



## Board Report

**File #:** 2016-0059, **File Type:** Informational Report

**Agenda Number:** 6.

### AD-HOC REGIONAL RAIL COMMITTEE FEBRUARY 17, 2016

**SUBJECT: COST/BENEFIT ANALYSIS OF METRO'S SUBSIDY TO METROLINK - UPDATE 1 -  
COMMUTER RAIL OPERATIONS IN LOS ANGELES COUNTY**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

RECEIVE AND FILE report providing an **overview of the size and scale of Metro's Investment in Commuter Rail Operations in Los Angeles County, which will help guide the Cost/Benefit Analysis of Metro's Subsidy to Metrolink.**

#### **ISSUE**

At its meeting of January 20, 2016, staff provided the Committee with the proposed scope of a Cost/Benefit Analysis of Metro's Subsidy to Metrolink (CBA) that outlined four areas surrounding Metro's investment in commuter rail operations in Los Angeles County and the Southern California Region:

1. The nature of Metro's mobility investment in commuter rail operations in Los Angeles County
2. The size and scale of the that investment
3. The determination and basis of calculating that investment
4. The rate of return to Metro and the residents of Los Angeles County

The purpose of this report is to provide the Committee with a high level overview of information on Metro's investment in commuter rail operations in Los Angeles County and Southern California. This background information will provide the committee a framework to guide staff in evaluating the relative costs and benefits of Metro's investment moving forward.

#### **DISCUSSION**

The Southern California Regional Rail Authority (SCRRA) was formed to operate and maintain a region wide commuter rail system on behalf of the Member Agencies consisting of the transportation authorities in the counties of Los Angeles, Ventura, San Bernardino, Riverside and Orange. The system operates under the brand name Metrolink.

## Metrolink System

### Commuter Rail Services

The Metrolink commuter rail system operates over a series of 7 different routes as outlined below in Table 1:

**Table 1**

Route	Miles	Stations	Trains Operated		
			Weekday Service	Saturday	Sunday
Ventura County Line*	70.9	12	31		
Antelope Valley Line	76.6	11	30	12	12
San Bernardino Line	56.2	13	38	20	14
Riverside Line	59.1	7	12		
Orange County Line	87.2	14	29	8	8
91Line ***	85.6	12	9	4	4
IEOC Line	100.1	15	16	4	4
Totals	535.7	84	165	48	42
Adjust for Duplications**	<126.8>	<25>			
Total Network Size and Operations	408.6	59	165	48	42
<b>Total Weekly Service Operated</b>			<b>825</b>	<b>48</b>	<b>42</b>

\* Ventura County Line Operations include 11 weekday trains between Burbank/Bob Hope Airport and LAUS.

\*\* Certain stations and route segments contain overlapping elements that are counted twice in information published by Metrolink. This total is adjusted to avoid duplicate counts

\*\*\* Miles and stations on the 91 Line include the anticipated opening of the Perris Valley Extension (Spring/Summer 2016) for reference.

As shown above, on behalf of the Member Agencies, the SCRRA manages the operation of a total of 915 trains on a weekly basis, of which 795 originate or terminate at Los Angeles Union Station (LAUS), a total of 87%. The exceptions are services on the IEOC line which does not traverse Los Angeles County and 8 daily weekday trains on the Orange County Line operating between Orange County and Oceanside.

### System Ridership

Tables 2 below reports ridership data by line segment as of the first fiscal quarter of FY 2015-2016, the period July 2015 to September 2015. Additionally, based on the results of Metrolink's ridership survey conducted during January and February 2015, staff has included selected passenger characteristics of each operating route.

**Table 2**

Ridership and Home County Origination – Weekday Service*							
Route	Avg Weekday Riders	Los Angeles	Ventura	San Bernardino	Riverside	Orange	San Diego
Ventura County Line	4,039	47%	47%	-	1%	4%	-
Antelope Valley Line	5,884	98%	-	1%	-	1%	-
San Bernardino Line	10,582	40%	-	56%	3%	-	-
Riverside Line	4,525	35%	-	30%	34%	1%	-
Orange County Line	8,190	19%	-	-	1%	72%	8%
91 Line	2,412	18%	-	3%	49%	29%	-
IEOC Line	4,492	-	-	18%	77%	5%	-
<b>System Total</b>	<b>40,124</b>	<b>38%</b>	<b>5%</b>	<b>21%</b>	<b>18%</b>	<b>17%</b>	<b>2%</b>

\*Ridership Q1 FY2015-16 per Metrolink Fact Sheet; Home County of origin per Metrolink 2015 Origin - Destination Survey.

As highlighted in Table 2 above, approximately 38% of all Metrolink passengers begin their trip in Los Angeles County. Additionally per data supplied by Metrolink, approximately 68% of all passengers pass through LAUS on a daily basis. Though Los Angeles County remains the largest single individual county contributor to ridership, the information above illustrates the traditional “Spoke and Hub” design of the system to bring outlying commuters into a central core business district.

**Table 3**

Weekday Service – Selected Ridership Characteristics				
Route	Choice Riders*	Work/Business Trips	LA County Work/Business Trips as % of All Riders	Avg Trip Length (mi)
Ventura County Line	80%	87%	80%	34.0
Antelope Valley Line	66%	65%	64%	41.9
San Bernardino Line	73%	68%	64%	36.7
Riverside Line	91%	94%	94%	37.0
Orange County Line	89%	87%	60%	38.8
91 Line	88%	87%	70%	36.4
IEOC Line	94%	96%	0%	32.1
<b>System Total</b>	<b>82%</b>	<b>81%</b>	<b>61%</b>	<b>37.2</b>

\* A choice rider is defined as having an automobile available as an alternative method for the selected trip  
Data per Metrolink 2015 Origin - Destination Survey

Table 3 demonstrates that while the Metrolink system continues to operate as a traditional commuter rail system, transporting individuals from their home to work and back, with 81% of all trips being trips related to Work/Business, it also shows the increasing level of transit dependency on the Antelope Valley Line and, to a lesser degree, the San Bernardino Line. The Antelope Valley Line has both the longest average commute length, the fewest numbers of individuals with a car available to otherwise complete their journey, and the lowest level of passengers using the system to commute to their place of employment.

### System Infrastructure

As shown in Table 4 below, the Metrolink commuter rail system operates throughout the six county area over a total of 408.6 route miles. Individual Rights-of-Way (ROW) routes and segments are owned by a combination the Member Agencies, freight railroads and the North County Transit District.

**Table 4**

Route Miles by County						
	Los Angeles	Ventura	San Bernardino	Riverside	Orange	Total
System	186.0	39.0	38.9	58.4	86.3	408.6
Member Agency Owned	137.9	15.6	22.7	24.0	47.5	247.7
UPRR Owned	31.8	23.4	9.6	13.9	-	78.7
BNSF Owned	16.3	-	6.6	20.5	19.8	63.2
NCTD Owned*					19.0	19.0

\* ROW owned by the NCTD is considered within Orange County for operating purposes

The Member Agencies collectively own approximately 61% of the underlying network over which the Metrolink System operates. Within Los Angeles County, Metro owns approximately 75% of the operating network.

### Equipment Requirements

The Metrolink system currently requires 39 train consists to operate the scheduled weekday service. A train consist includes a locomotive, a cab car at the opposite end of the train, and between 4 and 6 passenger cars. In order to provide service on 165 individual daily trains, a typical train consist operates between 2 and 6 trains a day depending on the distances traveled on each route.

### Metrolink Financial Structure

Acting on behalf of the Member Agencies, Metrolink is required to annually recommend a budget to the Member Agencies that encompasses the proposed activities and required funding levels to ensure the safe and effective operations of the Member Agency sponsored commuter rail program for the succeeding fiscal year. Budgeted functions include Operations and Maintenance (O&M) including ROW maintenance, State of Good Repair/Capital Maintenance, and Capital Expansion projects.

Per the Joint Exercise of Powers Agreement (JPA):

“The GOVERNING BOARD shall approve a preliminary administrative budget and a capital improvement program for the succeeding fiscal year no later than May 1 of each year. The Board shall adopt a final budget no later than June 30 of each year.

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Decisions dealing with capital and operating fund allocations, as well as annual approval of each MEMBER AGENCIES share of the AUTHORITY'S annual budget, shall be approved by the MEMBER AGENCIES themselves.”

(JPA - Section 8 - Budget)

### Operating Contributions

As referred in the abstract above, while the SCRRA is required to submit a proposed budget to the Member Agencies, it is the exclusive authority for the Member Agencies themselves to approve that budget and their respective individual contributions. The structure of the JPA reserves to each Member a limited veto power to ensure an unacceptable financial burden is not forced upon a Member beyond their means to support the agency.

In order to calculate each member's share of the proposed budget, the SCRRA uses a number of formulae to allocate costs and revenues to its Member Agencies who shall subsequently approve those allocations and the resulting budget contributions.

The general premise is that ALL costs are allocated to Members in order to determine a gross level of investment for each member agency. Revenues are subject to additional allocation processes and are subsequently credited to Member Agencies.

The resulting net operating subsidy (Gross Allocated Costs minus Allocated Revenues) is requested of each Member Agency as part of the annual request for budget authority.

In order to accomplish these various allocations, the agency uses a multi-variate, multi-step process. While the specific details of the formula will be discussed in detail with the committee at a future meeting, staff is concerned that among the many variables used to determine each Member's contribution, there may be an over-reliance on a specific variable, primarily Train Miles, that has the potential to over-weight the calculated Metro operating contribution. Staff's concern is that the operating location of a train may not be completely reflective of the underlying cost drivers or measure of benefit.

Metrolink has recently engaged an independent consultant to review the current cost allocation methodology and processes. We will work very closely with the consultant to ensure that staff's concerns are noted, represented, and addressed in the analysis.

Table 5 details Actual and Budgeted Operating costs of the agency and Metro's corresponding share for the periods FY11 through FY16.

**Table 5**

(Millions \$)	Actual FY11		Actual FY12		Actual FY13		Actual FY14		Budget FY15		Budget FY16	
	Total	Metro	Total	Metro	Total	Metro	Total	Metro	Total	Metro	Total	Metro
Total Operating Expenses	171.5	90.1	173.3	91.6	191.2	102.0	199.2	107.1	222.1	117.8	240.5	125.3
Total Operating Revenues	91.6	50.4	96.7	53.5	101.7	55.3	101.6	54.0	110.4	58.1	101.5	53.5
Subsidy Requirements	80.0	39.7	76.6	38.1	89.5	46.7	97.6	53.2	111.7	59.7	139.1	71.8
Subsidy as Share of Ops	46.6%	44.1%	44.2%	41.6%	46.8%	45.8%	49.0%	49.6%	50.3%	50.7%	57.8%	57.3%
Metro Share of Net Subsidy		49.6%		49.7%		52.2%		54.5%		53.4%		51.6%
Annual Changes												
Expenses			1.0%	1.7%	10.3%	11.4%	4.2%	5.0%	11.5%	10.0%	8.3%	6.4%
Revenues			5.6%	6.2%	5.1%	3.4%	-0.1%	-2.5%	8.7%	7.7%	-8.1%	-7.9%
Subsidies			-4.2%	-4.1%	16.9%	22.7%	9.0%	13.8%	14.5%	12.3%	24.5%	20.3%
Total Growth FY11 to FY16												
Expenses											40.2%	39.1%
Revenues											10.8%	6.2%
Subsidies											73.9%	80.9%

Actual expenses per annual MOU audit of Metro's contribution to Metrolink. FY16 Budget includes amendment to incorporate the lease of 40 BNSF locomotives.

As illustrated above, while Metro's share of expenses have largely mirrored the overall rate of growth of the Metrolink system, a stagnation of revenue growth since FY13 has led to a collective increase in all Member Agency's operating subsidies of approximately 74% since FY11 with Metro's contribution increasing over 80% during the period.

The table also illustrates that Metro's share of the subsidy is increasing incrementally from 49% in FY11 to a high of 54.5% in FY14 and tapering to 51.6% in the most recent budget. Reasons for changes are largely related to the stagnation of revenues across the line segments supported by Metro.

In light of the above, staff believes in the importance of a comprehensive review of the cost and revenue allocation methodologies to ensure Metro's investment in commuter rail operations is balanced against the benefits.

### Capital Contributions

In October 2015, staff provided the Board with a detailed summary of activity surrounding Metro's contribution to SCRRA's Capital and State of Good Repair/Capital Rehabilitation programs (Board Meeting; October 22, 2015; Item #14). Without replicating the entirety of that report, the information below summarizes Metro's Capital Contributions in the periods FY11 to FY16

Individual Member Agency capital contributions have traditionally been determined in one of two ways. The first is a geographic basis. For infrastructure projects located within a specific county, such as track expansion or asset rehabilitation, those projects are anticipated to financially supported and

sponsored by the member within whose jurisdiction the project is located. For projects that are determined to be of Systemwide value, such a train and engine equipment or information systems, a predetermined "All-Share" formula is applied that calculates each member's expected contribution.

**Table 6**

<b>Budget Period</b> (\$ in thousands)	<b>Budget</b>
<b>State of Good Repair/Capital Rehabilitation</b>	
FY11	\$ 8,000
FY12	7,891
FY13	11,612
FY14	16,006
FY15	16,375
FY16*	0
<u>Rotem Settlement</u>	12,600
<b>Subtotal – State of Good Repair/Capital Rehabilitation</b>	<b>\$ 72,484</b>
<b>Capital Expansion</b>	<b>\$ 42,573</b>
<b>TOTAL</b>	<b>\$ 115,057</b>
<b>Balance Outstanding at June 30, 2015</b>	<b>\$ 64,000</b>

\* In FY16 the Board approved staff recommendation to defer the fiscal year contribution to address a backlog of programmed but unexpended project funding. Metro staff continues to work with SCRRA staff to address this issue.

As noted above in Table 6, as of the beginning of FY16, the SCRRA had approximately \$64 million in previously approved but outstanding project authority. During the current year SCRRA staff has made progress in the identification of reprogramming opportunities to allow the highest priority projects to move forward. Staff continues to work with SCRRA staff to address this outstanding balance and anticipates bringing a fuller analysis to the Board as part of the upcoming FY17 budget cycle.

### Summary Comparisons of Metrolink's Performance

Based on available National Transit Database (NTD) statistics, commuter rail operators in the United States can be clearly delineated into 4 distinct tiers based on the number of passengers carried on an annual basis.

**Table 7**

Tier Level	Annual Passengers	Number of Operators
Tier One	75M – 100M	4
Tier Two	30M – 40M	2
Tier Three	10M – 20M	3
Tier Four	<5M	15
Total – FY14	485M	24

Metrolink operations fall squarely in Tier 3 with total reported annual passengers of 13.4 million during FY14.

It should be noted, that of the top 6 operators based on annual passenger counts, 5 are located and have primary operations in the 350 mile corridor between Philadelphia and Boston in the Northeastern Corridor of the United States. The one exception is Metra, operating in the greater Chicago area.

The following table provides a summary comparison of Metrolink operations as compared to the averages of each tier of operators within the commuter rail industry, and highlights comparable figures of Metro's transit operating modes - Light and Heavy rail, Motor Bus, and our contribution to Access Services.

**Table 8**

Operator	Passengers (000)	Pass Miles (000)	Avg Trip Lgth - Miles	Operating Expense (\$ mil)	Fares (\$ mil)	Avg Cost Per Trip (\$)	Avg Fare Per Trip (\$)	Cost Per Pass Mile (\$)
Metrolink	13,429	440,984	32.8	197.4	85.7	14.70	6.38	0.45
Commuter Rail Industry*								
Tier One Operators	85,589	2,086,572	24.4	1,024.5	535.8	11.97	6.26	0.49
Tier Two Operators	36,471	609,662	16.7	316.7	169.7	8.68	4.65	0.52
Tier Three Operators**	13,452	367,561	27.3	147.6	65.1	10.98	4.84	0.40
Tier Four Operators	2,010	62,103	30.9	32.3	10.7	16.04	5.30	0.52
Metro Services								
Light Rail	63,704	412,776	6.5	258.0	44.4	4.05	0.70	0.62
Heavy Rail	50,365	254,440	5.1	132.1	35.3	2.62	0.70	0.52
Motor Bus	361,601	1,494,525	4.1	961.6	259.9	2.66	0.72	0.64
Access Services	3,752	49,463	13.2	123.2	7.7	32.85	2.05	2.49

\* Figures represent Averages for each Tier; Source: National Transit Database "October 2015 Adjusted Database"

\*\* Includes Metrolink

As demonstrated above, Metrolink's performance is within commuter rail industry norms and in many ways outperforms the industry as a whole in measures of cost efficiency. Though higher on a cost per trip basis, Average Fare per Trip and Costs per Passenger Mile outperform commuter rail industry



averages.

In comparison to Metro provided service, Metrolink's volume of service measured by Passenger Miles approximates Metro's Light Rail system and has a favorable Cost Per Passenger Mile to Metro's other modes primarily due to the extended lengths of Metrolink trips.

### **FINANCIAL IMPACT**

There is no financial impact should the Committee choose to Receive and File this report.

### **ALTERNATIVES CONSIDERED**

None. This report complies with a Board directed action.

### **NEXT STEPS**

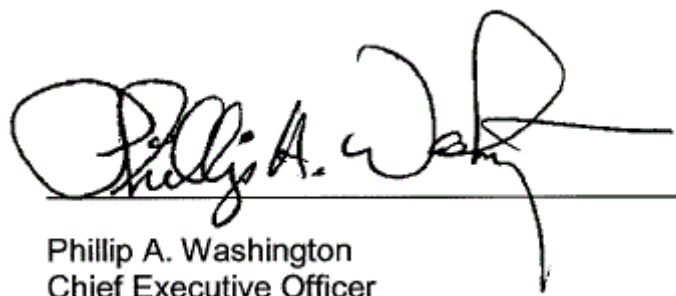
Staff will prepare and present an in-depth analysis of the Allocation Methodology used to determine Metro's subsidy contribution to Metrolink as well as an estimation of the benefits of Metro's investment in commuter rail operations in Los Angeles County and Southern California.

### **ATTACHMENTS**

None

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