# THE SENSIBLE TRANSIT ALTERNATIVE

*The Committee On Sensible Transit*

**Acknowledgements**

**The Committee on Sensible Transit wishes to thank the many anonymous federal, state and city officials without whose active help and encouragement this alternative proposal would not have been possible.**

**The Committee on Sensible Transit (*COST*) is an organization of private citizens addressing Honolulu's traffic congestion and mass transportation problems.**


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## SUMMARY

The Committee on Sensible Transit believes that the City's rail transit proposal is far too expensive for the transportation effects that are projected for it. As an alternative it proposes:

- modifying the center of the H-1 freeway to allow a reversible transitway. This transitway would carry multi-passenger cars and vans as well as private and City buses at uncongested freeway speeds. It would cost about $60 million in addition to the highway improvements already planned.
- supplementing the City bus system during rush hour by subsidizing all qualified private transportation carriers by $60 per month per commuter.
- subsidizing vanpools by the same $60 per commuter per month.
- studying the cost-effectiveness and desirability of constructing a new two-lane grade-separated reversible elevated transitway between Waiawa and downtown.

The net effect of these actions will be:

- a greater increase in transit usage than the City forecasts for its rail plan.
- a greater reduction in rush hour auto traffic than the City forecasts for its rail plan.
- a much faster trip for those using multi-passenger vehicles on the congestion-free transitways than the City forecasts for its rail plan.
- less taxpayer impact than the rail proposal. The annual subsidies of $14 million needed for the paratransit supplement would be less than half that forecast for rail.
- dramatically reduced capital spending. It may cost nearly $2 billion to build a rail system. The capital cost to both modify existing freeways and construct one new transitway, if needed, between Waiawa and downtown would be $305 million. This project would be eligible for federal funding.

The greatest advantage of the Sensible Transit proposal is that much of its effect on traffic could be in place within one year of its adoption whereas rail would not be in operation before the year 2000.

## TRAFFIC CONGESTION IS NOT SURPRISING

Obviously, rush hour traffic congestion is caused by having too many vehicles on the road. Today, each vehicle has only 1.25 occupants; just five people for every four vehicles.

To have a noticeable impact on traffic congestion it is necessary to reduce the number of vehicles on rush hour roads by about 15-20%. This would require increasing vehicle occupancies from 1.25 to 1.5 people per vehicle. The City's rail proposal, by way of contrast, would only reduce vehicles by a miniscule 1.8%.

**"The nearly 500 vanpools on the I-395 [Shirley Busway] lanes -- about 10% of the commuters in the corridor -- represent the best market penetration of vanpools in the nation. In addition, approximately 18% of all central business district bound work trips from Prince William County, which is served by both the I-95 and I-66 lanes, utilize vanpools."**

**Virginia Vanpool Association[1]**

Traffic congestion is not a question of insufficient highway capacity. Each freeway lane has a capacity of 1800 vehicles per hour. If each car carried five occupants that would mean 9,000 commuters per hour per lane; two lanes would mean 18,000 commuters per hour. Adding buses and vans will increase this. In contrast, the rail system at full capacity will carry only 17,500 riders per hour.

It is not surprising that so many commuters drive to work alone. Most enjoy free, or subsidized, parking and their alternative is a normally overcrowded bus.

In short, commuters today must choose between driving their comfortable cars on a congested freeway, or standing in a congested bus on a congested freeway. No wonder they drive.

## TRY BUSES ON TRANSITWAYS

It is essential to expand the alternatives available to commuters. Commuters in many other cities, such as Washington, Houston and Seattle, commute at 55 mph in various high-occupancy vehicles on congestion-free transitways.

**"The Shirley Highway [transitway] carries more people into and out of the Washington region's urban core during rush hours than any of the several rapid rail lines that serve Washington."**

**U.S. Transportation Secretary.[2]**

Transitways are also known as busways, expressways, and high-occupancy vehicle (HOV) throughways. Transitway, as the term is used here, means a barrier-separated and reversible system as shown on the cover. Transitways move traffic non-stop into town in the morning and out in the afternoon.

The transitway will carry only buses, vans and other high occupancy vehicles with three or more occupants. In typical use each lane of transitway carries two to three times as many people as a normal freeway lane.[3]

## TAP INTO THE TOUR BUSES

Transitways in Honolulu can offer even better services than the other cities because of the unique private transportation situation here. The Hawaii tourist industry has created a private company passenger carrying capacity twice that of our public bus system -- far greater than any other city in the U.S.

By tapping into these private companies Honolulu can provide commuting alternatives that many drivers will want to use. The private providers are, with subsidies, ready to offer express bus and door-to-door van service -- both with guaranteed seats -- as a rush hour supplement to the City bus system. The advantage to commuters is that they will have a choice of **seated** commuting methods.

Their journey by bus on an uncongested 50 mph transitway with no transfers will be **much faster** than rail. A door-to-door van ride will be faster yet. By contrast, rail will involve one or more transfers and then will only average 28 mph between downtown and Waiawa.

The combination of a more comfortable and upgraded transit service on a fast uncongested transitway will convince many commuters to become passengers and leave their cars at home.

**"It is particularly important that intensified and significantly upgraded bus transit options be considered for Oahu in light of the fact that the bus system already in place has proven itself to be one of the most heavily utilized and cost-productive operations in the country."**

**Dr. Cervero, 1991 State Study[4]**

## THE BUS IS BASIC - IT WORKS

Compared with other mainland cities Honolulu has a very successful bus system. It is a true system in the sense that it covers the entire island; there is hardly a home that is not within easy walking distance of TheBus. In contrast, unlike the London and New York subway systems, the Honolulu rail system will be merely a single line; relatively few homes would be within walking distance. The train needs TheBus to feed it and herein lies the danger.

Today, TheBus carries most of its riders in the Ewa-Diamond Head direction. The City plans to reorient most of the bus system in a mauka/makai direction just to feed the rail system. This is dangerous because the reduced service may deter many current users from using transit at all.

**"...several new guideway projects in the U.S. attempted to force an unnatural number of trips to the guideway, even for short segments of longer bus trips. Some systems actually had lower total transit ridership after a fixed guideway system was built."**

**Dr. Rutherford, 1991 State Study[5]**

The danger is that it may well result in fewer passengers - bus and rail combined - than the bus now carries by itself. As one expert says, "...several new guideway projects in the U.S. attempted to force an unnatural number of trips to the guideway, even for short segments of longer bus trips. Some systems actually had lower total transit ridership **after** a fixed guideway system was built."[6]

It is much safer to leave TheBus in place and supplement it with other transit during the rush hour.

## MARKET-DRIVEN PARATRANSIT

The ideal way to do this is with paratransit. The U.S. Secretary of Transportation has testified, "...paratransit services such as subscription buses (public and private) and other forms of ridesharing will help to reduce peak-hour demands for road space."[7]

The federal government calls paratransit those transportation options that are between the single-

occupant auto and a conventional fixed-route bus or train. These include van pools, shared-ride taxis and subscription buses and vans.

The 1987 Hawaii State Ridesharing Task Force[8] concluded that the only passenger commuting method showing growth nationally was paratransit.

Paratransit operators offer different services to appeal to different potential customers. Some riders are attracted by vehicles that are always on time, others want guaranteed seats, others door-to-door service. The result is transportation that approximates some of the conveniences and comforts of the private automobile but with less expense and driving stress.

The diversity of commuting methods encourages drivers to leave their cars and become passengers.

**"...[transitways] permit the operation of high-volume, reliable service at a cost far less than new rail construction ...what might be an undesirable two-transfer ride on rail system (auto to rail to walk/bus/subway) could be a no- or one-transfer ride on a bus/HOV system."**

**U.S. Dept. of Transportation.[9]**

## THE USER-SIDE SUBSIDY

This Sensible Transit proposal calls for a $60 monthly user-side subsidy per commuter to be offered to all qualified transportation providers. This is only half of City express bus subsidy of $120 per month.

A user-side subsidy is one that is paid to, or on behalf of, the user. It is a subsidy for **using** a service rather than for **providing** the service. This has the advantage for the taxpayer that if no one uses the service the subsidy is not paid. This is not so for the fixed-rail alternatives where the subsidy is paid whether the service is used or not.

A flat user-side subsidy that is available to all qualified providers does not need competitive bidding. The competition comes from providing better services that attract more riders. Putting out a predetermined service out to bid only prevents the evolution of better transit. In the unlikely event that there are more riders than needed to reduce traffic congestion the subsidy can be reduced.

Private transportation professionals concur that such a subsidy program would provide all the extra buses, minibuses and vans necessary to move large numbers of commuters.

**"Most new rail riders are former bus or carpool riders. In terms of linked trips, very few new trips are generated. Most new trips represent discretionary travel for non-work purposes."**

**UMTA Report to Congress.[10]**

## WHAT COMMUTERS REALLY WANT

The reasons that commuters give for preferring their cars over TheBus are convenience, shorter travel time, guaranteed seat, no walking required and no transfer needed.

Surveys of Mililani[11] and Hawaii Kai[12] residents show a significant demand for commuter transportation that offers guaranteed seats and door-to-door service, even at a premium price.

Overall, these surveys show that commuters overwhelmingly prefer door-to-door direct commuting as opposed to rail transit with transfers.[13] One study says

that "...whatever the number of car commuters that a rail system will attract, two to four times that number could be expected to use paratransit serving the same areas."[14]

**COMPARISON OF MINUTES NEEDED FOR PARATRANSIT OR RAIL TRIP FROM WAIPAHU TO DOWNTOWN[15]**

| Rail | | Para-transit |
|---|---|---|
| 5.0 | Walk to bus stop | 5.0 |
| 2.0 | Wait for bus | 2.0 |
| 14.5 | Ride to Waiawa Sta. | N/A |
| 1.6 | Walk to platform | N/A |
| 1.0 | Wait for train | N/A |
| 20.7 | Ride to Downtown | N/A |
| 0.8 | Walk within station | N/A |
| N/A | Waipahu/Downtown | 36.0 |
| 3.0 | Walk to destination | 3.0 |
| 48.6 | Total time | 46.0 |

## TRANSITWAYS ARE FASTER

The most important consideration to commuters is, quite simply, how long it takes to get to work. They are concerned, for the most part, with speed -- and a high-occupancy vehicle on a transitway will be much faster than a rail system. Secondarily commuters are concerned about comfort; the City admits that two-thirds of commuters will have to stand while commuting on its rail system.

Take the example of a Waipahu commuter who works downtown. The rail alternative (see table) would have him walk to the nearest bus stop, take TheBus to the rail station, transfer to the train, ride the train at 28 mph average to downtown and then walk to their workplace for a total time of 48.6 minutes according to the City.[16] (If the cost of the Hotel St. tunnel is not acceptable and the Nimitz Hwy. route is selected it will then mean transferring at Aala Park from the train to an electric trolley which will then drop riders off in town. This process will take even longer).

The Sensible Transit proposal will offer commuters a choice of door-to-door van service or convenient motor coach service, both of which would use the transitway and travel to downtown at 50 mph. Passengers would then be dropped off at, or close to, their workplace.

As the table shows the commute by transitway will be faster than rail transit. The time savings come for two reasons. First, the bus/van on transitway alternative does not require any transfers. Second, while the bus and the train may have the same top speeds, the trip along the transitway will be non-stop whereas the train will make nine complete stops along the way. This slows the train to an average of half of its top speed.

Typically, door-to-door paratransit is faster than rail even under congested conditions. This is why there is growth in the paratransit commuter market in New York, for example, while conventional bus and rail use is declining.[18]

**"...paratransit services such as subscription buses (public and private) and other forms of ridesharing will help to reduce peak-hour demands for road space."**

**U.S. Secretary of Transportation.[17]**

## PARATRANSIT ATTEMPTS SO FAR

Local attempts at paratransit so far have not done well for two reasons. First, private operators have only been encouraged to operate from park-and-ride sites. Most commuters do not want to transfer from car to bus; once they start driving they have a tendency to keep going. Second, because the private operators have been only lightly subsidized by developers, they have had to charge fares that are too high for most commuters.

## PARATRANSIT OFFERS COMMUTERS CHOICES

The following are the five elements proposed for a rush hour supplement to the City bus system:

### BUSPLUS

**"Experience has shown that the success of vanpooling is clearly related to the extent and nature of support given by leaders of the community in the public and private sectors."**

**Peat, Marwick & Co.[19] 1982 State Study.**

Subsidized private tour bus operators will offer commuters guaranteed-seat express bus service. The City should subsidize this service and encourage employers to do the same.

Commuters using the service will pay a monthly subscription fare of $40. Employers who stand to save in parking costs, may subsidize part, or all, of this amount. Additionally the City will subsidize the service by $60 per month per rider.

This suggested City subsidy is less than half the City's current express bus subsidy of about $120 per month per commuter.[20]

Private carriers are now proposing to use 85 motor coaches daily for Bus Plus service. They are willing to more than double that to 200 once the initial service is in place. COST forecasts 200 motor coach trips with an average of 50 seats occupied which will mean 10,000 commuters utilizing this service daily. Presently these 10,000 commuters are driving 8,000 cars during the rush hour.

### MINIBUS PLUS

**"Paratransit alternatives can be implemented much more quickly than construction of roads or other systems, are much less expensive and have the potential for a great or greater effect."**

**Arthur Young & Co., 1987 State Study.[21]**

Private operators of 17-25 passenger minibuses will offer subscription rush hour service for a $60 monthly fare. This will also require a $60 monthly City subsidy. The nearly door-to-door service will be more convenient for many commuters but would cost them a correspondingly higher fare. COST forecasts 100 minibus trips with 20 seats occupied for a total of 2,000 commuters daily. These 2,000 commuters are currently driving 1600 cars in the rush hour.

### VAN PLUS

Tour van operators will offer true door-to-door service at a $60 monthly fare. The difference will be the faster door-to-door service but with slightly less comfort than MINIBUS PLUS. Subsidies will be the same as Minibus Plus. COST forecasts 100 van trips with 10 seats occupied for 1,000 commuters daily, a further reduction of 700 vehicles during rush hour.

### SUPER TAXIS

Taxi owners will use a mix of 6 to 12-passenger vans in a shared-ride mode with zone fares. This will allow taxis to offer contract services and provide rush hour service for in-town condos. Fares and subsidies will

be comparable to Minibus Plus. COST forecasts 350 trips daily with an average of 6 seats occupied carrying 2,100 commuters which will further reduce rush hour driving by 1300 cars.

## VAN POOLS

We must also help employees with subsidies for van pools. Subsidies of $60 per month per commuter combined with employer subsidies would encourage significant van pool usage. COST forecasts 500 vanpools averaging 8 occupied seats totalling 4,000 commuters daily which will take another 2,700 cars off the road.

**"...whatever the number of car-commuters that a rail system will attract, 2 to 4 times that number could be expected to use paratransit serving the same areas."**

**Transportation Research Record[22]**

## TOTAL RIDERSHIP

Combined, the five alternatives outlined above should attract 19,100 daily commuters.

These ridership forecasts are reasonable for four reasons. First, the City forecasts that 13,500 rush hour commuters "would be left at the curb"[23] if no other transit was provided. These alone would provide two-thirds of the customers for the paratransit forecast.

Second, by offering new options such as guaranteed seats and door-to-door services and being punctual paratransit will attract many new riders.

Third, surveys show that commuters overwhelmingly prefer the more direct door-to-door service.

Fourth, Oahu Paratransit Options, Inc. has recently been surveying large employers' work forces to determine interest in the Bus Plus program. With over 3,000 surveys tallied so far, about 20% of these employees are interested in the program. Of course, "interest" does not necessarily mean they will become riders. However, the paratransit proposal forecasts carrying only 4% of the island's workforce and therefore these results are confirming the private companies' expectations.

**SUMMARY OF PARATRANSIT**

| Round Trips | Service Type | Round trip Passengers |
|---|---|---|
| 200 | BusPlus | 10,000 |
| 100 | MinibusPlus | 2,000 |
| 100 | VanPlus | 1,000 |
| 350 | SuperTaxis | 2,100 |
| 500 | Van Pools | 4,000 |
| 1,250 | Totals | 19,100 |

## TRANSITWAYS

The only City to increase its transit ridership significantly during the 1980's was Houston; it built transitways and improved its bus service. Transitways give multi-passenger vehicles a significant speed advantage over single occupant vehicles thus encouraging drivers to become passengers.

Honolulu should modify its main freeways into three-part highways such as the 11-mile Shirley Busway (transitway) in Washington, D.C., as shown on the cover page. The center core is a reversible HOV section that is one-way into town in the morning and one-way out in the afternoon. This transitway carries more commuters than the Washington Metro rail transit line.

Creating such one or two-lane reversible HOV center sections in existing Oahu freeways will provide uncongested rush hour commuting for high occupancy buses, vans and cars and encourage people to use them. Requiring a minimum number of auto occupants for transitway use ensures uncongested travel; the minimum passengers required can be increased or decreased to maintain free flowing traffic.

Present State highway plans call for adding an additional lane in each direction on the H-2 from Mililani to the H-1 interchange; on the H-1 between the Waiawa Interchange and Halawa and between Middle Street and the Kapiolani Interchange; and to construct a two-lane viaduct above Nimitz Highway extending from the Airport Viaduct to the ewa edge of downtown. This additional highway space should be used for construction of transitways to encourage carpooling, and the use of bus and private paratransit services. The additional cost for the conversion would be approximately $60 million.

Until such time as these facilities are in place present HOV facilities on the H-1 and Moanalua freeways which end at Middle Street - where commuters are thrown into the worst of downtown traffic - should be extended temporarily into downtown through modification of existing roadways, e.g. coning off the median of Dillingham Boulevard for HOV use during the rush hours.

The experience of the Shirley Busway, and others, proves that a two-lane transitway has the capacity of a rail line. We should begin studying a second two-lane reversible transitway, in the event the demand on the first outgrows capacity. The second transitway could be built along the same route as the proposed rail alignment from Waiawa to Downtown. If we have room for a rail line then we have room for a transitway of the same width. The cost of such a transitway would be about $245 million.

**Passenger volume in thousands of commuters per hour for various rail and expressway facilities.**

| Facility | Type | Vol. |
|---|---|---|
| New York | Rail | 43.5 |
| Toronto | Rail | 32.0 |
| New Jersey 495 | HOV | 30.0 |
| Shirley Hwy 395 | HOV | 21.8 |
| Los Angeles I-10 | HOV | 14.2 |
| Boston, Red Line | Rail | 13.0 |
| Chicago, N.-S. | Rail | 11.4 |

**"(The above) comparison of person moving capacities for various U.S. rail and HOV projects...appears to cut through the myth that HOV facilities do not have the person carrying equivalent of rail lines. Both modes can serve the person carrying capacity needs of about any corridor in North America."**

**Parsons, Brinckerhoff.[24]**

## OTHER MEASURES

Other sensible measures need to be taken regardless of the type of commuting method employed. In particular, we must deal with parking issues and provide in-town shuttles.

Then we must begin to manage the way that 92% of the population commutes; we must begin to effectively manage our use of the automobile through the various options outlined in the new federal transportation policy, "Moving America". This federal policy outlines various sensible new technology-oriented measures that states and cities can take to alleviate traffic congestion.

## PARKING MANAGEMENT.

As UMTA recently reported to Congress, "...eliminating free parking is the single most important variable in getting people to switch to ridesharing or transit."[25]

Most downtown employees do not pay the full price for parking. State and City employees pay between nothing and $35 per month. Such practices only encourage the use of the automobile and thus increase traffic congestion.

**"...when commuters pay for their own parking, 24 percent fewer of them drive to work alone."**

**1990 UCLA Study.[26]**

By encouraging employers to offer cash alternatives and other incentives to reduce employer-paid parking, employees could then choose between the "free" parking place or cash or other benefits. A recent study showed that "...when commuters pay for their own parking, 24 percent fewer of them drive to work alone."[27]

We should require that the State and City governments charge more realistic rates for parking and also offer cash alternatives to their employees.

These cash alternatives would be a powerful incentive to have drivers become passengers in other vehicles and leave their cars at home.

The U.S. Secretary of Transportation reported to Congress this year that, "...local government policies often indirectly lead to subsidized employee parking. Local zoning codes almost always require the provision of ample parking...once the parking is in place...it will be priced to ensure its use. This means that...the parking will be...priced at a level below the full cost of providing the parking...Developers pass the cost of constructing parking on to tenants who see it as increased rent."[28]

**"...over two and a half times as many commuters ride transit to work if their employers do not subsidize parking."**

**1990 UCLA Study.[29]**

This is certainly true in Honolulu.[30] For example, parking is available downtown for $120 per month. A parking stall takes up 150 sq.ft. and needs another 150 sq.ft. for ingress and egress. This 300 sq.ft. of space at $120 per month means that it is renting for 40 cents per foot per month. This is far cheaper than any warehouse space in town.

If the parking requirements are rescinded parking prices will increase to an average of $350 or more per stall downtown which will encourage many drivers to use alternative transportation.

## IN-TOWN SHUTTLES

We need to encourage more alternatives to conventional taxis and buses to provide for much faster in-town travel and thereby reduce our need for the automobile at work.

We should encourage the formation of private in-town shuttles and jitneys. For example, stop-on-demand only Downtown-Ala Moana-Waikiki service every eight minutes would cost about $500,000 annually, less

revenues collected. This service at a $1.50 one-way fare might well be profitable for a private operator.

## ENERGY USE AND POLLUTION

Paratransit is more energy efficient than the rail alternative. Rail is an energy hog because of the amount of time the trains spend running empty. On the other hand, subscription buses and vans only run full or they do not run at all. In 1988 the Congressional Budget Office studied the energy use of various commuter modes[31] and found that commuter vans were the most energy efficient.

**"Vanpools are the cheapest form of public transportation. They are also the most fuel-efficient, and hence less polluting..."**
**Congressional Budget Office.[32]**

Pollution from auto emissions is principally a function of the number of auto vehicle **trips** made, not the **distance** travelled. This is because most of the pollution from automobiles comes during the cold start-up and cool down stages when the catalytic converter is not efficient.[33]

The use of door-to-door transit results in less pollution than the use of park-and-ride sites. This is because the start up and cool down causing most of the pollution occurs while the automobile is getting to and from the park-and-ride site.

A door-to-door van service creates only 40% of the pollution caused by ten cars driving to a park-and-ride site and then transferring to a van or bus.[34]

| Daily rush-hour riders[35] | |
|---|---|
| Existing bus system | 96,300 |
| City's TSM proposal | 114,800 |
| Rail transit proposal | 127,500 |
| Sensible Transit | 134,700 |

| Cars that each proposal will take off rush hour roads daily[36] | |
|---|---|
| Rail transit proposal | 10,080 |
| Sensible Transit | 14,030 |

| Monthly subsidy per new commuter[37] | |
|---|---|
| Current Express bus | $120 |
| Rail transit proposal | $333 |
| Sensible Transit | $60 |

## COMPARISON OF THE TWO PROPOSALS

The Sensible Transit proposal forecasts nearly 19,100 round-trip rush hour commuters daily in addition to those carried by the TheBus under the No-Build (maintain existing bus system) alternative. Rail only forecasts carrying an additional 15,625.[38]

In addition, paratransit will take more cars off the road during the rush hour than the rail alternative.[39] A significant number of cars will also be left at home by commuters carpooling to take advantage of the higher speeds of the transitway.

Sensible Transit will also cost less. As may be seen from the table below the total of annualized capital and operating costs are significantly higher for the rail proposal **even before allowing for cost overruns or inflation.**

| Increased Annualized Costs[40] (in addition to the costs of the existing bus system) | |
|---|---|
| Rail transit proposal | $149,700,000 |
| Sensible Transit | $19,800,000 |

The Sensible Transit proposal subsidizes transit commuters by $60 per month. Because it is a user-side

subsidy there is no risk; if the riders do not use the service no subsidies are used. The total user-side subsidy required for the private providers in the Sensible Transit proposal would be less than $14 million annually.[41]

In contrast, the subsidy needed for the rail system will be more than twice this much - before cost overruns. Cost overruns for grade-separated systems such as that planned for Honolulu averaged 149% more than their original projections.[43]

If the second transitway is needed then an additional $245 million would be needed. This would bring the total capital required for the Sensible Transit proposal to $305 million. In contrast, the rail proposal will require $1.6 billion in 1991 dollars before cost overruns. Overruns have averaged 58% for the other grade-separated systems in the U.S.[44]

**"Rapid rail systems are three to five times more expensive per passenger mile than buses."**

**Congressional Budget Office.[42]**

## WHERE THE CITY WENT WRONG

There were three major flaws in the City's analysis of the alternatives that led to the rail decision.

First, was the assumption in its forecasts that conventional fixed-route transit increases with population. Second, it failed to compare rail with transitways in the alternatives analysis. Third, it failed to consider Honolulu's unique paratransit capability in the alternatives analysis.

## CONVENTIONAL TRANSIT IS DECLINING

The City wrongly assumed that conventional fixed-route transit usage, whether bus or rail, increases with population and employment. This assumption of growth is wrong. It is wrong whether considered locally, nationally or internationally.

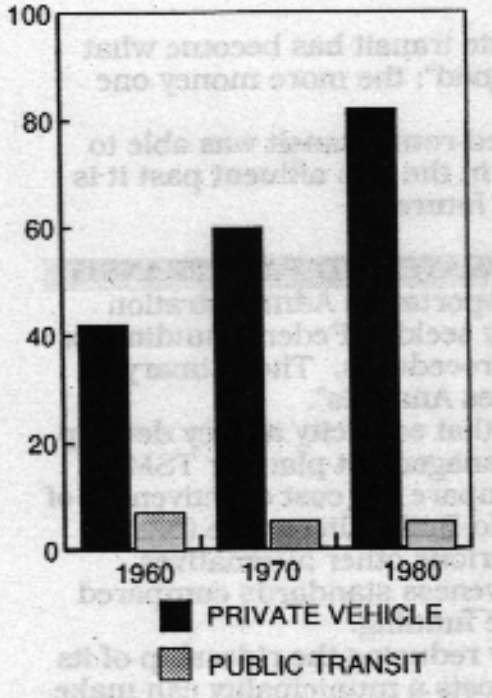
One of the state's independent experts said, "I question...the basis of population and employment growth, mainly because over the last decade Honolulu has shown rapid growth in everything <u>but</u> transit ridership...This same pattern has been observed in many other U.S. cities."[45]

Ridership in conventional fixed-route bus and rail transit has been declining nationally since the end of World War II. The latest data[46] shows continued declines nationally for 1980-89 despite massive increases in subsidies. Nationally, ridership is off 5.5% from 1980 despite an 11% growth in population. Thus per capita ridership declined 17%.

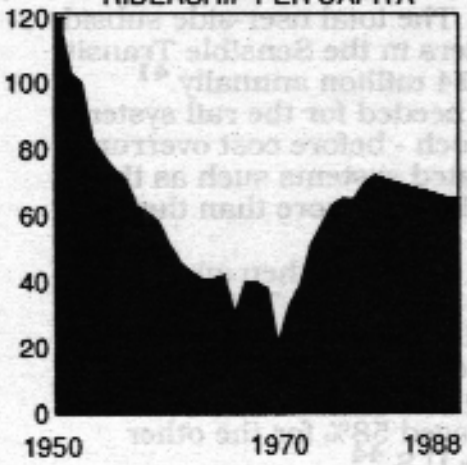
This decline has occurred despite vast expenditures for rail systems, people movers and other wasteful and disappointing outlays of taxpayers' funds.

Six of all the eight cities that recently built federally subsidized rail systems (see table) have experienced per capita declines in transit ridership. Two have held their

NATIONAL COMMUTING TREND



HONOLULU TRANSIT
RIDERSHIP PER CAPITA




own; none showed a significant increase. All this came about despite the costly addition of the rail lines.

**In three of these cities something truly frightening happened. Fewer people now ride their bus-and-rail system than used to ride the bus alone.**[47]

As the U.S. Secretary of Transportation told Congress, "Ridership and overall performance have been affected by the general failure of the new rapid rail systems to function as promised."[48]

Some municipalities, such as Honolulu, have reversed these transit ridership declines for short periods but only with the use of immense subsidies.

Honolulu's transit ridership declined severely from 1945 through 1971 when privately operated by Honolulu Rapid Transit Co. Ltd. When the City socialized the bus system in 1971 it boosted ridership by implementing large increases in subsidized service. The City bus system that had been profitable in 1970 required a $31 million annual subsidy by 1984 -- and that did not include the cost of buses or buildings.

Then in 1984 ridership went into decline again despite increasing subsidies. Ridership has continued to decline slightly despite a 15% increase in buses and a 70% growth in the annual subsidy to $53 million.

The reason for the decline is that as people become more affluent they place more value on their time and are less tolerant of discomfort and wasted effort. This is why conventional fixed-route transit has stagnated; commuters are less willing to wait, to transfer or to endure a slow commute.

Conventional fixed-route transit has become what economists call "an inferior good"; the more money one has the less one wants it.

While conventional fixed-route transit was able to produce increased ridership in the less affluent past it is highly unlikely to do it in the future.

**Changes in per capita ridership bus and rail combined during 1980-89 for all eight federally assisted rail cities.**[49]

| | |
|---|---|
| Washington | +2% |
| Portland | 0% |
| Atlanta | -13% |
| Miami* | -13% |
| Pittsburgh | -14% |
| Baltimore | -15% |
| Buffalo* | -16% |
| Sacramento* | -21% |

*** Less transit ridership from bus and rail systems combined than achieved formerly from the bus system alone.**

## CITY IGNORED TRANSITWAYS AND PARATRANSIT

The Urban Mass Transportation Administration (UMTA) requires that any city seeking Federal funding for a rail system follow certain procedures. The primary requirement is an "Alternatives Analysis".

This process requires that each city agency develop a Transportation Systems Management plan, or TSM plan. The city must then compare the cost effectiveness of this TSM alternative with a No-Build Alternative (buses held at current levels) and various other alternatives. Only if rail meets cost-effectiveness standards compared with TSM will UMTA approve funding.

However, by artificially reducing the ridership of its TSM option and increasing costs a municipality can make rail appear competitive with other alternatives.

UMTA defines TSM as "the best that can be done to improve (public or privately operated) transit service without making a major capital [over $100 million] investment...These TSM actions typically include expanded bus service, paratransit, ridesharing, traffic engineering and regulatory and pricing strategies."[50]

UMTA recognizes that local politics play a large role in system selection and therefore does not require that a municipality use all of the large array of options available, only what is acceptable locally.

"The TSM option appears "born to lose," as most TSM options are in alternatives analyses."

Dr. Rutherford, 1991 State Study.[51]

## THE CITY'S TSM OPTION.

Essentially Honolulu set up its TSM plan as a "straw man" to make the rail plan look good. The state's independent consultants who reviewed the report said that it was "born to lose"[52] and "give the impression that...rail..was pre-established at the outset to be the...transit technology for Oahu."[53]

Uniformly these experts harshly criticized the City's alternatives. They described them as "alarming" and "few real choices"[54], "not been adequately defined"[55] and "disappointingly narrow".[56]

"This criticism [of the City's TSM alternative], I believe, is less a reflection on the work of the consultants and more an outcome of pressures exerted by various political and special interest groups."

Dr. Cervero, 1991 State Study.[57]

For its TSM option the City Department of Transportation Services (DTS) chose simply to study the effects of expanding the existing City bus service. It projected a costly 108% increase[58] in its bus fleet to 997 buses while only forecasting an 18% increase in ridership.

DTS disregarded both the private sector transportation opportunities and the potential traffic relief offered by reversible HOV transitways.

Again, the experts were critical. "What is lacking is a serious investigation of several [transitway] options."[59] and "...really fall short in ignoring various busway configurations as a fundamental option to rail transit."[60]

They said that "...a TSM II could be considered that...might include contraflow lanes, [transitways], reversible bus streets..."[61] and "...recommend that an additional study be commissioned that seriously examined a range of [transitway] options as legitimate contenders to the...rail options."[62]

"In summary, I would recommend that an additional study be commissioned that seriously examined a range of busway options as legitimate contenders to the fixed guideway rail options."

Dr. Cervero, 1991 State Study[63]

It is ironic that the City's primary consultant on the alternatives analysis is Parsons, Brinckerhoff; this firm is one of the leading U.S. experts on transitways and other HOV options. No wonder one of the consultants said that his criticism of the City's TSM alternative was, "...less a reflection on the work of the consultants and more an outcome of pressures exerted by various political and special interest groups."[64]

DTS also ignored the private transportation opportunities. It ignored offers by the private companies to provide upgraded bus service at less than what it currently costs the City for express bus service.

As the consultants said, "It is particularly important that intensified and significantly upgraded bus options be considered for Oahu in light of the fact that the bus system already in place has proven itself to be one of the most heavily utilized and cost productive operations in the country."[65]

**"Busways and high occupancy vehicle lanes, as well as traffic control and management improvements on the streets and highways...should be taken into account when construction of new facilities is being considered." / "One of the greatest opportunities for improving transportation efficiency and service in the future lies in allowing market forces to work, minimizing government intervention, and increasing flexibility for the private sector."**

**U.S. Transportation Policy[66].**

## SUMMARY

The new federal transportation policy, "**Moving America**"[67], features transitways and private enterprise initiatives because they have been successful. Rail has been a disappointment.

In line with this federal policy the Sensible Transit proposal offers more alternatives for commuters. Its adoption will increase transit usage more than the rail proposal at a fraction of rail's cost. Further, it is flexible and can be modified to accommodate changing demographics and technologies. Most of the proposals can be started immediately and affect traffic congestion within a year.

In contrast, there are significant financial risks with fixed rail and, if we go ahead and build it, **it will be fixed forever, even if it does not work.**

Rail transit is a mostly ineffective luxury that neither we nor our children can afford. Transit that is smaller, faster and more convenient is where the future lies. Electric trains, trolleys and streetcars are relics of the past.

## FOOTNOTES


1 Lew W. Pratsch, President, Virginia Vanpool Association. 4th National HOV Facilities Conference. *TRB Transportation Research Circular #366*. December 1990.

2 U.S. Secretary of Transportation. *The Status of the Nation's Local Mass Transportation; Performance and Condition*. Dept. of Transportation - UMTA. 1988.

3 Urban Mass Transportation Administration. *Public Transportation in the United States: Performance and Condition. Report to Congress*. February 1991. p. 63.

4 *An Evaluation of the Honolulu Rapid Transit Development Project's Alternative Analysis and Draft Environmental Impact Statement*. Office of State Planning. February 1991. Cervero. p. 5.

5 See above. *Evaluation*. Rutherford. p. 6.

6 See above. *Evaluation*. Rutherford, p. 6.

7 U.S. Dept. of Transportation. *The Status of the Nation's Local Public Transportation: Conditions and Performance*. Report of the Secretary of Transportation to Congress. September 1984.

8 Hawaii State Dept. of Transportation. *Report of the State Ridesharing Task Force*. July 1987.

9 U.S. Department of Transportation. *National Transportation Strategic Planning Study*. 1989. p. 12-4.

10 UMTA Report to Congress. *The Status of The Nation's Local Public Transportation*. September 1984.

**11** Malcolm S. McLeod, Jr., Kevin J. Flannelly & Benjamin H. K. Henderson. *The Commuter Market for Subscription Van Service Among Residents of the Mililani Subdivision.* Statewide Transportation Planning Office, Hawaii State Dept. of Transportation. November 1987.

**12** *Hawaii Kai Survey on Transportation Alternatives.* Statewide Transportation Planning Office. Hawaii State Dept. of Transportation. July 1987.

**13** Kevin J. Flannelly, Malcolm S. McLeod, Jr., Laura Flannelly, & Robert W. Behnke. *A Comparison of Commuters' Interest in Using Different Modes of Transportation.* Transportation Research Record (in press). Paper given at Transportation Research Board in January 1991. **See also** Kevin J. Flannelly & Malcolm S. McLeod, Jr. *Predicting Consumer Demand for Alternative Transportation Services among Suburban Commuters.* Transportation Research Record (in press). **Also** same authors, *Consumer Demand for Alternative Transportation Services in Suburban Honolulu.* Paper presented at the meeting of the National Research Council, Transportation Research Board. January 1990.

**14** See above. *Predicting Consumer Demand.*

**15** *AA/DEIS* p. 4-3 gives the City's estimates of the rail trip time. The paratransit estimate allows the same travel times to Waiawa, a 50 mph travel speed along the expressway to the Aala Park area; this contrasts with the 30 mph average train speed that the City is using. The times used assume that the train tunnel will be built; for the Nimitz alignment more time will be needed for rail.

**16** Urban Mass Transportation Administration and City Dept. of Transportation Services. *Alternatives Analysis and Draft Environmental Impact Statement* (AA/DEIS). March 1990. p. 4-3.

**17** U.S. Dept. of Transportation. *The Status of the Nation's Local Public Transportation: Conditions and Performance.* Report of the Secretary of Transportation to Congress. September 1984.

**18** Institute for Transportation Systems, City University of New York. *The Private Sector in Public Transportation in New York City: A Policy Perspective.* January 1991. Prepared for UMTA.

**19** Peat, Marwick, Mitchell & Co. *Van-Go Hawaii - Program Assessment.* Report to Hawaii Dept. of Transportation. March 1982.

**20** *Short Range Transit Plan Update.* Honolulu Dept. of Transportation Services (DTS). February 1988. Table 3.1 shows average Express routes have operating costs of $1.86 per one-way ride for 1987. Commuters average 42.6 rides per month for total monthly costs of $97.46. Inflation has subsequently added 20% to these costs to total $117 in 1991. Additional costs for depreciation of buses and buildings, and bond interest, less fares will far exceed the $120 monthly that is shown.

**21** Arthur Young & Co. *Promoting and Implementing Paratransit on Oahu.* Prepared for the Hawaii State Dept. of Transportation. May 1987.

**22** Kevin J. Flannelly, Malcolm S. McLeod, Jr., Laura Flannelly, & Robert W. Behnke. *A Comparison of Commuters' Interest in Using Different Modes of Transportation.* Transportation Research Record (in press). Paper given at Transportation Research Board in January 1991.

**23** *AA/DEIS.* On p. S-27 it states that under No-Build "22 per cent of peak hour demand would be left at the curb." Per p. 4-12 the No-Build buses would carry 95,700 one-way riders during the peak period. Thus 27,000 one-way riders or 13,500 round trip riders would be left at the curb.

**24** Charles A. Fuhs. *High Occupancy Vehicle Facilities.* Parsons, Brinckerhoff, Quade & Douglas. December 1990.

**25** Urban Mass Transportation Administration. *Public Transportation in the United States: Performance and Condition.* Report to Congress. February 1991. p. 65.

**26** Richard W. Willson & Donald C. Shoup, Graduate School of Architecture and Urban Planning, UCLA. *The Effects of Employer-paid Parking in Downtown Los Angeles* - A Study of Office Workers and their Employers. Prepared for the Southern California Association of Governments. May 31, 1990. p. ii.

**27** Richard W. Willson & Donald C. Shoup. *The Effects of Employer-Paid Parking in Downtown Los Angeles. A Study of Office Workers and their Employers.* UCLA Graduate School of Architecture and Urban Planning. Prepared for Southern California Association of Governments. May 1990.

**28** See above. *1984 UMTA Report to Congress*. p. 65.

**29** See above. *Employer-paid Parking*. p. 16.

**30** Cliff Slater. *Parking Rules Clog City Streets*. Building Industry. September 1991. p. 112.

**31** Congressional Budget Office. *New Directions for the Nation's Public Works*. September 1988.

**32** See above. *Public Works*.

**33** Environmental Defense Fund & Regional Institute of Southern California. *Transportation Efficiency: Tackling Southern California's Air Pollution and Congestion*. March 1991. p. 6-7.

**34** See above. *Transportation Efficiency*. p. 6.

**35** *AA/DEIS* p. S-31 provides daily ridership data for the first three alternatives. Only half of these rides will be during the rush hour, therefore divide Daily Transit Trips in the table by two. The Sensible Transit alternative includes ridership for the existing bus system plus the 19,100 round trips, or 38,200 one-way trips, for the rush hour paratransit supplement.

**36** See footnote #39.

**37** See *Short Range Transit Plan* above for express bus costs. Rail costs are arrived at by using the cost per new ride shown in the *AA/DEIS*, p. 6-30 of $9.19 and adding back the "time savings" of $3.55 per ride. This $12.74 is then multiplied by the 42.6 average one-way rides per commuter per month, less the $15 monthly bus pass. Only the paratransit subsidy costs are included in the Sensible Transit cost per new ride as the transitway modifications would be used by many motorists as well. Were the first transitway included and all costs attributed to the 19,100 users it would add $26 to the $60.

**38** The City's data in the shaded portion of the table below from the AA/DEIS shows an increase of 62,500 transit riders for the rail alternative versus No-Build. These are one-way trips and must be halved for 31,250 round trips. Only half of these, or 15,625, will be in the rush hour.

| Trip Method | No-Build Alternative | #3 Rail Alternative | # Diff | % Diff |
|---|---|---|---|---|
| Transit Trips | 192,600 | 255,100 | +62,500 | +32.5% |
| As % of Total | 6.55% | 8.64% | | |
| Auto Trips | 2,747,858 | 2,697,446 | -50,412 | -1.8% |
| As % of Total l | 93.45% | 91.36% | | |

**39** See the table above for the City forecast of auto trip reduction. The shaded portion is the City's data from the AA/DEIS and the non-shaded data is extrapolated from it. The 50,400 reduction must be halved to 25,200 for rush hour travel and halved again to 12,600 for round trips. Calculations allow that each decrease of 1.25 auto riders will mean a reduction of one car. Thus, the rail plan would remove 10,080

cars from the rush hour road. The Sensible Transit proposal shows 19,100 new round trip rush hour riders. This is divided by 1.25 to arrive at the 15,280 cars that will be left at home; the 1,250 paratransit vehicles in use must be added back for a net reduction of 14,030 autos.

**40** See above *AA/DEIS* p. 6-20 provides annualized cost of the rail and existing bus system; the difference is used. The sensible transit costs consist of the $13,750,000 for paratransit subsidies and $6,000,000 for annualized construction and maintenance costs of the H-1 modification.

**41** The annual subsidy will equal the $60 monthly subsidy times 12 months times 19,100 commuters = $13,753,000.

**42** *New Directions for the Nation's Public Works.* Congressional Budget Office. September 1988.

**43** Don H. Pickrell. *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs.* Urban Mass Transportation Administration. October 1989. p. vii. Washington, Atlanta and Miami are averaged.

**44** See above. *Pickrell.* p. vii. Average for Washington, Atlanta, Baltimore and Miami.

**45** See above. *Evaluation.* Rutherford.

**46** UMTA Section 15 data for 1980 and 1989 compiled by Wendell Cox. See also *UMTA Report to Congress* 1991.

**47** See above. *Pickrell.* p. 15.

**48** *Report of the U.S. Secretary of Transportation to Congress.* U.S. Dept of Transportation. 1984.

**49** UMTA Section 15 data for 1980 and 1989 compiled by Wendell Cox. See also *UMTA Report to Congress* 1991.

**50** *Federal Register*, Vol. 49, No. 96. May 18, 1984. p. 21285.

**51** See above. *Evaluation.* Rutherford. p. 7.

**52** See above. *Evaluation.* Rutherford. p. 7.

**53** See above. *Evaluation.* Cervero. p. 3.

**54** See above. *Evaluation.* Cervero. p. 3.

**55** See above. *Evaluation.* University of Hawaii Review team. p. 17.

**56** See above. *Evaluation.* Rutherford. p. 1.

**57** See above. *Evaluation.* Cervero. p. 3.

**58** See above. *AA/DEIS.* p. 6-20. Shows $54 million annualized cost increase.

**59** See above. *Evaluation.* Cervero. p. 3.

**60** See above. *Evaluation.* Cervero. p. 5.

**61** See above. *Evaluation.* Rutherford. p. 7.

**62** See above. *Evaluation.* Cervero. p. 5.

**63** See above. *Evaluation.* Cervero. p. 5.

**64** See above. *Evaluation.* Cervero. p. 3.

**65** See above. *Evaluation.* Cervero. p. 5.

**66** *Moving America: New Directions, New Opportunities. A Statement of National Transportation Policy - Strategies for Action.* U.S. Dept. of Transportation. February 1990.

**67** See above. *Moving America.*