METRO'S 28 BY 2028 PLAN: A CRITICAL REVIEW XIV. METRO'S CONGESTION ERADICATION AND FARELESS TRANSIT PROPOSALS ARE UNREALISTIC

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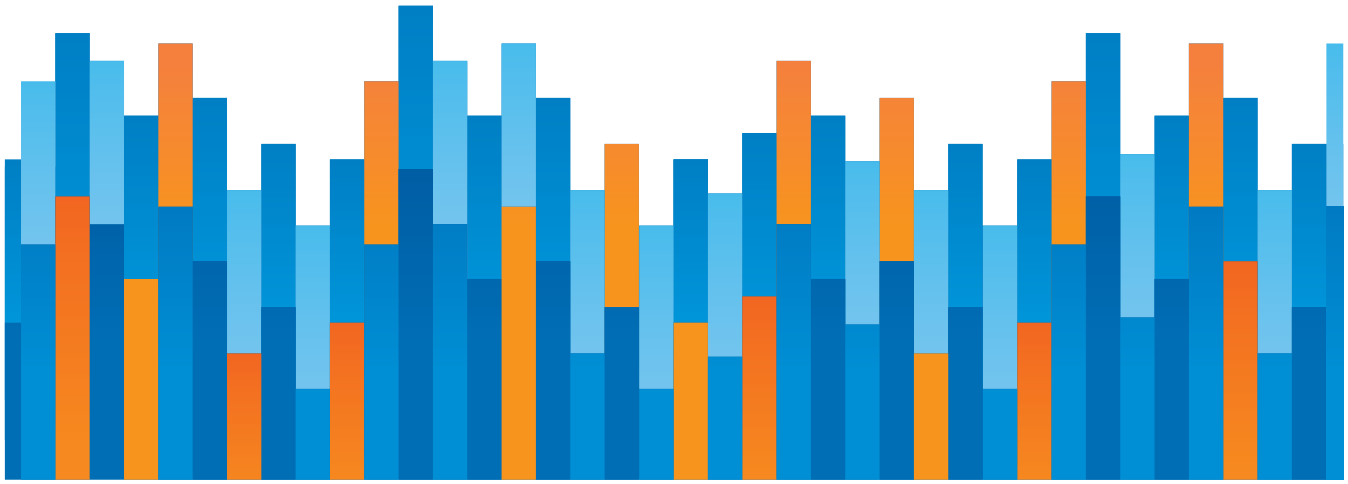

XIV. METRO'S CONGESTION ERADICATION AND FARELESS TRANSIT PROPOSALS ARE UNREALISTIC

Metro's press release for the draft Expenditure Plan for what became Measure M states:

> *The performance benefits of the plan include an increase of 80 million additional transit boardings per year or 3.2 billion additional riders during the 40 year period. Additionally, this will increase transit mode shares currently at 7% to a projected 20-30%. The major projects are estimated to reduce vehicle miles traveled by nearly 5 million daily (regionwide), reduce person hours of delay on the road by 15 percent, and reduce daily hours of truck delay by 15%, resulting in greenhouse gas reductions of four percent.*[1]

The *28 by 2028 Plan* presented to the Metro Board makes two major additions to the initial Measure M Plan:

1. Proposed additional revenue sources, led by congestion pricing and
2. Accelerating eight Measure M projects to completion by 2028.

The *28 by 2028 Financial Plan – Laying the Groundwork*[2] concludes with:

> *Final Thoughts – These bold actions, especially our congestion pricing initiative, could position the agency to lead the way in number of regional benefits and outcomes: …*
>
> - *Eradicating congestion*
> - *First major city in the world that could offer free transit services and in time for the 2028 (Olympic and Paralympics) Games*

Unfortunately for the *28 by 2028 Plan*, Metro, and Los Angeles County, the revenues that will be generated by implementation of the congestion pricing and other new proposals will be, at best, a fraction of what Metro projects (Summaries 9 and 12, respectively). Other revenues, such as from sales taxes, will also be considerably less than Metro has assumed (Summary 7).

The initial Measure M Plan, and the benefits attributed to it are unrealistic. Further, it is questionable if any of the major additional projects will be implemented by 2028, except at the cost of some of

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1 "Metro's Bold Plan to Transform Transportation." Metro Press Release. March 18, 2016. https://www.metro.net/news/simple_pr/metros-bold-plan-transform-transportation/

2 PowerPoint™ presentation at MTA Board Meeting. December 6, 2018. Slide 32. http://metro.legistar1.com/metro/attachments/e48e3ad9-7f42-4011-849c-5666ed4f0cc6.pdf

Measure M's 20 baseline projects not being implemented. This could include even more reductions in bus and overall transit ridership than has occurred since the *Labor/Community Strategy Center v MTA* Consent Decree terminated in FY07.

MEASURE M'S UNREALISTIC FORECASTS OF RIDERSHIP INCREASES

Metro's Measure M statement that an increase in ridership will increase transit's mode share from 7% to 30% mixes the terms "boardings" and "passengers." From the context, Metro appears to be discussing boardings, or unlinked passenger trips (UPT). Assuming that Metro's prediction of a 40-year increase of 3.2 billion total riders is correct, relative to FY17, and assuming a constant rate of change year-over-year, ridership would have to increase more than 3.9 million boardings in the first full year of Measure M sales tax collection (FY18) and more than 7.8 million in the second year, etc., ending with 156.1 million additional riders in the last year of the forecast (FY57). We will assume this projection refers to county-wide transit ridership, and that non-Metro transit ridership will remain constant over this Measure M 40-year projection period.

Metro set this ridership goal in spring 2016, when 2015 UPT for all Los Angeles County transit operators was 556.2 million, including 40% (3.6 million) of the Southern California Regional Rail Authority's (Metrolink) UPT of 14.0 million that was allocated to Los Angeles County.[3] Adding the 2057 increase of 156.1 million UPT to the 2015 county UPT count produces a forecast of 712.3 million—a 28% increase. Increasing transit's current modal split of 7% proportionally by this same 28% produces a new transit modal share of 9%, which is well below 20%–30% from Metro's Measure M projection.

Even achieving this percentage increase is questionable. The Metro UPT was 82% of county UPT in FY15. From FY15 to FY20, the Metro UPT is not projected to grow by 3.9 million a year for a total increase of 15.6 million. Rather, it has dropped every year since FY15; and, for FY20, Metro is budgeting for a *reduction* of 72.2 million in UPT relative to FY15. *FY20 Proposed Budget* (page 44) shows 380.8 million UPT, vs. the 453.0 million that Metro reported to the National Transit Database for FY15.[4] Combining the actual Metro UPT for FY18 with Metro's projections for FY19 and FY20 from the *Adopted Budget FY20*, Metro does not anticipate cumulative growth in ridership of 24 million over the first three years of the 40-year period (beginning in FY18). Instead, Metro is budgeting for a cumulative ***decrease*** of 206.5 million. To still achieve growth of 156.1 million UPT by FY57, Metro will have to grow ridership by 6.5 million UPT a year over 37 years, more than two-thirds higher than implied by the original Measure M forecast of 3.9 million.

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[3] National Transit Database. Operator "Profiles" for 2015 Reporting Year. https://www.transit.dot.gov/ntd

[4] Ibid.

Also, the Los Angeles County population is projected to increase 10.2% between 2015 and 2057 to 11,250,653.[5] If travel patterns remain constant, the 28% increase in Metro ridership would produce a 16% increase in transit modal split, adding a bit over 1% to the current transit modal split of 7%, which is even further from Measure M's forecast of 20%–30%.

(128%-110%)/110% = 16%

The FY15 county UPT of 556.2 million is associated with a 7% transit modal split. How much growth in UPT would be required to get to a modal split for transit of 20%–30% by 2057? If county population grows 10.2% by 2057, and county travel patterns do not change other than by a modal shift toward transit, 1,751.2 million boardings would be required to reach 20%, the lower end of Metro's forecast. Ridership would have to grow 215% from the FY15 starting point, an average annual ridership rate of growth of 2.77% for 42 years.

556.2 million boardings x [20%/7%] x 110.2% = 1,751.2 million boardings

However, FY15 ridership is not the best starting point. Metro's expected ridership has deteriorated to an *Adopted Budget FY20* projection of only 381 million. If Metro is going to reach its 20% transit modal split forecast, it has to add 262% of FY20 projected ridership—an average annual rate of growth of 3.54% for 37 years. To achieve the upper end of Metro's forecast, a 30% transit modal share, the agency has to achieve 2,626.9 million boardings, adding 442% of FY 20 ridership in 37 years, an average annual growth rate of 4.68%.

556.2 million boardings x [30%/7%] x 110.2% = 2,626.9 million boardings

These growth rates are extraordinarily high. **Figure 1**[6] shows the observed average annual ridership growth rates for transit agencies in major U.S. urbanized areas (UZA) over the 26-year period from 1985 to 2011 vs. 1985 average annual UPT *per capita*. The efficient frontier line represents the highest growth rate of any U.S. transit agencies during this period, that is, no agency reported a growth rate above the line. **Figure 1** also displays the growth rates required to reach Measure M's 20% and 30% transit modal split forecast, using FY20 starting point. These rates are far beyond what any comparably sized agency achieved in this interval.

Metro's projection of enormous transit ridership growth over the next four-plus decades is not believable, particularly given Metro's record of ridership losses over the past three-plus decades.

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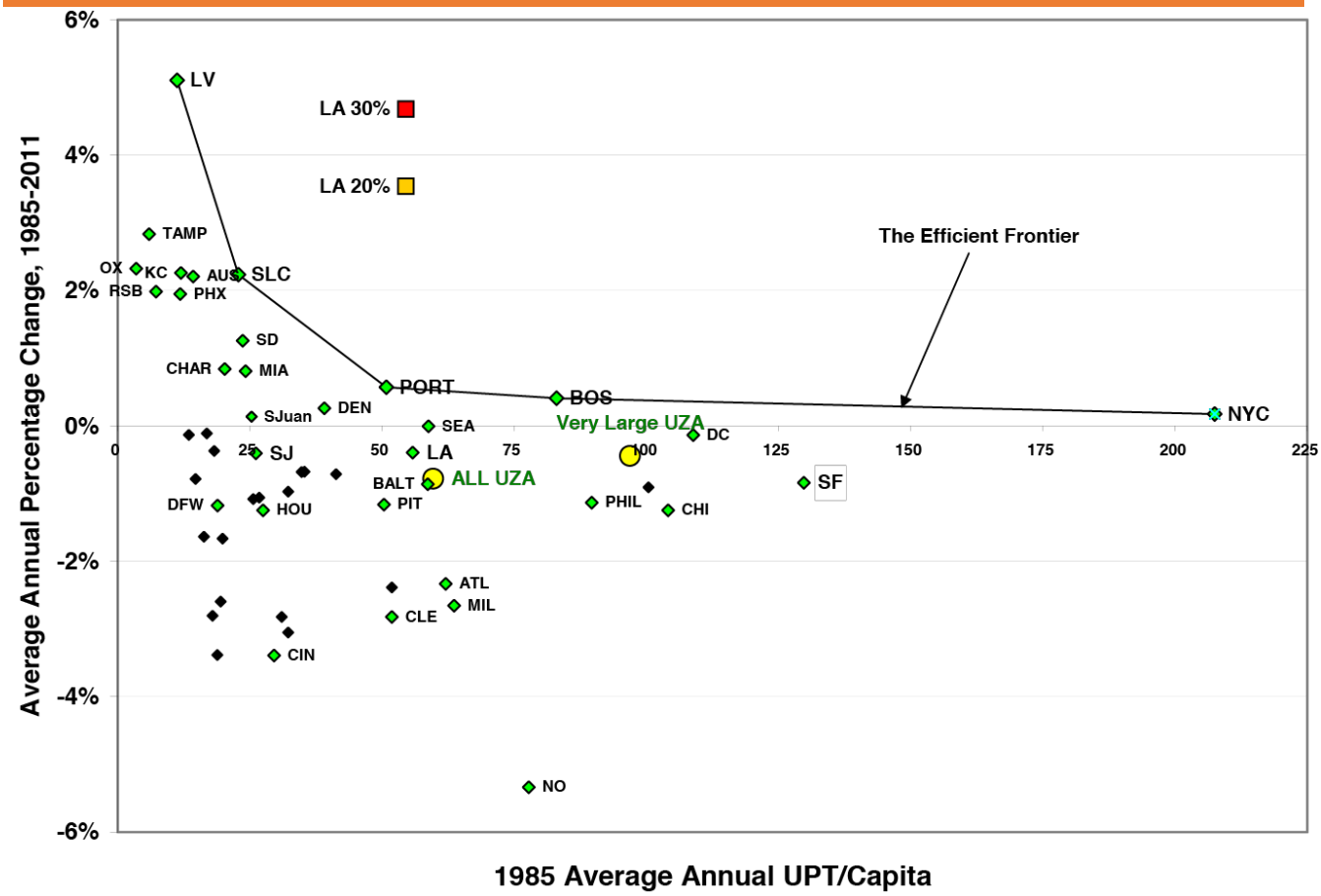
5 State of California. Department of Finance. Demographic Research Unit, P-1, State Population Projections (2010-2060), Total Population by County. http://www.dof.ca.gov/Forecasting/Demographics/Projections/

6 Author's calculations on data from Texas A&M Transportation Institute (TTI). *2012 Urban Mobility Report.* https://www.transportation.gov/utc/2012-urban-mobility-report-released-new-congestion-measures

For the transit modal split to grow from the current 7% to 20% or 30% over the 40-year period projected by Metro, it would require a transit growth rate of 8.3 and 11.0 times the rate of the "efficient frontier." As the efficient frontier is the performance boundary that no major transit agency has surpassed 1985–2011, achieving these growth rates is highly unlikely; particularly since both Metro and the typical very large UZA lost ridership at an average annual rate of -0.4% during this period. Metro's rate has dropped even more significantly since 2011.

FIGURE 1: U.S. URBANIZED AREAS OVER 1,000,000 IN 2011 Growth in Unlinked Passenger Trips per Capita 1985-2011



Source: Authors' calculations from 2012 Texas A&M Transportation Institute Urban Mobility Report

THE *PLAN* AND CONGESTION RELIEF

"Eradicating congestion," as set forth in the *28 by 2028 Plan*, is an attractive goal that is not achievable. Consider the dictionary definition of "eradicate:"[7]

> *to refuse or destroy utterly; extirpate.*

"Extirpate" in turn is:[8]

> *to remove utterly; destroy totally; exterminate; do away with.*

Translating this standard into professional transportation planning and engineering terms, the only reasonable meaning for "eradicating congestion" is achieving network Level of Service (LOS) A. This is the least congested traffic condition, under which drivers have the highest level of physical and psychological comfort. The congestion the LOS A driver experiences depends on roadway design characteristics, conditions, and traffic. According to the *Highway Capacity Manual:*[9]

> *LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.*

In urban areas, LOS A generally occurs late at night. Subsequent editions of the *Highway Capacity Manual*[10] have broadened the definition of "Level of Service" to include multimodal elements, but LOS A conditions defining the driver experience are unchanged.

The use of "eradicating" in this context is unrealistic. Further, it is nonsense to assert that the measures included in the *Plan* can eradicate congestion. The only way to eradicate congestion would be to eradicate most travel. There is no technical rationale for using this objective as a closing argument for the *28 by 2028 Plan*.

Metro's promise that Measure M will "… reduce person hours of delay on the road by 15 percent, and reduce daily hours of truck delay by 15% …," is not as outrageous as the prospect of "eradicating congestion," but it is far from clear how Metro expects this to happen. **Figure 2** shows Metro's record, and those of the other agencies responsible for road use and related matters, for achieving

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7 *Webster's Encyclopedic Unabridged Dictionary of the English Language.* Gramercy Books, 1989.

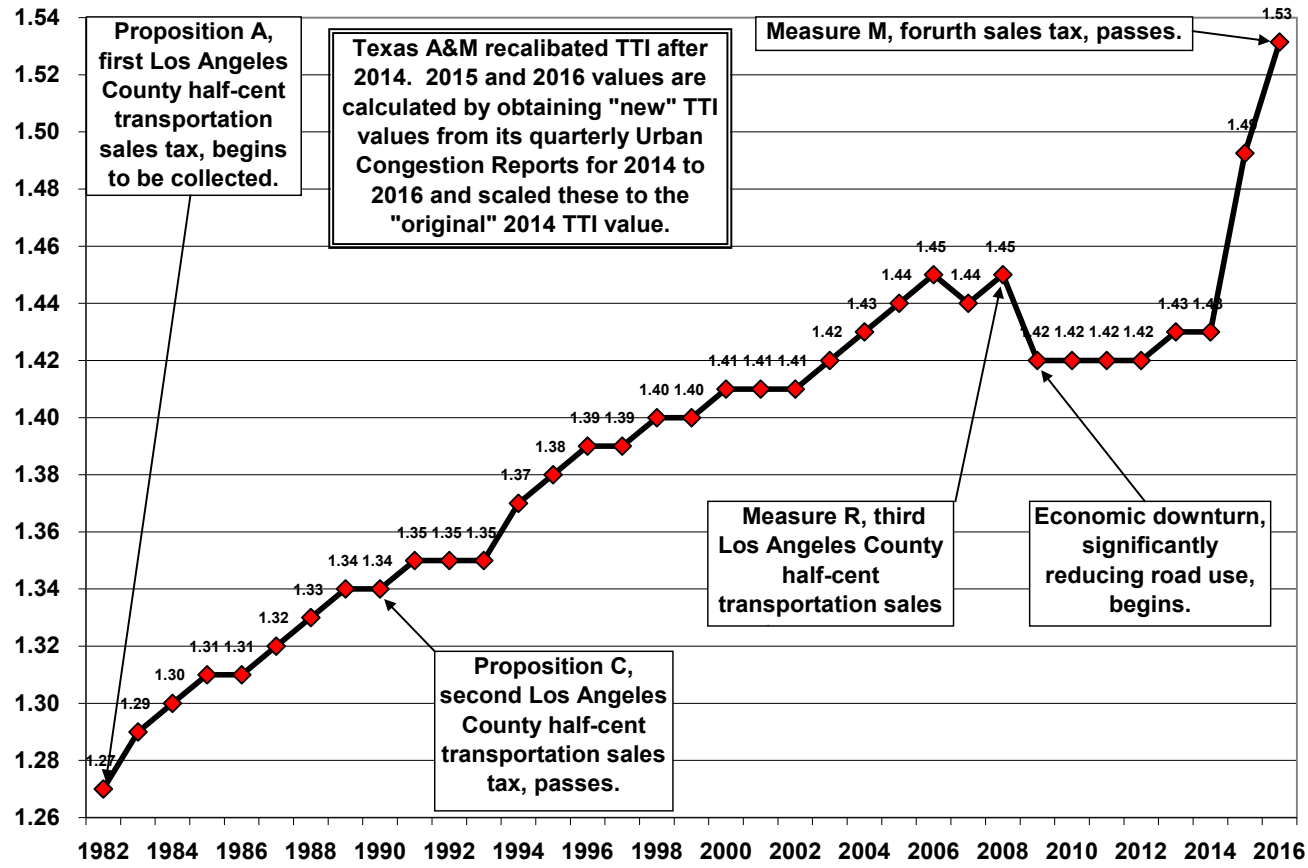
8 Ibid.

9 Transportation Research Board. *Highway Capacity Manual*, *HCM 2000 Edition.* National Research Council, National Academy of Science. 2000. 10-5.

10 Transportation Research Board. *Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis.* National Research Council. National Academy of Science, 2016.

improvements in traffic congestion by using the metric of "travel time index" (TTI).[11] TTI is "(t)he ratio of travel time in the peak period to travel time at free-flow conditions. A Travel Time Index of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period."[12]

FIGURE 2: LOS ANGELES-LONG BEACH-ANAHEIM URBANIZED AREA
Texas A&M Transportation Institute Travel Time Index 1982-2016



Source: Authors' utilization of data from 2015 Texas A&M Transportation Institute *Urban Mobility Report* and subsequent publications.

Metro does not detail how the *Plan* reduces congestion, but the major mechanisms that are part of the *Plan* are likely to be the use of congestion charges to motivate drivers to shift from driving to transit and/or to shift their times of travel away from peak periods. As noted in previous summaries, Metro's congestion charges will take far longer to implement than Metro acknowledges, and Metro's

[11] Author's graphic representation of data from TTI. *2015 Urban Mobility Scorecard* and *Urban Congestion Report.* https://static.tti.tamu.edu/tti.tamu.edu/documents/ums/congestion-data/los-angeles.pdf and *Quarterly Urban Congestion Reports*, https://ops.fhwa.dot.gov/perf_measurement/ucr/index.htm

[12] Schrank, David et al. *2015 Urban Mobility Scorecard.* Texas A&M Transportation Institute and INRIX. 1. https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-scorecard-2015.pdf

transit decisions have led to a long-term decline in Los Angeles transit ridership. Based on Metro's past performance, the promises Metro has made concerning the benefits of Measure M and the *28 by 2028 Plan* lack creditability.

FREE TRANSIT SERVICES

The free transit services proposed in the *Plan* might refer to free transit *during* the 2028 Olympics only, but Metro CEO Washington indicated at the December 6, 2018 Metro Board meeting that the agency wants to implement *permanent* free transit by the time of Olympics.[13]

As shown in prior Briefs, Metro's projections for congestion pricing and sales tax revenues are overstated, and the agency's history of bringing major construction projects in on budget is disappointing. It is doubtful that Metro would ever achieve the funding needed to deliver fare-free transit, and to afford the huge expansion of bus transit service that would be required to accommodate the resulting demand. Metro will not achieve this funding by 2028.

BETTER THAN FREE TRANSIT SERVICES

Metro should take active steps to increase transit ridership, as opposed to its long-term focus on passenger rail construction. After completing rail projects now under construction, Metro should cut back significantly on rail construction to provide resources for moving more people on transit.

To be successful at moving people, Metro must undertake a combined program of improvements in both service quality and quantity, recognizing that improvements in both dimensions are closely linked. The foundation of quality transit service is riders' ability to find a seat in a clean transit vehicle that goes from near the rider's origin to his/her destination, when the rider wants to travel, in a safe and secure environment. This level of service is necessary both to attract new riders and retain existing patrons. As Metro succeeds in implementing a play to attract new riders through quality, reliable service, the agency can then reduce fares and add service incrementally to meet the associated increases in demand. Specific steps include:

- Metro bus and rail are both highly utilized, but there is limited opportunity to add passenger carrying capacity on existing rail lines, particularly on the Red Line between the Red/Purple Line merge at Wilshire/Vermont through the central business district. Metro's subway stations, by design, cannot accommodate trains larger than six cars.
    - Metro currently operates at five-minute peak headways on the shared Red/Purple Lines.[14] The current system had a projected daily ridership of 260,000 for the year

[13] At 1:10:10. http://metro.granicus.com/MediaPlayer.php?view_id=2&clip_id=987

2000,[15] but the highest reported ridership was 169,562 in October 2013. Ridership has since dropped 19% to 138,937 in October, 2018.[16]

- Ridership should increase substantially when the three Purple Line extensions begin operation, but past experience is that most of this increase will consist of former bus riders. Metro's submissions to the Federal Transit Administration for the Annual Report on Funding Recommendations projected the Regional Connector Transit Corridor to have 19% new riders,[17] the Westside Subway Extension Section 1 46%,[18] Metro Rapid Bus System Gap Closure 32%,[19] the Mid-City/Exposition LRT Project 47%,[20] and the San Fernando Valley East-West Transit Corridor 26%.[21] The simple, unweighted average of these five values is just 34% new riders.

- Bus system expansions should include:
  - More buses, including, where appropriate, smaller and unconventional vehicles, such as macro-transit for last mile service using lower capacity vehicles, and expanded vanpooling to more closely match changes in transit needs;
  - More bus operating/maintenance facilities and expansion of existing sites;
  - More and improved bus routes, including:
    - Restructuring lines to return to a strong grid system instead of prioritizing service to rail lines, allowing many or even most riders to complete their trips with no more than one transfer;
    - Adding commuter express bus service, particularly on freeway busways/HOV/HOT lanes; and
    - Expanded Metro Rapid service, including shorter headways on both Metro Rapid and conventional service on heavily utilized lines.

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14 Metro. "Red & Purple Lines Schedule." https://media.metro.net/documents/b4f1f223-c6b4-4b6e-bd18-648dbca1e7e9.pdf

15 Southern California Rapid Transit District. *Los Angeles Rail Rapid Transit Project – Metro Rail.* January 23, 1989. Table S-1, "System Characteristics of Options Evaluated." S-4-2. http://libraryarchives.metro.net/DPGTL/scrtd/1989-final-supplemental-eis-subsequent-eir-metro-rail-january.pdf

16 Metro. "Interactive Estimated Ridership Stats." http://isotp.metro.net/MetroRidership/Index.aspx

17 Fiscal Year 2014. 26. https://www.transit.dot.gov/sites/fta.dot.gov/files/FY14_Annual_Report_on_Funding_Recommendations.pdf

18 Ibid. 31.

19 Fiscal Year 2010. A-217. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FY10_Annual_Report_on_Funding_Recommendations.pdf

20 Fiscal Year 2005. A-261.

21 Fiscal Year 2003. A-295.

    - More hours of service, including:
        - Longer hours on existing lines;
        - Shorter headways; and
        - More weekend/holiday service.
    - More emphasis on allowing private transit providers to start up service with minimum governmental interference, and use of contract providers to operate government-sponsored and funded services.
- Fare Reductions to replicate the successes of the fare reductions achieved by the 50¢ fare program of FY83-85 and the Consent Decree program of FY96-07, which were important contributors to major ridership increases.

This process will require realistic planning and modeling, proceeding in incremental steps, and learning from experience to prepare for future improvements. Metro will need to prioritize ridership over capital improvements.

Metro should increase transit service, purchase and put new transit vehicles into service, launch new types of services in new areas, and enable the organization to fund innovative types of transportation.

CONCLUSIONS

1. Metro has a record of reducing transit use, making traffic congestion worse, and acquiring and spending significant tax revenues to accomplish these failures.
2. Metro promises to reverse ridership declines and to increase ridership substantially are far higher than what has been accomplished in any urbanized area with a mature transit system.
3. Metro's proposed method for achieving the ridership increase is to do more of what has produced the agency's failures to date.
4. Metro has presented an infeasible *Plan* that should be rejected.
5. Transit spending decisions should be made on the basis of what will increase ridership and improve ride quality the most and with the least risk. To increase ridership Metro needs to reduce its support of and funding for rail construction and instead fund bus service improvement and expansion, fare reductions, and innovative forms of unconventional transit.