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Seeking cost-effective ways to improve traffic congestion in Honolulu

January 9, 2006

Acting Director Alfred Tanaka
Department of Transportation Services
City and County of Honolulu
650 S. King Street, 3rd Floor
Honolulu, Hawaii 96813

Dear Mr. Tanaka:

Comments on the December 2005 Scoping Meetings

The Scoping Meeting conducted by Parsons Brinckerhoff and the City and County of Honolulu Department of Transportation Services (DTS) on December 13, 2005, provided insufficient information, both at the meeting and at the www.honolulutransit.com website, for the public to understand the cost-effectiveness of the alternatives.

While Parsons Brinckerhoff and DTS showed that the "Development of Initial Set of Alternatives" emerged from "Technical Methods" and "Evaluation Measures,"[i] they refused to disclose the quantitative data that they developed during this process thus denying full public access to key decisions.

For significant public involvement as specified by the Federal Transit Administration (FTA), the public must have some rudimentary understanding of the costs and benefits of each of the alternatives considered — both those accepted and those rejected.

The costs must include capital and operating costs. The benefits and disbenefits must include forecast travel time changes, patronage and traffic congestion impacts. Only with this information can the public be truly involved in the process.

In short, the 'system planning' process has failed to follow the FTA process, as follows:

A. The projected capital costs, operating costs, financing, travel times, patronage and traffic congestion for the alternatives have not been available.

B. The process has failed to define adequately the specific transportation problems let alone evaluate how each alternative addresses them.

C. The level of effort exerted in developing the alternatives has been insufficient.

D. The public has not been involved to the extent required by the FTA.

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A. The projected cost effectiveness data have not been available to the public.

> "During systems planning, the analysis of alternatives focuses on identifying fatal flaws and a preliminary analysis of cost-effectiveness … Three types of information are particularly important for evaluating cost-effectiveness: transit patronage, capital cost, and operating and maintenance cost." Procedures and Technical Methods for Transit Project Planning (PTMTPP). Part I. p. 2-9. (emphasis added)
>
> "When local officials seek [FTA] approval to initiate alternatives analysis, the results of system planning studies are used by [FTA] to decide whether to participate in further detailed study of guideway alternatives in the corridor. Much of the information needed to make these decisions should be available in reports produced during the system planning phase." PTMTPP, Part I, p. 2-12. (emphasis added)
>
> "These definitions [of alternatives] are sufficient to address such general concerns as ranges of costs, ridership potential and financial feasibility. More basically, they provide the information necessary for decisionmakers and other stakeholders to confirm that no reasonable alternative (in terms of meeting corridor needs) is being excluded from the analysis, as well as understand the magnitude of the costs and benefits associated with the various options for improving conditions in the corridor." Additional Guidance on Local Initiation of Alternatives Analysis Planning Studies (emphasis added)

The documentation required in the 'systems planning'[ii] process concerning public transit patronage data, capital cost and operating and maintenance costs, as required by the FTA has been either withheld from the public or not developed at all.

During the Scoping Meeting, we asked Mr. Hamayasu for cost data for the alternatives and he told us that the City did not have any. Since cost estimates are at the bedrock of scoping decisions it seemed strange that they were not available. This was especially true since Parsons Brinckerhoff had eliminated the reversible High-Occupancy\Toll (HOT) lanes proposal on the grounds of "cost and funding concerns."[iii]

Subsequent to the Scoping Meeting, Mr. Gordon Lum, Executive Director of the Oahu Metropolitan Planning Organization (OMPO) told us that the capital costs developed by their consultant were $2.5 billion each for both the reversible HOT lanes proposal, from Waipahu to the Keehi Interchange (±12 miles), and also the elevated heavy rail line from Kapolei to the University of Hawaii (UH) (±25 miles).

We asked to see the working for those calculations but Mr. Lum told us that their consultants, Kaku Associates, had only given them the number; there was no backup for it. He also said OMPO subsequently conveyed these projected costs to both DTS and the Hawaii State Department of Transportation (HDOT) and both had found them reasonable.

Failing any other explanation, we have to assume that Parsons Brinckerhoff and DTS used the OMPO costs in eliminating the reversible HOT lanes from the Alternatives Analysis.

The capital costs cited by OMPO are unreasonable. These costs, on a per mile basis, amount to $100 million per mile for the heavy rail line and $200 million per mile for the HOT lanes.

OMPO, HDOT, DTS and Parsons Brinckerhoff, would have us believe that a simple elevated *two*-lane highway (HOT lanes is merely the operating method) put out to bid would cost twice as much as a non-bid heavy rail line with all its attendant equipment, rolling stock, trains, and massive stations each with escalators, elevators, and stairs.

The Tampa, Florida, *three*-lane elevated highway due to open shortly costs $46 million per mile and that includes an expensive error by a contractor. The public authority responsible for it estimates they could duplicate it for $28 million per mile.[iv] Even allowing for Hawaii's politically induced high costs that tend to double Mainland prices, it still does not come close to the OMPO estimate of $200 million per mile.

No travel time comparisons are available. Since travel time is a major determinant of patronage forecasts and since HOT lanes may well offer a much faster journey for both autos and buses this information should have been available.

Patronage forecasts for the various alternatives are not available. Mr. Hamayasu told us during the meeting that while OMPO had developed ridership data for the rail, they had not shared it with DTS. We find this troubling since Mr. Hamayasu is Vice-Chair of OMPO's Technical Advisory Committee (TAC).

OMPO told us that while they had developed ridership forecasts for the various alternatives they would not show us the working of the calculations. We appealed this refusal to the Hawaii Office of Information Practices and OMPO now admits that their consultant's forecasts were "intuitive" and therefore there was no working paper to show us.[v]

We had asked for the working paper since the 360,000± daily rail ridership shown on their Strategic Planning Concepts chart (p. 6) for the Kapolei to University of Hawaii (UH) rail alternative would be an 80 percent increase over current ridership and a 50 percent increase in per capita ridership by 2030.

No Metropolitan Statistical Area (MSA) that has built a rail line in modern times has experienced an increase in the percentage of commuters using public transportation in a similar 20-year period, 1980-2000.[vi] We, therefore, find the ridership forecast preposterous failing a detailed, and credible, explanation.

The financing plan is not available.

> "The system planning phase produces a considerable amount of information that will later be used in alternatives analysis. This includes … An analysis of the region's financial capacity to provide planned improvements … and the capacity of the existing revenue base to meet future transit financial requirements." PTMTTP, Part I, page 2-2.
>
> "It is important that system planning consider such questions … 'When compared with lower cost alternatives, are the added benefits of the project greater than the added costs?'" PTMTTP, Part I, page 2-5.

How can this question possibly be answered without quantifying the costs and benefits?

The financing plan needs to show the impacts of the one-half percent General Excise tax increase. Mayor Hanneman had originally asked for a full one percent when he was advocating the $2.7 billion Kapolei to Iwilei line.[vii] Since then his plan has extended to UH and Waikiki but the state legislature cut the tax increase in half. This would only fund a third of the heavy rail alternative; the public needs to know the correct amount of the future taxes they will face.

Traffic congestion estimates are not available. Since HOT lanes promise to move far more cars off the Oahu's highways than would a rail line, it is imperative that the city make the preliminary estimates available to the public.

Funding problems insufficiently explained. Mr. Hamayasu told us that one of the reasons the reversible HOT lanes was eliminated was because of "funding concerns" and that was because FTA had told him that they would not fund HOT lanes. We asked him if he had such an opinion in writing and he said he had not. Since FTA officials have told us that, while they would have to see the precise plans for such a HOT lanes project, if it provided priority and uncongested travel for buses, they believed they would.

In any case, the FTA does not require that funding be in place in order to analyze the alternatives. If it did, it would have to reject the rail alternatives since the half-percent increase in the State General Excise Tax does not begin to cover the capital and operating costs. In addition, the 1992 Rail Plan had no funding in place at any time during the whole process.

B. The process has failed to define adequately the specific transportation problems let alone evaluate how each alternative addresses them.

> "I. 2. Systems Planning. … sets a proper foundation for moving forward into alternatives analysis … system planning serves as the first phase of the five-phased process for developing fixed guideway mass transit projects." PTMTTP, Part I, page 2-1.
>
> "This analysis includes the identification of specific transportation problems in the corridor; the definition of reasonable alternative strategies to address these problems; the development of forecasts for these alternatives in terms of environmental, transportation, and financial impacts; and an evaluation of how each alternative addresses transportation problems, goals, and objectives in the corridor." PTMTTP, Part I, 1.2.
>
> "The key principal in the identification of alternatives is that they directly address the stated transportation problem in the corridor ..." PTMTPP, Part II. 2. p. 3.

The scoping information package merely discusses "improved person-mobility" and "improved mobility for travelers facing increasingly severe traffic congestion."[viii] This is misleading information to give to the public. It implies that the process is about reducing traffic congestion when it is clear — with some careful reading — that it is about getting people out of cars and into public transportation. However, Parsons Brinckerhoff does not tell the public that that is their explicit purpose. Neither do they tell the public that no other MSA has managed to reduce the market share of commuters using automobiles.[ix]

If the transportation problem is defined as one of insufficient "person mobility" then one set of alternatives may be preferable, usually centered on public transportation. If on the other hand, Parsons Brinckerhoff were to define the problem as the public

understands it, "excessive traffic congestion hampering the movement of autos and goods vehicles," then another set of alternatives will be preferred, centering around highways.

If we had a public transportation problem, we would not have had a significant decline in the per capita use of it during the past 20 years — from 96 rides per capita of population to 77 just before the strike. To make it worse this 20 percent decline occurred during a period when we increased the bus fleet by 20 percent. (State Data Books 1991 & 2004)

Conversely, during this same period, Oahu has had a 27 percent increase in registered vehicles with an increase of only a minuscule 2.2 miles of new freeways, from 86.3 to 88.5 miles — a 2.7 percent increase. (State Data Books 1991 & 2004.)

Hawaii has the fewest urban miles of highway of any state in the U.S. because highway construction has not kept pace with residential growth. No Metropolitan Statistical Area (metro area) in the U.S. has reduced traffic congestion by improving public transportation. We can only reduce it by increasing highway facilities and improving highway management and the Texas Transportation Institute concurs in that as follows:

> "The difference between lane-mile increases and traffic growth compares the change in supply and demand. If roadway capacity has been added at the same rate as travel, the deficit will be zero." 2005 Urban Mobility Report. Texas Transportation Institute.

In addition, Parsons Brinckerhoff has not addressed the negative effects on our economy of the high cost of delivering goods on congested highways. They have ignored national, state and city formal transportation goals as follows:

> "Advance accessible, efficient, intermodal transportation for the movement of people and goods." Federal Transportation Policy.
>
> "To create a transportation system which will enable people and goods to move safely, efficiently, and at reasonable cost." City and County of Honolulu, General Plan for the City and County of Honolulu
>
> "To provide for the safe, economic, efficient, and convenient movement of people and goods." State of Hawaii, Hawaii State Plan

Rail transit does absolutely nothing for the movement of goods "safely, efficiently, and at reasonable cost." Parsons Brinckerhoff has entirely overlooked that goods move by roads on Oahu, while admitting — only when asked — that building a rail line will not reduce traffic congestion.[x]

This community needs a definition of the transportation problem with which everyone can agree and that is without doubt going to be 'traffic congestion.' Honolulu does not have a public transportation problem; it has a traffic congestion problem. This is the problem that Parsons Brinckerhoff and DTS need to address.

C. The alternatives are inadequate and the "level of effort" exerted in developing them insufficient.

"There's small choice in rotten apples."

This line from Shakespeare's *The Taming of the Shrew* is, appropriately, the opening line in the FTA's introduction to *Evaluation of the Alternatives*.[xi]

Each prior rail transit effort in Honolulu from the 1970s on has suffered from the same problem; the range of alternatives studied was inadequate and deliberately so. Disinterested experts have all commented on it.

> "Finally, the most serious deficiency of analyses done to date is the failure to devise and evaluate meaningful alternatives to HART. The so-called "alternatives analysis" is seriously deficient and the bus alternative considered in them can only be considered as "straw men." Dr. John Kain, Chair of Harvard's Economics Department. 1978.[xii]

> "In particular, what is lacking is a serious investigation of several viable dedicated busway options." Dr. Robert Cervero, Professor of Urban and Regional Planning, UC-Berkeley. 1991.[xiii]

Many more examples are available from experts' critiques of the 1990 Alternatives Analysis both on line and at the Honolulu Municipal Library.[xiv]

The reversible two-lane HOT lanes should be reinstated as an alternative.

Our proposal is for a two-lane reversible, elevated HOT lane highway between the H1/H2 merge near Waikele and Pier 16 near Hilo Hatties. This kind of HOT lanes approach has also been termed Virtual Exclusive Busway (VEB) and Bus/Rapid Transit. HOT lanes projects already in place elsewhere have demonstrated the viability of such an alternative.[xv]

During the 2002 Governor's Conference on Transitways, Mr. Mike Schneider, executive vice-president of Parsons Brinckerhoff, told the conference that the reversible tollway proposal giving buses and vanpools priority at no charge was the way the city should have planned its now defunct bus/rapid transit (BRT) program.

Interestingly, a month prior to the conference, Parsons Brinckerhoff prepared and released the state final environmental impact statement for the BRT declaring that:

> "The light rail transit alternative was dropped because subsequent analyses revealed that Bus/Rapid Transit using electric-powered vehicles could accomplish virtually all of the objectives of light rail transit at substantially less cost."[xvi]

On the HOT lanes, buses and vanpools would have priority and travel free, other vehicles would pay a toll that would be collected electronically by way of a pre-paid smart card, as is quite commonplace on the mainland today.

As on the San Diego I-15 HOT lanes, computers would dynamically calculate the toll price every few minutes to keep the lanes full, but free flowing.

One of the more surprising outcomes of implementing HOT lanes has been that they are popular with motorists across all income groups. Even those who use them rarely, still favor them because it is an option they can use when the need warrants it.[xvii]

A single highway lane with free-flowing non-stop traffic carries up to 2,000 vehicles per hour and with two lanes that means removing 4,000 vehicles from the existing freeway, or 25 percent of the current rush hour traffic using that corridor.

Our projection of the HOT lanes traffic of around 4,000 vehicles does not have to be calculated since we know that rush-hour highways are always fully used; it is only the toll price that that needs to be forecast.

Judging from San Diego's I-15 and Orange County's SR-91, the average cost will be about $4.50 under normal circumstances and up to $7.75 for special periods such as Friday evenings.[xviii]

HOT lanes may well offer a much faster journey for buses in comparison to trains. The total trip from Mililani to UH is an example:

- Neither the rail line nor the HOT lanes will be going to Mililani, and so from Mililani to the H1/H2 merge, both rail and HOT lanes alternatives will take the same time by bus. At the H1/H2 merge, the train option would always require a transfer whereas the buses on HOT lanes may not.
- Buses on the 10-12 miles of HOT lanes traveling at 55-60 mph (SkyBuses?) to Pier 16 will take half as much time as trains on the heavy rail line.
- Pier 16 to UH is 4.2 miles and we anticipate that trains would take half as much time as buses for this much shorter distance.

However, the time savings for the buses on HOT lanes will not be offset by the time lost by the bus alternative on the shorter in-town leg. The net result of the time taken for these two journeys would be that HOT lanes would still offer a faster journey than trains and, in addition, not mar the city's residential areas with an overhead rail line.

The major advantages of HOT lanes are:

- Traffic can travel at uncongested freeway speeds of 60mph whereas rail transit can only average 22.5 mph because of stops averaging every half mile.[xix]
- Buses on HOT lanes may travel door-to-door whereas rail nearly always requires transfers.
- HOT lanes offer both motorists and bus riders a choice of avoiding traffic congestion.
- The regular freeways will still be available and with less congestion than before since some 4,000 cars per hour will have been removed from them.
- Express buses using the HOT lanes can return on the far less congested regular freeway in the opposite direction and the HOT lane speed will enable buses to make two trips in the time it now takes to make one.

Options for the HOT lanes proposal that need further study are:

- The feasibility of a three-lane section from the H1/H2 merge to the Pearl Harbor area and then continuing on to Pier 16 as two lanes. This could service the considerable traffic that terminates at Pearl Harbor, Honolulu Airport, the Airport Industrial area, and the Mapunapuna industrial area. The three-lane version could still be of pedestal construction similar to the new Tampa, Florida, Expressway.
- The utility of extending the Ewa end of the HOT lanes further beyond the H1/H2 merge.

Most importantly, HOT lanes meet the requirements needed to maximize public transportation use explained by Dr. Melvin Webber, now Emeritus Professor of Urban Planning, UC-Berkeley in Honolulu 20 years ago,

> "Commuters choose among available transport modes mostly on the basis of comparative money costs and time costs of the total commute trip, door-to-door. Other attributes, such as comfort and privacy, are trivial as compared with expenditures of dollars and minutes. Commuters charge up the time spent in waiting for and getting into a vehicle at several times the rate they apply to travel inside a moving vehicle. This means that the closer a vehicle comes to both a commuter's house and workplace, the more likely he is to use that vehicle rather than some other. It also means that the fewer the number of transfers between vehicles, the better"[xx]

As we have detailed in this letter, the level of effort in data development so far has been insufficient to justify the elimination of the HOT lanes alternative.

> "The system planning effort should recognize the difference between the foregoing of precision and the sacrifice of accuracy in the technical work, so that estimates of costs and impacts, while coarse, are at least approximate indicators of the potential merits of the alternatives. The level of effort must be designed so that additional effort would not result in the choice of a different preferred alternative." PTMTPP, Part II, 2.2, p. 2. [emphasis added]

Parsons Brinckerhoff has substituted, in place of the reversible HOT lanes, a Managed Lanes Alternative, a two-lane elevated highway with one lane in each direction. This has been designed to fail the alternatives analysis process. As U-C Berkeley's Professor Robert Cervero said of the 1992 choice of rail, "it is less a reflection on the work of [Parsons Brinckerhoff] and more an outcome of pressures exerted by various political and special interest groups."[xxi]

This Managed Lane Alternative, for which there appears to be no precedent, is a "straw man" designed to make the rail transit line look good in comparison. Professor Kain has written extensively about such tactics, "Nearly all, if not all, assessments of rail transit systems have used costly and poorly designed all-bus alternatives to make the proposed rail systems appear better than they are."[xxii]

Instead, we believe that the new high-tech HOT lanes have shown such promise and such public — though not political — acceptance that they may be a far preferable alternative.

D. The public has not been involved to the extent required by FTA.

> "The goal of this [joint FTA/FHWA] policy statement is to aggressively support proactive public involvement at all stages of planning and project development. State departments of transportation, metropolitan planning organizations, and transportation providers are required to develop, with the public, effective involvement processes which are tailored to local conditions. The performance standards for these proactive public involvement processes include early and continuous involvement; reasonable public availability of technical and other information; collaborative input on alternatives, evaluation criteria and mitigation needs; open public meetings where matters related to Federal-aid highway and transit programs are being considered; and open access to the decision-making process prior to closure." (emphasis added) http://www.fta.dot.gov/grant_programs/transportation_planning/planning_environment/3854_8227_ENG_HTML.htm

> "The overall objective of an area's public involvement process is that it be proactive, provide complete information, timely public notice, full public access to key decisions, and opportunities for early and continuing involvement (23CFR450.212(a) and 450.316(b)(1))." (emphasis added) http://www.fhwa.dot.gov/environment/pub_inv/q2.htm

Clearly, as can be seen from the foregoing, our state and local agencies have hindered the public from getting access to information let alone granting "full public access to key decisions."

Further, the agencies are abetted in their endeavors by the 'strategic misrepresentations' of our local and federal elected officials.

Far from "aggressively supporting proactive public involvement," our elected officials, who are part of the process, have acted contrary to FTA policy by misleading the public about the prospects for rail transit in that:

- They continually allude to the idea that building rail transit will result in traffic congestion relief when even Parsons Brinckerhoff[xxiii] says it will not affect traffic congestion in addition to there being no evidence from any other metro area that such is the case.[xxiv]
- They relentlessly use the term 'light' rail when, in reality, they are pushing a 'heavy' rail line.[xxv]
- They imply that the half-percent increase in the county General Excise Tax will be sufficient to pay for rail.[xxvi]

The public frustration with the lack of information was evident from the coverage of the scoping meetings by our newspapers. As the head of the Outdoor Circle's environmental committee said, "It seems to have been designed in a way to limit public interaction"[xxvii]

The net result of Parsons Brinckerhoff and DTS's outreach efforts is that the public believes that a rail transit line will significantly reduce traffic congestion and that it will only cost a half per cent increase in the GE tax. Neither the City nor DTS have made any effort to dispel these myths.

Summary:

The culmination of the current process will be a request by DTS to advance into alternatives analysis. FTA then "reviews this request and supporting technical documentation to determine whether system planning requirements have been met and that the threshold criteria for initiating alternatives analysis have been satisfied." (PTMTTP, Part I, page 2-12.)

Clearly, on the four counts enumerated here, the process is grossly flawed:

- Little, if any, quantitative information has been developed, let alone given to the public.
- The transportation problem is inadequately defined and there has been no evaluation of how the alternatives address specific transportation problems.
- The alternatives are insufficient and Parsons Brinckerhoff's decision prior to the Scoping Meeting to eliminate the reversible HOT lanes alternative was completely unjustified. They made this decision without any disclosure of the impacts of HOT lanes on traffic congestion, patronage, cost, or any other quantitative details that would allow the public to understand the decision. Nor did Parsons Brinckerhoff explain the selection criteria used in eliminating HOT lanes — let alone the weighting of the criteria in the scoring process.
- The process so far makes a mockery of "public involvement" as spelled out in FTA guidance and as defined in the preamble to Hawaii's Uniform Information Practices Act:

  [§92F-2] Purposes; rules of construction. In a democracy, the people are vested with the ultimate decision-making power. Government agencies exist to aid the people in the formation and conduct of public policy. Opening up the government processes to public

> scrutiny and participation is the only viable and reasonable method of protecting the public's interest. Therefore the legislature declares that it is the policy of this State that the formation and conduct of public policy—the discussions, deliberations, decisions, and action of government agencies—shall be conducted as openly as possible.

Accordingly, we believe that Parsons Brinckerhoff, OMPO, and DTS should revisit the process leading up to the Scoping Meeting and redevelop the alternatives according to FTA rules and guidance. Only then can our community have a Scoping Meeting in which the public will be involved according to both the letter and spirit of the law.

Sincerely,

HONOLULUTRAFFIC.COM

Cliff Slater
Chair

cc: Ms. Donna Turchie, Region IX, Federal Transit Administration
Mr. Toru Hamayasu, Chief Planner, Honolulu DTS

Endnotes:

i Scoping Meeting, page 4.3.

ii "1.2.1 Systems Planning. Systems planning refers to the continuing, comprehensive, and coordinated transportation planning process carried out by metropolitan planning organizations - in cooperation with state Departments of Transportation, local transit operators, and affected local governments - in urbanized areas throughout the country. This planning process results in the development of long range multimodal transportation plans and short term improvement programs, as well as a number of other transportation and air quality analyses." Procedures and Technical Methods for Transit Project Planning (PTMTPP), Part I, 1."

iii Scoping Information package. December 5, 2005. page 3-1.

iv According to Braden Smith, CFO of Tampa-Hillsborough Expressway Authority (813) 272-6740 the Tampa cost should have been $28 million a mile for the three-lane elevated highway and not the $46 million a mile it is costing. An expensive error made by wrong assumptions about the soil substrate by the designer caused the cost overrun.

v Letter from the Office of Information Practices to Slater and Lum.

vi http://www.fhwa.dot.gov/ctpp/jtw/contents.htm

vii http://the.honoluluadvertiser.com/article/2005/Aug/22/ln/FP508220329.html

http://www.co.honolulu.hi.us/nco/nb18/05/18marmin.htm

http://the.honoluluadvertiser.com/article/2003/Oct/28/ln/ln03a.html

http://the.honoluluadvertiser.com/article/2005/Mar/22/ln/ln20p.html

http://starbulletin.com/2003/10/28/news/story2.html

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viii http://www.honolulutransit.org/pdfs/scoping_info.pdf

ix http://www.fhwa.dot.gov/ctpp/jtw/contents.htm

x Honolulu Advertiser article, December 14, 2005.

xi PTMTPP, Part II, Sec. 9.

xii Seminar on Urban Mass Transit (transcript). Office of the Legislative Auditor, State of Hawaii. January 1978. Dr. John Kain, Chairman, Dept. of City and Regional Planning, Harvard University.

xiii Quoted from "An Evaluation of the Honolulu Rapid Transit Development Project's Alternative Analysis and Draft Environmental Impact Statement." Hawaii Office of State Planning and University of Hawaii. May 1990. Robert Cervero, Professor of Urban and Regional Planning at the University of California, Berkeley, and a member of the Editorial Board, Journal of the American Planning Association.

xiv An Evaluation of the Honolulu Rapid Transit Development Project's Alternative Analysis and Draft Environmental Impact Statement. Hawaii Office of State Planning and University of Hawaii.May 1990.

xv http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm

xvi State FEIS for the Bus/Rapid Transit Program, November 2002. Prepared by Parsons Brinckerhoff Quade & Douglas. p. 2-4.

xvii http://www.honolulutraffic.com/lexuslane.htm

xviii Orange County's SR-91 lanes are not dynamically priced as are those of the San Diego I-15. However, the SR-91 administrators try to emulate dynamic pricing with fixed prices which allows us to examine what Hawaii prices might look like by time of day. http://www.91expresslanes.com/tollschedules.asp

xix http://www.honolulutraffic.com/railspeed.pdf

xx Dr. Melvin Webber, UC Berkeley. Address to the Governor's Conference on Videotex, Transportation and Energy Conservation. Hawaii State Dept. of Planning and Economic Development. July 1984.

xxi "An Evaluation of the Honolulu Rapid Transit Development Project's Alternative Analysis and Draft Environmental Impact Statement." Hawaii Office of State Planning and University of Hawaii. May 1990.

xxii Kain, John F. "The Use of Straw Men in the Economic Evaluation of Rail Transport Projects." American Economic Review, Vol. 82, No. 2, Papers and Proceedings of the Hundred and Fourth Annual Meeting of the American Economic Association (May, 1992) , pp. 487-493.

xxiii http://starbulletin.com/2005/12/14/news/story02.html

http://the.honoluluadvertiser.com/article/2005/Dec/14/ln/FP512140342.html

xxiv This video of, Mayor Hanneman and Rep. Neil Abercrombie's city hall "Traffic sucks!" rally held on December 5th, 2005, typifies the grossly misleading statements emanating from our elected officials.
http://mfile.akamai.com/12891/wmv/vod.ibsys.com/2005/0707/4695365.200k.asx

"Judging by how much traffic has worsened in just in the past few years, that's probably a conservative prediction. The only way to prevent it is to act now to address the problem. Our

quality of life is at stake. Rail transit is a key element in the solution." Congressman Neil Abercrombie. Honolulu Advertiser. April 17, 2005

"Hannemann said the yet-to-be-determined form of transit would run from Kapolei to downtown and the University of Hawai'i-Manoa. He said the system will help all parts of the island, easing traffic overall because 'there'll be less cars on the road.'" http://the.honoluluadvertiser.com/article/2005/May/12/ln/ln02p.html

Mayor's Press Secretary: "Slater misrepresents just about everything Mayor Mufi Hannemann, Transportation Services Director Ed Hirata and other supporters of transit have said, from the timing of federal requirements to tax calculations, highway capacity and a rail system's potential to ease traffic congestion." http://the.honoluluadvertiser.com/article/2005/Aug/10/op/508100321.html

Transcript of Councilmember Barbara Marshall questioning U.S. Rep. Neil Abercrombie (D-Hawaii) http://hawaiireporter.com/story.aspx?696a58e3-9a81-411e-b977-2688f5595685

"Mayor Mufi Hannemann chided Lingle at the rally and said the city needs a rail system to alleviate increasing traffic congestion. U.S. Rep. Neil Abercrombie, D-Hawaii, also blasted a possible veto and said that he and the rest of Hawaii have had enough of the traffic problems. He said commuters are fed up and don't need anymore "Lingle lanes" filled with traffic congestion." http://www.bizjournals.com/pacific/stories/2005/07/04/daily18.html?t=printable

xxv DTS and elected officials continually refer to "light rail" despite constant criticism from us and others.

xxvi Half per cent will pay for about one-third of the projected rail line according to our calculations. Mayor Hanneman originally asked for a full one percent at a time when he was seeking a shorter $2.7 billion line from Kapolei to Iwilei. Now he plans extending it to UH and Waikiki and the tax increase has been reduced to a half of one percent.

xxvii http://starbulletin.com/2005/12/14/news/story02.html

http://the.honoluluadvertiser.com/article/2005/Dec/14/ln/FP512140342.html