference between taxpayers and ratepayers can be illustrated as follows.

**Dinner Party – We Have Two Choices About How to Pay:** All of us have, no doubt, attended meetings or conferences and found one’s self with a group of people going out to dinner. Your party had two choices about how to pay the bill. You could have decided, before you ordered, that each of you would pay according to what you ordered. This might bother the waiter or waitress, but it is an option.

More than likely your group decided to “split the bill” proportionately. In this situation, our individual behavior will be quite different than the former case. In the first case, I will be more likely to have one drink and order chicken. I will pay for what I consume. But in the latter situation, I will not likely order chicken and watch my neighbor savor lobster or filet mignon – which I am paying for.

**Therefore, if I face paying a proportionate share, I will likely have two drinks and order the lobster or the filet.**

What is important to note is that in both cases we will collectively be paying the bill, but in the latter case the total cost will be substantially higher. **The way we structure the bill, by making me pay as a ratepayer (according to my use) or as a taxpayer (my payment is unrelated to my consumption) becomes critical.** In other words, like the dinner party, there are two ways to structure the payment for use of our public services,
facilities and products. When we pay as taxpayers, the total cost will inevitably be greater.

**PRINCIPLE #4: EQUITY - When the total cost (including externalities) of consuming resources and products are not included in the price charged to consumer the more affluent are those most benefited.**

The most common concern raised about the greater implementation of user fees is by those who are concerned about the effects on the poor – things will cost more. This is a legitimate concern. However, anytime full costs are not charged, the more affluent who consume a greater proportion of virtually every product or resource will receive by far the greatest benefit by not having to pay the full cost.

We can look at almost any type of consumption – gasoline, water, auto use, electrical use, use of the disposal (waste) system and inevitably we find that the top 20% will consume around 35% to 38% of the total resource or product; that that bottom 20% will consume about 5% to 8%. This of course means that if the resource or product is under-costed, subsidized or does not reflect true costs of consumption that the “benefits” of the under-costing or subsidy accrue disproportionately to the more affluent.

Furthermore, a great many of our direct subsidy and tax expenditure subsidy programs – housing deductibility, farm subsidies, highway investment, commuter rail, health insurance – disproportionately benefit the more affluent. “In the name of helping the poor we help ourselves.”

Vernon Smith, 2002 Nobel Laureate, in reference to housing tax expenditures: “Once again, try as we might and in spite of our political rhetoric, we have failed to help the poor in applauding government action intended to help ourselves.”

The solution is to target assistance to those who consume 5% to 8% of the resource without subsidizing everyone. We don’t subsidize all food at the supermarket; we provide food stamps to those deemed in need. Instead of basing most of auto insurance cost on value of car, with little of the cost based on miles driven, implementing mileage-based insurance (with appropriate factors for driving record) would reduce premiums for low-mileage drivers (who are likely to be less affluent) and increase premiums on high-mileage drivers (who are likely to be more affluent).

Some recent research at UCLA finds that the toll financing of SR91 in Riverside and Orange County reduces the cost burden on lower-income citizens compared to using transportation sales tax funds which are now commonly used to construction freeway expansion in California.

**Bottom line: The rhetoric of protecting the poor by not charging most of us honest prices, coupled with the massive increase in non-means tested entitlements and tax subsidies has resulted in a tremendous amount of government spending mostly**
benefiting the most affluent and resulting in powerful incentives for most of us to over-consume.

We then try to use the force of government to spend money and impose regulations in order to “curb” the consequences of our “excess” behavior. This becomes a vicious circle by which we perpetuate the problem and feebly deal with it by expensive and ineffective governmental interventions rather than to correct the underlying perverse incentive system.

ISSUES TO ADDRESS IN SHIFITING TO THE NEW PARADIGM

A. Cost Implications and Competitiveness

Frequently concerns are raised about increasing the cost of consumption and its impact on the economy. This is a legitimate concern and can be answered.

User Fee: The impact of transitioning from using tax revenue to fund a service to a user fee based on one’s direct consumption will be to raise cost on specific users but reduce public costs. Anytime one has to pay directly – rather being subsidized by a third party – the product will be used more efficiently and overall consumption will decrease. Furthermore, those who choose to pay the user fee – such as a time of day based toll – are maximizing their values (which may well include financial well-being) by being able to avoid congestion.

Externality Fee: The economic effect of internalizing externalities is a little more complicated. Clearly if the United States imposes a fee on carbon emissions, and other countries do not, our products become more expensive in absolute and relative terms. However, to the extent that we are spending – or would spend – additional taxes on the mitigation of either the production or effects of the externality (such as air pollution) internalizing externalities will decrease the production of the spill-over effects and thus reduce mitigation costs. Basically the “added” cost of the externality is tradeoff between how we value and compute the cost of the impacts of the externality vs. how much we are willing to pay for mitigation. If we value mitigation to some level then internalizing the cost of the externality will always have the lesser impact on the economy.

Phasing: Too many times good policy initiatives are thwarted because the threat of a sudden change is too scary and obtrusive. As we move to implement market based strategies, particularly the greater use of user fees and using up fees it will be important to develop gradual phasing of such initiatives. There are great many estimates of the cost of the externalities. For instance, in regard to automobile use I have seen estimates range from 5 cents per mile to 30 cents per mile. The key is to start somewhere – on the lower end – and ratchet up the rates slowly. It is also certain economists and scientist are gradually refining their methodologies by which to calculate such costs.
We now have the **metering technologies** which substantially reduce the transaction costs of assessing and collecting fees and user charges. Electronic tolling has or is in the process of replacing physical toll booths. Meters can provide users with very sophisticated information about their usage – such as time of day information for electrical use.

**The Market Will Produce More Efficient Alternatives:** Relative cost drives the market. As the price of oil goes up competing investments (both in conservation and production) begin to look relatively more productive. We should not underestimate the ability of technology to replace old products and substitute new ones when changes occur in relative price. Options previously considered too costly become viable and there are many examples of substitute products being developed which ultimately are produced at less cost than the replaced product.

### B. Converting Fixed Costs to Marginal Costs

The consumption of some products and resources can be very much affected by the way the price is imposed – **not by increasing the overall cost but by converting the price from a fixed cost to a marginal cost.** This would be particularly appropriate for automobile usage because so much of the cost of owning a car is fixed; much of the cost of owning the car is not related directly to mileage driven; thus there is less “savings” realized by driving less. This is true especially how the purchase of the vehicle and how the car insurance is paid. Gasoline consumption is directly tied to use but by itself is usually less than 1/3 the cost per mile of driving. If I saved 50 cents for each mile I did not drive (rather than 15%) I would likely choose my trips more wisely.

A dramatic example of how the new paradigm could provide significant savings would occur if several of these principles are implemented as follows. If cost of insurance and owning a car were converted to a marginal cost (mileage-based charge) and if drivers paid directly for the costs of parking and for the use of highways by mileage and/or time of day, the power of relative price – discussed above – would kick in big time. Under these conditions we would likely see the demand created for a **non-fixed line, “van” type public transportation (not necessarily provided publicly)** offering point to point service for a great many normal daily trips at less cost than the cost of owning and driving a car. In practical terms this would mean many families could shed the cost of owing the second or third car.

Another example is the implementation of **time of day pricing for all electrical usage.** Charging the marginal cost of producing a kilo watt 3:00 pm in July, rather than a flat (fixed) cost per kilowatt throughout the day will lead to system-wide savings.

### C. Target All Subsidies to Those in Need (No More Untested Entitlements)

The new paradigm will seek to limit non-means tested subsidies, i.e. entitlements. Our approach will be to increasingly provide **user-side subsidies** and fewer **supply-side subsidies.** Instead of subsidizing the train or bus the least affluent commuters will be provided targeted subsidies which they can choose to spend on a mode most convenient
for their purposes. Such demand side approach ultimately reduces the need for the urban planner to try correctly guess which investments are needed and infrastructure investment decisions will begin to be driven by real world consumer decisions.

And as previously mentioned by targeting subsidies to those we deem in need the scope of subsidy programs will diminish because so much of our present entitlements and public subsidies primarily benefit the most affluent.

D. Converting Public Costs to Private Costs

The “de-publicization” of who pays for what is a central aspect of the new paradigm. The old paradigm usually accepted the externality or its mitigation as a public responsibility, cost, or inconvenience to be tolerated. By “privatizing” these costs we not only force the perpetrator to bear direct responsibility for one’s behavior but also provide cues leading to greater conservation and more efficiency.

As we discuss new public initiatives the key question we must increasingly ask is: Who should pay? The user or the tax payer? If the answer is the taxpayer we must be convinced that the real winner is society as a whole and that there are overriding reasons why the directly benefiting user should not pay the costs directly. If we believe the taxpayer should pay we should be prepared for the inevitable greater consumption which will occur than if the user paid directly.

E. Evaluating Merits of Proposed Infrastructure Improvements

The new paradigm places a high value on performance. Performance measurement, standards are developed and adhered to. Old notions that any public project which has a benefit-cost ratio of 1.0 or merits implementation has given way to better understanding of the concept of “opportunity costs” and ranks proposed projects against a variety of alternatives. Opportunity cost is the recognition that we fund project we can not use those funds on an alternative project and seeking projects with the highest possible ratio’s is imperative.

Example: High Speed Rail The proposed High Speed Rail (HRS) project which will be on the ballot in November is a timely example of a project which barely (if even) reaches a 1.0 benefit cost ratio yet touts that it is of lesser cost than alternatives.

I was asked by a newspaper reporter the other day if I thought HSR was “needed” (The issue is scheduled to go on the California ballot in November 2008). I told him that I could not answer unless he could tell me how the project will be paid for and by whom. “Need” does not exist separately from the context of who will pay. My analysis of HSR is that the total benefits - including externality reductions, congestion savings – are marginal compared to the needed public investment. But if enough travelers were willing to pay the full cost of HSR then it should be built (not a taxpayer expense) and in that context the project would be considered “needed” because the “users” have determined it is their interests and are willing to pay.
In reality HSR will transfer a great many “former” air passengers, who pay the full cost of their trip, to be rail passengers the cost of whose trip (including capital) will be largely and likely totally paid for by taxpayers. And the projected time savings for the rail vs. air trip are neglegable at best.

F. Through What Side of the Brain Do We View the World?

I do not represent that demand management, market based and pricing policies are a completely coherent philosophy, ready to be implemented in their entirety to every issue we face. The new paradigm will occur incrementally with many small steps, experiments and some missteps. Most importantly I am trying to articulate a different way of conceptualizing how we manage a more effective way for government to intervene to prevent and correct market distortions which cause us collectively to make bad decisions.

In my view too many of our policy makers are locked in the “right brain” paradigm of regulation, planning, spending. We need to shift to the “incentive” brain which is open to the use of governmental authority to create conditions, including making our prices honest, to hold all of us more accountable for the costs of our actions. Notice that I said “create conditions” as opposed to “incentives” which all too often have come to mean direct governmental subsidy or manipulations of tax incentives.

I am far from suggesting that regulation, planning and spending will no longer be important and useful. Not at all. But unless we align our incentive systems to be consistent with our societal objectives good planning will always be overpowered by bad prices.

APPLICATIONS OF THE NEW PARADIGM

Note to Reader: The following are the abbreviated notes regarding the Old and New Paradigms which I have used for the verbal presentation but are not yet written out in detail. Should you have any question above these examples, facts and figures I would be delighted to discuss.

1. Fuel and Energy Efficiency Standards

Old Paradigm: Mandate efficiency standards for fuel, electricity use (lighting), air conditioning, heating.

New Paradigm: Place an externality fee on all energy use (along with mileage and congestion fees) – less emphasis on how the BTU is used (i.e. for driving, refrigeration)

Problem with Old:
Fuel and efficiency standards do not necessarily lead to reduced energy use.
My friend Vic – bought more efficient air conditioning; could now keep thermostat at 78 degrees for same cost to previously set it at 80 degrees.

We use savings to drive further, lower thermostats in summer, more lighting, extra refrigerator in garage

**Over the past 20 years fuel efficiency has increased 1-2% per year but fuel economy (miles per gallon) has not improved for 15 years**

1987-2004: Horse power - plus 89%; Weight – plus 29%; Fuel economy – minus 2%

Hybrid vs. Hummer – study showed Hummer had about 1/3 less energy use per mile over life: materials, length of life etc.

    Shows inefficiency of focusing on selected output (fuel efficiency) vs. fee on front end which affects **all** uses

By focusing on fuel efficiency more energy intensive materials are used on the front end.

2. **Transit Subsidies**

Old Paradigm: Subsidize transit and build more to get people to ride.

New Paradigm: Create demand for transit by pricing roads, parking, shift costs of driving to marginal costs etc.

Problems with Old:

    It’s not working: It is a **supply** approach

    David Lewis, TRB: Urban congestion pricing could increase transit demand by 50-100%

    SCAG area: 5% transit market share vs. 65% of total revenues spent on transit; declining market share

    Red Line - taxpayers pay 98% of cost over life of system

    Transit ride is longer than solo driving: 3 times rail; 2 times bus. Even in New York: Driving 28 minutes; transit 52 minutes

    Average vehicle per person per mile: cars uses less energy than transit
Outside of NY – transit averages greater per person mile - green house gases

Worst – Amtrak (greater than air)

In spite of vast increase in transit investment – decline in market share and increasing cost per trip.

1990-2005: transit spending doubled in real terms; not nearly same percentage for highway – most of these funds used for transit came from auto users

Most of new transit investment – light rail – has led to longer distance commuting and greatest subsidy to most affluent

Still drive to rail (cold start)

Orange Co. Metrolink parking

Typical statements: “We subsidize the auto with 36 cent gas tax; why not transit?” and “It makes sense to subsidize transit because it takes people off the road and reduces externalities.”

Problems with these statements:

40% of public transit has no access to car – no decongestion effect

Very few transit rides have less externalities than auto trip and

Cost of subsidy per transit ride is far greater than cost of the alleged reduced externalities.

Gas tax is a user fee – not a tax: no comprehension of the difference

True subsidy (i.e. tax payer subsidy vs. user fees) of auto (including cost of externalities) is 10 to 20 less than transit passenger per mile subsidy

3. Commuter Rail

Old Paradigm: Build new commuter rail lines – “Give people a choice”

New Paradigm: Build HOT lanes – high occupancy toll roads with express bus access

El Monte line (non-toll): cost 1/5 of Blue Line; carries 8 times more people per hour; average speed is 70% greater

Car commuters will pay for lane
Far more efficient – Denver system to airport

Problems with Old:

“Give People a Choice” – no reference to who should pay

LA – since 1986: $11 billion – total transit rider ship reduction; since 1986; market share is down; 2 million more people in county

Salt Lake City; BTU’s per passenger mile for total transit: Now 5575 vs. 4300 before start of construction

California Intercity rail – proposed to spend $600,000 capital cost per round trip; $14,000 per year operating cost per each new round trip per day.

Goldline: 15,000 vs. 38,000

Overall greater rail ridership has increased – but with an increasing cost per mile
Light rail rider ship 1990-2004 plus 93% but cost per passenger mile plus 163%
Diminishing returns

Portland – in spite of extensive and expensive light rail investment transit market share has declined.

Total transit now has greater BTU per passenger mile now than in 1980.
Same in Salt Lake City

MTC: Cost to take one car off the road for work trip: Rail $15,000 ($53.00 per day); BART $30,000 ($100 per day); Bus $2000 ($8 per day)

4. How to Pay for the Transportation System

Old Paradigm: Trend to move away from user based fees – stealth entitlement: sales tax, bonds, property tax, reduced car taxes

New Paradigm: Impose user fees based on actual use: time of day and pricing, charge for externalities of energy use, mileage based fees

Could combine mileage fee and toll – and give credit to toll user if paid for mileage

Inequity of non-user: Brian Taylor, SR 91: sales tax vs. tolls

Toll roads – SR 91: more car share than any other freeway

Managed by price – at peak toll lanes out perform other lanes
Oregon miles based fee experiment:
   Privacy (no real time tracking; distance only), pay at pump, transition costs

Assemblywoman Fran Pauley (who sponsored hybrid HOV legislation): “People who drive fuel efficient, less polluting cars would have exactly the same tax burden as people driving huge gas guzzlers . . . allowing the government to track Californians movements everywhere they drive is a totally unacceptable Big Brother intrusion invading our privacy and providing a disincentive for people to drive clean air vehicles would be a terrible u-turn of public policy. This one belongs in the scrap heap.”

This is a very inaccurate and inflammatory statement. These issue can be dealt with – charge a variable emission fee based on type of car.

**5. Income Tax vs. Consumption Tax**

Old Paradigm: Tax income

New Paradigm: Tax consumption

“Republicans consultants advise using the word “tax” only if immediately followed by the word “cut.”

Democratic consultants recommend only using the word “tax” if followed by “on the rich.”

Problems with Old:

   Incentive to consume vs. save and invest

   Over consumption of scarce and polluting resources

   Could still have **progressive rates** – can exempt specific amount – pay only on an amount above a specific level

   Far simpler – subtract what you invest, save from total income

   Provide whole set of different incentives: reverse trends, i.e. Since 1979 average size of new house is plus 40% (2300 sq ft)

**6. Free Parking**

Old Paradigm: Most parking is perceived as “free” to the user; employer provides free parking
New Paradigm: Parking is priced at market rates; employers provide travel vouchers vs. free parking; curb parking is priced to keep 15% spaces available; reduce parking requirements – new buildings.

Problem with Old:

Disincentive to car pool and transit

Advantages of pricing: Creates a marginal cost of driving and eliminates a third party subsidy

Employee Voucher: Don Shoup – “No other transportation demand management or transit development program can promise behavior changes of this magnitude.”
Solo driving dropped from 90% to 46% in downtown LA.

Free parking in LA is equal to 15 cent per mile subsidy for average car commuter (free gas).

“Cruising” congestion = 30-40% in downtown areas; price to have 15% of spaces available.

San Francisco: 325,000 cars and 325,000 parking spaces – more cars per square mile than anywhere.
   $27 per year per car – unlimited
   Proposal: Market price after first car
   Allows people to convert garage at public expense

Car sharing – will stimulate market

7. Reliance on the Gas Tax

Old Paradigm: Continue to rely on gas tax as primary funding source for transportation

New Paradigm: Adjust gas tax now but phase in user fees which reflect actual use of the system.

Problem with Old: Fuel efficiency and inflation – If total tax same as in 1957 the gas tax would now be 62cents vs. 36 cents.

Alternative fuel vehicles don’t pay for use of system

U.S. Highway Trust Fund going bust
Increasing reliance on sales tax – trucks don’t pay sales tax; equity; not user-based

**Promise of New Paradigm:** “Recognition that pricing is an essential element to align supply and demand.”

“Toll concession model”

Brookings study: “Utilizing congestion pricing in the largest 98 metropolitan areas would generate approximately $120 billion per year and simultaneously solve recurring congestion problems in these areas and possibly could reduce taxes.”

Indiana: Gov Daniels – leased Indiana Toll Road - $3.8 billions in 2006

Indiana has fully funded highway program

8. **Housing Policies – Tax Expenditure for Mortgage Interest and Taxes**

Old Paradigm: $400 Billion per year – most of which goes to the relatively more affluent who own homes by deducting of interest and taxes on houses (including up to one second home)

New Paradigm: Phase out these deductions and use saving to reduce income taxes.

Problem with Old:

Artificial incentive to consume housing vs. other choices) i.e. travel

Market has capitalized the benefit – doesn’t reduce real cost of purchasing home. Has distorted prices for middle income homeowner – because the tax incentive to “buy up” goes up with income

Most of benefit to more affluent – if don’t earn enough to pay income tax get no Benefit

The higher income tax bracket – the greater the subsidy

Has encouraged larger houses – with more energy use; over-consumption of housing and material

1997 $500,000 tax exemption – fueled market speculation; shift to house as primarily as investment vs. place to live

9. **Single Passenger Hybrid Access to HOV Lanes**
Old Paradigm: California (and Federal) legislation allowing single-passenger hybrids (up to 75,000) have access to HOV lanes

New Paradigm: Common sense

Problems with Old Paradigm:

Worst example of dishonest, symbolic, grand-standing, hypocritical politics

Reduces capacity of HOV lanes – congestion, slows down

**No performance analysis** performed on pollution reduction – very little difference between hybrid and new sedan (Anyone buying a new hybrid would have otherwise bought new car)

Allowing hybrid produces more air pollution (double) than two people in car

Conferred a property right to 75,000 owners – can sell it at profit: entitlement – have a right to it

Poor people don’t buy hybrids – yet we gave the most expensive freeway space to more affluent

No data to support that incentive was necessary to spur purchase of hybrids

### 10. Air Space and Air Facility Capacity

Old Paradigm: Allocate use of air space and airports administratively; mandate schedule reductions; subsidize general aviation (private jets)

New Paradigm: Align cost of using air space and airports with beneficiaries; charge for actual use; variable peak-congestion pricing

Problems with Old Paradigm:

> Dorothy Robyn: “Flight delays are a direct result of the government’s perverse system of charging for aviation infrastructure. Air lines over-scheduling is a classic tragedy of the commons and current financing mechanisms not only permit the equivalent of over grazing – they promote it.”

Eliminate present weight based fees. (Would cost $2 per person for congested condition landing for jumbo - $52 for regional jet)

Low value flights would be replaced by high value flights
Restructure FAA – separate Air Traffic Control function, regulated at arm length
distance; self-supporting by fees

This is the International Standard = 4 of the top 5 ACTs are structured this way –
including Great Britain and Canada

Air space: General aviation = 40% to 60% of air space.

Air space delays are now 1/3 of total airport delay (vs. airport capacity)

Next Gen: satellite-based navigation system; $22 billion – Who will pay?

Most of rest of world has gone to this vs. radio communication over same routes
since 1920’s when air mail service started; based on visual of landmarks

“With prices at sufficient levels, incentives are created to reduce the levels of operation
and to operate the remaining slots with a mix of aircraft sizes and types that makes much
more efficient use of scarce airport and airspace capacity.” – can be revenue neutral

“Congestion pricing in some form would be the most productive solution to the rampant
over-scheduling and delays. Until it is implemented near-term congestion will only get
worse.”

11. Farm Subsidies

Old Paradigm: Provide agricultural subsidies to selected crops (made even larger by
Congress three months ago)

New Paradigm: Terminate all farm subsidies

Problems with Old Paradigm:

$25 billion per year in spite of high prices and all time high farm land values

In addition – American consumers pay $12 billion per year more for food

2/3 of subsidy goes to wealthiest 10% of farmers

Structured so that farmers given incentive to grow favored crops – not based on
market demand

Cotton subsidies = 50% of value of all cotton produced

Congress recently refused to lower income limits
Thanks to Sen. Feinstein and Boxer California crops of vegetables and fruit now added – $2.2 billion (most already have free water)

Creates international ill will toward US

276 “farmers” live in Washington DC – including Sen. Grassley of Iowa who with net farm income of $28,000 got additional $36,000 from subsidies.

12. Fees on Trucks

Old Paradigm: Primary fees based on weight.

New Paradigm: Base fees on mileage and axle-weight: actual impact – would provide incentives to reduce wear and tear

Not an increase in total fees – but how they are collected

Problem with Old:

Heavier trucks don’t pay costs – subsidized by light trucks

Trucks don’t pay sales tax.

Impact on road maintenance: Road damage increases in proportion to the 4th power of the axle weight (i.e. doubling of a vehicle’s axle weight will increase road damage by 16 times.)

An 80,000lb truck with weight equally divided over 5 axles can do as much damage to highway pavement on 10,000 automobiles with two 2,000lb axle loads.

Would save billions per year

New Zealand - implemented

13. Subsidized Flood Insurance to Risky Properties

Old Paradigm: Provide “Last resort” insurance for risky coastal properties adopted in Mass/ Texas.; proposed for Florida and proposed federal legislation supported by Congressman Pelosi.

New Paradigm: Owners of risky property should be held accountable for all costs of insurance.

Problems with Old Paradigm:
Poor people not likely to own Cape Cod and Florida coast property – as usual benefits the more affluent (great many are second homes)

Shift cost to broader public in contrast to individual responsibility for cost: “Shifts the risk from those who are at most risk to those at little risk.”

Encourages development in sensitive areas.

14. Health Care and Health Insurance

Old Paradigm: Mandate full benefit health insurance for everyone.

New Paradigm: Target assistance to the plus/minus 25 million who are not already eligible and who can not afford coverage; phase out tax exemption for medical insurance from employers; structure financial incentive to reward less use of the health system.

Problems with the Old Paradigm: “The rational for the mandate is not personal responsibility but “shared responsibility: a polite way of saying shared costs.”

Clark Havighurst: “Pres. Bush’s proposal to tax the value of employees’ health benefits as income, while also providing a compensation standard deduction or tax credit, would serve the useful purpose of stimulating market and political demand for low-cost alternatives, including coverage that stops short of paying for everything . . “

Emphasize catastrophic coverage vs. comprehensive coverage

Medical IRA – reward less use

Mandatory insurance – rips off the young. On top of their subsidy to Medicare they pay for more expensive coverage of older. (25 yr. old $1000 deductible = $156 vs. 55yr old = $542)

Over one-half of total medical care is paid for by taxpayers: Medicare $380 billion Medicaid $180 billion; tax deduction expenditure $210 billion

Employer paid tax deductibility provides incentives for over-insurance; increased benefits

Primarily to most affluent – the higher the tax bracket the more the government pays for your premium

Many of the new mandatory additions to medical coverage are used mostly by more affluent – mental health etc.
At what point should personal responsibility for a healthy lifestyle vs. a non-health life style be rewarded by not having to pay as much. How to build personal responsibility into health system?

Oregon – prioritization of medical procedures.

15. Energy Production vs. Conservation

Old Paradigm: More supply of energy is the solution – producing more barrels of oil

New Paradigm: A barrel of oil saved is a barrel of oil produced.

At $100 a barrel many more conservation investments make sense

“A barrel of oil saved is exactly the same as a barrel of oil produced” – the difference is only in what it costs to produce and, if we are honest, the internalization of the external costs of production.

16. Water

Old Paradigm: Provide free/low cost water to farmers in California which can only be used for farming; increase supply by building new dams

New Paradigm: Allow water trading to shift water use to urban areas; enable farmers to invest in water conservation; and reform archaic water rights

85% of California water is used by agriculture.

California has a water allocation problem; not a water supply problem

17. Mitigation of Impacts of Port Related Goods Movement

Old Paradigm: Allow goods movement through So. California (and other port areas) to escape payment for damage inflicted alone the way: air pollution, congestion, damage to roads.

New Paradigm: Impose container fees equal to the cost of mitigating the damages caused by the transportation of goods through Southern California to destination of consumption.

Impacts of port-related goods movement:

$30-40 billion
Air pollution (our biggest air pollution problems are related to trucks, planes, ships with diesel emissions); grade separations; freeway congestion; road Maintenance

Great mis-match of benefits and cost – those who absorb costs (So. California) vs. those get benefit without the costs (Iowa)

18. Carbon Reduction and Climate Change

Old Paradigm: Enact legislation (such as AB 3200 – orders greenhouse emission cut by 25% by 2020) to regulate, plan, subsidize or spend tax payer money to induce production of less carbon and greenhouse gases.


N. Gregory Mankiw: “A carbon tax would provide incentives for people to use less fuel in a multitude of ways. By contrast, merely having more efficient cars encourages more driving. Fuel use depends not only on the efficiency of the car fleet but also on the daily decisions that people make – how far from work they choose to live and how often they carpool or use public transportation.”

Carbon fee could off-set taxes – such as income tax

“The most effective way to reduce atmospheric greenhouse gases is to place a significant charge on emissions of CO2 and other greenhouse gases vs. “cap and trade”

Politicians like cap and trade more:

“The obvious reason is that for voters taxes are radioactive, while cap and trading sounds like something that just affects utilities and big corporations.”

Cap and trade – has caused Europe to infuse China with much cash (billions)
Possible carbon fee: $15 ton = 14 cents per gallon
Could rebate first $3700 of payroll tax for each worker
Carbon fee (vs. cap and trade) can provide funds for targeted subsidies to poor

Advantage of fees: 1. reduces demand 2. alternatives become more attractive (including nuclear) 3. new technologies are stimulated

Alternative Energy Options:
- **Coal** – would cost plus or minus 25% increase in cost of electricity to bury captured gas in deep geological formations
- **Nuclear**: Compared to other alternatives nuclear may be best choice:
- **Wind farms** the size of Texas to extract, store and transport US energy needs;
  770 sq kilometers to produce 1000 mega watt plant
- **Photo voltaic** – size of England to equal US electric consumption
- **Hydro** – if every single drop of water falling in Ontario were dammed = 80% of Canada’s 25 nuclear power plants

**Nuclear has advantages based on “watts per sq. meter”**

19. Ethanol Production
Old Paradigm: Subsidize ethanol production to reduce reliance on fossil fuels.
New Paradigm: Place externality fees on fossil fuel and green house emissions.
One of our countries worst and most hypocritical programs.

“The fact is ethanol is a scam that allows farm states to extract revenues from everybody else pretend to be virtuous in doing so.”

“Taxpayers are paying hundreds of dollars per household for the privilege of higher fuel and food prices.”

“Takes 29% more energy to make ethanol from corn than is contained in the ethanol.”
$7 billion today vs. increase to $36 billion in 2020 – 51 cents per gallon subsidy; on top of $13 billion corn subsidies

Congress has imposed 54 cents per gallon import fee on imported ethanol.

Use of fertilizer: “Corn production is largely a process of converting fossil fuel into food.” – dead zones in Gulf of Mexico

Takes 1700 gallon of water to produce one gallon of ethanol

To replace 10% of gas and diesel consumption would require 43% of total US cropland

Ethanol is now using 25% of total corn production in US

**The ethanol subsidy program represents everything repugnant about bad policy:**
- supply driven; no independent unbiased studies or analysis prior to adoption; pork barrel; hypocrisy – doing something good.

Demand approach: fees on use – carbon tax
- Would shift burden from taxpayer to user
- Would provide incentive for many types of alternatives

**20. Mileage Based Auto Insurance**

Old Paradigm: Pay for auto as a **fixed** cost with little of the cost of owning a car directly related to how much the car is driven.

New Paradigm: Pay for auto insurance as a **marginal** cost at the pump based primarily on miles driven (actual exposure)

Insurance Based on Mileage:
Value **convert** a fixed cost to a marginal cost – plus/minus 10 cents per mile
Would allocate risk based on road **exposure**
Would **reduce subsidy** from low mileage (and most likely less affluent driver) to high mileage (and most likely more affluent driver)

My example: Two people with same vehicle and same driving record: Person driving 3,000 miles per year pays 30 cents per mile for insurance; person driving 30,000 miles pays 3 cents per mile and people who drive more on average are more affluent. So, the low mileage (and likely poorer) driver subsidizes cost of insurance for high mileage (and likely more affluent) driver.

**21. High Speed Rail Bond Issue**

Old Paradigm: Use taxpayer money to construct a large transportation facility which will (in concept) divert air passengers who now pay their own way to become subsidized passengers on a HSR which promises marginal if any time savings for most passengers.

New Paradigm: If a facility is needed access user fees to pay for it.

Initial proposal – ¼ cent sales tax – now GO Bonds

**Equity:** Subsidy to business traveler – 38% of total HSR is business travel

45% air passenger diversion to HSR but air diversion represents 2/3 of the total diverted **miles** - On a per mile basis benefit of subsidy to air traveler is far greater than to diverted auto.

Families will likely drive – vs. air or rail; even from LA-SF

“Why should California’s increase taxes to entice relatively affluent citizens and business travelers who now pay their own way to travel by air, to choose a slower mode (or no faster) which (according to Prof. Kanafani) will cost taxpayers $45 per trip?

**Geographical equity:**

Why should Inland Empire, San Diego, and Sacramento vote for it?
Subsidy to Central Valley residents

$9 billion – no benefit to San Diego, Inland Empire, and Sacramento

Costs and Subsidies

Claim that autos and air are subsidized – user fees

Capital cost is 80% of total

Berkeley Study concluded: Full cost (including external) for LA - SF mile trip:

HSR - $159

Highway - $156 (diluted if more than one passenger)

Air - $82

External Costs – per passenger km:  
HSR 0.40 cents
Highway 0.71 cents - only 1/3 of diverted miles are auto
Air 0.52 cents

The total cost of the trip to the non-passenger public (internal and external costs) is 75 times greater for HSR vs. auto and 23 times greater vs. air

Balance sheet:  HSR passenger revenues does not even begin to cover internal costs (vs. auto and air)

HSR has lowest external cost.  Marginal external costs reductions – but at a very high price.

Total direct subsidy per trip (all things considered) - Kanafani

HSR $45.00 per trip – tax dollars

Air  $2.25 per trip – air fees

Highway $ 0.65 per trip – gas tax

Remember:  HSR only 1/3 of all diverted miles are from auto.

Three Fallacious Claims About High Speed Rail:
Claim #1: “The high speed rail system will generate surplus revenue with fares significantly lower than current air fares.”

Most people don’t understand – this is operating revenue only – does not cover the capital cost which is probably 80% of the total cost.

Claim #2: High Speed Rail is “One-half” cost of alternatives

“HRS costs less than ½ as much as the alternatives – building more lanes, bridges and ramps and terminals.” ($66 billion each for air and highways)

This statement borders on dishonesty – not just error:

First, just taking the cost of highway and air improvements without calculating benefits from these improvements for those travelers not diverted to HSR vastly understates the real value of such investments.

To use HSR must travel 50 miles at one time.

Auto – can use any portion of highway capacity improvement

Secondly, whose costs? Expenditures for highway improvements and especially air improvements are borne by users – not a cost to taxpayers. HRS depends on massive public subsidies and thus it is HRS which cost taxpayers – not drivers or airplane passengers.

Attraction of private equity – is possible with highway construction

Claim #3: Cost of trip – “less than airfare” – HSR business plan objective is to discount HRS cost by 30% from air.

But this does not mean HRS is cheaper than air: large public subsidy ($45-80) per trip so it only appears it is cheaper.

And the benefit goes disproportionately to business travelers and more affluent.

“HSR would convert air passenger who now pays his/her own way to a heavily subsidized trip which has no or little time savings.”

Public subsidy per trip (never calculated): Kanafani - $45 per trip to SF; Likely much higher - $80 per trip

Can make anything feasible if subsidize it enough

SST
Benefit/cost analysis

Initial study – less than 1.0 without extension - when total cost of system was $20 billion (now it is $35 billion plus)

Most of benefit was allocated to air passengers (HSR users diverted and continuing air users)

Real issue is: opportunity costs. What transportation investments yield 3-1, 4-1?

Or better yet – direct users fees of tolls, mileage charges, and axle based fees

In short HSR is a disaster waiting to be voted on.

22. Amtrak

Old Paradigm: Use taxpayer money to subsidize the cost of trips taken by the most affluent passengers of any mode and which trip is the most expensive (and pollution-producing) trip of any mode in the United States.

New Paradigm: Terminate such subsidies; spin off those Amtrak routes which can support themselves; at a minimum devolve any Amtrak subsidies to be a state or regional (not national) responsibility.

Why should all taxpayers pay for commuter service for one area of the country (NE)?

Annual subsidy: $2 billion per year

Average subsidy: $210 for each 1000 miles (less in NE)

Sunset Limited: LA – Orlando – Tax payer expense = $433

Amtrak – 35% more BTU’s per passenger mile than auto

23. Smart Growth

Old Paradigm: Need a strong regional government to implement “smart growth” to allocate regional resources; plan for growth.

New Paradigm: Without “smart prices” smart growth will fail.

LA Times, 2002: “Effective regional planning has not been strong suit in Southern California, or in many other large urban areas. But the truth is, it’s the only way to significantly reduce the time American’s waste sitting in traffic.”
I disagree: It is not that we lack good regional governmental decision – it is that the millions of individual decisions we make each day create spill-overs and externalities which are not what we want in aggregate.

The issue is: How can our behaviors be changed most efficiently – **smart prices**

Problem with Smart Growth:

We assume we know: Recent Australian study - greater per capita BTU use in high-rises vs. single family (less density per dwelling)

Density will create more congestion, not less: less road space per car

Do we really want to encourage more people to take a longer (than car) transit trip to work?

Focus on “growth” as the problem – **diversion** from our own behaviors

Growth – “It is somebody else – not me.”

With growth rate of 0 – 3% per year: Will take very long time even if we really know what smart is. (Making changes to the price of resources will affect the behavior of 100% of us instantly.)

“The planning approach is **diversionary** because it essentially defines the goal as being “**smart enough**” to plan well as opposed to creating a system in which, acting in our own self interest, we make smart consumption decisions because the cost of my consumption includes the costs I inflict on others.”

Urban growth scenarios focus almost exclusively on **work trips**.

The real challenge is promote policies which affect all trips, not just the trip to work.

I have friends in San Francisco, Portland, Boston, New York who feel good about themselves because they walk or take transit to work and drive only for some non-work trips. These same people average at least three air plane trips out of the country per year – increasing their VMT to much greater than the average car commuter. Should not policies be directed to influence one’s total transportation energy and carbon producing activities rather than single out one portion of our transportation behavior.

If a 30 mile trip to work is inefficient and public policy is invoked to change it – is not a 7000 mile trip to Europe also inefficient and should not government take steps to discourage? Whose values? A vehicle mile is a vehicle mile.

**Good planning will always be overpowered by bad prices.**
24. Transportation Developer Fees

Old Paradigm: Uniform transportation impact fee on each new home

New: Fee based on actual use

Problem with Old: The use of system is by people – not houses. Two same houses which are exactly the in every respect can house families with very different trip generation: retired couple vs. 4 cars per house

25. Decline of Consumption Based Taxes and Effect on State and Local Finance

Old: Structure state and local tax systems on a declining revenue base

New: Broaden incidence of consumption taxes (and lower rates)

Trends: Withering away of traditional sales tax base:

1) Shift to service economy. 2) Decline of retail sales subject to taxation – since 1981 from 48% to 38% - internet sales, exemptions 3) Decline of gas

Reduction of vehicle license fees – “right idea, wrong tax.” Stupid from an incentive perspective. California should have reduced the income tax; not the car tax.

26. Using Autos More Efficiently

Old Paradigm: Sen. Barbara Boxer: “My goal is to improve our quality of life and our environment by promoting mass transit and other alternatives to cars.”

New Paradigm: Use our roadways more efficiently – by increasing number of passengers per vehicle – bus, car, van

Problems with Old Paradigm: Transit share is growing smaller; more expensive per ride

Doesn’t recognize impossible cost of significant shifting to transit

Doesn’t recognize that transit only has a chance if the focus is shifted to the price of driving (toll roads, mileage fees) vs. subsidizing more transit

27. No Fuel Tax on International Flights

Old Paradigm: No fuel tax on international flights since agreement after World War II

New Paradigm: Impose fuel tax on all flights
Problems with Old Paradigm:

Other flights subsidize international flights

Nitrogen oxides produced by aircraft are very harmful (cirrus clouds)
Carbon tax?

28. Oil Subsidies (Royalty Forgiveness)

Old Paradigm: Use tax credits or tax expenditures to subsidize the production of a product (in this case domestic oil production in US off-shore areas)

New Paradigm: Create neutral tax system; price externalities

Problems with Old Paradigm:

Study – Very little new production is a result of royalty relief. (1% more production)

Cost - $40 billion over 40 years.

Exacerbated by Clinton administration mistake (another $10 billion)

No need for incentives at $100 per barrel

29. Beef Production and Consumption

Old Paradigm: Public policies directed at reducing the cost of producing and selling beef

New Paradigm: Let those who choose to eat beef pay the full cost

Problems of Old Paradigm:

In many ways we subsidize the production of beef

Almost free water – irrigated alfalfa is equal to total water consumed in Bay Area and LA Metro area

U.S Forest Service grazing and lease policies

Air pollution – Chino; Suburbs will improve air quality

Water pollution

Greenhouse gases: Livestock greenhouse emission = greater than all of transportation emissions (world) – 18%
Methane is especially noxious – 21 times warming potential of CO2

Cutting meat consumption would reduce more than switching from gas guzzling cars

30. Transportation for Senior Citizens

Old Paradigm: Create new entitlement for all senior citizens to have access to publicly-provided transit.
New Paradigm: Target assistance to those in need; create system of co-payments for most seniors.

Problems with Old Paradigm:

Assumption that it is public’s responsibility to pay for transport of senior citizens no longer driving: a new entitlement. But most seniors do not need public subsidy (but will gladly use it if it given)

Older person giving up driving will shed the cost of owning a car = $5000-6000 per year. This is many taxi rides

CONCLUSION

I began with a quote regarding the deterioration of our transportation system concluding with:
“The weak link between driving and fees paid – primarily fuel and vehicle taxes – does little to promote efficient use of the system.” and a quote about our newest tax subsidy to the affluent – the Foreclosure Prevention Act.

I hope that since then I have been able to describe why how be pay for our resources and many governmental services is critical and why a new way of thinking about many of our society’s dilemmas and their solutions, including a new definition of personal accountability is essential.

We don’t have the resources to continue to try to subsidize our way out of every problem.
We have no choice but to place less emphasis on supply management approaches and much more on demand management approaches.

We cannot achieve our goals unless we are willing to confront our present lack of **personal accountability** to pay more directly the full costs of the consequences of our actions, while at the same time targeting assistance to those in need.

This is not a popular position.

I know that much of what I have advocated is not politically acceptable. That does not mean that what I have advocated can be ignored without ultimately disastrous effects on our nation and planet.

**The point is that personal accountability is ultimately a moral issue. We do have a choice.**

Thank you.