

CHAPTER 8 - AN INTEGRATED APPROACH TO SERVICE PLANNING

Sacramento Regional Transit Master Plan

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8 An Integrated Approach to Service Planning

Introduction

8.1 The TransitAction Plan provides RT with a strategy for dramatically improving and expanding transit service in Sacramento. The chapters thus far in the plan have provided the high-level framework and component parts of the network. This chapter provides a further level of detail to the plan, including the specific policies and measures that RT will use to develop the detail of the network and monitor its ongoing performance. These include:

- Standards, guidelines and polices for transit provision;
- Benchmarks for system productivity;
- System of identification of future transit needs and opportunities.

Standards, Guidelines and Policies for Transit Provision

8.2 In order to develop and provide an improved transit network for Sacramento, RT needs to have a clear set of guidelines and standards. These need to be clearly defined and linked to RT's Service Philosophy as well as the Vision and Objectives set out in this TransitAction Plan.

8.3 The standards and guidelines will provide RT with a clear and consistent basis for assessing the performance of the transit network, identifying areas for service expansion, designing and evaluating alternative transit system plans, and

recommending service changes and improvements.

Coverage and Accessibility Standards

8.4 RT's service area is a mix of highly developed commercial and residential urban land and low-density suburban development. As a result, it is neither productive nor affordable to provide transit service to 100% of Sacramento County residents. However, RT should set targets for itself to ensure that the people that pay for transit services are provided a certain level of service.

8.5 Walk catchment is a key indicator for measuring accessibility to the transit network and it has therefore been used to set the coverage and accessibility standards for RT. Table 8.1 provides the current RT standard and the new proposed TransitAction Plan standards (as a percentage of the population within 5/10/15 minute walk of the transit network).

8.6 RT's existing standards are high, and lacking in progressive milestones - current service levels provide 66% accessibility to all services (target is 95%) and 8% to high frequency services (target is 80%). Also, only population is considered as a key measure of analysis. By contrast, the TransitAction Plan standards reflect a more balanced approach to accessibility. The population standards have been lowered to reflect an ambitious but attainable goal, while the introduction of the jobs category recognizes the importance of transit use for employees and responds to the TransitAction Plan goal of providing better access to jobs to support the regional economy.

TABLE 8.1 COVERAGE AND ACCESSIBILITY STANDARDS

Walk Catchment	Existing Standards		TransitAction Plan Standards	
	All Services	High Frequency	All Services	High Frequency
5-minute (1/4 mile)	-	-	50% (population) 65% (jobs)	25% (population) 50% (jobs)
10-minute (1/3 mile)	95% (population)	80% (population)	75% (population) 85% (jobs)	50% (population) 70% (jobs)
15-minute (1/2 mile)	-	-	90% (population) 90% (jobs)	70% (population) 80% (jobs)

8.7 Figure 8.1 shows the 5, 10 and 15-minute walk catchments of an indicative network (shown as green circles around each stop). This demonstrates that by including a more comprehensive Hi-Bus service in the network, over 85% of the population and over 90% of jobs can be within easy walking distance of frequent transit services.

8.8 A key component of the TransitAction Plan, linked to meeting the overall Vision and Objectives, is the need to draw more people onto transit. This will be particularly true for the region’s growing aging population. By providing a wide-spread, frequent transit service, RT will be able to cater for the ‘active elderly’ by providing accessible transit within walking distance to enhance their lifestyles, provide more transportation choices and in turn, reduce the needs on the paratransit system.

Service-Hour and Frequency Standards

8.9 The frequency of transit service is a key component of an attractive network. Offering real transportation choice, so setting challenging yet achievable standards is an important part of improving transit service and ridership.

8.10 The standards listed in Table 8.2 represent a significant step change in the level of service provided by RT. A 10-minute frequency (or better) is considered to be a key threshold at which riders will ‘turn up and go’ rather than plan their trip and/or consult a timetable in advance. While service hours and frequencies will undoubtedly vary by route/line based on demand and cost effectiveness, these standards are presented as the network-wide, desirable service hours and frequencies. Minimums are not provided as they will be (in part) determined by funding availability.

FIGURE 8.1

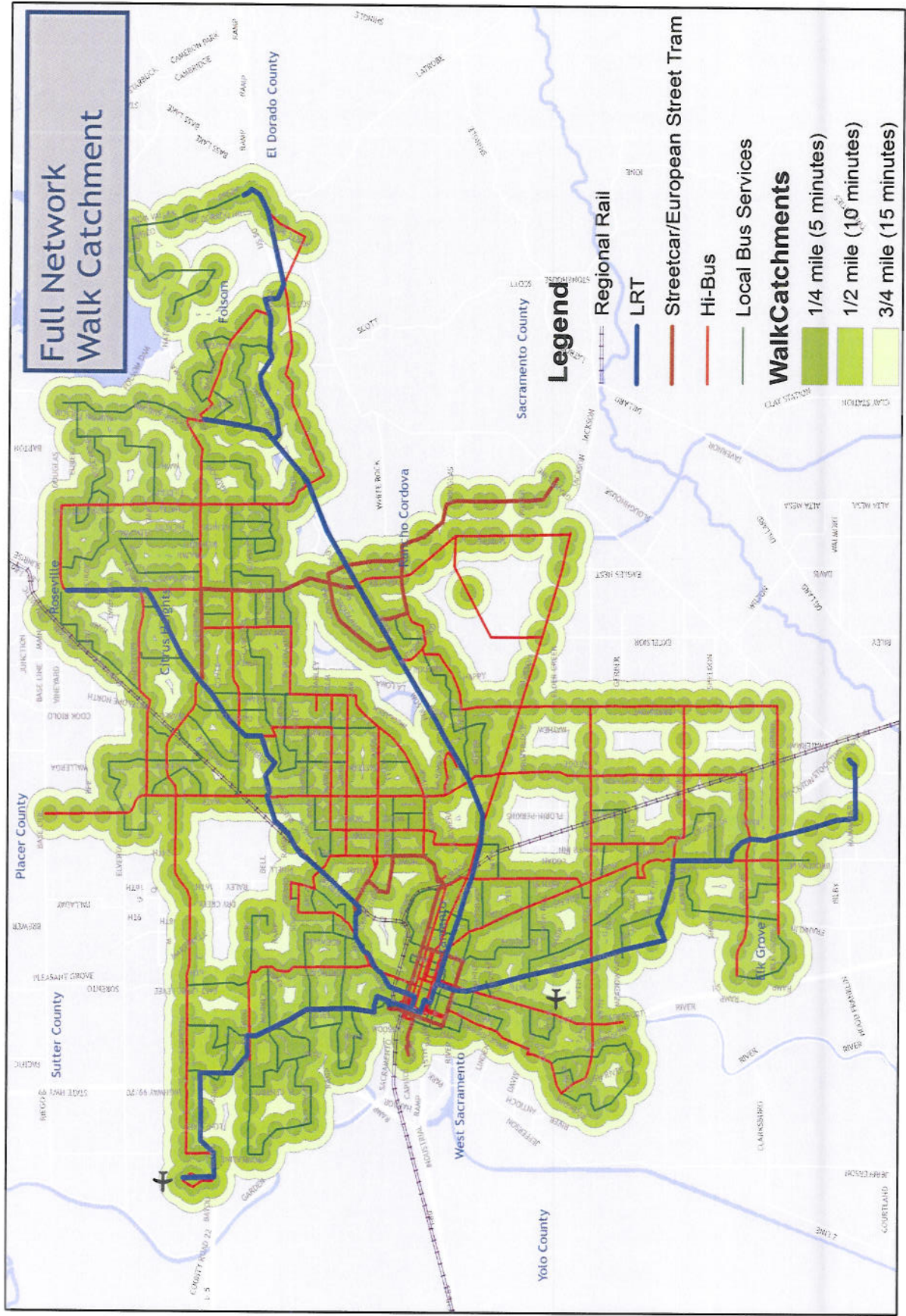


TABLE 8.2 SERVICE-HOUR STANDARDS

Operating Hours	Monday - Friday	Saturday	Sundays & Holidays
Daily Service Hours	04:00-01:00	06:00-01:00	06:00-00:00
Early Morning	04:00-05:59	06:00-07:59	06:00-07:59
Peak	06:00-09:00	-	-
Off Peak	09:01-3:29 pm	08:00 am-8:00 pm	08:00 am-8:00 pm
Peak	3:30 pm- 6:00 pm	-	-
Off Peak	6:01 pm - 10:00 pm	-	-
Late Evening	10:01 pm - 1:00 am	8:01 pm-01:00 am	8::01 pm-midnight
Night Services	1;01 am-03:59 am	01:01 am-05:59 am	12:01 am-03:59 am

8.11 Late night services may not follow the same routing as daytime services and would be determined by demand, such as supporting the night-time economy (bars, restaurants, night clubs, concerts, theatre, etc.) and/or providing shift workers with transit provision.

8.12 Desirable service frequencies are presented by mode in Table 8.3. Again, these are presented as desirable levels of service and minimums will need to be determined based on the cost effectiveness of the specific services (both capital costs to enable higher levels of frequency and operating costs to run the service).

TABLE 8.3 DESIRABLE TRANSIT SERVICE FREQUENCIES

Mode	Peak Frequency	Off Peak Frequency	Early Morning /Late Evening Frequency	Night Service
Regional Rail	15-min	30-min	60-min	-
Light Rail / European Street Tram	5-min	10-min	15-min	30-min
Streetcar	10-min	15-min	20-min	30-min
Hi-Bus	5-min	10-min	15-min	30-min
Local Bus Services	10-min	15-min	20-min	30-min

8.13 It is important to note that the service levels are presented as desirable frequencies to support the full transit network in 2035 and in the interim years and will need to be justified in terms of land use and ridership.

Travel Time Competitiveness Standards

8.14 Standards for transit travel time/speed as a function of comparable (corridor) vehicle travel times/speeds are helpful because they enable RT to assess services and routes against normal vehicle travel. Those routes that do not meet the standards would be reviewed to understand if, at selected locations, re-routing or increased transit priority is needed. The speed (compared to private vehicles) of transit is an important component of an attractive transit system which offers real transportation choice. Table 8.4 shows the proposed travel time competitiveness standards for each transit mode.

TABLE 8.4 TRAVEL TIME COMPETITIVENESS STANDARDS

Mode	Multiple of Corridor Vehicle Operating Speeds
Regional Rail / Existing Light Rail	Runs fully segregated from traffic on railway ROW - no specific standards
European Street Tram	1.3x
Hi-Bus	1.6x
Streetcar and Local Bus Services	2.0x

Lifeline Transit Service Standards

8.15 There may be communities, neighborhoods or areas of the County that RT may chose to provide service to on the grounds of necessity or transit dependence even though they do not meet the minimum thresholds set for transit service. ‘Lifeline’ standards are a key component for delivering the TransitAction Plan as they specifically address the needs of those that most depend on transit.

8.16 RT, as a publicly funded agency, has existing requirements under Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) and related regulations, The President's Executive Order on Environmental Justice, the U.S. DOT Order, and the Federal Highway Administration (FHWA) Order 1 to provide equal opportunity to federally funded programs. The lifeline standards are not meant as a replacement for any Title VI assessments that RT needs to complete, as RT must meet its legislated and legal requirements when assessing service provision; however, the purpose of the standards is to establish a system for identifying ‘lifeline services’ so RT can make informed decisions regarding the provision of such services.

8.17 A composite index of household income and car ownership levels will be used as a proxy for transit dependence and any route with a catchment that is over 50% ‘dependent’ will be labeled as a Lifeline Route. These routes will be given extra consideration as part of any expansions/reductions service planning. This percentage mirrors the existing

¹ Source: Federal Transit Administration - Civil Rights & Accessibility (http://www.fta.dot.gov/civilrights/title6/civil_rights_5458.html)

standard of 50% for Title VI services and programs.

Stop/Station Spacing Guidelines

8.18 In order to assist with route and corridor planning, a set of design guidelines have been developed to set the minimum and

maximum recommended distances between stops/stations (shown in Table 8.5). These are only guidelines that planners and designers will need to adapt and adjust to match the specific circumstances and communities that specific routes will serve.

TABLE 8.5 STOP/STATION SPACING STANDARDS

Mode of Transit	Existing Minimums	Proposed Minimum	Proposed Maximum	Proposed Exceptions
Regional Rail	-	2 miles	20 miles	Major Interchanges
Light Rail	Ex-urb: 2 mi Suburb: 1 mi Urban: ½ mi Core: ¼ mi	½ mile	1½ miles	Major Interchanges, Attractors, Low Density Areas
European Street Tram	-	½ mile	1 mile	Major Interchanges, Attractors
Streetcar	-	¼ mile	½ mile	Appropriate Station Locations
Hi-Bus	-	¼ mile	½ mile	Major Interchanges, Attractors
Local Bus Services	Suburb: ¼ mi Urban: 880 ft Core: 440 ft	⅛ mile (500 ft)	¼ mile	Housing/Employment Density

Productivity and Performance Goals

8.19 RT uses a large number of productivity and performance measures to assess and analyze its performance. These have been summarized in Tables 8.6 and 8.7 and have been separated into:

- I Summary indicators - network-wide measures of ridership and performance; and

- I Financial indicators - indicators of the financial ‘health’ and effectiveness of the organization and its service.

8.20 In addition, RT monitors customer satisfaction and perceptions of safety through customer advocacy reports and system crime statistics.

8.21 The indicator tables are divided in three columns:

- I KPI - name of the indicator;
- I Definition - states the indicator definition. All KPI values can be obtained from the travel demand

model using the definition but might differ from real values. Values from the travel demand model should be used for comparison purposes; and

- I Source - states the source to obtain real value of indicators.

TABLE 8.6 SUMMARY INDICATORS

KPI	Definition	Source
Annual Ridership	Number of passengers per year	RT annual boarding database by route
Average Weekday Passenger Trips	Number of passengers on an average weekday	RT selected week boarding database by route
Annual Vehicle Revenue Miles	Total operating miles traveled	Vehicle logs, scheduling software
Annual Vehicle Revenue Hours	Total operating hours	Vehicle logs, scheduling software
Passenger Miles Traveled	Total miles traveled by passengers	Travel surveys, census data
Transit Mode Split	The proportion of people who use transit in comparison to the people who use other modes of transportation	Household surveys, census data
% OnTime Performance (Service Reliability)	Percentage of total one-way trips per month departing a terminal or leaving an intermediate time point within five minutes of scheduled departure time	Vehicle logs, scheduling software
Overall Customer Satisfaction	Percentage of survey respondents stating 'satisfied' or 'very satisfied' with transit service	Customer satisfaction survey
Customer Perceptions of Safety	Percentage of survey respondents stating 'safe' or 'very safe' with respect to transit usage	Customer safety perception survey
Activity Catchments	Percentage of the following activities within a five minute walking radius from a transit service by mode: - Population - Employment - Retail Floor Area	Census data, GIS demographic data

TABLE 8.7 FINANCIAL INDICATORS

KPI	Definition	Source
Farebox Recovery Ratio	Fare revenues divided by operating costs	Route boardings, Revenue hours from logs and scheduling software
Cost per Passenger	Actual operating costs divided by total passenger boardings	Route boardings, Revenue hours from logs and scheduling software
Average fare	Revenues divided by passenger boardings	Financial statistics, Total yearly revenue, Annual ridership
Average Subsidy per passenger	Cost per passenger minus average fare	Cost per passenger, Average fare
Cost per Vehicle Service Mile	Actual operating costs divided by total actual revenue miles	Financial statistics, Operational costs, Logs and scheduling software
Cost per Vehicle Service Hour	Actual operating costs divided by total actual revenue hours	Financial statistics, Operational costs, Logs and scheduling software
Cost per Passenger Mile	Dividing the total annual cost for each service mode by the number of passengers and the average distance traveled	Financial statistics, Operational costs, RT boardings, Travel survey
Passengers per Service Mile	Passengers divided by revenue miles	RT boardings, Logs and scheduling software
Passengers per Service Hour	Passengers divided by revenue hours of operation	RT boardings, Logs and scheduling software
Average Distance (miles)	Total miles traveled by passengers divided by number of passengers	Travel survey

Productivity Indicators

8.22 The summary and financial indicators provided in Tables 8.6 and 8.7 provide RT staff, decision-makers and stakeholders with a good summary of the year-to-year growth of the system and ridership and will help in building the case for funding. However, in order to make day-to-day decisions on changes to services, including changes to frequencies, route lengths and new stops, specific criteria are needed. For decisions on altering existing services, the following Productivity Indicators will be used:

- Farebox recovery - farebox recovery (passenger revenues divided by operating costs) thresholds have been established for each of the modes across the RT network;
- Passengers per revenue mile - RT's costs per revenue mile are (basically) fixed and generating more passenger boardings per mile reduces the operating subsidy required;
- Passengers per revenue hour - as with passengers/mile, RT's costs per revenue hour are more-or-less fixed, however growing congestion and slower journey times will decrease ridership and increase costs; and
- Passengers per seat miles - measures the average utilization of the service.

8.23 Each of these four indices will be used to compare specific routes or proposals against peer services (e.g. Hi-bus services are compared against Hi-bus services and light rail against light rail,). Each route can be assessed against the mode-wide average performance for farebox and service effectiveness indicators and the lowest performing services can be flagged for a service review using performance thresholds.

Performance Measures for Assessing Underperforming Routes

8.24 The Performance Indicators are useful in identifying routes that may not be performing well or as efficiently or effectively as they could be. As a result, an identification process will be performed on a regular basis (quarterly, biennially, annually) to act as an early warning mechanism to identify routes and services which are performing poorly. The process is two-fold:

- **Comparative Analysis:** to identify services which are underperforming compared to all services and
- **Trend Analysis:** to identify services which are underperforming compared to their own individual route trends.

8.25 The reason for the two-fold process is that comparative analysis, while it will identify the lowest performing routes, it will not identify performance trends over time by route. Therefore, the trend analysis will also be used to identify further routes that are improving/declining against their own past performance standards.

8.26 Trend analysis is also important because it will identify those routes which are declining before they actually fall below the performance thresholds. Considerable time and money could be saved by reversing a declining trend before it becomes irreversible.

8.27 As part of the trend analysis, RT will be able to identify the best improving and worst declining routes and determine which ones merit further assessment. The thresholds themselves will not be used as a justification to make decisions to amend or cut services; rather, they will detect services which will then need to be examined in further detail.

Chapter 9 - Finding the Funding:
How To Pay For The Plan

Sacramento Regional Transit Master Plan

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9 Finding the Funding: How to Pay for the Plan

Introduction

- 9.1 The TransitAction Plan provides Regional Transit and Sacramento with a bold vision for how transit will become an integral part of life in Sacramento. The plan is creative and visionary in terms of the types of service provided, the hours and frequency it will operate and technologies that it will use. However, in order to fund the plan over the next 25-30 years, RT will need to be equally creative on the sources of funding it uses.
- 9.2 So while this chapter does not prescribe exactly how the plan will be funded, it does provide a summary of RT's existing funding sources/mechanisms and a menu of funding options that could be used in combination to fund the full TransitAction Plan.

How Regional Transit is Currently Funded

- 9.3 RT is currently funded from a number of different revenue sources. These can be grouped into the following three categories:
- Operating revenues (fares, contract services, other operating income);
 - Local and state assistance; and
 - Federal assistance.

Operating Revenues

- 9.4 Operating revenues consist of fares, contract services and advertising and are the only revenue sources that RT has full control over.
- 9.5 Fare revenues make up the majority of operating revenues and in FY 2009, fare revenues were approximately \$41 million or around 29% of RT's total operating costs. Fares are set by the RT Board and the average fare collected per passenger is approximately \$0.85-\$0.95. In 2005, RT undertook a fare review study which resulted in a Board adopted policy to raise fares by 20% fare every five years (equals 3% annually).
- 9.6 In addition to fare revenues, RT is paid for its contract services by neighboring jurisdictions for transit services provided by RT. Approximately 80% of the \$5 million in annual revenues come from contracts with the Cities of Folsom and Citrus Heights.
- 9.7 RT also receives approximately \$1.2 million per year from advertising.

Local and State Assistance

- 9.8 RT receives revenues from various local and state sources that in FY 2008 made up 58% of total revenues. The majority of revenues come from sales tax through Measure A and the Local Transportation Fund (LTF). **In its budget actions of 2009/2010, the State of California has effectively halted State Transit Assistance support for transit, reducing funding by \$26 million over two years.**
- 9.9 Measure A is a local sales tax measure which adds some \$44.9 million per year in revenues. The recent economic downturn has reduced this revenue to less than \$40

million. The State Constitution authorizes cities and counties to impose up to one percent additional local sales taxes, if approved by voters in the local jurisdiction, to improve transportation and relieve congestion. Sacramento is one of 17 counties that have voted for an additional ½% sales tax towards transportation.

- 9.10 RT receives 38.25% of the sales tax revenues of which 34.5% is for operating and maintenance expenses and 3.75% for capital improvements. Any funds used for capital improvements must be matched with 2/3 from other funding (federal, state or local) sources. Measure A will expire in 2039.
- 9.11 In addition to the sales tax, the Transportation Expenditure Agreement also stipulates that 20% of the Sacramento Countywide Transportation Mitigation Fee, a fee charged to new developments to mitigate the cost of traffic impacts, must go towards capital improvements for transit.
- 9.12 The LTF was established in 1972 under the Transportation Development Act (TDA) and stipulates that a ¼% of the state sales tax must be returned to the counties for the sole purpose of funding local and regional transit services. The apportionment of sales tax revenues to each county is population based, but is also based on policy and guidelines outlined in the Transportation Development Act Guidelines (2007). RT generally uses the funds for transit operations and bus replacements.
- 9.13 State Transit Assistance, a program under the Transportation Development Act, allocates revenues from the Public Transportation Account (PTA) which is made up of state sales tax on gasoline and diesel plus 'spill-over' sales tax revenues to public transit. The revenues are allocated based on a combination of population and prior year's transit revenues.
- 9.14 Every two years, the State of California allocates funds to selected projects that reduces congestion and improve transportation, including transit projects through the State Transportation Improvement Program (STIP). Public transit projects included in STIP are programmed for funding from the PTA. For projects to be eligible for funding, they have to be included in the Regional Transportation Improvement Plan (RTIP) which is developed by Sacramento Area Council of Governments (SACOG).
- 9.15 In 1990, California voters approved two bond measures: Propositions 108 and 116. RT received \$154 million under Proposition 108 (Passenger Rail and Clean Air Act) and \$100 million under Proposition 116 (Clean Air and Transportation Improvement Act) for rail improvements. These two funding sources contributed more than half of the revenue for the South Line and Amtrak/Folsom light rail extension projects.

Federal Assistance

- 9.16 In 1998, the Transportation Equity Act for the 21st Century, or "TEA-21", was enacted. This legislation ensures that transit spending is guaranteed at the legislated amount and cannot be used for other purposes than transit. All projects receiving Federal funds must be included in the RTIP and State TIP. TEA-21 consists of several formula funds:
 - I Formula Grant Section 5309 is a transit capital investment program and provides capital assistance for eligible projects included in Regional Transportation Improvement Plans (RTIP) and State Transportation Improvement Program (STIP) for three activities:

- I Bus and Bus Facilities, - provides capital assistance for new and replacement buses and related equipment and facilities;
 - I Fixed Guideways - provides funding for transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part; and
 - I New Starts - provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems.
- I Section 5307 - Large Urban Cities Program - formula funds makes federal resources available through the Federal Transit Administration to urbanized areas (areas with more than 50,000 inhabitants) for transit capital and operating assistance. TEA-21 allows RT to use Section 5307 funds for capital projects and for bus and light rail vehicle maintenance. Up to ten percent of the funds can be used for paratransit services. Federal funds have to be matched with local funds and cannot exceed 80% of the net project cost;
 - I Section 5308 - Clean-Fuels Formula Grant Program - provides grants to public transit operators to use on clean-fuel technologies for their bus fleets; and
 - I Section 3037 - Job Access Reverse Commute Program - provides grants to local governments to develop transportations services to connect welfare recipients and low-income persons to employment and support services. This includes providing improved transit services from urban residential areas to suburban employment opportunities. The funding can be used for both capital and operating purposes. The funding has to be matched 50% by local funds if used for operating costs.
- 9.17 RT also receives funding from the Congestion Mitigation and Air Quality Program, which is a flexible federal funding programs (funding that can be used for either highways or transit or both) under TEA-21. The program provides funds to urbanized areas that have not attained the ozone and carbon monoxide air quality standards established in the federal Clean Air Act or that have been designated as maintenance areas for air quality improvements.

Summary of Current Funding

- 9.18 Table 9.1 summarizes the current (FY2010) levels of funding received from each primary revenue source along with the split provided for operating and capital funding.

TABLE 9.1 SUMMARY OF CURRENT FUNDING SOURCES

Funding Source	Operating (\$m)	Capital (\$m)
Fares	42.0	
Contracted Services	4.1	
Other Operating Revenue	5.4	
Local and State Assistance	58.7	29.6

Federal Assistance	30	87.5
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Total	\$145.1m	\$117.1m
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The Cost of Building and Operating the TransitAction Plan

9.19 The TransitAction Plan includes approximately \$7 billion in capital investment and an eight-fold increase in annual service hours over what is provided today. With its current funding sources, RT could afford to invest approximately \$2.7 billion in capital projects and maintain today’s service levels. To implement the entire TransitAction Plan will therefore require a new approach to funding transit in Sacramento.

Capital Expenditures

9.20 The TransitAction Plan includes expansion of the light rail network, new streetcar and European Street Tram networks, as well as a comprehensive Hi-Bus network. Table 9.2 summarizes the capital expenditures and the assumed timing for implementation. Note that dates for implementation of all projects will be linked to funding availability and therefore subject to change and review as the plan is implemented.

9.21 The table also shows the projects that RT would be responsible to fund and the projects that would have to be funded by other communities/partners. The capital cost of the elements that RT would fund is estimated at \$6.9 billion.

TABLE 9.2 CAPITAL COST OF THE TRANSITACTION PLAN

Project	Cost (millions)	Assumed Implementation
DNA LRT	\$790m	2011-2017
South Sacramento LRT Extension	\$320m	2010-2013
Downtown European Street Tram	\$580m	2029-2030
Rancho Cordova Streetcar	\$430m	2022-2035
Vehicles - LRT, Streetcar, Bus	\$2,660m	Ongoing
Regional Rail rolling stock	\$390m	2027
Hi-Bus network infrastructure	\$550m	2014-2025
Ticketing	\$80m	2011-2013
Timetable, maps and information	\$10m	2015
Security improvements (cameras and extra police)	\$30m	2014-2021
Improvements to access to stations/stops	\$85m	2021
Additional maintenance and other facilities	\$575m	2011-2035
Other Infrastructure Programs	\$405m	Ongoing
Total (millions) - in today's \$	\$6,900m	

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Service Level and Ridership

- 9.22 The TransitAction Plan includes an expanded network, more frequent services and longer service hours, which by 2035 will result in nearly an eight-fold increase in the number of service hours provided - from 12,000 service hours in 2008 to 80,000 service hours by 2035.
- 9.23 As outlined in Chapter 5, while annual ridership is projected to increase by up to six times today's levels as a result of these service increases, the analysis shows that it increases at a lower rate than the service level. With RT services only recovering between 20 and 30% of their total costs through the farebox, any increases in service will create a gap in funding.
- 9.24 This further highlights the need for an integrated approach to transit service provision and expansion, with service provided first to areas with supportive transportation demand management (TDM) measures and transit-oriented development policies in place.

Funding Gap

- 9.25 The estimated shortfall in funding for the TransitAction Plan is estimated at \$8.2 billion (in present value terms), or an average of approximately \$290 million per year¹. This shortfall is based on the following key assumptions:
- RT pays for the capital expenditures related to projects within its member jurisdiction service area (i.e. the City of Sacramento, Sacramento County and the City of Rancho Cordova) and federal funding for those projects has been included based on the anticipated share of funding;
 - Capital projects in other communities are assumed to be paid for by a local contribution from the community where the project is located and federal funding. The cost of those projects is not included in the funding shortfall; and
 - Operating costs for all projects in the plan will be paid for by RT which in return would receive all fare revenues and local share of sales tax from the local communities.

Additional Sources of Funding

- 9.26 The vision for transit in Sacramento presented in this TransitAction Plan will see transit move away from a lifeline service to a lifestyle service that provides a real transportation choice. However, to deliver this vision additional funding sources will be needed. Based on experience across the country and from around the world, a number of alternative funding sources have been identified.
- 9.27 The long-term funding strategy has been built around the following three principles:

¹ The shortfall was projected using RT's Financial Forecasting Model and is an annual average. The phasing of projects/service increases has a significant impact on the average annual shortfall.

Sales Tax

- 9.34 General sales tax is another revenue source that generates substantial revenues. However, the drawback of sales taxes is that revenues are sensitive to economic conditions and provide less revenue in years of low economic growth.
- 9.35 RT already receives revenues from a local ½¢ sales tax through Measure A which will be in existence until 2039. Of the new Measure A revenues, 38.5% is dedicated to transit which raised approximately \$45 million in FY2008. The state also allocates ¼¢ of the state sales tax to counties for transit through the Local Transportation Fund.
- 9.36 Under current legislation a further ½¢ could be added to the local sales tax, however this would require a referendum and need a two-thirds majority to pass. As an example, a ¼¢ increase in sales tax in the Sacramento region would generate an estimated \$1.5 billion over the period, or an average of \$50 million annually (in today's dollars) in additional revenues.³

Road Pricing

- 9.37 Road pricing mechanisms include charges and fees imposed on motorists with the intent of shifting more of the total transportation cost onto the automobile. Depending on how the charge is structured it can affect behavior differently. However, the challenge of implementing any road pricing mechanism for funding transit is that most automobile drivers want revenues collected to be used towards improving roads or reducing congestion.
- 9.38 There are already however, a number of successful road pricing programs around the world and, in the context of a 30-year strategy, should not be discounted. Examples of road pricing tools include gas taxes, road tolls and taxes and levies on vehicles and parking.

Regional Gas Tax

- 9.39 Counties have the power to levy a fuel tax on a county-wide basis under the California Revenue and Taxation Code. There are no limits on the level of taxation but the county and cities within the county must approve the tax and a proposition must be submitted to and approved by the county's voters. The funds may only be used for infrastructure capital projects, not for maintenance, operations or vehicle purchases.
- 9.40 Since gas taxes are already collected, an increase would be relatively easy and efficient to administer. One potential problem with levying a local gas tax is that some people would simply choose to buy gas in a neighboring county. However, in other jurisdictions with differential gas prices show that the difference in gas prices has to be significant for people to drive a longer distance for gas.
- 9.41 With the increased focus on climate change and air quality, many jurisdictions are beginning to implement carbon emission related charges in order to reduce automobile use. In most cases the carbon emission charge is a fee on fuel (similar to a gas tax) or a fixed fee per vehicle, but given the attention currently given to climate change, a carbon tax may be more easily accepted than a straight gas tax.

³ Based on the revenue projections of the existing TDA -LTF sales tax revenues.

- 9.42 As an example, a five cent per gallon gas tax of gasoline would raise approximately \$30 million per year in today's dollars.

Vehicle Levy

- 9.43 A vehicle levy is the pricing mechanism that would generate the most revenues. It would include levying a fixed fee on each vehicle in the region at the time of annual licensing. The fee could be variable based on size or fuel efficiency of the car.
- 9.44 As an example, given the large number of cars in Sacramento County, a charge of \$50 per vehicle would generate almost \$95 million per year (in today's dollars) in additional revenues, or \$2.7 billion over the period.

Congestion Pricing

- 9.45 Congestion pricing through tolls is a road pricing mechanism that can potentially have a large TDM effect. However, congestion charges are typically only implemented over relatively small geographic areas that can be easily cordoned off. The area also has to have significant congestion and transit has to be a real option to those drivers who choose not to drive. Without a solid transit option, the charge will be viewed as just another tax.
- 9.46 The potential revenues from congestion charges have not been estimated as it depends on where the congestion charge is implemented. It is expected that the revenues would be less than a vehicle levy due to high collections costs.

Parking

- 9.47 Parking fees can involve either implementing parking charges on current free parking or increasing existing parking rates. Parking rates are set by the city or county and can be applied to either just the government controlled spaces or can also include a surcharge on private parking spaces. Levying taxes or fees on non-commercial, private parking spaces for the purpose of using the revenues for transit would likely require state legislation to be enacted.
- 9.48 The average fee for parking an hour in downtown Sacramento is \$1.25 for on-street and \$3.00 for parkades. Sacramento currently raises almost \$12 million per year from on- and off-street parking. Assuming a 50% increase in parking rates with the revenues dedicated to transit, would generate \$5 to 6 million in additional revenues per year.

Property Based Charges

- 9.49 Property based charges consist of property taxes, development charges or access charges charged either to home owners or the developers who build them.

Property Taxes

- 9.50 Property taxes are a fairly common funding source in some jurisdictions and while further legal guidance may be needed, it is believed that RT has the right to levy property taxes for transit purposes as long as the cities and/or county approve such an initiative and the public supports the tax through a ballot initiative.

- 9.51 The average residential property tax in Sacramento is 1.1%, or approximately \$3,000 per year.⁴ An increase in the average property tax by 0.04%, or \$100 per residence, would generate approximately \$95 million per year in additional revenues.

Development Charges

- 9.52 Development charges can fund new transit infrastructure or services made necessary by new development. Developers pay a one-time charge towards the funding of the capital cost of new infrastructure and/or to provide services.
- 9.53 In Sacramento, the New Measure A stipulates a \$1,000 development charge for every new single family unit and a charge for multi-family, commercial and retail development based on trip generation and 20% of these revenues will be dedicated to transit.

Access Fees

- 9.54 This is a charge that is levied on commercial and government-owned properties that benefit from transit. It differs from development charges as they are typically levied annually and would be applicable to all commercial properties within a designated distance of a transit station (e.g. half a mile). More research is required to determine the revenue potential of this revenue source, but it is not expected to be significant.

Summary

- 9.55 As shown in this chapter, implementing the full TransitAction Plan will require a broad range of new funding measures to close the emerging funding gap. New funds will be particularly needed to pay for the ongoing operating costs associated with the large increases in service hours.
- 9.56 To achieve a long-term and sustainable funding strategy for the plan, it must be built around multiple revenues sources where all the beneficiaries of improved transit services have to pay a share of the cost. This will require a combination of increases to existing revenues as well as adopting new ways to fund transit.
- 9.57 Table 9.3 summarizes the revenue sources that are deemed suitable for RT to pursue as funding mechanisms for the TransitAction Plan. The table summarizes the fee or increase that is contemplated, the amount of annual revenues it would generate and a relative degree of difficulty on how hard it would be to implement the change.
- 9.58 While the precise amount and timing of each new funding source will need to be determined through further research and consultation with the RT Board, its stakeholders and the general public, Table 9.3 demonstrates that there are a range of funding options that RT could pursue that in combination could be used to implement the full TransitAction Plan.

⁴ Based on an average assessment of \$280,000

TABLE 9.3 POTENTIAL REVENUES FROM NEW REVENUE SOURCES

Revenue Source	Example of Charge / Increase	Annual \$m Generated	Ease of Implementation/ Administration
Fares	Double the average fare	\$75m	Within RT authority - increase existing charge
Sales Tax	Additional 1/2%	\$100m	Moderate/Hard - Process established (requires 2/3 public support) - increase existing charge
Regional Gas Tax	\$0.05 per gallon	\$30m	Moderate - increase existing charge, but need voter approval for new application of revenue
Vehicle Levy	\$50 on licensing fee per vehicle	\$60m	Difficult - increase existing charge, but likely need legislation for new application of revenue
Parking Charges	50% increase	\$5m	Difficult - increase existing charge, but likely need legislation for new application of revenue
Special Tax	\$100 per household	\$95m	Moderate - institute special tax, but need voter approval for new application of revenue
Rental Car Tax	5%	TBD	Moderate - increase existing charge
Hotel Tax	5%	TBD	Moderate - increase existing charge
Developer Charges & Access Fee	Project specific	TBD	Possible, but requires Partner support - increase existing charge on communities