

# Some Observations on Transportation Policy

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(Tom Rubin's comments are identified by TAR: & END TAR)

A typical "smart" transportation policy, from: <http://rmc.sierraclub.org/transportation/transportationcompolicy.shtml>:

## **The Sierra Club supports transportation policy and systems that:**

- minimize the impacts on and use of land, airspace and waterways, minimize the consumption of limited resources, including fuel, and reduce pollutant and noise emissions;
- provide everyone, including pedestrians, bicyclists and transit users, with adequate access to jobs, shopping, services and recreation;
- provide adequate and efficient goods movement and substitute local goods for those requiring long distance movement, where feasible;
- encourage land uses that minimize travel requirements;
- strengthen local communities, towns and urban centers, and promote equal opportunity;
- eliminate transportation subsidies which handicap achievement of the above goals; and ensure vigorous and effective public participation in transportation planning.

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**The rest of this document** presents TAR's comments (TAR: & END TAR) about each element (bold), of "Guidelines Adopted by the Transportation Committee Mode: **The Sierra Club favors the most energy and land conserving, and least polluting systems and vehicles.**" (Ibid)

**Walking and bicycling are best, along with electronic communications to reduce trips. Next are buses, minibuses, light rail and heavy rail (as corridor trips increase); electrified wherever feasible. Rail systems are most effective in stimulating compact development patterns, increasing public transit patronage and reducing motor vehicle use.**

TAR: I know of no reason why rail systems would be most effective in stimulating compact development -- assuming, of course, that this is something that should be stimulated.

With few exceptions, bus has equal capacity for passenger throughput and, in certain particulars,

can offer superior attributes. It is a VERY bad mistake to automatically assume that certain transportation modes are better than others; in my long professional experience, this has been one of the single greatest causes of major errors in important decisions. It would be far superior to have performance-based criteria for such decisions. In a policy statement, it would be proper to state the types of criteria that should be reviewed and, if desired, to rank their importance.

Given the history and mission of the Club, I think it is rather obvious that environmental concerns, and decision criteria that reflect such concerns, will have a prominent role. However, criteria measuring productivity, cost-

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effectiveness, and safety are also extremely important and, in many cases, the performance of various transportation system options on these latter criteria will be far more important.

Land use and related concepts is highly interactive with transportation decisions, but the actual productivity of land use concepts in achievement of specified objectives – including change in transportation-related objectives – is what is key.

To put it bluntly, many passenger rail projects perform very poorly compared to other alternatives, many of which were either not considered or were unfairly and improperly evaluated or ranked -- which leads to what is perhaps my most important comment, that competence, fairness, and lack of bias in the analysis and decision-making process must be the foundation for all such work.

END TAR

**Station access should be provided by foot, bicycle and public transit, with minimal, but full-priced, public parking.**

TAR: I would like to agree with full-priced parking at transit stations, but the problem here is that, in many cases, free parking is important in stimulating ridership. To put it bluntly, I have very often had to inform clients – and other agencies – that their guideway transit plans were deficient because the proposed levels of parking, and customer charges therefore, would significant limit ridership.

In order to create transit ridership, at least from "choice" riders, it is important to at least meet minimum customer expectations in several attributes important to riders, and be superior in at least one. If you add too much to the passenger cost (which is measured in terms of time and convenience, as well as in dollars and cents) for using transit, you wind up losing ridership. One very common reason for using transit is that is an escape from paying for parking at the destination and searching for a

place to park.

Without the particulars of specific projects, we can only offer generalized comments. The importance of free parking will vary significantly from case to case – BUT, let me talk about the Los Angeles Red Line (subway from Union Station near downtown LA to North Hollywood in the San Fernando Valley).

Overall, the line didn't reach half of the ridership projections for the year 2000 until very recently, with the high fuel prices driving ridership just over that mark. The only stations that have actually hit the original ridership projections are the two in the San Fernando Valley, which, interestingly enough, are the only two with free parking. Of course, it is also true that the original fare assumption was a distance-based fare, which would have meant that travel from the Valley to downtown would have been far more expensive than shorter fares (same fare structure as BART). What actually went in was a "flat" fare – it costs the same to ride, no matter how far – which, of course, made long trips, such as Valley to downtown, very cheap (which, by the way, was my doing). From analysis of the impacts on other LA rail lines, there is reason to believe that the change to "flat" fares may be responsible for as much as half of the ridership.

I hate to think how low ridership would be if we had both distance-based fares AND paid parking.

END TAR

**(Parking) (a)ccommodation of pedestrians, bicycles and public transit should be given priority over private automobiles.**

TAR: Ahhh, you carry this too far and it is a great way to reduce ridership.

I certainly agree that there needs to be a lot of attention paid to being fair to all who want to access the station. For example, I find it extremely irritating to find transit systems

where you can park a car for free, but have to pay for a place to safely park your bike, particularly when you can generally get at least six lockable bike storage "boxes" in the space taken by one auto parking stall – and the capital cost of setting up for six bikes is a fraction of the cost for one auto. I also like a policy of putting the bike lockers as close to the station platform as possible, generally with only the ADA parking slots closer, and expanding bike parking whenever there is a demand, again starting as close as possible to the station platform.

I see no discussion of carrying bikes on board transit vehicles. This has become less of a problem with buses, because the usual two-bike racks on the front are becoming more and more common, but, on some lines with a lot of cyclists, these are getting insufficient, so it may be wise to have a policy statement for maximum bikes on board. There are higher capacity bus external bike storage devices out there, but these tend to be more expensive and the transit agencies have enough financial issues without having to replace two-bike racks that are only a few years old and still working well with brand new three-bike racks.

This is, currently, more of a problem on rail, although some progress is being made. Generally, most urban heavy rail systems will not allow bikes on board during rush hour because the space for a bike can be as much as that for a human, or even more, and bikes not carefully handled can make for a lot of other problems.

Fortunately, the Bay Area commuter rail operators have been among the world leaders on bikes on trains.

(A big part of these differences is due to different passenger load characteristics for different transit modes. As a general rule, the longer the trip, the lower the load factor, and urban rail generally has far more standees than bus. Commuter rail, long-haul freeway express bus service, and most longer-trip ferries have

the lowest load factors, generally 100% of seated load for peak hour trips. Heavy rail generally has the highest, generally over 200% of seated load, with light rail generally about 175-190%. Local bus service is rarely over 150% of seated load. [All of these factors refer to the ratio of total passengers on board to the number of seats at the peak load point during peak hour, applied to all trips in the peak direction during that period.]

Until it is practical to have bike storage on light rail and heavy rail – which is something I do not know how to do, as there are many such systems with significant lack of capacity for standing passengers [VTA could implement unlimited bikes on board light rail immediately with no problems, Muni could not possibly even begin to think of doing that] – other methodologies should be encouraged. One is folding bikes; there are some pretty good models now and, almost every year or two, some bright person comes up with a way to reduce the footprint even more in a bike that is usable for reasonable length trips in the urban environment.

Another is allowing cyclists to have two bike lockers, or provide other dual cyclist storage, such as attended "valet bike parking/storage." This allows someone who uses his/her "good" bike to ride, say, six miles to the station near where they live to store an old "junker" at the station near their job for the last mile-and-a-half.

"Community" bikes is another option, but there have always been questions how long the supply will last in the U.S.

At a minimum, the transit system at the job destination end should do what it can to provide for bikes, such as making sure all buses picking up passengers for distribution rides at the end of the morning in-bound trip have usable bike racks.

END TAR

**Public transit service should be coordinated, and transit facilities should facilitate intermodal transfers, including convenient and safe bicycle access to public transit vehicles, and secure bicycle storage in public places and stations. Multiple occupancy vehicles should be favored over single occupancy vehicles. Roads and traffic laws should be designed and enforced to enhance safety. All parking costs should be fully and directly charged.**

TAR: Should specify: to who.

END TAR

**Freight railroads, especially electrified, are preferred over highway or air freight to save energy and land, and cut noise and pollutant emissions.**

TAR: Not always, depends on a number of factors, starting with the load. Rail is frequently not at all competitive on low-volume freight corridors – which is, of course, the main reason why there is a whole lot less rail trackage in the U.S. now than there was several decades ago.

Water transportation of freight can be very competitive in certain corridors. It would also be good to say some nice things about pipelines (but not of the coal slurry variety).

When you consider the REQUIRED audio warning at higher speed at grade crossings – generally, 85 dBA for light rail and 96 dBA for freight/commuter rail for “high speed” crossings other than “quiet zones” – I can think of a lot of people who will not characterize rail as “cutting noise.” I can hear freights in Oakland miles from my home blowing their horns after midnight.

Before anyone starts looking at electric rail as being nice and green, take a look how the electricity is generated. The further East you go, as a general rule, the more fossil fuel electricity you get, with coal becoming more and more dominant. Of course, even the West,

where there is a whole lot of hydro power, where there is a new electric rail system, there will be an increase in electric demand, with much of the increase occurring in the afternoon peak period, where the dominant method of providing the requirement is fossil-fueled generation – a situation that is unlikely to change for many years, with no guarantees at this point that the condition will significantly change even after a decade or two. (Does the Sierra Club have a position on expansion of atomic power, which, at the present time, is the only practical means for significant expansion of the power generation capacity of the U.S.?)

Evidently, however this was prepared, there was no recognition of the time value of materials movement, one element of which is sometimes called, “just-in-time” logistics. Trucks are VERY good at this; rail freight is, generally, not very good at all (with the exception of deliveries of coal). I don't care how you arrange it, it just takes a whole lot longer to move goods via rail than via truck for almost all needs.

Rail is often excellent for moving high-weight, high-bulk, low-value, non-time-critical freight (coal and grains are classic – as is steel rail) along long-established corridors between fixed points. For goods movement that does not meet one or more of these characteristics, rail becomes less and less competitive – often VERY quickly.

END TAR

**Amtrak and high speed intercity rail which afford comparable city center to city center access times, or which offer comparable overnight convenience, are preferred to air travel because they save energy, use less land, cut noise and pollutant emissions, and allow some airports to be closed.**

TAR: Rail passenger transportation in the U.S., particularly of the very long-trip variety, is simply not very viable for very many people. Outside of New York City, it has a minor mode split even for urban trips; for intercity

travel, it gets lost in the rounding – AND THIS IS A SITUATION THAT WILL NOT CHANGE; rail passenger transit is simply unable to ever be a major factor in moving people in the U.S. because the costs, and other impacts, of adding rail trips is far too large. Indeed, over-expenditure on rail has a major negative impact on transit as a whole because it frequently takes away from the types of public transit that the transit-dependent and others want and will use.

For most of the U.S. West of the Mississippi, Amtrac service – to the very small number of places that have any – is one train a day going generally East and one going generally West, at least one of which is at a non-optimal hour, such as the middle of the night. Bus service, in many cases, could carry a lot more people to a lot more places at a lot less cost to the public, to the advantage of users, taxpayers, and all others. In certain states, the best move could be to halt all Amtrac subsidies and encourage intercity bus expansion.

By the way, increased passenger rail usage can really get in the way of rail freight movements. Sometimes, it just takes more attention to scheduling and dispatching (for example, in greater Chicago, Metra, the commuter rail operator, has become a very peak-oriented service, even by commuter rail standards, which means that the freights have become very good at leaving the rails to Metra during the peaks in return for getting them pretty much the rest of the time), but it is not at all uncommon that significant track upgrades, sometimes including double-tracking, are necessary (or, at least, the freight RR will say it is, in order to get some public sector sucker to pay for the cost of the upgrade; trust me, freight railroads are FAR better at negotiating such arrangements than those on the public sector side, particularly politico's in a hurry to get things done).

If you check out the intercity passenger and freight movement mode splits in the EU, the passenger mode split in Europe is far higher, but the goods movement split is far lower, than in

the U.S. -- and there is actually a direct connection for these.

Just out of curiosity, which airports have been closed recently?

And which could be if passenger rail was expanded?

END TAR

**Therefore, new or improved rail facilities, and electronic communications, are preferred to new or expanded airports.**

TAR: Making such a statement without detailed analysis of the specific corridor is simply not a wise thing to do.

END TAR

**Discourage private aviation to reduce noise impacts on urban and natural areas. Highway Expansion No limited access highways ("freeways") should be built or widened, especially in urban-suburban areas or near threatened natural areas.**

TAR: While I have a great deal of respect for both the natural and the built environments, I take extreme exception to this statement. Recognizing that many early freeway projects, particularly urban ones, were badly flawed in a number of ways, failure to expand the road system to meet demand has been the single most significant transportation issue, both passenger and freight, of the past several decades.

I also believe that, in most cases, it is possible to reach compromises that serves all interests reasonable well, if the parties are prepared to be reasonable.

While my aviation expertise is limited, I find statements such as, "Discourage private aviation to reduce noise impacts on urban and natural areas," to be overly broad. As written, it applies to *all* general aviation, everywhere. If there are specific problems, identify them, and suggest

specific actions in response.

END TAR

**High occupancy vehicle (HOV) and high occupancy vehicle/toll (HOT) lanes should come from converting existing highway lanes rather than constructing new lanes.**

TAR: Again, I take great exception to this. We have a highway capacity crisis now, its has been getting worse for decades, and failure to construct added capacity is continuing to restrain our nation in many ways.

HOV lanes have their uses, but keep in mind that "your grandfather's carpool" – the one he took to and from the defense plant in WWII – has long since all but disappeared from the U.S. The last statistic I saw was that about 91% of carpools were what is commonly referred to as "fam-pools" – people sharing a household commuting together. (One of my favorites was a couple who lived near me and who worked in the City of San Francisco who very carefully found a daycare center in the City so they could drive across the bridge – with no toll – as a HOV-3 vehicle with their infant in a child seat.) Interestingly, to the extent that there has been growth in transit over the past several decades (which has not been huge, of course; nationally, currently about 2% of trips and under 1% of passenger miles in total for urban trips), carpool mode split has been going down more – and the only modal "winners" are single-occupant vehicle, a very little for walk and bike – and work-at-home, which has been growing very rapidly from nothing, and which is where I think the big action is going to be for many years – work-at-home already far exceeds transit in many urbanized areas and is gaining ground in almost all the rest.

Keep in mind that the highway and surface road system carries the overwhelming majority of local freight movements in the U.S. The growing inability of trucks to move around our cities quickly and predictably is a major crisis – and there is no conceivable resolution of this

other than expansion of road capacity.

END TAR

**This avoids constructing new lanes which are mixed-flow much of the day, or are converted to full-time mixed-flow after construction.**

TAR: I support construction of mixed-flow lanes where justified – which is most places by now, given the decades of neglect – and where possible and practical without have excessive negative impacts, and I generally oppose conversion of HOV lanes to mixed-flow.

However, it is necessary to understand how such HOV to mixed-use conversions – particularly the "unofficial" or "everybody knows" type – come into existence.

We have various national policies and practices that, to a great extent, prohibit the construction of new mixed flow limit access capacity if air quality standards are not met (I'm greatly simplifying). Since there are many urban areas that violate such standards, at least in some way, even though compliance was greatly improved even as the standards have gotten tougher, and since one of the main causes of such emissions is congestion, this has some elements of a doctor treating a patient for blood loss by bleeding him.

Soooo, some areas took to HOV construction because it was, in effect, the only type of highway expansion that they were likely to get approved.

It often didn't take long for people to notice that the mixed flow lanes weren't moving real well, but the HOV lanes were sorta empty – and some people started reacting according to their desires instead of the law. (I have personally observed violation rates as high as 40% on a WELL-UTILIZED HOV-2 HOV lane.)

Now, there are performance requirements laid down by the Feds for HOV lanes that they fund. One is that they must maintain a speed of 45

mph during peak hours, which is causing a lot of problems for a lot of places in California (or, at least, it was until traffic began to be reduced by one of the very few things that will actually positively impact congestion, a good [by which I mean bad] recession). This overuse is caused by a number of factors, the dumbest being allowing approved SOV hybrids to use HOV lanes. (This makes no sense from an environmental point of view because this is generally where hybrids have the least fuel mileage advantage over non-hybrids, as the lack of start-and-stop makes regenerative braking a non-factor; any mileage advantage that remains is a combination of smaller engines, low weight, and mileage-devoted drivers – none of which requires a hybrid vehicle.)

The other main requirement is that there be enforcement of the HOV requirement – at least twice a year. Now, keep in mind that this is a HUGE problem for a variety of reasons. First, you have to figure you want to challenge a particular vehicle – how do you single them out on the usual type of HOV setup with one lane in each direction, and how do you signal them to get off the road for inspection – and then, exactly where do you pull them over without causing a major traffic interruption on an already congested roadway? There is no automated technology currently available that can test for occupancy to the required level of accuracy for automated ticketing; the best ones currently available approach about 97% accuracy. So, trying to enforce HOV requirements is very difficult and often not real rewarding.

Which is why some highway law enforcement officials do things like do their two days of enforcement on Thanksgiving and Christmas Day.

Some of them will tell you – off the record – that they do very little to enforce HOV because the lanes are there, the capacity is needed, and if they did somehow manage to effectively enforce HOV requirements, they would be little used. In essence, they built sorta general-

purpose lanes under another name because they needed the capacity and couldn't get permission to build more any other way.

(If it makes anyone feel any better, the worst-case examples I mentioned were NOT from California, where most HOV lanes are rather well used, many to over capacity.)

I do object strongly to using public funds to build something for one purpose and then using it for another – UNLESS there was a good faith effort to make it work as originally intended and it is just not fulfilling a useful purpose. An example of the latter was the I-15 HOV lane in San Diego, which was performing very poorly, which was transformed into a well-utilized HOT lane.

END TAR

**Toll rates on HOT lanes should vary by time of day, and revenues above operating expenses should be used to improve travel opportunities for low income travelers and to operate public transit.**

TAR: HOT lane revenues, to the extent that they exceed the costs of construction of HOV lanes (including debt service interest) and operations should be utilized to expand the HOT lane network by building more HOT lanes. (Obviously, this is my opinion, not anything that I represent as a legal, regulatory, or moral requirement.)

The construction of HOT lanes, in and of itself, can be used for very significant transit improvements. Long-haul commuter express bus service on freeways is often very competitive with commuter rail travel times, particularly when the travel time is properly measured as origin-to-destination. When such service is operated on limited access lanes, such as HOV or HOT lanes, such bus service often has a very significant time advantage. One of the great strengths of such service is that the same buses can operate both on the guideway at high speed and in local service on surface

streets, allowing such buses to serve as their own feeder and collector service. Another is that such types of long-haul commuter express bus service can sometimes be effectively used for spread-out suburban employment centers, where commuter rail generally is not usable.

Generally, commuter rail service is doing very well if 50% of the operating costs are covered out of the farebox (and, be aware that, in California, the law defining operating costs to be utilized in this calculation was very deliberately changed to allow the required 50% ratio to be "met" by what we CPA's sometimes refer to as, "creative accounting"); there are several comparable bus systems near or over the 90% farebox recovery mark – and we haven't even gotten into the far lower capital cost requirements of the bus service.

So why not use some of the HOT lane monies for transit? Because, before you can operate such good service to its optimum, first you have to have a guideway to operate it on – and, besides, having the HOT lane can "pay" for the majority of the operating subsidy by significantly reducing the operating costs of the transit system. So, the best use of HOV "excess" revenues for transit use is generally to expand the HOT lane network so more bus transit service can be operated in an urban area.

END TAR

**Implement Transport Control Measures rather than increasing road capacity for vehicles. Intelligent Vehicle/Highway Systems (IVHS) should not be designed to increase highway capacity and stimulate additional traffic, off-highway congestion, sprawl, energy consumption and pollution.**

TAR: I don't know how to characterize this as other than just plain mean, as well as extremely poor public policy. Why would the Sierra Club want to OPPOSE actions that, at relatively low

cost, would relieve congestion by adding more effective capacity *without* needed to expand physical capacity? Why would any entity want to oppose actions that would provide for more effective utilization of public sector resources?

By the way, the "added capacity stimulates additional trips" hypothesis has now passed from the common body of transportation knowledge (except for those who are not interested in updated research findings if they destroy the basis for a justification they have been offering). It originated from a single study that focused only on freeway usage at specific times. Further, more detailed studies have shown that the usage of the added freeway lanes arrived quickly by what is generally known as "triple convergence" (after Anthony Downs), where former users of surface streets, former drivers at off-peak, and former transit users shifted back to driving on the freeway during peak periods because it now worked better for them – and shouldn't this be counted as a SUCCESS? In summary, the addition of new capacity to a road network does little to cause trips to be made that would not have been made before, but it can have a significant impact in change the route, the time the trip is made, and the transportation mode. By the way, to the extent that adding highway capacity causes trips to be shifted from transit to autos, this tends to free up scarce transit resources that can be used elsewhere, such as where there is demand from those that do not have the option to drive.

Let me put it this way – if having the capacity of a public-funded infrastructure improvement being fully utilized in a short time period because people are "voting with their actions" to use it is something that should be frowned upon, than I know a whole lot of transit agencies that build expensive rail lines that have little to worry about.

END TAR

Land use patterns should be designed to improve pedestrian access, encourage shorter trips, increase public transit use, enhance the economic viability of public transit and decrease private motor vehicle use (auto mobility). Therefore zoning, financing, land-use controls and other policies should:

- concentrate employment near transit stations or stops;
- densify residential areas to allow shorter trips;
- integrate pedestrian-oriented neighborhood commerce (markets, restaurants, services, etc.) into residential neighborhoods;
- provide pedestrian amenities (such as a complete regular pedestrian street grid; sidewalks on both sides of the road; slow streets [traffic calming], speed limits and stop signs or lights to keep traffic safe and comfortable for pedestrians; auto-free town and urban centers; street furniture and shelters; and buildings that front onto the sidewalk rather than be isolated behind parking or landscaped areas);
- reduce parking requirements and eliminate parking subsidies;
- provide adequate parks, natural areas and plantings for humans and wildlife, aesthetic enhancement, pedestrian protection and building/sidewalk cooling; and
- protect land outside presently developed areas from urban sprawl through urban limit lines or other restraints.

TAR: While I have little objection to any of these in and of themselves, what I see as the problem is what is missing – any mention of providing for economic vitality of the region and the economic betterment of the residents and encouraging transit modes and systems that do not require major public sector subsidies.

I also have issues with public sector land use policies that require large public sector expenditures to be viable and those which restrict the ability of land owners to use their lands as they wish, in the absence of very clear and particular damage to others.

By the way, densification often provides for LONGER trips; New York City is by far the densest city in the U.S. and the Greater NYC urbanized area has, by far the longest home-to-work travel times. The main reason for this is that it has such a high transit mode split, and the average transit trip time is over 50 minutes, compares to about 30 minutes for auto trips. These modal travel times, both auto and transit, are actually very similar to those for greater Los Angeles, but because the transit mode split is so much lower in LA, the average travel time is

also significantly lower.

Some of these should be understood to applicable only *where* applicable; for example, while sidewalks on both sides of the road is so important in heavy pedestrian use areas that it can be difficult to find places where it doesn't currently exist, there are many roads with less pedestrian utilization, current and potential, that cannot justify the expenditure of sidewalks on both sides of the road, and there are many roads, particularly in rural areas, where expenditures for any sidewalks would have no purpose. Of course, sidewalks on high-speed limited access roads are extremely contra-indicated for safety and other reasons.

END TAR

**Existing communities should be revitalized or retrofitted, as necessary, to achieve these qualities and to enhance their quality of life. Planning And Public Participation Urban transportation systems and land use should be planned for whole regions. Transportation-land use models should fully project the reduction in driving and increase**

**in transit experienced when transit is improved and areas are made more pedestrian accessible (see above); and modelers should provide decision-makers with compact, transit-oriented alternatives.**

TAR: I have no objection to such alternatives being studied and offered to decision-makers for action.

I object strongly to other, often very viable, alternatives NOT being studied, or to being unfairly made to appear lower performing.

Please be aware that densification of land use can, and often does, increase auto usage in the specific area, particularly when done outside of the central city. If one decides to construct a high-rise residential/commercial/retail center around a suburban train station, for example, it will be very rare for train trips beginning or ending at this station to approach 10% of all trips – and it is likely that the total number of trips will increase very significant because of all the new trip generators – including those people who will be driving to the new center to take a rail trip elsewhere.

If this increase in automotive passenger trip volume, and the far greater increase in rubber tire freight movements, is not provided for in the planning of the project-specific area, there can be major problems.

Indeed, the planning of such centers must consider the very real possibility of far GREATER parking for trips of all kinds – or the likelihood of success of the project can be greatly diminished. There is a classic case at an apartment complex near a Tri-Met (Portland) light rail station, where the planners wanted to put in ground-floor retail – with NO parking. After the failure of any commercial lender to write a mortgage on the retail properties – because the lack of parking violated their lending criteria – the government agency involved financed it.

There is only one occupant – a hair-care shop

that serves the apartment residents, and very few others – that has not failed. The total unsuitability of suburban retail without parking has now become so well known that no real estate agent will take the listings and there were not even "for rent" signs on the stores the last time I was by there.

In this context, the policy statement element, "Transportation-land use models should fully project the reduction in driving and increase in transit experienced when transit is improved and areas are made more pedestrian accessible (see above); and modelers should provide decision-makers with compact, transit-oriented alternatives" – can lead to much confusion and suboptimal results if decision-makers are taught to automatically believe that increasing transit means that roads usage and capacity requirements are reduced; in fact, the opposite is often the case, particularly on a micro-level.

END TAR

**The National Environmental Policy Act, and the Clean Air and Water Acts should be complied with fully. Meaningful public participation must take place from the start of development of state and regional transportation plans. Opportunities for participation should be enhanced. The participation of environmental, public transit and low income community groups, including legal help and research, should be publicly funded.**

TAR: As long as it is understood that "opportunities for participation should be enhanced" applies to EVERYONE, fine with me.

By the way, "opportunities for participation" does not mean that people have the opportunity to speak – it means that they will actually be listed to.

END TAR

**Financing and Subsidies**

**Federal and local subsidies should be provided to those systems (walking, bicycling, public transit, passenger and freight railroads and ferries) and equipment that go further toward achieving accessibility, convenience, efficiency, cleanliness and equity goals, and denied to the other modes.**

TAR: This is stated in the format of a goal, which by definition, is not quantifiable, and therefore there are no numbers, nor is there any presentation of the proposed relative scales of the subsidies.

Therefore, as such, this is really just a statement of the status quo:

Walking – which generates no revenues what-so-ever, with the possible exception of citations for jaywalking and sales taxes on the sales of shoes, is therefore completely, or almost completely, subsidized. The subsidy percentage is large – generally, 100% – but the dollar value is generally small.

Bicycling is also almost free of any revenue generation to governments, again with the minor exception of cycle licenses and the somewhat more significant sales tax revenues from the sales of cycles, cycling clothing and accessories, etc. On the other hand, the additional costs of cycling are relatively minor in most regards, as most transportation (as opposed to recreational) cycling is done on the road network that was designed for motorized "rubber tire" traffic. Again, we have high subsidy percentages, but the dollar values per use are generally fairly small for most well-structured, well-utilized cycling "transportation" projects. (I am referring to "transportation" cycling projects to differentiate them from "recreational" cycling projects, such as most off-road cycling. While there is some crossover, in most cases, the best starting point is to separate project proposals by purpose and to have different funding and project evaluation methodologies for each.)

Public transit has been substantially subsidized by all levels of government for

decades. The percentages are large – nationally, in the 75-80% range, in total, with certain types of projects both significantly better (meaning lower taxpayer subsidy) and below. Certain types of new projects, particularly rail projects and other non-road projects, can have very high subsidies (for many years, the cut-off point for Federal evaluation of guideway transit projects for dedicated Federal transit capital grants was \$25 per new rider; there are any number of recent rail transit projects that have failed to achieve this standard).

Passenger transit – which, because "public transit" is shown as the previous line item, evidently refers to intercity passenger transit – is also heavily subsidized by government (or, more properly, by the taxpayers who do not receive direct benefits). Amtrac, in particular, has never come remotely close to fulfilling the promise that was made when it was formed of becoming self-sufficient and I know of no one with any real understanding of the subject who has any expectations that it ever will. Other intercity rail, which is primarily a state-subsidized function in the U.S., is similarly structured to require substantial governmental subsidies for the foreseeable future. The various proposed high-speed rail projects around the nation are also projected to require huge construction subsidies, with the requirement for continuing operating subsidies also a strong possibility in at least some cases. The percentage subsidies are fairly low compared to other non-auto modes reviewed here, with the better lines well under 50%, but the per-ride subsidies can be very high, in the hundreds of dollars for trans-continental service.

There is some question if freight railroads receive governmental subsidies or not, and this is a discussion that has been on-going for well over a century. At the current time, it is probably fair to state that, to the extent that governmental subsidies of freight railroads do exist, they are relatively minor, at least on a percentage of cost basis, compared to the major modes above, particularly public

transit and passenger rail. It is difficult to compare "subsidy per," because, for passenger travel, the metric is subsidy per passenger, while for goods movement, it is subsidy per ton, and there is no generally accepted basis for comparing these similar, but very different, metrics against each other.

In my experience, much of the existing "subsidies" to freight rail are in the form of infrastructure improvements to track and other facilities to allow the operation of passenger rail on freight rights-of-way (which often provide significant benefits for freight movements), grade separation of road crossings to reduce the safety hazards, and intermodal freight connections, particularly improving freight railroad access to ports with public dollars. (What I do not understand is why there is a need to subsidize what is organized in the U.S. as a for-profit business, and is operated as such. The shippers, acting as surrogates for their ultimate customers, the buying public, appear to be willing to pay a fair market price for moving freight on rails when rail is the superior option. If the for-profit business is being asked by a public sector body to do something that has no direct benefit to the business and its owners, then the business should be adequately compensated for this. However, if the "payment" is in the form of a capital improvement to allow someone else to use the rail line and that improvement also provides benefits to the business, then this may reasonably be considered as a subsidy, depending on the details of the particulars.)

Although air transportation is not specifically mentioned in this section, its inclusion in other portions of this statement makes me believe that it may be one of the modes the author(s) had in mind for the "other" modes that were to be denied subsidies. For air transport, while the vast majority of the costs are paid out of user fees, here there does appear to be significant dollar value of subsidies. In recent years, much of this has been driven by security concerns, particularly those post-9/11. I agree that there should be direction to make air transportation revenue-neutral to taxpayers, which, in my opinion, can be achieved in larger

part through more efficient functioning of the governmental end of air transport (getting the FAA and its various systems to the point where air traffic flow is not delayed by system shortcomings – or there is serious consideration of replacing the public sector with the private for this purpose; more cost-effective approaches to security) and by proper application of market pricing of airport gates, chiefly by period usage fees driven by demand. Once complicating factor here is that the nation's air transportation system is used for both passenger and freight transportation, which would appear to require segregation of subsidies, to the extent they do exist, between passenger and freight transportation, which cannot be done precisely to the extent of general acceptance. In general, the percentage subsidy for air transportation -- both passenger and freight -- is small compared to most of the other modes. The subsidy per passenger or per ton is high compared to some other modes, but when the subsidy is computed on a passenger-mile basis, it tends to very low. Subsidies per ton-mile tend to be higher, primarily because air transportation tends to be used primarily for high-value, low-weight goods.

Again, I note certain significant transportation modes are not mentioned, including water transportation (except for the rather minor case of passenger ferries – which are proposed for government subsidies, ignoring the far more significant water freight movements), pipelines, and electronic information transmission. (I'll skip the examination of subsidies for these, which quickly gets rather complex for the instant purpose.) The most prominent government operated transportation system, the U.S. Postal Service, is also unmentioned, but it has been rechartered to operate as a break-even enterprise, which it appears to be at or approaching.

This leaves the road transportation system, which is recommended for no subsidization by government. I concur in the overall recommendation, with note taken that this should not be understood to mean that this test should be applied to the road system in

total, not to each individual road or class of road; in fact, certain roads, particularly multi-lane freeways with high usage, tend to be "money-makers," while less utilized residential and urban roads are generally not. It should also be understood to focus on "hard" costs and to specifically exclude many of the more exotic proposed soft costs.

From my personal research on the subject, it appears that, taken as a whole, the "hard costs" of the U.S. road system, is not only not subsidized, but is actually a significant "money-maker" for governments. The best data on this is from FHWA Highway Statistics series, which in recent years tends to show that the user fees collected for road use, mainly "cents per gallon" charges for fuel, tend to be approximately 70% range of road expenditures. Unfortunately, the FHWA reports do not comprehend certain important governmental revenues from road use, particularly sales taxes on fuel and autos, auto parts, etc., unless they are dedicated to transportation at their source, which is only a minor portion of such fees. When such user fees are included, it appears that road users are paying their hard costs, and then some.

(This is not to say that there are no direct governmental subsidies for roads. In almost every jurisdiction, there are property taxes or other taxes utilized to support local roads, particularly those lighter used residential and rural roads I mentioned above. This subsidy has been somewhat lightened in recent years by the move to require new developments to either have the initial road infrastructure provided by the developers and/or the payment of impact fees, which I also support. However, while local roads are frequently supported by non-road user fees, the amount paid in road user fees appears to significantly larger.

(It is also important to recognize that many of the user fees paid by road users do not go for roads. The most obvious example is the \$.184 Federal gasoline/\$.244 Federal diesel charge, over 15% of which is directed to Federal transit subsidies, not even considering the exemption of transit vehicles operating on roads from paying such fees. Obviously, if such road

user fees are shifted to transit – not to mention the various programmatic allocations and "earmarks" of gas/diesel road use fees for "transportation" purposes that often appear to have little, if any, actual transportation purpose other than incidental – they are not available for road maintenance and construction, which is one of the reason why the shortfall in road infrastructure has reached the current crisis stage. There are many similar allocations of road user fees to non-road uses at the state and local level, such as the nickel of the Texas \$.20/gallon charge that goes for schools.)

I am very much in favor of higher per gallon charges for road use, with the understanding that road use fees should go for road maintenance and expansion. I am a strong supporter of transit, which should be considered a "general fund" expenditure of government, along with an understanding that the taxpayers deserve that transit expenditures should be for productive and cost-effective transit systems that are designed to provide mobility for users, with the primary focus on those who have limited mobility options due their age, physical condition, and/or economic status.

Shifting gears for a moment, the purpose of public transit is the provision of mobility. While there are certainly secondary benefits of transit, when there are attempts to design transit systems around these secondary benefits, it generally turns out that this is not productive, wastes taxpayer funds, and often significantly hurts the people who are most dependent on transit for its transportation benefits. In any case, the best way to maximize the secondary benefits of transit is to focus on the mobility aspects of transit; for example, transit best contributes to air quality improvement by increasing mobility for those economically-challenged individuals that would otherwise be getting their mobility by driving "junkers" – which are often 100, or even 1,000, times as dirty as current generation rubber tire vehicles. Interestingly, one of the best ways to increase transit use – and to do it quickly – is to reduce fares, something that has had great success, but is very little used by

transit planners and public officials that would rather "build something" – even if that would be far less productive and cost-effective utilization of taxpayer transit subsidies.

I find it troubling that the stated rationale for the above policy proposal – "accessibility, convenience, efficiency, cleanliness and equity goals" – are presented as if the modes proposed for subsidy are superior to those that are proposed to be denied subsidies, when, in actuality, the reverse is very often the case. Indeed, the very reason that the modes proposed for subsidies require subsidies is that they have been proven by the workings of the marketplace to be significantly lower performing on several of these goals to the modes that are being "looked down on" by this policy. The reason that transit carries approximately 2% of the U.S. passenger trips – and, of course, virtually none of the freight movements – is that the auto has proven to be far superior in terms of accessibility, convenience, and efficiency, and, to be kind, it is often very questionable if transit is superior in cleanliness and equity, even for that small percentage of U.S. trips where transit is even an option. (By way, the problem with attempting to make transit an option for more trips is that, while transit is generally not very competitive with the auto on most trips where transit service now exists, the places where transit now exists are pretty much where it works best; expanding transit to other areas where it does not currently exist means, in most cases, that the new service will be less cost-effective and productive than the existing service, in some cases, significantly so. Attempts to provide transit service that will be competitive with the auto on the criteria which are most important to the potential riders –accessibility, speed of travel, wide coverage, high frequency, etc., etc. – often produces costs that are so high that very little such service, adding very few additional riders, is possible.

So my message is clear, I am most certainly not saying that there are no opportunities for providing new and valuable transit services in this nation, nor for improving existing services;

a significant portion of my professional practice involves exactly this concept. What I am saying is that expectations for such have to be reasonable, in light of what transit is capable of doing. If the objective is to increase transit use in a specific urban area by, say, 10%, over a period of a few years, that is often well within the realm of possibility.

If the objective is to double transit use in a large urban area over a decade, my response is that traditional transit thinking, which focuses primarily on expensive new capital projects, has never achieved anything remotely close to such a result; indeed, the urbanized areas that have come the closest to such results (I'm thinking primarily Las Vegas, but mention should be made of Los Angeles increasing transit ridership over 40% in three years) did so by improving, expanding, and/or reducing the fares on conventional bus service.

END TAR

**Such subsidies are especially needed to correct the history of heavy subsidies to motor vehicles, including trucks.**

TAR: The "history of heavy subsidies to motor vehicles" is presented as a fact.

While a policy statement of this type is generally not expected to include the detailed support for such statements, it is generally accepted that there documentation of such available.

In this case, I find the statement so remarkable that it cannot be accepted at face value. As I have stated above, I find that, at the present time, road users generally pay more than all of the direct costs of the roads that they use.

... and I DO have documentation available.

END TAR

**Direct subsidies and costly externalities of motor vehicle use include: police, fire and**

**ambulance services, road construction and maintenance; property taxes lost from land cleared for highways; subsidized parking; air, water and land pollution; noise and vibration damage to structures; health damage from noise and pollution; global climate change; petroleum supply line policing and security; petroleum production subsidies; trade and infrastructure deficit; sprawl and loss of transportation options, uncompensated auto accident costs; and congestion.**

TAR: Well, a most interesting list. Let's first start with an overview, then go through them one-by-one.

This list is a mixture of what is commonly known, in my business, as direct and indirect, or "hard" and "soft" costs, with indirect/soft costs also called "social" costs.

"Hard costs" are the direct and most obvious, and easiest to tie to the mode, such as road construction and maintenance. "Soft costs" are usually, but not always, the same as indirect costs, such as "sprawl and loss of transportation options" from above, and, by their nature, are far more difficult to measure, quantify, and express in monetary terms with precision – or even to agree what they are.

The very obvious first problem with the list above is that it is totally "one-sided;" what is presented is a list of costs – without any countervailing list of benefits.

In the hard cost analysis above, I measured subsidies by comparing expenditures of funds by the public sector against the revenues that were directly generated by the users of such services by the very act of using the service – no pay, no play. If we are going to measure the "soft" costs, or social costs, or what other concept is to be applied, it is vital that both the costs AND THE BENEFITS be considered; failure to do so results in the rejection of the analysis as incomplete and inappropriate on its face.

Failing the adoption of this preferred methodology for such analysis, a useful but less desirable alternative is to set forth the "full" list of "soft" costs, including ALL applicable ones, when comparing different modes.

For example, if the comparison is driving vs. transit for urban areas, the list above appears to be rather comprehensive of the list of soft costs where it appears that transit – or, alternatively, reduction of travel through land use changes and other means – is represented to be superior.

For such an analysis to begin to be useful, there must also be discussion of such goals, objectives, down to metrics which are important to individual travelers and society where the auto could have an advantage.

For example, let us consider travel time and accessibility of destinations. With few exceptions in the U.S., travel by transit is at a slower speed than driving and also generally requires far more access time. (Yes, there are exceptions to this and I am one of the people who has actually gone to a great deal of trouble to buy homes where transit worked very well for me.) From detailed studies of census data for the Bay Area (2006 ACS), the average drive time to work (drive alone and carpool) was 24.6 minutes and, for transit, it was 42.2 minutes. For the round trip, that's a difference of 35.2 minutes a day -- or about 2.44% of the 24 hours in a weekday, even more of the time not spent sleeping, and even more of the controllable time after adjustment for eating and normal activities like personal hygiene.

Also, because travel via transit is almost always at a much slower speed than travel via auto, particularly when the access time is considered, travel by transit tends to be very limiting, compared to auto travel, in both distance that can be covered and destinations within any given travel time. When the common "30-minute" access time test is done, it is common for the "simple" "circle" analysis showing how far you can go by car and by

transit (which does not consider the problems of lesser-accessibility of nearby sites by transit because of lack of nearby transit stops) for transit to be under one-quarter of the size of that for auto users, and the more detailed site-specific analyses which do consider transit accessibility can show transit doing even poorer, compared to auto use.

In my opinion, these are factors that are extremely important to consider in any competitive comparison of auto vs. transit modes and any analysis that does not do so is deficient on its face – and these are most definitely not the only such factors where the auto will generally have a significant advantage over transit.

Getting back to those factors listed above, we have, for example, among the "costly externalities," "air, water and land pollution." I most certainly agree that is a major concern and it is very valid to include this on this list, if such an analysis is to be fairly and competently conducted. I also know that the current situation in regard to, for example, air quality emissions, is far superior to what it was even a few years ago and that emissions from rubber tire vehicles on the roads are continuing to drop every year. Some of the former problems – such as lead – have been almost completely eliminated, and every other one continues to get better in almost every way in almost every community almost every year.

Which is certainly not to say that we have reached the point where no further action is needed, but let's realize the progress that has been achieved – and where we are reaching the point where the cleanest auto's are about as good as it is possible to get them, to the point where spending any more money to improve is wasteful, compared to what can be achieved from other types of expenditures. In particular, for the same amount of money applied to automotive emission reduction, you get FAR more bang for the buck by taking junkers off the road than by trying to get a vehicle that is already 98% cleaner than base model (early

1970's) vehicles to 99% cleaner.

Also, when one is making such analyses, it is vital to review the alternatives, and what has gone before. In this case, what was the condition in America prior to the automobile and the truck?

The answer is, quite literally, pretty close to being a cesspool. Prior to internal combustion power plants providing mobility in American cities, we had animal power – chiefly horses, mules, and oxen. The bodily waste of these animals was a massive daily insult to the quality of life. Moreover, when the animals died, the common way of disposal was simply to leave them where they expired – in many cases, FOB middle of the street, where they would remain, generally for hours, sometimes longer, until the carcasses were hauled away.

Any rational comparison of the pre- and post-automotive era pollution/public health status cannot fail to note that, even when rubber tire vehicles were at their dirtiest, there was a massive improvement over the previous case, and the qualitative improvements in vehicles since have already eliminated the vast majority of the problems of the motorized vehicles from the bad old days, with further improvements already guaranteed as older vehicles are taken out of service and replaced with even more superior technologies.

Further, it is important to note that the automobile and the American road system have produced an improvement in American mobility by orders of magnitude – something that is totally lacking in the analysis methodology presented above.

Let us consider another criterion, "health damage from noise and pollution." Yes, there is no doubt that the internal combustion road vehicle, as well as other modes, has damaging impacts on the human body and on other life. Again, we see a realization of this, which has resulted in changes that have already produced huge reductions in health-damaging aspects

with continued improvements as time goes by.

Now let us look at the benefit side of the picture. The mobility provided by the automobile has, in and of itself, very significantly improved the provision of health care in the U.S. In the old days, there was the family doctor – who, out of necessity, was a generalist. With his (and, to the then very limited extent, hers) mobility options so minor, the geographic area of the practice was very limited. Specialization was simply not very possible for most physicians at the time because, in most cases, there were not enough patients with the specific ailments that could reach him.

At the present time, I have specialized health care providers that I see on a regular basis that are over 40 miles apart, and my particular case is in no way unusual.

Let us consider another very significant health care improvement that is solely due to the auto and the road system – well-trained paramedics in well-equipped mobile medical vans. Their ability to get to people with life-critical medical emergencies within minutes of getting notified, and then rapidly and safely transport them to emergency rooms, saves many thousands of lives every year.

While we are on safety, the annual highway death toll rate in the U.S. has been roughly in the low 40,000's for several years; let's round up to 50,000, which would give us a fatality rate of a bit over one out of every 6,000 people in the U.S. each year (current U.S. population, a bit under 306 million).

At the height of passenger rail travel, the decades just before and after the turn of the 20th century, annual railroad deaths were approximately 10,000 per year – and, very arguably, the counting was far less comprehensive than it is now for road fatalities. With about 76 million Americans back then, that's about one fatality for every 7,600 people – which is pretty darn close to the number we

have for auto usage now.

The difference of course, is that today's Americans are FAR more mobile by auto than our great grandparents were, both locally and nationally. Back in the day, passenger rail travel was of three main types: streetcars, what we now call "commuter rail," and inter-city; all were very dangerous in different ways and all offered far less mobility than the average automobile user today.

So, when railroads ruled for American transportation, the chances you would die due to something happening involving a train was about the same as it is in regard to an auto today – but, with autos, there is greater mobility, that I would estimate at one to two orders of magnitude, with all the benefits that comes with that.

To sum up this segment, if you want to try to compute the social costs, or externalities, of auto use, well, go ahead if you want, but I will warn you that this is a very difficult proposition to accomplish with any degree of precision and confidence. To do so with any degree of fairness, the criteria must reflect not only the areas where you think your favored modes will perform best against the ones you do not favor, but also those that show where other modes have advantages.

If you do not also attempt to do a comparable job of calculation the social and externality benefits of the auto and the road system and other modes, you will perhaps understand why the only reason I will refer to it is to discuss why it is not worth considering.

Now let's get to the specific items on the list:

1. Police, fire and ambulance services -- I don't have a great deal of confidence in the data on this particular road expenditure line item as to its completeness – if someone else does, I'd be interested in reviewing it.

The FHWA stat's I mentioned above showed total nation road expenditures of \$14.5

billion on "Highway Law Enforcement and Safety" for the 2006 reporting year, or about 9% of total road expenditures. This is split almost 50:50 between state and local governments. My problem is, I haven't been able to get good answer from anyone at FHWA as to what is included; if this supposed to be ALL emergency services for roads, or what?

The FY09 Budget for California Highway Patrol, which is primarily, although not exclusively, a roads safety service, is about \$1.9 billion. There are about 12,000 CHP officers, or about 2% of the U.S. total number of police officers – which would appear to indicate that the \$14.5 billion above could be on the low side. That works out to a bit over \$700 for each U.S. licensed driver. This leads me to believe that the FHWA may not include a real good accounting for city/county sworn officer patrol and related work devoted to traffic safety et al and there may be other issues, as well.

However, the FHWA data does not include any fines or other revenues – which are hard to get estimates on, but appear to be somewhere in the \$10 billion range, nationally. In many locations, this is a major revenue source for the "general" government functions and is getting to be more so, but there are costs in running the courts and even administering the processing of violators who just mail in a check.

In short, I'm having a hard time getting high quality data on the costs, and the revenues – and, thus, the net taxpayer subsidy – of police, fire, and other emergency services for roads. From the numbers I presented above, I'm not sure what the number might be – any help?

2. Road construction and maintenance – as discussed above, there does not currently appear to be any governmental "general fund" subsidies for roads construction and maintenance as a whole; in fact, a stronger case can be made that road users are subsidizing other governmental functions, notably public transit.

3. Property taxes lost from land cleared for highways – while not entirely invalid, this is not properly presented, as it ignores the significant increase in property taxes for property that has superior transportation access;

I don't think there can be any question that, overall, the construction of roads has significantly increased the value of land in the U.S. and, therefore, the property taxes on such land. Also, it must be considered that roads existed long before the invention of the automobile.

Interestingly, this is a variation of long-standing debates on the subsidies granted to transcontinental railroads in the form of land along the right of way. Some argue that these subsidies should be valued at their value after the rails were in place; however, this is generally rejected in favor of costing these subsidies at their pre-railroad construction values – generally a small fraction of the "after" values – because the increase in land value was, for the most part, CAUSED by the construction of the rail line.

Transportation guideways can have impacts on land values in various ways to various users. For a trucking terminal, being near a freeway on/off-ramp is very valuable; for a homeowner, being next to a newly built freeway is generally a major negative (in general, residential real estate values are optimized close to, but not TOO close to, a freeway, all else equal). A heavy rail station in the basement of a high-rise condo complex would generally positively impact the value of the units; a single-family detached home located near an at-grade intersection without a station, where there were a dozen or more trains each hour blowing 85 dBA horns, from 5:00 a.m. to midnight each day, will generally have a negative impact.

4. Subsidized parking – This is a most interesting issue, with the major questions being, is there really a subsidy, and, if so, who is paying it? The answers can vary significantly.

I would generally agree that there is a significant public sector subsidy for curb parking. From a market standpoint, this is easy to prove because, in many areas, there is virtually never any unused space; the obvious conclusion is that curb parking is underpriced, which in market terms, is a subsidy. (Note that I am here using subsidy – a difference between

market value and price charged – with a different meaning than I had previously – difference between operating costs and revenues covered by taxpayers. The general concepts are not different, the calculations and values produced are; it is even possible to, using these different definitions, have a subsidy by one definition but not by the other, which is what generally occurs with curb parking. While it may seem that using two different definitions for subsidy is changing the rules, I believe that the difference is valid for the way I have used them here, which is to focus of the propriety of government decisions by using a valid quantitative metric.)

I agree with Donald Shoup that curb parking should generally be priced to produce a small but regular vacancy rate (he suggests 15%). This will ensure that parking is available for those who want to use it and are willing to pay the price and, more important, will minimize cruising – people will quickly see the opportunity to buy at a stated price and will either park quickly, drive to a more remote parking structure (presumably at a lower cost because it is not as close to the destination), or forgo the stop.

Now let's shift to other types of "free parking," such as that at shopping malls. Let's examine a variety of different takes on the questions of, does a subsidy exist and, if so, who is paying it?

First, in most such situations, I would argue that there is NOT a public sector subsidy because there is no tax money or other public sector financial support for the costs of building the parking lot (recognizing that there are exceptions to this statement where, for example, the public sector does build, and does not charge, or does not charge sufficiently to pay all the costs of, the parking facilities – I am generally not in favor of governments getting directly into the parking business unless there is a valid public purpose, and providing subsidized parking is not one that I favor).

Next, is there a subsidy by the business and/or landlord (that may or may not be the same party)? If they are doing it right, and the market is working the way it should, generally

speaking, no. These are costs of doing business and prices of the good or services in the store, and the rent the store operator pays, reflect these costs.

Well, are the customers, collectively, paying a subsidy? No, collectively, they are paying the costs for the provision of the parking facilities and, in the larger sense, not paying too much or too little (most certainly, in certain specific situations at specific stores, they may be over or underpaying; for example, in bad economic times, the customers collectively may be underpaying because business is off, the parking lot is never full, and there is no effective way that the costs of the goods sold can be raised so that the business can "break-even" on the parking costs).

Getting into more detail, are there cross-subsidies between customers? Here, I agree, there are. Let's say we have two groups of customers, one of customers that drive to the store and park in the lot and the other that walk to the store and, therefore, have nothing to park. Unless the store is charging more for goods for those that park in the lot – something I have never seen actually happen, although there are some retailers that do charge for parking – then both groups of customers are paying pretty much the same for parking, if they use it or not. In this situation, the walk-to-the-store customers are subsidizing the drive-to-the-store customers.

But, this does not mean that the walk-to-the-store customers are harmed. In fact, they may be significantly advantaged.

The reason is, stores that deal with walk-to-the-store only customers must draw them from a fairly small area, compared to stores that also have drive-to-store customers – and generally will be smaller in size and offer fewer choices to their customers. Larger stores can also get better prices for what they buy. Therefore, a walk-to-store customer that shops at a store with parking will be able to choose from a larger selection of goods, often at better prices – and, therefore, even if the walk-to-store customer is subsidizing the cost of the parking of drive-to-store customers, the walk-to-store customers at stores with parking may be paying

lower prices for a greater selection of goods than would be available at a store without parking.

Now, what can be done to eliminate this subsidy? Basically, other than charge for parking, not a whole lot – and that is something that might not be in the best interests of anyone, including the walkers. As noted, a store that attracts more customers generally can offer a greater selection of goods at lower prices than a store with fewer customers. There is also a significant cost in trying to charge for parking; SOMEBODY has to either pay the attendant or put in a fancy non-attendant system to collect the money, which is generally far more trouble than it is worth.

So, even with the walkers subsidizing the drivers, the walkers might still be better off. This is pretty much why the ma-and-pa grocery store has pretty much disappeared in much of the nation, even with its, "gee, it is just a short walk" location; its service area is too small, which limits its customer base, reduces its selection, and causes it to charge higher prices. (Where such American retail outlets still exist are mainly the most densely populated urban centers with the worst driving/parking conditions.)

I've been asked, wouldn't it be better if you didn't have to get in your car and drive a mile each way just to buy a gallon of milk? Well, maybe – but when I need a gallon of milk, I generally stop at a supermarket on my way home; I have different ones for every direction of approach to my home, so it doesn't even take me very far out of my way.

Well, let's stop screwing around with the details of the question of the existence or not of subsidized parking, and get to the real reason this is on this list – people think that subsidized parking increases the amount of driving and, if there were no subsidized driving, people would drive less – WHICH IS THE CLUB'S REAL OBJECTIVE. (Anyone saying no?)

First, the proposition that "free" parking increases driving sounds perfectly valid to me; I know from my own behavior it is true. For example, even when I have worked "downtown," I would very frequently drive

further where I could take advantage of "free" parking rather than have to drive around to find a place to park and then pay for it – give me a nice free space in front of the store and I'm happy (most of the retail firms in the U.S. have figured this out by now and behave accordingly).

The no free parking = less driving hypothesis is generally believed to be most valid for repetitive trips, with home-job and home-school being at the top of most lists (but also to have some applicability to less repetitive ones, such as less than daily trips to buy groceries). Here, I strongly support the proposition of equal treatment of employees for transportation benefits; for example, if an employer provides free parking for employees, the employer should also provide – and, if necessary, be required to provide – transit benefits of equal value if the employee so chooses. This is becoming more and more valid and has even been recognized in changes to income tax treatment of transit benefits (although, incredibly, not to the extent of full equity). Of course, for many employers at many locations and for many employees, transit for the home-to-work commuter simply does not work for them for a variety of reasons.

OK, other than equity for employees and other impacted groups, is there a valid reason for government to get involved in such issues? I really don't see much reason, not beyond that covered by other laws and regulations (such as, for example, requirements that parking structures be designed for safe and environmentally supportive use).

5. Air, water and land pollution – see discussion above in intro to this section.

6. Noise and vibration damage to structures – Yes, I agree. However, this is generally already covered by torts and various existing laws and regulations, which should be applied equally to transportation modes and vehicles and stationary sources. (By the way, this should be constructed more broadly, not limited to just noise and vibration. The first thing I would recommend adding is stray electric current; this used to be a huge problem in metropolitan areas until about 1920, when it

became generally accepted that improper grounding of urban electric railroad was causing very significant corrosion damage to everything from underground water pipes to building foundations. This is still a major concern, but we have advanced the state of the art in corrosion engineering that almost all new designs are well protected against causing this type of damage in any significant degree. However, re the recent experience in Houston, if you don't do things right, you can have major problems that will take a lot of technical work, time, and money to correct.)

Keep in mind that this will NOT always work against roads. For example, Portland lost what would probably have been a billion-dollar chip manufacturing facility when it did not disclose to the Japanese firm considering locating the plant there that there would be a light rail station next door. I was not party to the details of the negotiations, but from my experience with major Japanese companies, the "trust" issue – that significant facts were withheld – could have been at least as important, perhaps more so, than the problems of rail vibrations to a manufacturing facility dealing with tolerances measured in tiny fractions of the thickness of a human hair.

7. Health damage from noise and pollution – see discussion above in intro to this section.

8. Global climate change – this is going to make some people a bit upset, I'm sure, but I am far from convinced that there is much of a problem here, or that CO<sub>2</sub> has much of an impact, if any.

So that said, and most likely putting myself in a category close to that of a holocaust denier in the eyes of some, I'm going to offer a few comments and see how they play.

Here is a link to the June 24, 1974 Time Magazine story, "Another Ice Age?" <http://www.time.com/time/magazine/article/0,9171,944914,00.html>

Now, here's the thing -- if the people who thought that we were entering a new ice age back then has decided that the human race needed to act, exactly what is it that they would have done – and what impact might that have

had for us today?

To say the least, I have not been extremely impressed by a lot of the research and publication on this topic – and find it most interesting that, the same week it was announced that Al Gore was to be awarded the Nobel Peace Prize for his world, an England and Wales High Court Judge ruled that "An Inconvenient Truth" could not be shown to school children without extensive qualifying remarks because of the high number of significant technical errors – or, what Mr. Gore himself described as, "it is appropriate to have an over-representation of factual presentations on how dangerous (global warming) is."

Obviously, global warming (by the way, the generally preferred term is now, "climate change," which reflects both that there many trend lines that have stopped showing warming and allows the argument to be made that excess GHG are bringing on a new ice age) is not one of my major concerns. On the other hand, I believe it would be proper for me to consider that it is somewhat doubtful if I will be able to convince the entire membership of the Club to abandon this concept.

OK, I can live with that. In many areas, there can be agreement on the objectives without agreement on the reasons; for example, I think we can all agree that using less energy is superior to using more energy, and if I am not terribly interested in the reduction in CO<sub>2</sub>, so what, we both agree that using less energy is a good thing.

Now comes the key – how to implement? I suggest that, if the goal is to reduce GHG, the first requirement is to do some very serious work as to which gases have which effect, how they are produced, and what are the trade-offs for reduction tactics. These analyses get very complex and very frustrating in a hurry.

An interim step will be to realize that, even if the objective is to totally eliminate all human production of GHG (I trust that there will be no objection to such behaviors as exhaling CO<sub>2</sub>), this will not always be possible, so it will be a good idea to focus on the means that will produce the most benefit for the input of resources. One way to do this

is to put a price on it.

In this context, the usual number mentioned is \$50/ton of carbon dioxide. Now, keep in mind, there are two different lines of thought that are using the same value for different purposes. One is "carbon tax" at that rate. Well, since I don't see all that much point in reducing CO2 generation through extraordinary means, that isn't something I favor, so I'm going to let that one go (recognizing that there are a lot of others who may be very interested in further discussion).

The other context is to put a maximum value on the reduction of CO2 emissions. CO2 elimination proposals should be evaluated on the basis of which produce the most benefit for the dollar of investment, but I suggest that there be a value established where, if it costs more than that, it will just not be considered as a justification -- and I'm proposing \$50/ton as place to start the discussion.

(To leave no doubt in anyone's mind, yes, I HAVE run the numbers on various transportation means to reduce CO2 and, yep, rail transit doesn't always do real well -- in some cases, there would be problems meeting a \$5,000/ton target.)

9. Petroleum supply line policing and security -- this is an interesting one. At an extreme, I have seen half of the U.S. Defense Department budget considered as a cost of roads, with a justification that protecting oil for driving is at least half of the reason we need an Army/Navy/Air Force/Marines/Etc.

I don't entirely buy into that -- and I think that's about all I'm going to say about that right now.

10. Petroleum production subsidies -- I'm trying to figure exactly what is being referred to here.

Is the meaning that the U.S. government is selling the rights to drill for oil at too low a price? Well, it is done by bid, which would appear to make it difficult to do this consistently over a long period of time, but, if there are some particulars, please present them. (You won't have a particularly difficult time convincing me that there is a long history of the U.S. government selling off natural resources for a

lot less than they are worth or cost to produce, with water in the Central Valley and trees in our National Forests being only the first few things that come to mind.)

We used to have oil depletion allowances on oil production in the U.S., which was a large tax write-off. These went away decades ago, but they were highly controversial in some quarters at the time. However economically, what was going on was going on was, the effective tax rate on oil profits was reduced, thereby lowering the costs to produce oil and the price that users of oil paid. This, in turn, meant that all the other taxpayers got larger tax bills. I think that this was a very valid analysis -- but, when you get into who got the benefit and who got the bigger tax bill, it was, to a large degree, the same people. Yes, no doubt, there were winners and losers, but not as much as some people might first believe.

Now, in the analysis I just presented, I assumed that the impact of the oil depletion allowance was to lower the price of oil. After all, the way that markets work, that's what should happen. However, there are some skeptics out there, such as those who know about some of the absolutely incredible things done by Texas Oil interests and Texas representatives in Congress, not to mention the Texas Railroad Commission (which set the price of oil in the world for decades), and things like the head of a major oil company, who, as Governor of Texas, actually declared martial law to be able to shut down production to keep prices high, who might think that, you know, perhaps not all of that tax reduction found its way to the people who were buying oil, some of it may have gone to other uses along the way.

Yeah, that could've happened.

The oil depletion allowance was eliminated when Jimmy Carter was President, so we can probably skip further discussion of it, except as a history lesson.

If someone would provide some additional information as to exactly what was meant by this reference, I'd be a lot better position to comment further.

11. Trade and infrastructure deficit --

There are not specifics here, but I'm going to guess that this is primarily directed towards purchases of oil from non-U.S.A. producers. I am in agreement that is a problem that needs to be addressed. I believe that there a number of actions that should be pursued, some of which I believe will be accepted by the Club members that are likely to be reading this, some likely not:

#### More fuel efficient autos

Different fuels for auto's, driven by what works and what succeeds in the market -- I'm all in favor of giving everything a try, but WITHOUT subsidies, with the exception of relatively minor funding for research and demonstrations. Ethanol from corn, in particular, should not receive subsidies – it actually produces net energy loss through the high costs, financially and in energy, of production; while importation of cane-based ethanol should be examined -- specifically including from Cuba. Use of other American vegetation, including what can be grown on land not suitable for growth of food and other commercial products, should continue to be researched and developed as the results support.

Expanded energy sources, again, driven by what works and what succeeds in the market – this includes oil shale, nuclear power, expanded drilling for oil and natural gas in the U.S., with protection of the environment very important, but NOT to the extent of absolute prohibition of production where there are workable alternatives

Higher road use fees, with higher "cents per gallon" charges to start, giving mileage-based (VMT) fees a good look, but recognizing that there are huge technical, implementation, and policy issues that will need a lot of work – and such user fees to go to maintain the existing road structure and to expand it where required

12. Sprawl and loss of transportation options – I actually have a technical presentation I call, "Sprawl is Our Friend" – which argues for the advantages of decentralization.

Much of the material focuses on how well the surface transportation system in Los Angeles works – in contrast to the usual bad

press it receives. To many people, Los Angeles invokes thoughts of endless freeways connecting huge expanses of single-family detached homes on acre lots. The actuality is, greater Los Angeles is, by far, the densest urbanized area in the U.S., with about one-third more souls per square mile than greater NYC, which is the second densest (New York City is denser than the City of Los Angeles, Manhattan far more so, but the City of LA is, at a minimum, comparable to the other large cities in the U.S. and the LA suburbs are by far the densest in the U.S. Of the 69 U.S. UZA's that had populations of 500,000 or more at the 2000 Census, greater LA had the second LOWEST freeway centerline miles and the second LOWEST total roadway miles per capita -- and VMT per freeway lane mile far above that of any other UZA. (I win a lot of bar bets with these statistics.) Given these statistics, what is most interesting is that home-to-work travel times in LA (28.2 minutes) are lower than those in those of NYC (34.1), Chicago (31.0), and Washington (32.5).

The reason is very interesting – LA really doesn't have much of a downtown; with the LA CBD having fewer than 5% of UZA jobs, and sinking. Because there is NOT the common over-concentration of jobs in the CBD, there is not as much overloading of the highly deficient freeway system. More important, LA has one of the best home-jobs balances in the U.S. – BECAUSE there are fewer jobs in the CBD, there is more employment closer to where people live. As a result, while greater LA is the second largest U.S. UZA in square miles (after NYC), the average home-to-work travel distance is below average, and VMT per capita is about 10% below the national average for large UZA's.

Also, fortunately for LA residents, it has by far the least rail transit of any of the world's mega-cities (those with populations over ten million), which tends to the lead to the kind of overconcentration of trip generators that is so difficult for surface transportation to handle. (Unfortunately, LA is now expending more on rail transit than almost all other U.S., cities, with very little to show for it in the way of

results – people moved.) Instead of a single major CBD, LA instead has dozens of distributed ones. This is becoming more and more common in the U.S. and throughout the world, but LA is definitely the prototype for this urban structure and has developed it further and continues to develop it further – thereby completely frustrating generations of urban planners, particularly those who believe that urban areas should be structured to make rail transit work well, rather than looking on transportation as part of the infrastructure that should work to make cities work the way the people who live there would like them to work.

13. Uncompensated auto accident costs – I strongly support TRUE no fault insurance, in large part so that drivers can cease worrying about losses caused by uninsured motorists. IN the absence of such changes, public liability/property damage legal minimums should be significantly increased and, in any case, there must be good protections for those not covered by no fault, such as pedestrians involved in auto safety incidents and non-vehicle property owners who suffer monetary losses (details of methodologies for another time). I am interested in technology that could be utilized to identify drivers and vehicles not properly covered by insurance and either cited and removed from the road or subjected to "pay as you drive" insurance at the pump at what will, due to the nature of underwriting of the risks, high rates, but I am also concerned about preserving privacy. (I do not favor PAYD for those who obtain coverage in the conventional manner, in large part because annual mileage, while certainly an underwriting factor, is far from the most important one.)

14. Congestion – As indicated above, this should be addressed in a variety of ways, including raising user fees for road use to finance expansion of road capacity, expansion of telecommuting options by taking advantage of technical advancement, using ITS advances to get maximum utilization of existing road capacity, and moving more trip generators away from the city centers that are so frequently the most congested areas in any urbanized area.

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**These subsidies should be publicly scrutinized and eliminated by appropriate fuel and carbon taxes, parking and road user charges, annual vehicle fees, and elimination of tax credits and deductions for motor vehicle use. The capital and operating costs of airports, air traffic control, pilot training and waterways, including dredging and navigation costs, should be charged to the users of such systems.**

TAR: I have addressed these issues in detail already, so I will forgo additional comments here. I am, of course, opposed to carbon taxes, but I favor significant increases in other road use charges, including tolls, as long as these user charges are invested back into maintenance and expansion of the road system. I also support appropriate parking charges, paid by users or their surrogates.

As previously discussed, the discussion of subsidies appears based on a very poor understanding of what the current subsidies for various modes actually are. This is particularly disturbing that the only transportation modes mentioned in this policy that are recommended for subsidies are the only ones that actually HAVE significant subsidies (transit and intercity passenger rail), which are very large – in large part because the very existence of the subsidies, where these transportation modes, divorced from the discipline of the marketplace, tend to have out-of-control operating costs, even more out-of-control capital costs, including for expensive projects that rarely meet their stated performance standards, and would be questionable even if they did – while taking resources away from transit services that transit-dependent residents actually need.

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**Adopted by the Transportation Committee**

**See also National Parks, Visual Pollution**

