

IS THE *LOS ANGELES TIME* ARTICLE, “Billions Spent, But Fewer People Are Using Public Transportation in Southern California,” MISLEADING?

by

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INTRODUCTION AND SUMMARY

On January 27, 2016, the *Los Angeles Times* published an article by Laura J. Nelson and Dan Weikel, “Billions Spent, But Fewer People Are Using Public Transportation In Southern California¹.”

The same day, Ethan Elkind promulgated a response to this article in his blog, “L.A. Times Misleads on Metro Rail Ridership History².”

The purpose of this paper is respond to the contention Mr. Elkind expressed in the title of his piece and to demonstrate that, not only is Ms. Nelson’s and Mr. Weikel’s article *not* misleading in stating that Metro ridership³ is down, in reality, the downward trend in ridership of the principal transit operator in Los Angeles is actually far worse than the *Times* article and the data in it makes it appear.

INFORMATION ABOUT THE AUTHOR

First, a few notes about me – I have been very involved in the transit industry as a senior transit industry executive, consultant, auditor, author, and expert/expert witness for over four decades, serving well over 100 agencies across North America. I have served several Southern California transit agencies, going back to the early 1980’s. Most significantly, I was the Auditor-Controller (Chief Financial Officer) of the Southern California Rapid Transit District (SCRTD) from 1989 to the merger that formed the Los Angeles County Metropolitan Transportation Authority (Metro) in 1993. After I left Metro (I found it impossible to work there for reasons that will soon become very apparent), I became the chief transportation and finance expert and expert witness for the plaintiffs in *Labor/Community Strategy Center v Los Angeles County Metropolitan Transportation Authority*⁴. This was the Federal Title VI (discrimination in the utilization of Federal funds) lawsuit that was resolved by the Consent Decree (CD) that not only stopped the 27% decline in ridership from fiscal year⁵ 1985 (FY85) to FY94, but reversed it, regaining almost all of the lost ridership before the CD expired and Metro reverted to its pre-CD behavior.

¹ <http://www.latimes.com/local/california/la-me-ridership-slump-20160127-story.html>

² <http://www.ethanelkind.com/l-a-times-misleads-on-metro-rail-ridership-history/>

The latest version (as of 2/2/16) appears to have been modified from the original posting.

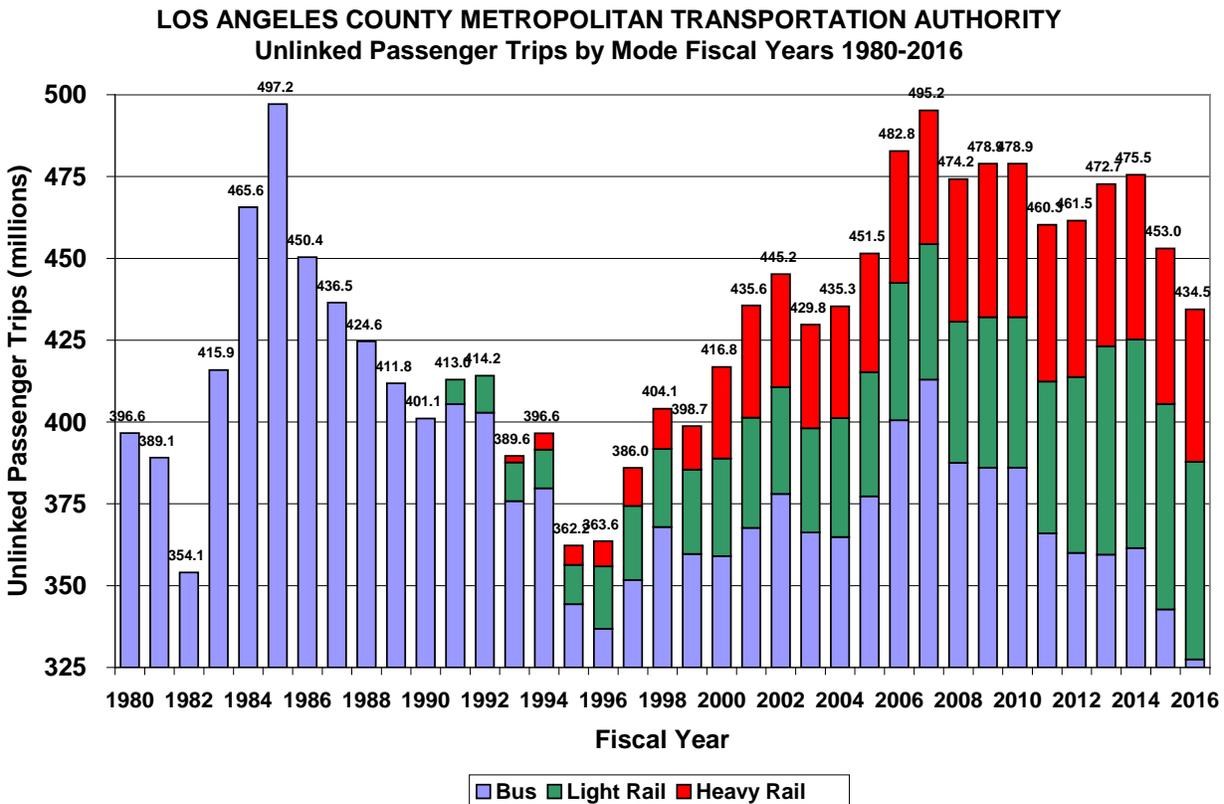
³ ... and those of other Southern California transit operators, although this paper is primarily concerned with Metro and its predecessor transit operations agency.

⁴ U. S. District Court – Central District of California, Case No. CV 94-5936 TJH (MCx)

⁵ SCRTD had and Metro has a July 1-June 30 fiscal year.

SCRTD/METRO RIDERSHIP TRENDS, FISCAL YEARS 1982-2016

Mr. Elkind’s response contains a graphic representation of SCRTD/MTA ridership from 1980 through 2007 (although I was not credited by Mr. Elkind, the graph is mine). Let’s take a look at an updated version that takes the ridership through the current day⁶ and then get into the details of the causes of the extreme ups and downs:



Here is the historical perspective for the time line above:

- 1980-1982** – During the latter part of the 1970’s, due primarily to the price and uncertain availability of motor fuel following the reaction of the Arab oil producing nations to the outcome of the 1973 Yom Kippur War between Israel, Egypt, and Syria, and the rapid influx of Hispanic immigrants into Los Angeles, many of whom were significantly transportation-disadvantaged, SCRTD transit ridership rose rapidly, funded primarily by the one-quarter cent sales tax authorized by the Transportation Development Act of

⁶ Data for FY80 through FY13 is from the U.S. Department of Transportation/Federal Transit Administration National Transit Database “Profiles” for each year: <http://www.ntdprogram.gov/ntdprogram/>

Data for the more recent years is from the Metro “Interactive Ridership Stats:” <https://www.metro.net/news/ridership-statistics/>

Data for the first six months of FY16 were expanded to approximate the full year by expanding the ridership reported for working weekdays, Saturdays, and Sunday/Holidays for July-December by the ratio of such days in the full FY16 over those in the first six months.

1971. However, funding shortfalls led to an increase in SCRTD cash fares from \$.55 for fiscal year 1980 to \$.65 for 1981 and then \$.85 in 1982, with other fares increasing approximately accordingly, resulting in an 11% reduction in unlinked passenger trips (UPT) from FY80 to FY82.

- **1982-1985** – Following the passage of Proposition A, the first (of three – to date; it appears that Metro is likely to place a fourth on the ballot in November) half-cent sales taxes primarily for transit in Los Angeles County, in accordance with the terms of the Proposition, SCRTD adult cash fares were reduced from \$.85 to \$.50, and other fares reduced proportionately, for the three year period, FY83-FY85. Annual ridership (UPT) increased slightly over 40%, 36%, despite vehicle revenue miles only increasing 1.5%. Peak period ridership increased 36%, indicating that much of the increased ridership was from riders who had not utilized SCRTD previously, and ridership was still increasing in the final quarter of the final year – and FY85 ridership would have undoubtedly have been millions higher if SCRTD had not been required to utilize several million dollars to subsidize little utilized bus service for the 1984 Summer Olympic Games). The fare reduction required less than 20% of the sales tax collections during this period, or approximately the equivalent of a .1% sales tax.
- **1985-1996** – During this period, the Los Angeles County Transportation Commission (LACTC), which was merged into Metro with SCRTD in 1993, again acting in accordance with the terms of Proposition A, ceased using part of the Proposition A funds for the SCRTD fare reduction program and shifted emphasis to planning, design and construction of rail transit (during the three years of the 50¢ fare, slightly over 15% of the total Proposition A sales tax revenues, had gone for rail planning, design, and construction; eliminating the funding for the 50¢ fare increased this to 35%). Two light rail lines (Blue and Green Lines) and part of the heavy rail (Red/Purple Lines) system went into service during this period. As the adult cash fares increased from 50¢ in FY83-85 to 85¢ at the beginning of FY86, \$1.10 at the beginning of FY89, and finally to \$1.35 two months into FY95, SCRTD UPT declined approximately 27%, almost back to the pre-50¢ fare year of FY82.
- **1996-2007** – The MTA Board passed a major fare increase, effective September 1, 1994, which included the elimination of monthly passes, which were extensively utilized by transit-dependent riders. The overall effective increase for riders would have been almost a doubling of the average fare. As a result, a major legal action was filed against Metro. This eventually produced the CD, which went into effect in December of 1996 and remained in force for approximately eleven years (ten years as mandated by the terms of the CD and a short stub period while the resolution of Metro violations of the CD terms were settled).

The CD required Metro to reintroduce the \$42 monthly transit pass, institute a new \$11 weekly pass, increase bus service to reduce extreme bus overcrowding, add additional bus lines, and significantly increase bus service quality though reducing headways on bus routes and reducing load factors, thereby reducing pass-bys (where riders cannot board a bus because there is no room for them). After eleven years of losing an average of twelve

million UPT annually, the Consent Decree requirements not only immediately stopped the loss, but turned it around, producing an average annual increase of twelve million UPT annually – a 36% increase over this period almost back up to the FY85 all-time high.

While Metro rail ridership did increase significantly during the 1996-2007, period, 58% of the total added riders were bus riders – and approximately 70% of the new rail riders were former bus riders.

Using the Federal Transit Administration (FTA) “new starts” methodology for annualizing costs, the average taxpayer subsidy per new bus passenger, expressed in FY07 dollars, was \$1.40 for the bus riders added by the Consent Decree, vs. \$25.82 for the added guideway transit riders (Blue, Gold, Green, Orange and Red Lines), a taxpayer subsidy per new passenger ratio of 1:18.4 – that is, adding transit trips via bus only required a taxpayer subsidy of 5.4% of the cost of adding transit trips via guideway transit (rail and dedicated busway surface bus rapid transit).

- **2007-2016** – The CD ended and MTA returned to its pre-CD practice of major spending on rail construction while reducing bus service and increasing fares. With fares stabilized for a few years, new rail lines opening, and a slowly recovering economy, ridership headed back up for two years after bottoming out in FY2011/FY2012.

However, the increase in the cost to ride – now to \$1.75 for full-adult cash fare, with monthly passes increasing even more, now to \$100 (which made them significantly less attractive to frequent riders; with a \$1.35 cash fare and \$42 monthly pass, passes were cost-effective for more than 31 rides/month, the current prices require more than 57 rides/month to pencil out) – and continued emphasis on high-cost capital projects led to continued reductions in bus service, plus significant restructurings of the remaining bus service to serve as rail feeder/distributor routes.

If Metro ridership trends for the first six months of FY16 continue for the full year, FY16 ridership of 434.5 million UPT would be down 4.0% from the previous year, following a 4.7% reduction from FY14 to FY15. This would also be down 12.3% from the FY07 peak at the end of the CD period, and down 12.6% for the all-time high at the end of the 50¢ fare in FY85.

So, if anything, the reduction in UPT from Nelson and Weikel is understated.

CONCLUSIONS: MTA RIDERSHIP TRENDS AND CAUSES

Note that this time line has three periods with a significant downward trend in UPT – 1980-1982, 1985-1995, and 2007-present – and two periods with a significant upward trend – 1982-1985 and 1995-2007. By examining what is common to the periods of increasing UPT and comparing that to differences in what is common to the periods of decreasing UPT, three conclusions are very obvious for SCRTD/Metro transit service during the period 1980-2015:

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- Relatively small monetary investments to reduce transit fares and to increase and improve the quality of bus transit service are associated with major increases in total transit ridership.
- Relatively large monetary investments in planning, design, construction, and operations of rail transit service are associated with major decreases in total transit ridership if they are accompanied by fare increases and reductions in bus transit service.
- Relatively large monetary investments in planning, design, construction, and operations of rail transit service, without improvements in bus service, do not produce increases in total transit ridership.

Mr. Elkind dismisses the comparison of 2015 to 1985 ridership in Nelson and Weikel’s article by his statement, “The problem with the graph is that the reporters are cherry-picking the absolute high water mark of transit ridership in Los Angeles.”

That is not the “problem;” *it is the main point* – Los Angeles County was able to achieve this transit ridership high water mark very quickly, relatively simply, and very inexpensively by one main action – lower the fares. No other major city in the U.S. with a mature transit system has ever seen a three-year growth in transit ridership anything remotely close to SCRTD from 1982 to 1985 since at least the end of World War II – and remember, *at the end of the three-year 50¢ program, ridership was still going up.*

If this program had been continued, and additional funding had been added to increase service provided, ridership would have undoubtedly continued to climb significantly. Keep in mind that the huge (40%) increase in UPT was accomplished with only a 1.5% increase in bus vehicle revenue miles, leading to the most overcrowded urban transit buses that have been reported since the beginning of the National Transit Database in 1979; it was exceedingly common to for riders to see bus after bus after bus pass them by because they had 80, 100, or more passengers already on board and there was simply no room for any more.

This can be summarized by the following imaginary conversation at a transit agency Board Meeting:

“The 50¢ fare program has been successful beyond our widest dreams. No transit operator has *ever* seen a ridership increase like this. Our biggest problem is that we can’t handle the loads, a problem that very few transit operators ever face, and none have ever faced to this extent. Moreover, the cost of this success was very low. If we continue the low fares, and add some funding to buy more buses and operate more service, we can most certainly significantly increase ridership even further at relatively small additional cost.

“But, never mind that, let’s raise the fares 70%, cut back bus service, and try something else to see how that might work to improve transit service.”

In fairness, the 50¢ fare was mandated to be a three-year program by the passage of Proposition A in 1990 – it could not be changed without going back to the voters. But, speaking as someone

who was there at the time as an observer, there was absolutely no one in a decision-making position who even brought this up as something to consider.

Then, following the huge loss of ridership after the end of the 50¢ fare program, and then the huge gain in ridership when Metro was forced to again spend relatively small amounts (compared to what it was spending on rail) on bus service, Metro leadership *did the exact same thing again – and that decision produced the same negative outcome.*

That is the main point that readers – and policy analysts, and voters, and taxpayers, and, one would hope, Metro Board Members – should take away from this.

Mr. Elkind’s comment, “So choosing 1985 as your baseline is like climate change deniers choosing an unusually warm year in the 1990s to show that global warming hasn’t really been happening since then⁷” should be ignored.

The first key difference is that the peak in 1985 was not something that just happened, perhaps with connections to multiple separate actions; it was the direct result of one major decision – that worked out extraordinarily well. If the fare reduction had not been abruptly terminated (again, as required by the terms of the proposition that had been presented to and passed by the voters), ridership would not just have stayed at this high level, it would have continued to increase.

Then, we have the sharp decline in ridership due directly to the shift of a relatively small amount of funds from fare reduction to rail construction, which was then followed by another major ridership increase caused by another fare reduction and bus service improvements at a fraction of what Metro was spending on rail, followed by the second abandonment of the bus service improvement for the sake of spending more on rail and still another major reduction in ridership (the last downturn is left off the graph that the “climate change” analogy follows, which only goes to the peak in FY07)..

This discussion is not in the least similar to climate change, where there are still huge arguments over how much conditions are changing and what man-caused changes are causing this or not – the ridership facts are very clear, there is no argument about how much ridership has changed, and the causes are exceedingly obvious to any one who cares to look for them.

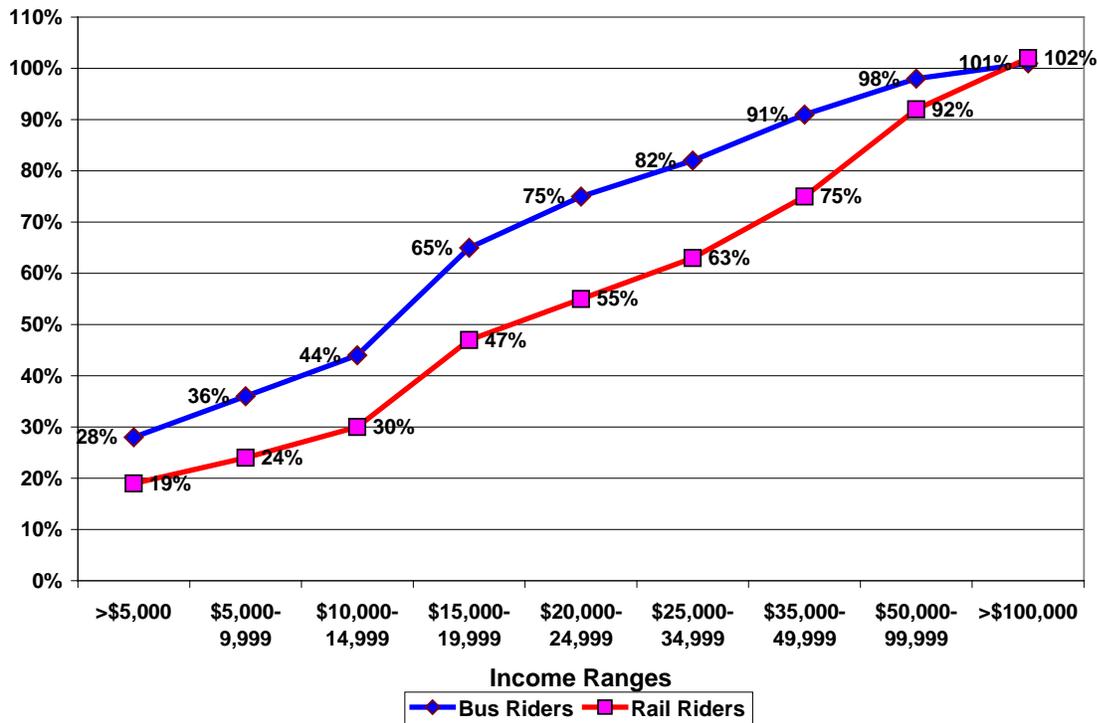
Oh, and one last thing – ridership increases, unlike climate change, are just about universally accepted as a good thing that should be encouraged.

METRO TRANSIT RIDESHIP INCOME LEVELS AND IMPACTS OF FARE INCREASES

The preceding discussion focuses in great part on fare levels and their increases and decreases – here’s why:

⁷ Although there are many very well qualified researchers and analyst who would take issue with Mr. Elkind’s evident conclusions about climate change time lines and data, I will not get into that issue here.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY
Rider Cummulative Household Income by Mode -- Winter 2013 Survey



According to Metro’s own survey data⁸, the median household income of Metro bus riders was approximately \$15,000 in FY13. If the household has two wage earners, or others that rely extensively on transit, and purchased monthly passes, the current \$100 30-pass would have an annual cost of \$2,400 – or almost one-sixth of the household income of half of Metro’s bus riders. (While the data shows Metro rail riders with higher household income, the difference is actually more than what is shown. Since most Metro rail passengers are also bus riders, which brings down the reported income levels, unique Metro rail passengers must have significantly higher income levels.)

There is one other matter to discuss – the impact of the high rate of transfers on MTA riders and what they pay to ride. While there is not as much published literature on transfer rates as we would like, the best available data shows a national ratio of unlinked to linked trips of approximately 1.5:1⁹ -- which appears credible to industry professionals with experience with

⁸ “Data Center,” <https://www.metro.net/news/research/>

⁹ American Public Transit Association, *A Profile of Public Transportation Passenger Demographics and Travel Characteristics*, May 2007, Table 23: Number of Transfers per Transit Trip, page 34, produces a ratio of unlinked to linked trips of just over 1.5:1.

http://www.apta.com/resources/statistics/Documents/transit_passenger_characteristics_text_5_29_2007.pdf

Stephen E. Polzin and Xuehao Chu, *Public Transit in America: Results from the 2001 National Household Travel Survey*, National Center for Transit Research, September 2005,” Table 4-3, Nationwide Distribution of Linked Transit Trips by Transfers,” shows a weighted average of ~1.16:1, unlinked passenger trips: linked trips; however, this appears very low and, therefore, has been rejected for utilization in this analysis.

multiple large transit agencies. With Metro riders requiring almost 50% more unlinked trips to complete their linked trips ($2.25/1.5 = 150\%$) than the industry norm, this means that they are paying for almost 50% more unlinked trips on each linked trip.

For NTD FY14 reporting year, the Metro average fare/boarding (bus, light rail, and heavy rail combined) was \$.78, which is 29% lower than the average of FTA “Top 45” (without Metro) weighted average of \$1.13 – but, adjust for the higher number of unlinked trips required to complete a linked trip, and the average fare per passenger it is 4% higher.

To look at the data another way, for the same reporting year, Metro’s average bus fare per boarding, \$.80, was \$.26 lower and 75% of the average of its peers, \$1.06 – but its average subsidy per bus boarding of \$1.77 was \$.73 lower and 71% of the average of its peers, \$2.50.

Sounds like Metro bus riders *and* Metro taxpayers are both getting a very good deal, compared to those of their peers – and the taxpayers are actually getting a better deal than the riders. It is the relatively poor performance of Metro’s Light and Heavy Lines that makes Metro less cost-effective overall.

1985 TO 2016 COMPARABLE RIDERSHIP – FOR SCRTD/METRO AND LOS ANGELES COUNTY IN TOTAL

But, we have not yet told the full story -- as I said at the beginning, the reality is that things have actually gotten far worse than the UPT time taken alone line makes it appear.

SCRTD/Metro Service Transferred to Other Los Angeles County Transit Operators

Before we get into the negatives, let’s begin by making a correction that makes Metro performance appear somewhat better. Nelson and Weikel point out that “Foothill Transit is no longer counted in Metro boardings after 1988, ...” but do not quantify this factor. When I was SCRTD CFO, I did – expressed in FY85, terms, the ridership on the lines that SCRTD transferred to Foothill and other Los Angeles County transit operators, plus some later minor transfers by Metro, were approximately twelve million. Correcting for this, it would fair to compare Metro ridership after the late 1990’s to a restated peak of approximately 485 million UPT in 1985, down from the 497.2 million that SCRTD (properly) reported for that year.

Linked vs. Unlinked Passenger Trips

But, there are two factors that go strongly the other way. First, the ridership numbers we have been using are all expressed in terms of *Unlinked* Passenger Trips. A UPT is created each time a passenger boards a transit vehicle.

Another way of measuring transit ridership, one that is far superior for many purposes, is *Linked* Passenger Trips. To define by definition, if a rider takes a bus from her home to a rail station, where she boards a train to her place of work, that creates two unlinked and one linked transit passenger trips.

Linked trips are far superior to unlinked for measuring use of the transit for total, origin-to-destination trips – which are far more important for both users and those that are planning, designing, and operating transit systems, rather than counting the number of passes through the doors of buses and trains.

However, it is rare for transit agencies to report linked trips, which are far, far more difficult to determine – so, the transit industry has always reported what it can measure, usually (but not always) with a reasonable degree of accuracy: unlinked trips.

Here’s the problem with measuring transit ridership over time by using (only) UPT – if the transfer ratio changes, and this is not taken into account, the percentage changes in origin-to-destination trips, and people using transit, could be way off ... and that appears to be exactly what has occurred with SCRTD/Metro ridership since the introduction of rail.

In almost all cases, when rail lines are added to an all-bus transit system, the average number of transfers goes up. This is common sense – in Los Angeles County, there are approximately 20,000 bus stops, but only about 66 unique MetroRail stations (not including MetroLink stations), so, even though most rail stations have a lot more going on near them, the vast majority of riders cannot take transit trips in LA through rail alone because the walking distance to the nearest station, and the station nearest the destination, are too long for rail-only trips.

A ridership survey done by SCRTD during 1990-92, when the Long Beach-Los Angeles Blue Line was the only rail line, and its UPT was less than 3% of total UPT at the end of this period, showed a ratio of unlinked to linked trips of 1.66:1. More recent Metro surveys have varied somewhat, but have consistently been higher, including one (almost certainly incorrect) that showed ratios over 3.0 for both bus and rail passengers. Most surveys are in the range of 2.25:1 to 2.40:1; I’ll go with 2.25:1 to be on the conservative (not trying to overstate the effect) side.

If we assume that the 1.66:1 ratio is valid for the pre-rail period, including the peak in FY85, and the 2.25:1 ratio is valid for the most recent year, that would mean that linked trips have gone down, compared to unlinked trips, by a factor of 25% ($2.25/1.66 = .753$; $1 - .753 \rightarrow \sim 25\%$ decline).

Change in Los Angeles County Population, FY85 to FY16 (and FY14)

The last factor is population growth. California Department of Finance, Demographic Research Unit (DMU), reports Los Angeles County estimated population of 8,121,000 for January 1, 1985¹⁰ (the mid-point of FY85) DMU reports Los Angeles County population of 10,136,559 for January 1, 2015¹¹. To compare transit trips *per capita*, population obviously must be factored in.

¹⁰ Population Estimates for California Cities and Counties, January 1, 1981 to January 1, 1990: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/1981-90/>

¹¹ E-1 Cities, Counties, and the State Population Estimates with Annual Percent Change— January 1, 2014 and 2015, <http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/view.php>

Let’s now look at what may be the single most important factor for comparing ridership trends – linked passenger trips *per capita*. The formula for this is:

$$\frac{\dots(\text{Unlinked Passenger Tips})\dots}{(\text{Population}) \times (\text{Ratio of Unlinked:Linked Trips})}$$

For FY85, the computation is:

$$\frac{\dots 485,000,000 \dots}{8,121,000 \times 1.66} = 36$$

For FY16, the computation is:

$$\frac{\dots 435,800,000 \dots}{10,136,559 \times 2.25} = 19$$

So, from FY85 to FY16, linked SCRTD/Metro linked transit trips *per capita* have gone down approximately 47%.

Los Angeles County Transit Ridership

However, in fairness, we must make one last adjustment – for over three decades, there has been a policy of shifting funding for bus transit operations from what was originally the SCRTD (and is now Metro’s own transit operations) to the “Municipal and Included” (hereinafter referred to as “Muni”) transit operators¹² -- and, as one might expect, this has produced an increase in Muni ridership as a percentage of the entire Los Angeles County transit ridership.

This was a very deliberate decision made by the Commissioners and staff of the Los Angeles County Transportation Commission (LACTC) decades ago to work against SCRTD, with which had major clashes on multiple major transportation issues, and this shift of funding had the double benefit (to LACTC) of reducing the funding of SCRTD and getting the Muni operators to support LACTC over SCRTD.

The original allocation formula, which was adopted as a LACTC policy, was carefully crafted to move funding away from SCRTD to the Muni’s. The most important element was to create two operation funding “pots,” one allocated on the basis of vehicle revenue miles and the other on the basis of ridership. However, rather than allocating the “ridership” pot on the basis of actual ridership, using the unlinked passenger trips data that all Los Angeles County transit operators report to the U.S. Department of Transportation/Federal Transit Administration National Transit Database (NTD), with the UPT data collection process being reviewed by each transit operators auditor’s as a requirement of the NTD submission process, LACTC created its own metric for allocation of these funds, “fare units,” calculated by dividing fare revenue by the adult cash fare.

¹² The “Muni” operators are those that were originally sponsored by the non-City of Los Angeles cities in Los Angeles County, such as the transit operations of the Cities of Culver City, Long Beach, Santa Monica, etc.; the “Included” were those established later, such as Foothill Transit and the City of Los Angeles transit operations.

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LACTC staff created this unique metric, never used by anyone else for any purpose, very deliberately, knowing that SCRTD had a policy of deep discount monthly passes – for example, the \$42.00 monthly pass during the \$1.10 adult cash fare era had a multiple of 38 ($\$42.00/\$1.10 = 38.18$), and that the average monthly trips taken on a \$42.00 pass was consistently in the 99 to 100 range. SCRTD also had a high percentage of senior and disabled/elderly and handicapped riders, where the pass price was \$10.00 during this period (subsidized for City of Los Angeles residents, a majority of SCRTD riders, down to \$4.00 cash price by the City), which also hurt SCRTD on this metric compared to the Muni operators.

LACTC also established “penalties” if standards were not met – and then set the rules so that SCRTD was the only operator that could ever be subjected to the penalties. SCRTD was penalized several million dollars for failing to meet the standard for average passenger load for express bus service – in a year when SCRTD’s overall average passenger load was the highest, by far, in the U.S. transit industry. LACTC then opened a competition for these funds open to all transit operators, who were eligible to propose new bus lines, showing expected ridership. If the funds had been allocated on the basis of producing the most ridership per dollar, SCRTD would have received the overwhelming majority of the funding. Instead, LACTC staff recommended allocated funding for one new bus route to each transit operator that applied for funding – again, a move that tended to encourage the Muni operators to favor LACTC in any difference with SCRTD.

After the merger that joined SCRTD and LACTC to form Metro, this discrimination against SCRTD/Metro riders did not end – in fact, due to a variety of political factors I won’t bother with here, it actually increased.

Above, I said that this LACTC policy worked against “SCRTD” – actually, of course, it worked against SCRTD’s riders and potential riders and later, those of Metro.

From the FY14 NTD data (the latest available), MTA ridership was 77.3% of total Los Angeles County UPT¹³. For FY85, it was 87.9%¹⁴.

¹³ The Southern California Regional Rail Authority (Metrolink) is a five-county (Los Angeles, Orange, Riverside, San Bernardino, Ventura) joint powers agreement that operates the greater Los Angeles area commuter rail system in the five member counties and Northern San Diego County. Its 2014 UPT were 2.1% of the total of all Los Angeles County plus Metrolink ridership. Metrolink, *On-Call Market Research Services Metrolink 2015 Origin-Destination Study* – Final Report, showed that 38% of riders were from Los Angeles County in 2015 (Table 13-2015 Home County by Line) and 41% of riders were from Los Angeles in 2008 (Table 14 – 2008 Home County by Line), page 26; the assumption is that 39% of Metrolink ridership is allocated to Los Angeles County: http://www.metrolinktrains.com/pdfs/Facts&Numbers/Surveys/2015_Origin-Destination_Study.pdf

For 2014, it was assumed that 40% of Metrolink riders were from Los Angeles County.

¹⁴ Author’s calculation from data obtained from Florida Transit Information System, Integrated National Transit Database Analysis System, <http://www.ftis.org/INTDAS/Reports.aspx>

Consistent with the prior adjustment, shifting 12 million riders from SCRTD to other operators, this calculation reflects this future shift. On the raw count without this adjustment, SCRTD had 90.1% of total SCRTD UPT for FY85.

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So, if we calculate UPT/Capita using total, not just SCRTD/Metro ridership, the numbers become (using FY14 population and with the same unlinked:linked ratio as previously utilized, which is used because there is no other data to utilize and there are no reasons to believe that the ratio may have changed significantly from FY85 to FY91):

$$\frac{...561,800,000...}{8,121,000 \times 1.66} = 42$$

For FY14, the computation is:

$$\frac{...628,300,000...}{9,980,432^{15} \times 2.25} = 28$$

From 1985 to 2015, linked Los Angeles County linked transit trips *per capita* have gone down approximately 33% – not as big a drop as the 47% for SCRTD/Metro trips alone, but still a very large reduction – particularly when evaluated in combination with the huge increase in taxpayer spending on transit.

UNFAIRNESS OF CITING RAIL INVESTMENTS

Mr. Elkind also states, “In addition, the article is a bit unfair to Metro in citing the billions of dollars that have been invested in rail during this period of declining ridership. Sure, since 2006 the region has been spending a lot of money on rail, but those investments have not yet resulted in actual, open rail lines. Since that year, only the East Side Gold Line and half of the Expo Line (to Culver City) have opened.”

Let’s look at the total time line of Metro rail – and fixed guideway busway openings¹⁶:

¹⁵ DMU, “Table E-1: Population Estimates for Counties and State:2011-2015 With 2010 Benchmark,” <http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2011-20/view.php>

¹⁶ Metro, *Adopted Fiscal Year 2016 Budget*, “Transit Expansion Timeline,” pp. 16-17, https://dlakjheu06qp1r.cloudfront.net/about_us/finance/images/Adopted_FY_2016_Budget.pdf

LOS ANGELES COUNTY GUIDEWAY TRANSIT PROJECTS¹⁷

Fiscal Year Opened	Project	Mid-Point of Expenditure Fiscal Year	Year-of-Expenditure Cost ('000's)	CPI-U Los Angeles	Expenditures in FY16 Dollars ('000's)
1990	Long Beach-Los Angeles Blue Line	1987	\$863,904	114.2	1,863,278
1993	Red Line MOS-1	1989	1,440,239	125.1	2,834,427
1995	Green Line	1993	824,212	148.7	1,364,633
1997	Red/Purple Line MOS-2				
1997	Wilshire/Western				
1999	Red Line MOS-2 Hollywood/Vine	1995	1,818,628	155.8	2,874,775
2001	Red Line MOS-3 North Hollywood	1997	1,324,542	158.8	2,053,541
2003	Gold Line Pasadena	1997	859,000	158.8	1,331,775
2006	Orange Line Phase I	2002	523,038	179.7	716,794
2010	Gold Line East Side	2007	954,717	213.9	1,098,730
2010	Silver Line	2008			
2013	Expo Line Phase I	2009	978,900	223.6	1,078,012
2013	Orange Line Phase II	2011	215,600	229.0	231,842
Various	Rail Car Procurements/Modernizations	2013	701,062	238.4	724,125
N/A	MOS-3 Eastside and Mid-City ¹⁸	1997	153,330	158.8	237,719
	Completed Through FY15		<u>10,657,172</u>		<u>16,409,650</u>
2016	Expo Line Phase II	2013	1,533,623	238.4	1,584,076
2016	Gold Line Extension	2013	950,517	229.0	1,022,124
2019	Crenshaw/LAX	2015	2,066,476	243.0	2,093,435
2021	Regional Connector	2018	1,467,244	251.3	1,437,290
2023	Purple Line La Cienega	2020	<u>2,970,186</u>	256.6	<u>2,850,149</u>
	To Be Completed Post FY15		<u>8,988,046</u>		<u>8,987,073</u>
	Totals		<u>\$19,645,218</u>		<u>\$25,396,724</u>

FY16 CPI-U

246.2

While the above shows \$10.6 billion in capital costs for guideway transit in year-of-expenditure dollars, or \$16.4 billion in FY16 dollars, with another \$9.0 billion (both ways) for projects in

¹⁷ Most cost and date information is from Metro Adopted Budgets, FY06-FY16, the “Major Construction” schedule in the “Capital Program” or equivalent sections: <https://www.metro.net/about/financebudget/financial-information/#budget>

Spreadsheet with detail and citations available upon request.

Metro has long had a practice of opening multiple capital line items for projects; the above consolidates these. For example, the Green Line value above includes \$108 million for the “LA Cars” purchased for the Green Line, the Orange Line includes \$159 million for the purchase of the “Burbank Branch” rail right-of-way originally purchased for the San Fernando Valley East-West Subway and repurposed for the Orange Line, etc.

¹⁸ These were proposed extensions of the Red/Purple Lines that cancelled – the dollars shown were the costs of planning and other activities prior to the cancellations.

work in process, these do not include the costs of planning these projects, which Metro does not capitalize, nor does it include capitalized interest prior to revenue service that Metro does not show (despite this being a requirement of both Generally Accepted Accounting Principles¹⁹ and a State Statute that was passed to require Metro to do so²⁰), plus Metro has long put many costs of its major capital projects into general overhead, rather than charging such costs to specific projects; these expenditures to date are likely well over \$1 billion. Also, these costs do not include any FY16 rail operating costs (\$399 million, from which \$98 million in operating revenue can be deducted²¹); debt service payments (\$294 million in FY16²²), or capital renewal and replacement (\$163 million in FY16²³).

Nelson and Weikel had cited a “\$9-billion investment in new light rail and subway lines,” but, as we see above, this does even include the full costs of the lines that are now in service, even at the year-of-expenditure costs (the \$10.657 billion above also includes \$739 million for guideway bus rapid transit initial capital expenditures). It most certainly does not include any cost of living adjustment, nor any cost of lines that have not yet begun service – if they had made these adjustments, the total would have not been the \$9 billion they show, but \$16.4 billion for the lines in service prior to FY16 over \$25 billion for all lines now in construction.

So, Nelson and Weikel are not faulting Metro for spending on rail lines not in service. They are pointing out that the money that has been spent on building (and operating, and recapitalizing, which is not included in any of the above dollar values) the lines that are in service have not only not increased Metro ridership to the levels it reached before the first rail line even got very far into construction, the ridership has been sinking significantly.

IF THE PURPOSE OF TRANSIT INVESTMENT DECISIONS IS TO INCREASE TRANSIT RIDERSHIP, HOW WELL DO THE DECISIONS OF THE PAST THREE DECADES HOLD UP?

The obvious question is clear to all: Given the very clear record of the past three decades, is expending more and more on what has not succeeded in the past the right decision? Is our only response to failure to do more of what has gotten us into failure? Or should we take another look at what was worked extremely well in the past, quickly, and with a far smaller call on the taxpayers?

Metro is not only not answering this question, it is ignoring it. It is, unfortunately continuing to put out very bad information to justify the continuation of the only answer they have to any

¹⁹ Financial Accounting Standards Board Statement 34.

²⁰ California Public Utilities Code §130513, (Definition of Costs); this Section was passed as part of the Los Angeles County Transportation Commission Revenue Bond Act: http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=12.&title=&part=&chapter=5.&article=2.

²¹ Metro *Adopted Budget* FY16, page 56.

²² *Ibid.*, page 44.

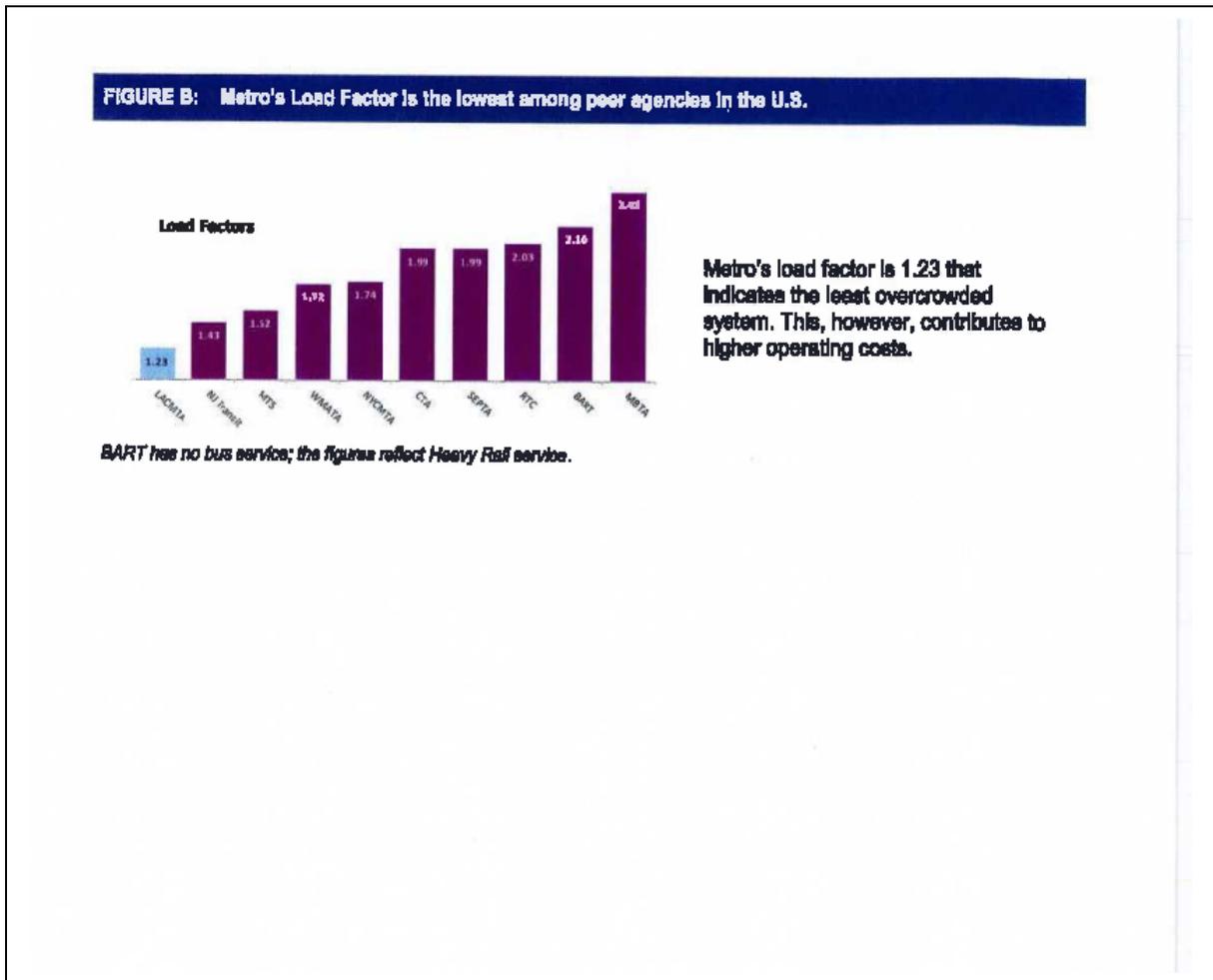
²³ *Ibid.*, page 66.

question that is asked – build more rail, and build it faster, and give us more money to spend on building more rail.

More important, Metro has a long tradition of misstatement of important information to help further the pro-rail agenda.

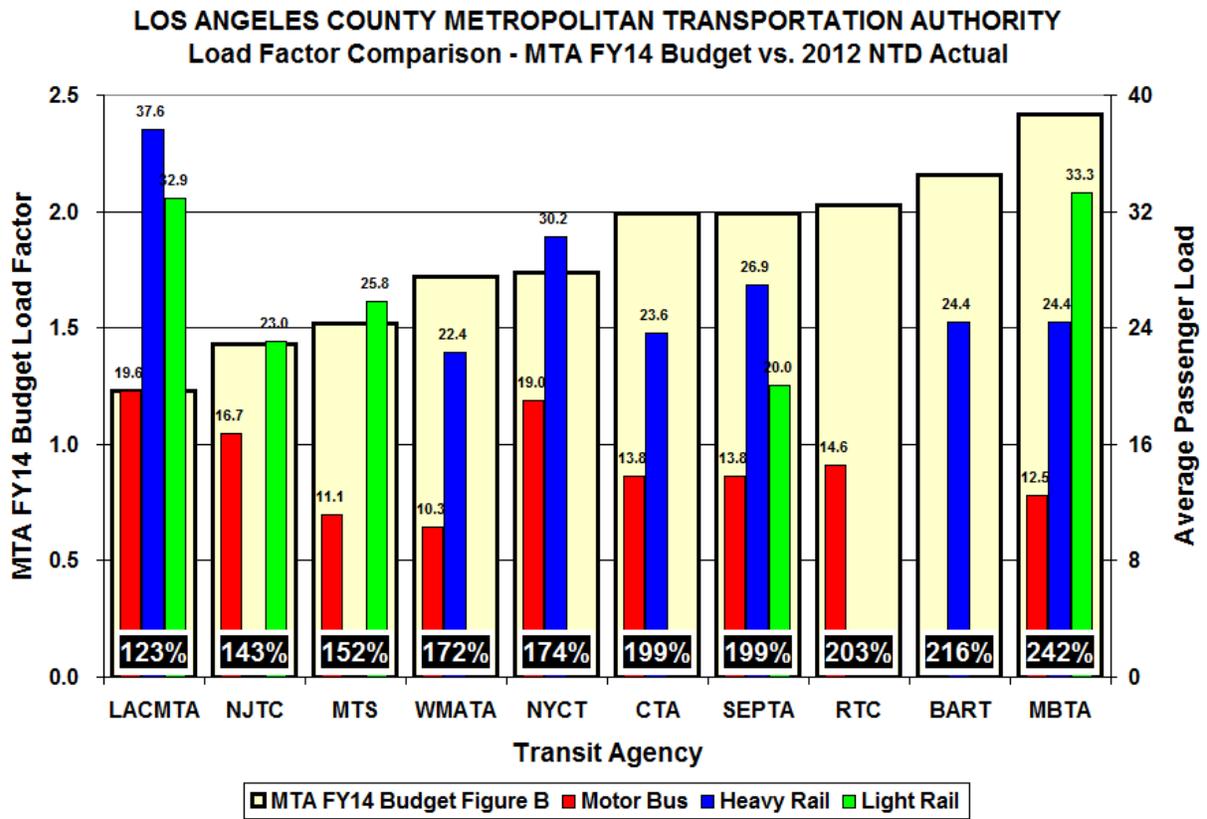
Here are some examples of past Metro misinformation; taken directly from MTA’s own *Adopted Budget*:

Metro Has Had The Highest, Or Almost Highest, Load Factors In The Transit Industry For Decades, But Metro Staff Has Represented That It Has Very Low Factors



According to Metro, it has the lowest load factors of the transit operators compared.

This is so far from the truth that it is amazing that Metro would even attempt such a deception. Here are the actual facts:



The large Yellow bars in the background, with the percentage in white font on black background at the bottom, are from MTA’s graph. The narrow Red, Blue, and Green bars in the foreground are the actual passenger loads for bus, heavy rail, and light rail, respectively.

Metro claims it has very low load factors – but, compared to the same major transit operators its own graph (left to right in the graph), New Jersey, San Diego, Washington, D.C., New York City, Chicago, Philadelphia, Las Vegas, San Francisco Bay Area, and Boston, what we see is:

- Metro’s Bus load factor (the average number of passengers on a bus for the year) is the highest of this peer group at 19.6, even higher than the New York Transit Authority, at 19.0.
- It’s Heavy Rail (Red/Purple Lines) is also the highest, at 37.6, again beating number two New York City, which reported 30.2.
- For light rail (Blue, Green, Gold, Expo Lines), Metro is not the highest – its 32.9 was edged out for number one by Boston, which reported 33.3.
- Overall, there is no question – Metro has by far the highest load factors of any in this peer group.

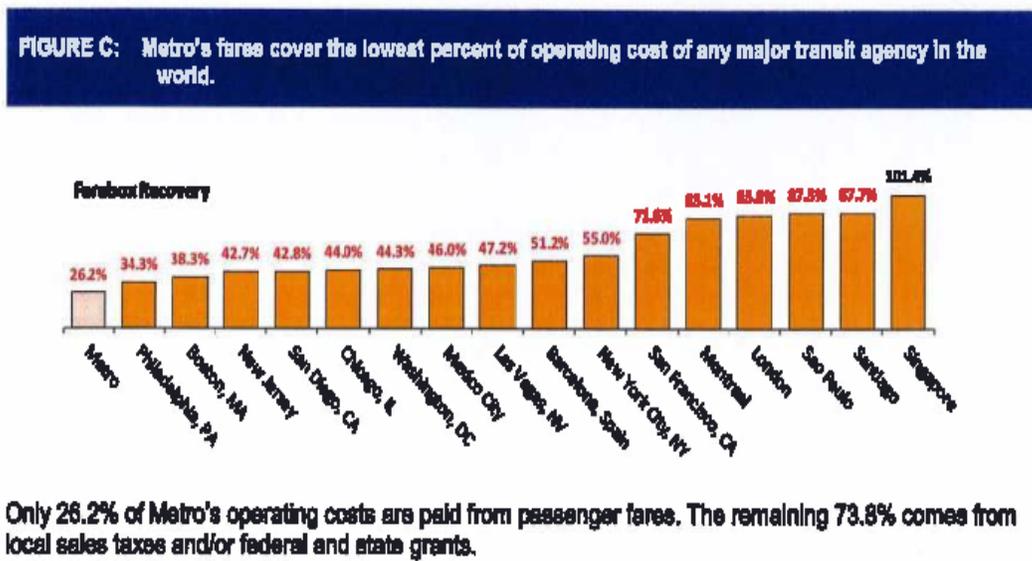
How can this be explained? Metro reports that it is the worst in this very important metric when the reality is that it is far-and-away the best? And Metro reports this in the introduction to what is arguably the most important public document it produces, its annual budget. Somehow, this

incredibly erroneous claim made it all the way through all levels of review and out to the public – as a justification for increasing fares and reducing bus service levels.

Can the explanation actually be that no one at Metro understood how far off this claim was; is the collective incompetence actually that bad? Or is it possible that there is an even bigger problem with presenting the true facts?

Farebox Recovery Ratio Is A Poor Metric For Transit Operating Performance Measurement, But Metro Uses It Instead Of Far Better Metrics – And Then Misrepresents Its Own Performance

The Metro bus operations story is rarely told. Here is another very misleading graphic from the same MTA *Adopted Budget*:

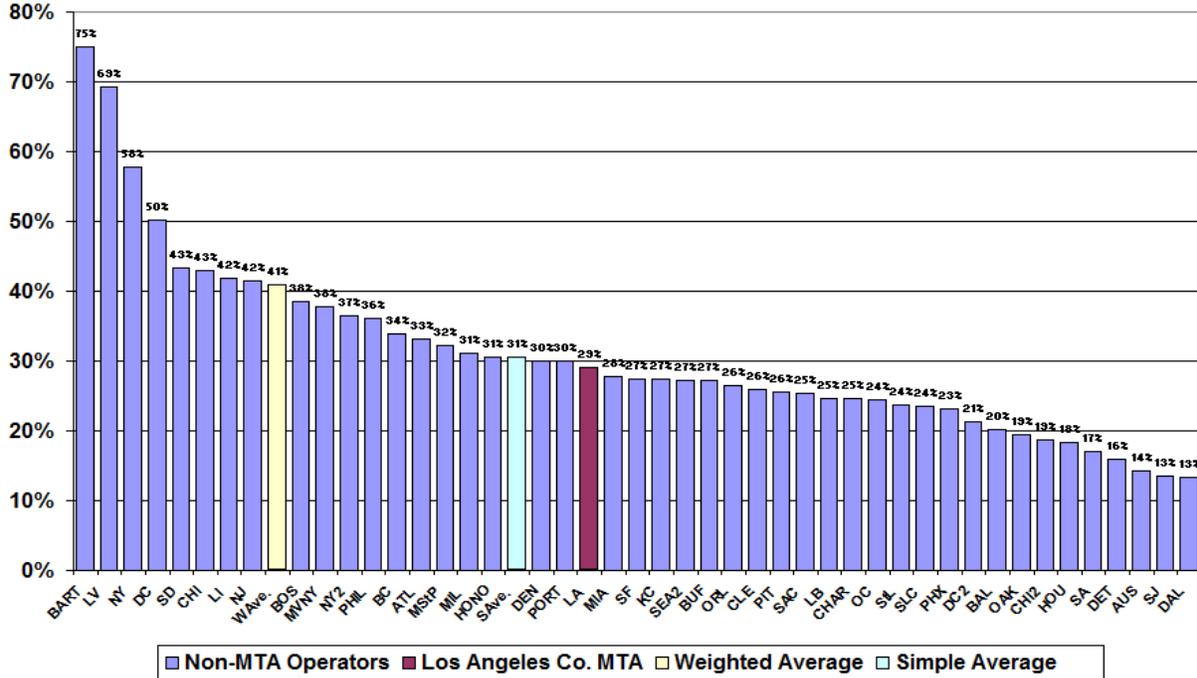


This makes it appear that MTA operations – with bus being the vast majority in terms of both riders and operating costs – are inefficient. However, what we have above is careful selection of

IS THE LOS ANGELES TIME ARTICLE, “Billions Spent, But Fewer People Are Using Public Transportation in Southern California,” MISLEADING?

“peers” that wind up painting a false picture. Rather than selecting a different peer group myself, I instead used the Federal Transit Administration’s “Top 50” list. After removing five agencies that operate 100% commuter rail, or very close to it, here are the results for the remaining 45 bus, heavy rail, and/or light rail operators:

**FTA "TOP 45" TRANSIT OPERATORS
Bus + Heavy Rail + Light Rail Farebox Recovery Ratio**

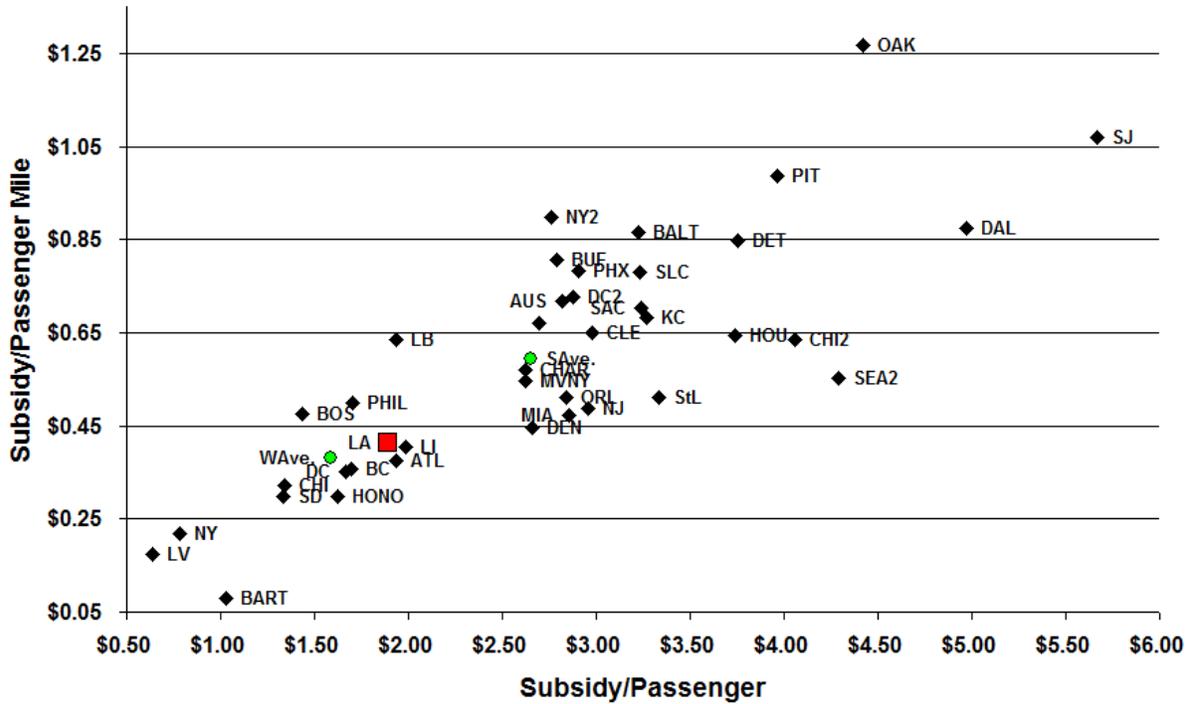


Here, Metro is in the middle – actually, a bit higher, 20th highest of the 45.

But, farebox recovery ratio, while widely used, can be very misleading – particularly in the case of Metro. What is more important is what it costs the taxpayer to move people, because the amount of tax revenue available tends to be somewhat fixed and, the higher the subsidy per passenger, or per passenger-mile, the fewer trips that can be taken.

Here is a graph of those 45 operators showing subsidy per passenger and subsidy per passenger-mile. The best place to be is in the lower left, low subsidy in both of these:

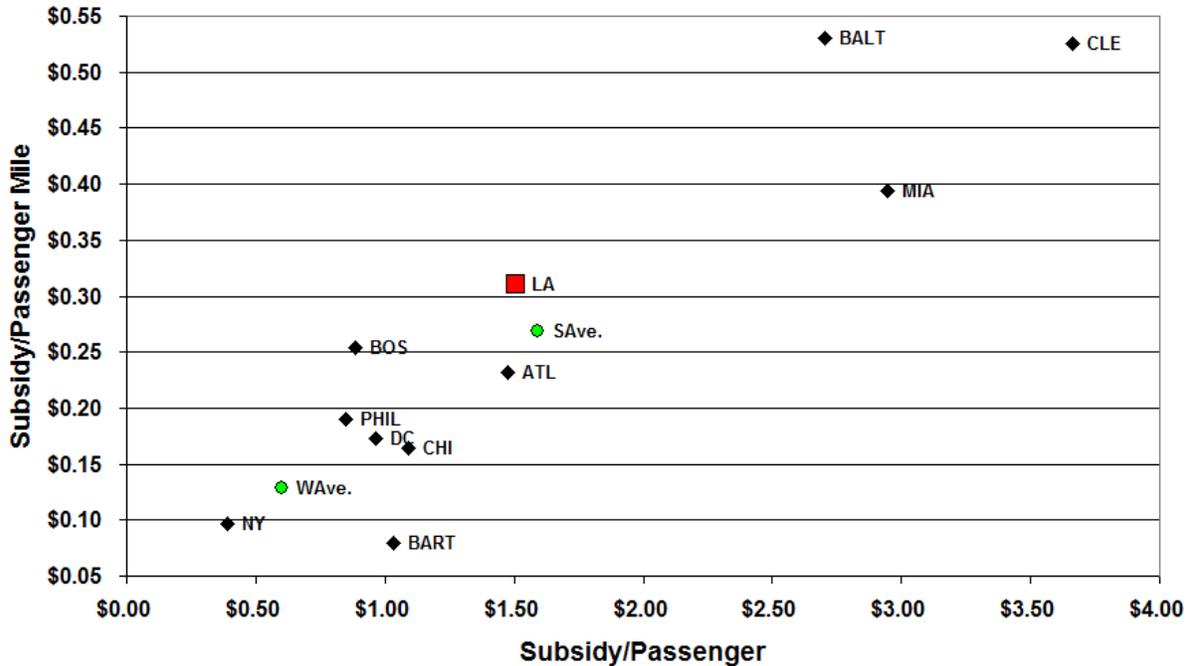
**FTA "TOP 45" TRANSIT OPERATORS 2012
Subsidy/Passenger & Subsidy/Passenger Mile**



While Metro is certainly not the best, nor near the top, it is well into desirable quadrant, far under the simple averages for the FTA “Top 45.”

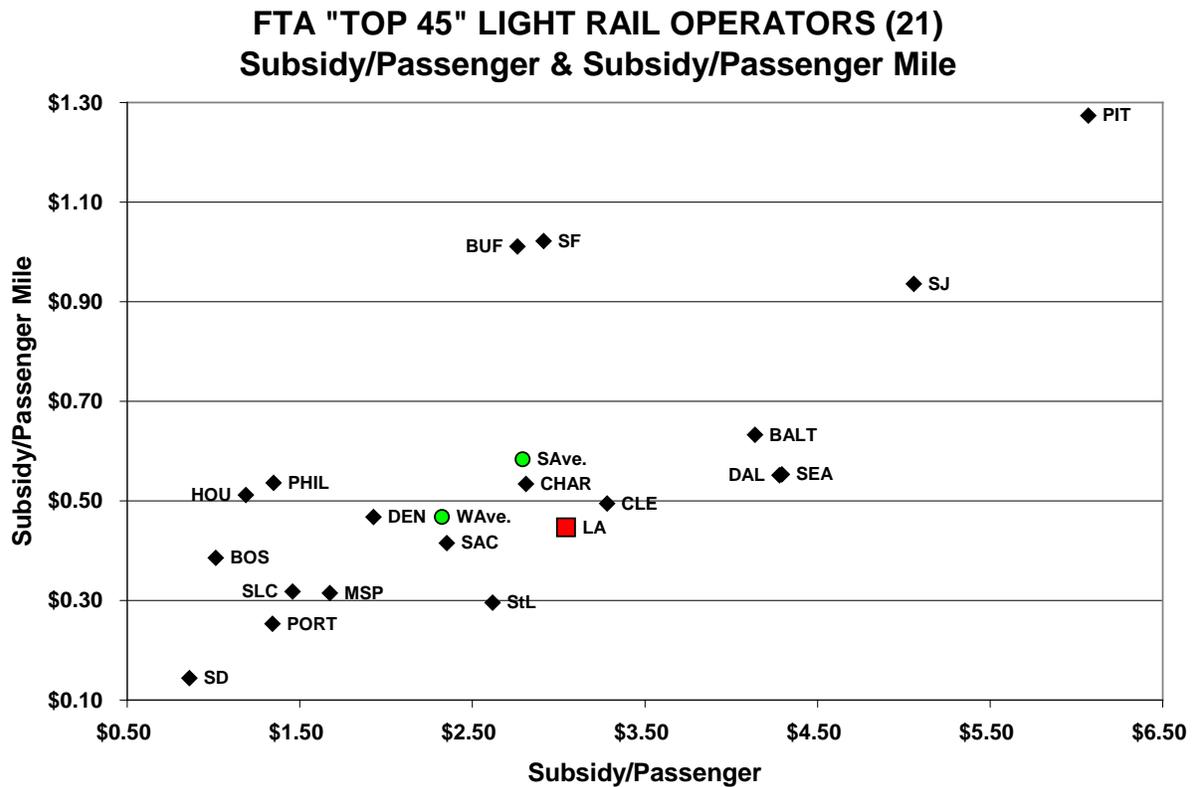
Now let’s break this down by the three main Metro transit modes, heavy rail, light rail, and bus:

**FTA "TOP 50" HEAVY RAIL OPERATORS (11)
Subsidy/Passenger & Subsidy/Passenger Mile**



Metro does very poorly on heavy rail, beating only the three heavy rail operators in Baltimore, Cleveland, and Miami that are widely regarded as failures. The Metro subsidy per passenger of \$1.51 is over two-and-one-half times the weighted average of the group, as is the subsidy per passenger mile of \$.31, compared to the weighted average of \$.12. While it is certainly difficult for any other operator to compete against New York City, almost every other heavy rail system in a major city does significantly better than Metro.

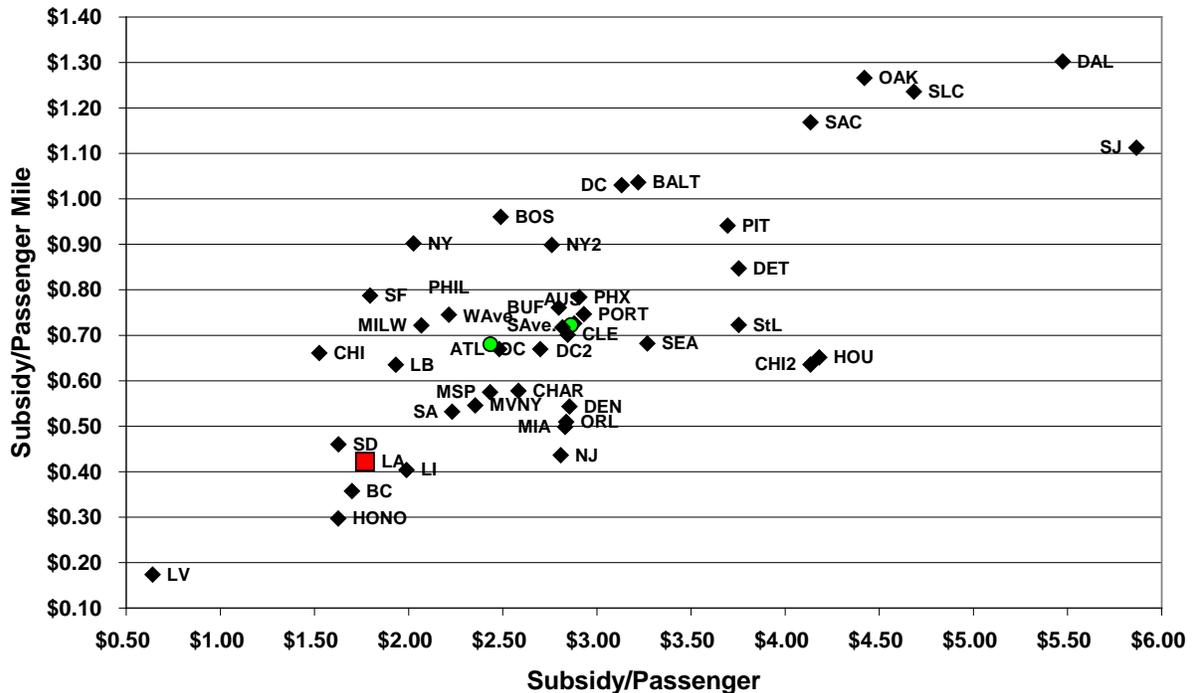
Turning to light rail:



Metro does better with light rail, but only some. Its subsidy per passenger mile, at \$.45, is a penny less than the weighted average of \$.46, but subsidy per passenger, at \$3.04, is 55% higher than the weighted average of \$1.95.

Finally, bus:

**FTA "TOP 45" BUS OPERATORS (43)
Subsidy/Passenger & Subsidy/Passenger Mile**



Here, Metro is clearly a leader. Of the 43 agencies, five had lower subsidy per passenger and five had lower subsidy per passenger-mile, but only three beat Metro on both. Its subsidy per passenger of \$1.79 was 14% lower than the weighted average of \$2.09 and its subsidy per passenger mile of \$.43 was 36% lower than the weighted average of \$.67.

So, we have some very clear winners and losers:

- Light and Heavy Rail in Los Angeles are both extremely expensive to build, require very high capital renewal and replacement, take more than a decade to get from concept to operations, and then have poor operating performance.
- Bus in Los Angeles is relatively inexpensive for capital costs, can be expanded or changed quickly, and posts very good operating results.

And yet, we take action to build more and more rail and continually reduce bus service and increase fares to drive riders away – when what would require only a relatively small shift in funding from rail construction to bus operations and capital would actually produce large increases in ridership, as opposed to continuing to spend billion after billion after billion on rail transit, which produces ridership losses.

In summary, what we have here is not only a series of obviously poor transportation funding decisions, many poorly implemented, but a significant and continual long-term effort by Metro to misstate the facts and outcomes of its decisions.

THE U.S. LEGAL SYSTEM HAS ONLY TACKLED THE RELATIVE PRODUCTIVITY OF SPENDING ON BUS AND RAIL ONCE – IN LOS ANGELES

Let me end with a legal finding that is, to the best of my knowledge (and I’ve searched), unique in the U.S. judicial system; the *only* time that there was actually a finding as to the relative value of investment in rail vs. bus.

The following is an excerpt from the Special Master Donald T. Bliss decision in the long-running legal battle between the parties in regard to MTA's compliance with the terms of the Consent Decree (CD) *re Labor/Community Strategy Center v. MTA* mentioned above.

The specific question that was before the Special Master was the amount of bus service that MTA would have to add to come into compliance with the load factor reduction elements of the CD, including how many hours of service, the number of buses to be purchased, and a variety of other matters. In ruling on the specifics of these matters, both in the larger sense and in the details, Special Master Bliss, while giving neither side all that it was seeking, was generally far closer to plaintiff's positions on most matters, including the main issues, the number of hours of service to be added and the number of buses that would have to be purchased.

In their presentations to Special Master Bliss, both parties not only argued the law of the case, but also presented extensive materials on the positive and negative *equity* impacts of potential decisions, as each side saw them. While the Decision was clearly made on the law, Special Master Bliss took the opportunity to explain his evaluation of the "equity" arguments.

With that background, the following – footnote 22, page 32 – is offered without further comment, except to note that the concluding paragraph below is Special Master Bliss’ words and he is *not* quoting any other party:

"MTA’s new management apparently is not pleased with the way the Consent Decree entered into by its predecessors has been implemented. In his declaration, David Yale states that “the Consent Decree has had no benefits that could not have been achieved without the Decree, and it has diverted significant financial resources in process to questionable bus service expansions,” Yale Decl. 19, which are “a poor investment of scarce public funding.” Id. 17. Moreover, according to Mr. Yale, “the Consent Decree has, and will continue to have, detrimental impacts on the Regional Transportation System in Los Angeles County for many years to come.” Id. 4. Without the Decree, Mr. Yale states that the MTA “would have had additional financial resources” for highway construction. Id. Mr. Yale candidly acknowledges that “the MTA has carefully developed a short range plan that balances these needs as best it can under the constraints of the Consent Decree” Id. (emphasis added). However, Mr. Yale continues, “any further unanticipated financial changes that are needed for the Decree will have to be undone as soon as the Decree expires in early FY 2007....” Id. (emphasis added).

"Given these views on the alleged shortcomings of the Consent Decree presented by an MTA planning official in the record of this proceeding, it is all the more imperative that the MTA commit to a specific bus capacity expansion program that will provide lasting improvements in the quality of bus service for the transit-dependent -- in accordance with the letter and spirit of the Consent Decree -- beyond the expiration of this Decree. It should be noted

that Mr. Yale’s views present an interesting contrast to what the MTA staff apparently wrote, at least with respect to the procurement of new buses, in a briefing for the MTA Board on the Consent Decree. The staff outlined the benefits of compliance with the Decree, including the transformation of the MTA bus fleet from “the oldest to the newest fleet of major bus companies,” and stated that “MTA’s new buses are worth every penny.” See Declaration of Thomas A. Rubin Re Consent Decree Costs at Attachment II (Oct. 14, 2003) (“Rubin Decl. Re Consent Decree Costs”) (briefing update on Consent Decree prepared by MTA staff dated September 19, 2002).

"Furthermore, the BRU and its expert, Thomas Rubin, who have been sharply critical of the MTA’s implementation of the Decree, also have presented a more positive view of the benefits achieved by the Decree in improving bus service for transit-dependent riders, which is, after all, the singular purpose of the Decree. In his Declaration Re Reallocation of MTA Funds, Mr. Rubin analyzes in detail the effects of the Consent Decree, finding that in the six-year post-Consent Decree period, the MTA has gained a total of 81.6 million annual riders. Rubin Decl. Re Reallocation of Funds 23. According to Mr. Rubin, MTA ridership increased from 364 million in 1996 to 445 million in 2002, resulting in an increase in total fare revenues of \$100.5 million over the six-year period. Rubin Decl. Re Consent Decree Costs at 3. This in stark contrast to a loss of 133.6 million annual passengers over the eleven year period preceding the Consent Decree. Rubin Decl. Re Reallocation of Funds 23. Mr. Rubin also shows that, even taking into account what he views as “extremely overstated” Consent Decree expenditures per new rider, the cost per new rider -- 83% of whom are bus riders -- is still far below other transit modes. *Id.* 25, 26, 28. Mr. Rubin describes other benefits of the Consent Decree: “The [Consent Decree] has made great progress in reducing overcrowding, and pass-by’s, on MTA bus routes . . . MTA service has also become more reliable and the condition of MTA’s bus fleet improved substantially as the average age has decreased. The fares to ride MTA bus and rail have been kept low for MTA’s huge numbers of extremely low-income riders. The service added for CD compliance has meant shorter headways, and the reduced overcrowding has decreased running times, speeding travel for these bus riders. The Rapid Bus Program, which MTA has claimed as a [Consent Decree] cost . . . is another significant benefit for bus riders. Many new bus lines have begun service. The speed-up of bus replacement has meant cleaner air for all Los Angeles County residents All in all, hundreds of thousands of MTA bus and rail riders each day, and many more non-transit users, are receiving benefits in lower cost transit; a faster, higher quality, and more reliable transit experience; access to new destinations; and improved environmental quality and traffic flow – all due to the workings of the [Consent Decree].” *Id.* 27.

"Hopefully, these benefits are not the temporary results of a “short range plan” due to expire at the end of the Consent Decree but rather are permanent improvements in the quality of bus service that will be sustained well beyond the Decree’s expiration."