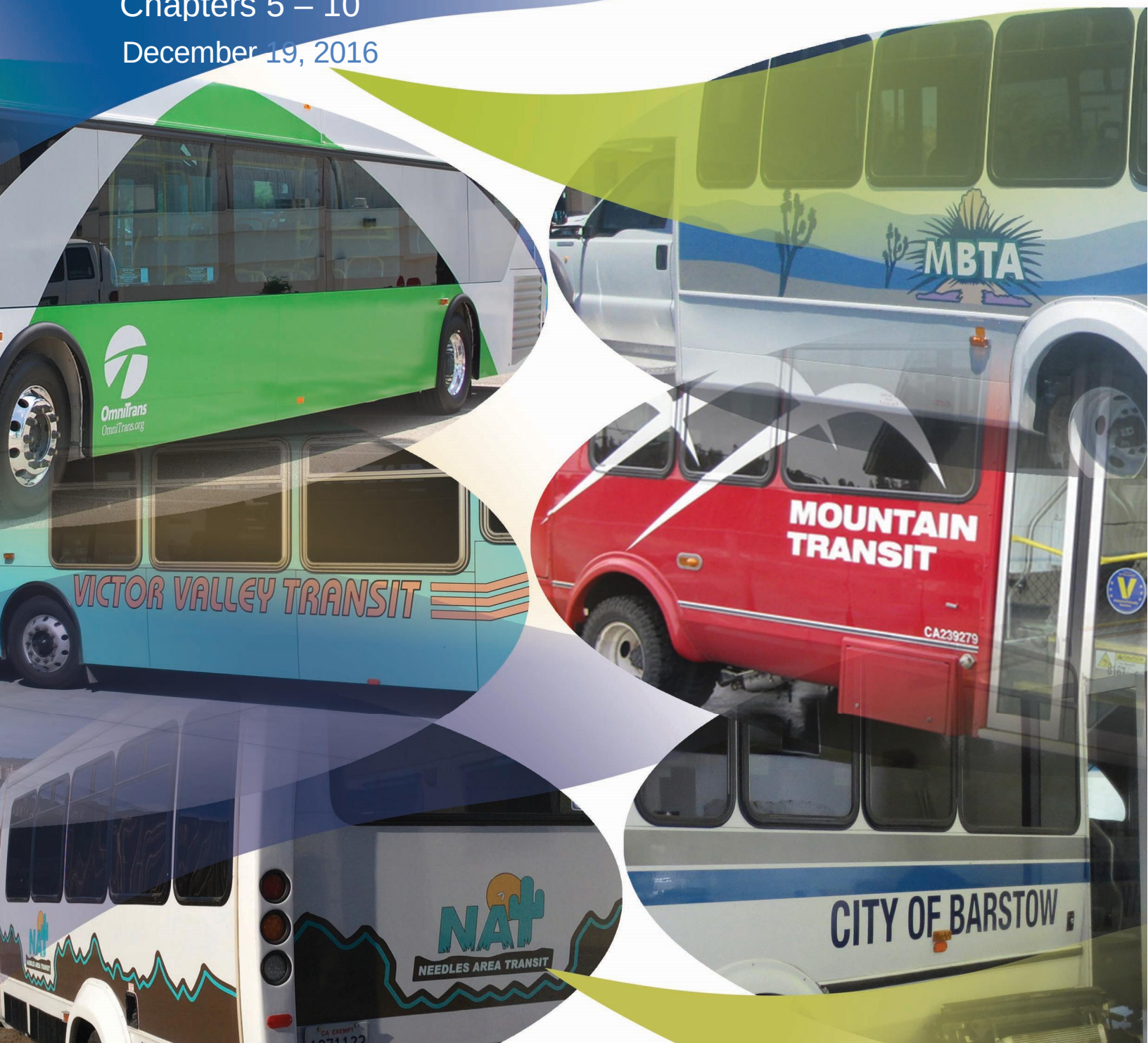
San Bernardino County Transportation Authority Short-Range Transit Plan, FY 2016 – FY 2020

Volume 2: Service Plans, Capital Plans, and Financial Plans
Chapters 5 – 10

December 19, 2016



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Prepared for:

sbcta
san bernardino county transportation authority

Prepared by:

WSP | PARSONS BRINCKERHOFF

Foreword

On August 26, 2016, Governor Jerry Brown approved and the Secretary of State filed Senate Bill No. 1305. As of January 1, 2017, this bill creates the San Bernardino County Transportation Authority (SBCTA) as the successor to the powers, duties, revenues, debts, obligations, liabilities, immunities, and exemptions of the San Bernardino County Transportation Commission, County of San Bernardino Local Transportation Authority, and the San Bernardino Associated Governments joint powers authority, when it is acting on behalf of, or in the capacity of, those entities[1].

Accordingly, all references to "SANBAG" or "San Bernardino Associated Governments" which may be found in this document shall be intended to mean the San Bernardino County Transportation Authority (SBCTA) as of January 1, 2017.

[1] Senate Bill No. 1305, Chapter 216, accessed from California Legislative Information at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB1305

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5.0 SERVICE MONITORING, EVALUATION, AND IMPROVEMENT PROCESSES

This chapter presents the service monitoring, evaluation, and improvement processes of the six transit operators in San Bernardino County[2]. Additionally, the processes used by the Southern California Regional Rail Authority (SCRRA) is presented. Proposed service monitoring and evaluation processes for the future Redlands Passenger Rail Project – Arrow service are also provided.

5.1 Transit Operators

This section focuses on the service monitoring, evaluation, and improvement processes for the six transit operators in San Bernardino County, which include the following: Barstow Area Transit (BAT), Morongo Basin Transit Authority (MBTA), Mountain Area Regional Transit Authority (MARTA), Needles Transit Services (NTS), Omnitrans, and Victor Valley Transit Authority (VVTA). Metrolink service monitoring, evaluation, and improvement processes are discussed separately in Section 5.2.1.

5.1.1 Service Monitoring Processes

The transit operators (and/or their service contractors) all conduct service monitoring in various ways to determine on-time performance and other service performance measures, as discussed in this section.

All of the transit operators submit on-going operational and financial data into TransTrack, a transit reporting system (http://transtrack.net/). The resulting TransTrack data, based on actual reported results and separated by year and mode, provides valuable information for purposes of evaluating performance. Several of the transit operators review TransTrack data on a monthly, quarterly, or annual basis, reporting trends to their boards.

Additionally, as reported in transit agency questionnaires (SBCTA, 2014a), each transit operator conducts additional service monitoring activities, as discussed below.

5.1.1.1 Barstow Area Transit

Until recently, the sole BAT employee, the Transportation Manager, was responsible for conducting all route planning and monitoring. Scheduling was conducted by the service contractor, MV Transportation, Inc. With the merging of BAT services with VVTA services, VVTA and its service contractor now handle these functions.

[2] When this SRTP project was begun in the spring of 2014, there were six separate transit operators. With the merger of Barstow Area Transit with Victor Valley Transit Authority in September, 2014, the number of operators reduced to five. However, much of the original source information regarding Barstow's service came from the prior Barstow SRTP and interviews with staff, and was used to describe and compare Barstow with the other operators, so that information is retained in this chapter.

5.1.1.2 Morongo Basin Transit Authority

MBTA has two part-time Field Supervisors who conduct time-checks, investigate accidents, and provide field supervision of service delivery. Due to the agency's small size, the General Manager and Operations Manager are directly involved in evaluating existing service conditions, conducting service planning, developing route changes, and preparing public notices and conducting public hearings. The annual "Unmet Needs" hearing provides an additional avenue for receiving public input on service issues.

5.1.1.3 Mountain Area Regional Transit Authority (Mountain Transit)

MARTA has two Operations Supervisors who oversee daily operations as well as scheduling drivers and dispatchers. Dispatchers obtain on-time performance data daily as drivers call in via radio and report arrival/departure of key time points. The data is then entered into spreadsheets to summarize the on-time performance of each route and overall performance. The Assistant General Manager oversees daily operations, training, hiring of drivers, and ridership analysis.

5.1.1.4 Needles Transit Services

NTS has one city employee a portion of whose time is assigned to the oversight of transit services. Route planning and other service planning functions are performed once per quarter with the service contractor (McDonald Transit) Regional Manager. On-time performance is monitored via a monthly report provided by the service contractor's Local Transit Manager. In addition, residents/riders can attend any city council meeting and provide comments about routes and service during the public comment portion of the meeting.

5.1.1.5 Omnitrans

Omnitrans has 17 Field Supervisors who respond to field calls, trouble-shoot mechanical problems, monitor route performance, and address accidents, incidents, and complaints. Omnitrans has automatic vehicle locator (AVL) technology which provides on-time performance data. Scheduling issues are handled jointly by the Marketing and Planning Department and the Operations Department. The Planning Department conducts route performance monitoring and analysis, and prepares route designs and draft scheduling to address service issues. The Operations Department then prepares final routes and schedules. The Service Planning Unit and the Finance Department monitor and evaluate service performance monthly and rate the service based on the measures adopted in the short range transit plan (SRTP). Service deficiencies identified through the evaluation of performance are reviewed by an internal Service Planning and Monitoring Committee. Minor changes to address those deficiencies, if feasible, are then incorporated into the next schedule change. Comments from riders and coach operators also are taken into consideration when evaluating service.

5.1.1.6 Victor Valley Transit Authority

VVTA obtains on-time performance data from on-board global positioning system/AVL equipment, as well as through field supervision provided by the service contractor, TransDev (formerly Veolia Transportation, Inc.). TransDev has eight Transit Supervisors

who supervise daily service operations, check the accuracy of bus schedules, investigate accidents and incidents, and perform a variety of other field activities. As VVTA has no assigned service planning staff, the Executive Director, Deputy Director, Contract Compliance Officer, and Customer Service staff all conduct on-going route planning on an as-needed basis, coordinated with the service contractor who also provides input. VVTA also relies on an annual "Unmet Needs" hearing, as well as rider comments, complaints, employee input, and incident reports to identify and resolve service issues.

5.1.2 Service Evaluation Processes

The evaluation of existing services using service goals, objectives, and standards helps to determine how existing services are performing and if new services are warranted and viable. The service goals, objectives, and standards of the individual transit operators are described in Chapter 2.

To evaluate the actual performance of existing services against service standards, each transit operator has established performance indicators, typically by mode (e.g., fixed route and demand response), as listed in their SRTP and/or comprehensive operational analysis (COA). The service evaluations as provided in the SRTPs and/or COAs, however, use various base years and a variety of performance indicators, and therefore cross-agency comparisons are somewhat difficult.

To provide a more uniform service evaluation across the transit operators, a new service evaluation was conducted, as presented in this section. This service evaluation used base statistics from fiscal year (FY) 2013 TransTrack data (i.e., total passenger boardings, total operating costs, fare revenue, revenue miles, revenue hours, and peak vehicles), as submitted by each transit operator, with FY 2013 having been the most recent complete service year for which data was available at the time of development of this chapter. These base statistics were then used to develop a standardized set of performance indicators for the transit operators, grouped by category as follows:

Cost and Financial Efficiency – These indicators evaluate cost per unit of service supplied and include:

- Operating Cost per Revenue Mile
- Operating Cost per Revenue Hour
- Annual Operating Cost per Peak Vehicle

Service Effectiveness – These indicators evaluate service utilization per unit of service supplied and include:

- Passenger Trips per Revenue Mile
- Passenger Trips per Revenue Hour
- Annual Passengers per Peak Vehicle

Cost Effectiveness – These indicators evaluate financial efficiency and include:

- Operating Cost per Passenger Trip
- Farebox Recovery Ratio

A summary of the 2013 service evaluation by mode for each service operator is presented in Table 5-1 for fixed route services and Table 5-2 for demand response services. It should be noted that a realistic comparison between the operators in a single table such as this does not take into account the substantial differences in service area characteristics, including size, geographic features, and demographics, and is provided for purposes of high-level comparison only.

Table 5-1. Transit Operator Fixed Route Service Performance: TransTrack (2013)

	Fixed Route					
FY 2013 Statistics[1]	**BAT**	**MBTA**	**MARTA**	**NTS**	**Omnitrans**	**VVTA**
Total Passenger Boardings	188,579	357,450	137,801	34,153	15,509,733	1,765,471
Total Operating Costs	$1,505,698	$1,796,920	$1,653,577	$243,973	$54,906,414	$7,117,659
Fare Revenues	$153,218	$352,159	$272,261	$35,151	$13,031,443	$1,701,781
Revenue Miles	418,485	563,127	433,869	46,054	7,491,400	1,831,414
Revenue Hours	21,296	25,872	20,768	3,256	588,157	105,946
Peak Vehicles[2]	8	9	7	1	136	29
Performance Indicators						
Cost and Financial Efficiency						
Operating Cost per Revenue Mile	$3.60	$3.19	$3.81	$5.30	$7.33	$3.89
Operating Cost per Revenue Hour	$70.70	$69.45	$79.62	$74.93	$93.35	$67.18
Annual Operating Cost per Peak Vehicle	$188,212	$199,658	$236,225	$243,973	$403,724	$245,437
Service Effectiveness						
Passenger Trips per Revenue Mile	0.45	0.63	0.32	0.74	2.07	0.96
Passenger Trips per Revenue Hour	8.86	13.82	6.64	10.49	26.37	16.66
Annual Passengers per Peak Vehicle	23,572	39,717	19,686	34,153	114,042	60,878
Cost Effectiveness						
Operating Cost per Passenger Trip	$7.98	$5.03	$12.00	$7.14	$3.54	$4.03
Farebox Recovery Ratio	10.2%	19.6%	16.5%	14.4%	23.7%	23.9%

1. Based on Transit Operator's TransTrack data
2. Peak vehicle data for BAT, MBTA and NAT obtained directly from individual operator in July 2014.

Table 5-2. Transit Operator Demand Response Service Performance: TransTrack (2013)

	Demand Response					
FY 2013 Statistics[1]	**BAT**	**MBTA**	**MARTA**	**NTS**	**Omnitrans**	**VVTA**
Total Passenger Boardings	21,483	23,298	15,607	4,579	491,179	126,144
Total Operating Costs	$731,197	$532,770	$644,549	$24,453	$12,569,094	$3,599,529
Fare Revenues	$36,450	$31,041	$45,484	$3,572	$1,584,790	$416,524
Revenue Miles	260,256	103,536	107,057	12,067	3,005,252	751,442
Revenue Hours	13,398	7,317	7,499	1,182	182,214	44,840
Peak Vehicles[2]	7	5	4	2	96	27
Performance Indicators						
Cost and Financial Efficiency						
Operating Cost per Revenue Mile	$2.81	$5.15	$6.02	$2.03	$4.18	$4.79
Operating Cost per Revenue Hour	$54.58	$72.81	$85.95	$20.69	$68.98	$80.28
Annual Operating Cost per Peak Vehicle	$104,457	$106,554	$161,137	$12,227	$130,928	$133,316
Service Effectiveness						
Passenger Trips per Revenue Mile	0.08	0.23	0.15	0.38	0.16	0.17
Passenger Trips per Revenue Hour	1.60	3.18	2.08	3.87	2.70	2.81
Annual Passengers per Peak Vehicle	3,069	4,660	3,902	2,290	5,116	4,672
Cost Effectiveness						
Operating Cost per Passenger Trip	$34.04	$22.87	$41.30	$5.34	$25.59	$28.54
Farebox Recovery Ratio	5.0%	5.8%	7.1%	14.6%	12.6%	11.6%

1. Based on Transit Operator's TransTrack data

5.1.2.1 Barstow Area Transit

BAT performance indicators for FY 2013 are provided in Table 5-3 and are discussed below.

For the fixed route service, operating cost per revenue hour was $70.70 and operating cost per revenue mile was $3.60. For demand response service, operating cost per revenue hour was $54.58 and operating cost per revenue mile was $2.81. These cost efficiency values indicate a relatively low-cost operation amongst the six transit agencies.

For the fixed route service, there were 8.86 passenger trips per revenue hour and 0.45 passenger trips per revenue mile. For demand response service, there were 1.60 passenger trips per revenue hour and 0.08 passenger trips per revenue mile. These service effectiveness values indicate relatively low service utilization compared to the other San Bernardino County transit agencies.

Operating cost per passenger trip was $7.98 for fixed route service and $34.04 for demand response service. These cost-per hour values are high relative to the other

county transit agencies being reviewed. The farebox recovery ratio was 8.5 percent for the combined system, which is the lowest of the six transit agencies and did not meet Transportation Development Act (TDA) minimum requirements. The consolidation of BAT services with VVTA's services will ultimately address the farebox recovery ratio issue.

BAT provides service to low-density high desert communities and the performance indicators tend to reflect the nature of this service area. With the consolidation of BAT and VVTA services, a re-evaluation of the route segment productivity of each route, and of areas served by the demand-response service should be considered to try to increase service utilization and the farebox recovery ratio. Demand-response operating and scheduling practices, such as how mid-day lulls in demand are handled, should also be reviewed.

Table 5-3. BAT Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route - Purchased	Demand Response - Purchased	Combined System
Total Passenger Boardings	188,579	21,483	210,062
Total Operating Costs	$1,505,698	$731,197	$2,236,895
Fare Revenues	$153,218	$36,450	$189,668
Revenue Miles	418,485	260,256	678,741
Revenue Hours	21,296	13,398	34,694
Peak Vehicles	8	7	15
Performance Indicators			
Cost and Financial Efficiency			
Operating Cost per Revenue Mile	$3.60	$2.81	$3.30
Operating Cost per Revenue Hour	$70.70	$54.58	$64.47
Annual Operating Cost per Peak Vehicle	$188,212	$104,457	$149,126
Service Effectiveness			
Passenger Trips per Revenue Mile	0.45	0.08	0.31
Passenger Trips per Revenue Hour	8.86	1.60	6.05
Annual Passengers per Peak Vehicle	23,572	3,069	14,004
Cost Effectiveness			
Operating Cost per Passenger Trip	$7.98	$34.04	$10.65
Farebox Recovery Ratio	10.2%	5.0%	8.5%

1. Based on TransTrack data.

5.1.2.2 Morongo Basin Transit Authority

MBTA performance indicators for FY 2013 are provided in Table 5-4 and are discussed further below.

For the fixed route service, operating cost per revenue hour was $69.45 and operating cost per revenue mile was $3.19. For demand response service, operating cost per revenue hour was $72.81 and operating cost per revenue mile was $5.15. These costs are in the low- to medium- range of the six transit agencies, with the fixed route operating cost per revenue mile ($3.19) being the lowest of all the transit agencies.

For the fixed route service, there were 13.82 passenger trips per revenue hour and 0.63 passenger trips per revenue mile. For demand response service, there were 3.18 passenger trips per revenue hour and 0.23 passenger trips per revenue mile. These values are in the medium to high range of the six transit agencies and indicate relatively good service utilization given the low-density nature of the service area.

Operating cost per passenger trip was $5.03 for fixed route service and $22.87 for demand response service. These values were in the low to medium range of the six transit agencies, with the demand response operating cost per passenger trip ($22.87) being the lowest of all the transit agencies (excluding NAT, which has a volunteer demand response agreement with the local senior citizen's club). The farebox recovery ratio was 16.4 percent for the combined system, which is the third highest behind Omnitrans and VVTA, both of which are classified as urbanized area operators, while MBTA is classified as a rural operator.

MBTA provides service to low-density desert communities, but performs relatively well given the nature of the rural service area.

Table 5-4. MBTA Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route	Demand Response	Combined System
Total Passenger Boardings	357,450	23,298	380,748
Total Operating Costs	$1,796,920	$532,770	$2,329,690
Fare Revenues	$352,159	$31,041	$383,200
Revenue Miles	563,127	103,536	666,663
Revenue Hours	25,872	7,317	33,189
Peak Vehicles[2]	9	5	14
Performance Indicators			
Cost and Financial Efficiency			
Operating Cost per Revenue Mile	$3.19	$5.15	$3.49
Operating Cost per Revenue Hour	$69.45	$72.81	$70.19
Annual Operating Cost per Peak Vehicle	$199,658	$106,554	$166,406
Service Effectiveness			
Passenger Trips per Revenue Mile	0.63	0.23	0.57
Passenger Trips per Revenue Hour	13.82	3.18	11.47
Annual Passengers per Peak Vehicle	39,717	4,660	27,196
Cost Effectiveness			
Operating Cost per Passenger Trip	$5.03	$22.87	$6.12
Farebox Recovery Ratio	19.6%	5.8%	16.4%

1. Based on TransTrack data.
2. Peak vehicles based on follow-up with MBTA on 7/16/14.

5.1.2.3 Mountain Area Regional Transit Authority

Mountain Transit performance indicators for FY 2013 are provided in Table 5-5 and are discussed below.

For fixed route service, operating cost per revenue hour was $79.62 and operating cost per revenue mile was $3.81. For demand response service, operating cost per revenue hour was $85.95 and operating cost per revenue mile was $6.02. These values are relatively high compared to the other transit agencies, with the demand response unit costs ($85.95 and $6.02) being the highest amongst the transit agencies.

For fixed route service, there were 6.64 passenger trips per revenue hour and 0.32 passenger trips per revenue mile. For demand response service, there were 2.08 passenger trips per revenue hour and 0.15 passenger trips per revenue mile. Compared to the other transit agencies under review, these values are low, with the overall fixed route passenger trips per revenue hour (6.64) being the lowest of all the transit agencies.

Operating cost per passenger trip was $12.00 for fixed route service and $41.30 for demand response service. These values are the highest of all the transit agencies. The farebox recovery ratio was 13.8 percent for the combined system, which is the second lowest of the six transit agencies.

MARTA provides service to low-density and dispersed mountain communities, where performance is limited by various uncontrollable factors, such as weather (i.e., snow), unanticipated road closures, roadway constraints (design/speed, limited road network), tourism traffic congestion especially during ski season, seasonal demand fluctuations, and appropriate fuel type for the elevation (all-diesel/gasoline). These factors, and MARTA's relative isolation from other, more urbanized areas of San Bernardino County, increase the costs of labor and materials and reduce the supply options available. MARTA may want to consider evaluating fixed-route service utilization by route segment to ensure the service is maximizing the most productive areas of service.

Table 5-5. MARTA Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route	Demand Response	Combined System
Total Passenger Boardings	137,801	15,607	153,408
Total Operating Costs	$1,653,577	$644,549	$2,298,126
Fare Revenues	$272,261	$45,484	$317,745
Revenue Miles	433,869	107,057	540,926
Revenue Hours	20,768	7,499	28,267
Peak Vehicles[2]	7	4	11
Performance Indicators			
Cost and Financial Efficiency			
Operating Cost per Revenue Mile	$3.81	$6.02	$4.25
Operating Cost per Revenue Hour	$79.62	$85.95	$81.30
Annual Operating Cost per Peak Vehicle	$236,225	$161,137	$208,921
Service Effectiveness			
Passenger Trips per Revenue Mile	0.32	0.15	0.28
Passenger Trips per Revenue Hour	6.64	2.08	5.43
Annual Passengers per Peak Vehicle	19,686	3,902	13,946
Cost Effectiveness			
Operating Cost per Passenger Trip	$12.00	$41.30	$14.98
Farebox Recovery Ratio	16.5%	7.1%	13.8%

1. Based on TransTrack data.
2. Peak vehicles based on follow-up with MARTA on 7/17/14.

5.1.2.4 Needles Transit Services

Needles Transit Services (NTS) operates a route-deviation fixed-route service (Needles Area Transit) and two demand-response services. NTS performance indicators for FY 2013 are provided in Table 5-6 and are discussed further below.

For the fixed route service, operating cost per revenue hour was $74.93 and operating cost per revenue mile was $5.30, placing NAT in the middle range of the six agencies for fixed-route service. For demand response service, operating cost per revenue hour was $20.69 and operating cost per revenue mile was $2.03, which are low cost values amongst the six transit agencies.

For the fixed route service, there were 10.49 passenger trips per revenue hour and 0.74 passenger trips per revenue mile. For demand response service, there were 3.87 passenger trips per revenue hour and 0.38 passenger trips per revenue mile. These values are in the middle performance range of the six transit agencies.

Operating cost per passenger trip was $7.14 for the fixed route service and $5.34 for the demand response service. These values are in the middle range of the six transit agencies for fixed-route service and the lowest in cost for demand response services, much in part due to the volunteer arrangement with the Senior Citizens Club for demand response service. The farebox recovery ratio was 14.4 percent for the combined system. While the farebox recovery ratio is below the median value of the six transit agencies, it is above the TDA minimum requirement of 10.0 percent[3].

Table 5-6. NTS Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route - Purchased	Demand Response - Purchased	Combined System
Total Passenger Boardings	34,153	4,579	38,732
Total Operating Costs	$243,973	$24,453	$268,426
Fare Revenues	$35,151	$3,572	$38,723
Revenue Miles	46,054	12,067	58,121
Revenue Hours	3,256	1,182	4,438
Peak Vehicles[2]	1	2	3
Performance Indicators			
Cost and Financial Efficiency			
Operating Cost per Revenue Mile	$5.30	$2.03	$4.62
Operating Cost per Revenue Hour	$74.93	$20.69	$60.48
Annual Operating Cost per Peak Vehicle	$243,973	$12,227	$89,475
Service Effectiveness			
Passenger Trips per Revenue Mile	0.74	0.38	0.67
Passenger Trips per Revenue Hour	10.49	3.87	8.73
Annual Passengers per Peak Vehicle	34,153	2,290	12,911
Cost Effectiveness			
Operating Cost per Passenger Trip	$7.14	$5.34	$6.93
Farebox Recovery Ratio	14.4%	14.6%	14.4%

1. Based on TransTrack data.
2. Peak vehicles provided by NTS on 7/8/14.

[3] NTS is categorized as a "Non-Urbanized Area Operator" under section 99268.4 of the TDA statutes and codes (Caltrans, 2013). Under that regulation, NAT must maintain a 10.0 percent farebox recovery ratio in order to be eligible to receive TDA funds (LTF and STA).

5.1.2.5 Omnitrans

Omnitrans FY 2013 performance indicators are provided in Table 5-7 and are discussed below.

Omnitrans' directly-operated fixed route operating cost per revenue hour, at $93.35, was the highest among the six transit agencies, which may be attributed in part to lower-speed operation in an urbanized environment and the exclusive use of full-size buses; however, their purchased fixed route service, at $67.55, was nearly the lowest. Omnitrans demand response operating cost per revenue hour ($68.98) was the second lowest among all of the agencies (excluding NTS, which has a special service provision agreement with the local senior citizen's club.)

Table 5-7. Omnitrans Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route - Direct Operated	Fixed-Route - Purchased	Demand Response - Purchased	Combined System
Total Passenger Boardings	15,509,733	145,366	491,179	16,146,278
Total Operating Costs	$54,906,414	$1,871,251	$12,569,094	$69,346,759
Fare Revenues	$13,031,443	$121,661	$1,584,790	$14,737,894
Revenue Miles	7,491,400	369,656	3,005,252	10,866,307
Revenue Hours	588,157	27,703	182,214	798,074
Peak Vehicles	136	8	96	240
Performance Indicators				
Cost and Financial Efficiency				
Operating Cost per Revenue Mile	$7.33	$5.06	$4.18	$6.38
Operating Cost per Revenue Hour	$93.35	$67.55	$68.98	$86.89
Annual Operating Cost per Peak Vehicle	$403,724	$233,906	$130,928	$288,945
Service Effectiveness				
Passenger Trips per Revenue Mile	2.07	0.39	0.16	1.49
Passenger Trips per Revenue Hour	26.37	5.25	2.70	20.23
Annual Passengers per Peak Vehicle	114,042	18,171	5,116	67,276
Cost Effectiveness				
Operating Cost per Passenger Trip	$3.54	$12.87	$25.59	$4.29
Farebox Recovery Ratio	23.7%	6.5%	12.6%	21.3%

1. Based on TransTrack data.

Omnitrans' fixed route service effectiveness indicator of 26.37 passengers per revenue hour is the highest of the six transit agencies, while the demand response effectiveness indicator of 2.70 passengers per revenue hour is in the middle range.

Omnitrans' fixed route cost per passenger trip of $3.54 is the lowest of the six transit agencies as would be expected given the more urbanized service area. The demand response cost per trip of $25.59 is the second lowest of the six transit agencies (again excluding NAT with its special senior citizen's club agreement). The farebox recovery ratio was 21.3 percent for the combined system, which is the second highest of the six operators.

Overall, the directly-operated fixed-route findings reflect Omnitrans' urbanized operating environment, which generates higher passenger loads but also with slower speeds due to greater traffic congestion and boarding activity. It also reflects Omnitrans' cost of operating full-size transit coaches versus the mixed full-size and/or smaller cutaway fleets at the other agencies.

It should be noted that the service effectiveness performance indicators for the fixed-route purchased services indicate a far lower performance level than the directly-operated service. The purchased fixed-route service is the *OmniGo* service, which is a local fixed-route community circulator service offered on five routes (i.e., one route in Chino Hills, one route in Grand Terrace, and three intertwined routes in Yucaipa).

The *OmniGo* fixed-route service was developed to replace the *OmniLink* demand-response service, which was eliminated in September 2014; as such, both services covered similar service areas in 2013. The *OmniGo* service, at 5.25 passengers per hour, is among the lowest-performing fixed-route services in passengers per revenue hour of any of the fixed-route services in San Bernardino County, including rural services. However, the *OmniGo* service was intentionally developed (e.g., separate mode and contract operation) to account for anticipated lower performance in this lower-demand area. It is recommended that Omnitrans closely monitor the *OmniGo* service for productivity improvement with elimination of the *OmniLink* service, and consider further route segment analysis and possible service revision if productivity remains at this low level.

Omnitrans implemented its BRT line, the sbX Green Line, in April, 2014. As a result, there were no performance statistics for the sbX line in the above analysis, which used FY 2013 statistics in order to have a full-year's data at the time this study was undertaken. Instead, Table 5-8 provides initial performance statistics for the sbX Green line for the first nine months of FY 2015 (July – March). It should be noted that the sbX is still a relatively new service and its ridership base is still developing. Its operating cost per revenue mile and per revenue hour is lower than for the overall Omnitrans directly-operated fixed-route system.

Table 5-8. Omnitrans sbX Performance: Actual (2015, July - March)

FY 2015 sbX Statistics[1]	sbX Green Line
Total Passenger Boardings	413,014
Total Operating Costs	$2,286,629
Fare Revenues	$347,862
Revenue Miles	425,347
Revenue Hours	26,566
Performance Indicators	
Cost and Financial Efficiency	
Operating Cost per Revenue Mile	$5.38
Operating Cost per Revenue Hour	$86.07
Service Effectiveness	
Passenger Trips per Revenue Mile	1.0
Passenger Trips per Revenue Hour	15.5
Cost Effectiveness	
Operating Cost per Passenger Trip	$5.54
Farebox Recovery Ratio	15.2%

1. Based on TransTrack data

5.1.2.6 Victor Valley Transit Authority

VVTA FY 2013 performance indicators are provided in Table 5-9 and discussed further below.

For fixed route service, operating cost per revenue hour was $67.18, which is the lowest of all the agencies. For commuter bus and demand response services, operating costs per revenue hour were higher than VVTA's fixed route service ($88.03 and $80.28, respectively). All three services are currently operated by the same service contractor (TransDev). VVTA has two contractor hourly rates: demand response and motor bus. A third rate for BAT service, which is being consolidated with VVTA service, took effect September 2, 2014. Thus, factors in addition to the contractor's hourly rates may explain the total cost per hour variations between fixed route and demand response services. Given these variations, further examination of the contributing cost factors may be warranted.

For fixed route service, there were 16.66 passenger trips per revenue hour and 0.96 passenger trips per revenue mile, the second highest among the six agencies in terms of service productivity. For commuter bus and demand response services, passenger trips per hour were lower (10.77 and 2.81 passenger trips per revenue hour and 0.26 and 0.17 passenger trips per revenue mile, respectively).

For the commuter bus service, this lower result is reflective of the nature of a long-distance service with relatively little passenger turnover.

Operating costs per passenger trip were $4.03 for the fixed route service, $8.17 for commuter bus service, and $28.54 for demand response service. The farebox recovery ratio was 21.4 percent for the combined system, which is the highest of all the transit agencies, with Omnitrans following closely (21.3 percent). Both Omnitrans and VVTA are classified as urbanized area operators.

Table 5-9. VVTA Performance: Actual (2013)

FY 2013 Statistics[1]	Fixed Route - Purchased	Demand Response - Purchased	Commuter Bus - Purchased	Vanpool - Purchased[2]	Combined System
Total Passenger Boardings	1,765,471	126,144	68,671	191,015	2,151,301
Total Operating Costs	$7,117,659	$3,599,529	$561,338	$585,854	$11,864,380
Fare Revenues	$1,701,781	$416,524	$423,899	N/A	$2,542,204
Revenue Miles	1,831,414	751,442	261,266	1,591,766	4,435,888
Revenue Hours	105,946	44,840	6,377	30,261	187,423
Peak Vehicles	29	27	7	103	166
Performance Indicators					
Cost and Financial Efficiency					
Operating Cost per Revenue Mile	$3.89	$4.79	$2.15	$0.37	$2.67
Operating Cost per Revenue Hour	$67.18	$80.28	$88.03	$19.36	$63.30
Annual Operating Cost per Peak Vehicle	$245,437	$133,316	$80,191	$5,688	$71,472
Service Effectiveness					
Passenger Trips per Revenue Mile	0.96	0.17	0.26	0.12	0.48
Passenger Trips per Revenue Hour	16.66	2.81	10.77	6.31	11.48
Annual Passengers per Peak Vehicle	60,878	4,672	9,810	1,855	12,960
Cost Effectiveness					
Operating Cost per Passenger Trip	$4.03	$28.54	$8.17	$3.07	$5.51
Farebox Recovery Ratio	23.9%	11.6%	75.5%	N/A	21.4%

1. Based on TransTrack data.
2. No revenue listed in TransTrack reports; riders pay approximately 74 percent of monthly vanpool costs.

5.1.3 Service Improvement Processes

Service improvements, consisting of new and/or increased services, are based upon a variety of planning principles employed by each agency, as discussed in this section.

5.1.3.1 Omnitrans

Omnitrans is the only County transit operator that has a written service improvement process. As described in *OmniConnects: Connecting People, Business, and Community, FY 2015-2020 SRTP* (Omnitrans, 2014b), service improvements are guided by service warrants. Service warrants are goals and standards used to determine if new or increased services are warranted and viable. Omnitrans has established a standard for resource allocation, such that, as new services are added, Omnitrans moves to 65 percent productive-oriented services and 35 percent coverage-oriented services. Productive-oriented services are defined as follows:

- Frequent service (20 minute headways or better)
- Direct travel (typically, straight-lined corridor oriented routes)
- Fast travel
- Bus stop amenities (more prevalent for higher ridership)
- Express, limited stop, and bus rapid transit service (by design, but also any local route related to one of these higher quality transit options)

Omnitrans service warrants, for Fixed Route and *OmniGo* services, are shown in Table 5-10. Prior to the recommendation of any new or increased service, a ridership analysis is required to assess the probability of attracting sufficient ridership to meet the approved minimum farebox recovery ratio.

Table 5-10. Omnitrans Service Warrants

Description	Measure	Target
Coverage Gap	Distance from nearest service	Closest service greater than 1/2 mile
Residential Market	Minimum residential density	Express: 4 du/ac in 20 mile catchment area Hourly: 4 du/ac 30 Minute: 7 du/ac OmniGo: 4 du/ac
Employment Market	Minimum industrial/business park density—1 MSF	Express: 5 MSF in 20 mile catchment area Hourly: 5 MSF 30 Minute: 8 MSF OmniGo: 5 MSF
Performance	Farebox recovery	Must show growth during first 12 months and meet standards within 24 months
Route Deviation	Ratio of through passenger time added divided by deviation passenger time savings less walking time	Ratio less than 1 (net savings in total passenger travel time because of deviation)

Source: Omnitrans, 2014b
Notes: du/ac = dwelling units per acre; MSF = million square feet
In accordance with Americans with Disability Act regulations, *Access* service is dependent upon Fixed Route service (i.e., warranted and required within 3/4-mile of Fixed Route service).

The Omnitrans service warrant policy, for new or increased services implemented as a result of the service improvement process, is shown in Table 5-11. This policy evaluates performance after a 12-month trial period, to assess whether to continue or discontinue the service.

In addition to the service improvement process described in this section, Omnitrans also considers public input and actual performance in the identification of service needs and deficiencies. Identified service needs and deficiencies are assessed for implementation by the internal Service Planning and Monitoring Committee (SPMC), which is made up of key staff within the Service Planning, Marketing, Operations, Maintenance, Finance, and Safety and Security Departments. Service improvements that are considered minor can be implemented in the next schedule change, which occurs three times per year.

The Omnitrans service warrants and service warrant policy is an excellent planning practice. The other San Bernardino County transit operators may want to consider incorporating such a process into their next SRTP updates, reflecting each operator's unique operating needs and operating environment.

Table 5-11. Omnitrans Service Warrant Policy

Time Period of Operation	New or enhanced routes would be operated on a trial basis for a period of 12 months and evaluated.
Warrants for Continuance	A new or changed route would be continued after the 9-month trial period if the performance of the route reaches 75 percent of the minimum passengers per hour standard established for its route type.
	If the 75 percent performance level is not reached, the route would be subject to additional marketing and/or corrective actions, such as further changes to the route structure, spans, and headways.
	New or changed routes would be expected to reach or exceed the minimum passengers per hour standards after 12 months of operation.
Warrants for Discontinuance	If a new or changed route remains below the minimum passengers per hour standard for 6 months following the implementation of marketing and corrective actions, the route would be discontinued or redesigned, as appropriate.
	Normally, discontinuance would occur if a route cannot achieve 50 percent of the minimum passengers per hour standard established for the route.
	If the new or changed route reaches or exceeds the minimum passengers per hour standard after 12 months of operation, it would become a normal part of the transit system and subject to the same adjustment and review procedures as existing routes.

Source: Omnitrans, 2014b

5.1.3.2 BAT, MARTA, MBTA, NTS, and VVTA

Five of the six transit operators (i.e., BAT, MARTA, MBTA, NTS, and VVTA) lack a written service improvement process/policy, though some fall under the Transportation Development Act (TDA) written "unmet needs" public hearing requirement. Some of the

ways that these transit operators identify service needs and deficiencies include the following:

- **Public Outreach**—To elicit public input from riders and non-riders, transit operators conduct public outreach, which could include onboard surveys, driver surveys, community workshops, and stakeholder meetings. Public outreach is a key component of developing SRTPs and/or COAs.
- **Unmet Needs**— All six transit operators receive TDA Local Transportation Funds (LTF). However, two transit operators (MBTA and VVTA) do not utilize all of the available LTF in their jurisdictions for transit operations, and are therefore required to conduct public hearings every year to identify unmet transit needs.[4] These public hearings are part of the service improvement process utilized at these agencies.
- **TransTrack Data**—As described in Section 5.1.1, transit operators track operational and financial data in TransTrack, and evaluate the data on a monthly, quarterly, and/or annual basis to identify service deficiencies.

Based on the identified service needs and/or deficiencies, proposed service improvements are reviewed by transit agency staff and management, and considered by their respective boards, with implementation based on funding and feasibility.

5.2 Other Transit Operators and Providers

This section discusses the service monitoring, evaluation, and improvement processes used by the SCRRA (Metrolink).

5.2.1 Metrolink

The SCRRA is a joint powers agency (JPA) that operates Metrolink. The five member agencies of the JPA include Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority, Riverside County Transportation Commission, SBCTA, and Ventura County Transportation Commission. As discussed in the *SCRRA Strategic Assessment* (SCRRA, 2007), there are three significant constraints to Metrolink growth, which include the following: the capacity of the existing rail network to handle more trains; the availability of funding for improvements and capacity expansion; and the ongoing need for operation and maintenance subsidies. As a result of these constraints, much of Metrolink service planning occurs annually based on funding availability and the request for service changes by member agencies.

[4] The TDA provides two major sources of funding for public transportation: the LTF and the State Transit Assistance (STA) fund. These funds are for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on population, taxable sales, and transit performance. Some counties have the option of using the LTF for local streets and road projects, if they can show there are no unmet transit needs.

5.2.1.1 Service Monitoring Process

The SCRRA submits on-going financial data into the agency's Oracle management information system. Additionally, key software packages, such as Oracle, Assetworks (asset management), and salesforce.com (customer management), will be integrated, and a data warehousing/reporting function will be implemented to capture key business data elements for business user inquiry and analysis.

The SCRRA prepares a "Monthly Performance Summary" that is reviewed by the Technical Advisory Committee each month. The summary includes ridership, on-time performance, and train delay cause information for the Metrolink system and by Metrolink line. Some recommendations and actions come out of this review and are pursued as directed by the SCRRA Board of Directors. In addition, the annual budget document includes a performance assessment, covering the past two fiscal years and a projection for the new fiscal year, covering the following metrics (SCRRA, 2014):

- Average fare per passenger
- Operating cost per passenger
- Operating cost per passenger mile
- Subsidy per passenger
- Subsidy per passenger mile
- Operating cost per train mile
- Subsidy per train mile
- Farebox recovery ratio
- Revenue recovery ratio

In addition, the annual budget document provides graphs for these metrics covering a 23-year period from system inception in 1993, and is accompanied by a discussion of key trends.

The SCRRA does not submit on-going operational data into the TransTrack system used by the other San Bernardino County transit operators.

5.2.1.2 Service Evaluation Process

The service objectives for FY 2015, as listed in the *SCRRA FY 2014-15 Adopted Budget* (SCRRA, 2014), include the following, some of which relate directly to the service evaluation and service improvement process:

- Enhance the overall safety and security of the system
- Increase train service on the 91 Line by two weekday round-trips and two weekend round-trips
- Improve service on the Orange County Line through the cutting of four intra county trains, replacing them with two peak hour trains to Los Angeles Union Station

- Reduce costs on the San Bernardino Line by cutting four redundant trains and eight redundant ticket vending machines (TVMs)
- Promote growth in ridership and revenues
- Continue improved fare enforcement
- Complete final testing and implement positive train control (PTC) and incorporate PTC operation costs
- Finalize a 5-year strategy in coordination with member agencies to ensure a cohesive plan for future growth and development
- Complete the development of Oracle 12 to provide timely, accurate, management enabling information to improve efficiencies and outcomes
- Redesign and rebuild internal processes to ensure accuracy and timeliness of accounting and financial data
- Complete the ninth phase of the 10-year fare policy restructuring plan

As discussed in the *SCRRA Strategic Assessment* (SCRRA, 2007), the SCRRA has developed six service scenarios through the year 2030, to help determine weekday and weekend service levels (e.g., number of trains and travel time/direction), as well as corresponding ridership and operating costs for each Metrolink line over time. The capital costs needed to support the proposed service levels, while continuing to maintain reliability and preserving the SCRRA on-time performance goal of 95 percent of all trains arriving within 5 minutes of schedule, also are identified.

The *SCRRA Strategic Assessment* presents an evaluation of the service scenarios against a set of 10 evaluation criteria/performance measures, mostly related to mobility enhancement or cost effectiveness, with performance scored on a scale of one (low) to five (high), as shown in Table 5-12. To conduct the evaluation, each of the six service scenarios was compared to existing conditions in 2005. Key data elements for the evaluation of future service scenarios used the following methodologies (SCRRA, 2007):

- Ridership – The study utilized a detailed ridership forecasting model adapted from the 2004 Orange County Transportation Authority (OCTA) *Commuter Rail Strategic Assessment*, which was refined for the study. That model looked at station area catchment areas, SCAG current and projected work trip data, and "capture rates" based on trip distance and service frequency to develop projected ridership levels for each scenario in its target year.

- Operating Costs – Operating costs for the future service scenarios were developed using historical operating cost factors, addition of unit costs for increases in service levels (for example, the cost of a new crew was added for each new trainset in operation), and assumption of a 4.0% annual cost escalation.

- Operating Revenues – Farebox revenues were projected from the ridership estimates and assumed a 3.5% annual system-wide average fare increase. Cost allocation of the net subsidy requirement for each member agency was developed

based on a new formula approved by the member agencies in 2006. The study notes that the SCRRA Strategic Assessment is conceptual and that no commitment by the member agencies for the proposed service levels or required subsidy costs is implied.

- Capital Costs – Capital improvement requirements to support each service scenario were identified and capital costs were estimated, to come up with the estimated total infrastructure and equipment capital cost required. An annual escalation factor of 4.0% was assumed.

Once these ridership and cost factors were developed for each scenario, the Metrolink Strategic Assessment Technical Advisory Committee defined the performance ranges for each evaluation criterion to assign scores for each service scenario on each criterion using the scale of one (low) to five (high). The resulting scores are shown in the "Score" column for each scenario on each criterion in Table 5-12. The scoring ranges are listed in the notes at the bottom of the table.

The *SCRRA Strategic Assessment* further evaluates each service scenario by performance score, including the selection of preferred alternatives for 2020 and 2030. However, the *SCRRA Strategic Assessment* also notes the challenges of implementation, namely funding availability and member agency agreement and/or coordination. The *SCRRA Strategic Assessment* evaluates the Metrolink system as a whole, not specific service levels within San Bernardino County.

Table 5-12. Evaluation of Metrolink Service Scenarios

Evaluation Criteria and Performance Measures (Score of 1 – 5)	Scenario												
	2005	2010		2015		2020A		2020B		2030A		2030B	
	Value	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
How well does the scenario improve mobility within teach corridor (increase in number trains)?[1]		35	1	91	2	137	3	173	4	173	4	221	5
How well does the scenario reduce the potential for accidents and fatalities ($ millions invested for safety)?[2]		$56.2	3	$68.4	4	$83.3	5	$83.3	5		1		1
Operations and maintenance costs per passenger mile[3]	$0.32	$0.35	4	$0.36	4	$0.40	3	$0.42	2	$0.49	1	$0.47	1
Operations and maintenance costs and annualized capital cost per passenger[4]		$60.74	1	$31.70	3	$29.18	4	$28.16	4	$30.60	3	$28.20	4
How does the scenario increase passenger miles carried and thereby reduce congestion and improve air quality (millions)[5]		109	1	352	2	549	3	661	3	923	4	1,135	5
Farebox recovery ratio[6]	43.2%	46.2%	1	52.5%	3	55.3%	3	53.5%	3	63.8%	5	66.8%	5
Increase in employment served per thousand dollars invested[7]		1.00	4	0.68	2	0.52	2	0.44	1	0.34	1	0.28	1
Increased service frequency (number of daily trains) per dollar invested[8]		0.0380	3	0.0396	3	0.0397	3	0.0422	4	0.0250	1	0.0267	1

Table 5-12. Evaluation of Metrolink Service Scenarios (Continued)

Evaluation Criteria and Performance Measures	Scenario												
	2005	2010		2015		2020A		2020B		2030A		2030B	
	Value	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Increase passenger miles carried per thousand dollars invested[9]		118.74	1	153.19	3	159.10	4	161.37	4	133.30	2	137.23	2
Institutional Feasibility[10]			**4**		**2**		**1**		**1**		**2**		**2**
Average Score			**2.3**		**2.8**		**3.1**		**3.1**		**2.4**		**2.7**

Source: SCRRA, 2007

Notes: [1] Scores: 1 = 0≤50, 2 = 50≤100, 3 = 100≤150, 4 = 150≤200, 5 = 200≤250

[2] Scores: 1 = $0≤20, 2 = $20≤40, 3 = $40≤60, 4 = $60≤80, 5 = $80≤100

[3] Scores: 1 = $.46≤.5, 2 = $.42≤.46, 3 = $.38≤.42, 4 = $.34≤.38, 5 = $.3≤.34

[4] Scores: 1 = $50≤65, 2 = $40≤50, 3 = $30≤40, 4 = $20≤30, 5 = $10≤20

[5] Scores: 1 = 100≤300, 2 = 300≤500, 3 = 500≤700, 4 = 700≤900, 5 = 900≤1200

[6] Scores: 1 = 42≤47%, 2 = 47≤52%, 3 = 52≤57%, 4 = 57≤62%, 5 = 62≤67%

[7] Scores: 1 = .3≤.5, 2 = .5≤.7, 3 = .7≤.9, 4 = .9≤1.1, 5 = 1.1≤1.3

[8] Scores: 1 = .025≤.03, 2 = .03≤.035, 3 = .035≤.04, 4 = .04≤.045, 5 = .045≤.05

[9] Scores: 1 = 110≤125, 2 = 125≤140, 3 = 140≤155, 4 = 155≤170, 5 = 170≤185

[10] Scores: Subjective—rated lower if more freight railroad movement is required and if capital improvements are outside rail right-of-way

5.2.1.3 Service Improvement Process

The SCRRA service improvement process is identified in the *SCRRA Strategic Assessment* (SCRRA, 2007) and annual budgets. Each year, the SCRRA develops the proposed budget based on the operating costs, revenues, and capital investment needed to provide safe, efficient, and reliable services. Funding for the proposed budget is derived from Metrolink fare revenue and other income, including dispatching and maintenance-of-way revenues, with the balance provided by subsidies paid by the five member agencies. (SCRRA, 2014)

For FY 2014-2015, as discussed in the SCRRA FY 2014-15 Adopted Budget (SCRRA, 2014), the SCRRA will operate 167 weekday trains and 90 weekend trains, which will include adjustments to the 91, Orange County, and San Bernardino Lines.

Metrolink service improvement plans are further discussed in Chapter 6.0.

5.3 SBCTA

SBCTA is completing design and preparing for construction of a new passenger rail service, the Redlands Passenger Rail Project (RPRP) – Arrow service, between the Downtown San Bernardino Transit Center and the University of Redlands. At the March 4, 2015 board meeting, SBCTA adopted the Locally-Preferred Alternative (LPA) and certified the project EIR as well as receiving the FEIS/Record Of Decision from the FTA. Construction is anticipated to start in 2017 with operations beginning in 2020. As discussed in Chapter 2, the environmental documentation calls for the service to provide 30-minute headways during peak periods and hourly headways at other times (SBCTA, 2012b).

This section discusses proposed service monitoring, evaluation, and improvement processes for the RPRP - Arrow passenger rail service.

5.3.1 Proposed Service Monitoring Process

SBCTA does not directly operate any transit services. SBCTA's plan for service delivery on the RPRP – Arrow is for Omnitrans to contract for operations and vehicle maintenance, and for SCRRA to provide dispatching and maintenance-of-way. A key element for the operating agencies to address prior to service start-up is to establish a service monitoring program so that performance issues with the new service can be addressed quickly. As with current services provided by the transit operators, RPRP – Arrow operating agencies will need to ensure that agency and/or contractor staff are regularly monitoring on-time performance, passenger loadings, transfer connections with local fixed-routes, adherence to customer service policies, and other service quality indicators (e.g., vehicle comfort and cleanliness), to ensure that service meets performance standards. This will be especially critical during the first year of operations when any "bugs" in the service or schedule should be worked out. It is recommended that specific service quality standards with incentives and penalties be incorporated into service contractor's agreement.

Like the six existing transit operators in San Bernardino County, it is also proposed that the operating agencies submit on-going operational and financial data into TransTrack. TransTrack data should be reviewed on a monthly, quarterly, and annual basis, with quarterly and annual reports emphasized during the first year of service to guide service improvements. TransTrack data can be reported to the Omnitrans, SCRRA, and SBCTA Boards of Directors.

5.3.2 Proposed Service Evaluation Process

The proposed performance standards for evaluating the future RPRP - Arrow passenger rail service are provided in Table 2-13 of Chapter 2.

5.3.3 Proposed Service Improvement Process

For the future improvements to the RPRP – Arrow passenger rail service, close monitoring of service performance and utilization will form the basis for identifying recommended service improvements. As the service matures, certain trips may develop capacity, on-time performance, or other issues, suggesting an improvement in headways at certain times of the day. The operating agencies should consider establishing thresholds or "triggers" for the evaluation of service improvements, including the following:

- Schedule adherence should be closely monitored, and schedule adjustments implemented, as operating experience is gained.
- Periods that are operating with standees should be considered for improvement to 30-minute headways (if in mid-day) or an increase in consist length (if in peak periods) if the system is designed to accommodate longer trains.
- Transfer connections at the San Bernardino Transit Center with local fixed route service and Metrolink are critical. Minor schedule adjustments should be considered, when feasible, to improve connections.
- Demand on early morning and late evening trips should be monitored closely to determine whether service should start earlier or run later.
- Passenger loads by hour for weekend service should be monitored to determine if headway improvements on Saturday and/or Sundays are warranted.
- In the longer term, potential extension of service to and from Montclair and to the Ontario International Airport (as reviewed in a separate SBCTA study) should be considered.

6.0 SERVICE IMPROVEMENT PLANS

This chapter identifies the service improvement plans for each transit operator for the next 5 years (fiscal year [FY] 2016 to FY 2020). For each transit operator, service improvements and associated revenue and operating cost projections are provided, based on available information from transit operator short range transit plans (SRTPs), comprehensive operations analyses (COAs), and/or annual operating budgets. Estimated operating cost projections for the future Redlands Passenger Rail Project (RPRP - Arrow) service as well as SBCTA general Transit Program costs also are provided. The information in this chapter is a key input to developing the County-wide transit financial plans later in this SRTP[5].

6.1 Transit Operator Service Improvement Plans

This section presents the five-year service improvement plans for the various transit operators, which include the following: Barstow Area Transit (BAT)[6], Morongo Basin Transit Authority (MBTA), Mountain Area Regional Transit Authority, or Mountain Transit (MT), Needles Transit Services (Needles), Omnitrans, Victor Valley Transit Authority (VVTA), and Metrolink. A projection of RPRP annual operating and maintenance costs is provided beginning in FY 2017 through FY 2020, based on projections for that project prepared in conjunction with the Capital Project plans for SBCTA (See Chapter 8).

Table 6-1 provides a summary of the projected operating costs and fare revenues for each transit operator in San Bernardino County, which is reviewed in more detail in the following discussion. The RPRP service will be provided through a combined effort by Metrolink and Omnitrans. Metrolink will provide maintenance of way and dispatching, while Omnitrans will provide operations and maintenance of equipment. Based on the available SRTP, COA, and operating budget information, the combined total annual operating and maintenance cost for the five transit operators, Metrolink, and including RPRP - Arrow service and SBCTA Transit Program Administration is estimated to reach $154.8 million by FY 2020, with $39.4 million of that amount, or 25.5 percent, being covered by estimated fare revenues.

[5] Due to the varying dates and status of the transit agency SRTP's, this SBCTA SRTP only covers FY 2016 – FY 2020. SBCTA plans to put all agency SRTPs on the same cycle in the future and to update the SBCTA SRTP every two years to reflect changes in funding assumptions.

[6] At the time work began on this Short-Range Transit Plan, Barstow Area Transit (BAT) was a separate agency. BAT operations have subsequently merged with Victor Valley Transit Authority (VVTA). BAT's operating costs are therefore combined with VVTA's, based on the consolidated budgets VVTA has begun preparing as of FY 2015.

Table 6-1. Projected Financial Data, All Transit Operators

Transit Operator/ Service	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Fare Revenues						
BAT	Included in VVTA	--	--	--	--	N/A
MT	$316,458	$358,731	$475,792	$576,388	$663,728	110%
MBTA	$401,095	$402,398	$416,934	$459,620	$465,882	16%
Needles Transit Svcs	$36,700	$38,396	$40,500	$46,100	$46,100	26%
Omnitrans	$17,841,000	$18,774,000	$19,249,000	$20,174,000	$20,675,000	16%
VVTA (includes Barstow)	$3,166,800	$3,538,000	$3,644,140	$3,753,464	$3,866,068	22%
Metrolink	$11,312,000	$11,019,000	$11,602,000	$11,817,000	$12,171,510	8%
RPRP - Arrow[4]	-	-	-	-	$1,525,000	N/A
Total for All Operators	**$33,074,053**	**$34,130,525**	**$35,428,366**	**$36,826,573**	**$39,413,288**	**19%**
Operating Costs						
BAT	Included in VVTA	--	--	--	--	N/A
MT	$2,457,900	$3,578,710	$3,446,870	$3,811,863	$4,209,246	71%
MBTA	$2,915,554	$3,355,068	$3,542,982	$3,704,036	$3,882,456	33%
Needles Transit Services	$360,550	$413,392	$421,902	$493,114	$496,982	38%
Omnitrans - Bus Modes	$77,310,000	$79,590,000	$81,560,000	$84,010,000	$86,090,000	11%
VVTA	$19,008,884	$21,080,234	$21,712,641	$22,364,020	$23,034,941	21%
Metrolink Commuter Rail[1, 2]	$25,471,000	$27,506,000	$28,820,000	$29,734,000	$31,309,902	23%
Metrolink - RPRP-Arrow[3]	$0	$0	$0	$0	$1,052,932	N/A
Omnitrans - RPRP-Arrow[4]	$0	$400,000	$600,000	$7,000,000	$3,596,068	N/A
SBCTA[5]	$712,000	$1,000,000	$1,030,000	$1,060,900	$1,092,727	53%
Total for All Operators	**$128,235,888**	**$136,923,404**	**$141,134,395**	**$152,177,933**	**$154,765,254**	**21%**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority; MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority.

1 = Metrolink Services within San Bernardino County;

2 = For FY 2016 and FY 2017, Metrolink Commuter Rail values are from SCRRA budgets, FY 2018 and FY 2019 are SCRRA's projections from the FY 2017 SCRRA budget, FY 2020 is escalated at 5.3 percent, the average of annual budget increases from FY 2016 - FY 2019, excluding the BNSF locomotive lease costs in FY 2017, per Transit Committee comments on December 15, 2016.

3 = Metrolink RPRP-Arrow dispatch, signal maintenance, and maintenance-of-way. Amounts shown are for an estimated six months of service.

4 = Omnitrans RPRP-Arrow for DMU operations and vehicle maintenance. Costs shown are for an estimated six months of service. Costs for Omnitrans RPRP-Arrow prior to FY2020 are related to start up activities, tools and spare parts. FY 2020 fare revenues based on updated estimates from SBCTA Fund Administration and Programming provided on November 7, 2016.

5 = SBCTA Transit Program Administration.

Sources: For FY 2016 - FY 2020, see notes for each individual operator's five-year projection in this chapter.

6.1.1 Barstow Area Transit

At the time this chapter was prepared, all BAT services had been merged with VVTA and are operated under the management of VVTA. As such, any improvements to services previously operated by BAT would need to be determined by VVTA in consultation with City of Barstow staff. See Chapter 4 of this SRTP for a description of BAT's previously-operated services.

Beginning with FY 2016, VVTA began issuing consolidated annual operating budgets for both VVTA and BAT services. Please see Section 6.16 for the consolidated financial data for VVTA and BAT.

6.1.2 Morongo Basin Transit Authority

In 2016, MBTA undertook an update to its last COA, the *2012 Comprehensive Operational Analysis*. The update is titled the *Morongo Basin Transit Authority Focused Short Range Transit Plan*. This update identifies additional Management, Operational, Marketing, and Capital Procurement Actions that MBTA should consider for the years FY 2016-17 through FY 2019-20 (MBTA, 2016).

This plan provides additional recommended service improvements, including a proposal to provide lifeline-level service to remote communities within the MBTA service area, and an opportunity to partner with the Joshua Tree National Park (JTNP) to provide a pilot program of transit service into the park. The JTNP proposal includes a novel financing plan wherein the National Park would cover $200,000 of the estimated $275,000 first-year operating cost, with the balance proposed to be covered by San Bernardino County and City of Twentynine Palms LTF funds and/or LCTOP funds from SBCTA. If the program is successful, National Park funding would increase to $300,000 a year over a five-year period.

Table 6-3 provides a summary of the additional service improvement actions proposed in the draft *Focused Short Range Transit Plan*, over and above those in the original *2012 Comprehensive Operational Analysis*.

Table 6-2. MBTA Additional Proposed Transit Service Improvements from Draft Focused Short Range Transit Plan

Proposed Improvement	Timing/Year
Initiate trial JTNP Transit Service (operating November 4, 2016 - April 30, 2017)	FY 2016-17
Schedule Adjustments for Route 1 for improved performance	FY 2016-17
Add third round trip on Route 15 Saturdays and Sundays between Twentynine Palms Transit Center and Palm Springs when the JTNP pilot program is operating	FY 2016-17
Add fourth round trip on Route 12 Mondays - Fridays when the JTNP pilot program is operating	FY 2016-17
Implement Copper Mountain College Free Fare Pilot Program in Spring semester, 2017	FY 2016-17
Initiate subscription Ready-Ride services to Joshua Tree and Landers for later evening classes at Copper Mountain College in Spring Semester, 2017	FY 2016-17
Initiate service to Pioneer Town and Johnson Valley two days a week, operated by Reach-Out Morongo Basin	FY 2017-18
Extend JTNP Transit Service season end date from April 30 to May 31st, on Fridays, Saturdays, and Sundays following evaluation of first year service results	FY 2017-18
Expand JTNP Transit Service season to run from October 1st to May 31st, dependent on the outcome of the first two years	FY 2018-19

Table 6-3 provides a forecast of financial data for MBTA assuming the addition of the service improvements listed in Table 6-2. Operating costs are projected to increase by 33 percent during the five year period, while fare revenues are projected to increase by 16 percent. However, additional revenue would come from the National Park Service for the pilot JTNP Transit Service program, which would be fare-free to passengers. A significant increase in FTA Section 5311 is also projected in the *Focused Short Range Transit Plan*.

Table 6-3. MBTA Projected Financial Data

System Total	Budgeted[1]	Projected[2]				Change
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-2020
Fare Revenue	$401,095	$402,398	$416,934	$459,620	$465,882	16%
Operating Costs	$2,915,554	$3,355,068	$3,542,982	$3,704,036	$3,882,456	33%

[1] FY 2016 based on adopted MBTA Operating Budget.
[2] For FY 2017 – FY 2020, Projected fare revenues and operating costs based on final *Morongo Basin Transit Authority Focused Short Range Transit Plan*

6.1.3 Mountain Transit

Mountain Transit was in the process of developing a new *Short-Range Transit Plan* covering the years FY 2017 – FY 2021 as this chapter was being finalized. Therefore, the draft MT five year outlook for service improvements, operating expenses, and operating funding sources was used in this section.

Table 6-4 summarizes the proposed service improvements for both the Rim of the World (Rim) service area (Rim of the World refers to the Crestline, Lake Arrowhead, and Running Springs areas of Mountain Transit's jurisdictional area) and the Big Bear Valley service area. In the Rim area, proposed improvements that would occur during the five-year period of the SBCTA SRTP include Sunday and Holiday dial-a-ride service increases in the Crestline/Lake Arrowhead area and special services to the Lake Arrowhead Concert Series. Fixed-route and dial-a-ride service increases are proposed for out-years, beginning in FY 2021-2022.

In the Big Bear Valley area, proposed improvements during the five-year period of the SBCTA SRTP include service increases on Route 1 in winter periods, special event services, dial-a-ride service evening expansion, fixed-route service expansions to resort areas, a new Lucerne Valley "Off-the-Mountain" limited start-up service three days a week (connecting to VVTA services), further expansion of Route 1 during spring/summer months, and a new "Off-the-Mountain" (OTM) service to connect with Redlands Passenger Rail Service in FY 2019 - 2020.

Table 6-4. Mountain Transit Proposed Transit Service Improvements

Fiscal Year	RIM Service Expansion Options	Days	Annual VSH	Annual Costs*	Addl. Fleet
FY16-17	Sunday & holiday DAR in Crestline/Lake Arrowhead (9 a.m. – 5 p.m.)	55	440	$33,000	0
FY16-17	Lake Arrowhead Concert Series Service (Fridays 7-10 p.m.; Sat & Sun (4-10 p.m.),Mon Hol (7-10 p.m.) & Companion DAR	40	346	$25,950	0
FY21-22	Lake Arrowhead Weekend Service & Expanded DAR	59 Wkend Days	1,226	$91,913	1
FY22-23	Rt 4 & DAR Sat/Sun SkyPark (10 a.m. to 10 p.m.)	52 Sats & 52 Suns	2,496	$187,200	2
FY23-24	Rt 4 & DAR Weekday SkyPark Expansion	260 Weekdays	3,770	$282,750	1
FY23-24	Rt 2 Expanded Sat Service Crestline through Arrowhead	52 Sats	312	$23,400	0
	Total RIM Impact		**8,590**	**$644,213**	**4**

Fiscal Year	Big Bear Valley Service Expansion Options	Days	Annual VSH	Annual Costs*	Addl. Fleet
FY16-17	Rt 1 Expansion Winter 11/1-3/31	154 Days	2,118	$158,813	0
FY16-17	Special Events TBD****	20 Weekends	240	$18,000	0
FY16-17	DAR Evening Expansion	365	1,460	$109,500	0
FY17-18	FR Expansion for Resort Services***	80 Ski Weekends Days & Holidays	1,600	$120,000	2
FY17-18	Lucerne Valley OTM 3 days @ week	156 Weekdays	1,872	$140,400	1
FY18-19	Rt 1 Expansion 4/1-10/31	196 Days	2,695	$202,125	0
FY19-20	OTM to Redlands Rail via SR 38/Resort Gap Closure***	365	3,800	$285,000	2
FY21-22	Trolley Expansion ***	80 Ski Weekends Days & Holidays	1,600	$120,000	+1 or 2
	Total Big Bear Valley Impact		**15,385**	**$1,153,838**	**+6 or +7**

Total Agency Service	Annual VSH:	Annual Costs*:	Fleet:
Expansion Options	23,974	$1,798,050	+10 or +11

* Annual costs estimated at $70 per VSH and based on FY 2016-17 dollars (not inflated)

** Some will be concert days.

*** Seasonal services

**** Most likely reimbursed 100% by event provider

In order to fund this significant increase in service levels, MT anticipates allocation of increased FTA Section 5311(f) funds, which have been covering 50 percent of the cost of the OTM service in the past, and new LCTOP (Low-Carbon Transit Operators Program) funding as well as reimbursement from special event providers.

Table 6-5 provides a forecast of financial data for MT from their draft SRTP, assuming the addition of service improvements listed above. Fare revenues are projected to increase 110 percent during the five-year period covered by the SBCTA SRTP, and operating costs are projected to increase 71 percent. A fare increase is anticipated in FY 2019. These projections show farebox recovery to be well above the required 10 percent minimum.

Table 6-5. Mountain Transit Projected Financial Data

System Total	Projected					Change
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-2020
Fare Revenue	$316,458	$358,731	$475,792	$576,388	$663,728	110%
Operating Costs	$2,457,900	$3,578,710	$3,446,870	$3,811,863	$4,209,246	71%

Source: FY 2016 – FY 2020, fare revenues and operating costs from draft MT *Short-Range Transit Plan*, September 2016

6.1.4 Needles Transit Services

Needles Transit Services (NTS) recently adopted an updated *Needles Transit Services Short Range Transit Plan, 2015-2020* (Needles, 2015). The plan has proposed five service improvement alternatives, as well as some service-related enhancements, which are described in Table 6-6.

The desire for new, Across-The-River service has been expressed by residents to provide access to commercial and medical facilities in Arizona, and is discussed in a study conducted in February 2014 by the Arizona Department of Transportation for the Fort Mojave Indian Reservation. The feasibility of this service is discussed in the Needles SRTP as a strategic opportunity that Needles should consider working toward with the tribal government (Needles, 2015).

Table 6-6. Needles Transit Services Transit Service Improvements

Priority	Improvement	Timing/Year	Implemented?
1	Alternative 1: Expand Saturday service by providing three additional hours of afternoon service	First Year of Plan	No
2	Alternative 2: Provide four hours of service on Sunday from 9 A.M. to 1 P.M.	Second Year of Plan	No
Not Indicated	Alternative 3: Expand evening service to 10 P.M. on weekdays to help serve youth, student, and evening worker markets	Third Year of Plan	No
Not Indicated	Alternative 4: Provide an additional day of Dial-A-Ride Medical service for a total of three days a week	First Year of Plan	No
Not Indicated	Alternative 5: Provide an additional afternoon vehicle run for Dial-A-Ride Medical service on two service days, for a total of two runs on each operating day	Second Year of Plan	No
Not Indicated	Alternative 6: Marketing and Transit Awareness Project - to enhance development of the material that presents all of the City's transit programs, including printed transit information, website, and at-stop signage	Not Indicated	No
Not Indicated	Alternative 7: Bus Stop Improvements and Enhancements - a detailed program of improvement, replacement, and enhancement to promote the NTS and ensure safe and accessible access to NTS bus stops. Includes bus shelters, bus stop signage replacement, bus stop ADA accessibility improvements, repairs to enhance ADA accessibility, bus stop relocations or improved path of access	Not Indicated	No

Source: *Needles Transit Services 2015 – 2020 Short-Range Transit Plan* (Needles, 2015)

Table 6-7 shows projected financial and operating data for Needles Transit Services, assuming the service improvements identified in the Final SRTP are implemented as scheduled. Since Needles had a recently-updated SRTP, that financial information is used here rather than annual operating budgets. It should be noted that, under the SRTP's proposed service improvements, the overall farebox recovery ratio would dip slightly below the 10.0 percent required by the Transportation Development Act beginning in FY 2017. Needles may need to consider a fare increase or supplemental revenue sources in order to maintain the minimum 10.0 percent farebox recovery ratio.

Table 6-7. Needles Transit Services Projected Financial Data

System Total	Projected[1]					Change
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-2020
Fare Revenue	$36,700	$38,396	$40,500	$46,100	$46,100	26%
Operating Costs	$360,550	$413,392	$421,902	$493,114	$496,982	38%

1. Needles Transit Services 2015 - 2020 Short-Range Transit Plan (FINAL JULY 2015)

6.1.5 Omnitrans

The *OmniConnects: Connecting People, Business, and Community, FY2015-2020 Short-Range Transit Plan* (Omnitrans, 2014b) outlines proposed service changes for FY 2015 and FY 2016 under its Constrained Service Plan. Service changes that are proposed for the years FY 2017 through FY 2020 will be based on the outcome of the

changes implemented in FY 2015 and FY 2016, as well as other regional trends in travel demand and completed regional transit projects such as the RPRP. Table 6-8 provides a listing of Omnitrans' FY 2015 and FY 2016 planned service changes as stated in *OmniConnects*.

Under the *OmniConnects* SRTP, Omnitrans was expected to maintain the FY2015 level of revenue hours that were projected with the addition of sbX in late FY 2014. Due to funding constraints, Omnitrans was not projected to have the ability to expand revenue hours beyond the planned addition of sbX, and service levels were projected to remain constant from FY 2015 through FY 2020. Any service increases on specific routes during this period would have to be offset by other service decreases or new funding sources. As a result of these constraints, revenue and ridership forecasts were projected to change only based on consumer response to proposed fare increases, and conservative natural growth in ridership due to increases in population.

In the next Omnitrans SRTP and SBCTA SRTP updates, funding for years beyond FY 2020 is anticipated to include lifting the three percent cap on increases in LTF funding that arose from the last COA, if appropriate.

Table 6-8. Omnitrans Transit Service Improvements

Improvement	Year	Implemented?
Increase base fares by $0.25, or 16.7%	FY 2015	Yes
Increase all other fares by 16%	FY 2015	Yes
Reduce weekday frequency on Route 20 from 30 minutes to 60 minutes	FY 2015	Yes
Improve frequency and reliability on Routes 3 and 4 to 15 minutes for the majority of day	FY 2015	Yes
Improve weekend frequency on Route 215 to 30 minutes from 60 minutes	FY 2015	Yes
Reschedule Route 61 to improve travel times and eliminate unnecessary dwell time	FY 2015	Yes
Eliminate all remaining OmniLink service due to redundancy with OmniGo service	FY 2015	Yes
Merge Routes 9 and 19 into the newly proposed Route 19 to improve frequency on Yucaipa Boulevard and Barton Rd, creating an east-west connection to sbX on Barton Road from Yucaipa to Fontana.	FY 2015	Yes
Restructure Route 5 south of Pacific High School in San Bernardino to serve as a direct north-south route on Waterman Avenue to Redlands Boulevard	FY 2015	Yes
Create a short and long Route 8 that improves frequency to 30 minutes from Redlands to San Bernardino, providing a connection to sbX on Redlands Boulevard, while offering a long route with 60 minute service to Crafton Hills College. The route would no longer travel to the Yucaipa Transit Center, but this would be replaced by the improved frequency on Route 19.	FY 2015	Yes
Create bi-directional ingress and egress on Valley Boulevard to Arrowhead Regional Medical Center for Route 22 rather than having a loop to San Bernardino Avenue.	FY 2015	Yes
Route 63 is proposed to become a more direct north-south route serving Mountain Avenue between Chino, Ontario and Upland rather than a meandering route that provides duplicative service on Holt	FY 2016	No
Route 65 and Route 68 switch segments in order to match higher ridership segments with higher frequency segments. Route 65 is proposed to provide service on Central Avenue and Arrow Highway before connecting north to Chaffey College by adding service on Archibald Ave with 30 minute service. Route 68 becomes an hourly route connecting Chino Hills to the Montclair Transit Center by traveling on Ramona Avenue. Route 68 service is provided at a 60 minute frequency.	FY 2016	No
Route 67 is shortened to provide a direct connection between Fontana and Chaffey College with primary path of travel on Baseline. The route no longer continues on Baseline to Upland and the Montclair Transit Center. This change is due to growing ridership at Chaffey and low ridership on Baseline west of Milliken.	FY 2016	No
Route 80 is shortened between downtown Ontario and Chaffey College rather than continuing from Chaffey College to the Montclair Transit Center. The reason for this is there are currently three routes that connect Holt Boulevard. to the Montclair Transit Center	FY 2016	No
Route 81 is reconfigured to travel from Chaffey College to Chino Transit Center using a direct path of Haven north-south and Riverside Dr. east-west. This greatly straightens the existing Route 81.	FY 2016	No
Route 82 is proposed to travel on Milliken Ave. between Jurupa Ave and Foothill Blvd rather than meandering back and forth between Milliken Ave. and Haven Ave.	FY 2016	No
Route 83 is extended south on Euclid Avenue to serve the College Park development.	FY 2016	No
Route 84 is a new route that is comprised of portions of the old Route 81 and old Route 63 to maintain coverage. Route 84 travels from Ontario into Upland on Vineyard Ave and Campus Ave.	FY 2016	No

Source: The *OmniConnects: Connecting People, Business, and Community, FY2015-2020 Short-Range Transit Plan* (Omnitrans, 2014b.)

Other Omnitrans Service Plans

In addition to the above changes for FY 2015 and FY 2016 identified in *OmniConnects*, Omnitrans added a new freeway express route on a trial basis. Route 290 offers weekday, peak-hour service on the I-10 corridor between Montclair Transit Center and San Bernardino with stops at Ontario Mills and Arrowhead Regional Medical Center. The service was implemented in September, 2015. According to Omnitrans' FY 2016 Management Plan, Route 290's estimated annual operating cost is $400,000, which will be covered by two funding sources: 1) savings realized from the elimination of OmniLink service in FY 2015, and 2) use of a new source of funding, the Low-Carbon Transit Operator Program (LCTOP)[7], which is a Cap-and-Trade funding source (Omnitrans, 2015b).

The San Bernardino Transit Center (SBTC) opened in September, 2015. Eleven bus routes were adjusted to streamline access to the new site located on Rialto Avenue between E and F Streets in Downtown San Bernardino (Omnitrans, 2015a). Omnitrans has indicated that additional feeder service will be needed to serve the RPRP at the Downtown San Bernardino and Redlands rail stations, once rail service is implemented. These feeder services are not identified in the current SRTP, and details of additional services will need to be determined. Redlands Passenger Rail service is projected to begin in 2020.

Omnitrans has awarded a consultant contract to complete environmental approval, engineering, and right of way engineering for a new BRT service known as the West Valley Connector. It is envisioned that the West Valley Connector will be implemented in partnership with the SBCTA and that express service can be effected ahead of the larger capital improvements identified the for 3.5 miles of dedicated lanes along Holt Boulevard. The project is identified in the Omnitrans FY 2016 Management Plan as a Strategic Initiative. The preliminary route alignment would run from downtown Pomona to Fontana, serving major destinations including Ontario Civic Center, Ontario Convention Center, Ontario International Airport, Ontario Mills Mall, Citizens Bank Arena, the Rancho Cucamonga Metrolink Station, Victoria Gardens, Chaffey College - Fontana Campus, Fontana Civic Center, and Kaiser Permanente, Fontana. The route would utilize portions of two of Omnitrans' highest ridership routes, Routes 61 and 66 (Omnitrans, 2014d).

An alternatives analysis of the West Valley Connector determined that the most cost effective alternative would be to initially implement the service using standard transit

[7] The Low Carbon Transit Operations Program (LCTOP) is one of several programs that are part of the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862. The LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emission and improve mobility, with a priority on serving disadvantaged communities. Approved projects in LCTOP will support new or expanded bus or rail services, expand intermodal transit facilities, and may include equipment acquisition, fueling, maintenance and other costs to operate those services or facilities, with each project reducing greenhouse gas emissions. This program will be administered by Caltrans in coordination with Air Resource Board (ARB) and the State Controller's Office (SCO). See: http://www.dot.ca.gov/hq/MassTrans/lctop.html

coaches in mixed-flow traffic operation (rather than constructing dedicated lanes) with 27 enhanced stations. The capital costs for this “Rapid Bus” version of BRT is estimated at $24.5 million and the required capital funding is reportedly currently available. Future phases involving purchase of 60-foot articulated sbX buses and construction of dedicated BRT lanes on portions of Holt Boulevard would require additional funding.

According to the Alternatives Analysis Executive Summary, service levels on Routes 61 and 66 would be reduced with implementation of the Connector, resulting in an estimated net increase in annual operations and maintenance costs of $1.260 million. However, the net increase in operations and maintenance costs would be funded by existing operations and maintenance funding sources including potential savings found from restructuring west valley routes in OmniConnects Short Range Transit Plan, with no net increase in Omnitrans' operations and maintenance funding (Omnitrans, 2014d). As the approach and alignments have gone through a number of iterations, it is yet to be determined if the service can be implemented without a net increase in Omnitrans’ operations and maintenance costs. The Alternatives Analysis Executive Summary does not provide an implementation date; however, implementation is likely beyond the FY 2016 service improvements defined in OmniConnects.

Table 6-9 provides a forecast of financial and operating performance data for Omnitrans, assuming the Constrained Plan service improvements listed above and the Constrained Plan’s proposed fare changes and projected operating revenues.

Table 6-9. Omnitrans (Bus Modes Only) Projected Financial and Operating Data

System Total (Bus Modes)		Projected[1]					Change
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-2020
Financial	Fare Revenue	$17,841,000	$18,774,000	$19,249,000	$20,174,000	$20,675,000	16%
	Operating Costs	$77,310,000	$79,590,000	$81,560,000	$84,010,000	$86,090,000	11%
Operating Data	Revenue Miles	11,212,000	11,178,000	11,246,000	11,241,000	11,319,000	1%
	Total Miles	12,352,000	12,314,000	12,396,000	12,389,000	12,480,000	1%
	Revenue Hours	815,000	812,000	817,000	816,000	821,000	1%
	Total Hours	884,000	881,000	886,000	886,000	892,000	1%
	Passengers	16,508,000	15,954,000	16,050,000	15,548,000	15,651,000	-5%
Fleet Data	Peak Revenue Fleet	244	244	244	244	244	0%
Key Stats	Passengers per Hour	20.3	19.6	19.6	19.1	19.1	-6%

[1] Projected fare revenue and operating cost data taken from *OmniConnects: Connecting People, Business, and Community, FY2015-2020 Short-Range Transit Plan* (Omnitrans, 2014b).

6.1.6 Victor Valley Transit Authority

The *Comprehensive Operational Analysis and Short Range Transit Plan of Victor Valley Transit Authority* (VVTA, 2013) outlines proposed service changes related to improving on-time performance, improvements to ease crowding, providing service to new areas, and providing Sunday service throughout the service area. Improvements are listed by year of implementation and described in more detail below.

Table 6-10 lists the service improvements that were to be implemented during FY 2014 through FY 2016, and some additional recent updates provided by VVTA staff:

Table 6-10. VVTA Transit Service Improvements

Improvement	Year	Implemented?
Creating the Tri-Community Circulator (Route 20) in Phelan/Piñon Hills/Wrightwood	FY2014	Yes
Modifications to Route 23	FY2014	Yes
Increase running time on Route 32	FY2014	Yes
Modifications to Route 33	FY2014	Yes
Modifications to Route 51	FY2014	Yes
Establish a new Route 55	FY2014	Yes
Provide 30-minute weekday service on Route 41	FY2014	Yes
Provide 30-minute weekday service on Route 52	FY2014	Yes
Add two trips to Route 53 on weekdays	FY2014	Yes
Modify Route 21 to serve Super Target in Hesperia	FY2014	Yes
Serve SCLA with Route 32	FY2014	Yes
Serve the new Adelanto High School with Route 33	FY2014	Yes
Serve Granite Hills High School with Route 40	FY2014	Yes
Serve the Jess Ranch area with Route 43	FY2014	Yes
Extend Route 54 to the Mall of Victor Valley	FY2014	Yes
Provide Sunday Service on Routes 21, 22, 23, 31, 32, 41, 43, 44, 45, 48, 51, 52, 53, and 55. People living along Routes 33, 40, 46, 47, and 54 will be allowed to use Direct Access ADA service to connect to a fixed-route bus on Sundays.	FY2014	Yes
Modify Route 44 to serve Cottonwood Avenue north of Bear Valley Road	FY2016	No
Add Route 200 Lifeline Service one day/week from Needles to Barstow/Victorville*	FY2016	Yes
Create the Oak Hills Route (Route 24); includes Sunday service	FY2017	No
Increase Route 15 (B-V Link) service to include Saturdays*	FY2017	Yes
Create the Apple Valley Road Route (Route 49); includes Sunday Service	FY2018	No
Possible relocation of 7th and Lorraine Transfer Point*	FY2017	No
Possible relocation of Victor Valley College Transfer Point*	FY2018	No

Source: *Comprehensive Operational Analysis and Short Range Transit Plan of Victor Valley Transit Authority* (VVTA, 2013); *Updates provided by VVTA Staff on 7/7/16.

Table 6-11 provides a forecast of financial data for VVTA assuming the addition of the service improvements listed above. Due to the significant financial changes resulting from the consolidation of Barstow Area Transit with VVTA, the SRTP/COA was significantly out of date. Also, VVTA began issuing consolidated budgets covering VVTA and BAT services in FY 2016. Therefore, operating and financial data were taken from VVTA's FY 2016 and FY 2017 operating budgets, and projected from those years for FY 2018 – FY 2020.

Table 6-11. VVTA Projected Financial Data

System Total	Budgeted[1]		Projected[2]			Change
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-2020
Fare Revenue	$3,166,800	$3,538,000	$3,644,140	$3,753,464	$3,866,068	22%
Operating Costs	$19,008,884	$21,080,234	$21,712,641	$22,364,020	$23,034,941	21%

[1] FY 2016 and FY 2017 based on adopted VVTA Operating Budgets.
[2] For FY 2018 – FY 2020, fare revenues and operating costs were projected by applying a 3% escalation per year to FY 2017 data.

6.1.7 Metrolink

Both the San Bernardino and Inland Empire-Orange County (IEOC) lines operate within San Bernardino County, and connect to Omnitrans services at multiple locations. Metrolink adopted a new Short-Range Transit Plan covering FY 2015 – FY 2020 in April, 2016, which is used for the service projections in this section.

In the near term, it is planned that all San Bernardino and IEOC Line Metrolink trains will be extended from their current terminus at Santa Fe Depot to the new San Bernardino Transit Center, approximately one mile farther east, with an anticipated service date of 2017. Other proposed service changes in San Bernardino County projected in the Metrolink SRTP between 2015 and 2020 are listed in Table 6-12.

Table 6-12. Metrolink Proposed Transit Service Improvements

Line/Service	2015 Service Level Trains	Service Level with Proposed Growth 2015 - 2020
San Bernardino Line, Weekdays	38	42
San Bernardino Line, Saturdays	20	22
San Bernardino Line, Sundays	14	15
Inland Empire-Orange County, Weekdays	16	22
Inland Empire-Orange County, Weekends	4	6

Source: *Our Future is On Track – Metrolink Short-Range Transit Plan, 2015 – 2020*

Another service change anticipated by SBCTA but just beyond the time horizon of the Metrolink SRTP is the extension of San Bernardino line commuter rail service out to the University of Redlands with the opening of the Redlands Passenger Rail Project – Arrow service. SBCTA's eventual plans call for two morning peak, and two afternoon peak trains to continue east from the San Bernardino Transit Center to Downtown Redlands. It is anticipated that the Metrolink overlay service between San Bernardino Transit Center and Downtown Redlands would initially start with one morning peak and one afternoon peak train.

Financial information on the operating costs and anticipated revenues of service within San Bernardino County was not broken out from the total, five-county system costs in the Metrolink SRTP. Thus, in order to focus on SBCTA-area specific financial information, the FY 2016 and FY 2017 SCRRA Operating Budgets were used to develop the five-year financial outlook. That information and projections for the following three years are provided in Table 6-13. Operating cost data for FY 2016 and FY 2017 were taken from the SCRRA adopted budgets; data for FY 2018 and FY 2019 were obtained from SCRRA projections in their FY 2017 budget. Operating costs for FY 2020 escalated the FY 2019 costs by 5.3 percent, which was the average annual increase in SCRRA budgets from FY 2016 to FY 2019. This approach was per direction of the SANBAG Transit Committee review on December 15, 2016.

It should be noted that SCRRA's FY 2017 budget included lease costs for 40 locomotives from BNSF due to concerns about cab-car headed trains. The FY 2017 budget included $680,000 in these lease costs allocated to SBCTA. Based on information that these locomotives were being phased out of service as of September, 2016[8], these lease costs have been excluded from the operating cost projections for FY 2018 – FY 2020.

Note that in addition to fare revenues, Metrolink receives non-fare revenues and maintenance-of-way revenues from other railroads that help reduce the net subsidy required from SBCTA for San Bernardino County Metrolink services. After accounting for all revenue sources, and excluding future BNSF locomotive lease costs as noted above, and based on the information provided in the Metrolink budget forecasts, SBCTA's subsidies are projected to grow 35.0 percent over the five-year period. Operating costs are projected to grow 22.9 percent over that same period, while fare revenues would only grow 7.6 percent, accounting for the difference between operating cost and subsidy growth rates. It is not anticipated that SBCTA would be able to sustain the annual subsidy to support such cost growth.

[8] Per SBCTA staff on September 7, 2016

Table 6-13. San Bernardino County Proportion of Metrolink Commuter Rail Service Revenues and Costs, FY 2016 – FY 2020

SCRRA FY 2015-16, FY2016-17 Operating Budgets		Budgeted		SCRRA Projected		Projected	% Change
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016-FY 2020
Revenues	Fare Revenue	$11,312,000	$11,019,000	$11,602,000	$11,817,000	$12,171,510	7.6%
	Non-Fare Rev.	$57,000	$71,000	$73,000	$75,000	$77,250	35.5%
	MOW Revenue	$1,255,000	$1,575,000	$1,622,000	$1,671,000	$1,721,130	37.1%
Costs	Operating Costs	$25,471,000	$27,506,000	$28,820,000	$29,734,000	$31,309,902	22.9%
SANBAG Subsidies	Operating Costs	$12,848,000	$14,841,000	$15,524,000	$16,171,000	$17,340,012	35.0%

Source: For FY 2016 and FY 2017, Metrolink Commuter Rail values are from SCRRA budgets, FY 2018 and FY 2019 are SCRRA's projections from the FY 2017 SCRRA budget, FY 2020 operating costs are escalated at 5.3 percent, the average of annual budget increases from FY 2016 - FY 2019, excluding the BNSF locomotive lease costs in FY 2017, per Transit Committee comments on December 15, 2016.

Notes:

1) It is yet to be determined if SBCTA has sufficient funds available to support operating cost escalation in excess of 3 percent annually.

2) For FY 2018 - FY 2020, it is assumed there would be no more BNSF locomotive lease costs and these costs have been removed from projected operating costs, with corresponding reduction in estimated subsidy needs.

3) Metrolink's service costs for Redlands Passenger Rail Project are provided in Section 6.1.8.

6.1.8 Redlands Passenger Rail – Arrow Service

The RPRP will establish passenger rail service on the Redlands Railroad Subdivision between the Downtown San Bernardino Transit Center and the University of Redlands, approximately nine miles east, in San Bernardino County. Omnitrans recently named the RPRP service as "Arrow"[9]. The Redlands Subdivision is a lightly-used freight line owned by SBCTA. Phase 1 of the service calls for the construction of the initial five stations, including the Downtown San Bernardino Transit Center, Tippecanoe Avenue, New York Street, Downtown Redlands, and the eastern terminus at the University of Redlands. Phase 1 service is planned to operate every 30 minutes during morning and afternoon peak periods, and hourly at other times on weekdays and on weekends.

Figure 6-1 provides a map of the alignment and stations. Projected daily transit trips (boardings) for the Opening and Horizon years are shown in **Error! Reference source not found.**.

The service delivery plan for the RPRP - Arrow calls for Metrolink to provide dispatching, signal maintenance, and maintenance-of-way services, and for Omnitrans to provide DMU operations and maintenance. The first year of service on the RPRP is projected to start in 2020, which is the last year covered by this FY 2016 – FY 2020 Short-Range Transit Plan. Preparatory and first-year operating costs for FY 2017 through FY 2020 have been identified in this SRTP.

Table 6-14. RPRP - Arrow: Projected Daily Boardings in Opening Year and Horizon Year

Daily Boardings	Opening Year	Horizon Year 2040
Total Estimated Daily Boardings	2,175	3,355

Source: HDR Engineering, Inc., 2016.

[9] Per SANBAG Newsletter, November, 2016. http://myemail.constantcontact.com/-SANBAGnews---November-2016b.html?soid=1115666283112&aid=yWvxPeDg29M

Figure 6-1. RPRP Alignment

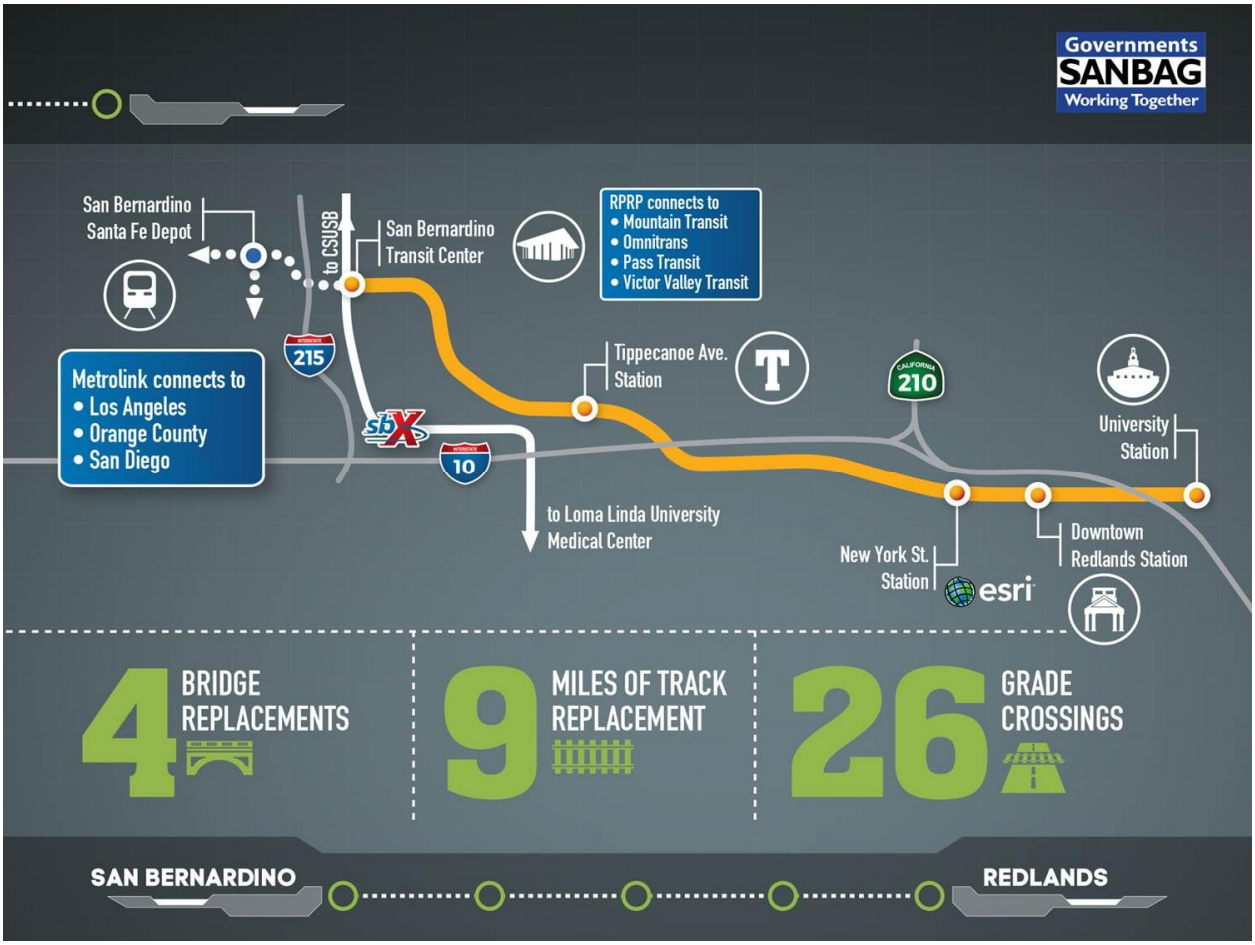


Table 6-16 provides a preliminary forecast of annual operations and maintenance statistics and costs for the RPRP – Arrow, based on the SBCTA projections. The projection showed a half-year of RPRP service starting in FY 2020 so Table 6-16 reflects that assumption in the operating and financial data presented.

Table 6-15. RPRP - Arrow: Projected Operating Statistics and Operations and Maintenance Costs, FY 2016 – FY 2020

System Total	Projected					
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY 2016 - FY 2020
Redlands Passenger Rail Project - Arrow Projected Operating Statistics						
Revenue Miles	-	-	-	-	69,250	69,250
Revenue Hours	-	-	-	-	3,800	3,800
Peak Revenue Fleet	-	-	-	-	2 Consists	-
Redlands Passenger Rail Project - Arrow Estimated Fare Revenues						
Fare Revenue	-	-	-	-	$1,525,000	$1,525,000
Redlands Passenger Rail Project - Arrow Projected Operating Costs						
Metrolink - RPRP - Arrow	$0	$0	$0	$0	$1,052,932	$1,052,932
Omnitrans - RPRP - Arrow[1]	$0	$400,000	$600,000	$7,000,000	$3,596,068	$11,596,068
Total RPRP Operating Costs	**$0**	**$400,000**	**$600,000**	**$7,000,000**	**$4,649,000**	**$12,649,000**

Source: Costs: SBCTA Transit Department Projections. Fare Revenues per updated SBCTA Fund Administration/Programming estimate provided 11/7/16. Hours, Miles, Peak Revenue Fleet: Calculated from proposed service schedule and track charts

1 = Costs for Omnitrans RPRP-Arrow prior to FY2020 are related to start up activities, tools and spare parts.

6.2 SBCTA Transit Operating Expenses

This section presents SBCTA's internal staff operating expenses related to transit program administration and administration of the Metrolink Commuter Rail program. Table 6-16 summarizes these estimated costs by fiscal year.

6.2.1 SBCTA Transit Program Administration

SBCTA Transit Program Administration activities include representing the San Bernardino County transit interests at the regional, state, and national levels, costs to administer funding sources to capital projects and Metrolink, and other transit agency staff coordination and support costs.

6.2.2 Metrolink Program Administration

SBCTA provides on-going program administration and financial support for the Metrolink Commuter Rail service operating in San Bernardino County. The Metrolink San Bernardino Line service, operated by the Southern California Regional Rail Authority (SCRRA), continues to carry the most ridership of any Metrolink line. SBCTA Program administration activities include staffing of Metrolink Board, Committee, and TAC meetings, right-of-way management costs, and other transit agency staff coordination to support the Metrolink Commuter Rail service. These activities include administration of the roughly $12 million to $16 million a year in operating subsidies provided by SBCTA to Metrolink.

In FY 2016-2017, other Metrolink program administration activities include monitoring operating needs, disbursement of operating funds, review and coordination on Metrolink's budget, conducting a Metrolink Stations Security Study, and allocating funding to Omnitrans for development of the new operating structure and staffing to manage the RPRP.

Table 6-16. SBCTA Projected Program Administration Costs

Category	Projected						Percent Change
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY 2016 - FY 2020	FY 2016-2020
SBCTA Program Administration	$712,000	$1,000,000	$1,030,000	$1,060,900	$1,092,727	$4,895,627	53%

Source: SBCTA Estimate. Assumes growth rate of 3 percent per year after FY 2017.

7.0 CAPITAL PROJECT PRIORITIZATION PROCESS

This chapter identifies the processes currently used by each of the San Bernardino County transit operators for identifying, reviewing, and prioritizing capital projects to support their service improvement plans and on-going operations. This chapter then presents a proposed capital project prioritization process that can be applied by each transit operator to develop and rank their capital projects for submittal to SBCTA as part of their annual operating and capital budget adoption.

There are several key reasons why each transit operator should have a capital project prioritization process to prioritize their needs. First, capital project funding is limited, and in some cases the funding sources are the same sources that can be applied to the operating budget of the transit operators, thus constituting a tradeoff between capital and operations. It is important for each operator's capital program to be well-thought out over the five-year time frame of the Short-Range Transit Plan to ensure adequate capital resources will be in place to support planned improvements and existing service levels.

Secondly, with the recent changes under MAP-21 (Moving Ahead for Progress in the 21st Century), the 2012 Federal Transportation funding reauthorization legislation, the Federal Transit Administration is requiring transit agencies to have a more rigorous process for identifying, evaluating, and programming the procurement of capital items. MAP-21 was signed into law by the President on July 6, 2012. At the time of this report, FTA's proposed implementation rules were still in rule-making. Under MAP-21, the FTA will be required to establish a national transit asset management system, which defines a "State of Good Repair (SOGR)," sets objective standards for measuring the condition of capital assets, and establishes performance measures for SOGR under which all FTA grantees will be required to set targets. As part of this program, all FTA grantees and their sub-recipients will be required to develop transit asset management plans that include, at a minimum (FTA, 2015):

- Capital asset inventories and condition assessments; and
- Investment prioritization

Further, each designated recipient of FTA formula funding will be required to report on:

- The condition of their system;
- Any change in condition since the last report;
- Targets set under the above performance measures;
- Progress toward meeting those targets

Maintaining a "State of Good Repair" for transit assets is critical in order to ensure operational safety, service reliability, and regulatory compliance are maintained throughout assets' useful service lives, and thus provide the maximum user benefits from each asset. Having in place an on-going process which inventories and performs a condition assessment of each asset, and conducts an investment prioritization process each year in preparing Capital Improvement Programs, are important steps for

complying with these new MAP-21 requirements to maintain assets in a "State of Good Repair" That concept states that:

> *An asset or system is in a state of good repair when no backlog of capital needs exists – hence, all asset life cycle investment needs (e.g., preventive maintenance and rehabilitation) have been addressed and no capital asset exceeds its useful life* (FTA, 2008a).

A final reason for recommending that each transit operator have a capital project prioritization process relates to potential discretionary capital grant funding. In the event SBCTA should be able to obtain or provide discretionary capital project funding for the transit agencies in the future, a uniform set of capital project prioritization ratings from all of the transit operators could be used to help make funding allocation decisions for these discretionary funds. Although SBCTA is not a direct FTA grantee, SBCTA, in its role as County Transportation Commission, is responsible for short and long range transportation planning within San Bernardino County, including coordination and approval of all public mass transit service, approval of all capital development projects for public transit, and determination of staging and scheduling of construction relative to all transportation improvement projects in the Transportation Improvement Program (SBCTA, 2017). Once the Federal Department of Transportation promulgates the implementing regulations for MAP-21, SBCTA will need to ensure that each transit operator in San Bernardino County has a MAP-21-compliant process for identifying and prioritizing its transit capital projects.

7.1 Transit Operator Current Capital Project Processes

This section presents current capital project identification, review, and prioritization processes at the San Bernardino County transit operators. This information was obtained from previous questionnaires completed by the operators, follow-up interviews, and the agencies' SRTPs and COAs, and covers the following agencies:

- Barstow Area Transit (BAT)
- Morongo Basin Transit Authority (MBTA)
- Mountain Area Regional Transit Authority (MARTA)
- Needles Area Transit (NAT)
- Omnitrans
- Victor Valley Transit Authority (VVTA)
- Southern California Regional Rail Authority (SCRRA)
- Valley Transportation Services, Inc. (VTrans)

7.1.1 Barstow Area Transit

Barstow Area Transit's services merged with Victor Valley Transit Authority in September 2014. The City of Barstow and VVTA have finalized a Joint Powers Agreement which allows for the addition of the City of Barstow to the VVTA Joint Powers

Board. The capital assets will be used and maintained by VVTA (Desert Dispatch, 2015).

The Questionnaire completed by City transit management staff in 2014 indicated the City prioritizes capital replacement of buses by the year and mileage of the vehicles being replaced. The size of the capital budget is determined annually based on prioritized needs and the age or mileage of the buses (SBCTA, 2014a). During a follow-up meeting with City staff and their contractor in April, 2014, it was indicated that the capital program had been static since 2011, when discussion of the possible merger began. Now that the Joint Powers Agreement is finalized, it would appear that VVTA management will make decisions on capital projects for Barstow Area Transit in the future.

7.1.2 Morongo Basin Transit Authority

The Questionnaire completed by MBTA transit management staff in 2014 indicated the agency incorporates a vehicle replacement table by vehicle type into the development of the agency Short-Range Transit Plan. The percentage of agency resources available for capital improvement program projects is reviewed and updated semi-annually (SBCTA, 2014a).

MBTA's SRTP includes a "Capital Plan" in section 6.2 which states that the agency's CIP is divided into three elements: fleet, bus stops, and facilities. The Plan includes a detailed discussion of the fleet condition, including the fact that a large percentage of the fleet was acquired in FY 2008 and FY 2009, and is aging at the same time, posing capital planning replacement challenges. The Plan provides a staggered replacement schedule over several years to stretch out this large capital need while still complying with FTA minimum service life requirements (MBTA, 2012).

On the bus stops CIP element, MBTA has conducted two rounds of bus stop improvement programs in recent years, resulting in the placement of 64 shelters throughout the service area. MBTA also installed turnouts at some locations along their Route 1 on State Route 62, to help improve travel time on this key route. The SRTP also proposes some guidelines for prioritizing improvements at bus stops.

For the facilities CIP element, MBTA has two main passenger facilities (transit centers) and a single service yard/shop. All are relatively new facilities. The SRTP also includes a nine-year Capital Plan to support the proposed service and capital recommendations. Thus, through the SRTP, MBTA has established guidelines for their capital improvement program, though it does not appear there is a specific process for weighing the relative importance of the various projects beyond use of FTA minimum service life requirements.

7.1.3 Mountain Area Regional Transit Authority

The Questionnaire completed by MARTA transit management staff in 2014 indicated the agency relies on FTA's minimum service life expectancy requirements in prioritizing capital replacements of buses. Other fleet maintenance equipment is maintained and serviced per manufacturer's recommendations and replaced based on estimated life as

needed. The percentage of total agency resources devoted to capital projects is determined annually based on prioritized needs (SBCTA, 2014a).

MARTA's SRTP includes a Capital Plan in Chapter 8, which divides the capital expenditure program into three categories: vehicle procurements, equipment and minor facility improvements, and facility modernization. The SRTP includes a fleet replacement plan which spreads replacements out over several years based on age and expected mileage. The SRTP goes on to discuss suggested fleet type replacements in the future to align with the service plan. This discussion includes a "Fleet Mix Objective" chart which attempts to match current and future services with the most ideal vehicle type or features (MARTA, 2012).

The "equipment and minor facility improvements" section of the Plan discusses passenger comfort, system visibility, and security considerations for this portion of the capital plan, including a new bus stop sign rebranding program, information panels, shelters, benches, and security. Also discussed is implementation of a new AVL-based passenger information system, and a budget to equip a future new shop in Crestline.

The "facilities" portion of the Capital Plan includes a discussion of the limitations of both of the existing operating yards/shops, and identifies the need for feasibility studies to modernize, relocate, or build new facilities.

Accordingly, through the SRTP, MARTA has established capital project priorities for their capital improvement program, though it does not appear there is a specific process for weighing the relative importance of the various projects, beyond use of FTA minimum service life requirements.

7.1.4 Needles Area Transit

The Questionnaire completed by Needles Area Transit management staff in 2014 indicated the City relies on mileage and/or age in prioritizing capital replacements of buses, which consisted of just three cutaway buses and three nine-passenger vans at the time the data was collected (SBCTA, 2014a). A draft Needles' SRTP was completed in April, 2015. Chapter 6, "Strategic Opportunities and Financial Plan", includes a capital improvement plan. The Plan includes capital projects in four categories: fixed-route replacement vehicles, dial-a-ride replacement vehicles, bus stop improvements, and buildings. The "Buildings" category provides funding for Needles Area Transit operating facilities. Thus, Needles has established its capital needs through the SRTP.

7.1.5 Omnitrans

The Questionnaire completed by Omnitrans management staff in 2014 indicated that FTA guidelines dictate the replacement of buses. The percentage of total agency resources available for capital projects each year are prioritized first for maintenance, then for Access operating assistance. Remaining funds are then allocated to capital improvements (SBCTA, 2014a).

At a follow-up interview with Agency staff in April, 2014, fleet management staff indicated it is a general goal to replace one-twelfth of the fleet (15 buses) per year, which would be

in line with the FTA replacement criterion for replacing heavy-duty buses at twelve years or 500,000 miles.

OmniConnects, Omnitrans' SRTP, provides details on the agency's Capital Improvement Plan. The Plan's capital project categories identified in Section 7.3 include revenue vehicles, service vehicles, management information systems, facilities, and transit enhancements. The revenue-constrained plan emphasizes replacement and state-of-good repair first. Revenue vehicles make up the largest share of the capital plan (Omnitrans, 2014b).

OmniConnects also provides additional insight into the agency's capital project prioritization process. The SRTP includes an unconstrained Capital Plan in Chapter 10, should grant funding become available. In developing the unconstrained capital plan, Omnitrans member agencies provided input on capital projects to improve transit service in their communities. The proposed projects were sorted in priority order based on the following criteria (Omnitrans, 2014b):

- Number of passengers served;
- Potential to increase ridership;
- Potential to reduce travel time and increase average speed of operations; and
- Ease of implementation.

7.1.6 Victor Valley Transit Authority

The Questionnaire completed by VVTA management staff in 2014 indicated that the capital replacement plan is based on life cycle expectancy from the past history of each sub-fleet vehicle type by manufacturer. Equipment replacement schedules are based on the same methodology. Regarding decisions on the percentage of total agency resources available for capital projects, the agency stated that approximately every five years, VVTA contracts for a Comprehensive Operational Analysis (COA). A five to seven year capital plan is included. The actual yearly capital plan is determined based on needs and available funding which is fluid, thereby requiring VVTA to be flexible in its yearly capital spending (SBCTA, 2014a).

VVTA's last COA completed in 2013 includes a capital plan in Section 9.6, intended to support the service plan through 2020. The Plan identifies the primary capital need as replacement revenue vehicles and provides a vehicle replacement program through FY 2020, by fleet type/life expectancy. Other capital project categories identified in the COA include "Major Components" (for vehicle maintenance), "Transit Enhancements" (at bus stops and transit centers, such as shelters, benches, lighting), "Facility Lease Payments" (to cover the repayment costs on the new operations facility in Hesperia), "Mobility Management", and "Security" (VVTA, 2013). No process for prioritizing agency resources among these capital projects is discussed in the last COA. VVTA is currently developing a new COA which reflects the merger with Barstow Area Transit.

7.1.7 Southern California Regional Rail Authority

SCRRA divides its capital program budget into two components: Rehabilitation, and New Capital programs. In FY 2015, these budgets amounted to $90.8 million and $162.5 million, respectively, for a total of $253.3 million. These amounts included both projects authorized in prior years but not yet completed, as well as new project authority requested in FY 2015 (SCRRA, 2014).

SCRRA's capital project prioritization process is described in detail in the FY 2015 Proposed Budget. As of June 30, 2012, SCRRA had completed a three-year system-wide assessment of infrastructure, which produced a condition rating for the entire railroad network, including all subsystems, on a Railroad Condition Index (RCI) scale. The minimum acceptable RCI rating was set at 75 points out of a maximum of 100 points. The rating scale is as follows (SCRRA, 2014):

- Excellent (90+) – An asset that exhibits no conditions of wear or degradation and is suitable for continued use for 5 plus years with only routine inspection and repair; essentially a "like new" condition.
- Good (80 to 89) – An asset rated as good has some components that will require repair or replacement within the next 5 years, but is expected to be fully serviceable for the next 5 years.
- Fair (70 to 79) – An asset rated as fair will be in serviceable condition at the time of the rating, but will require rehabilitation of two or more components within 5 years.
- Poor (60 to 69) – An asset that is operating at less than full capacity (e.g. a speed restriction is imposed) due to maintenance conditions and will require rehabilitation of at least one component before becoming fully operational.
- Critical (59 or below) – An asset that is operating at less than full capacity and must have repairs or rehabilitation within the year in order to continue operating.

SCRRA's selection of a 75 point rating minimum standard places the agency in the Fair category. The standard describes the agency's fixed assets as in serviceable condition at the time of the rating, but will require rehabilitation of two or more components within 5 years. This is the basis on which SCRRA's annual rehabilitation plan is determined (SCRRA, 2014).

The Rehabilitation projects are those that extend the useful life of existing capital assets through activities such as replacement of worn ties and rail, replacement of worn or outdated signal system components, rehabilitation of tunnels, bridges, and culverts, rehabilitation of rolling stock components, and midlife overhaul of rail cars and locomotives. These rehabilitation projects are also referred to as "state of good repair" projects, in accordance with terminology in the federal government's passage of MAP-21. The FY 2015 Budget includes an extensive list of on-going rehabilitation projects.

By contrast, new Capital Projects in the FY 2015 Budget entail the construction or acquisition of new railroad assets. Examples in the budget include new railroad bridges,

new rail car procurements, new Tier 4 Locomotive[10] Replacements, and the Positive Train Control program.

While SCRRA has a well-defined prioritization process for its capital improvement projects, the funding program for capital is year-to-year rather than a multi-year or five-year program as is more common among the other transit agencies. This is due to the Joint Powers Authority structure of the agency and funding levels made available on a year to year basis from member agency contributions. Recently, SCRRA has started looking at multi-year funding needs in conjunction with the member agencies, and the FY 2017 Budget includes funded FY 2017 projects and projected capital expenditures for FY 2018 and FY 2019 for each member agency (SCRRA, 2016). SCRRA continues to seek local, state or federal funds for additional New Capital projects.

7.1.8 Consolidated Transportation Services Agency (CTSA), San Bernardino Valley Area

Omnitrans now provides the services of the CTSA for the San Bernardino Valley in southwest San Bernardino County, within the Valley Subarea (as defined by San Bernardino County Measure I), and also provides certain services for areas outside San Bernardino Valley. The CSTA designation was transferred from Valley Transportation Services (VTrans) to Omnitrans by action of the SANBAG Board in November, 2015.

The Questionnaire completed by VTrans management staff in 2014, before the CTSA transfer, indicated that there was no capital project prioritization process in place at that time. The Questionnaire was completed before VTrans had opened their new Maintenance Facility for social service agency vehicles. With the facility now opened, and with future plans for possible acquisition of loaner vans for use when agency vehicles are in for maintenance, the CTSA may be in a position to begin annual programming for capital projects.

7.1.9 Conclusions Regarding Current Agency Prioritization Processes

As seen in the previous discussion, most of the San Bernardino County transit operators utilize fairly basic criteria for formulating their capital programs, which are heavily focused on replacement buses at all agencies except SCRRA. All of the agencies rely on vehicle age and mileage and FTA's vehicle replacement guidelines for determining when buses should be replaced, and use their SRTPs to forecast capital needs over the following five-year SRTP period. Omnitrans' SRTP indicated the application of some prioritization criteria in evaluating special projects for its unconstrained capital program, but only SCRRA appeared to have a comprehensive process for evaluating asset condition and using that information to prioritize its capital rehabilitation projects.

7.2 Goals for a Capital Project Prioritization Process

In developing a Capital Project Prioritization Process, the following goals for the system are proposed for SBCTA's and the transit operators' consideration, based on typical goals for such programs (PB, 2008) as well as the transit operators' overall agency goals

[10] Tier 1 through Tier 4 engines refer to U.S. Environmental Protection Agency (EPA) requirements for diesel engines as defined in 40CFR1039, *Control of Emissions From New and In-use Nonroad Compression Ignition Engines*.

(Chapter 2). It is anticipated that once a Capital Project Prioritization Process is adopted by each agency, it would be implemented for the following full budget year:

1. The Capital Project Prioritization Process (the "process") should be based on the planned/projected capital expenditures for the five years following an updated SRTP, with each individual year's projects updated annually during CIP development. The entire life-cycle costs of the asset should be considered, including initial procurement and on-going operating costs, not just up-front costs.

2. The process should support the overall goals of each agency.

3. The process and proposed projects should support the adopted SRTP's five-year service plan and on-going existing transit services.

4. The process and project ranking criteria should be sufficiently well-defined to allow repeatability from year to year.

5. The process should utilize simple tools (such as standardized Excel forms for completing project justifications) that can collect project information in a consistent format for all projects and stakeholder agencies.

6. The process and its implementation each year should be clearly understood by all participants through participation of and communication with all internal agency stakeholders. Participation by key project staff at each transit agency should be encouraged.

7. The process should strive for the replacement of assets at the end of their useful life as a high priority.

8. The process should include factors to ensure on-going safety of operations for the public and transit employees.

9. The process should support on-going service reliability and customer convenience/comfort.

10. The process should support regional objectives for public transit, including prudent financial management, reduction of greenhouse gases and congestion, and improvements in regional mobility.

11. The process should allow individual transit agencies to prioritize their top needs.

12. The process should support FTA Transit Asset Management requirements and assist the transit operators in maintaining all assets in a "State of Good Repair", including integration with each transit operator's asset inventory, condition monitoring, and investment prioritization processes.

7.3 Proposed Capital Project Prioritization Process

Based on the regulatory framework and proposed goals, the following Capital Project Prioritization Process is proposed for consideration by SBCTA and the transit operators. Each key step is summarized in Table 7-1 and a CIP process flowchart illustrates the program graphically in Figure 7-1.

Each transit operator has an existing Short-Range Transit Plan in place which projected capital needs over the following five-year period at the time it was written. However, these capital needs may change as time goes on, requiring transit operators to revise and update their capital plans. The proposed capital project process provides an annual means for the transit operators to prepare these updates.

As described in Table 7-1 and depicted in Figure 7-1, the Capital Project Prioritization Process is shown as a cyclical program which would start around September of each year and continue through August of the following year, before beginning again. It is important to note that the capital asset condition monitoring process conducted at each transit operator should be an on-going process that feeds the CIP process each year. Figure 7-1 shows this feedback loop. Condition monitoring may include the usual preventative maintenance inspections as well as extraordinary maintenance/repair activities and expense, such as accident-related repairs or removal from service, as well as the age and and/or mileage of the asset. The FTA has guidelines for the expected lifecycles of buses, facilities, and some equipment assets which can assist in developing and justifying capital project requests (FTA, 2008b).

The asset condition assessment by each transit operators leads to the identification, prioritization, and/or update of capital needs originally forecast in the SRTP and the development of capital project justification forms for the coming fiscal year as shown in Figure 7-1. SBCTA releases funding availability estimates for certain funding sources to the transit operators around March each year. The transit operators would revise their capital project justification forms if necessary based on the available funding, and incorporate the final list of capital projects into their annual operating and capital budgets.

Once each transit operator's budget/capital improvement program has been approved by its Board of Directors, the transit operator would submit their budget/capital improvement program to SBCTA, along with completed capital justification forms for each project prioritized for funding for the upcoming fiscal year. SBCTA staff will confirm that the capital project lists conform to available funding and then schedule the transit operator funding allocations for review by the SBCTA Transit Committee and adoption by the SBCTA Board. Upon SBCTA Board approval, SBCTA staff will program the projects in the Regional Transportation Improvement Program.

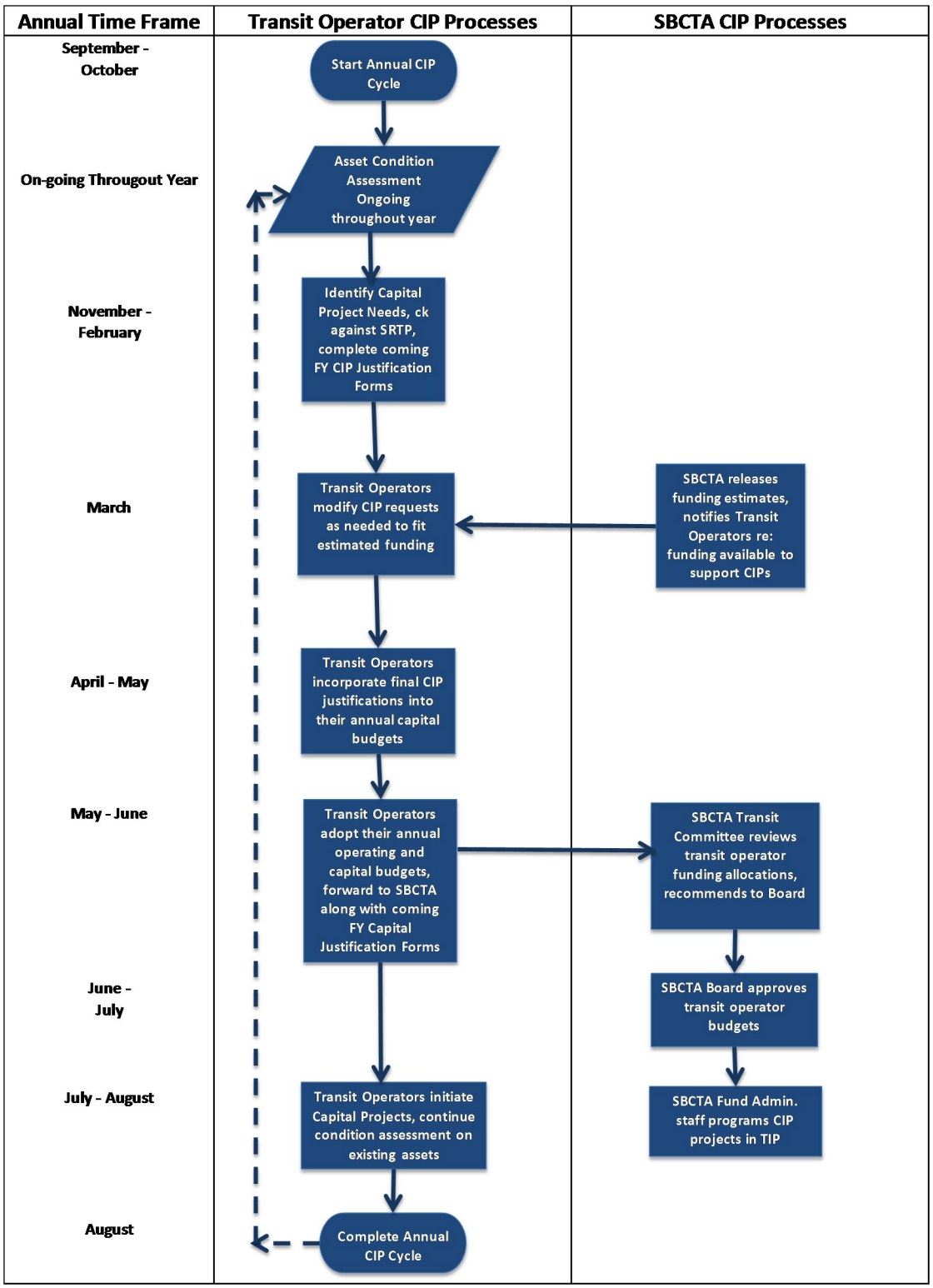
Table 7-1. Proposed Capital Project Planning and Prioritization Process

Annual Time Frame	Activity	Responsible Agencies
On-going	Transit operators monitor and document the condition of their transit assets during preventative maintenance cycles. Every five years, an updated Short-Range Transit Plan identifies projected capital project needs for the next five-year period.	Transit Operators
November - February	Transit operators update their capital needs for the upcoming fiscal year, using capital projects in their most recent SRTP or COA as a starting point. Transit operators complete a Capital Project Justification Form describing and prioritizing each project scheduled to occur in the coming fiscal year.	Transit Operators
March	SBCTA distributes the official capital funding projections to the transit operators.	SBCTA Fund Administration Staff
March	Transit operators modify their capital project justification forms if necessary based on SBCTA funding projections.	Transit Operators
April – May	Transit Operators incorporate their final capital project justifications into their annual operating and capital budgets.	Transit Operators
May – June	Transit operator Boards adopt their annual operating and capital budgets, then forward the adopted budgets to SBCTA along with completed Capital Project Justification Forms for projects in the coming fiscal year.	Transit Operators
May - June	SBCTA Commuter Rail and Transit Committee receives/reviews proposed transit operator funding allocations and recommends to Board.	SBCTA CR and Transit Committee
June - July	SBCTA Board reviews and approves proposed transit operator budgets.	SBCTA Board

Table 7-1. Proposed Capital Project Planning and Prioritization Process (Continued)

Annual Time Frame	Activity	Responsible Agencies
July – August	Transit Operators initiate capital projects and continue their on-going condition assessment on existing assets.	Transit Operators
July - August	SBCTA programs the capital projects into the regional transportation improvement program (TIP) document.	SBCTA Fund Administration Staff

Figure 7-1. Graphic Representation of Proposed Capital Project Prioritization Process



7.3.1 Capital Project Justification Form

As described in Table 7-1, a key element of the proposed process is for the transit operators to complete a Capital Project Justification Form for each capital project being planned for the upcoming fiscal year. A proposed format for this form is provided in Figure 7-2. The actual form is an Excel spreadsheet which provides automatic budget totals.

The Capital Project Justification Form has fields for completing project-specific information including Agency, CIP year(s), project cost, project description, available or planned funding sources and timing, project justification/implementation section, and a project ranking/prioritization section using ten questions to rank project need and readiness.

7.3.2 Instructions for Completing the Proposed Capital Project Justification Form

The following instructions provide guidance on completing the Capital Project Justification Form. One form should be completed for each project proposed for the upcoming fiscal year, and submitted by the Transit Operators to SBCTA along with the adopted fiscal year Operating and Capital Budget.

Capital Improvement Project Page 1:

Program – Indicate program for which this request is submitted.

Complete the other sections for Agency, Department, person completing the form, proposed project manager, and start and end dates.

Indicate whether this is a new or revised project or a project to be deleted. Complete the check boxes, for more than five year's life, less than five years, or an operating lease.

Provide the CIP Project ID# if applicable, and IFB or RFP Contract ID# if known.

Project Title - Provide the project title that will be used to list/reference this project in future transportation improvement program submittals. A concise, descriptive title is preferred, for example, "Bus Replacements (4), 40-foot."

Project Description – Provide a detailed description of the project, such as, "Project will procure four (4) 40-foot coaches, to replace four 2002 coaches which have reached the end of their useful life and have over 500,000 accrued miles.

Project Justifications/Implementation – Provide a statement justifying the capital project. Justifications can include statements that the equipment has reached the end of its minimum useful life as defined by FTA's vehicle replacement guidelines in *FTA Circular C 5010.1D: Grant Management Requirements*. Justifications can also refer to stated agency goals and objectives in the Short-Range Transit Plan, Annual Budget, or other policy statements, or refer to other safety, customer service, or cost savings objectives.

Capital Improvement Project Page 2:

Project Phasing, Cost, and Schedule – Provide the fiscal year or years, project phases, start dates, end dates, phase budget and funding source(s) for each fiscal year the project will occur in.

Project Ranking/Prioritization – Provide responses to the ten questions on project importance and readiness. Assign one point for each "Yes", zero points for each "No", and put the resulting score in the "Project Score" box. Space is provided for explanations on the scoring for use as needed.

Potential Funding Sources Summary – Provide the potential funding sources, in 1,000's of dollars, by fiscal year for the entire project. This section will automatically provide totals by fiscal year at the bottom of the table and by funding source on the right-hand margin.

Figure 7-2. Proposed Capital Project Justification Form

Program: _____		**CAPITAL IMPROVEMENT PROJECT PAGE 1**				**FISCAL YEAR _____**	
Agency:							
Department:				This is a:			New Project
Requestor:				*(choose one)*			Revised Project
Project Manager:							Project to Delete
Start Date:		End Date:					
					Is this a:		Capital Project (>5 year life)
CIP Project ID#:					*(choose one)*		Expensed Item (< 5 year life)
IFB/RFPContract ID#:							Operating Lease
PROJECT TITLE:							
Project Description:							
Project Justifications / Implementation							
Existing situation, Goals and Policy links, Project work completed, Other special review considerations:							

Figure 7-2. Proposed Capital Project Justification Form (Continued)

CAPITAL IMPROVEMENT PROJECT PAGE 2

Project Phasing, Cost and Schedule

Fiscal Year	Main Project or Phase Descriptions	Start Date	End Date	Budget	Funding Source(s)
FY 20_____ - 20____	1			$	
FY 20_____ - 20_____	2			$	
FY 20_____ - 20_____	3			$	
FY 20_____ - 20_____	4			$	
FY 20_____ - 20_____	5			$	

Project Ranking/Prioritization — **Project Score:**

Please assign one point for each "Yes", zero points for each "No", and put total in "Project Score" box.			*Explanation*
Is the project mission critical?	Y	N	
Is the project a safety or security enhancement?	Y	N	
Does the project fulfill a legal mandate or Board resolution?	Y	N	
Does the project demonstrate readiness to utilize funds as scheduled?	Y	N	
Does the project support or further the Agency Short-Range Transit Plan or Strategic Plan?	Y	N	
Does the project provide a replacement of an existing asset?	Y	N	
Is the project justified by a cost benefit analysis?	Y	N	
Is the scope of work well-defined?	Y	N	
Will the project improve passenger travel time?	Y	N	
Does the project provide user benefits such as quality, reliability, convenience, or comfort?	Y	N	

POTENTIAL FUNDING SOURCES SUMMARY (IN $000's)

		Fiscal Year												
Program/ Budget		Prior	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
Federal	5307													$ -
	5310													$ -
	5311													$ -
	5339													$ -
	CMAQ													$ -
	STIP													$ -
	Toll Credits													$ -
	LCTOP 99313													$ -
	LCTOP 99314													$ -
	PTMISEA													$ -
	CAL-OES													$ -
	STA - OP													$ -
	STA - POP													$ -
	LTF													$ -
	LTF Article 3													$ -
	Other:													$ -
														$ -
TOTAL		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

8.0 TRANSIT CAPITAL IMPROVEMENT PLANS

This chapter identifies the transit capital improvement plans (CIPs) in each of the San Bernardino County transit operators' most recent budgets, short-range transit plans (SRTPs) or comprehensive operational analyses (COAs) to support their service improvement plans and on-going operations. A CIP for Metrolink and the San Bernardino County Transportation Authority (SBCTA) also is developed based on completed CIP Project Worksheets (see Chapter 7) and a capital projects workshop conducted with SBCTA's project managers.

It is anticipated that as transit agency CIPs are updated in future years, the agencies will adopt a capital project prioritization process similar to the process discussed in Chapter 7.0.

8.1 Barstow Area Transit

Barstow Area Transit (BAT) operations merged with Victor Valley Transit Authority (VVTA) in September 2014. As of June 16, 2015, the governing Boards of both agencies had approved the merger of BAT into the VVTA Joint Powers Authority (VVTA, 2015). VVTA issued consolidated Operating and Capital Budgets covering both agencies beginning FY 2016.

Based on this merger and the age of BAT's and VVTA's most recent COAs, the VVTA fiscal year operating and capital budgets, and five-year vehicle replacement cycles provided by VVTA, were used in lieu of the prior COAs to develop the estimated capital plans. Please see Section 8.6, VVTA, for the consolidated plans.

8.2 Morongo Basin Transit Authority

Morongo Basin Transit Authority (MBTA) adopted an updated SRTP in 2016, titled, *Morongo Basin Focused Short Range Transit Plan* (MBTA, 2016), covering FY 2017 – FY 2021. This new SRTP identifies four categories of capital costs for the agency: 1) Vehicle Procurements; 2) Equipment and Security; 3) Passenger Amenities; and 4) Mobility Management.

Vehicle procurements are categorized as vehicle replacements, and expansion vehicles for the Joshua Tree National Park transit service if the pilot program is successful (see Chapter 6 for details). The agency has identified several elements in the Equipment and Security category, including automatic vehicle locator equipment and related systems to provide schedule tracking, automatic passenger counting, stop annunciation, dispatch management, and real-time passenger information. Passenger amenities include bus wraps for new service branding bus shelters, benches, and signage. Mobility Management includes proposed grant requests to assume control of the TREP program and for new lifeline-level services to Pioneer Town and Morongo Basin (see Chapter 6).

Table 8-1 summarizes the MBTA CIP for FY 2016 through FY 2020, based on MBTA's adopted FY 2016 budget and the MBTA Focused SRTP.

Table 8-1. MBTA CIP, FY 2016 - FY 2020

Capital Project	Budgeted FY 2016	Projected FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
Replacement Vehicles	$771,086	$1,025,275	$859,175	$0	$158,845	$2,814,381
JTNP Bus Procurement	$0	$0	$0	$0	$1,135,163	$1,135,163
Engine Overhauls	$25,000	$25,000	$25,000	$25,000	$25,000	$125,000
Equipment and Security	$10,000	$16,000	$35,000	$95,000	$35,000	$191,000
Facility Upgrades	$17,904	$0	$0	$0	$0	$17,904
Mobility Management	$0	$0	$37,625	$39,168	$40,773	$117,566
Passenger Amenities	$0	$113,535	$1,000	$71,030	$51,092	$236,657
2017-2022 SRTP	$100,000	$0	$0	$0	$0	$100,000
TOTAL	$923,990	$1,179,810	$957,800	$230,198	$1,445,873	$4,737,671

Source: FY 2016 from MBTA Adopted Operating and Capital Budget. FY 2017 - FY 2020 from Final MBTA Focused Short Range Transit Plan, August, 2016.

MBTA's updated CIP provides information regarding funding sources for the capital projects, as shown in Table 8-2.

Table 8-2. MBTA CIP Funding Sources, FY 2016 - FY 2020

Revenue Source	Budgeted FY 2016	Projected FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
State Transit Assistance (STA)	$226,181	$318,961	$61,000	$191,030	$111,392	$908,564
PTMISEA	$149,530		$859,175		$1,293,708	$2,302,413
Prop 1B CalEMA (Security)		$4,888				$4,888
CMAQ	$409,479	$855,961				$1,265,440
FTA 5310			$37,625	$39,168	$40,773	$117,566
FTA 5339	$138,800					$138,800
TOTAL	$923,990	$1,179,810	$957,800	$230,198	$1,445,873	$4,737,671

Source: FY 2016 from MBTA Adopted Operating and Capital Budget. FY 2017 - FY 2020 from Final MBTA Focused Short Range Transit Plan, August, 2016.

8.3 Mountain Transit

Mountain Transit (MT) has recently developed a new SRTP, including a Five-Year Capital Plan which covers FY 2017 – FY 2021 (MT, 2016). That CIP divides the capital expenditure program into four major categories: Vehicle Procurements; Equipment/ Minor Facility Improvements, and Miscellaneous; Transit Enhancements; and Facilities.

MT's major capital challenge over the next five years is the upgrade, expansion, and/or replacement of both the Crestline and Big Bear operating facilities. Both facilities are at capacity and have other operating and maintenance limitations. Crestline cannot accommodate vehicles over 27 feet in length within their maintenance building and also

cannot fully-hoist vehicles to an acceptable working height. Vehicle storage is extremely tight.

The Big Bear facility, which also serves as the agency headquarters, lacks adequate vehicle storage space and also lacks sufficient office space and meeting room space for daily transit functions. Additional building space as well as more maintenance bay space is needed. With greater availability of potentially suitable sites in the Big Bear area, the agency is considering acquisition of a new, larger site and construction of new facilities there. MT is planning to conduct preliminary feasibility and site needs analysis in order to better define its needs at both locations.

Table 8-3 summarizes MT's CIP expenditures using the capital project categories from the draft Five Year Capital Plan. FY 2016 – FY 2020 is based on the draft Five Year Capital Plan from the draft SRTP.

Table 8-3. MT CIP, FY 2016 - FY 2020

Capital Project	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
Vehicle Procurements	$1,900,931	$506,453	$575,511	$523,648	$802,258	$4,308,801
Equipment and Minor Facilities	$108,629	$277,770	$79,304	$92,257	$82,737	$640,697
Transit Enhancements	$0	$302,586	$30,250	$217,513	$28,113	$578,462
Facilities	$5,093	$375,000	$455,000	$1,582,314	$3,540,000	$5,957,407
TOTAL	$2,014,653	$1,461,809	$1,140,065	$2,415,732	$4,453,108	$11,485,367

Source: Draft FY 2016 - FY 2020 Mountain Transit Short Range Transit Plan, Ten Year Operating and Capital Sources and Uses

Table 8-4 summarizes the CIP funding sources for FY 2016 to FY 2020. The revenue information comes from the same source as the capital project listing. The CIP expenses and revenues are balanced, save for a small, $49,000 funding gap over five years; however, there is a "SBCTA To Be Determined" funding category to cover the new operating facilities in FY 2019 and FY 2020, once project costs and potential funding sources are better identified.

Table 8-4. MT CIP Funding Sources, FY 2016 - FY 2020

Revenue Source	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
CMAQ-Vehicles	$1,142,962	$454,453	$538,761	$523,648	$762,008	$3,421,832
SBCTA TBD	$0	$0	$0	$850,000	$3,500,000	$4,350,000
STA Operating	$0	$14,338	$14,338	$14,338	$14,338	$57,352
STA Population	$232,705	$90,000	$90,000	$90,000	$94,500	$597,205
LTF (Capital Reserve)	$0	$96,631	$196,966	$40,431	$82,261	$416,289
PTMISEA	$582,599	$200,000	$300,000	$697,314	$0	$1,779,913
STAR STA & Security Grant	$0	$172,638	$0	$0	$0	$172,638
SRTP STA (Rollover)	$0	$45,632	$0	$0	$0	$45,632
Rollover STA FY 1516 and before	$0	$299,244	$0	$0	$0	$299,244
Office Equipment STA (Rollover)	$0	$10,000	$0	$0	$0	$10,000
5311(f) Bus Shelters	$0	$75,586	$0	$0	$0	$75,586
Security (Prop 1B)	$0	$3,287	$0	$0	$0	$3,287
LCTOP Capital	$6,403	$0	$0	$200,000	$0	$206,403
TOTAL	$1,965,767	$1,461,809	$1,140,065	$2,415,731	$4,453,107	$11,436,479

Source: Draft FY 2016 - FY 2020 Mountain Transit Short Range Transit Plan, Ten Year Operating and Capital Sources and Uses

8.4 Needles Transit Services

Needles Transit Services has recently completed an updated final SRTP covering FY 2016 – FY 2020. Chapter 6, "Strategic Opportunities and Financial Plan," includes a CIP. The plan identifies capital projects in three categories: fixed-route replacement vehicles, dial-a-ride replacement vehicles, and bus stop improvements. Table 8-5 summarizes the planned expenditures by fiscal year. FY 2020 was not projected to have any capital expenses.

Table 8-5. Needles Transit Services CIP, FY 2016 - FY 2020

Capital Project	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
Vehicle Procurements	$169,014	$130,000	$150,000	$0	$0	$449,014
Bus Stops and Shelters	$0	$55,214	$57,554	$47,601	$0	$160,369
TOTAL	$169,014	$185,214	$207,554	$47,601	$0	$609,383

Source: Needles Transit Services FY 2016 - FY 2020 Short Range Transit Plan (Final - July 2015).

The draft Needles SRTP also identifies the funding sources for the capital program, as summarized below in Table 8-6.

Table 8-6. Needles Transit Services CIP Funding Sources, FY 2016 - FY 2020

Revenue Source	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
State Transit Assistance	$0	$55,214	$142,554	$47,601	$0	$245,369
PTMISEA	$169,014	$130,000	$65,000	$0	$0	$364,014
TOTAL	$169,014	$185,214	$207,554	$47,601	$0	$609,383

Source: Needles Transit Services FY 2016 - FY 2020 Short Range Transit Plan (Final - July 2015).

8.5 Omnitrans

OmniConnects, Omnitrans' SRTP, provides details on the agency's CIP. The plan's capital project categories identified in *OmniConnects* Section 7.3 include revenue vehicles, service vehicles, management information systems, facilities, and transit enhancements. The revenue-constrained plan emphasizes replacement and state-of-good repair first. Revenue vehicles make up the largest share of the capital plan. Omnitrans strives to replace fifteen 40-foot vehicles and fifteen demand-response vehicles per year (Omnitrans, 2014). Table 8-7 displays Omnitrans' capital expense forecast for FY 2016 – FY 2020.

Table 8-7. Omnitrans CIP, FY 2016 - FY 2020

Capital Project	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
Revenue Vehicles	$11,020,000	$11,220,000	$11,520,000	$11,700,000	$11,900,000	$57,360,000
Support Vehicles	$630,000	$630,000	$630,000	$750,000	$750,000	$3,390,000
IT Projects	$2,400,000	$2,400,000	$2,400,000	$2,500,000	$2,500,000	$12,200,000
Facilities	$1,630,000	$1,630,000	$1,630,000	$1,730,000	$1,730,000	$8,350,000
Transit Enhancements	$250,000	$250,000	$250,000	$250,000	$250,000	$1,250,000
TOTAL	$15,930,000	$16,130,000	$16,430,000	$16,930,000	$17,130,000	$82,550,000

Source: *Omniconnects: Connecting People, Business, and Community, FY2015-2020 Short-Range Transit Plan.* Section 7.3.

Table 8-8 provides Omnitrans' projected capital project funding sources during this same time period.

Table 8-8. Omnitrans CIP Funding Sources, FY 2016 - FY 2020

Revenue Source	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
FTA 5307	$4,700,000	$4,700,000	$4,700,000	$4,960,000	$4,960,000	$24,020,000
FTA 5339	$1,700,000	$1,700,000	$1,700,000	$1,700,000	$1,700,000	$8,500,000
CMAQ	$5,180,000	$6,660,000	$5,560,000	$5,470,000	$7,620,000	$30,490,000
Prop 1B TGSP	$130,000	$130,000	$130,000	$130,000	$130,000	$650,000
Prop 1B PTMISEA	$4,220,000	$2,940,000	$4,340,000	$4,670,000	$2,720,000	$18,890,000
TOTAL	$15,930,000	$16,130,000	$16,430,000	$16,930,000	$17,130,000	$82,550,000

Source: *Omniconnects: Connecting People, Business, and Community, FY2015-2020 Short-Range Transit Plan.* Section 7.3. Definitions: FTA 5307 – Urbanized Area formula program; FTA 5339 – Bus and Bus Facilities formula program; CMAQ – FHWA Congestion Mitigation and Air Quality Program; Prop 1B PTMISEA – California Proposition 1B (2006) Public Transportation Modernization, Improvement, and Service Enhancement Account Program

8.6 Victor Valley Transit Authority

VVTA's most recent COA/SRTP completed in 2013 included a capital plan in Section 9.6, which was intended to support the service plan through 2020. The plan identifies the primary capital need as replacement revenue vehicles and provides a vehicle replacement program through FY 2020, by fleet type/life expectancy. Other capital project categories identified in the COA included "Major Components" (for vehicle maintenance), "Transit Enhancements" (at bus stops and transit centers, such as

shelters, benches, lighting), "Facility Lease Payments" (to cover the repayment costs on the new operations facility in Hesperia), "Mobility Management," and "Security."

As discussed in section 8.1, VVTA and BAT merged services in September, 2014, and VVTA began issuing consolidated operating and capital budgets in FY 2016. The VVTA operating and capital budgets provide more up-to-date information than the prior COA's developed separately for each agency. Thus, the VVTA budgets and related fleet replacement information were used to develop the FY 2016 – FY 2020 VVTA Capital Improvement Program for this SRTP. Table 8-9 summarizes this information for FY 2016 and FY 2017 and projects it for FY 2018 through FY 2020 (VVTA Annual Operating and Capital Budgets, 2015 and 2016).

Fleet replacement schedules provided by VVTA staff in June, 2016 were used for the revenue vehicle and service/support vehicle replacement estimates for the entire five-year period. For the other capital project categories, VVTA Operating and Capital Budget data was used for FY 2016 and FY 2017, and an average of those two years was used to project figures for FY 2018 through FY 2020. The one exception was the Facilities/Improvements capital project which had a large one-time line item of $5,000,000 for a new BAT operating facility in FY 2017[11]. That $5,000,000 amount was deducted in calculating the projection amounts for FY 2018 – FY 2020.

Table 8-9. VVTA CIP, FY 2016 - FY 2020

Capital Project	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
Revenue Vehicle Replacements[1]	$2,400,000	$7,315,000	$5,520,000	$3,380,000	$4,035,000	$22,650,000
Support Vehicles[1]	$0	$77,076	$105,000			$182,076
Heavy Veh Maint/Components[2]	$0	$1,370,809	$705,967	$727,146	$748,960	$3,552,881
Intelligent Transp. Systems[2]	$500,000	$1,406,236	$981,712	$1,011,163	$1,041,498	$4,940,608
Facilities/Improvements[3]	$2,500,000	$8,907,105	$3,299,659	$3,398,649	$3,500,608	$21,606,021
Studies[2]	$300,000	$0	$154,500	$159,135	$163,909	$777,544
Shelters and Bus Stop Impr.[2]	$200,000	$202,930	$207,509	$213,734	$220,146	$1,044,319
Security[2]	$250,000	$164,061	$213,241	$219,639	$226,228	$1,073,169
Other[2]	$0	$510,000	$262,650	$270,530	$278,645	$1,321,825
TOTAL	$6,150,000	$19,953,217	$11,450,238	$9,379,995	$10,214,995	$57,148,444

Sources: FY 2016 and FY 2017 based on FY 15-16 and FY 16-17 VVTA Operating and Capital Budget Information

Notes:

1. Revenue Vehicle and Support Vehicle Replacements based on replacement schedules provided by VVTA on 6-6-16.

2. FY 2018, FY 2019, and FY 2020 expenditure data projected based on average of category expenditures during FY 2016 and FY 2017; 3% inflation factor applied to FY 2018, FY 2019, and FY 2020.

3. Facilties/Improvements Costs for FY 2018, FY 2019, and FY 2020 expenditure data projected based on average of category expenditures during FY 2016 and FY 2017 but excluding the one-time $5,000,000 cost of a new Barstow Operating Facility; 3% inflation factor applied to FY 2018, FY 2019, and FY 2020.

Note: Capital Project List excludes Operational Support Charged to Capital Funding Sources

[11] Per VVTA staff on 8/8/16, VVTA has purchased the property and a fueling station from Barstow and has plans to build a modest bus facility in Barstow.

As with the capital project expenses, the projected VVTA capital funding sources were derived from the FY 2016 and FY 2017 Operating and Capital Budgets, and were used to project the figures for FY 2018 – FY 2020. Here again, the one exception was the exclusion of the one-time $5,000,000 item for a new BAT facility, which was included in the "Other" funding category in FY 2017. Table 8-10 summarizes the projected capital revenues for the five-year period. The total funding projection over this 5-year period is adequate to cover the planned capital expenses in Table 8-9 through use of carryover funds from over-funded years.

Table 8-10. VVTA CIP Funding Sources, FY 2016 - FY 2020

Revenue Source	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	5-YR Total
FTA 5307	$2,267,517	$5,575,105	$4,038,950	$4,160,119	$4,284,922	$20,326,614
FTA 5310	$194,000	$0	$99,910	$102,907	$105,995	$502,812
FTA 5311	$0	$0	$0	$0	$0	$0
FTA 5339	$367,411	$1,020,647	$714,850	$736,295	$758,384	$3,597,587
CMAQ	$0	$2,434,575	$1,253,806	$1,291,420	$1,330,163	$6,309,964
LTF	$794,904	$953,565	$900,462	$927,475	$955,300	$4,531,706
STAF	$875,796	$537,385	$727,788	$749,622	$772,111	$3,662,702
Prop 1B	$1,547,692	$3,440,503	$2,568,920	$2,645,988	$2,725,368	$12,928,471
LCTOP	$0	$306,574	$157,886	$162,622	$167,501	$794,583
Toll Credits	$70,545	$0	$36,331	$37,421	$38,543	$182,839
Other	$907,931	$5,684,863	$820,289	$844,898	$870,245	$9,128,225
TOTAL	$7,025,796	$19,953,217	$11,319,192	$11,658,767	$12,008,530	$61,965,503

Sources: FY 2016 and FY 2017 based on FY 15-16 and FY 16-17 VVTA Operating and Capital Budget Information. FY 2018 assumes an average of FY 2016 and FY 2017 amounts by revenue source, inflated 3%. Exception: The $5,000,000 "Other" one-time funding for a new Barstow Operating Facility is assumed in FY 2017 only. FY 2019 and FY 2020 also escalated 3% per year for each funding source.

8.7 Southern California Regional Rail Authority

The Southern California Regional Rail Authority (SCRRA) divides its capital program budget into two overall components: Rehabilitation and New Capital projects. Rehabilitation projects are those that extend the useful life of existing capital assets through activities such as replacement of worn ties and rail, replacement of worn or outdated signal system components, rehabilitation of tunnels, bridges, and culverts, rehabilitation of rolling stock components, and midlife overhaul of rail cars and locomotives. These rehabilitation projects also are referred to as "state of good repair" projects, in accordance with terminology in the federal government's passage of MAP-21.

By contrast, New Capital projects entail the construction or acquisition of new railroad assets. Examples in Metrolink's budget include new railroad bridges, new rail car procurements, new Tier 4 Locomotive[12] Replacements, and Positive Train Control.

[12] Tier 1 through Tier 4 engines refer to U.S. Environmental Protection Agency (EPA) requirements for diesel engines as defined in 40CFR1039, *Control of Emissions From New and In-use Nonroad Compression Ignition Engines*.

The share of SCRRA's overall capital program which is attributable to and funded by SBCTA was identified during the Capital Projects Workshop conducted with SBCTA staff on May 11, 2016. Included among the SBCTA project list were SBCTA's funding for "Metrolink Capital Subsidy – Rehabilitation", Metrolink Capital Subsidy – New Capital Projects, as well as several other SBCTA-funded projects that support the Metrolink service within San Bernardino County. The Metrolink Capital Subsidy projects are shown here under SCRRA. Please see the "SBCTA Projects" section for further details on railroad infrastructure-related capital projects within SBCTA's jurisdictional area.

Table 8-11 provides the amounts SBCTA has budgeted for Metrolink Capital Subsidy – Rehab, and Metrolink Capital Subsidy – New Capital Projects. Table 8-12 provides the funding sources SBCTA has identified for these capital project categories.

Table 8-11. SCRRA (Metrolink) CIP, FY 2016 - FY 2020

Capital Project	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
MtInk Capital Subsidy-Rehab	$4,579,000	$2,664,000	$8,650,000	$8,000,000	$8,000,000	$31,893,000
MtInk Capital Subsidy	$4,809,000	$860,000	TBD	TBD	TBD	$5,669,000
GRAND TOTAL	$9,388,000	$3,524,000	$8,650,000	$8,000,000	$8,000,000	$37,562,000

Source: SBCTA Capital Project Justification Form Worksheets, completed by Project Managers. Updated in October and November, 2016.

Table 8-12. SCRRA (Metrolink) CIP Funding Sources, FY 2016 - FY 2020

Capital Project	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
Federal	$8,303,000	$2,664,000	$8,650,000	$8,000,000	$8,000,000	$35,617,000
State	$0	$0	$0	$0	$0	$0
State Transit Assistance (STA)	$785,000	$187,000	$0	$0	$0	$972,000
Local Transportation Fund (LTF)	$0	$0	$0	$0	$0	$0
SBCTA Measure I	$300,000	$673,000	$0	$0	$0	$973,000
Other	$0	$0	$0	$0	$0	$0
GRAND TOTAL	$9,388,000	$3,524,000	$8,650,000	$8,000,000	$8,000,000	$37,562,000

Source: SBCTA Capital Project Justification Form Worksheets, completed by Project Managers. Updated in October and November, 2016.

8.8 Consolidated Transportation Services Agency (CTSA), San Bernardino Valley Area

This CTSA coordinates social service agency transportation services in the San Bernardino Valley with the Omnitrans Access service. The CTSA also provides other services, including mobility training and a taxi voucher program.

The CSTA designation was transferred from Valley Transportation Services (VTrans) to Omnitrans by action of the SBCTA Board in November, 2015[13]. The CTSA function is housed within a new department under Omnitrans, the Special Transit Services Department, along with Omnitrans' Access service. A prior questionnaire completed by Valley Transportation Services (VTrans) in 2014 (SBCTA, 2014a) indicated that there was no capital project prioritization process in place at that time. The questionnaire was completed before VTrans had opened their new maintenance facility for social service agency vehicles (prior to transfer to Omnitrans). With the facility now opened, the CTSA may be in a position to begin annual programming for capital projects in the future.

8.9 SBCTA Projects

SBCTA has an extensive capital improvement program to support the regional transit program, including significant planned expenditures to support Metrolink service and the Redlands Passenger Rail Project. Projects also include completion/closeout of the Omnitrans sbX program and the San Bernardino Transit Center.

8.9.1 SBCTA Projects and Costs

In order to identify SBCTA's capital projects and capital funding plans, SBCTA project managers were asked to complete a Capital Project Justification Form (see Chapter 7) for each project. A Capital Projects Workshop was then held on May 11, 2016, with each project manager to go over the specifics of their projects and identified funding sources. These Capital Project Justification Forms were updated in October and November, 2016, to finalize this chapter of the SRTP.

Table 8-13 summarizes the results of this capital project planning effort. Over the five-year period covered by this SRTP (FY 2016 – FY 2020), SBCTA's capital program is projected to total $409.5 million. It should be noted that, due to the magnitude of some of the projects, several have funding spread out over multiple years, including years beyond the planning period of this FY 2016 – FY 2020 SRTP. Future updates of this SBCTA SRTP will cover those future years, as funding projections are refined. The SBCTA capital project descriptions are as follows, in SBCTA project numbering order:

Security Study – This study is evaluating ways to more efficiently and effectively administer security services at Metrolink stations along the San Bernardino Line, as well as examining security capital improvements for integration at the Metrolink Dispatch and

[13] SBCTA Board of Directors Agenda, November 4, 2015.

Operations Center, and security improvements at the new San Bernardino Transit Center.

sbX Project Closeout – The Omnitrans sbX Bus Rapid Transit project is essentially complete and has been in operation since May, 2014. However, additional costs are expected for final closeout activities for right-of-way acquisition.

San Bernardino Transit Center – The new San Bernardino Transit Center was placed in service in September, 2015. A follow-up contract for installation of a backup generator and additional landscaping is expected to be completed in FY 2016.

Downtown San Bernardino Passenger Rail Project – This project, currently under construction, will extend Metrolink service approximately one mile east from the current terminus at Santa Fe Depot, to downtown San Bernardino at the new San Bernardino Transit Center. There, Metrolink service will connect with local bus service and the Redlands Passenger Rail Project (RPRP) – Arrow service.

Redlands Passenger Rail Project Maintenance Facility – This project will design and construct a diesel-multiple-unit (DMU) maintenance facility on the site of the former Metrolink Inland Empire Maintenance Facility, just east of the Santa Fe Depot. The facility will support operations and maintenance for the DMU's which will be purchased as part of RPRP.

Redlands Passenger Rail Project – This major capital project will design and construct a new DMU passenger service operating between downtown San Bernardino and the University of Redlands. The project includes reconstruction of approximately nine miles of track, including structural and operational support items, signal and communications, a two-mile passing siding, five stations, and the procurement of DMU's.

Metrolink Rialto Station Parking Lot Expansion – This project will provide additional parking spaces to the existing John Longville Metrolink Depot in the City of Rialto. The project is intended to increase the capacity of the station parking lots by 230 spaces from an existing total of 175 spaces. Phase one is expected to be completed in FY2016 with right-of-way acquisition for Phase two starting in FY2017.

Metro Gold Line Foothill Extension – This project will design and construct an extension of the Los Angeles County Metropolitan Transit Authority (Metro) Gold Line from its current eastern terminus at Azusa, to the Montclair Transcenter in San Bernardino County. This project is for funding of the design and construction of the San Bernardino County portion of the overall project.

Shortway Quiet Zone – This project encompasses the improvements needed at the Rialto Avenue and Walnut Street grade crossings on the Shortway subdivision in the City of San Bernardino to allow the City to apply for a quiet zone for this segment. The Shortway is a connecting track used by Metrolink trains to travel to and from the Eastern Maintenance Facility to the Santa Fe Depot (and eventually, San Bernardino Transit Center) for start and end of service.

San Bernardino Line Control Point (CP) Lilac CP Rancho Double Track - This project encompasses the addition of approximately three miles of double-track between CP Lilac and CP Rancho along the Metrolink San Bernardino Line in the cities of Rialto and San Bernardino. This project includes a second platform at the Rialto Station. The project will increase capacity on the San Bernardino Line.

Rancho Cucamonga Metrolink Station Transit-Oriented Development –Plans are underway for a Transit Oriented Development project at the Metrolink Milliken Station. The City desires to transition the large surface parking to structured parking plus higher land uses. The City is lead on this project with SBCTA supporting their effort.

Sierra Grade Crossing Improvements – This project includes construction of a six-foot wide sidewalk, curb and gutter on both sides of Sierra Avenue at the Metrolink at-grade crossing, widening Sierra Avenue within existing SBCTA right-of-way, installing pedestrian crossing gates/arms and swing gates that meet SCRRA specifications, extension of medians and installation of Class III bike lane signage.

Juniper Grade Crossing Improvements – This project includes construction of a six-foot wide sidewalk, curb and gutter on both sides of Juniper Avenue at the Metrolink at-grade crossing, widening Juniper Avenue within existing SBCTA right-of-way, pedestrian crossing gates/arms and swing gates that meet SCRRA specifications, extension of medians and installation of Class III bike lane signage, and design and installation of a queue cutter signal.

San Bernardino Line Control Point Central to Control Point Archibald Double-Track – This project has been identified by SBCTA but is beyond the planning period of this SRTP and has no funding identified at this time. The project consists of addition of approximately 5.6 miles of double track on the Metrolink San Bernardino Line between CP Central to CP Archibald in the cities of Montclair, Upland and Rancho Cucamonga. This project includes a second platform at the Upland station and a universal crossover mid-way through the project. The current project cost estimate is $94.6 million.

8.9.2 SBCTA Project Funding

The anticipated revenues to fund SBCTA's capital project program are summarized by project in **Table 8-14**. The capital project justification forms filled out by project managers at the Capital Projects Workshop (as updated in October and November, 2016) are the source for this funding information. The worksheets list 24 potential funding sources. In order to keep the overall table manageable, funding sources are combined into overall types, such as federal, state, STAF, LTF, etc.

A comparison of Tables 8-13 and 8-14 show that estimated project costs and estimated funding sources are not balanced. Estimated capital costs over the five-year period total $409.5 million, while estimated capital revenues total only $336.1 million. The budget shortfall is due to underfunding of two large capital projects:

- The San Bernardino Line CP Lilac to CP Rancho Double-Track Project has an estimated $65 million total cost (including years beyond this SRTP planning period). Of that cost, $62.8 million (or $43.4 million during the five-year period of this SRTP) is "Undefined" at this time and significant funding would need to be identified to advance this project beyond the preliminary engineering/environmental phase.

- The Metro Gold Line Foothill Extension has a $30 million shortfall in FY 2019 due to the recent failure to receive a Transit and Intercity Rail Capital Program (TIRCP)[14] discretionary grant from Caltrans. That project has an estimated $67.9 million total cost (including years beyond this SRTP planning period). Of that cost, $30.0 million is "Undefined" at this time as a result of not winning the discretionary grant and comprised a significant portion of the construction phase.

[14] http://www.dot.ca.gov/hq/MassTrans/tircp.html

Table 8-13. SBCTA CIP, FY 2016 - FY 2020

Task #	Capital Project	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
0314.0372	Security Study	$155,000	$95,000				$250,000
0315.0311	sbX Project Completion		$1,040,000				$1,040,000
0315.0322	San Bernardino Transit Ctr	$3,673,000	$1,365,000				$5,038,000
0315.0323	DSBPRP	$30,986,000	$34,128,000	$885,000			$65,999,000
0315.0324	RPRP Maint. Facility	$700,000	$228,000	$3,884,000	$3,884,000	$1,113,000	$9,809,000
0315.0324	Redlands Pass. Rail Proj.[1]	$11,300,000	$16,878,000	$29,929,000	$82,365,000	$71,041,000	$211,513,000
0315.0325	Rialto Mtlnk Pkg Lot Exp	$166,000	$4,973,000	$390,000			$5,529,000
0315.0326	Metro Gold Line Foothill Ext		$2,462,000	$12,540,000	$40,776,000	$1,500,000	$57,278,000
0315.0327	Shortway Quiet Zone[2]	$500,000	$3,500,000				$4,000,000
0315.0328	Lilac Rancho Dbl Track	$550,000	$1,717,000	$4,500,000	$19,500,000	$19,400,000	$45,667,000
0315.0329	Rcho Cuc Mtlnk Station TOD	$15,000	$41,000				$56,000
0315.0330	Sierra Grade Crossing	$221,000	$1,172,000	$42,000			$1,435,000
0315.0331	Juniper Grade Crossing	$227,000	$1,541,000	$76,000			$1,844,000
	GRAND TOTAL	$48,493,000	$69,140,000	$52,246,000	$146,525,000	$93,054,000	$409,458,000

Source: SBCTA Capital Project Justification Form Worksheets, completed by Project Managers. Updated in October and November, 2016.

Notes:

1. For Redlands Passenger Rail Project, FY 2016 figure includes FY 2016 and prior.
2. For Shortway Quiet Zone, FY 2016 figure includes FY 2016 and prior.

Table 8-14. SBCTA CIP Funding Sources, FY 2016 - FY 2020

Task #	Capital Project	Prior	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
0314.0372	Security Study							
	Federal							$0
	State		$155,000	$95,000				$250,000
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)							$0
	SBCTA Measure I							$0
	Other							$0
	TOTAL	$0	$155,000	$95,000	$0	$0	$0	$250,000
0315.0311	sbX Project Completion							
	Federal							$0
	State							$0
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)							$0
	SBCTA Measure I			$715,000				$715,000
	Other			$325,000				$325,000
	TOTAL	$0	$0	$1,040,000	$0	$0	$0	$1,040,000
0315.0322	San Bernardino Transit Ctr							
	Federal	$13,833,000	$2,115,000	$622,000				$2,737,000
	State	$485,000	$15,000					$15,000
	State Transit Assistance (STA)	$76,000	$21,000	$25,000				$46,000
	Local Transportation Fund (LTF)	$1,424,000	$1,396,000	$199,000				$1,595,000
	SBCTA Measure I							$0
	Other	$5,877,000	$126,000	$519,000				$645,000
	TOTAL	$21,695,000	$3,673,000	$1,365,000	$0	$0	$0	$5,038,000
0315.0323	DSBPRP							
	Federal	$320,000	$10,733,000	$11,573,000				$22,306,000
	State	$9,263,000	$6,973,000	$6,754,000				$13,727,000
	State Transit Assistance (STA)	$10,445,000	$407,000	$3,071,000				$3,478,000
	Local Transportation Fund (LTF)	$14,064,000	$8,346,000	$12,465,000	$885,000			$21,696,000
	SBCTA Measure I	$17,576,000	$305,000	$0				$305,000
	Other	$5,088,000	$4,222,000	$265,000				$4,487,000
	TOTAL	$56,756,000	$30,986,000	$34,128,000	$885,000	$0	$0	$65,999,000

Table 8-14. SBCTA CIP Funding Sources, FY 2016 - FY 2020 (Continued)

Task #	Capital Project	Prior	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
0315.0324	RPRP Maint. Facility							
	Federal							$0
	State							$0
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)							$0
	SBCTA Measure I		$700,000	$228,000	$3,884,000	$3,884,000	$1,113,000	$9,809,000
	Other							$0
	TOTAL	$0	$700,000	$228,000	$3,884,000	$3,884,000	$1,113,000	$9,809,000
0315.0324	Redlands Pass. Rail Proj.[1]							
	Federal					$28,623,000	$28,623,000	$57,246,000
	State				$7,210,000	$7,210,000	$7,210,000	$21,630,000
	State Transit Assistance (STA)					$9,426,000	$9,426,000	$18,852,000
	Local Transportation Fund (LTF)							$0
	SBCTA Measure I		$11,300,000	$16,364,000	$22,205,000	$28,259,000	$16,935,000	$95,063,000
	Other			$514,000	$514,000	$8,847,000	$8,847,000	$18,722,000
	TOTAL	$0	$11,300,000	$16,878,000	$29,929,000	$82,365,000	$71,041,000	$211,513,000
0315.0325	Rialto Mtlnk Pkg Lot Exp							
	Federal	$204,000	$133,000	$2,833,000	$315,000			$3,281,000
	State	$7,000	$33,000	$1,460,000				$1,493,000
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)	$45,000		$680,000	$75,000			$755,000
	SBCTA Measure I							$0
	Other							$0
	TOTAL	$256,000	$166,000	$4,973,000	$390,000	$0	$0	$5,529,000
0315.0326	Metro Gold Line Foothill Ext							
	Federal							$0
	State					$2,000,000	$1,500,000	$3,500,000
	State Transit Assistance (STA)				$2,280,000	$2,276,000		$4,556,000
	Local Transportation Fund (LTF)					$1,500,000		$1,500,000
	SBCTA Measure I			$2,462,000	$10,260,000	$5,000,000		$17,722,000
	Other							$0
	TOTAL	$0	$0	$2,462,000	$12,540,000	$10,776,000	$1,500,000	$27,278,000

Table 8-14. SBCTA CIP Funding Sources, FY 2016 - FY 2020 (Continued)

Task #	Capital Project	Prior	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
0315.0327	Shortway Quiet Zone[2]							
	Federal							$0
	State							$0
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)		$500,000	$3,500,000				$4,000,000
	SBCTA Measure I							$0
	Other							$0
	TOTAL	$0	$500,000	$3,500,000	$0	$0	$0	$4,000,000
0315.0328	Lilac Rancho Dbl Track							
	Federal							$0
	State		$500,000	$1,048,000				$1,548,000
	State Transit Assistance (STA)		$50,000	$669,000				$719,000
	Local Transportation Fund (LTF)							$0
	SBCTA Measure I							$0
	Other							$0
	TOTAL	$0	$550,000	$1,717,000	$0	$0	$0	$2,267,000
0315.0329	Rcho Cuc Mtlnk Station TOD							
	Federal							$0
	State							$0
	State Transit Assistance (STA)							$0
	Local Transportation Fund (LTF)		$15,000	$41,000				$56,000
	SBCTA Measure I							$0
	Other							$0
	TOTAL	$0	$15,000	$41,000	$0	$0	$0	$56,000
0315.0330	Sierra Grade Crossing							
	Federal							$0
	State							$0
	State Transit Assistance (STA)			$270,000				$270,000
	Local Transportation Fund (LTF)	$12,000	$166,000	$572,000				$738,000
	SBCTA Measure I							$0
	Other	$4,000	$55,000	$330,000	$42,000			$427,000
	TOTAL	$16,000	$221,000	$1,172,000	$42,000	$0	$0	$1,435,000

Table 8-14. SBCTA CIP Funding Sources, FY 2016 - FY 2020 (Continued)

Task #	Capital Project	Prior	FY 2016 Budget	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected	FY 2016 - FY 2020 5-YR Total
0315.0331	Juniper Grade Crossing							
	Federal							$0
	State							$0
	State Transit Assistance (STA)			$230,000				$230,000
	Local Transportation Fund (LTF)	$12,000	$170,000	$568,000				$738,000
	SBCTA Measure I							$0
	Other	$4,000	$57,000	$743,000	$76,000			$876,000
	TOTAL	$16,000	$227,000	$1,541,000	$76,000	$0	$0	$1,844,000
ALL SBCTA CAPITAL PROJECTS' FUNDING								
	Federal	$14,357,000	$12,981,000	$15,028,000	$315,000	$28,623,000	$28,623,000	$85,570,000
	State	$9,755,000	$7,676,000	$9,357,000	$7,210,000	$9,210,000	$8,710,000	$42,163,000
	State Transit Assistance (STA)	$10,521,000	$478,000	$4,265,000	$2,280,000	$11,702,000	$9,426,000	$28,151,000
	Local Transportation Fund (LTF)	$15,557,000	$10,593,000	$18,025,000	$960,000	$1,500,000	$0	$31,078,000
	SBCTA Measure I	$17,576,000	$12,305,000	$19,769,000	$36,349,000	$37,143,000	$18,048,000	$123,614,000
	Other	$10,973,000	$4,460,000	$2,696,000	$632,000	$8,847,000	$8,847,000	$25,482,000
	GRAND TOTAL	$78,739,000	$48,493,000	$69,140,000	$47,746,000	$97,025,000	$73,654,000	$336,058,000

Source: SBCTA Capital Project Justification Form Worksheets, completed by Project Managers. Updated in October and November, 2016.

Notes:

1. For Redlands Passenger Rail Project, FY 2016 figure includes FY 2016 and prior.
2. For Shortway Quiet Zone, FY 2016 figure includes FY 2016 and prior.

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9.0 FINANCIAL ANALYSIS

9.1 Introduction

The financial analysis is a crucial element of the SRTP. The financial analysis combines all of the transit service plans and capital project plans anticipated by SBCTA and the transit agencies, including Metrolink, reviewed in previous chapters of this SRTP. The analysis then compares the projected costs of these service plans and capital projects with the anticipated revenue sources for that same period, and analyzes whether the anticipated total costs can be covered by those projected revenue streams. This analysis looks at the five years covered by this FY 2016 – FY 2020 SRTP.

The analysis in this chapter includes "convergence curves" to see if, and/or when, expenses are projected to exceed revenues during the five-year or ten-year time frame.

Several sources of data were utilized to develop the Financial Plan. Current and projected transit services and operating costs for each operator came primarily from the most recently-adopted annual operating budgets and/or Short-Range Transit Plans, as discussed in detail in Chapter 6. Capital project costs and revenues came from similar sources for the transit operators, and from a Capital Projects Workshop and CIP Worksheets for SBCTA. These were covered in detail in Chapter 8. Finally, SBCTA provided a forecast of revenue streams over the period (FY 2016 – FY 2020), to facilitate the convergence curve analysis.

With the Redlands Passenger Rail Project (Arrow) service beginning in FY 2020, SBCTA recognizes that an update to this SRTP will be needed sooner than is typical. Accordingly, SBCTA plans to prepare a 2018 update to this SRTP, to be done following Omnitrans' and VVTA's FY 2017 SRTP/COA updates, so as to incorporate those new plans. The SBCTA 2018 update will reflect Omnitrans' needs beyond FY 2020, including lifting the three percent cap on Local Transportation Funding arising from their SRTP/COA update, if appropriate and sustainable.

9.2 Transit Revenue Sources

Financing the construction, operation and maintenance of public transportation systems involves many different types of funding sources, including local and State sources of funding, Federal and non-Federal grants, cooperative agreements, loans, and other creative financing mechanisms (such as leases and public private partnerships).

On an annual basis, SBCTA allocates a variety of funds to the five San Bernardino County transit operators, the Southern California Regional Rail Authority (SCRRA, the operator of Metrolink Commuter Rail services) and the Consolidated Transportation Services Agency (CTSA). In the San Bernardino Valley, the CTSA is operated by Omnitrans, and in the Victor Valley and the North Desert it is operated by the Victor Valley Transit Authority (VVTA). SBCTA's role in each of the fund sources varies as well as the parameters by which the operators can use the funds. In order to understand the various funding sources identified in the financial tables in this chapter, the following sections describe the funding sources by local, State and Federal categories.

Note that Measure I, Local Transportation Fund (LTF) and State Transit Assistance (STA) funding are included in the appropriate SBCTA Fiscal Year (FY) budget and then become available for allocation to the individual transit operators for that fiscal year. The other Federal sources of funding, as well as Proposition 1B funds, are received directly by the transit operators and, therefore, are not included in the SBCTA FY Budget.

9.2.1 Local Funding Sources

A primary source of local funding is the Local Transportation Fund (LTF). SBCTA considers LTF as a local source of funding in that although the source is implemented by the State and part of the State-enacted Transportation Development Act, the half cent LTF tax is imposed on a county-by-county at each county's discretion. For the purposes of the SRTP, the LTF funding source will be discussed under other TDA sources of funding in the State Funding Sources Section 9.2.2.

The other primary local funding source available to county transit operators is through Measure I, the half-cent sales tax collected throughout San Bernardino County for transportation improvements. San Bernardino County voters first approved the Measure in November 1989 to ensure that needed transportation projects were implemented countywide from 1990 through 2010. In 2004, San Bernardino County voters approved the extension of the Measure I sales tax to extend the Measure from 2010 through 2040. SBCTA administers Measure I revenue, is responsible for determining which projects receive Measure I funding, and ensures that transportation projects are implemented. The Measure I Strategic Plan delineates the policies approved by the SBCTA Board of Directors to implement the Expenditure Plan. The Measure I Ordinance identifies funding for the six Subareas, which cover the entire County. The Subareas are as follows: San Bernardino Valley, Victor Valley, Mountains, North Desert, Morongo Basin and Colorado River. Note that the four non-urbanized Subareas that have similar expenditure plans are referred to collectively as the Rural Mountain/Desert Subareas. These Subareas are the Mountains, North Desert, Morongo Basin and Colorado River.

9.2.1.1 **Measure I Senior and Disabled Transit Program (SDT)**

Purpose: The Measure I Senior and Disabled Transit Program (SDT) is local source of funding derived from one-half of one percent general sales and use tax collected in San Bernardino County for transportation purposes. The transit operators reduce the fares for Senior and Disabled passengers, and in return, the Measure I program provides the balance of the fare revenue so as to stabilize fares for this group of riders.

9.2.1.2 **Measure I Project Development and Traffic Management Systems Program (PDTMS) for the Victor Valley and Rural Mountain/Desert Subareas**

Purpose: The Measure I Project Development and Traffic Management Systems Program (PDTMS) is a local source of funding derived from one-half of one percent general sales and use tax collected in San Bernardino County for transportation purposes. This is a source of funding utilized in the Victor Valley and Rural Mountain/Desert Subareas. PDTMS funds are used for project development and traffic management systems projects, as well as environmental enhancement projects.

9.2.1.3 Measure I Traffic Management Systems Program (TMS) for the San Bernardino Valley Subarea

Purpose: The Measure I Traffic Management Systems Program (TMS) is a local source of funding derived from one-half of one percent general sales and use tax collected in San Bernardino County for transportation purposes. This is a source of funding utilized in the San Bernardino Valley Subarea. TMS funds are used for project development, traffic management systems projects, as well as environmental enhancement projects. The Subarea may allocate funding to any public or private entity, including San Bernardino county transit operators that operate within the subarea.

9.2.1.4 Measure I Metrolink/Rail Service (MSI Rail)

Purpose: The Measure I Metrolink/Rail Service (MSI Rail) Program is a local source of funding derived from one-half of one percent general sales and use tax collected in San Bernardino County for transportation purposes. This source of funding is utilized in the San Bernardino Valley Subarea to assist in capital improvements for the Metrolink commuter rail operations serving San Bernardino County, to establish new passenger rail service operating between the cities of San Bernardino and Redlands and to extend the Los Angeles County Metropolitan Transportation Authority (Metro) Gold Line to the Montclair Transcenter.

9.2.1.5 Other Local Discretionary Sources of Funding

There are several local discretionary sources of funding available from time to time from which transit agencies in San Bernardino County have received funding in the past and may be eligible for discretionary funding in the future. Typically, the funding agency will issue a "call for projects," in which it will specify maximum eligible funding amounts, funding parameters and goals and objectives to be accomplished by the funding notice. Because these calls for projects are not released on a regular basis and are discretionary in nature (where a transit agency must apply and most often compete for funding), these sources are therefore not considered an ongoing and reliable source of funding and, unless previously awarded, are not addressed in detail, nor are they included or assumed in the Financial Section of the SRTP.

Local funding agencies that have released discretionary funding in the past, and most likely will do so again in the future, include the following:

- The South Coast Air Quality Management District (SCAQMD), whose jurisdiction is within the South Coast Air Basin (SCAB), and covers projects implemented in the following subareas: for San Bernardino Valley and the Mountains. Visit their website at: http://www.aqmd.gov/ .

- The Mobile Source Air Pollution Reduction Review Committee (MSRC), whose jurisdiction is also within the SCAB, and covers projects implemented in the following subareas: for San Bernardino Valley and the Mountains (website: http://www.cleantransportationfunding.org/). The MSRC is funded through Assembly Bill (AB) 2766 (http://www.cleantransportationfunding.org/info_center/faq), which directs a

portion of a State motor vehicle registration fee to the Committee for projects that reduce mobile sources of pollution.

- The Mojave Desert Air Quality Management District (MDAQMD), whose jurisdiction is within the Mojave Desert Air Basin (MDAB) covers projects implemented in the following subareas: Victor Valley, North Desert, Morongo Basin and Colorado River. The MDAQMD issues a call for projects every two years for their discretionary portion of AB 2766. Occasionally they issue other calls for projects focusing on the funding of the conversion/transition of vehicles to alternative fuels, construction, upgrade and installation of alternative fueling stations as well as project research and demonstration of cutting edge alternative fuel technology. Information on their call for projects can be found at http://www.mdaqmd.ca.gov .

9.2.2 State Funding Sources

The Mills-Alquist-Deddeh Act, better known as the Transportation Development Act (TDA) provides for the Local Transportation Fund (LTF) and State Transit Assistance Fund (STA), which are major sources of funding for public transportation. The Act allows each California county to impose a 1/4 percent sales tax to be collected by the State Board of Equalization and returned to the county on a pro rata basis for public transportation purposes. These funds are for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on the parameters described below. Section 99214 of the California Public Utilities Code designates SBCTA acting as the Regional Transportation Planning Agency (RTPA) for the purpose of administering TDA funds. This responsibility includes the approval of the LTF and STA apportionments, issuance of LTF and STA allocation instructions to the County of San Bernardino Auditor-Controller, and authorization of LTF and STA payments in accordance with the claim amounts filed by the claimant.

SBCTA also provides oversight of the public hearing process used to identify unmet transit needs. Caltrans provides interpretation of and initiates changes or additions to legislation and regulations concerning all aspects of the TDA. Caltrans also provides training and documentation regarding TDA statutes and regulations. Caltrans ensures local planning agencies complete performance audits required for participation in the TDA. In addition to TDA funding, there are other State sources of funding available to transit operators. Those are also discussed further below.

9.2.2.1 Local Transportation Fund (LTF)

Purpose: LTF revenue is derived from ¼ cent of the retail sales tax collected statewide and was enacted as part of the TDA. Although SBCTA considers LTF as a local funding source, for the purpose of the SRTP the LTF will be treated as a State funding source because it is authorized through the State Transportation Development Act. LTF is the most flexible funding source available for transit as it can be used for capital and operations with minimal restrictions and does not require matching funds.

Formula Basis: LTF is derived from a ¼ cent of the general sales tax collected statewide. After the County Auditor Controller reduces the County's allocation with their fees, the TDA statute lists administrative, planning, and programming activities as first on a list of LTF priorities for allocation by the RTPA. SBCTA, in accordance with the priorities outlined in Section 99233, has identified the following set-asides as priority use, prior to allocations to the transit operators:

- TDA administrative costs as needed,
- 3% for SBCTA planning efforts,
- .75% for Southern California Association of Governments (SCAG), SBCTA's Metropolitan Planning Organization (MPO) planning efforts, and
- 2% for pedestrian and bike facilities – note that transit agencies are eligible to apply for funding under this LTF Article. SBCTA issues a call for projects and the funds are awarded based on a competitive nature and approved by the SBCTA Board.

In accordance with TDA, the remainder of LTF may be set-aside for rail passenger service operations, capital improvements and community transit services prior to area apportionment. However, SBCTA does not elect to use these set-asides for these purposes, and instead, allocates to rail after apportioning the remaining balance geographically based on population, in this manner by Subarea:

- In the San Bernardino Valley Subarea LTF is entirely used for transit purposes with the focus on maintaining a steady flow of operation funding available into the future.
- In the Victor Valley, Morongo Basin, and Mountain Transit areas, LTF is allocated to the individual transit operators based on population of their service areas. As in prior years, it is anticipated that after using the available LTF for transit purposes, the transit operators have had surplus LTF available that, in accordance with the TDA unmet needs process, can be returned to the local jurisdictions in their service area for road maintenance purposes.
- In the Colorado River, North Desert and Mountain Subareas, the amount of LTF is allocated to the individual transit operators based on population of their service areas. The LTF allocations from the North Desert are included with the VVTAs allocations, as the City of Barstow joined the VVTA joint powers agreement on July 1, 2015.

9.2.2.2 State Transit Assistance (STA)

Purpose: STA funding is derived from the statewide sales tax on diesel fuel and is deposited in the Public Transportation Account in the State Transportation Fund. The state legislature approves the amount of these funds allocated to the State Transit Assistance program as part of the annual state budget process. The program provides a second source of TDA funding for transportation planning, public transportation, and community transit purposes as specified by the Legislature. Unlike LTF, STA funds may not be allocated for fund administration, streets, roads, or pedestrian/bicycle facility purposes.

Formula Basis: The State Controller's Office (SCO) apportions STA funds to RTPA's (SBCTA) annually. Allocations are made as follows:

- 50% under Public Utilities Code (PUC) Section 99313: STA-Population Share is based on the ratio of the population of the area under the jurisdiction of a RTPA to the total population of the state, and
- 50% under PUC Section 99314: STA–Operator Share is calculated based on the ratio of the total region's prior year transit operator passenger fare and local support revenues, as well as member agencies, to the total revenue of all operators in the state and member agencies.

Each January the SCO provides a STA revenue estimate for the following year. SBCTA further apportions the STA-Population Share revenue to the San Bernardino Valley and Rural Mountain/Desert regions based on population. STA funds are then allocated to the operators on an as-needed basis as approved by the SBCTA Board. All STA-Operator Share funds, except for those generated as a result of Metrolink service, are allocated to the operators. STA-Operator Share funds generated by Metrolink service are allocated to Metrolink or allocated to projects along the Metrolink corridor. Allocations of STA funds must be made in a resolution adopted by the RTPA's governing board (SBCTA). The county auditor, in accordance with the allocation instructions, makes payments from the STA fund directly to the Transit Operators.

9.2.2.3 Low Carbon Transit Operations Program (LCTOP)

Purpose: LCTOP is one of several programs that are part of the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 through SB 862. The LCTOP was created to provide transit operating and capital assistance to eligible project sponsors in an effort to reduce greenhouse gas emissions and improve mobility, with a priority on serving disadvantaged communities. This program is funded by auction proceeds from the California Air Resources Board (CARB) Cap-and-Trade Program, whereby proceeds are deposited into the Greenhouse Gas Reduction Fund (GGRF). Although 5% of future annual GGRF proceeds will continue to be appropriated to the LCTOP, caution must be taken in planning, as this source of funding is reliant upon the market generated from the State's Cap-and-Trade Program, which varies year-to-year. In this regard, the August 2016 Cap & Trade auction brought in only $8 million, far less than the $500 million the State had estimated based on prior year auctions. There also continues to be court cases challenging the State's authority to legally continue the program beyond 2020. As a result, these funds are estimated/projected on a conservative basis.

Formula Basis:
An RTPA (SBCTA) that is eligible to receive STA funds under PUC 99313 is eligible to receive LCTOP funds by formula based on the ratio of the population of the area under the RTPA's jurisdiction to the total population of the state. Eligible transit operators receive LCTOP funds by formula under PUC 99314, based on the ratio of the revenue of the transit operator to the total revenue of all operators in the state. Annually SBCTA receives apportionment amounts from the SCO and SBCTA further apportions LCTOP

funds received under the population formula to the San Bernardino Valley Subarea and Victor Valley and Rural Mountain/Desert Subareas based on population. The LCTOP funds are then allocated to projects in accordance with the allocation principles approved by the SBCTA Board of Directors[15].

9.2.2.4 Proposition 1B Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA)

Purpose: The PTMISEA was created by Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Of the $19.925 billion available to Transportation, $3.6 billion was allocated to PTMISEA to be available to transit operators over a ten-year period. PTMISEA funds may be used for transit rehabilitation, safety or modernization improvements, capital service enhancements or expansions, new capital projects, bus rapid transit improvements, or rolling stock (buses and rail cars) procurement, rehabilitation or replacement.

Formula Basis:
PTMISEA funds are apportioned in accordance with PUC 99313 and PUC 99314: 50% allocated to local operators based on farebox revenue and 50% to regional entities based on population. The SBCTA Board approved the overall allocation of these funds in February 2010 to the following operators; Barstow Area Transit, Morongo Basin Transit Agency, Mountain Transit, Needles Transit Services, Omnitrans, SCRRA and VVTA. PTMISEA Guidelines require that operators and SBCTA submit to Caltrans a PTMISEA Program Expenditure Plan that contains a list of all projects the agency intends to fund with its share of PTMISEA for the life of the bond, including the amount for each project and the year in which the funds will be requested. The PTMISEA Program Plans have been approved by the SBCTA Board and updates are presented for approval as required.

Other Provisions: The final appropriation of program funds was made in the FY 2016-17 State Budget and the last year PTMISEA funding will be allocated by the State is Fiscal Year 2017/2018. PTMISEA funds must be expended by no later than June 30, 2022.

9.2.2.5 Proposition 1B California Transit Security Grant Program-California Transit Assistance Fund (CTSGP-CTAF)

Purpose: CTSGP-CTAF is a State funding source for specific transit capital projects that provide increased protection against security and safety threats, and for capital expenditures to increase the capacity of transit operators to develop disaster response transportation systems. The California Office of Emergency Services (Cal OES) administers such funds deposited in the Transit System Safety, Security and Disaster Response Account under the CTSGP-CTAF.

Formula Basis: Apportioned by the same formula as STA, LCTOP and PTMISEA, in November 2006, California Voters approved Proposition 1B which authorized $19.925

[15] The LCTOP allocation principles were approved by the SBCTA Board in June 2015, Item #9.

billion of State general obligation bonds for specified transportation purposes, including modernization and transit safety and security improvements. Under this Proposition, the State established the $600 million CTSGP-CTAF. SBCTA is responsible for allocating and applying for the Population Share of funds. The transit operators are responsible for applying for the Operator share of funds. Board approval of projects and fiscal year-specific resolutions are required prior to submitting a grant application. The last year CTSGP funding will be allocated by the State is Fiscal Year 2016/2017.

9.2.2.6 State Discretionary Sources of Funding

There are several State discretionary sources of funding available from time to time that transit agencies in San Bernardino County have received in the past and may be eligible for discretionary funding in the future. As with similar discretionary programs mentioned elsewhere in this analysis, the funding agency typically will issue a "call for projects," which identifies funding amounts and funding parameters, as well as specific goals and objectives to be accomplished by the funding source. Because these calls for projects are not released on a regular basis and are discretionary in nature (where an agency must apply and most often compete for funding), these sources are therefore not considered an ongoing and reliable source of funding, and thus are not assumed in the Financial Section of the SRTP.

Agencies that have released discretionary funding in the past, and most likely will in the future, include the following:

- The California Air Resources Board (CARB), where the calls for projects have focused on conversion/transition of vehicles to alternative fuels, construction, upgrade and installation of alternative fueling stations, as well as project research and demonstration of cutting edge alternative fuel technology.

- The California Energy Commission (CEC), where the calls for projects have focused on conversion/transition of vehicles to alternative fuels, construction, upgrade and installation of alternative fueling stations, as well as project research and demonstration of cutting edge alternative fuel technology.

- The California Department of Transportation (Caltrans), where calls for projects have been issued for the new Active Transportation Program, the purpose of which is to encourage increased use of "active" (i.e., non-auto or non-motorized) transportation, such as pedestrian crossings and bicycle infrastructure. Shelters, signage and pedestrian enhancements such as safer routes to schools have also been funded.

- To guide the investment of Cap-and-Trade auction proceeds (see the Low Carbon Transit Operations Program mentioned previously), the California Department of Finance, in consultation with the California Air Resources Board and other State agencies (Administration), is required to submit a triennial Investment Plan to the Legislature which identifies priority investments that will help California achieve its greenhouse gas reduction goals while realizing additional health, economic, and environmental benefits. The First Investment Plan for Fiscal Years 2013-14 through 2015-16 was submitted to the Legislature in May 2013. It contained significant

sources of funding for transit and transit-related projects. The Administration has developed and revised its Draft Second Investment Plan covering the Fiscal Years 2016-17 through 2018-19, and is based on the comments received during its public review process of the initial proposed draft. The Revised Draft Second Investment Plan was presented at the Board Hearing held on December 17, 2015. As currently proposed, $200 million in cap and trade proceeds will be made available in these fiscal years to the Transit and Intercity Rail Capital Program, a competitive grant program administered by the California State Transportation Agency for rail and bus transit operators for capital improvements to integrate State and local rail and other transit systems, and provide connectivity to the high-speed rail system. Another $100 million will be distributed on a formula basis by Caltrans for the Low Carbon Transit Operations Program, to support new or expanded bus and rail services to increase transit ridership and decrease greenhouse gas emissions.

9.2.3 Federal Funding Sources

9.2.3.1 About the Federal Transit Administration (FTA)

The FTA is one of ten modal agencies within the United States Department of Transportation (DOT). The FTA provides the majority of federal financial and technical assistance to local public transit systems in all states, the District of Columbia, and the territories. The public transportation modes overseen by the FTA include buses, paratransit, subways, light rail, bus rapid transit, commuter rail, monorail, passenger ferry boats, trolleys, inclined railways and people movers. The federal government, through the FTA, provides financial assistance to develop new transit systems and improve, maintain, and operate existing systems. The FTA oversees grants to state and local transit providers, primarily through its ten regional offices. These grantees are responsible for managing their programs in accordance with federal requirements, and the FTA is responsible for ensuring that grantees follow federal mandates along with statutory and administrative requirements.

Each year Congress passes legislation which, when signed by the President, appropriates funds for the DOT and related agencies. After this legislation is enacted, FTA publishes a Notice in the Federal Register, which provides an overview of the apportionments and allocations based on these funds for the various FTA programs as well as statements of policy and guidance on public transit administration. The FTA website (http://www.fta.dot.gov/) contains the current and prior fiscal year apportionments for each grant program.

In the autumn of 2015, Congress passed and the President signed the first long-term reauthorization of federal surface transportation programs in a decade, known as the Fixing America's Surface Transportation (FAST) Act. The law authorizes $11.8 billion for public transit programs in FY 2016, which is an 8.6% increase over the prior year funding level. The FAST Act increases the authorization in FY 2020 to $12.6 billion

which is an increase of 17.7% over the FY 2015 level[16]. The following review of the federal programs that are the most relevant to San Bernardino County also reflects changes in those programs made by the FAST Act.

Applicable San Bernardino County Federal Funding Programs: In the following section are descriptions of several current and past federal funding programs under which San Bernardino County transit operators receive funding, either via a formula or a discretionary funding approach. These programs are most often through the FTA or the Federal Highway Administration (FHWA). In addition, there are discretionary grant opportunities through other Federal departments, and those are identified under discretionary grant opportunities Section.

9.2.3.2 FTA Section 5307 Urbanized Area Formula Grant

Purpose: This program provides grants to Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. These funds constitute a core investment in the enhancement and revitalization of public transportation systems in the nation's urbanized areas, which depend on public transportation to improve mobility and reduce congestion. An UZA is defined as an area with population of 50,000 or more, defined and designated in the most recent decennial census as an urbanized area by the U.S. Secretary of Commerce.

Formula Basis: Funding is apportioned on the basis of legislative formulas. For areas with populations of 200,000 and more, the formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles, as well as population and population density and number of low income individuals. The Urbanized Area Formula program grows under the FAST Act at a modest rate, increasing by 1.8% in Fiscal Year 2016 and a total of 10.56% over the five years ending Fiscal Year 2020. Additionally, the FAST Act retains both the High Density States Program and the Growing States Program of Sec. 5340. The Growing States tier of the formula grant program increases by 14.3% over the five years of the law, while the High Density tier of the program increases by 2% total over the five years.

9.2.3.3 FTA Section 5316 Job Access and Reverse Commute Program (JARC)

Purpose: The Job Access and Reverse Commute (JARC) program was established to address the unique transportation challenges faced by welfare recipients and low-income persons seeking to obtain and maintain employment. Many new entry-level jobs are located in suburban areas, and low-income individuals have difficulty accessing these jobs from their inner city, urban, or rural neighborhoods. In addition, many entry level-jobs require working late at night or on weekends when conventional transit

[16] Per the American Public Transportation Association's (APTA) "A Guide to Public Transportation and Rail-Related Provisions". This document and other FAST Act information can be found at: https://www.apta.com/gap/legissues/authorization/Documents/H.R.%2022,%20FAST%20ACT/FAST%20Act%20booklet.pdf.

services are either reduced or non-existent. Finally, many employment related-trips are complex and involve multiple destinations including reaching childcare facilities or other services.

Formula Basis: A formula apportionment among recipients based on the ratio that the number of eligible low-income and welfare recipients in each such area bears to the number of eligible low-income and welfare recipients in all such areas. FTA apportioned the funds in this manner:

- 60% of funds go to designated recipients in areas with populations over 200,000;
- 20% of funds go to States for areas under 200,000; and
- 20% of funds go to States for non-urbanized areas.

This program was not reauthorized under either MAP-21 ("Moving Ahead for Progress in the 21st Century", the FTA's previous funding authority) or the FAST Act; however, activities funded through this Section may be funded through the expanded Section 5307 funding program.

9.2.3.4 FTA Section 5317 New Freedom Program

Purpose: The New Freedom formula grant program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society. Lack of adequate transportation is a primary barrier to work for individuals with disabilities. The 2000 Census showed that only 60% of people between the ages of 16 and 64 with disabilities are employed. The New Freedom formula grant program seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990.

Formula Basis: A formula apportionment among recipients based on the ratio that the number of individuals with disabilities in each such area bears to the number of individuals with disabilities in all such areas. FTA apportioned the funds in this manner:

- 60% among designated recipients in large urbanized areas,
- 20% to the states for small urbanized areas, and
- 20% to the states for rural and small urban areas under 50,000 in population.

This program was not reauthorized under either MAP-21 or the FAST Act; however, New Freedom funds authorized and appropriated are available for obligation (and expenditure) through their authorized period of availability, unless and until Congress takes action directing otherwise.

9.2.3.5 FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities

Purpose: To improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the

special transportation needs of seniors and individuals with disabilities in all areas, urbanized and rural. Eligible projects include both traditional capital investment and nontraditional investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services.

Formula Basis:

Funds are apportioned to direct recipients:

- States for rural and small urban areas (small UZAs) and designated recipients chosen by the Governor of the State for large urban areas (large UZAs); or
- State or local governmental entities that operates a public transportation service.

Section 5310 funding allocations are based on Census data. The formula funds are apportioned to each State based on the number of older adults and individuals with disabilities and allocated by area:

- Large UZAs: 60%
- Small UZAs: 20%
- Rural: 20%

The FAST Act provides modest growth for this program, growing by 10.6% in FY 2020 over the FY 2015 MAP 21 allocation, identical to the Urban Formula program.

9.2.3.6 FTA Section 5311

Purpose: This is a rural funding program that is formula-based and provides funding to states for the purpose of supporting public transportation in rural areas, with population of less than 50,000. The goal of the program is to provide the following services to communities with population less than 50,000:

- Enhance the access of people in non-urbanized areas to health care, shopping, education, employment, public services, and recreation.
- Assist in the maintenance, development, improvement, and use of public transportation systems in non-urbanized areas.
- Encourage and facilitate the most efficient use of all transportation funds used to provide passenger transportation in non-urbanized areas through the coordination of programs and services.
- Assist in the development and support of intercity bus transportation.
- Provide for the participation of private transportation providers in non-urbanized transportation.

Formula Basis: FTA apportions Section 5311 funds to the States by a statutory formula using the latest available U.S. decennial census data; 80% of the statutory formula is based on the non-urbanized population of the States, and 20% of the formula is based on land area. No State may receive more than 5% of the amount apportioned for land area. In addition, FTA adds amounts apportioned based on non-urbanized population according to the growing States formula factors of 49 U.S.C. 5340 to the amounts apportioned to the States under the Section 5311 program. Under the FAST Act, the

program contains modest growth, increasing by 10.78% in FY 2020 over the FY 2015 MAP 21 allocation.

9.2.3.7 FTA Section 5337 State of Good Repair (SGR)

Purpose: This was a new formula-based, stand-alone initiative written into law under MAP-21, dedicated to repairing and upgrading the nation's rail transit systems along with high-intensity motor bus systems that use high-occupancy vehicle (HOV) lanes, including bus rapid transit (BRT). These funds reflect a commitment to ensuring that public transit operates safely, efficiently, reliably and sustainably so that communities can offer balanced transportation choices that help to improve mobility, reduce congestion, and encourage economic development.

The State of Good Repair Program also saw significant increases in authorization levels under the FAST Act, totaling 15.7% over last year in FY 2016 and a 23.9% increase by FY 2020.

Formula Basis: This program is comprised of two separate formula bases:

(1) High Intensity Fixed Guideway:
- Comprises 97.15% of FY2014 and FY 2015 apportionments.
- 50% based on the previous law's formula under FY 2011 Fixed Guideway Rail Modernization Program, with key modification: buses operating on lanes not for exclusive use of public transportation vehicles are excluded.
- 50% based on revenue vehicle miles and route miles (with same bus exclusion as above). Includes a hold harmless provision preventing formula allocations from decreasing by more than 0.25% year-to-year.

(2) High Intensity Motorbus:
- Comprises 2.85% of FY 2014 and FY 2015 apportionments.
- 60% based on revenue vehicle miles.
- 40% based on route miles of buses operating on lanes not fully reserved only for public transportation vehicles.

9.2.3.8 FTA Section 5339 Bus and Bus Facilities

The FAST Act reauthorizes the federal formula-based Bus and Bus Facilities Program at a total funding level of $696 million in FY 2016, and $809 million by FY 2020.

However, the new FAST law also includes a new competitive grant program. This Bus and Bus Facilities competitive grant program would grow from $268 million in 2016 to $344 million by 2020. Within this amount, a $55 million per year set-aside has been created for low and no-emission buses. Low and no-emission buses also remain eligible for funds under the Sec. 5312 research program.

The formula portion of Section 5339 funds are apportioned by SCAG to SBCTA for the Riverside/San Bernardino UZA and the Los Angeles/Long Beach/Anaheim UZA. The Victor Valley UZA funds are apportioned directly to VVTA. The formula is based on population, vehicle revenue miles and passenger miles. This capital program provides funding to replace, rehabilitate, and purchase buses and related equipment, and to

construct bus-related facilities. This program requires a 20% local match. SCAG required that SBCTA enter a Memorandum of Understanding laying out the responsibilities related to receiving Section 5339 funds. Omnitrans receives all the Section 5339 funds available to the San Bernardino Valley. SBCTA is responsible for updating Section 5339 funding in the FTIP.

Formula Basis: $65,500,000 shall be allocated to all States and territories, with each State receiving $1,250,000 and each territory receiving $500,000. The remaining funds are apportioned consistent with the formula under 5336, to states and UZAs on the basis of population, vehicle revenue miles and passenger miles.

9.2.3.9 FHWA Congestion Mitigation and Air Quality (CMAQ)

CMAQ funds are Federal formula funds apportioned by Caltrans based on population and emissions weighting factors to specific air basins such as the SCAB and MDAB. SBCTA receives annual apportionments of CMAQ and is the agency responsible for selecting projects. As approved by the SBCTA Board in February 2015, the CMAQ funds are then apportioned to Measure I Subareas based on population. Activities typically eligible for CMAQ funding include high occupancy vehicle lanes, transit improvements, travel demand management strategies, traffic flow improvements such as signal synchronization, and public fleet conversions to cleaner fuels. Typically, transit operators receiving CMAQ funding have them transferred from FHWA to FTA or Caltrans for funding a transit project. SBCTA is responsible for updating CMAQ funding in the FTIP as well as submitting a CMAQ annual report to FHWA. The annual report documents the results of emission reduction assessment for projects in San Bernardino County using CMAQ funding for each federal fiscal year. Each CMAQ project must be analyzed using calculation methodologies recommended and approved by Caltrans and CARB. The SBCTA Board approved a 10-year allocation of CMAQ to each operator in July 2016.

Purpose: The Fast Act continues the CMAQ program, providing a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

Formula Basis: Distribution of formula funds is based on the amount of formula funds each State received in FY 2014. Once each State's total Federal-aid apportionment is calculated, an amount is set aside for the State's CMAQ program through a calculation based on the size of the State's FY 2009 CMAQ apportionment relative to the State's total FY 2009 apportionments. The new law authorized a 6.1% increase from last FY 2016 levels, so a commensurate increase in SBCTA revenues is expected from this program. The estimates of expected revenues are thus projections of expected formula funding based on recent history of the CMAQ program.

9.2.3.10 FHWA Surface Transportation Block Grant Program (STBG)

Purpose: The FAST Act converted the long-standing Surface Transportation Program (STP) into the Surface Transportation Block Grant (STBG) Program, by acknowledging that this program has the most flexible eligibilities among all Federal-aid highway programs and aligning the program's name with how FHWA has historically administered it. The STPG provides funding that may be used by States and localities for a wide range of projects to preserve and improve the conditions and performance of surface transportation, including highway, transit, intercity bus, bicycle and pedestrian projects.

Formula Basis: The FHWA formula basis for allocating STBG funds to states, may be found at this link: http://www.fhwa.dot.gov/specialfunding/stp/. The new FAST Act authorized a 15.6% increase from FY 2016 levels, so commensurate increases in annual SBCTA revenues are also expected from the STP (Surface Transportation Program).

9.2.3.11 Other Federal Discretionary Grant Opportunities

There are several Federal discretionary sources of funding available from time to time under which transit agencies in San Bernardino County have received past funding and may be eligible for future discretionary funding. Most often the federal discretionary sources are competitive in nature, and are listed and identified on the website Grants.gov (http://www.grants.gov/), the comprehensive Federal government-wide website for announcing competitive grant opportunities. Not only can Federal grants be researched and discovered on this website, but this is also the website where one applies online for the grant/funding source.

Most often Federal discretionary grants are awarded based on legislative or agency-determined criteria. Unlike many of the FTA formula grants addressed in prior sections, there is no set allotment for a given geographic area, but many times the grant identifies that the awards will be distributed nationwide with some sort of geographic equity in mind. These programs typically allow for a Federal share of 50 to 80 percent of the project capital cost, but the exact match requirement will always be identified in each grant opportunity notice (referred to as the Notice of Funding Opportunity or NOFO).

Examples of FTA discretionary grant programs include:

- Section 5309 Capital Investment Grants (http://www.fta.dot.gov/12304_2608.html) and is commonly referred to as "New Starts" and "Small Starts";
- Section 5339 Bus and Bus Facilities Discretionary Grants (http://www.fta.dot.gov/grants/13094_3557.html) was restored by the FAST Act and in addition to the formula Section 5339 program;
- Low or No Emission Vehicle Deployment Program (LoNo), which is a portion of the 5339 funds (http://www.fta.dot.gov/grants/13077_15782.html). It is anticipated that this grant program will be released again in 2016;
- A listing of the FAST Act's new and continued discretionary programs can be found at this link: http://www.fta.dot.gov/grants/15926.html .

Because the FTA has yet to issue its apportionments notice of the FAST Act's programs, the constrained estimates of expected revenues from any of these programs, thus based only on the budgets of the individual agencies and do not assume appropriation levels of these reauthorized programs.

Although the FAST law also maintains maximum Section 5309 federal share of 80% for core capacity and Small Starts projects, it changed the match requirements for New Starts full funding grant agreements by reducing the maximum Section 5309 share allowed to 60%. Additionally, the threshold for a Small Starts project is increased so projects with a total project cost of $300 million (changed from $200 million) and a federal share of $100 million (changed from $75 million) will qualify. Also, joint public transportation and intercity passenger rail projects are now eligible for funding in the 5309 Major Capital Investment Grant Program.

Other Federal agencies release discretionary grants where transit agencies may be eligible to apply. A few of the agencies and types of grants that have been issued in the past, include the following:

- Department of Transportation (DOT) Transportation Investment Generating Economic Recovery (TIGER) competitive grant program (http://www.transportation.gov/tiger). 2016 marks the sixth year that this grant program has been made available, and seeks large-scale projects that make transformative surface transportation investments by providing significant and measurable improvements over existing conditions. This grant program focuses on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for communities, both urban and rural. The Consolidated Appropriations Act of 2016 does not provide dedicated funding for the planning, preparation, or design of capital projects; however, these activities may be funded as part of an overall construction. Congress approved $500 million for TIGER in 2016.
- The Department of Energy (DOE) also releases discretionary grants from time to time, and these grants have focused primarily on conversion/transition of vehicles to alternative fuels, construction, upgrade and installation of alternative fueling stations, as well as project research and demonstration of cutting edge alternative fuel technology. . Information on the grant programs can be found at this website: http://energy.gov/public-services/funding-financing .
- The Department of Homeland Security (DHS) also releases discretionary grants from time to time, and these grants have focused primarily on security grants to mass transit and passenger rail systems, intercity bus companies, freight railroad carriers, ferries and the trucking industry to help protect the public and nation's critical transportation infrastructure against acts of terrorism and other large-scale events. There are also research grants available leading to the development of new and innovative technologies. Information on the grant programs can be found at this link: http://www.dhs.gov/how-do-i/find-and-apply-grants .

Similar to the local and State discretionary funding sources, the Federal grants identified above are competitive in nature, are discretionary and are not released on a regular

basis; therefore, these sources are not considered an ongoing and reliable source of funding nor are they included or assumed in the Financial Section of the SRTP.

9.2.4 Other Revenue Sources

Transit agencies have other revenue sources that are considered local in nature and are generated as a result of their operations. Due to the source of these revenues, they do not carry restrictions because they are not derived from legislation or statute, and they do not have as stringent use restrictions or match requirements like the State and Federal sources above.

However, there are other parameters in that the FTA considers any revenue generated from a federally funded asset Program Income. Program income includes income from fees for services performed (fares), from the sale of advertising and concessions, from the use or rental of real or personal property acquired with grant funds, from social service contract revenue, and from the sale of commodities or items fabricated under a grant agreement. Except as otherwise provided in regulations, program income does not include interest on grant funds; nor does program income include rebates, credits, discounts, refunds, and interest earned on any of them.

FTA Circular 5010.1, "Grant Management Requirements," (http://www.fta.dot.gov/documents/C_5010_1D_Finalpub.pdf) discusses program income in depth, as does 49 CFR 18.25 (http://www.gpo.gov/fdsys/granule/CFR-2011-title49-vol1/CFR-2011-title49-vol1-sec18-25). The FTA Circular notes that recipients may retain program income so long as they use it for public transportation purposes, that is, for allowable capital, and operating expenses. The transit agency's accounting system must be capable of identifying program income and the purpose for which the recipient used it. The recipient must account for program income in its accounting system, which FTA subjects to audit. The new Federal Financial Report requires the reporting of program income.

9.2.4.1 Farebox

The amount of revenue generated by passenger fares (aka "farebox") is a highly monitored revenue source. All agencies have farebox goals and standards that they must adhere to and track on a regular basis, and are reviewed in detail every three years as part of the triennial performance audit required for the utilization of TDA funds. The main qualifying requirement is that an operator must maintain a minimum ratio of fare revenue to operating cost of at least 20% in an urban area and 10% in a rural area. The higher the farebox recovery translates into either passengers sharing a higher cost in the operations and/or an operator managing and keeping operating costs lower, resulting in a higher farebox return. There are no restrictions on the use of fares except for the FTA guidances mentioned above.

9.2.4.2 Advertising

Many transit agencies provide advertising services, where companies provide advertising messages for their goods and services on transit assets and in return, provide to the transit agency a form of compensation for the advertising. Larger transit

agencies often procure advertisement services through public relations firms, who then work with a variety of clients in that market to advertise on the transit assets. Smaller areas may not have the advertising market of larger agencies, and may instead come to different arrangements to offset expenses instead of generating revenue. For example, some agencies work with external agencies to build bus shelters or adopt bus stops, and pay for those assets, instead of advertising on the assets and the agency generating revenue. Note that for the FTA Section 5311 grant program for rural transit operators, FAST Act now permits additional sources of eligible "non-federal" matching funds to include cash from non-governmental sources and advertising sales (both of which previously were not allowed as matching funds)[17].

9.2.4.3 Other Revenue Generation / Program Income

Other types of revenue generation, may include:

- The use or rental of real or personal property,
- Revenue generated when providing services to social service or other agencies, and
- From the sale of commodities or items purchased under a grant agreement (such as the sale of a revenue vehicle when it has reached the end of its useful life and is no longer needed by the transit agency).

There are no restrictions on the use of revenues generated in the situations above, except for the FTA guidances mentioned above.

[17] MBTA notes that it does not participate in on-vehicle marketing.

9.3 Consolidated Operating Expenses of the Agencies

This section reviews the operating expenses for each agency and consolidates them for the entire County. **Table 9-1** provides a detailed breakdown of total estimated annual operating costs for each agency over the period FY 2016 – FY 2020. This information is based on the operating cost estimates by operator from Chapter 6, Service Improvement Plans. As noted earlier, data for Table 9-1 for most of the agencies came from their annual operating budgets for the most recent one to two fiscal years. Projected data for out-years came from recent agency SRTP's or Comprehensive Operational Analyses, where available, or were projected with an assumed three percent annual escalation in expenses. It should be noted that VVTA's existing COA was outdated due to the merger with Barstow. A new VVTA COA is in development and will likely be approved in early 2017. SBCTA has agreed that the findings of that new COA will supersede the preliminary estimates for VVTA developed for this analysis.

Revenue projections supplied by SBCTA for this chapter provide a mix of operating and capital funding for each operator. Thus, it is not possible to provide an operating expense vs. operating revenues comparison; however, an analysis of total costs (operating and capital) and total revenues available is provided later in this chapter.

As shown in the **Table 9-1**, overall operating expenses for all the transit agencies combined are expected to increase from $128.2 million in FY 2016 to $154.8 million in FY 2020, an increase of 21 percent over this five-year period. The following discussion provides highlights from the table for each transit agency, including a brief description of the methodology used for each agency.

9.3.1 Barstow Area Transit

Effective with the FY 2016 budget, Barstow's operations were combined with VVTA's budget and issued in a revised, consolidated VVTA budget[18]. Accordingly, Barstow's expenses are included with VVTA's in **Table 9-1**.

9.3.2 Mountain Transit (MT)

MT had developed a draft new *Short-Range Transit Plan* covering the years FY 2017 – FY 2021 as this chapter was being finalized (MARTA, 2016). MT's draft SRTP also had longer-range cost projections going out to FY 2031. Therefore, MT's FY 2016 adopted budget was used for FY 2016, and the draft MT SRTP was used for the estimated operating costs for FY 2017 – FY 2020.

Based on this approach, MT's operating costs are projected to increase 71 percent from FY 2016 to FY 2020 to a total of $4,209,246. MT's SRTP details a number of service increases beginning in FY 2017 that account for a good share of the cost increase from FY 2016 to FY 2017. Please see Chapter 6 for details.

[18] Victor Valley Transit Authority Board Agenda, July 20, 2015.

9.3.3 Morongo Basin Transit Authority (MBTA)

Like Mountain Transit, MBTA recently completed an updated *Focused Short-Range Transit Plan* covering the period FY 2017 through FY 2020 as this chapter was being finalized (MBTA, 2016). Therefore, MBTA's FY 2016 adopted budget was used for FY 2016, and the MBTA *Focused Short-Range Transit Plan* was used for the estimated operating costs for FY 2017 – FY 2020.

Based on this approach, MBTA's operating costs are projected to increase 33 percent from FY 2016 to FY 2020 to a total of $3,882,456. MBTA's SRTP details a number of service increases beginning in FY 2017, including a new pilot service to Joshua Tree National Park, that account for much of the cost increase from FY 2016 to FY 2017. The National Park Service is also anticipated to contribute a portion of the operating costs for this service. Please see Chapter 6 for details.

9.3.4 Needles Transit Services

Needles Transit Services had a newly-adopted Short-Range Transit Plan covering the period FY 2015 – FY 2020, facilitating use of SRTP projections for this financial analysis through FY 2020 (Needles, 2015). Needles operating expenses are projected to increase from $360,550 in FY 2016 to $496,982 in FY 2020, an increase of 38 percent. As with MT and MBTA, Needles' SRTP details a number of service increases in the first, second, and third years of their Plan, that account for a good part of the cost increases.

9.3.5 Omnitrans

Omnitrans' Omniconnects Short-Range Transit Plan covered the period FY 2015 – FY 2020, facilitating use of SRTP projections for this financial analysis through FY 2020 (Omnitrans, 2014b).

Omnitrans operating expenses and revenues are projected to increase from $77.3 million in FY 2016 to $86.1 million in FY 2020, an increase of 11 percent. The Omnitrans RPRP – Arrow operating expense is identified in Section 9.3.8, Redlands Passenger Rail Project – Arrow Service.

Table 9-1. Consolidated Operating Expenses of the Agencies

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Operating Costs by Operator						
BAT	Included in VVTA	--	--	--	--	N/A
MT	$2,457,900	$3,578,710	$3,446,870	$3,811,863	$4,209,246	71%
MBTA	$2,915,554	$3,355,068	$3,542,982	$3,704,036	$3,882,456	33%
Needles Transit Svcs	$360,550	$413,392	$421,902	$493,114	$496,982	38%
Omnitrans Current Service (Excludes CTSA Operating Costs)	$77,310,000	$79,590,000	$81,560,000	$84,010,000	$86,090,000	11%
VVTA (includes Barstow)	$19,008,884	$21,080,234	$21,712,641	$22,364,020	$23,034,941	21%
Metrolink Commuter Rail[1,2]	$25,471,000	$27,506,000	$28,820,000	$29,734,000	$31,309,902	23%
Metrolink - RPRP-Arrow[3,5]	$0	$0	$0	$0	$1,052,932	N/A
Omnitrans - RPRP-Arrow[4,5]	$0	$400,000	$600,000	$7,000,000	$3,596,068	N/A
SBCTA Administration[6]	$712,000	$1,000,000	$1,030,000	$1,060,900	$1,092,727	53%
Total for All Operators	**$128,235,888**	**$136,923,404**	**$141,134,395**	**$152,177,933**	**$154,765,254**	**21%**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

1 = Metrolink Services within San Bernardino County

2 = For FY 2016 and FY 2017, Metrolink Commuter Rail values are from SCRRA budgets, FY 2018 and FY 2019 are SCRRA's projections from the FY 2017 SCRRA budget, FY 2020 is escalated at 5.3 percent, the average of annual budget increases from FY 2016 - FY 2019, excluding the BNSF locomotive lease costs in FY 2017, per Transit Committee comments on December 15, 2016.

3 = Metrolink RPRP dispatch, signal maintenance, and maintenance-of-way.

4 = Omnitrans RPRP for DMU operations and vehicle maintenance

5 = FY 2020 Costs for Metrolink RPRP – Arrow and Omnitrans RPRP –Arrow are reflective of 6 months of revenue service. Costs for Omnitrans RPRP – Arrow prior to FY2020 are related to start up activites, tools and spare parts.

6 = SBCTA Transit Program Administration.

For Mountain Transit: FY 2016 Operating Costs and Fare Revenues per Agency Budget; FY 2017 - FY 2020 Operating Costs, Capital Costs, and Fare Revenues from Draft FY 2016 - FY 2021 Short-Range Transit Plan.

For Other Transit Operators: FY 2016 - FY 2020 Operating Costs and Fare Reveues per Agency Budgets and/or most recent agency SRTP.

9.3.6 Victor Valley Transit Authority (including Barstow)

VVTA's most recent COA/SRTP was out of date and also did not reflect the recent merging of operations with Barstow. Accordingly, as a preliminary estimate for VVTA, **Table 9-1** utilized the adopted operating budgets for FY 2016 and FY 2017, published in the VVTA Board Agendas. The FY 2017 figures were escalated three percent per year to project out to FY 2020. Using this methodology, VVTA's operating expenses are projected to increase from $19.0 million in FY 2016 to $23.0 million in FY 2020, an increase of 21 percent. As noted earlier VVTA's new COA currently in development will supersede these estimates when completed.

9.3.7 Metrolink

As discussed in Chapter 6, Metrolink recently adopted a new Short-Range Transit Plan covering FY 2015 – FY 2020, which provides projections of potential service level increases and total costs. However, financial information on the operating cost of service within San Bernardino County was not broken out from the total five-county system costs in the Metrolink SRTP. Thus, in order to focus on SBCTA-area specific financial information, SCRRA's adopted FY 2016 and FY 2017 Operating Budgets were used for the first two years of the financial projection. The FY 2017 SCRRA Budget's projections were used for FY 2018 and FY 2019, and FY 2020 was estimated by applying an annual escalation factor of 5.3 percent, the average of budget increases from FY 2016 – FY 2019, per Transit Committee comments on December 15, 2016.

Using this methodology, San Bernardino County's share of Metrolink's total operating expenses are projected to increase from $25.5 million in FY 2016 to $31.3 million in FY 2020, an increase of 23 percent.

It should be noted that the growth in SBCTA's net operating subsidies may be higher or lower than these percentages would indicate, dependent on fare revenues and other revenue sources Metrolink is able to obtain. Table 6-13 in Chapter 6 projects SBCTA's operating subsidies will increase 35.0 percent over the five-year period from FY 2016 to FY 2020, using the same methodology as above.

Metrolink is currently analyzing using federal funds for preventative maintenance costs within their operating budget, and therefore future SBCTA operating subsidies could include federal funds.

9.3.8 Redlands Passenger Rail Project – Arrow Service

Omnitrans recently named the RPRP service as "Arrow"[19]. The approved operating structure for service delivery on the RPRP - Arrow is for SBCTA to contract with Metrolink for dispatch, maintenance of signals, and maintenance-of-way, and to have Omnitrans contract for and oversee vehicle operations and vehicle maintenance. RPRP

[19] Per SBCTA Newsletter, November, 2016. http://myemail.constantcontact.com/-SBCTAnews---November-2016b.html?soid=1115666283112&aid=yWvxPeDg29M

- Arrow transit operating expenses will start being reported in FY 2017 and will take a large jump in FY 2019 for pre-revenue service preparations, and in FY 2020 with the start of service. Table 9-1 provides the estimated split of RPRP - Arrow operating expenses between Metrolink and Omnitrans. The first full year of service, FY 2021, is estimated at $9.6 million. These estimates were provided by SBCTA staff based on a previous Operations, Maintenance, and Vehicle Selection study.

9.3.9 SBCTA Administrative Costs

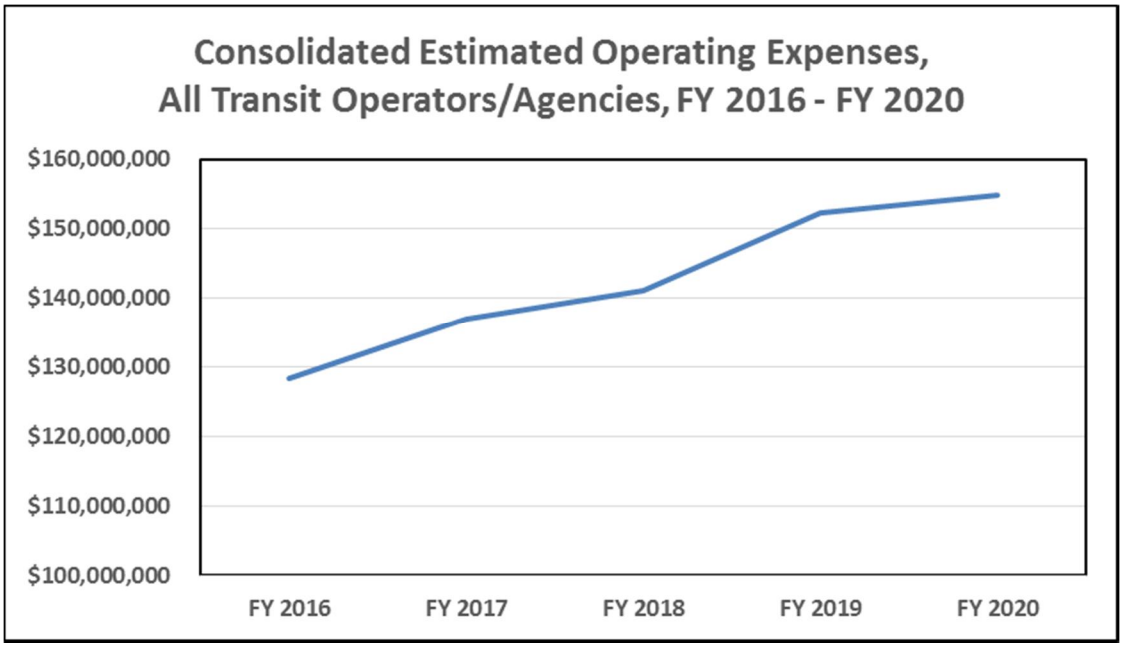
SBCTA has identified the on-going transit program administrative costs as discussed in Chapter 6, which are included as operating expenses here.

9.3.10 Consolidated Operating Expenses

Figure 9-1 graphically displays the consolidated projected expenses for all of the agencies. This chart is based directly on the total operating costs from Table 9-1.

The RPRP - Arrow is projected to make an impact on overall county-wide transit expenses and revenue needs upon implementation of service. As shown in Table 9-1 and Figure 9-1, overall county-wide transit expenses are projected to grow at a moderate rate from FY 2016 to FY 2018, from $128.2 million to $141.1 million. However, a jump occurs in FY 2019 with preparations for revenue service, and again in FY 2020 with an assumed six months of RPRP service estimated at $4.7 million in cost.

Figure 9-1. Consolidated Annual Operating Expenses, All Agencies



9.4 Consolidated Capital Expenses of the Agencies

This section reviews the projected capital project expenses for each agency and consolidates them for the entire County. **Table 9-2** provides a detailed breakdown of total estimated annual capital project costs for each agency and consolidated for all agencies over the period FY 2016 – FY 2020. Table 9-2 also provides a Grand Total of all estimated Operating and Capital costs for all agencies, each year during the FY 2016 – FY 2020 time frame.

Unlike the operating expense section, the study team needed to rely primarily on the most recent transit agency SRTP/COA to compile the information in this section, as discussed in detail in Chapter 8. This is because annual operating budgets adopted by the agencies typically have only the current year's capital projects listed. Also, capital project expenses can be highly variable from year to year based on vehicle replacement cycles, facility projects, or other needs, whereas on-going operating expenses are typically more stable from year to year and tend to increase at the rate of inflation unless major service initiatives are undertaken.

Accordingly, the agency SRTPs/COAs were used in most cases. While actual capital expenditures by the transit agencies will no doubt vary from these estimates each year, this approach should provide a generalized projection of the overall capital expenditure needs of the agencies over the FY 2016 through FY 2020 period previously reviewed for operating expenditures.

Three exceptions to this approach were necessary, for VVTA, Metrolink, and SBCTA. VVTA's most recent SRTP/COA was dated and did not cover the Barstow Area Transit consolidation. Thus, for VVTA, the FY 2016 and FY 2017 adopted Operating/Capital budgets were used to identify capital projects in those years. VVTA also provided estimated fleet replacement schedules covering a five-year period which were utilized for these preliminary estimates. For non-fleet capital projects, an average of capital project costs in the two budgeted years was used as a starting point, and a three percent escalation factor was applied to out-years. These estimates will be superseded by VVTA's new COA when available.

For Metrolink, it was assumed that the only capital projects occurring within San Bernardino County were those funded by SBCTA's agency contribution to the Capital – Rehab and Capital – New project categories, or being directly conducted by SBCTA. The Capital – Rehab and Capital - New categories are shown under Metrolink. Specific capital projects which are programmed by SBCTA to improve the railroad right-of-way, such as double-track projects and grade crossing improvements, are shown under SBCTA.

For SBCTA, all capital project information came from the Capital Project Worksheets completed by agency project managers and reviewed/updated by agency staff.

Table 9-2. Consolidated Capital Expenses of the Agencies

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Capital Project Costs by Operator						
BAT	Included in VVTA	-	-	-	-	
MT						
Vehicle Procurements	$1,900,931	$506,453	$575,511	$523,648	$802,258	-58%
Equipment	$108,629	$277,770	$79,304	$92,257	$82,737	-24%
Transit Enhancements	$0	$302,586	$30,250	$217,513	$28,113	N/A
Minor Facilities	$5,093	$25,000	$30,000	$35,000	$40,000	685%
Major Facilities	$0	$350,000	$425,000	$1,547,314	$3,500,000	N/A
MT Sub-Total	**$2,014,653**	**$1,461,809**	**$1,140,065**	**$2,415,732**	**$4,453,108**	**121%**
MBTA						
Replacement Vehicles	$771,086	$1,025,275	$859,175	$0	$1,294,008	68%
Engine Overhauls	$25,000	$25,000	$25,000	$25,000	$25,000	0%
Other	$127,904	$129,535	$73,625	$205,198	$126,865	-1%
MBTA Sub-Total	**$923,990**	**$1,179,810**	**$957,800**	**$230,198**	**$1,445,873**	**56%**
Needles Transit Svcs						
Vehicle Procurements	$169,014	$130,000	$150,000	$0	$0	N/A
Bus Stops and Shelters	$0	$55,214	$57,554	$47,601	$0	N/A
Needles Sub-Total	**$169,014**	**$185,214**	**$207,554**	**$47,601**	**$0**	**N/A**
Omnitrans						
Revenue Vehicles	$11,020,000	$11,220,000	$11,520,000	$11,700,000	$11,900,000	8%
Support Vehicles	$630,000	$630,000	$630,000	$750,000	$750,000	19%
IT Projects	$2,400,000	$2,400,000	$2,400,000	$2,500,000	$2,500,000	4%
Facilities	$1,630,000	$1,630,000	$1,630,000	$1,730,000	$1,730,000	6%
Transit Enhancements	$250,000	$250,000	$250,000	$250,000	$250,000	0%
Omnitrans Sub-Total	**$15,930,000**	**$16,130,000**	**$16,430,000**	**$16,930,000**	**$17,130,000**	**8%**

Table 9-2. Consolidated Capital Expenses of the Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Capital Project Costs by Operator						
VVTA						
Revenue Vehicle Replacements	$2,400,000	$7,315,000	$5,520,000	$3,380,000	$4,035,000	68%
Support Vehicles	$0	$77,076	$105,000			N/A
Heavy Veh Maint/Components	$0	$1,370,809	$705,967	$727,146	$748,960	N/A
Intelligent Transp. Systems	$500,000	$1,406,236	$981,712	$1,011,163	$1,041,498	108%
Facilities/Improvements	$2,500,000	$8,907,105	$3,299,659	$3,398,649	$3,500,608	40%
Studies	$300,000	$0	$154,500	$159,135	$163,909	-45%
Shelters and Bus Stop Impr.	$200,000	$202,930	$207,509	$213,734	$220,146	10%
Security	$250,000	$164,061	$213,241	$219,639	$226,228	-10%
Other	$0	$510,000	$262,650	$270,530	$278,645	N/A
VVTA Sub-Total	**$6,150,000**	**$19,953,217**	**$11,450,238**	**$9,379,995**	**$10,214,995**	**66%**
Metrolink						
Mtlnk Capital Subsidy-Rehab	$4,579,000	$2,664,000	$8,650,000	$8,000,000	$8,000,000	N/A
Mtlnk Capital Subsidy	$4,809,000	$860,000	TBD	TBD	TBD	N/A
Metrolink Sub-Total	$9,388,000	$3,524,000	$8,650,000	$8,000,000	$8,000,000	**-15%**
RPRP - Arrow						
Capital costs for RPRP-Arrow are included under SBCTA						

Table 9-2. Consolidated Capital Expenses of the Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
SBCTA						
Security Study	$155,000	$95,000				N/A
sbX Project Completion		$1,040,000				N/A
San Bernardino Transit Ctr	$3,673,000	$1,365,000				N/A
DSBPRP	$30,986,000	$34,128,000	$885,000			N/A
RPRP Maint. Facility	$700,000	$228,000	$3,884,000	$3,884,000	$1,113,000	N/A
Redlands Pass. Rail Proj.	$11,300,000	$16,878,000	$29,929,000	$82,365,000	$71,041,000	N/A
Rialto Mtlnk Pkg Lot Exp	$166,000	$4,973,000	$390,000			N/A
Metro Gold Line Foothill Ext		$2,462,000	$12,540,000	$40,776,000	$1,500,000	N/A
Shortway Quiet Zone	$500,000	$3,500,000				N/A
Lilac Rancho Dbl Track	$550,000	$1,717,000	$4,500,000	$19,500,000	$19,400,000	N/A
Rcho Cuc Mtlnk Station TOD	$15,000	$41,000				N/A
Sierra Grade Crossing	$221,000	$1,172,000	$42,000			N/A
Juniper Grade Crossing	$227,000	$1,541,000	$76,000			N/A
SBCTA Sub-Total	**$48,493,000**	**$69,140,000**	**$52,246,000**	**$146,525,000**	**$93,054,000**	**92%**
Total Capital Cost - All Operators	**$83,068,657**	**$111,574,050**	**$91,081,657**	**$183,528,526**	**$134,297,976**	**62%**
GRAND TOTAL OPERATING AND CAPITAL COSTS, ALL OPERATORS/ AGENCIES	**$211,304,545**	**$248,497,454**	**$232,216,051**	**$335,706,459**	**$289,063,230**	37%

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

For Mountain Transit: FY 2016 Operating Costs and Fare Revenues per Agency Budget; FY 2017 - FY 2020 Operating Costs, Capital Costs, and Fare Revenues from Draft FY 2016 - FY 2021 Short-Range Transit Plan.

For Transit Operators (except Mountain Transit): FY 2016 - FY 2020 Capital Project Programs per agency budgets, SRTPs, and/or agency-provided information; See Chapter 8 for details.

For SBCTA FY2016 - FY 2020 Capital Project Program per Capital Project Worksheets completed by agency project managers, as updated by SBCTA staff in October and November, 2016.

As shown in Table 9-2, overall capital expenses for all the transit agencies combined are expected to average roughly $120 million per year between FY 2016 and FY 2020, with some years running as high as $184 million. A variety of capital projects begin and end during this time period but average out to a relatively stable overall annual capital investment. Key projects contributing to this total include the Redlands Passenger Rail Project, revenue vehicle replacements by Omnitrans, railroad rehabilitation projects and rolling stock funding to Metrolink, and other San Gabriel Subdivision capital project improvements.

The following discussion provides brief highlights from the table for each transit agency, including a description of the methodology used for each agency.

9.4.1 Barstow Area Transit

As with the operating expenses, Barstow capital expenses are now included with VVTA.

9.4.2 Mountain Transit

MTs FY 2016 Budget and draft new SRTP were the sources for the capital project information for FY 2016 – FY2020. Unlike the other operators, MT anticipates some significant capital costs for major new facilities in the FY 2016 – FY 2021 period, which will not be repeated in future years. Thus, rather than try to provide percentage-growth based estimates for the out-years, the MT SRTP was used for the entire planning period of this financial analysis. Aside from the facilities, vehicle procurements are the primary capital cost for the agency.

9.4.3 Morongo Basin Transit Authority

As discussed in Chapter 8, MBTA adopted an updated SRTP in 2016, titled, Morongo Basin Focused Short Range Transit Plan (MBTA, 2016), covering FY 2017 – FY 2021. This new SRTP identifies four categories of capital costs for the agency: 1) Vehicle Procurements; 2) Equipment and Security; 3) Passenger Amenities; and 4) Mobility Management. This SRTP, and MBTA's adopted budget for FY 2016, were the sources for the capital project information for FY 2016 – FY 2020.

9.4.4 Needles Transit Services

Needles Transit Services' capital program came from their SRTP covering FY 2015 – FY 2020, as discussed in Chapter 8. Vehicle procurements are the primary capital projects for this system.

9.4.5 Omnitrans

Omnitrans' capital program information came from *OmniConnects*, the agency's FY 2015 – FY 2020 SRTP. Vehicle procurements are the largest capital project category for the agency, with IT Projects and Facility projects coming in second and third in capital funding.

As discussed in Chapter 6, Omnitrans is currently conducting environmental review, engineering, and right-of-way engineering for a new BRT service known as the West

Valley Connector. The preliminary route alignment would run from downtown Pomona to Fontana, utilizing portions of two of Omnitrans' highest ridership routes, Routes 61 and 66. As the environmental and engineering efforts are underway at this time, no capital budgeting for this BRT project is included in the Omnitrans CIP project listings in Table 9-2. An interim "Rapid Bus" version of the project, using standard transit coaches in mixed-flow operation, and with enhanced stations, may be implemented initially.

9.4.6 Victor Valley Transit Authority (including Barstow)

VVTA's major capital expenses include vehicle replacement and expansion, construction of a new Barstow maintenance facility, and relocation and construction of three to four transfer locations to remediate geographic obstacles to meet on-time performance and transfers for the VVTA pulsed system. As indicated above, VVTA's most recent SRTP/COA was outdated and did not cover the Barstow Area Transit consolidation. Thus, for VVTA, the FY 2016 and FY 2017 adopted Operating/Capital budgets were used to identify capital projects in those years. VVTA provided estimated fleet replacement schedules covering FY 2016 – FY 2020 which were utilized for those years. For non-fleet capital projects, an average of capital project costs in the two budgeted years was used as a starting point, and a three percent escalation factor was applied for FY 2018 – FY 2020. The one exception was the Facilities/Improvements capital project which had a large one-time line item of $5,000,000 for a new BAT operating facility in FY 2017. That $5,000,000 amount was deducted in calculating the projection amounts for FY 2018 – FY 2020. As noted above, the preliminary estimates developed for this analysis will be superseded by VVTA's new COA when available.

9.4.7 Metrolink

For Metrolink, the Metrolink Capital Subsidy – Rehab, and Metrolink Capital Subsidy – New, are shown under Metrolink and constitute SBCTA's funding for these two project categories. On-going subsidies for Metrolink's capital-rehab program are budgeted at $8 million per year for most years. Metrolink subsidies for capital-new projects were only listed for FY 2016 and FY 2017 but could occur in future years as future Metrolink new capital projects become defined. Other capital projects occurring within San Bernardino County and benefiting the Metrolink San Bernardino Line infrastructure, such as double-tracking and grade-crossing improvements, are shown under SBCTA.

9.4.8 SBCTA

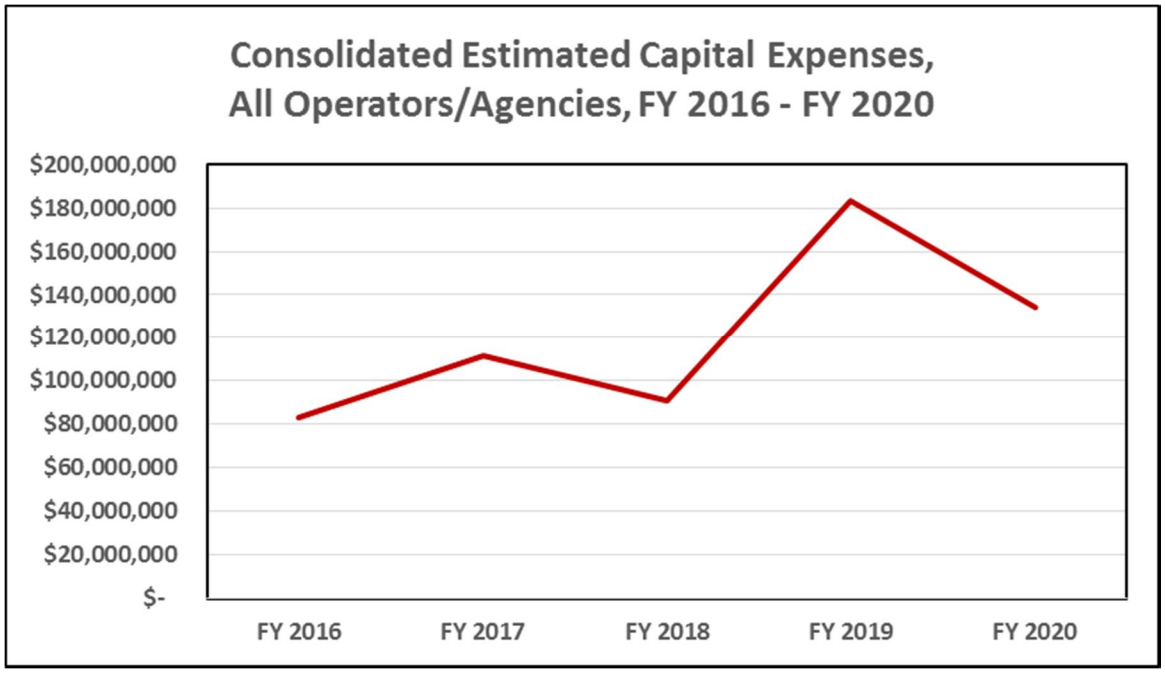
SBCTA's capital program information comes from the Capital Project Worksheets prepared by agency project managers and updated by agency staff, covering the entire FY 2016 – FY 2020 period. The SBCTA capital program is extensive and includes the Redlands Passenger Rail Project, several Metrolink-related right-of-way projects, and capital funding supporting the completion of sbX and San Bernardino Transit Center projects.

9.4.9 Consolidated Capital Expenses

Figure 9-2 graphically displays the consolidated capital expenses for all of the agencies. This chart is based directly on the total capital costs from Table 9-2.

The Redlands Passenger Rail Project has a significant impact on the overall regional capital program, with a total estimated capital cost (including a new maintenance facility) of $285.5 million, most of which is projected to occur from FY 2016 – FY 2020. Once that project is completed, overall regional capital expenditures (as foreseen at this time) drop significantly, though on-going operating costs for RPRP will pick up from that point. In addition, the estimated West Valley Connector capital costs are expected to be identified in the near future and will be reflected in the 2018 update to the SBCTA SRTP.

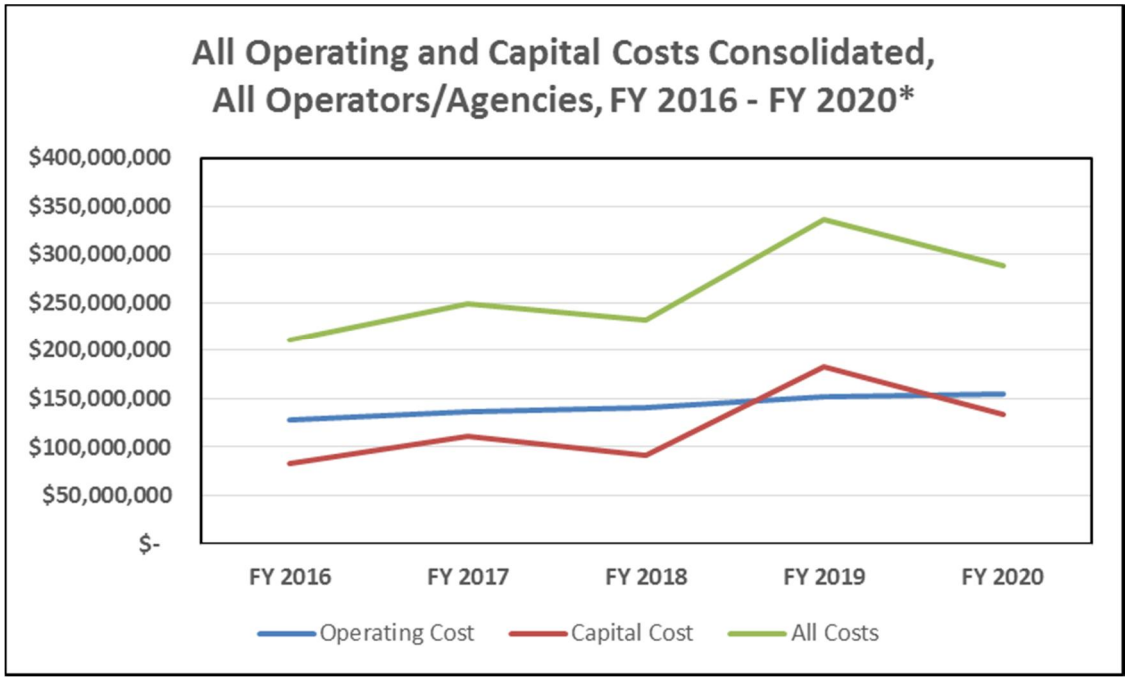
Figure 9-2. Consolidated Annual Capital Expenses, All Agencies



9.4.10 Consolidated Total Operating and Capital Expenses

In order to provide an overview of the region's total transit expenses over the five-year period, the consolidated operating expenses and capital expenses for all agencies combined were graphed together in Figure 9-3. As shown in the chart, the steady rise in transit operating costs over this period is somewhat compensated by the drop in transit capital expenses after FY 2020, resulting in a more stable future total transit expenditure program.

Figure 9-3. Consolidated Total Annual Operating and Capital Expenses, All Agencies



*Metrolink Operating Costs in FY 2020 updated to reflect Transit Committee Comments

9.5 Transit Operator Revenues and Cost-Revenue Convergence Curves

9.5.1 Operating and Capital Revenues by Operator

The previous discussion has focused on operating and capital costs for the transit operators and agencies over a five-year period. The other half of the financial analysis picture is the outlook for transit revenues.

Table 9-3 provides transit revenue projections over the five-year period. In order to provide a uniform source for transit funding projections, SBCTA's Fund Administration and Programming Department provided a detailed set of funding projections covering the transit operators for FY 2017 – FY 2020. The one key funding source not included in those projections was transit agency fare revenues, which were estimated based on agency budgets and/or SRTP's for FY 2016 – FY 2020 (per Chapter 6).

For Metrolink, FY 2016 and FY 2017 fare and non-fare (e.g., MOW and Dispatch) operating revenues came from SCRRA's adopted annual budgets. FY 2018 and FY 2019 fare and non-fare operating revenues were projections from the FY 2017 SCRRA Budget. FY 2020 fare and non-fare operating revenues were estimated by escalating FY 2019's figures three percent. On SBCTA operating subsidies to Metrolink Commuter Rail, FY 2016 and FY 2017 SBCTA operating subsidies were from SCRRA budgets, FY 2018, FY 2019, and FY 2020 operating subsidies were escalated at 3 percent per year. Funding for Metrolink Capital - Rehab and Metrolink Capital – New came from capital project worksheets provided by SBCTA.

For SBCTA, all revenues came from the funding source information on the Capital Project worksheets, and from similar Operations and Maintenance cost worksheets prepared for RPRP.

SBCTA's revenue projection information mixed the available operating and capital funding sources, and for some sources, the data indicated use for either purpose. Based on the format of the information provided, and given the flexibility of several of the funding sources to be used for operating or capital projects (such as LTF and FTA Section 5307 via preventative maintenance), the revenue projection information has not been separated for operating or capital purposes.

Table 9-3. Consolidated Projected Operating and Capital Revenues of the Transit Agencies

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Operating and Capital Revenues by Operator						
BAT						
Fare Revenue and Costs	In VVTA Totals	In VVTA Totals	In VVTA Totals	In VVTA Totals	In VVTA Totals	
BAT Sub-Total	**$0**	**$0**	**$0**	**$0**	**$0**	
MT						
CMAQ	$560,000	$665,547	$560,000	$560,000	$560,000	0%
FTA 5307		$0	$0	$0	$0	-
FTA 5311	$509,441	$214,235	$287,333	$287,333	$287,333	-44%
LTF - Big Bear Lake	$227,094	$244,805	$225,777	$233,230	$240,929	6%
LTF - SB County Mountains	$1,997,372	$2,153,794	$1,986,841	$2,052,420	$2,120,179	6%
LTF - Valley	$220,103	$226,706	$233,450	$240,453	$247,667	13%
Measure I	$118,236	$180,374	$106,307	$110,138	$114,107	-3%
PTMISEA	$1,680,289	$3,287	$1,532,388	$0	$0	-100%
STA Op		$14,338	$14,338	$14,338	$14,338	-
STA Pop	$168,897	$110,000	$0	$0	$0	-100%
Other	$5,851					-100%
Fares	$316,458	$358,731	$475,792	$576,388	$663,728	110%
MARTA Sub-Total[10]	**$5,803,741**	**$4,171,818**	**$5,422,226**	**$4,074,300**	**$4,248,280**	**-27%**
MBTA[13]						
CMAQ	$565,577	$855,961	$760,628	$0	$140,360	-75%
FTA 5307		$0	$0	$0	$0	-
FTA 5311	$302,531	$288,271	$415,044	$415,044	$415,044	37%
FTA 5339		$0	$0	$0	$0	-
LTF - SB County Morongo Basin	$1,763,024	$1,190,781	$1,098,476	$1,134,733	$1,172,195	-34%
LTF - Twentynine Palms		$1,226,744	$1,131,652	$1,169,004	$1,207,597	-
LTF - Yucca Valley		$1,013,962	$935,364	$966,237	$998,136	-
Measure I	$98,600	$128,698	$120,327	$125,204	$130,279	32%
Prop 1B Security	$156,098	$4,888	$0	$0	$0	-100%
STA Op		$25,342	$20,715	$20,715	$20,715	-
STA Pop	$226,181	$267,634	$0	$0	$0	-100%
Other	$350,304					-100%
Fares	$401,095	$402,398	$416,934	$459,620	$465,882	16%
MBTA Sub-Total	**$3,863,410**	**$5,404,679**	**$4,899,140**	**$4,290,557**	**$4,550,208**	**18%**

Table 9-3. Consolidated Projected Operating and Capital Revenues of the Transit Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Operating and Capital Revenues by Operator						
Needles Transit Svcs						
FTA 5307		$0	$0	$0	$0	-
FTA 5311	$30,902	$31,157	$42,395	$42,395	$42,395	37%
LTF - Needles	$217,648	$234,760	$216,562	$229,556	$243,329	12%
Measure I	$20,887	$22,761	$12,674	$13,435	$14,241	-32%
STA Op	$45,413	$1,763	$1,763	$1,763	$1,763	-96%
STA Pop (Mtn/Desert)		$363,359	$341,444	$241,273	$191,535	-
STA Pop (Valley)	$169,014	$0	$0	$0	$0	-100%
Other	$9,000	$9,000	$9,000	$9,000	$9,000	0%
Fares	$36,700	$38,396	$40,500	$46,100	$46,100	26%
Needles Sub-Total	**$529,564**	**$701,196**	**$664,338**	**$583,522**	**$548,363**	**4%**
Omnitrans[7]						
CMAQ[8]	$19,522,000	$0	$0	$3,347,026	$7,622,976	-61%
FTA 5307	$16,940,000	$16,941,200	$16,941,200	$16,941,200	$16,941,200	0%
FTA 5339	$1,760,000	$1,848,880	$1,848,880	$1,848,880	$1,848,880	5%
LTF - SB Valley	$38,560,000	$39,974,380	$41,173,611	$42,408,820	$43,681,084	13%
Measure I - S&D	$5,600,000	$5,800,000	$6,100,000	$6,400,000	$6,700,000	20%
Measure I - CTSA		$2,466,308	$2,685,332	$2,772,614	$2,862,728	-
Prop 1B Security	$130,000	$128,566	$0	$0	$0	-100%
PTMISEA	$4,220,000	$0	$0	$0	$0	-100%
STA Op	$900,000	$568,452	$568,452	$568,452	$568,452	-37%
STA Pop	$3,100,000	$3,100,000	$3,100,000	$3,100,000	$3,100,000	0%
Other	$700,000					-100%
Fares	$17,841,000	$18,774,000	$19,249,000	$20,174,000	$20,675,000	16%
Omnitrans Sub-Total[11,12]	**$109,273,000**	**$89,601,786**	**$91,666,475**	**$97,560,992**	**$104,000,320**	**-5%**

Table 9-3. Consolidated Projected Operating and Capital Revenues of the Transit Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
Actual and Projected Operating and Capital Revenues by Operator						
VVTA						
CMAQ	$58,909	$2,434,575	$2,713,067	$3,378,000	$2,071,773	3417%
FTA 5307	$4,650,661	$6,161,019	$3,500,245	$3,500,245	$3,500,245	-25%
FTA 5310	$323,124					-100%
FTA 5311	$453,966	$463,178	$622,800	$622,800	$622,800	37%
FTA 5316/5317	$79,645					-100%
FTA 5339	$367,411	$630,956	$367,411	$367,411	$367,411	0%
LTF - Adelanto		$1,570,392	$1,448,662	$1,496,477	$1,545,882	-
LTF - Apple Valley		$3,389,529	$3,126,787	$3,229,992	$3,336,626	-
LTF - Barstow		$1,110,862	$1,024,753	$1,058,577	$1,093,524	-
LTF - Hesperia		$4,375,519	$4,036,348	$4,169,574	$4,307,227	-
LTF - SB County Col River, N Desert, Vic Vlly	$11,256,236	$5,082,672	$4,663,917	$4,817,857	$4,976,913	-56%
LTF - Victorville		$5,752,110	$5,306,231	$5,481,371	$5,662,332	-
Measure I	$1,549,772	$2,445,431	$1,317,480	$1,363,140	$1,410,384	-9%
Prop 1B Security	$1,547,692	$18,692	$0	$0	$0	-100%
PTMISEA		$3,440,503	$0	$0	$0	-
STA Op	$24,960	$137,385	$137,385	$137,385	$137,385	450%
Other	$1,289,774					-100%
STA Pop	$875,796	$400,000	$0	$0	$0	-100%
Fares	$3,166,800	$3,538,000	$3,644,140	$3,753,464	$3,866,068	22%
VVTA Sub-Total	**$25,644,746**	**$40,950,823**	**$31,909,225**	**$33,376,292**	**$32,898,571**	**28%**
Metrolink						
Federal	$8,303,000	$2,664,000	$8,650,000	$8,000,000	$8,000,000	-4%
State	$0	$0	$0	$0	$0	-
State Transit Assistance (STA)	$785,000	$187,000	$0	$0	$0	-100%
Local Transportation Fund (LTF)	$0	$0	$0	$0	$0	-
SBCTA Measure I	$300,000	$673,000	$0	$0	$0	-100%
Other Capital Funding	$0	$0	$0	$0	$0	-
Fare Revenue	$11,312,000	$11,019,000	$11,602,000	$11,817,000	$12,171,510	8%
Non-Fare and MOW Revenues	$1,312,000	$1,646,000	$1,695,380	$1,746,241	$1,798,380	37%
Agency Operating Subsidies	$12,848,000	$14,841,000	$15,286,230	$15,744,817	$16,217,161	26%
Metrolink Sub-Total	**$34,860,000**	**$31,030,000**	**$37,233,610**	**$37,308,058**	**$38,187,051**	**10%**

Table 9-3. Consolidated Projected Operating and Capital Revenues of the Transit Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
SBCTA						
Capital Revenues:						
Federal	$12,981,000	$15,028,000	$315,000	$28,623,000	$28,623,000	120%
State	$7,676,000	$9,357,000	$7,210,000	$9,210,000	$8,710,000	13%
State Transit Assistance (STA)	$478,000	$4,265,000	$2,280,000	$11,702,000	$9,426,000	1872%
Local Transportation Fund (LTF)	$10,593,000	$18,025,000	$960,000	$1,500,000	$0	-100%
LTF - Planning	$712,000	$1,000,000	$1,030,000	$1,060,900	$1,092,727	53%
SBCTA Measure I	$12,305,000	$19,769,000	$36,349,000	$37,143,000	$18,048,000	47%
Other	$4,460,000	$2,696,000	$632,000	$8,847,000	$8,847,000	98%
SBCTA Capital Subtotal	**$49,205,000**	**$70,140,000**	**$48,776,000**	**$98,085,900**	**$74,746,727**	**52%**
RPRP-Arrow Operating Revenues[5]						
Operating Revenues:						
Measure I		$400,000	$600,000	$7,000,000	$2,147,318	-
LTF (1040)		$0	$0	$0	$976,682	-
Fares - Redlands Passenger Rail Project	-	$0	$0	$0	$1,525,000	-
RPRP -Arrow Operating Sub-Total	**$0**	**$400,000**	**$600,000**	**$7,000,000**	**$4,649,000**	-
GRAND TOTAL CAPITAL AND OPERATING REVENUES, ALL OPERATORS/AGENCIES	**$229,179,461**	**$242,400,302**	**$221,171,015**	**$282,279,621**	**$263,828,522**	**15%**

Table 9-3. Consolidated Projected Operating and Capital Revenues of the Transit Agencies (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	% Change FY2016 - FY2020
GRAND TOTAL CAPITAL AND OPERATING REVENUES, ALL OPERATORS/AGENCIES	**$229,179,461**	**$242,400,302**	**$221,171,015**	**$282,279,621**	**$263,828,522**	**15%**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

5 = FY 2020 Costs for Metrolink RPRP – Arrow and Omnitrans RPRP –Arrow are reflective of 6 months of revenue service. Costs for Omnitrans RPRP – Arrow prior to FY2020 are related to start up activites, tools and spare parts.

7 = Omnitrans' costs and revenues do not reflect a recent comparison. The costs are based on a 2014 SRTP, and the revenues are only funds that are allocated through SBCTA and do not reflect other revenue sources and annual budget carryovers recognized by Omnitrans.

8 - Omnitrans' CMAQ revenue included in FY 2016 represents funds for bus replacements through FY18, and partially FY19. Revenue is shown in the year allocated by SANBAG, and doesn't match the Omnitrans' budget year for the expenditures.

10 = MT's 27% drop in revenues between FY 2016 - FY 2020 is caused by a large fleet replacement program budgeted in FY 2016, distorting the percentage.

11 = Omnitrans' 5% drop in revenues between FY 2016 - FY 2020 is caused by large advance CMAQ funding for three years of bus replacements, allocated in FY 2016, distorting the percentage.

12 = West Valley Connector estimated capital and operating costs and corresponding revenue needs are anticipated from current studies and will be added as part of the 2018 update to the SBCTA SRTP.

13 = MBTA revenues also includes PTMISEA in the amount of $2,253,081 which was not reflected in this table. CMAQ funding has been revised to reflect the PTMISEA funding. Please refer to MBTA SRTP August 2016 for actuals.

For Mountain Transit: FY 2016 Operating Costs and Fare Revenues per Agency Budget; FY 2017 - FY 2020 Operating Costs, Capital Costs, and Fare Revenues from Draft FY 2016 - FY 2021 Short-Range Transit Plan.

For Other Transit Operators: FY 2016 - FY 2020 Operating Costs and Fare Reveues per Agency Budgets and/or most recent agency SRTP.

For Metrolink Commuter Rail: For FY 2016 and FY 2017, SBCTA operating subsidies for Metrolink Commuter Rail are from SCRRA budgets, FY 2018, FY 2019, and FY 2020 operating subsidies are escalated at 3 percent per year.

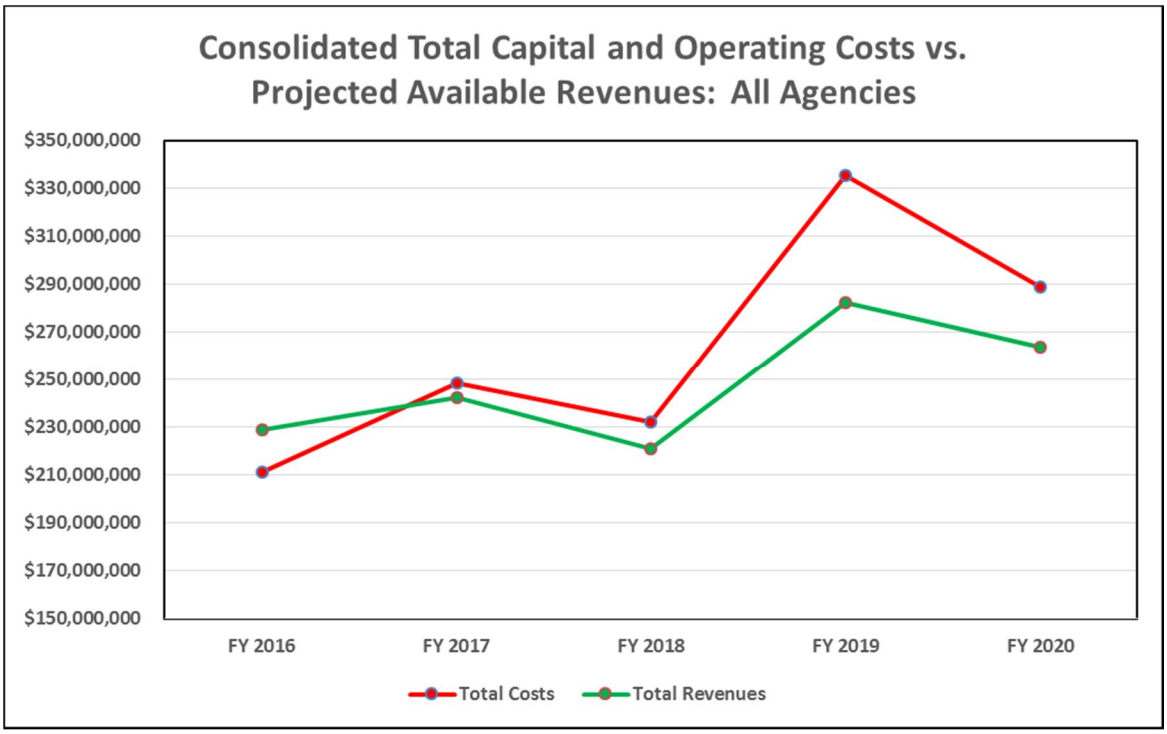
For All Transit Operators: FY 2016 Non-fare operating and capital revenue estimates from agency budgets or SRTPs; FY 2017 - FY 2020 Non-fare operating and capital revenue estimates provided by SANBAG Fund Administration and Programming Department

For SBCTA FY2016 - FY 2020 Capital Project Program per Capital Project Worksheets completed by agency project managers, as updated by SBCTA staff in October and November, 2016.

9.5.2 Revenue vs. Cost Convergence Curves

In order to determine whether SBCTA's projected revenue streams will be sufficient to cover projected transit operating and capital costs through FY 2020, two analyses were conducted. First, on a region-wide basis, Figure 9-4 provides a "convergence curve" comparison of total revenues vs. total expenses for the entire region, through FY 2020. The scale for this graph has been enlarged by starting the scale at $150 million instead of $0, to emphasize the delta between projected available revenues and projected costs.

Figure 9-4. Consolidated Total Operating and Capital Expenses vs. Total Projected Available Revenues, All Agencies



As shown in Figure 9-4, taking a high-level view, there is a reasonably close correlation between overall transit revenues and overall transit costs from FY2016 through FY 2018, given the magnitude of total regional transit expenditures. Revenues actually start ahead of total costs in FY 2016, but a small revenue gap develops starting in FY 2017 and increases considerably in FY 2019 before decreasing somewhat in FY 2020. Revenues ranged from 8.5 percent above projected costs in FY 2016 to 15.9 percent below projected costs in FY 2019.

There are three primary drivers of the revenue gap. First, In FY 2016, SBCTA allocated $19.5 million in CMAQ funds to Omnitrans for three years' worth of bus procurements, taking place in FY 2017 – FY 2019. This results in a surplus for Omnitrans in FY 2016 and deficiencies in FY 2017 – FY 2019. If Omnitrans'

revenue surpluses and deficiencies are summed for the entire five year period, there is an overall slight Omnitrans surplus.

The second primary cause is SBCTA's Lilac to Rancho Double Track Project, which lacks $43.4 million in "Undefined Funds" based on the capital project worksheet, from FY 2018 to FY 2020.

The third cause is SBCTA's participation in the Metro Gold Line Foothill Extension. Due to the recent failure to win a Transit and Intercity Rail Program (TIRCP) Caltrans discretionary grant (discussed in Chapter 8), the Gold Line Extension project has a $30 million funding gap in FY 2019. This gap, and the Lilac-Rancho funding gap, account for $73.4 million of the total $77.9 million cumulative funding gap for the entire five-year period.

The region-wide projected funding deficiency should be kept in perspective. The region as a whole has an estimated capital and operating program cost totaling $1.317 billion over the five year period, vs. $1.239 billion in projected revenues for this same period. This amounts to an overall 5.9 percent funding gap over the five year period. This amount, while a concern, can likely be addressed through adjustments in the programming or expenditures of operating or capital programs over time, or through assumed new revenue sources. Examples of these adjustments might include: 1) Assuming a higher rate of growth in LTF and Measure I funds based on recent trends (as discussed further in Chapter 10); 2) Assuming use of funding sources not included in SBCTA's revenue projections, such as LCTOP or other discretionary grant programs; and 3) Phasing large capital projects over a longer time frame to access additional funds.

9.5.3 Surplus/Deficiency Analysis by Operator

The second analysis performed to evaluate the sufficiency of overall transit revenues to cover overall transit expenses is a surplus/deficiency analysis by transit operator. Table 9-4 provides this analysis, and is based directly on the previous tables on total transit costs and total transit revenues.

The top set of rows in Table 9-4 display the overall estimated surplus or deficiency in transit funding for all agencies combined, and reflects the trends discussed previously for Figure 9-4.

The next sets of rows provide the estimated surplus or deficiency status in funding for each transit operator/agency. Most of the agencies showed a projected deficiency in one or more years of the five-year period, some of which are cancelled out through carryovers from surplus years. This analysis is not meant to indicate these agencies are currently operating at a deficit; rather, it simply indicates that based on the projected future operating and capital costs (using the projection methods described in this chapter), and SBCTA's projected future revenue streams, adjustments in future costs or revenues may be needed in order for the agencies to have future balanced financial plans. Also, in some cases, the agencies have

assumed special funding not included in SBCTA's projections. Some agency-specific considerations include the following:

Mountain Transit: Some major one-time costs will be incurred to plan, design, and procure their needed new operating facilities. The revenue deficiencies shown for MT are likely a reflection of the additional funding the agency will need for those major projects. In addition, MT is planning service expansions in FY 2017 through FY 2020 that may need more funding than currently projected by SBCTA.

MBTA: MBTA's projected deficiency in FY 2020 coincides with anticipated service increases and additional bus procurements for the Joshua Tree National Park (JTNP) service, which will require special funding for additional JTNP bus procurements which may not be reflected in SBCTA's revenue projections. For example, MBTA's SRTP anticipates $1,293,708 in additional PTMISEA funding in FY 2020 which is not shown in SBCTA's revenue projections (MBTA, 2016). Likewise, MBTA anticipates special operations funding from the National Park Service for the pilot project service beginning in FY 2017 which is not identified in SBCTA's revenue projections.

Omnitrans: As explained previously, Omnitrans' projected deficiencies in FY 2017 – FY 2019 are more than covered by SBCTA's programming of CMAQ funding in FY 2016 to cover several years of anticipated bus procurements, resulting in an overall surplus when the five years are taken together.

VVTA: VVTA's operating cost projections were based on just two years of currently-adopted budgets which were then projected out to FY 2020, due to the existing SRTP being out-of-date and their new SRTP still being under development. Even with this approach, VVTA's overall financial plan is balanced for the first five years when the surpluses and deficiencies for FY 2016 to FY 2020 are combined. The preliminary estimates used for VVTA will be superseded by their new COA when available.

Metrolink: Metrolink was projected to have a deficiency averaging $595,000 per year from FY 2018 – FY 2020. This is a 0.6 percent to 2.9 percent funding shortfall in Metrolink's SBCTA-area related expenses of $37.5 million to $39.3 million per year over the last three years of the five-year period. It reflects SCRRA's projected operating cost increases vs. an allowance of 3.0 percent annual operating subsidy escalation in FY 2018 – FY 2020 in the assumptions used for this SRTP.

SBCTA: SBCTA's projected deficiencies are due to the "undefined funds" portions of the Lilac – Rancho Double Track Project and the Metro Gold Line Foothill Extension project, which have unfunded balances of $43.4 million and $30 million, respectively, between FY 2016 and FY 2020.

Table 9-4. Surplus/Deficiency Analysis of Transit Operator Revenue Sources vs. Transit Operator Costs

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
Total Costs - All Operators	$211,304,545	$248,497,454	$232,216,051	$335,706,459	$289,063,230	**$1,316,787,739**
Total Revenue - All Operators	$229,179,461	$242,400,302	$221,171,015	$282,279,621	$263,828,522	**$1,238,858,921**
Surplus/Deficit	$17,874,916	($6,097,152)	($11,045,036)	($53,426,837)	($25,234,708)	**($77,928,818)**
Percent Difference	8.5%	-2.5%	-4.8%	-15.9%	-8.7%	**-5.9%**
Agency Summaries:						
MT Costs	$4,472,553	$5,040,519	$4,586,935	$6,227,595	$8,662,354	**$28,989,955**
MT Revenues	$5,803,741	$4,171,818	$5,422,226	$4,074,300	$4,248,280	**$23,720,366**
Surplus/Deficit[14]	$1,331,188	($868,702)	$835,292	($2,153,294)	($4,414,073)	**($5,269,589)**
MBTA Cost	$3,839,544	$4,534,878	$4,500,782	$3,934,234	$5,328,329	**$22,137,767**
MBTA Revenues	$3,863,410	$5,404,679	$4,899,140	$4,290,557	$4,550,208	**$23,007,994**
Surplus/Deficit	$23,866	$869,801	$398,358	$356,323	($778,121)	**$870,227**
Needles Cost	$529,564	$598,606	$629,456	$540,715	$496,982	**$2,795,323**
Needles Revenues	$529,564	$701,196	$664,338	$583,522	$548,363	**$3,026,983**
Surplus/Deficit[9]	$0	$102,590	$34,882	$42,807	$51,381	**$231,660**
Omnitrans Cost	$93,240,000	$95,720,000	$97,990,000	$100,940,000	$103,220,000	**$491,110,000**
Omnitrans Revenues	$109,273,000	$89,601,786	$91,666,475	$97,560,992	$104,000,320	**$492,102,574**
Surplus/Deficit	$16,033,000	($6,118,214)	($6,323,525)	($3,379,008)	$780,320	**$992,574**
VVTA Cost	$25,158,884	$41,033,451	$33,162,879	$31,744,015	$33,249,935	**$164,349,164**
VVTA Revenues	$25,644,746	$40,950,823	$31,909,225	$33,376,292	$32,898,571	**$164,779,657**
Surplus/Deficit	$485,862	($82,628)	($1,253,653)	$1,632,277	($351,365)	**$430,493**
Metrolink Costs (Incl. New & Rehab Capital)	$34,859,000	$31,030,000	$37,470,000	$37,734,000	$39,309,902	**$180,402,902**
Metrolink Revenues	$34,860,000	$31,030,000	$37,233,610	$37,308,058	$38,187,051	**$178,618,720**
Surplus/Deficit	$1,000	$0	($236,390)	($425,942)	($1,122,851)	**($1,784,182)**

Table 9 4. Surplus/Deficiency Analysis of Transit Operator Revenue Sources vs. Transit Operator Costs (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
SBCTA Costs (Includes RPRP Capital Costs)	$49,205,000	$70,140,000	$53,276,000	$147,585,900	$94,146,727	**$414,353,627**
SBCTA Revenues (Includes RPRP Capital Revenues)	$49,205,000	$70,140,000	$48,776,000	$98,085,900	$74,746,727	**$340,953,627**
Surplus/Deficit[15]	$0	$0	($4,500,000)	($49,500,000)	($19,400,000)	**($73,400,000)**
RPRP-Arrow Operating Costs	$0	$400,000	$600,000	$7,000,000	$4,649,000	**$12,649,000**
RPRP-Arrow Operating Revenues	$0	$400,000	$600,000	$7,000,000	$4,649,000	**$12,649,000**
Surplus/Deficit	$0	$0	$0	$0	$0	**$0**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

9 = Needles "deficit" outside the SRTP shall be evaluated in the future, along with a discussion of possible funding sources based on availability at that time.

14 = MT deficiencies are likely a reflection of the additional funding the agency will need for major facility projects. In addition, MT is planning service expansions in FY 2017 through FY 2020, that may need more funding than currently projected by SBCTA.

15 = SBCTA funding deficiency is due to a $43.4 million funding gap on the Lilac-Rancho Double Track Project and a $30 million funding gap on the Metro Gold Line Foothill Extension Project.

9.6 Financial Analysis Conclusions

The following conclusions summarize the financial analysis methodology and financial analysis results from this chapter.

9.6.1 Financial Analysis Methodology:

- Most of the transit operators had draft or recently updated SRTP's identifying planned operating costs for the five years covered by the SBCTA SRTP. Anticipated operating costs and fare revenues came from these sources. Where there was not a recent SRTP, as was the case with VVTA, the two most recent adopted operating budgets served as the basis for current operating costs. For all operators, where needed, projected costs for years beyond their latest SRTP or budgets assumed an annual escalation of three percent.

- Likewise, for transit capital costs, recently-updated SRTP's were used where available. In cases where SRTP information was lacking, due to the high variability of capital project costs from year to year, an average of capital project category costs (e.g., replacement vehicles, facilities, etc.) for the available years was calculated, and that average was then escalated three percent annually for the remaining years of the financial analysis. For VVTA, a five-year fleet replacement program provided by the agency was used. This assumption will be superseded by VVTA's new COA when available. SBCTA's capital program data came from the capital project worksheets completed by SBCTA project managers.

- In order to have a uniform source of information on transit revenues, SBCTA provided five-year transit funding projections covering FY 2017 – FY 2020 for each agency, by revenue source. Fare Revenues were missing from this source, which came directly from the transit operators' SRTPs or budgets and were escalated at three percent per year. A few revenue sources (such as LCTOP) were not projected by SBCTA but most likely can be anticipated.

9.6.2 Financial Analysis Results:

- SBCTA's revenue projections combined the operating and capital funding sources, so this analysis compared total operating and capital costs with total available revenues, recognizing that several of the funding sources are flexible.

- The consolidated projected operating costs for all agencies combined showed a steady progression over the five-year period. A "bump" up in costs occurred with the Redlands Passenger Rail Project's Arrow service FY 2019 preparations for revenue service, and in FY 2020 with an assumed six months of revenue operations.

- The consolidated projected capital costs for all agencies combined showed a sharp rise annually in FY 2019 and FY 2020, as Redlands Passenger Rail Project and other key SBCTA projects occur, but then is expected to trail off

dramatically in future years as major SBCTA projects are completed, based on currently known projects.

- When all operating and capital costs for all agencies were combined, the capital and operating programs somewhat compensated for each other by FY 2020, smoothing out overall future annual regional transit expenditures.

- When total transit operating and capital expenses were compared with total operating and capital revenues projected to be available by SBCTA for the five-year period, there was a reasonably close correlation between overall transit revenues and overall transit costs from FY2016 through FY 2018, given the magnitude of total regional transit expenditures. Revenues actually start ahead of total costs in FY 2016, but a small revenue gap develops starting in FY 2017 and increases considerably in FY 2019 before decreasing somewhat in FY 2020. Revenues ranged from 8.5 percent above projected costs in FY 2016 to 15.9 percent below projected costs in FY 2019.

- The region-wide projected funding deficiency should be kept in perspective. The region as a whole has an estimated capital and operating program cost totaling $1.317 billion over the five year period, vs. $1.239 billion in projected revenues for this same period. This amounts to an overall 5.9 percent funding gap over the five year period. This amount, while a concern, can likely be addressed through adjustments in the programming or expenditures of operating or capital programs over time, or through assumed new revenue sources. Examples of these adjustments might include: 1) Assuming a higher rate of growth in LTF and Measure I funds based on recent trends (as discussed further in Chapter 10); 2) Assuming use of funding sources not included in SBCTA's revenue projections, such as LCTOP or other discretionary grant programs; and 3) Phasing large capital projects over a longer time frame to access additional funds.

- A surplus/deficiency analysis of projected costs vs. projected revenues was conducted at the operator level. Most of the agencies were identified as having projected funding deficiencies at some point during the five-year time period, some of which are cancelled out through carryovers from surplus years. This analysis is not meant to indicate these agencies are currently operating at a deficit; rather, it simply indicates that based on the projected future operating and capital costs (using the projection methods described in this chapter), and SBCTA's projected future revenue streams, adjustments in future costs or revenues may be needed in order for the agencies to have future balanced financial plans. Further analysis at the operator level is warranted to verify the assumptions that went into the cost projections, and to account for possible impacts from one-time large projects, availability of additional potential funding sources not included in SBCTA's projections, and/or updated SRTPs. It should also be noted that SBCTA's Lilac-Rancho Double Track Project's funding gap of $43.4 million, combined with the Gold Line Extension project's $30 million funding gap, account for $73.4 million of the total $77.9 million cumulative region-wide funding gap for the entire five-year period.

- SBCTA recognizes that there were revenue sources assumed by the transit operators that were not included in SBCTA's revenue projections. In addition, the implementation of operations on the Redlands Passenger Rail Project Arrow service in FY 2020, and the identification of new capital funding needs such as Omnitrans' West Valley Connector (currently in environmental review and preliminary engineering) and Mountain Transit's facility needs, will result in the need to update this SRTP sooner than planned. Accordingly, SBCTA is planning to prepare an SRTP update in 2018 to reflect these factors and updated SRTPs from the transit operators.

All of the costs vs. revenues analysis in this chapter has been based on SBCTA's conservatively-projected revenue streams over the five year period. The final chapter of this SRTP looks at what an "unconstrained revenue" plan, based on some reasonably optimistic growth rates in certain funding sources, might look like.

10.0 CONSTRAINED AND UNCONSTRAINED FINANCIAL PLANS

10.1 Introduction

Short-Range Transit Plans typically include both a "revenue constrained" financial plan and an "unconstrained" financial plan. The revenue constrained plan assumes only those revenues anticipated to be available based on current programming experience and historical trends. The financial analysis conducted in Chapter 9 was a revenue-constrained plan, in that only revenues SBCTA could predict with reasonable certainty, were assumed for the analysis along with projected operator fare revenues.

An Unconstrained Plan, in contrast, assumes that a higher level of transit funding becomes available to the region, thereby allowing the operators to expand services and/or take on additional capital projects. Though unconstrained, the plan should still be based on some reasonable expectations of revenue source growth based on recent legislative action or a general improvement in the economy, resulting in higher revenues from sales-tax-based sources.

In the previous chapter, the financial analysis was able to conclude that, based on projected transit agency operating and capital expenses, and SBCTA's projection of revenue streams over the next five years, the overall financial picture was relatively close to being balanced for the region as a whole from FY 2016 to FY 2020. The region as a whole had an estimated capital and operating program cost totaling $1.317 billion over the five year period, vs. $1.239 billion in projected revenues for this same period. This amounts to an overall 5.9 percent funding gap over the five-year period. Most of that variance was attributable to two large SBCTA projects (Lilac – Rancho Double Track and Metro Gold Line Foothill Extension) that were only partially funded and amounted to $73.4 million of the total $77.9 million cumulative region-wide funding gap for the entire five-year period.

This chapter lays out constrained and unconstrained financial plans for SBCTA and the transit operators. Given the reasonably close congruence of revenues and expenses in the financial analysis of Chapter 9 (excepting the two large, under-funded SBCTA projects), that chapter's financial tables are assumed to be the revenue constrained plan. The Unconstrained Plan assumes higher annual growth rates in Measure I and LTF revenues, with a resulting estimated increase in funds available to each operator. The assumed higher growth rates are applied to each operator's Measure I and LTF funds in the Constrained Plan, so that the increased revenues among the operators are proportional to their previous projected allocations.

10.2 Transit Revenue Source Assumptions for Unconstrained Plan

10.2.1 Local Funding Source Assumptions

The assumptions for local funding (including the Transportation Development Act's LTF for the purposes of this discussion) in the unconstrained plan start by considering the financial assumptions created by SBCTA staff for the SBCTA ten-year financial plan. When SBCTA created those projections, staff took into consideration the historical

revenue generation in each subarea along with projected growth data. As a result, the SBCTA plan assumes that local funds will increase approximately 3% to 3.5% year-over-year. The increases vary based on the local funding type (LTF vs. Measure I) as well as by Measure I subarea.

When considering assumptions for the unconstrained plan, the SRTP team reviewed actual revenue apportionments and receipts from Measure I as well as LTF since FY 2010-11 (post-recession). The Measure I receipts during this period, on average year-over-year, were up 6.65%, as illustrated in Table 10-1. The actual revenue apportionments for the LTF, on average year-over-year, were up 7.1%, as shown in Table 10-2. Thus, an assumption of some growth in Measure I and LTF funding over the SBCTA projections, for the Unconstrained Plan, seems reasonable.

Table 10-1. SBCTA Measure I Receipts FY 2010-11 through FY 2015-16

Year	Fiscal Year (FY)	FY Total	Yr over Yr Growth
1	FY 2010-11	$ 115,603,079	-
2	FY 2011-12	$ 130,808,745	13.15%
3	FY 2012-13	$ 138,002,170	5.50%
4	FY 2013-14	$ 143,466,150	3.96%
5	FY 2014-15	$ 150,618,436	4.99%
6	FY 2015-16	$ 159,487,730	5.89%

Average Yr-over-Yr growth: 6.65%

Source - August 10, 2016 SANBAG General Policy Committee Agenda Item #3

Table 10-2. SBCTA LTF Receipts FY 2010-11 through FY 2016-17

Year	Fiscal Year (FY)	Total Annual Revenue	Yr over Yr Growth
1	2010/2011	$63,333,971	-
2	2011/2012	$71,168,437	12.37%
3	2012/2013	$75,100,102	5.52%
4	2013/2014	$79,559,209	5.94%
5	2014/2015	$85,531,625	7.51%
6	2015/2016	$91,738,719	7.26%
7	2016/2017*	$95,196,700	3.77%

*Current Estimate

Average Yr-over-Yr growth: 7.1%

Source: Information provided by Fund Administration and Programming Department, June 28, 2016.

To simplify the unconstrained revenue assumptions for local funding, and based on recent historical year-over-year actual allocations for local funding and receipts, the SBCTA SRTP Unconstrained Plan has assumed a six percent growth rate in Measure I and LTF sources, beginning in FY 2018, for the transit agencies. For Metrolink, SBCTA's Operating Subsidy for Metrolink service in San Bernardino County is assumed to grow by six percent, since the vast majority of that subsidy cost is covered by LTF and Measure I sources[20].

In order to implement this revised growth rate for the Unconstrained Plan, it was necessary to take each operator's specific LTF and Measure I allocation in the Constrained Plan for each year in the FY 2018 to FY 2020 time frame, and add three percent to that amount to come up with each year's Unconstrained amount. This was necessary for two reasons: 1) SBCTA's original projections generally had a three percent growth rate already assumed, and 2) SBCTA's annual allocations of these sources were variable from year to year. FY 2017 was artificially high due to a one-time adjustment in LTF spread among the transit operators. Using FY 2017 as a base and multiplying by six percent each subsequent year would inflate the projection above likely revenue streams.

10.2.2 State Funding Source Assumptions

Principal state funding sources include the State Transit Assistance Fund (STA - derived from the statewide sales tax on diesel fuel), the Low Carbon Transit Operations Program (LCTOP - funded by proceeds from the California Air Resources Board's Cap-and-Trade Program), Proposition 1B Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA – last year of funding is FY 2016-2017), and Proposition 1B California Transit Security Grant Program-California Transit Assistance Fund (CTSGP-CTAF – last year of funding is FY 2016-2017).

Given the volatility of fuel prices in recent years, including the exceptionally low prices in FY 2016 – FY 2017, it would be difficult to assume any increase in STA (a sales tax on diesel fuel) above the levels projected by SBCTA in their revenue projections. Likewise, the LCTOP state proceeds from recent auctions of emission credits for greenhouse gas emitters regulated under the program have been well below earlier projections[21], so it would be unwise to assume an increase in that program. Finally, both of the Prop 1B

[20] SBCTA's FY 2017 Adopted Annual Budget shows that 89 percent of Task 0314 Transit Operations, which covers Metrolink's operating subsidy, was funded by LTF sources. Another 4.6 percent was covered by Measure I.

[21] Per the California Budget and Policy Center, at http://calbudgetcenter.org/resources/first-look-2016-17-state-budget/ : "California's "cap and trade" program, which raises revenues from auctions organized by the California Air Resources Board, fell far short of expectations for its May 2016 quarterly auction. Buyers purchased just 2 percent of the carbon credits made available for auction, raising $10 million instead of the expected $500-plus million. This quarter's auction results raise questions about the future of California's cap and trade program and by extension the programs that receive funding from its auctions, such as high-speed rail, the Affordable Housing and Sustainable Communities Program, the Low-Carbon Transit Operations Program, and the Transit and Intercity Rail Capital Program."

programs are sun-setting this year so those will no longer be sources for increased funding. Thus, we are assuming no increase in overall state funding sources beyond that provided by SBCTA's revenue projections in the Constrained Plan.

10.2.3 Federal Funding Source Assumptions

On December 4, 2015, the President signed the first long-term reauthorization of federal surface transportation programs in a decade, known as the Fixing America's Surface Transportation (FAST) Act, which authorized increases in overall transit funding by 8.6 percent in the first year (Fiscal Year 2016) over the previous year's funding levels, and by much smaller increases each year thereafter over the life of the bill (which ends September 30, 2020)[22].

Specifically, the combined programs funded out of the Mass Transit Account of the Highway Trust Fund grow by 8.76% in FY 2016, then 4.1% over FY 2016 levels in FY 2017, remain at FY 2017 levels in FY 2018, and then increase by 2.1% in FY 2019 and FY 2020 over the FY 18 and FY 19 levels, respectively. The programs funded out of general revenues (New/Small Starts and Core Capacity) increase by 16.3% for the first year (FY 2016) over FY 2015 levels but then have no growth thereafter.

Looking at key federal sources used by San Bernardino County transit operators, the primary federal formula grant program allocated to California (i.e., formularized Urbanized Area Grants in Section 5307), is projected to grow by an average of 2.0% per year over the years of authorization of the FAST Act, FY 2016 – FY 2020. The combined programs under Section 5311, which support rural services for several San Bernardino County transit operators, are projected to grow by an average of 2.1 percent per year during the FAST Act years.

Based on the uncertain funding situation regarding the federal Highway Trust Fund and within it the Mass Transit Account, and based on the current impasse in Congress to find additional revenues to adjust expected revenues to match the recent historic appropriation levels, this analysis assumes no increases in year-over-year funding levels for federal transit sources beyond that included in SBCTA's projected revenue streams, which are part of the Constrained Plan.

10.2.4 Other Revenue Sources

Among the "Other Revenue Sources" reviewed in Chapter 9, only farebox revenues are likely to increase as a direct result of any service increases made possible by increases in the other funding sources. And with transit operator farebox recovery ratios ranging from 10 percent to 25 percent, these service-related fare revenue increases would be

[22] The information in this section on federal transit funding sources is derived from the FAST Act Conference Report Funding Levels Table, compiled by the American Public Transportation Association, found at: https://www.apta.com/gap/legissues/authorization/Documents/H.R.%2022,%20FAST%20ACT/FAST_Act_ConferenceReportFundingLevelsTable_FINAL.pdf

relatively small in actual dollar terms and not of sufficient size to assume in the Unconstrained Plan projections.

10.3 Constrained Plan

As explained above, the Constrained Plan for the SBCTA Short-Range Transit Plan is provided by the financial tables and analysis of Chapter 9. In that Chapter, the transit operators' projected operating and capital expenses for FY 2016 – FY 2020 were compared with SBCTA's projected revenue streams for that same period. Convergence curve analyses and a surplus/deficiency analysis, by operator, were used to show the overall relatively close alignment of projected costs and revenues between FY 2016 and FY 2020. **Table 10-3** provides the summary of total costs and revenues for all operators combined and by operator, during the FY2016 – FY 2020 time period. In this Constrained Plan, there was a region-wide funding shortfall of $77.9 million, or 5.9 percent, of total projected costs, cumulatively, over the five-year period. Chapter 9 provided a review of the surplus/deficiency analysis by operator.

10.4 Unconstrained Plan

The change in assumed growth rates for Measure I and LTF, from the 3.0 - 3.5 percent assumed in SBCTA's revenue projections, to 6.0 percent beginning in FY 2018 in the Unconstrained Plan (i.e., 3.0 percent over SBCTA's original projection for each year for each operator), has a significant effect on the region's transit financial picture.

Under the Constrained Plan, there was relatively close congruence between projected costs and projected revenues from the vantage point of a $1.317 billion transit program over the five-year period. Still, the plan did accumulate a total of $77.9 million in net deficiency between FY 2016 and FY 2020, at a combined regional level. As discussed previously, the bulk of this shortfall was attributable to two, large, SBCTA under-funded projects.

Under the Unconstrained Plan, this region-wide deficiency is reduced to a net deficiency of $66.1 million cumulative over the same five-year period, and that includes the largely-unfunded Lilac – Rancho Double-Track project ($43.4 million in unfunded costs between FY 2016 and FY 2020) and the under-funded Metro Gold Line Foothill Extension ($30 million in unfunded costs in FY 2019). **Table 10-4** provides the summary of total costs and revenues for all operators combined and by operator, during the FY2016 – FY 2020 time period, for the Unconstrained Plan. Region-wide, the overall funding shortfall is reduced to 5.0 percent over the five-year period, vs. 5.9 percent in the Constrained Plan.

In FY 2020, the last year of the five-year SRTP period, the region as a whole would have a net deficiency of $21.6 million, vs. a deficiency of $25.2 million in FY 2020 under the Constrained Plan. This demonstrates the impact made by changing a few key revenue assumptions. Furthermore, some of the transit operators could see cumulative surpluses in funding by FY 2020 in the Unconstrained Plan, allowing potential service expansions or additional projects.

Table 10-3. Constrained Plan Summary of Total Costs and Total Revenues by Operator/Agency

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
Total Costs - All Operators	$211,304,545	$248,497,454	$232,216,051	$335,706,459	$289,063,230	**$1,316,787,739**
Total Revenue - All Operators	$229,179,461	$242,400,302	$221,171,015	$282,279,621	$263,828,522	**$1,238,858,921**
Surplus/Deficit	$17,874,916	($6,097,152)	($11,045,036)	($53,426,837)	($25,234,708)	**($77,928,818)**
Percent Difference	8.5%	-2.5%	-4.8%	-15.9%	-8.7%	**-5.9%**
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MT Revenues	$5,803,741	$4,171,818	$5,422,226	$4,074,300	$4,248,280	**$23,720,366**
Surplus/Deficit[14]	$1,331,188	($868,702)	$835,292	($2,153,294)	($4,414,073)	**($5,269,589)**
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MBTA Revenues	$3,863,410	$5,404,679	$4,899,140	$4,290,557	$4,550,208	**$23,007,994**
Surplus/Deficit	$23,866	$869,801	$398,358	$356,323	($778,121)	**$870,227**
Needles Cost	$529,564	$598,606	$629,456	$540,715	$496,982	**$2,795,323**
Needles Revenues	$529,564	$701,196	$664,338	$583,522	$548,363	**$3,026,983**
Surplus/Deficit[9]	$0	$102,590	$34,882	$42,807	$51,381	**$231,660**
Omnitrans Cost	$93,240,000	$95,720,000	$97,990,000	$100,940,000	$103,220,000	**$491,110,000**
Omnitrans Revenues	$109,273,000	$89,601,786	$91,666,475	$97,560,992	$104,000,320	**$492,102,574**
Surplus/Deficit	$16,033,000	($6,118,214)	($6,323,525)	($3,379,008)	$780,320	**$992,574**
VVTA Cost	$25,158,884	$41,033,451	$33,162,879	$31,744,015	$33,249,935	**$164,349,164**
VVTA Revenues	$25,644,746	$40,950,823	$31,909,225	$33,376,292	$32,898,571	**$164,779,657**
Surplus/Deficit	$485,862	($82,628)	($1,253,653)	$1,632,277	($351,365)	**$430,493**
Metrolink Costs (Incl. New & Rehab Capital)	$34,859,000	$31,030,000	$37,470,000	$37,734,000	$39,309,902	**$180,402,902**
Metrolink Revenues	$34,860,000	$31,030,000	$37,233,610	$37,308,058	$38,187,051	**$178,618,720**
Surplus/Deficit	$1,000	$0	($236,390)	($425,942)	($1,122,851)	**($1,784,182)**

Table 10-3. Constrained Plan Summary of Total Costs and Total Revenues by Operator/Agency (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
SBCTA Costs (Includes RPRP Capital Costs)	$49,205,000	$70,140,000	$53,276,000	$147,585,900	$94,146,727	**$414,353,627**
SBCTA Revenues (Includes RPRP Capital Revenues)	$49,205,000	$70,140,000	$48,776,000	$98,085,900	$74,746,727	**$340,953,627**
Surplus/Deficit[15]	$0	$0	($4,500,000)	($49,500,000)	($19,400,000)	**($73,400,000)**
RPRP-Arrow Operating Costs	$0	$400,000	$600,000	$7,000,000	$4,649,000	**$12,649,000**
RPRP-Arrow Operating Revenues	$0	$400,000	$600,000	$7,000,000	$4,649,000	**$12,649,000**
Surplus/Deficit	$0	$0	$0	$0	$0	**$0**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

9 = Needles "deficit" outside the SRTP shall be evaluated in the future, along with a discussion of possible funding sources based on availability at that time.

14 = MT deficiencies are likely a reflection of the additional funding the agency will need for major facility projects. In addition, MT is planning service expansions in FY 2017 through FY 2020, that may need more funding than currently projected by SBCTA.

15 = SBCTA funding deficiency is due to a $43.4 million funding gap on the Lilac-Rancho Double Track Project and a $30 million funding gap on the Metro Gold Line Foothill Extension Project.

Table 10-4. Unconstrained Plan Summary of Total Costs and Total Revenues by Operator/Agency

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
Total Costs - All Operators	$211,304,545	$248,497,454	$232,216,051	$335,706,459	$289,063,230	**$1,316,787,739**
Total Revenue - All Operators	$229,179,461	$242,400,302	$225,106,288	$286,537,268	$267,444,939	**$1,250,668,258**
Surplus/Deficit	$17,874,916	($6,097,152)	($7,109,763)	($49,169,191)	($21,618,290)	**($66,119,481)**
Percent Difference	8.5%	-2.5%	-3.1%	-14.6%	-7.5%	**-5.0%**
Agency Summaries:						
MT Costs	$4,472,553	$5,040,519	$4,586,935	$6,227,595	$8,662,354	**$28,989,955**
MT Revenues	$5,803,741	$4,171,818	$5,498,798	$4,153,388	$4,329,967	**$23,957,711**
Surplus/Deficit[14]	$1,331,188	($868,702)	$911,863	($2,074,207)	($4,332,387)	**($5,032,245)**
MBTA Cost	$3,839,544	$4,534,878	$4,500,782	$3,934,234	$5,328,329	**$22,137,767**
MBTA Revenues	$3,863,410	$5,404,679	$4,997,714	$4,392,412	$4,655,455	**$23,313,670**
Surplus/Deficit	$23,866	$869,801	$496,932	$458,178	($672,874)	**$1,175,903**
Needles Cost	$529,564	$598,606	$629,456	$540,715	$496,982	**$2,795,323**
Needles Revenues	$529,564	$701,196	$671,215	$590,811	$556,090	**$3,048,877**
Surplus/Deficit[9]	$0	$102,590	$41,759	$50,096	$59,108	**$253,554**
Omnitrans Cost	$93,240,000	$95,720,000	$97,990,000	$100,940,000	$103,220,000	**$491,110,000**
Omnitrans Revenues	$109,273,000	$89,601,786	$93,165,243	$99,108,435	$105,597,635	**$496,746,099**
Surplus/Deficit	$16,033,000	($6,118,214)	($4,824,757)	($1,831,565)	$2,377,635	**$5,636,099**
VVTA Cost	$25,158,884	$41,033,451	$33,162,879	$31,744,015	$33,249,935	**$164,349,164**
VVTA Revenues	$25,644,746	$40,950,823	$32,536,951	$34,024,802	$33,568,557	**$166,725,879**
Surplus/Deficit	$485,862	($82,628)	($625,928)	$2,280,787	$318,622	**$2,376,715**
Metrolink Costs (Incl. New & Rehab Capital)	$34,859,000	$31,030,000	$37,470,000	$37,734,000	$39,309,902	**$180,402,902**
Metrolink Revenues	$34,860,000	$31,030,000	$37,692,197	$37,780,403	$38,673,566	**$180,036,166**
Surplus/Deficit	$1,000	$0	$222,197	$46,403	($636,336)	**($366,736)**

Table 10-4. Unconstrained Plan Summary of Total Costs and Total Revenues by Operator/Agency (Continued)

Transit Operator	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total, FY2016 - FY2020
Summary of Total Costs and Total Revenues by Operator/Agency						
SBCTA Costs (Includes RPRP Capital Costs)	$49,205,000	$70,140,000	$53,276,000	$147,585,900	$94,146,727	**$414,353,627**
SBCTA Revenues (Includes RPRP Capital Revenues)	$49,205,000	$70,140,000	$49,926,170	$99,277,017	$75,320,949	**$343,869,136**
Surplus/Deficit[15]	$0	$0	($3,349,830)	($48,308,883)	($18,825,778)	**($70,484,491)**
RPRP-Arrow Operating Costs	$0	$400,000	$600,000	$7,000,000	$4,649,000	**$12,649,000**
RPRP-Arrow Operating Revenues	$0	$400,000	$618,000	$7,210,000	$4,742,720	**$12,970,720**
Surplus/Deficit	$0	$0	$18,000	$210,000	$93,720	**$321,720**

Notes: BAT = Barstow Area Transit; MT = Mountain Area Regional Transit Authority (Mountain Transit); MBTA = Morongo Basin Transit Authority; SBCTA = San Bernardino County Transportation Authority; VVTA = Victor Valley Transit Authority;

9 = Needles "deficit" outside the SRTP shall be evaluated in the future, along with a discussion of possible funding sources based on availability at that time.

14 = MT deficiencies are likely a reflection of the additional funding the agency will need for major facility projects. In addition, MT is planning service expansions in FY 2017 through FY 2020, that may need more funding than currently projected by SBCTA.

15 = SBCTA funding deficiency is due to a $43.4 million funding gap on the Lilac-Rancho Double Track Project and a $30 million funding gap on the Metro Gold Line Foothill Extension Project.

10.5 Additional Revenues and Potential Benefits with Unconstrained Plan by Operator

The Unconstrained Plan has the potential to fund additional transit operator services or capital projects, if its funding levels were to occur. The following is a summary of the potential benefits by transit operator.

10.5.1 Mountain Transit

Mountain Transit's projected funding shortfall under the Constrained Plan of $5.3 million over the five-year period is reduced to $5.0 million under the Unconstrained Plan, and that includes the unfunded major facility projects MT has anticipated. If we assume that MT's "Major Facilities" capital cost category will receive separate funding, the funding shortfall becomes a cumulative $790,000 surplus over the five year period.

10.5.2 Morongo Basin Transit Authority

MBTA's projected cumulative surplus under the Constrained Plan of $870,000 over the five-year period increases to a projected $1.2 million under the Unconstrained Plan. This could help fund additional transit services or help pay for the expansion buses called for under their Joshua Tree National Park service initiative.

10.5.3 Needles Transit Services

Needles' projected surplus under the Constrained Plan of $231,000 over the five-year period increases to a projected $254,000 under the Unconstrained Plan. In FY 2020 alone, the surplus is projected to total $59,000. This could help fund the additional services discussed in their Short-Range Transit Plan, including expanded Saturday and Sunday service and expanded service into Arizona for medical trips.

10.5.4 Omnitrans

Omnitrans' projected surplus under the Constrained Plan of $992,000 over the five-year period increases to a projected $5.6 million under the Unconstrained Plan. This could help fund the initial station capital improvements for the starter-service version of the West Valley Connector, and/or help pay for additional service hours on that route or other services. In FY 2020, the surplus is projected to total $2.4 million, which, if the trend continues into the future, could fund significant service increases totaling roughly 24,000 revenue hours per year at an estimated $100 per revenue hour. That is the equivalent of approximately four full size buses operating 16 hours a day, 365 days a year.

10.5.5 Victor Valley Transit Authority

VVTA's projected surplus under the Constrained Plan of $430,000 over the five-year period increases to a projected $2.4 million under the Unconstrained Plan. This could help fund VVTA's program to relocate transit centers and/or help pay for additional service hours. In FY 2020, the surplus is projected to total $319,000, which, if the trend continues into the future, could fund an additional 4,365 revenue hours per year at an estimated $73 per revenue hour.

10.5.6 Metrolink

Metrolink's projected cumulative funding shortfall under the Constrained Plan of $1.8 million over the five-year period is reduced to a projected $367,000 shortfall under the Unconstrained Plan.

10.5.7 San Bernardino County Transportation Authority

SBCTA's projected funding shortfall under the Constrained Plan of $73.4 million over the five-year period is reduced to a projected $70.5 million shortfall under the Unconstrained Plan. The somewhat less dramatic impact of the Unconstrained Plan on SBCTA is because their capital program's use of LTF is heavily weighted toward the first two years of the five-year period, thus benefiting less from the higher LTF growth rates assumed beginning in FY 2018. Still, the reduced funding shortfall would help to close the funding gap for the two under-funded projects – Lilac – Rancho Double-Track and Metro Gold Line Foothill Extension.

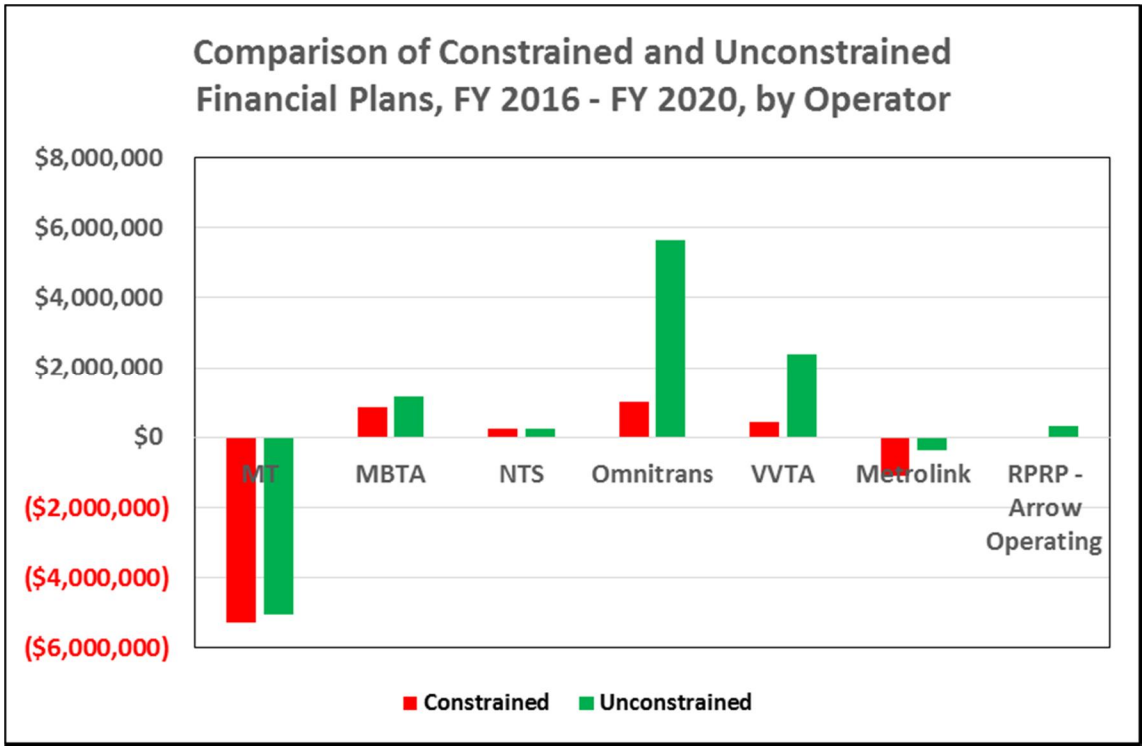
10.5.8 Redlands Passenger Rail Project – Arrow Operating Costs

The projected balanced budget for RPRP-Arrow operations under the Constrained Plan over the five-year period becomes a projected $322,000 surplus under the Unconstrained Plan. In FY 2020, this surplus is projected to total $94,000, which, if the trend continues into the future, could help fund additional peak period 30-minute service frequencies or other service improvements that become apparent after service is inaugurated.

10.5.9 Summary of Operator Benefits with Unconstrained Plan

Figure 10-1 provides a graphic summary of the potential operator benefits with the Unconstrained Plan financial assumptions, comparing their cumulative funding surpluses or shortfalls over the five-year period of the SRTP under both financial plans. As discussed above and as illustrated in Figure 10-1, an unconstrained financial plan could have positive impacts on the abilities of the transit operators to expand services, programs, or projects. In order to avoid distorting the scale of the impacts for the transit operators, SBCTA's funding shortfall for major capital projects is not shown in Figure 10-1.

Figure 10-1. Comparison of Constrained and Unconstrained Financial Plans' Surpluses and Deficiencies, FY 2016 – FY 2020, by Transit Operator



10.6 Conclusions and Recommendation

This chapter has demonstrated that by modifying the funding projections for just two funding sources, using reasonably optimistic assumptions based on current trends, an Unconstrained Financial Plan could yield significant positive benefits to the transit programs provided by the transit operators, as well as helping SBCTA to reduce its annual Metrolink operating subsidy needs and its funding gap on two major capital projects. It is recommended that, as the transit operators enter the next cycle of Short-Range Transit Plan updates, consideration should be given to how additional services or projects might be prioritized under an unconstrained scenario similar to that provided in this Chapter.

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