

SACRAMENTO

TransitAction

Regional Transit Master Plan



FINAL REPORT



SACRAMENTO REGIONAL TRANSIT MASTER PLAN

TransitAction Plan

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Prepared for:

Sacramento Regional Transit District
1400 29th Street
Sacramento, CA 95816
USA

+1 916 321 2800
www.sacrt.com

Prepared by:

Steer Davies Gleave
1000 - 355 Burrard Street
Vancouver, BC V6C 2G8
Canada

+1 604 608 6198
www.steerdaviesgleave.com

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Foreword: Welcome to 'TransitAction' - Sacramento's New Transit Master Plan

Sacramento Regional Transit (RT) last updated its Transit Master Plan in 1993. Since then, many changes have occurred in the Sacramento region, including the continued expansion of the Light Rail network and bus services, but also continued urban sprawl and increasing congestion.

Preparations for this new long-term Transit Master Plan started in early 2006 with the issuance of a Request for Proposals from consultants to provide specialist services to work with the agency in developing the Plan. RT's challenge to them was to develop a Transit Master Plan that was both visionary and pragmatic and there was a need for an ambitious long-term 'Vision for Transit' in the Sacramento region over the next 25 years. At the same time, RT also wanted clear guidance on how to fund and deliver the resulting Plan.

When RT embarked on the new TransitAction Plan process, it was evident that transit faced a series of major challenges, not least of which were declining support from the State and steadily rising ridership. Partners like Sacramento Area Council of Governments (SAGOG) and the local jurisdictions had developed a long-term land use vision, the Blueprint, which sought an alternative future for the region based on smart growth principles which emphasized more compact land use with mixed-use developments and high quality design standards. Transportation choice, including greater access to transit services, is a key component of the smart growth approach and as such Regional Transit fully supports the Blueprint.

The Blueprint offers a more sustainable future, recognizing long-term trends that will see major increases in the region's population, its number of households and employment opportunities, and changes in the demographics of the region as the

'baby boomers' add to the proportion of elderly within the region of Sacramento.

But RT now faces even more urgent challenges, regionally and nationally. Since early 2006, when this TransitAction Plan process began, there have been unprecedented changes in the economy. The 'credit crunch' has had a major impact on the housing market across the country and within this region, new house-building has virtually stopped. As the State has faced a funding deficit, it has diverted funds that would otherwise have supported ongoing transit service. As a result, Regional Transit has endured a series of budget cuts that have resulted in service cuts and fare increases.

At the same time, gas prices spiked at over \$4/gallon which led to unprecedented increases in transit ridership as people looked to more affordable means of transportation. The Sacramento transit market has moved from 'transit-dependents' to new 'choice riders' as the Sacramento region's vulnerability caused by extensive low density land use and dependence on the automobile was exposed.

At a national and even global level, further major changes have taken place. No one could have foreseen the scale of the changes for our financial sector or our automotive industry. As we entered a major economic recession, there was a growing realization about the need to address the concerns around climate change, air quality, energy prices and security.

However, there is cause to be positive in these changing times. The new federal administration has recognized the challenges with its economic stimulus package and a renewed focus on cities and infrastructure, along with a need to address climate and energy issues. California is also leading the way in tackling climate change. In this context, the role of transit in our communities has never been more important and the timing of the Transit Master Plan could not have been better.

With inputs from a wide range of partners and stakeholders, RT has developed a clear Vision

which requires a new approach for Regional Transit. The Vision advocates greater partnership between agencies and with the public, and it lays out an ‘Integrated Transit Solution’ which focuses on a comprehensive approach to sustainable land use planning and complementary transportation demand management (TDM) measures. A ‘transit-only’ approach to transit planning and investment will no longer be a good enough response to the new challenges we face.

This more comprehensive approach to transit planning and service provision will have many benefits but will inevitably cost more to build and operate. The Plan sets out a range of funding options that will need to be discussed as the Plan moves forward.

This new Plan has been developed through a major outreach program and RT is grateful for the support it has received from a wide range of stakeholders and the public in its development. It is The People’s Plan.

I am proud to present this ‘TransitAction Plan’ and its long-range delivery strategy. It is what you, Sacramento, told us you wanted and now we need to make it happen.

Mike Wiley

General Manager, Sacramento Regional Transit

August 2009

INTRODUCTION

1



1 Introduction

Introduction

1.1 Sacramento Regional Transit (RT) is the largest transit authority in the Sacramento region. The last long term plan for RT was a Transit Master Plan developed in 1993. Since then, the region has experienced significant growth in population and employment and regional forecasts prepared by the Sacramento Area Council of Governments (SACOG) predict that this growth will continue well into the future. There is therefore a need for a fresh view on RT's long term plans to ensure that it can continue to support the economic growth and mobility needs of the region.

Background and Context

1993 Transit Master Plan

1.2 The 1993 Transit Master Plan highlighted that the growing shift away from a single downtown core towards a polycentric region with dispersed centers and continued low density residential suburban sprawl was

making efficient transit delivery increasingly difficult. Distances between home and destinations - jobs, shopping, schools and hospitals - were continuing to increase leading to longer journeys and increased congestion across the region.

1.3 Increases in trip lengths, journey times and congestion were not only having an adverse impact on Sacramento residents' quality of life, they were also beginning to have a real and measurable impact on the region's air quality.

1.4 The 1993 Transit Master Plan set a course for RT that included large scale investments in its light rail and bus networks and since its adoption, RT has more than doubled the length of its light rail network to over 37 miles. However, despite this major investment, RT's services have only been able to capture 1% of the total travel market in the region.

1.5 As the sprawl of jobs and homes has continued throughout the region, it has become even more difficult for RT to provide a substantial or fully effective transit service.



The Capitol Building, Sacramento, California.



A New Way to Grow

- 1.6 Planning work undertaken by SACOG has forecast that the regional population will grow to 3.5 million by 2050 (87% increase) with an increased number of households (115% increase) and jobs (100% increase). At the same time the composition of the population will change with a growing number of elderly residents and people living on their own.
- 1.7 For the past 50 years or more, the Sacramento region has grown as a result of cheap gas prices and a land use pattern designed for an automobile-dependent lifestyle. Residents have become accustomed to using their cars for virtually every trip and parking in most places is abundant and cheap adding a further incentive to drive.

- 1.8 However, over the past few years there has been a growing recognition that the Sacramento region needs to steer a different course. SACOG has developed an alternative land use vision called the Blueprint that is based on the principles of ‘Smart Growth’. This approach consumes less land because of policies based on higher density and mixed use development with an emphasis on livable neighborhoods and local communities where walking and cycling, as well as greater transit use, are encouraged as alternatives to using the car.

- 1.9 The Blueprint is a 50-year vision, highlighting that change will occur incrementally, not immediately. Its delivery is also dependent on a consensus between many stakeholders: the local jurisdictions to adopt Smart Growth guidelines in their general plans; land owners and the development community to realize a benefit in Smart Growth projects; and the public to shift to a different lifestyle, moving away from low density suburban development to well designed communities that have a mix of land uses and better transportation choices. The Blueprint promotes communities that create a more vibrant and interesting place to live and work.

- 1.10 While such a comprehensive shift in the way the Sacramento region is planned may have seemed ambitious when the Blueprint was adopted in 2004, there has since been a major shift in circumstances, all of which highlight the need for a new approach for transit provision in the Sacramento region.

The Role for Transit

- 1.11 The 2008 spike in gas prices and the 2009 recession have highlighted that economic conditions can have a considerable impact on where people choose to live and work and how they travel, with increased levels of transit ridership recorded in 2008. Gas prices are likely to increase in the long term and congestion will only get worse with

FIGURE 1.1 BLUEPRINT PREFERRED SCENARIO



population growth; therefore, the public will be more open to finding quicker, more affordable ways to travel.

1.12 RT's services already provide a vital service in the Sacramento region. Now, however, there is a need for a comprehensive step change in the quality, coverage and frequency of transit, making it a real transportation choice that is clean, convenient, reliable, efficient and affordable. The way transit is provided will need to adapt to changes in population and employment by connecting employment centers throughout the region to the populations that access them. The Vision set out in this TransitAction Plan will make transit a convenient lifestyle choice in the Sacramento region.

Structure of the TransitAction Plan

1.13 This Transit Master Plan (RT's TransitAction Plan) consists of ten sections. Following this Introduction, Section 2 examines *The Transit Challenge* in more detail, looking at global, national, regional and local changes that influence the content and direction of the Plan.

1.14 This is followed in Section 3 by a brief summary of our *Existing Conditions*, looking at RT's current organization, infrastructure and operating performance, along with already planned major projects.

1.15 With our benchmark established, Section 4 then starts to address the *Transit Vision* for the 25-year TransitAction Plan. This section takes a comprehensive look at the components of successful transit, drawing on a review of experiences from elsewhere in California, the US and Europe. It concludes by presenting the TransitAction Plan Vision Statement and supporting objectives, and also highlights the need for an integrated approach encompassing Smart Growth land use and complementary transportation demand management measures.

1.16 Section 5 then provides details of a range of *TransitAction Plan Scenarios* that have been developed to examine the impacts and benefits of different combinations of transit investments. These were used to provide the material for a comprehensive outreach program, the results of which have been used to shape the development of the final TransitAction Plan.

1.17 The details of the outreach program are presented in Section 6, *The People's Plan*. The combined findings of the technical scenario testing and the outreach have then been used to frame Section 7 which contains details of the proposed capital program for the *TransitAction Plan* covering 2009-2035. In addition, detailed *Transit-oriented Development Guidelines* are included in this document to help guide future development with regard to mix of uses, design, and intensity that ensure transit effectiveness.



RT aims to make transit an easy and accessible way of life for all residents of Sacramento. (Lyon, France)

- 1.18 Section 8, *An Integrated Approach to Service Planning*, sets out details of the increased transit frequencies and operating hours that form a part of the Plan. Updated Service Planning Guidelines, to be used by Regional Transit to measure transit performance and ensure that services are working to achieve the TransitAction Plan Vision, are also presented.
- 1.19 The concluding Sections of the TransitAction Plan then turn to how the Plan will be achieved. The pragmatic aspects of the

TransitAction Plan are addressed in Section 9, *Finding the Funding*, which describes the need to identify sources of funding to pay for the Plan. Finally, Section 10 sets out a phased delivery plan and *Implementation Strategy* for the content of the TransitAction Plan.

- 1.20 The TransitAction Plan is supported by an Americans with Disabilities Act/Paratransit Plan and followed by an updated Short Range Transit Plan.



A cyclist waits for the passing LRT.

The image shows two high-speed trains, likely Shinkansen, on parallel tracks. The trains are white with blue and yellow decorative stripes. The train on the right has the number '27' visible on its front window. A semi-transparent green horizontal bar is overlaid across the middle of the image, containing the text 'THE TRANSIT CHALLENGE' and the number '2'.

THE TRANSIT CHALLENGE

2

2 The Transit Challenge

Introduction

- 2.1 As a key starting point to the development of the TransitAction Plan, two ‘strengths, weaknesses, opportunities and challenges’ (SWOC) assessments were undertaken - the first looking at the wider issues facing the Sacramento Region as a whole and the second focused specifically on Regional Transit (RT) as an agency. These analyses were supported by two main sources of information: interviews with the RT Board members and key staff; and, an independent review of key background and contextual documents, projects and reports.

Regional Transit Board and Key Staff Interviews

- 2.2 A series of meetings and interviews were undertaken with RT Board members and key members of RT staff throughout the fall 2007. These meetings had two purposes: to both shape the overall direction of the TransitAction Plan; and to identify some of the daily challenges for RT in delivering its services to the traveling public. The broad themes/questions discussed included:

- What are the key issues and challenges facing Sacramento’s transit system in the future?
- What is the long range vision for transit in the region and is there more that can/should be done than is already planned?
- What is RT’s view on the Preferred Blueprint Scenario for 2050 and the implications this will have on transit service/service delivery in the Sacramento region?
- Are there any specific projects, services or changes that are essential to the

success, or failure, of transit in the region’s future?

- How should we address the need for additional capital and operating funding for transit in the region?
- How will the TransitAction Plan fit within this context and what role will this plan need to play in changing the direction for RT in the Sacramento region?



The challenge is how to make transit a real transportation choice.

- 2.3 The key outputs of the discussions were as follows:

- The TransitAction Plan should be ambitious and provide direction for transit in the region. The general consensus was that the TransitAction Plan should be more than a “Transit-only Transit Master Plan.” The TransitAction Plan must address wider land use issues in a growing region and must also set out the case for transit in relation to other transportation modes;
- Many of RT’s services are provided as a social service (“lifeline” services) and for RT to be successful, they need to grow their market share and attract new users (choice riders). There was a realization that trends in gas prices, congestion, air quality and other factors all required

that transit needed to be developed as a real transportation choice. This would not be achieved by a “transit-only” approach and the TransitAction Plan would require a focus on partnerships with other agencies to achieve common goals;

- Successful transit services provide competitive journey speeds, direct routes to key destinations, high(er) frequencies, punctuality and reliability. Light Rail and Bus Rapid Transit (BRT) were viewed as offering these attributes and Streetcar solutions were also advocated as a means of attracting ridership. However, there was also a clear recognition for the need to have a strong bus, neighborhood ride and paratransit service supporting the whole, wider network;
- There is a need to raise the profile and image of transit. There was a strong view that the TransitAction Plan should also address the need to improve the quality and standard of the transit service provided including: reducing nuisance behavior on transit, improving network information, marketing, fares and ticketing, transfers between modes and operators and generally making the network more “legible.” The use of new technology was also seen as part of the TransitAction Plan;
- Smart Growth and the regional Blueprint will not be delivered without transit. The importance of the Blueprint was recognized in defining the land use future for the region. A number of examples were given of trends towards higher density “urban” lifestyles. However, the largely low-density, suburban form of the region’s existing land use and the trends for growth in population, housing and employment were seen as major issues for the

TransitAction Plan. The diversity of employment locations and new development locations and the need for transit links was also highlighted. There was a strong view that the TransitAction Plan has to draw relevant partners/agencies together to ensure that Smart Growth ambitions are realized;



Continuing, low density suburban development will not meet the region’s long-term objectives

- We must make transit seamless, easy, relevant and convenient. A “Put the Passenger First” approach was supported. This requires the TransitAction Plan to review the routes, services, frequencies, standards and modes all undertaken within the wider context of the Blueprint and other challenges over the next 25 years. The governance issue was also raised, with a general view that wider transit coordination should be addressed as an alternative to fragmented local service provision. It was felt that a wider approach to service planning and provision could generate efficiency savings (maintenance and purchases), and provide benefits for riders through coordinated information, fares/tickets

and schedules. This wider approach to governance does not preclude the option of locally focused and branded transit services; and

- Transit funding for capital and operations is a major challenge. A consistent theme raised at all the interviews was the need to address funding both for capital investment and for transit operations. The need for service cuts in 2008 highlighted the funding issues facing transit service investment, expansion and operations. The TransitAction Plan has to provide the case for funding, explaining the need for funding increases if the desired outcomes (improved services, higher ridership, greater operating efficiencies, better integrated land use and transit, transit as a real transportation choice, Blueprint objectives) are to be realized in the short, medium and long-term.

The Strengths, Weaknesses, Opportunities, Challenges (SWOC) Assessment

- 2.4 The contextual information from the interviews along with background research provided the starting point for undertaking the SWOC assessment. In order to better frame the specific strengths, weaknesses, opportunities and challenges, two separate yet related SWOCs were prepared: the first was done at the macro or regional level and the second was a more detailed examination of RT.
- 2.5 The SWOC assessment was not only undertaken to provide useful context and a starting point for developing the TransitAction Plan, but also to help set the overall vision and objectives for the Transit Master Plan.

The Macro or Regional View

- 2.6 The first SWOC (Table 2.1) highlights the wider issues that influence RT's ability to provide a high quality transit service. As the capital of California, Sacramento has a strong regional economy and also benefits from a favorable climate. These issues combine to make the area an attractive place to live and work. However, over the last 50 years growth in the area has been relatively low-density and suburban in nature. Employment and other opportunities have also tended to disperse, moving away from a conventional downtown/suburban growth pattern to a polycentric land use pattern with employment, retail and other services found in several locations across the region. Many of these issues work against the delivery of an efficient transit network.



Sacramento's strong regional economy and favorable climate are strengths for the city.

- 2.7 Looking ahead the inherent attractions of the region forecast an increase in population, employment and households, adding to existing issues relating to congestion and air quality. The Blueprint vision has been developed in response to these challenges.

TABLE 2.1 SWOC ASSESSMENT – THE BIG PICTURE

<p>STRENGTHS</p> <ul style="list-style-type: none"> ■ High employment ■ (Relatively) Low gas prices ■ Sacramento’s climate & topography ■ The Blueprint initiative ■ State capital of California 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> ■ 50 years of suburban, low density development ■ Dispersed, multiple activity centers ■ High automobile dependency ■ Congestion ■ Poor air quality
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> ■ A Smart Growth future ■ A need for transportation choice ■ Transit-oriented development ■ 21st Century information technology ■ Green/renewable technology ■ A state/national/international leader 	<p>CHALLENGES</p> <ul style="list-style-type: none"> ■ Big increases in population, employment and households ■ An aging population ■ Worsening congestion ■ Worsening air quality ■ Climate change ■ Energy prices & security

Specific Strengths

- Strong and diversified employment market (retail 27%, office 42%, industrial 16%, public/quasi-public 15%);
- Blueprint predicts a 20% job growth to 568,000 jobs (retail 25%, office 63%, industrial 8%, public/quasi-public 4%);
- Climate and topography of the region - annual average temp 74°F, 78% probability of sunshine;
- State capital - a center for leaders and decision makers as well as state, federal and local government employment; and
- One of the most ethnically diverse major cities in the US.

Specific Weaknesses

- Air quality - Sacramento ranks in the top 12 areas in the US for the number of days that air quality does not meet federal health standards and is the 6th worst in the nation for ozone pollution;

- Continued suburban development making transit provision difficult;
- Without any change, time spent driving in congestion is forecast to increase by 35%; and
- 92% of all trips are made by car (1% transit, 7% bike/walk).

Specific Opportunities

- Up to 50% of new housing to be ‘attached’ products in Sacramento County;
- Blueprint ‘friendly’ General Plans being developed;
- Large in-fill developments can provide a ‘show-case’ for transit-oriented development;
- Higher density and mixed use development is required if transit mode share is to reach Blueprint target (1.1% to 3.3% for region); and

- Transit needs to attract lifestyle users. Transportation Choice is a key component of Smart Growth.

Specific Challenges

- SACOG forecasts that Sacramento County will continue growing over the life of the TransitAction Plan. (Details by area are presented in Table 2.2 and summarized below).
 - Population - 55% increase (1.3 million to 2.0 million) by 2035;
 - Households - 60% increase (500,000 to 800,000) by 2035;
 - Jobs - 45% increase (680,000 to 970,000) by 2035;
 - Aged 65+ - 80% increase (125,000 to 225,000) by 2035; and
- Energy prices continue to rise.

TABLE 2.2 REGIONAL POPULATION FORECASTS BY AREA

Jurisdiction	2005	2035
City of Citrus Heights	83,856	94,308
City of Elk Grove	110,843	192,889
City of Folsom	57,454	101,461
City of Galt	23,842	39,429
City of Isleton	1,361	2,239
City of Rancho Cordova	50,679	162,825
City of Sacramento	427,409	642,257
Sacramento County (unincorporated)	527,790	751,135
Totals	1,283,234	1,986,543

Source: SACOG MTP2035 Appendix D

The Regional Transit View

- 2.8 The RT-related SWOC framework (Table 2.3) shows an infrastructure and organization that provides a comprehensive transit service, benefiting from investment over a sustained period and with a set of further projects to enhance the scope and quality of services. However, the analysis also highlights the difficulties posed by the wider macro-issues, resulting in a low market share for transit, and a focus on providing “lifeline services for transit-dependent passengers.” These services and the renewal and maintenance of existing assets are delivered against challenging financial targets.
- 2.9 Looking ahead, RT has many opportunities and significant challenges to address. The role of transit is central to the delivery of a sustainable and prosperous Sacramento region. The growth forecasts and the Blueprint vision will not succeed without a high quality transit network relevant to the 21st Century lifestyles of its existing and future inhabitants.
- 2.10 However, for RT to be able to contribute to the delivery of a new Smart Growth Sacramento, it will need funding for capital investment to extend and improve the quality of the transit network, and for operating revenues to run a comprehensive network.



Transit needs to play a role in reducing congestion.

TABLE 2.3 SWOC ASSESSMENT – THE REGIONAL TRANSIT VIEW

<p>STRENGTHS</p> <ul style="list-style-type: none"> ■ Mature existing transit system ■ The light rail network ■ Modern bus fleet ■ RT staff ■ Overall passenger growth ■ A range of new expansion projects ■ Recent increases in farebox recovery 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> ■ Transit market share ■ Perception of a ‘lifeline’ service offer ■ Finances are tight ■ Delivery timescales for new projects
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> ■ RT as a leader/innovator - information technology, carbon footprint, etc. ■ Changing public opinion - from ‘Lifeline’ to ‘Lifestyle’ ■ Genuine transportation choice ■ ‘New Transit’ as the key to a Smart Growth future ■ Integrated transportation solutions ■ Working with ‘tomorrow’s travelers’ ■ More people means more passengers 	<p>CHALLENGES</p> <ul style="list-style-type: none"> ■ Maintenance & renewal of existing facilities & infrastructure ■ Providing a transit system for an expanding & dispersed region ■ Responding to a changing demographic - an aging population ■ How can RT ‘help save the planet’? ■ Finding the funding ■ Government and public’s willingness to pay for transit improvements

Specific Strengths

- 95 bus routes, 37 mile light rail system;
- Serving 1.4 million potential customers covering a service area of 418 square miles;
- Ridership more than doubled in last 20 years - from 14 million in 1987 to 34.4 million passengers (fiscal year to end December 2008); and
- 100% compressed natural gas fuel in full-sized (40’) fleet.

Specific Weaknesses

- Transit only carries a small share of the overall travel market (1.1%);
- Recent service reductions and fare increases;
- Reduction/elimination of state funding sources;
- Perception of RT services as a social service rather than mass transit; and
- RT is only one of 14 regional transit agencies.

Specific Opportunities

- Up to 50% of new housing to be ‘attached’ products in Sacramento County;
- 20% of RT’s passengers use transit to get to school;
- Patronage on the system is continuing to grow (4-7% per year) and existing riders rate the system positively (72%); and
- SACOG’s analysis predicts:
 - Region-wide transit trips will grow from 93,000/day to 629,000/day by 2050; and
 - Region-wide trips into the Sacramento downtown will rise by approximately 40% by 2050.

Specific Challenges

- RT’s light rail vehicles are approaching mid-life refurbishment and will need to be replaced during the life of the TransitAction Plan - 60% of the fleet is between 17-20 years old;
- RT provides and maintains 3,600 bus stops but only 40% have benches (1,470)

and less than 10% have shelters (332); and

- The number of seniors is predicted to double, increasing demand for fully accessible transit and Paratransit services, including bus shelters and other transit amenities.

Conclusions

- 2.11 The inputs from RT Board members and staff and the SWOC analyses have defined the challenges facing RT as it develops the TransitAction Plan. The long-term changes to the region with the forecast of continuing growth and the new ambitions as set out in the Blueprint point towards a TransitAction Plan that sets a new transit agenda with an integrated approach to capital investment and improved levels of transit service. It also calls for an integrated approach between transit planning, Smart Growth land use and a complementary approach to transportation demand management. This complete approach to transit planning will put Sacramento alongside many of its contemporaries, in California, the rest of the country and beyond.



Transit ridership is increasing but cuts in funding and ageing infrastructure presents real challenges for RT

EXISTING CONDITIONS:
THE REGIONAL TRANSIT AUDIT

3



3 Existing Conditions: The Regional Transit Audit

Introduction

3.1 The Strengths, Weaknesses, Opportunities, Challenges (SWOC) analysis described in the previous section of the TransitAction Plan highlighted a number of issues being faced by RT. Before looking forward to a new transit vision, this section provides a brief summary of the current RT organization.

An Overview of Regional Transit

History and Organization

3.2 RT began operations on April 1, 1973, with the acquisition of the Sacramento Transit Authority. Over the next decade, RT continued to expand bus services to the growing Sacramento region while a cooperative effort emerged among city, county and state government officials to develop a light rail system. Key dates in RT’s history include:

- **1971:** RT was created by the California State Legislature
- **1973:** RT took over Sacramento Transit Authority
- **1987:** 18.3 mile Light Rail starter line began operation
- **1993:** RT began operating Compressed Natural Gas fueled buses
- **1998:** First light rail extension to Mather Field/Mills station began operation
- **2003:** South Corridor extension began operation

- **2004:** Extension of Folsom Corridor to Sunrise began operation
- **2005:** Folsom Corridor extension began operation
- **2006:** Folsom Corridor extension to Sacramento Valley/Amtrak Station began operation

3.3 RT is governed by an eleven-member Board of Directors comprised of members of the Sacramento (four), Elk Grove (one), Citrus Heights (one), Rancho Cordova (one), and Folsom (one) City Councils as well as members of the Sacramento County Board of Supervisors (three).

Annual Budget and Funding Sources

3.4 The fiscal year 2010 adopted capital budget was \$117.1 million and the adopted operating budget was \$139.3 million (Table 3.1). The operating budget is funded from revenues that can be grouped into three categories:

- Operating revenues (fares, contract services and other income) - 36%;
- Local and state assistance - 42.2%; and
- Federal assistance - 21.8%.

TABLE 3.1 SUMMARY OF RT OPERATING EXPENSES (FY09 ADOPTED)

Operating Expenses	\$ Million	Proportion
Salaries and Benefits	89.1	63.9%
Professional Services	23.6	16.9%
Materials and Supplies	9.2	6.6%
Utilities	5.6	4%
Insurance and Liability Costs	10.4	7.5%
Other	2.5	1.8%
January Service Cuts	(1.0)	<1%
TOTAL	\$139.4	100%

Regional Transit Staff and Workforce

- 3.5 RT employs a workforce of approximately 1,130 people, 75 percent of whom are dedicated to operations and maintenance of the bus and light rail systems. RT operates three maintenance and operations facilities: one for buses at 29th and N Streets; one for the Community Bus Service at McClellan Park; and, one for the LRT system at 2700 Academy Way in North Sacramento. A small rail yard with three sidings is also located on R Street adjacent to 13th Street station.



Light Rail vehicles waiting to start service

Transit Operations

Six County Transit Operations

- 3.6 While RT provides most of the transit services within Sacramento County, within the wider six county region covered by Sacramento Area Council of Governments (SACOG), there are 17 other transit operators:

- Folsom Stage Line;
- Yolo County Transportation District;
- Yuba-Sutter Transit;
- Roseville Transit;
- El Dorado Transit;
- South County Transit/Link;
- Unitrans;
- Placer County Transit;

- Amtrak Capitol Corridor Intercity Rail Service;
- Auburn Transit;
- Lincoln Transit;
- Sacramento State Hornet Shuttle;
- Amador Transit;
- U.C. Davis Transportation and Parking Services;
- E-Tran;
- Paratransit, Inc.; and
- North Natomas TMA.

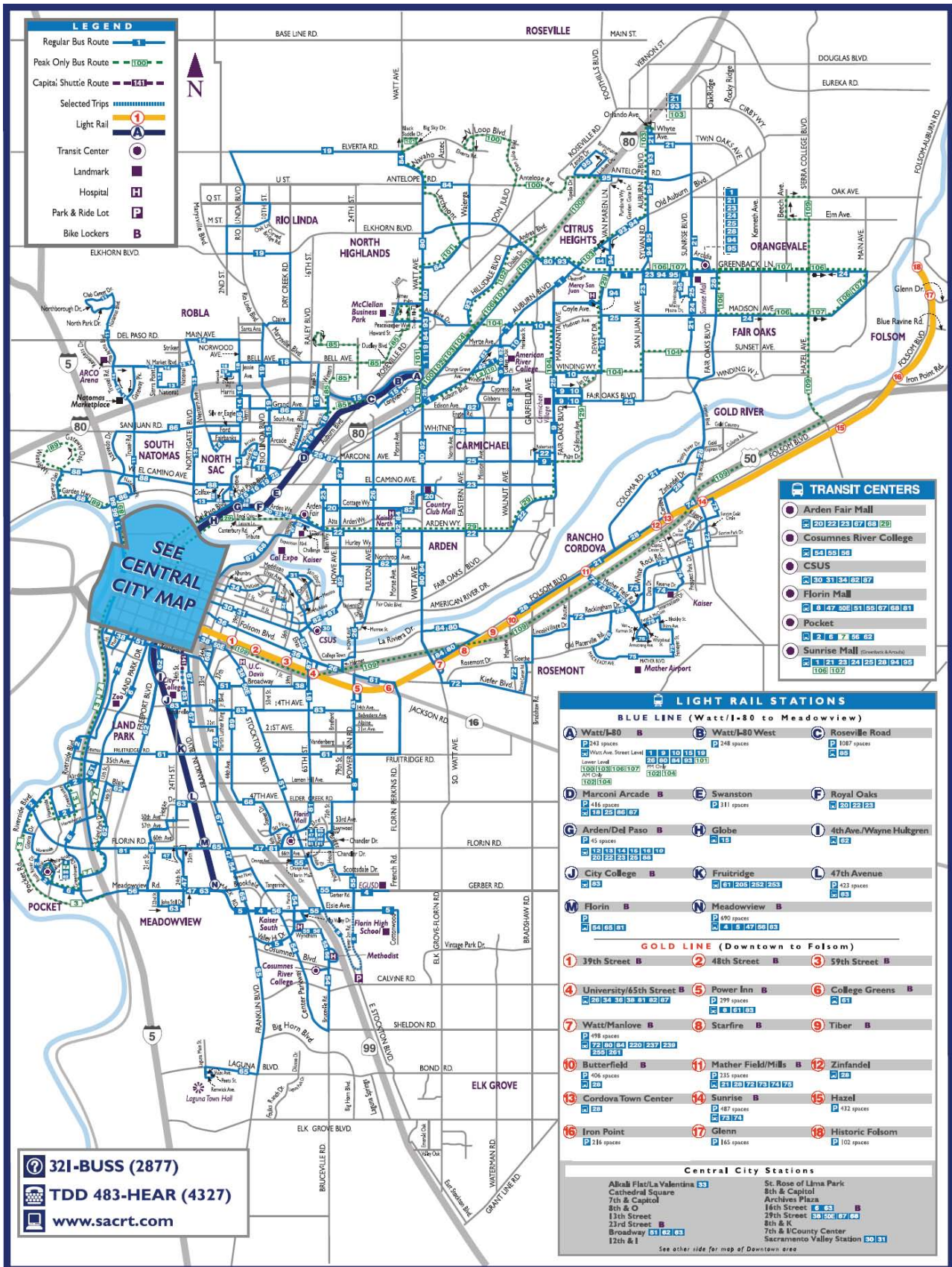
- 3.7 SACOG provides support for service and planning coordination among the region's transit operators through its Transit Coordinating Committee.

Regional Transit Services

- 3.8 RT operates 95 bus routes and two light rail lines covering a service area of 418 square miles with services provided 365 days a year with buses operating daily from 5 a.m. to 11:30 p.m. every 15 to 75 minutes (depending on the route) and light rail operating from 4:00 a.m. every 15 minutes during the day and every 30 minutes in the evening to midnight (Blue Line) and almost 1:00 a.m. (Gold Line). Figure 3.1 presents the current RT Service Area Map.

- 3.9 Included in the bus route services are Neighborhood Ride services. These are special service shuttles that can deviate off route up to ¾ mile to pick up and drop off seniors and passengers eligible for paratransit service.

FIGURE 3.1 REGIONAL TRANSIT SERVICE AREA MAP



- 3.10 RT's existing operations have a peak vehicle requirement of approximately 197 buses and 56 light rail vehicles. The full fleet is larger than this allowing for maintenance and repairs and upcoming mid-life LRT refurbishments and includes approximately 218 compressed natural gas buses, 19 shuttle vans and 76 light rail vehicles (plus 21 awaiting retrofit for use on the RT system).
- 3.11 In addition, RT contracts its demand response, Americans with Disabilities Act (ADA)/Paratransit, services to Paratransit Inc. who provides coverage of the network using 109 vehicles.
- 3.12 Passenger amenities include 48 light rail stops or stations, 26 bus and light rail transfer centers and 18 free park-and-ride lots. RT also serves more than 3,600 bus stops throughout Sacramento County.

Fares and Ticketing

- 3.13 RT provides a number of fare and ticketing options to customers including single trips, prepaid tickets and daily, semi-monthly and monthly passes. In addition 50% discounts are provided to seniors (62 and older), students (aged 5-18) and disabled passengers.

- 3.14 As of September 1, 2009, the current flat fares (on which the 50% discounts are then applied) are:

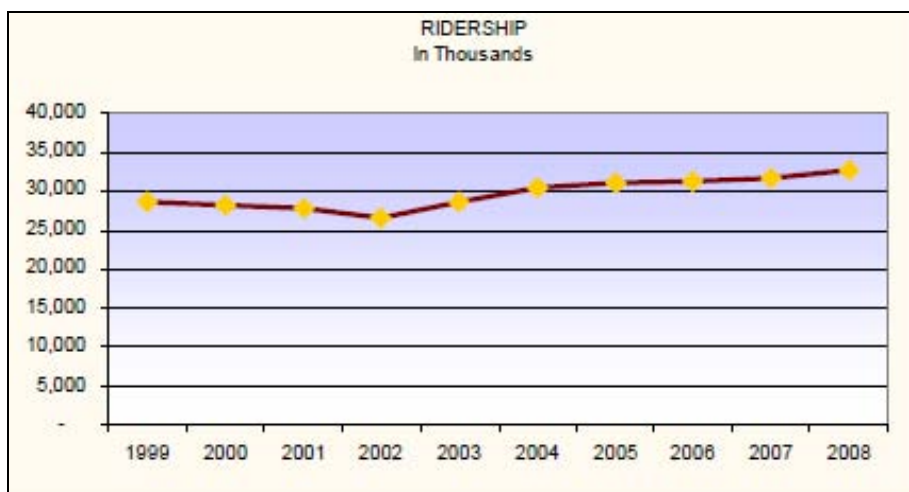
- Single fixed route trip - \$2.50;
- Daily pass - \$6.00;
- Monthly pass - \$100.00; and
- Semi-monthly pass - \$50.00.

Operating Performance

Transit Ridership

- 3.15 Annual ridership has steadily increased on both the bus and light rail systems from 14 million passengers in 1987 to over 32 million passengers in FY2008. Bus ridership declined earlier in the decade but has seen a resurgence over the past year. Figure 3.2 shows the ridership on the RT system over the past decade.
- 3.16 Weekday light rail ridership averages about 51,000, which accounts for approximately 40% of the total system ridership with bus weekday ridership at an average of 58,000 passengers per day. Recent increases in light rail ridership are bringing the proportions closer to 50/50.

FIGURE 3.2 REGIONAL TRANSIT PASSENGER GROWTH



Key Performance Measures

3.17 RT currently use a number of key performance measures to track their relative operational and financial performance over time. Table 3.2 provides the adopted FY 2008 measures (including Oct 2008 actuals):

TABLE 3.2 ADOPTED FY2008 KEY PERFORMANCE MEASURES

Performance Measure	Adopted FY2008	October 2008 Actuals
Subsidy per passenger	\$3.37	LRT-\$1.91 Bus-\$3.73
Farebox recovery ratio	20.6%	24.0%
On-time bus performance	80%	79.4%
Total ridership (millions)	31.3	34.2
Crimes committed (per million passengers)	8.5	12
Complaints (per million passengers)	51.0	35.4

Planned Projects

3.18 In addition to operating and maintaining its current services, RT has an ongoing program of planning and development of new services, light rail extensions and other systems and infrastructure improvements. The current budget (FY2009) focuses on the following capital priorities:

System Expansion

- Northeast Corridor Enhancements - phase 1 of 2 to complete the double-tracking and upgrading of the elements of the northeast section of the light rail Blue Line;

- South Sacramento Phase 2 light rail extension - four mile extension of the Blue Line from its current terminus at Meadowview to Cosumnes River College; and Downtown-Natomas-Airport light rail extension - light rail extension being planned in three phases. The first stage (MOS1 - Minimum Operating Segment) will operate as a start-up downtown circulator from the 13th Street Station to Richards Boulevard (through the future Railyards development site). Future planned phases include extending across the American River into Natomas and then eventually further north to Sacramento International Airport (SMF).



The South Line Phase 2 Extension will extend the Blue Line to Cosumnes River College.

Fleet Program

- Overhaul Siemens and retrofit UTDC rail vehicles. Mid-life refurbishment of the existing light rail fleet.

Facilities Program

- Bus Maintenance Facility #2 - the expansion and construction of the McClellan Maintenance facility, including a second compressed natural gas fueling facility.

Transit Technologies Program

- Farebox Collection / Smart Media Implementation - implementation of a regional smart card system; and
- Light Rail Station Video Surveillance and Recording System, based on a fiber-optic network.

Key Statistics

3.19 RT operates a significant public transit system and Table 3.3 describes some of the key statistics related to their service and operations.

TABLE 3.3 REGIONAL TRANSIT KEY STATISTICS

RT Statistic	2009
Service Area	418 sq.mi.
Service Area Population	1.4 million
Annual Passenger Miles	142.6 million
Annual Ridership	32.5 million
Annual Vehicle Revenue Miles	11.9 million
LRT Vehicles (in operation)	76
Bus Vehicles	236
Paratransit Vehicles	109
LRT Stations	48
Bus Stops	3,600
Transfer Centers	26
Park & Ride Lots	18
Park & Ride Spaces	7,379

Peer Review

3.20 A peer review was undertaken as part of the early development of the TransitAction Plan. The aim of the peer review was to help provide further context to RT's operations and performance as well as to identify cities or agencies for best practice examples of transit service delivery. The cities were not selected because they were de facto peers - some are bus-only systems, others are older or much larger than Sacramento. Rather, the cities and their transit systems were selected because they provide best practices in the successful implementation of transit service.

3.21 The following cities were reviewed:

- San Bernardino & San Diego, CA
- Denver, CO
- Salt Lake City, UT
- Portland, OR
- Charlotte, NC
- Memphis, TN
- Kansas City, MO
- Indianapolis, IN
- Minneapolis/St Paul, MN
- Cleveland, OH
- Vancouver, Canada
- London & Nottingham, England
- Dublin, Ireland
- Montpellier, France

3.22 In addition to looking at the raw data across key operating and performance criteria (e.g. total ridership, fleet size, miles of service provided), a set of indicators were developed to provide a more meaningful comparison across the cities, including:

- Trips per Capita - Trips / Service Area Population;
- Passenger Miles per Capita - Passenger Miles / Service Area Population;
- Average Trip Length - Annual Passenger Miles / Annual Ridership;
- Operating Costs per Passenger Mile; and
- Farebox Recovery - Percent of operating cost recovered from fares.

3.23 Table 3.4 presents all of the comparative indicators in a single table while Table 3.5 presents the California Peers.

TABLE 3.4 KEY COMPARATIVE INDICATORS

Transit Agency	Trips per Capita		Passenger Miles per Capita		Average Trip Length		Op. Costs per Pass. Mile		Farebox Recovery	
	Bus	LRT	Bus	LRT	Bus	LRT	Bus	LRT	Bus	LRT
Sacramento	12.5	11.1	41.2	61.6	3.3	5.5	\$1.56	\$0.55	17%	29%
San Bernardino	11.8	N/A	54.4	N/A	4.6	N/A	\$0.80	N/A	20%	N/A
San Diego	8.7	16.1	33.0	99.4	3.8	6.2	\$0.64	\$0.26	35%	51%
Denver	28.3	4.3	149.7	22.6	5.3	5.2	\$0.64	\$0.59	22%	27%
Salt Lake City	12.4	8.7	85.4	49.3	6.9	5.7	\$0.63	\$0.27	14%	32%
Portland	52.6	27.6	197.5	143.5	3.8	5.2	\$0.82	\$0.39	20%	37%
Charlotte ¹	30.0	0.30	132.3	0.4	4.4	1.6	\$0.74	\$6.92	17%	11%
Memphis	11.8	1.1	64.8	1.0	5.5	1.0	\$0.65	\$3.99	21%	22%
Kansas City	18.3	N/A	68.5	N/A	3.7	N/A	\$1.12	N/A	14%	N/A
Indianapolis	12.2	N/A	60.4	N/A	4.9	N/A	\$0.70	N/A	23%	N/A
Minneapolis ²	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cleveland	25.7	1.7	92.3	9.8	3.6	5.8	\$0.79	\$0.59	22%	14%
Vancouver	75.7		N/A		0.6		\$5.40		55%	



Light Rail at VA Medical Center, Minneapolis, MN



LYNX Light Rail in Charlotte, NC

¹ Data collected for Charlotte does not accurately reflect the full LRT operations.

² Note that the Peer Review was completed in February 2008 and therefore data used in this analysis was drawn from reported 2007 information, which meant that Minneapolis data was not comparable to other cities.

3.24 In many respects the European cities are not direct ‘peer’ cities as their population densities are significantly higher and transit networks far more developed. However, there are some key lessons that can be learned from them including:

- London’s integrated Transport Strategy; smartcard program; modern bus fleets; complete streets; various light rail projects (operating and being planned); and a range of procurement and delivery models including franchising and public-private finance.

- Dublin’s approach to restructuring their land use, transit and transportation planning process through the Dublin Transportation Initiative; the development and delivery of the LUAS light rail system (including the ability to cover operating costs); and the way in which private sector partnerships and local development plans have been used to accelerate the delivery of transit-oriented development in Greater Dublin; and
- Montpellier’s development of the LRT system and its combined transit/city shaping policy.

TABLE 3.5 CALIFORNIA PEER COMPARISONS

California Transit Agency	Trips per Capita		Passenger Miles per Capita		Average Trip Length		Op. Costs per Pass. Mile		Farebox Recovery	
	Bus	LRT	Bus	LRT	Bus	LRT	Bus	LRT	Bus	LRT
Santa Clara VT	20.1	5.3	78.6	27.2	3.9	5.1	\$1.65	\$1.33	13%	15%
Sacramento	12.5	11.1	41.2	61.6	3.3	5.5	\$1.56	\$0.55	17%	29%
Los Angeles County MTA ³	n/a	3.6	n/a	25.6	n/a	7.2	n/a	.48	n/a	n/a
San Diego MTS	9.3	12.6	35.0	78.1	3.8	6.2	\$0.80	.27	30%	49%
OmniTrans	9.9	n/a	45.7	n/a	4.6	n/a	\$0.84	n/a	20%	n/a
North County Transit District	3.8	n/a	17.8	n/a	4.7	n/a	\$0.95	n/a	21%	n/a
Long Beach	2.3	n/a	6.7	n/a	2.9	n/a	\$0.76	n/a	23%	n/a
San Mateo Co.	3.64	n/a	16.7	n/a	4.6	n/a	\$1.38	n/a	16%	n/a

Shaded systems are multi-modal, operating bus, light rail, and sometimes commuter rail or ferry systems. Others are bus-only systems with comparable fleets. The selection of “peers” is difficult, as Los Angeles, for example, is nearly nine times the size of Sacramento but it only operates 80% more light rail cars than Sacramento. Of the peers selected, Sacramento is the smallest in terms of urbanized area population, at 1.4 million. The figures indicate that, for its urbanized area, Sacramento provides a substantial level of transit service per capita, by comparison with its peers. The fact that the urbanized area is just 369 square miles, while the transit agency’s service area is 418 square miles, indicates that it is spreading its service into areas that are less urbanized. This may also explain why operating cost per passenger mile is at the high end.

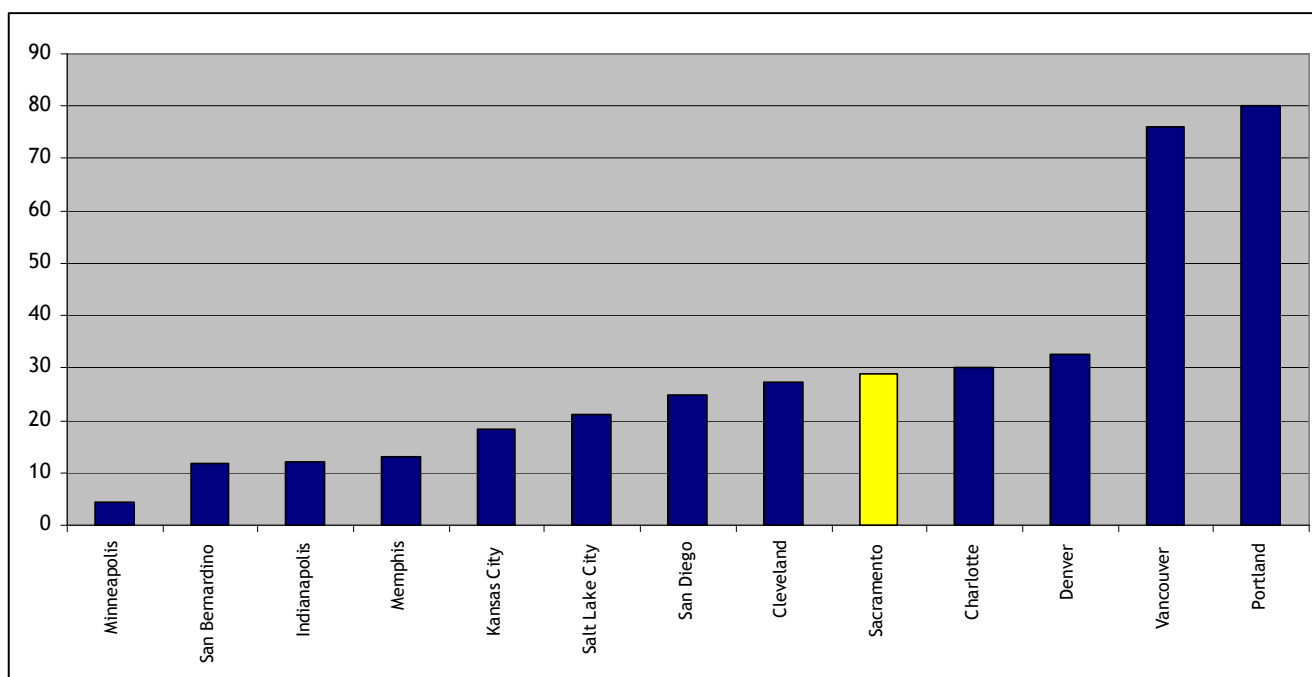
³ LACMTA is not a peer for bus operations, as it operates over 3,000 buses in multiple divisions, including contract service.

3.25 A review of the key points of comparison reveals the following observations:

- Despite the relatively low population and bus fleet size, on a per capita basis, Sacramento is able to attract 15.4 and 13.3 trips for bus and LRT respectively. When bus and LRT trips per capita are combined, Sacramento places among the top half of the North America peer group agencies (Figure 3.3);

- Sacramento is on the low end of the bus passenger miles per capita comparison. When combined with light rail passenger miles per capita, Sacramento’s ranking does not change relative to the other peer agencies that also provide both bus and light rail service. Once again, Portland is the best performing agency in this area by a significant margin;

FIGURE 3.3 TRANSIT TRIPS PER CAPITA (BASED ON SERVICE AREA POPULATIONS)



- Figure 3.3 also illustrates that Vancouver and Portland have the highest combined bus and LRT trips per capita. With a service area population very close to that of Sacramento, Portland is able to attract more than twice the transit trips per capita. Vancouver, with almost double the service area population of Sacramento is also able to attract more than twice as many riders with system-wide trips per capita of 75.7;

- Average trip lengths for both bus and LRT in Sacramento of 3.3 miles and 5.4 miles respectively are lower than most of the North American peers. When bus and light rail are combined, Sacramento’s average transit trip length is lower than all agencies with the exception of Vancouver, Charlotte and Memphis. Average trip lengths in Vancouver are much lower than the other North American peer agencies likely reflecting

the relative population densities in Vancouver's downtown core where short bus and train trips are common. Trip data for Charlotte is likely understated given the newness of its light rail system. In Memphis, where the light rail is a streetcar, it is somewhat expected that the trip lengths would be lower than those experienced in a true light rail system;

- Sacramento RT has the highest bus cost per passenger mile of all the authorities reviewed (Figure 3.4). Light rail operating costs per passenger mile are also slightly higher in Sacramento than they are at other agencies offering light rail, again with the exception of Charlotte and Memphis. Based on the data presented in the table, light rail operating costs per passenger mile are much higher in both Charlotte and Memphis. However, this is likely explained by the relatively small light rail fleets and age of the light rail service in Charlotte which only recently expanded their new light rail fleet to 16

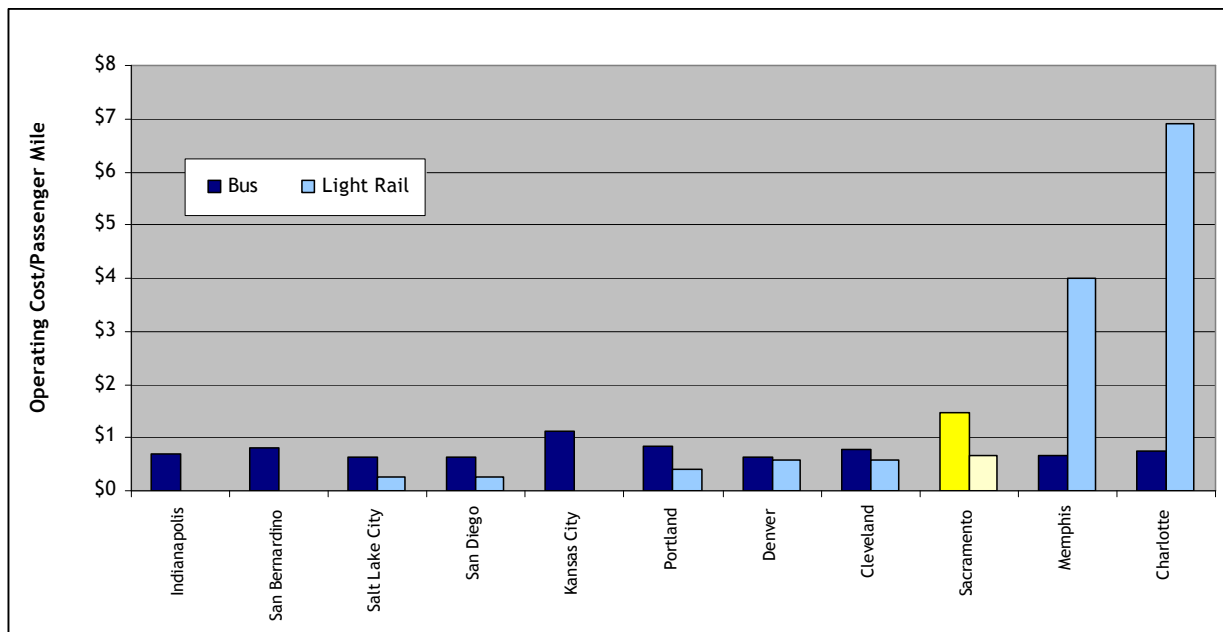
vehicles and has not been operating long enough to generate worthwhile statistics;

- Bus fare box recovery ranges from 14% in Kansas City to 35% in San Diego. Sacramento is towards the lower end of the range. Information by mode is not available for Vancouver; and
- The range of light rail fare box recovery ranges from 11% in Charlotte to 51% in San Diego. Sacramento is towards the mid to lower end of the range (29%).

Current Trends

- 3.26 Due to a number of factors, including increased gas prices through summer 2008 and the economic downturn in late 2008, RT ridership numbers have been increasing dramatically over the past year. February 2009 numbers show a 9% increase over the previous year.

FIGURE 3.4 OPERATING COSTS PER PASSENGER MILE



3.27 However, due to statewide funding issues, RT continues to have its annual budgets cut and, at a time when ridership is at an all time high, is being forced into a downward cycle of service cuts and increasing fares.

Transit-Oriented Development (TOD) Initiatives and Progress

Transit for Livable Communities

3.28 In 2002, RT undertook a land use planning project called *Transit for Livable Communities* that included 21 RT light rail stations in the Folsom, Northeast and South Sacramento Corridors.

3.29 The project objectives were to devise land use recommendations for the 21 stations to: capitalize on the hundreds of millions invested in the existing and future light rail system; develop informed and enthusiastic public support for Transit Oriented Development (TOD); and identify ways for getting TODs built around light rail stations.

3.30 Recommended land use plans emphasized walkable designs, higher intensity development, and a mixture of residential, retail and office land uses, all designed to support and create unique, thriving communities at each station while encouraging transit use. The plans cover approximately a one-quarter mile radius around each light rail station.

3.31 The project included more than 100 outreach meetings in the community and more than a dozen public workshops, spanning nearly two years. The extensive public outreach program included bus tours of the stations, community workshops, presentations to business and community associations, interviews with local, regional and national developers, and regular briefings with City and County staff, appointed and elected officials, and RT Board members.

3.32 On August 26, 2002, the RT Board of Directors unanimously approved the Transit for Livable Communities plan and recommendations. Since that time RT, the City of Sacramento, and the County of Sacramento have been working together to develop transit villages and special planning areas for major light rail stations. RT has also developed economic profiles, land use plans and conceptual development plans for a number of stations across the network. Details for each station are provided in Table 3.6.

3.33 These station area profiles and land use plans form the basis for ongoing discussions between RT and its planning partners, the City and County of Sacramento, as well as numerous local development advisory committees. The aim is to produce station area plans that support transit-oriented development, both at and around the transit station, and work in harmony with the surrounding neighborhoods on land that also benefits from the presence of transit.

FIGURE 3.5 FLORIN TOD CONCEPT



TABLE 3.6 TRANSIT FOR LIVABLE COMMUNITIES INITIATIVE: STATION TOD PROGRESS

Station	Details	Assessment Progress
Folsom Line		
65th Street	0 acres, Close to CSUS Residents - <50, Employees - 900	Economic
Butterfield	1 acre, P&R, Townhouse, Office, Retail	Economic & Land Use
Cordova Town Center	Up to 19 acres (potential) Residents - 274, Employees - 1,722	Economic
Hazel	13 acres, Office, Townhouse, Condo	Economic & Land Use
Horn	0 acres, Office, Retail, Townhouse	Economic & Land Use
Mather Field/Mills	3 acres, P&R Civic, Industrial, Retail/Residential	Economic, Land Use & Concept
Sunrise	5.5 acres, P&R, High Density Office, Retail	Economic & Land Use
Watt / Manlove	7 acres, P&R, Retail/Residential, Hotel, Office	Economic & Land Use
Zinfandel	0 acres, Residents - 964, Employees - 1,094	Economic
Northeast Line		
Arden / Del Paso	0.5 acres, P&R, Retail/Residential, Live/Work	Economic & Land Use
Globe	0.5 acres, Retail/Residential, Office	Economic & Land Use
Marconi	20 acres, P&R Phase 1: Condo, Mixed-Use Retail/ Residential, P&R	Economic, Land Use & Concept
Royal Oaks	2 acres, Phase 1: Office	Economic, Land Use & Concept
Swanston	21 acres, P&R Phase 1: Mixed-Use Retail/Office/ Residential, P&R	Economic, Land Use & Concept
South Line		
47th Avenue	6.5 acres, P&R Retail, Office, Live/Work	Economic & Land Use
4th Avenue/Wayne Hultgren	0 acres, Retail/Residential	Economic & Land Use
Broadway	0 acres, Retail/Residential	Economic & Land Use
City College	0 acres, Retail/Residential, Condo, Office	Economic & Land Use
Florin	22 acres, P&R All Phases: Townhouse, P&R, Condo, Retail, Office, Community Center, Seniors Housing	Economic, Land Use & Concept
Fruitridge	0 acres, Retail/Residential, Townhouse, Civic	Economic & Land Use
Meadowview	20 acres, P&R All Phases: Condo, Live/Work, P&R, Retail/Residential	Economic, Land Use & Concept

A TRANSIT VISION:
PUTTING THE PASSENGER FIRST

4



4 A Transit Vision: Putting the Passenger First

Introduction

4.1 This section of the TransitAction Plan presents the Vision for the future of transit service in Sacramento. It includes a Vision Statement, a supporting set of Objectives, and a Service Philosophy designed to support the design of transit services, networks and routes and ultimately the delivery of the TransitAction Plan.

The Components of a Transit Trip: Removing the Barriers

4.2 The development of the TransitAction Plan included a critical review of all aspects of transit infrastructure and service delivery. If Regional Transit (RT) is to respond to the emerging opportunities and challenges described in Chapter 2, then a more comprehensive, integrated approach to planning and delivery will be essential. The approach developed addressed transit needs at a very basic “single trip” level.



High quality information – a key component of a transit trip

4.3 In doing so all the key stages in a typical transit trip are identified. The process is as follows:

- I need to make a journey. Is transit an option? How do I find out?
- Route planning - is there easy information on schedules, route locations, stops, tickets?
- Access to transit - is it an easy and convenient walk?
- Waiting at the transit stop- do I feel safe? Am I going the right way? How long is the wait?
- The transit journey - do I need the exact fare? Is there change given? Do I get a seat? Is the ride pleasant or do I feel threatened? How do I get help if I need it? Where do I get off?
- Do I need to transfer? If so, where and how?
- My journey's end - how do I get from the transit stop to my destination? Are there signs/wayfinding?
- ...And how do I get home again?
- So many questions. Maybe I'll just drive.

4.4 By addressing each of these barriers to taking transit, the TransitAction Plan will help RT develop a transit system that is accessible, inviting and easy to use that will attract and keep new riders. The key components to be addressed include:

- Information and trip planning that is easy to use and readily accessible;
- Routes and frequencies that provide the right level of service;
- Local infrastructure - sidewalks, lighting, wayfinding and signing, safety and security to make it easy to access the transit network;
- Stations and stops - design, facilities, information, lighting, signing, safety and security, public art, landscaping to make the waiting environment as inviting and comfortable as possible;

- Fares and ticketing systems that are simple to use for regular and first-time users;
- Transit vehicles that are easy to access, offer adequate seating, including standing and storage space, provide information (visual, audible), are comfortable and address safety and security concerns;
- Transit vehicles that are fast, frequent and reliable, regardless of mode. The whole system should, as far as possible, be designed with these attributes;
- Transfer centers - design, layout, convenience of transfer, safety and security, signing, landscaping, public art to make transfers between routes and modes easy, safe and convenient; and
- Final Destination - onward way-finding and information for return journeys.

Improving the transit trip – some key components



Comfortable, modern vehicle interiors.



Integrated CCTV safety and security monitoring.



Real-time travel information for waiting passengers.



Journey planning kiosks provide interactive information.



Wayfinding and maps help people find the transit system and their final destinations (Bordeaux, France)



Bicycle parking and bike sharing programs help people access the network (Lyon, France)





Shelters with seating and real time travel information making waiting for transit more attractive





Transit and transfer centers provide easy access between modes and park and ride sites (top: San Diego, CA; bottom: Strasbourg, France).

TransitAction Plan: Vision, Objectives and Service Philosophy

Introduction

- 4.5 As part of the development of the TransitAction Plan, a workshop was held with key RT staff and managers to help frame the Transit Vision.
- 4.6 The goals of the workshop were to:
- Define the existing RT Service Philosophy;
 - Develop a Vision and related set of Objectives for the TransitAction Plan; and
 - Develop a new Transit Service Philosophy.

Defining the Existing RT Service Philosophy

- 4.7 In advance of developing a service philosophy for what RT would like to be in the future, the current RT service philosophy was defined as:
- Designed for peak period demand;
 - Provides coverage over as wide a service area as possible - sometimes at the expense of providing higher frequencies on more 'productive' routes; and
 - Maximizes light rail investment through feeder bus services.

The TransitAction Plan Vision and Objectives

- 4.8 A draft Vision Statement was developed to provide RT with the 30-year, long term focus. The key principles of the Vision are a focus on 'Putting the Passenger First' and a focus on using transit to support and integrate with the Blueprint's Smart Growth principles.
- 4.9 A set of supporting Objectives were then developed that were directly linked to the Vision, to enable RT to help justify, prioritize and trade-off projects and investments both through the development of the TransitAction Plan but also well into the future.
- 4.10 The TransitAction Plan Vision and Objectives are provided in Table 4.1 on the following page.

The TransitAction Plan Service Philosophy

- 4.11 With a vision and a set of objectives in place, RT's service philosophy for delivering transit services to the region was re-defined to provide a:
- "Core high speed, high frequency, high capacity transit network serving the key demand corridors and destinations supported by a network of community and neighborhood shuttle and circulator services."*

TABLE 4.1 TRANSITACTION PLAN VISION AND OBJECTIVES

<p>TransitAction Plan Vision Statement</p>	<p align="center">“Regional Transit will work in partnership to deliver a TransitAction Plan that supports the Blueprint’s Smart Growth land use principles by providing a modern, efficient and sustainable transit system that attracts and serves riders by offering a real transportation choice catered to their lifestyles and supporting the region’s future economic prosperity.”</p>					
<p>TransitAction Plan Objectives</p>	<p>Provide a safe and secure transit system:</p>	<p>Provide an efficient, cost-effective transit system</p>	<p>Provide an integrated transit system that is linked to transit-oriented, land use policies</p>	<p>Provide a fully accessible transit system that maximizes passenger convenience</p>	<p>Reduce the impact on the environment</p>	<p>Support the economy by improving access to opportunity areas by transit</p>
<p>TransitAction Plan Sub-Objectives</p>	<ul style="list-style-type: none"> ■ All design and operational standards to meet established safety principles ■ Security presence/CCTV on entire RT network ■ Established legal powers/framework for reducing nuisance behavior ■ Defined system-wide cleaning protocols/standards ■ Crime Prevention Through Environmental Design (CPTED) standards applied to fully address ‘whole trip’ safety issues/concerns: ■ Access to stops (including signing, lighting, landscaping) and onward to final On-board safety requirements ■ Stops designs and waiting environment including transfer points/ centers destinations 	<p>Efficient:</p> <ul style="list-style-type: none"> ■ Fast journey times (competitive with car) ■ Reliable services (consistent with performance standards) ■ Punctual services (consistent with performance standards) <p>Cost-effective:</p> <ul style="list-style-type: none"> ■ Maximize ridership through market segmentation and targeted service provision ■ Improve the fare-box recovery of transit services ■ Fare structure and collection that is simple to administer and easy for passengers to use ■ Reduce the per rider cost of transit provision ■ Provide value-for-money 	<ul style="list-style-type: none"> ■ Minimize the need to travel ■ Walkable, livable communities with development and activity focused on transit hubs, centers and interchanges ■ Transit provision linked to higher density, mixed-use Smart Growth development and land use 	<p>Accessible:</p> <ul style="list-style-type: none"> ■ Complete streets to provide safe and easy access to transit ■ Low-level boarding throughout the network ■ Improve access to the transit system for the disabled and elderly ■ Improve the transit system serving disadvantaged areas ■ Improve bicycle access and storage facilities <p>Passenger Convenience:</p> <ul style="list-style-type: none"> ■ Information systems ■ Simple, easy-to-use fares & ticketing ■ High frequency services ■ 24-hour services ■ Direct services to key destinations ■ Easy interchange between lines and modes ■ Park & Ride with complementary services 	<ul style="list-style-type: none"> ■ Increase mode share for transit as well as walking and bicycling within communities ■ Transit service to support Smart Growth ■ RT’s network to be an exemplar green system ■ Policies on use of recycled materials in construction ■ Recycling policies for operational practices ■ Use of proven ‘green’ energy supplies/suppliers ■ Reduce local and global air pollution and greenhouse gas emissions 	<ul style="list-style-type: none"> ■ Transit investment and services linked to (re)development and intensification of land uses ■ Transit service as alternative to car use ■ Transit to support wider business community efficiencies, projects and goals ■ Transit network that provides easy access to retail, commercial, business, government, cultural, educational and leisure facilities ■ Transit services to support the implementation of regional General Plans and Blueprint Smart Growth land use principles

Integrated Transit Planning: Transit, Land Use and Demand Management

4.12 The Blueprint process undertaken by the Sacramento Area Council of Governments (SACOG) identified a need to move away from continued suburban development towards a pattern of intensification and Smart Growth. SACOG, through their Metropolitan Transportation Plan (MTP) 2035, recognized that this new growth alternative could not work on its own and that there was a need for a greater investment in transit service to support the mobility needs of the region.

4.13 RT through the TransitAction Plan is developing a Vision for transit service in Sacramento that will fully support the Blueprint land use patterns of growth. However, RT is not the land use regulator and it must therefore rely on local jurisdictions and the development market to provide the intensified, more densely populated transit supportive communities.

4.14 The TransitAction Plan will only be delivered through an integrated approach to land use planning alongside transit investment combined with transportation demand management (TDM) measures that will make transit a real transportation choice in Sacramento.



Integrating development and transit (Transit Oriented Development) is a key component of the Blueprint and the TransitAction Plan

TRANSITATION PLAN SCENARIOS

5

4 PORTE DE V



5 TransitAction Plan Scenarios

Introduction

5.1 As a part of the development of the TransitAction Plan, three future year transit scenarios were developed. These scenarios served two important purposes:

- They provided the core content of the first phase of public outreach and were used to solicit public feedback and comment on what the future transit network for Sacramento should look like;
- They provided detailed options for which comparative assessments of ridership and costs were developed. The results of the analysis were evaluated to identify the key components of the TransitAction Plan.

5.2 This Chapter presents a summary of the three scenarios, followed by an overview of the ridership forecasting work completed using Sacramento Area Council of Government’s (SACOG) SACMET model and an explanation of the evaluation framework that was used to assess and compare the three scenarios against each other.

Summary of the Scenarios

5.3 Three scenarios were developed to provide the public with concepts of what a future transit network for Sacramento could look like in 2035. These included:

- Scenario A - Base Case: assumes the Blueprint Smart Growth measures are not implemented and transit provision is very much a status quo offer with overall service levels constrained by existing funding sources;

- Scenario B - Blueprint and Metropolitan Transportation Plan: Assumes that the Blueprint land use is delivered and that the transit network is as proposed in SACOG’s Metropolitan Transportation Plan (MTP) 2035; and

- Scenario C - An Integrated Transit Solution: Assumes that the Blueprint land use is delivered, and extends the transit offer beyond the MTP2035 providing a fully integrated package linking the Blueprint with a comprehensive set of transit, transportation demand management (TDM) and transit-oriented development (TOD) policies and projects.

5.4 The following sections provide further detail and maps explaining what projects and assumptions were included in each scenario.



European Street Tram’s such as the LUAS system in Dublin are part of Scenario C.

Scenario A: Base Case

5.5 Scenario A was defined as the Base Case and assumed that the Blueprint Smart Growth measures were not implemented (i.e. land use continues to evolve as it has done over the past 20-50 years) and that transit service levels are similar to those provided today.

5.6 Scenario A included the following characteristics and assumptions:

- Only included existing, confirmed capital projects;
- Service levels would be on par with 2008 but with the capacity of the bus/light rail network expanded to provide sufficient supply for a growing population;

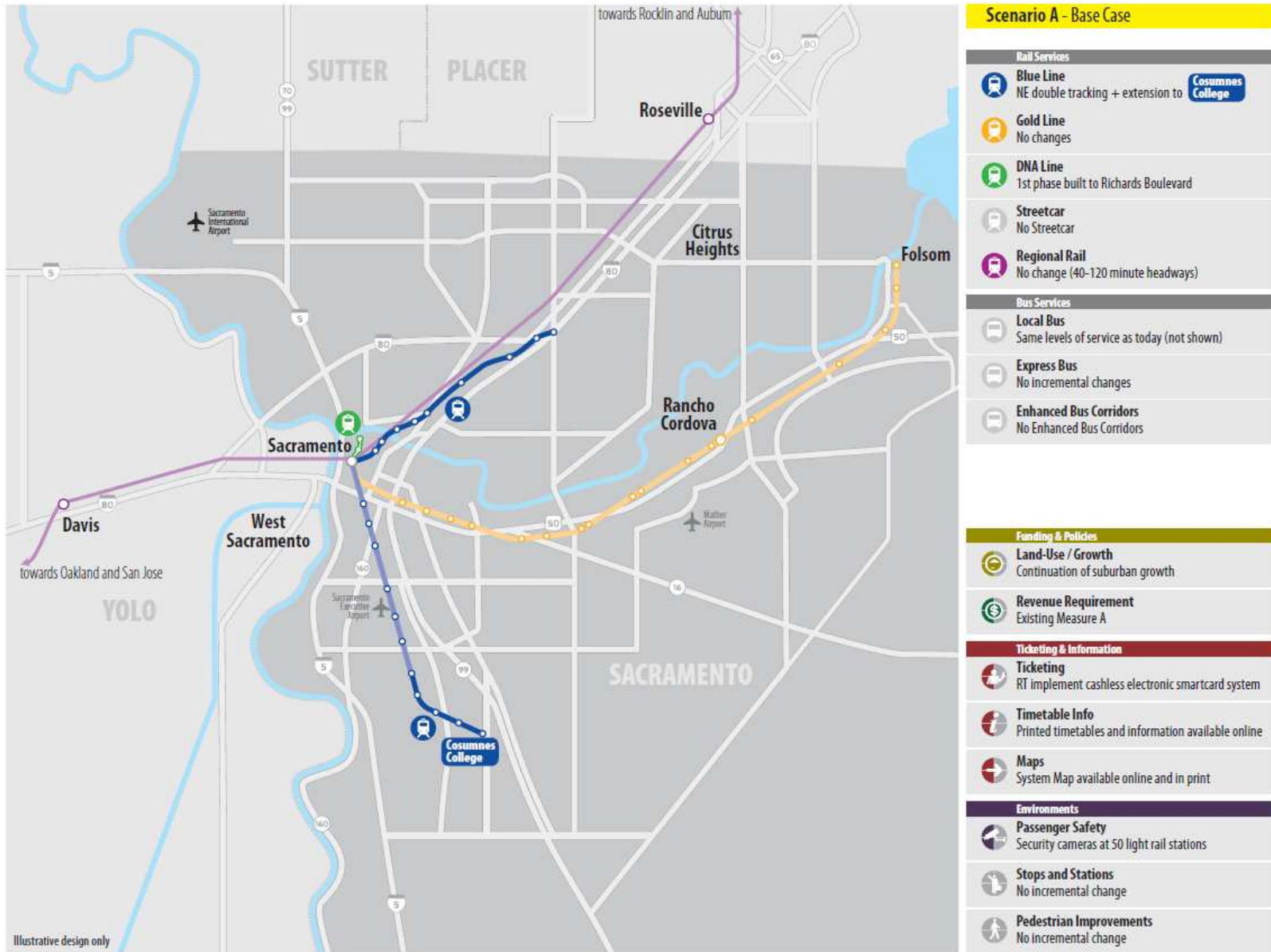
- Assumed a regional Smartcard system would be developed and implemented;
- Regional Transit's (RT) Financial Forecasting Model was used to project services, revenues and costs; and
- Assumed land use patterns would be a continuation of current development patterns (i.e. Blueprint not implemented).

5.7 Table 5.1 outlines the specific components of Scenario A and Figure 5.1 illustrates the changes in the context of the greater Sacramento region. A full table comparing all three scenarios, including total estimated costs, is presented at the end of the three scenario descriptions in Table 5.7.

TABLE 5.1 SCENARIO A COMPONENTS

Mode/Service Type	2035 Changes
Regional Rail	No changes over current service
Light Rail	-
Gold Line	No changes
Blue Line	South Line Phase 2 and Northeast Corridor
DNA Line	Phase 1 to Richards Blvd
Streetcar	No streetcar
Bus	Changes to accommodate population growth
Ticketing & Information	Smartcards implemented
Passenger Safety	No changes
Stops, Stations and Pedestrian Improvements	No significant improvements
Transit Vehicles, Maintenance Facilities & Other Capital Costs	Regular vehicle replacement and other standard costs

FIGURE 5.1 SCENARIO A MAP



Scenario B: Blueprint and the Metropolitan Transportation Plan

- 5.8 Scenario B matches the network and assumptions made by SACOG in the development of the adopted MTP2035. The MTP2035 is a comprehensive plan for the region's transportation system which invests nearly \$42 billion regionally to proactively link land use, air quality and transportation needs. Table 5.2 illustrates the extent of the program.
- 5.9 Within the RT service area, the MTP2035 and therefore Scenario B includes:

- Increases in frequencies to many/most existing routes;
- Basic improvements to elements such as ticketing and information, passenger safety, pedestrian, and cycling environment;
- Some infrastructure improvements related to vehicle maintenance and other RT facilities; and
- More than 80 new bus routes.

5.10 Table 5.3 outlines the specific components of Scenario B while Figure 5.2 illustrates the changes in the context of the Sacramento region. Table 5.7 compares all three scenarios.



Scenario B provides a step change in the coverage and frequency of bus services.

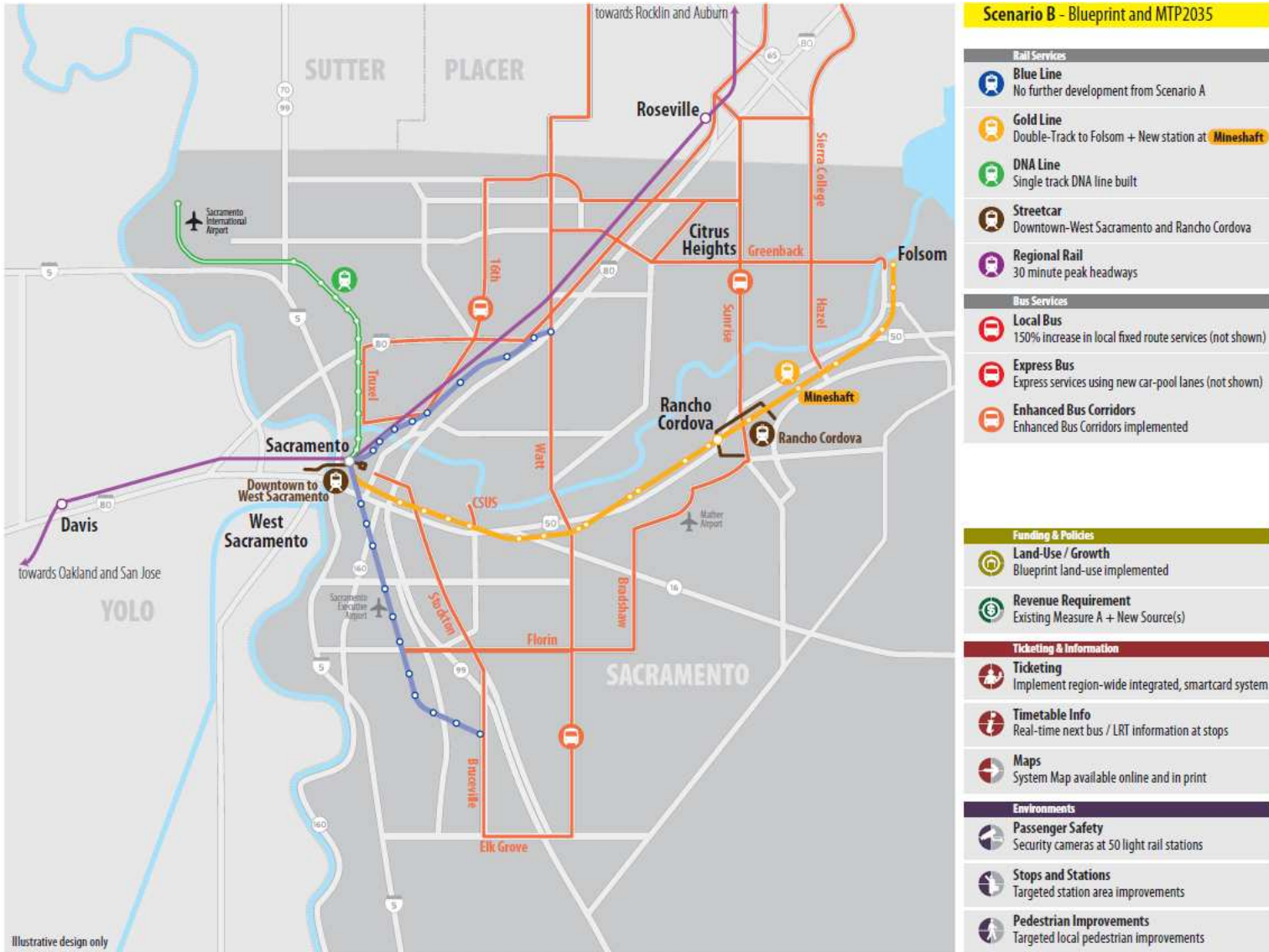
TABLE 5.2 MTP2035 INVESTMENT

Project Area	Investment (billions)
Transit	\$14.3
Road Maintenance	\$12.4
Road Capital Projects	\$11.3
Programs, Planning & Transportation Enhancements	\$2.3
Bicycle & Pedestrian Projects	\$1.4
Total Investment	\$41.7

TABLE 5.3 SCENARIO B COMPONENTS

Mode/Service Type	2035 Changes
Regional Rail	Upgrades to allow 30-min service
Light Rail	
Gold Line	Double-track sections for 15-min service to Folsom
Blue Line	South Line Phase 2 and Northeast Corridor
DNA Line	Single-track extension to airport
Streetcar	Starter streetcar lines in West Sacramento and Rancho Cordova
Bus	150% increase in service levels/ hours including new enhanced bus and local bus routes
Ticketing & Information	Real-time information at stops
Passenger Safety	Additional cameras at 50 stations
Stops, stations and pedestrian improvements	Some targeted improvements
Transit Vehicles, Maintenance Facilities & Other Capital Costs	Including 2nd LRT & Bus Depots, new RT headquarters building and a new Intermodal terminal

FIGURE 5.2 SCENARIO B MAP



Scenario C: An Integrated Transit Solution

The Need for a Comprehensive Network

- 5.11 In order to meet the Vision and Objectives set for the TransitAction Plan, a fully integrated network option was developed that went beyond a ‘transit-only’ solution and provided a link to land use and transportation demand management and included a full program of access improvements, ticketing, information and wayfinding as well as new stops and stations.
- 5.12 In order to develop the transit network for the Integrated Transit option, a needs and opportunities assessment was undertaken.

Major Trip Generators

- 5.13 In order to provide a cost-effective transit service, there must be a number

of major trip generators that will draw large volumes of riders. Transit can make significant gains in ridership by linking high frequency routes to these destinations because of the volume of people traveling to and from these sites. When concentrations of major trip generators are located near one another (i.e. downtown), the case for transit is strengthened even more so.

- 5.14 These high volume trip generators often fall under the following categories:

- Employment sites;
- Colleges and universities;
- Shopping malls; and
- Hospitals.

- 5.15 Existing data has been collected for each of the above categories to identify how the future transit network could serve these sites. The largest sites under each category are illustrated in Figure 5.3.



Scenario C provides an Integrated Transit Solution: including new transit investment (LRT, Streetcars, European-style Street Tram and bus networks) alongside improvements to passenger information, wayfinding, ticketing, stations, stops, safety and security.

FIGURE 5.3 MAJOR TRIP GENERATORS IN THE SACRAMENTO REGION



Employment Sites

- 5.16 Employment is a key driver for transit use and locations with large employment bases are key opportunities for attracting transit ridership. Sacramento's downtown core contains a significant number of the largest employers, many of which are government organizations. Outside the downtown area, the Folsom Boulevard corridor has a high concentration of large employers while Arden and Carmichael also host some large organizations.

Colleges and Universities

- 5.17 Higher education institutions typically attract significant transit ridership because students are less likely to own a car and have lower income levels on average. The largest higher education facilities in Sacramento are already well served by transit and the extension of the Blue Line south to Cosumnes College will further improve access. Higher education is becoming increasingly more available and as a result colleges in places such as Folsom and Roseville have rapidly rising student enrollment.

Shopping Malls

- 5.18 Large shopping malls attract huge numbers of cars as people use their leisure time shopping for goods and services. Shopping malls are not only significant in attracting leisure trips; but they are also employment generators and can attract commuter trips as well. The largest shopping areas in Sacramento outside of downtown are Sunrise Marketplace in Citrus Heights, Arden Fair Mall in Arden-Arcade, Natomas Marketplace in North Natomas, Broadstone Neighborhood in Folsom and the Galleria, the Fountains and Creekside Town Center in Roseville. A similar spatial trend to that of major employers forms as the Downtown-Folsom and Downtown-Arden-Carmichael-Citrus

Heights corridors contain the majority of the large shopping centers.

Hospitals

- 5.19 Hospitals attract a significant number of people who are visiting family or friends receiving medical care as well as high numbers of staff. East Sacramento and Midtown have a concentration of some of the largest hospitals including UC Davis Medical Center, Sutter Memorial, Mercy General, and Sutter General while Citrus Heights, Roseville and Folsom also have large facilities. Another significant group of hospitals is located south of Mack Road along Bruceville Road.



The Portland Streetcar is well integrated into the adjacent development (Portland, OR).

Future Population and Employment Density

- 5.20 In the future, the majority of population and employment growth is projected to occur outside the downtown core. As such, more employment opportunities will require more travel within suburban areas, between suburban areas and from downtown out to suburban areas. Increased high frequency bus services may be best suited to provide inter-suburban connections while streetcar services could provide high quality, high frequency intra-community service. At the same time, extended light rail services on existing corridors could provide additional capacity at higher frequencies and extensions to light rail service areas would enable better radial services to key centers both into and out of the downtown core.
- 5.21 Though much of the future employment and population growth focuses on regions outside of the downtown core, the core will still be the commercial heart of the city and

the employment stronghold. Combined with the downtown core’s existing high population density, it will be important to provide transit links into and out of the core but also links around and within downtown. A streetcar service could provide a local downtown loop service enabling residents and employees to make local trips by transit.

- 5.22 It is important to connect employment, residential, and leisure destinations so as to attract a varied service offer able to sustain all day transit provision. Corridors with high volume traffic such as large employment centers, shopping malls and higher education facilities should be provided with high quality, high frequency service to offer potential users a viable alternative to car use.
- 5.23 Figures 5.4 and 5.5 illustrate the 2035 population and employment density forecasts, which demonstrate where transit provision will be needed in the future.



Light Rail extensions in the major corridors will connect more people to jobs and other major destinations.

FIGURE 5.4 2035 POPULATION DENSITY FORECAST

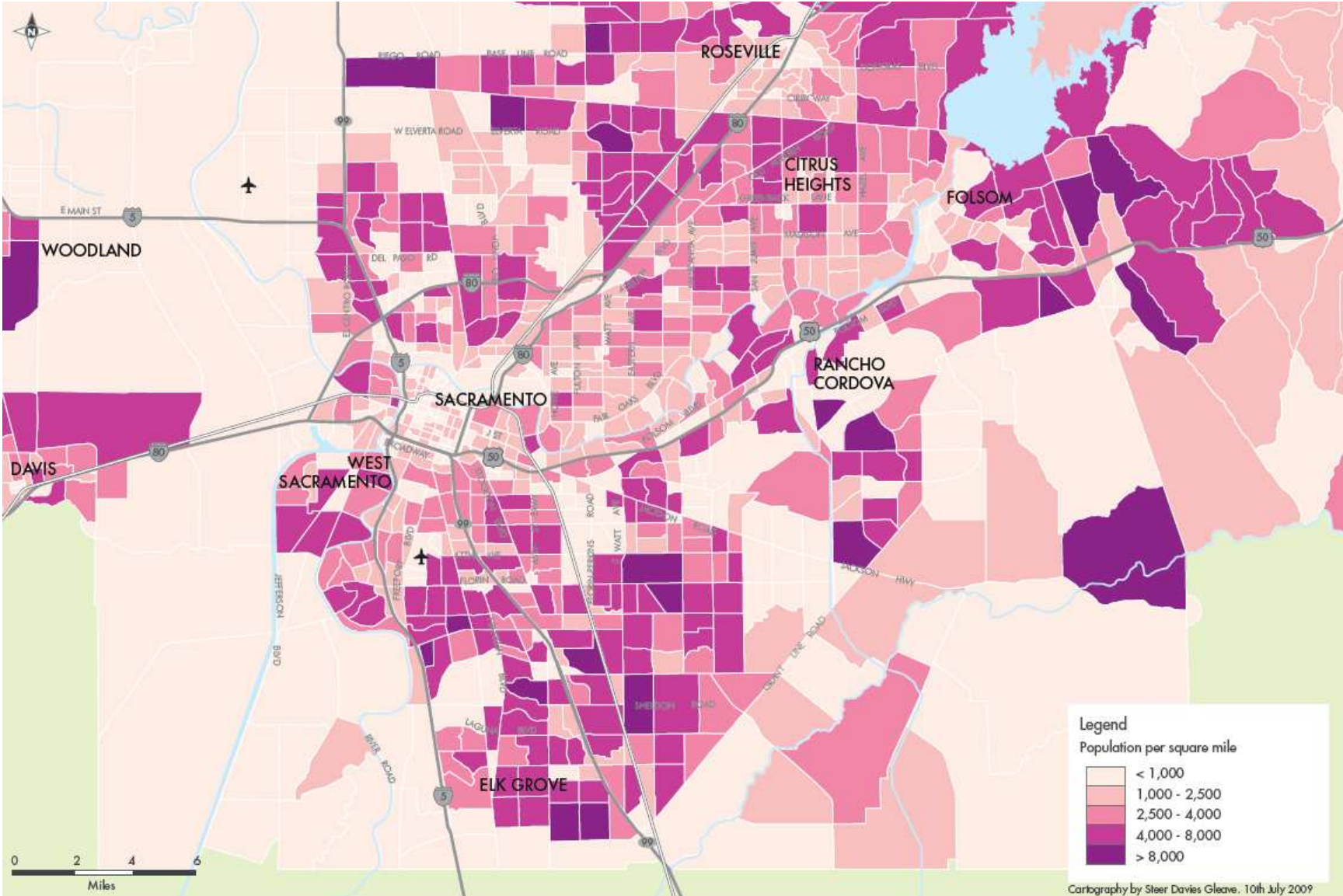
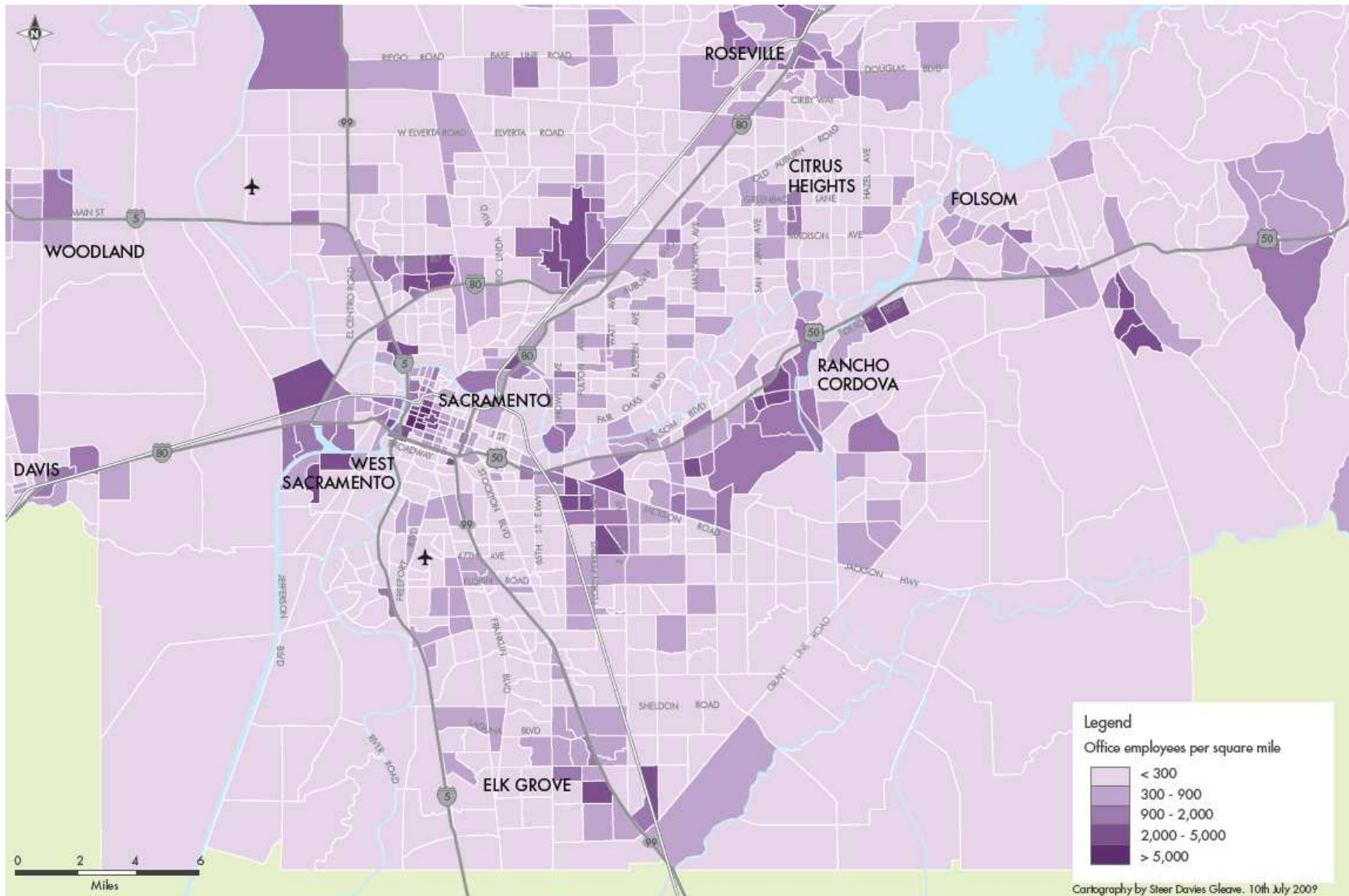


FIGURE 5.5 2035 EMPLOYMENT (OFFICE) DENSITY FORECAST



A Fully Integrated Scenario

5.24 Scenario C represents a fully integrated solution with transit integrated between modes as well as with land use and Transportation Demand Management (TDM). It is intended to increase transit use by removing as many of the barriers as possible to transit use.

5.25 As a result, a number of non-mode/vehicle aspects of the transit trip have been developed and included in the scenario. These include:

- Integrated, Smartcard (cashless) fare system across all operators;
- Real-time information and next light rail/bus information provided at stations and stops;
- New sidewalks and pedestrian access improvements to all major stops and stations;
- New stations, shelters and stops;

- Landscaping and public art integrated into design;
- Wayfinding to help passengers get to and from stations/stops and local destinations;
- Increased funding for policing and cleaning the vehicles and network; and
- Closed-Circuit Television (CCTV) safety cameras at all stops and on board all vehicles.

A Range of Transit Modes

5.26 Another aspect of a fully integrated network is providing a range of transit modes which serve the various functions of travel, such as light rail through busy corridors for daily commuters or local bus services within communities for leisure purposes.

5.27 Tables 5.4 and 5.5 summarize the key characteristics of the rail-based and bus-based options included in Scenario C, the Integrated Transit Solution.



New stops and stations with modern architecture and real-time service information contribute to an attractive, integrated transit system (Dundee, Scotland)

TABLE 5.4 RAIL-BASED TRANSIT MODES





Characteristic	Commuter Rail	Light Rail (LRT)	Low Floor European Street Tram	Streetcar
Right-of-way	Operates on railroad tracks (sometimes shared with freight services)	Operates in own segregated rail right of way or on-street, segregated or mixed with other traffic	Operates on a mix of rights-of-way including former railway, segregated on-street or on-street mixed with other traffic	Operates on-street, mixed with other traffic
Vehicle type	90-120 foot long vehicles joined together, often with 3 or more carriages	90-120 foot long vehicles that can be joined together	90-120 foot electric-powered vehicles - can be joined together	60-70 foot long vehicles that run as single units
Vehicle passenger capacity	150 passengers per vehicle	180-200 passengers per vehicle	180-200 passengers per vehicle	120 passengers in modern, vintage or 'heritage-style' vehicles
Transit function	Typically used for longer distance intercity travel and commuting	Fast, efficient services connecting the downtown core with key nodes	Easy, accessible, street-level services connecting town centers or key nodes	Street-level services providing attractive links within communities
Similar to:	The existing Capitol Corridor services	The existing Blue and Gold Line LRT services	European Tram systems in Montpellier, France, Nottingham, England, Dublin, Ireland and elsewhere.	US streetcar systems in Portland and Seattle and elsewhere
Illustrative example				

TABLE 5.5 BUS-BASED TRANSIT MODES

Amenities	Hi-Bus			Local Services	
	Bus Rapid Transit (BRT)	Enhanced Bus	Express Bus	Fixed Route	Circulator
Stops:					
Flag/Seating/Shelter	■	■	■	■	■
Route information	■	■	■	■	■
Real-time Information	■	■	■	■	■
CCTV Camera	■	■	■	■	■
Level boarding	■				
Vehicles:					
Mini-Midi Buses					■
40-ft Buses		■	■	■	
Articulated Buses	■	■			
Branded vehicles	■				
Stop Announcements	■	■	■	■	
Onboard CCTV	■	■	■	■	■
Connections:					
Within Neighborhood					■
Between Neighborhoods		■	■	■	■
Between Town Centers	■	■	■	■	■
Route:					
Mixed with traffic	■	■	■	■	■
Traffic signal priority	■	■	■		
Limited stops	■	■	■		
15-min frequency or better	■	■			
Bus/HOV lanes	■	■	■		
Bus-only lanes	■	■			

Developing Scenario C

5.28 Scenario C includes significant increases in both capital, operating costs and projects, including:

- Regional Rail: improvements both within the Capitol Corridor and services south to Stockton;
- Light Rail:
 - Gold Line extension towards El Dorado County;
 - Blue Line extensions to Elk Grove, Citrus Heights and Roseville;
 - DNA full build to the Sacramento International Airport; and
 - Full streetcar/European tram network;
- Bus: development of a Hi-Bus network and significant improvements to local bus services;
- Additional passenger safety measures and pedestrian environment improvements;

- Implementation of full program of facilities and maintenance infrastructure;
- Development of ‘Complete Corridors’ including improved walk access to stops; and
- Improved stops and stations.

5.29 One of the significant changes within Scenario C is the introduction of a ‘Hi-Bus’ network, a network of high frequency, high capacity, high speed bus routes that will augment the light rail/street tram network to complete the regional high capacity transit system. This network will then be supported by a further set of local, community services to help feed the high capacity network and cater for short, local trips. Where possible, RT will explore enhancing the Hi-Bus routes into BRT corridors including additional infrastructure to ensure transit priority and reliability.

5.30 Table 5.6 outlines the specific components of Scenario C and Figure 5.6 illustrates the changes in the context of the Sacramento region. Table 5.7 compares all three scenarios.



A new Hi-Bus network and Bus Rapid Transit corridors proposed in Scenario C could utilize modern vehicles to provide a more attractive service (York, England).

TABLE 5.6 SCENARIO C COMPONENTS

Mode/Service Type	2035 Changes
Regional Rail	Additional improvements and rolling stock to allow 15-min service plus new service from Stockton to Sacramento
Light Rail	
Gold Line	Extension to El Dorado County
Blue Line	Extensions to Elk Grove, Citrus Heights and Roseville
DNA Line	Double-track to airport with passing loops for express services
Streetcar/Street Tram	Assumed that the whole streetcar network will be implemented as European Street Tram
BRT	BRT introduced on 10+ routes including those identified as Enhanced Bus in the MTP
Bus	250%+ increase in services including introduction of Hi-Bus network
Ticketing & Information	Real-time information at stops
Passenger Safety	Additional police and cameras
Stops, stations and pedestrian improvements	Improvements at all LRT, BRT and Hi-Bus Stops and along key corridors
Transit Vehicles, Maintenance Facilities & Other Capital Costs	Including 3rd LRT & Bus Depots, Headquarters and Inter-modal Terminal

FIGURE 5.6 SCENARIO C MAP



TABLE 5.7 COMPARISON OF COMPONENTS OF EACH TRANSIT SCENARIO

Project Area		Scenario A	Scenario B	Scenario C
Land use / Growth		Largely Suburban	Blueprint land use implemented	Blueprint land use implemented
Rail Services	Blue Line	South Line Phase 2 (Cosumnes River College) Northeast Corridor Enhancements	South Line Phase 2 (Cosumnes College) Northeast Corridor Enhancements	Scenario B + Elk Grove, Citrus Heights & Roseville Extensions
	Gold Line	No Changes	Double-Track to Folsom, New station at Mineshaft	Scenario B + El Dorado Extension
	DNA Line	Phase 1 to Richards Blvd.	Single-track to Airport	Double-track to Airport with 'express' services
	Streetcar	None	Downtown-West Sac and Rancho Cordova	Downtown-West Sac, Rancho Cordova, Davis, CSUS, and Midtown (as Street Tram)
	Capitol Corridor	No change (40-120 min headways)	30-min headways	15-min headways
Bus Services	Local Services	Periodic reviews to optimize the network providing the same overall level of service	150% increase in local fixed route services	Significant increase in local service, plus community circulators and Van Pools
	Hi-Bus/Express Bus	No incremental changes	Express peak services on new carpool lanes Enhanced bus introduced in 6 corridors - Antelope, Stockton, Watt, Florin, Elk Grove, Sunrise	Hi-Bus on key corridors plus direct, premium commuter express routes
Ticketing & Information	Ticketing	Implementation of smartcard ticketing system	Implement integrated, regional smartcard	Implement integrated, regional smartcard
	Timetable Info	Printed timetables and information available online	Real-time vehicle tracking linked to information at stops	Real-time vehicle tracking linked to information at stops, cell phones & online
	Maps	System Map available online and in print	System Map available online and in print	Free customizable local area maps online
Passenger Safety		No incremental change	Install security cameras at 50 light rail stations	Install security cameras at all stations and on all vehicles and more police officers
Stops and Stations		No incremental changes	Targeted station area improvements	Full upgrade of all LRT stations plus replace bus stops at key locations with bus stations
Pedestrian Improvements at Stops & Stations		No incremental changes	Targeted improvements for pedestrian access and wayfinding to LRT stations	Pedestrian improvements to all key stations with wayfinding to key destinations
Total Estimated Costs		\$2.6B	\$4.6B	\$6.9B

Developing Scenario C+

5.31 The TransitAction Plan was developed through a highly consultative process with input provided by the public, stakeholders and advisory committees. Full details of the public outreach process are provided in Chapter 6. After the first phase of public consultation, it was clear that Scenario C was the preferred transit network. Some of the most important aspects that the public envisions in an attractive transit service include a safe and secure network with reliable and punctual service. The rest of this chapter describes how each of the three scenarios was then modeled to forecast the likely ridership they would generate by 2035.

Ridership Forecasting

5.32 There are a number of modeling software packages available covering the Sacramento region including PLACES, SACMET and SacSim. Following a review of each of the models and discussions with RT and SACOG, it was agreed that the SACMET model be used to test the scenarios.

The SACMET Model

5.33 SACMET is a four stage transportation model with 1,500 zones under the TP+ platform and was used for all modeling work for SACOG's MTP2035 as well as by RT in developing their funding applications to the Federal Transit Administration for the South Sacramento Light Rail Project. The model includes:

- All six counties in the SACOG region;
- Networks for 2005 and 2035;
- Two land use scenarios - one 'Blueprint' scenario is coded for 2035 and a 'worst

case' scenario, which is a continuation of 2005 growth patterns out to 2035;

- For highway, AM, PM, Midday and evening periods are represented;
- For public transit there are AM and Midday periods; and
- Public transit is coded as one mode only (e.g. no differences between light rail and Hi-Bus) but differences are represented by mode of access (drive or walk, with light rail stops having park and ride facilities).

5.34 The model includes 250 operational routes all split by operator, mode and fare.

Modeling Assumptions

5.35 For each scenario, the routes, frequencies, hours of operation and speed of services were coded into the model. Table 5.8 presents a summary of the assumptions used in modeling each scenario.



Smartcards, like the ones used in London, Washington and Hong Kong, make using transit more convenient.

TABLE 5.8 SUMMARY OF MODELING ASSUMPTIONS

Assumption	Scenario A	Scenario B	Scenario C
Land use Assumption	Continuation of 2005 Growth	Blueprint Land use	Blueprint Land use
Service Hours			
Peak	5:00AM-9:00AM 3:30PM-6:00PM	5:00AM-9:00AM 3:30PM-6:00PM	5:00AM-9:00AM 3:30PM-6:00PM
Off Peak	9:01AM-3:29PM 6:01PM-8:00PM	9:01AM-3:29PM 6:01PM-8:00PM	9:01AM-3:29PM 6:01PM-12:00PM
LRT/Streetcar Frequencies (peak/off peak)			
Gold Line	15 / 15 (30 Folsom)	15 / 15 (SMF - Folsom)	5 / 10 (SMF-Iron Point) 10 / 20 (Iron Point - Folsom/El Dorado)
Blue Line	15 / 15	10 / 15	5 / 10
Downtown Streetcar	N/A	15 / 15	5 / 10
Rancho Cordova Streetcar	N/A	30 / 30	3 line network with 10 / 20 on each line
Citrus Heights-Rancho Cordova Streetcar	N/A	N/A	5 / 10
Bus Frequencies (peak/off peak)			
Local Services	2008 levels	15/20/30/60+	10-15 / 20-30
Hi-Bus	N/A	15/20/30/60+	5 / 10
LRT/Streetcar Operating Speeds (mph)			
Gold Line	22.4 (Dtn-Sunrise) 26.2 (Dtn-Folsom)	24.6 (SMF-Folsom)	24.6 (SMF-Folsom) 23.9 (SMF-El Dorado)
Blue Line	19.6	21.3	24.7
Downtown Streetcar (Loops)	N/A	10.8	18.2 (North Loop) 16.3 (South Loop)
Rancho Cordova Streetcar	N/A	20.6	20.6 (South Loop) 20.8 (North Loop) 20.7 (Jackson Hwy)
Citrus Heights-Rancho Cordova Streetcar	N/A	N/A	24.6
Bus Operating Speeds (as a function of highway speed)			
Local Services	2.01	2.01	2.01
Hi-Bus	N/A	1.62	1.3

Modeled Ridership Forecasts

5.36 The model was then run for each scenario and ridership forecasts were produced. These are summarized in Table 5.9 by mode.

Assumptions and Sensitivity Testing

5.37 In addition to testing the three scenarios a number of sensitivity tests were undertaken to assess the likely impact on transit system performance. These included:

- Increases to gas prices;
- Land use changes where more of the population are located nearer to the high capacity transit network; and
- Increases to parking costs (to test the impact of TDM and complementary measures).

5.38 Each of these sensitivity tests was run on the Scenario C network, first individually

and then in combination to test the impacts of a fully integrated package of transit, land use and TDM measures. The addition of all three sensitivity tests on Scenario C created the Scenario C+ network option. As such, the Scenario C+ transit network is the same as Scenario C, the only difference being the assumption that in the future, gas will be more expensive, more people will live closer to transit and parking will be more expensive. The results of these tests are presented in Table 5.10 and graphically in Figure 5.7.

5.39 Modeled results demonstrate that Scenario C+ experiences a significant increase in transit ridership over Scenario A and that the large increases in service hours provided in Scenario C/C+ provides a substantial increase in ridership over Scenario B. However, through the integration of land use and with complementary measures, an even greater number of riders would be attracted to the network.

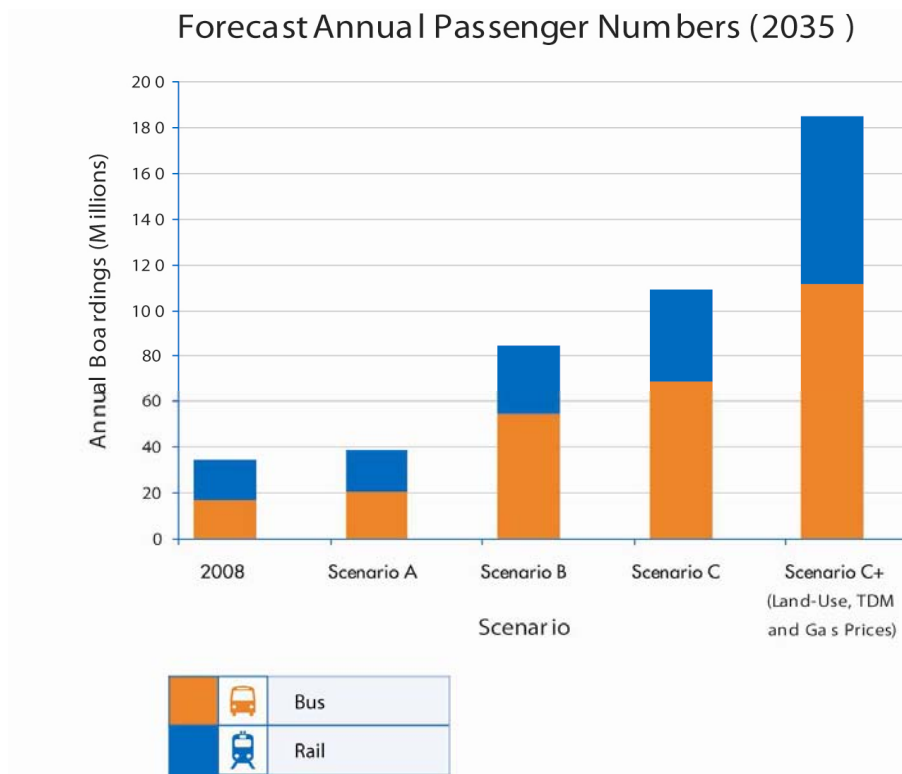
TABLE 5.9 2035 MODELED RIDERSHIP

Scenario	Annual Boardings			Increase in Ridership	
	Bus	LRT	Total	% Change over A	% Change over B
Scenario A	20.5m	18.7m	39.2m	-	-
Scenario B	54.4m	30.1m	84.4m	115.4%	-
Scenario C	69.0m	40.0m	109.0m	178.3%	29.2%

TABLE 5.10 SENSITIVITY TEST RESULTS

Sensitivity	Annual Boardings		
	Bus	LRT	Total
Increased gas prices	80.8m	52.9m	133.7m
Intensification of land use	79.7m	47.0m	126.6m
Increased parking costs	76.4m	52.0m	128.4m
All three tests combined (Scenario C+)	111.6m	73.7m	185.3m

FIGURE 5.7 RIDERSHIP FORECASTS



5.40 In addition, the sensitivity tests, in particular Scenario C+ (the combination of TDM, gas prices and intensification of land use), demonstrate a clear and emerging pattern that by changing the other variables in people’s lives (in this case the cost of driving and proximity to transit), large increases in transit ridership will occur.

Scenario Evaluation

5.41 In order to compare and evaluate the three scenarios against each other in a consistent manner, an objectives-led evaluation framework was established. This was done to ensure that the preferred scenario and its individual components would be consistent with the full range of objectives that were set for the TransitAction Plan.

The Multiple Account Evaluation Framework

5.42 A Multiple Account Evaluation (MAE) process was used to undertake a technical evaluation of the scenarios and in order to provide a consistent reference case, Scenarios B, C and C+ were each assessed against a common base case - Scenario A.

5.43 The evaluation framework was organized in three categories:

- Community;
- Environment; and
- Economy.

5.44 In addition to assessing the impacts of each scenario once fully built, the practical implications of implementing each scenario were assessed in a fourth account in the MAE under the heading of Deliverability.

Multiple Accounts

5.45 The following tables, Table 5.11 - Table 5.14, detail the criteria used to evaluate the scenarios against each of the four accounts.

TABLE 5.11 COMMUNITY EVALUATION CATEGORY

Criteria	Measure	Role
Supportiveness of policies and aspirations	Supportiveness of local and regional land use and transportation plans and policies and local aspirations	Identification in strategic terms of consistency or inconsistency with other proposed plans or policies; stated community aspirations through General Plan processes
Land use integration	Identification of major activity centers served, e.g.: <ul style="list-style-type: none"> ■ Hospitals & medical centers ■ Major retail sites ■ Principal colleges / universities ■ Employers > 1000 employees 	Ensuring the proposed scenario encompasses both current and future key demand attractors and generators and meets the requirements of transit to provide a service to and from where people wish to travel (geographic equity)
Transportation network integration	Identification of full trip benefits due to integration with transit transfer centers and interchange opportunities	Consideration of the network benefits that can be achieved, including both physical integration (i.e. good interchange opportunities) and system integration (i.e. timetabling connecting services, through ticketing)
Equity	Catchment analysis for social groups (households less than \$30k) within walking access (15 minutes) to a stop	Consideration of those who may receive greatest benefit from the transit investment due to current barriers to travel and opportunities for them
Safety	Direct safety impacts due to the design (i.e. physically segregated, running with general traffic, on-street stops). Indirect safety due to volume of mode transfer to transit system	Identification of safety aspects ensures good siting and design standards for direct safety impacts
Health (Promote physical activity)	Comprehensiveness of pedestrian and cycling network Increase in average bicycle and pedestrian mode share	Benefits from promoting physical activity due to greater pedestrian access to transit and increased walking and cycling

TABLE 5.12 ENVIRONMENT EVALUATION CATEGORY

Criteria	Measure	Role
Emissions & disturbance	Change in VMT and resulting emission levels for CO2	Impacts on local air pollution, greenhouse gases and noise; transportation related environmental impacts tend to track closely to VMT, making it a proxy for emissions and air quality related measures
Place-making/urban form	Identification of impacts on urban composition and public space function	The potential to enhance land development; increase mix of land uses; enhance public spaces as places for people; allow a car-free lifestyle

TABLE 5.13 ECONOMY EVALUATION CATEGORY

Criteria	Measure	Role
Transportation efficiency (Users)	Average travel time benefit per rider and resulting benefit cost ratio	The average travel time benefit will demonstrate the effectiveness of the transit improvements
Transportation efficiency (Operator)	Farebox recovery	To identify the financial performance of the day-to-day operations
Economic competitiveness	Change in employment catchment for employment centers (in the base case) and identification of impacts on supporting redevelopment of industrial commercial sites	Improved transit and land use will increase the labor market’s access to employment centers and promote re-development of employment sites

TABLE 5.14 DELIVERABILITY EVALUATION CATEGORY

Criteria	Measure	Role
Feasibility (Construction)	Any technological challenges for construction Capital cost	To assess the negative impacts from the construction of the project
Feasibility (Operations)	Operating cost	The design of the project must enable it to be efficiently operated
Acceptability	Public and political support for the project/investment	Since a high level of local commitment is required for project development, communities that display strong commitment to project success should be rewarded
Funding potential	Initial assessment of local and federal funding opportunities to cover estimated capital and operating costs	Most projects will not have funding sources identified; the intent to the measure is to assess obstacles to successful funding or reward any project that has identified local funding; a more detailed funding plan will be required at the project advancement phase

Scenario Evaluation Results

- 5.46 The evaluation used a combination of quantitative and qualitative measures, depending on the level of information available to assess the overall scenarios in meeting the TransitAction Plan objectives.
- 5.47 Quantitative data was drawn from a number of sources, including the internal RT financial model, geographical information system analysis and SACOG’s SACMET model.
- 5.48 Where the evaluation was more qualitative in nature, a seven-point scale was used:

- Significant benefit (+++);
 - Moderate benefit (++);
 - Slight benefit (+);
 - Neutral (0);
 - Slightly adverse (-);
 - Moderately adverse (--); and
 - Significantly adverse (---).
- 5.49 Tables 5.15 to 5.18 provide a summary of the evaluation of each of the three options as well as for Scenario C+. This is followed by a summary of the assessment by account.

TABLE 5.15 SCENARIO A EVALUATION

Evaluation Framework Summary Sheet			
Scenario	Scenario A		
Description:	Continued land-use pattern (sprawl) and financially constrained highway and transit network as detailed in SACOG's Metropolitan Transportation Plan (MTP) 2035		
Evaluation Category	Criteria	Commentary	Assessment
COMMUNITY	Support of policies & aspirations	Not consistent with Blueprint and MTP. Decline in mode transfer by 2035.	Base Case
	Land use integration	192,000 population within 15 minute walk of high frequency transit services. 1,011,400 population within 15 mins walk to transit. 2 colleges, 2 hospitals, 4 shopping centres and 12 major employers within 10 mins (half a mile) of transit.	Base Case
	Transport network integration	Increased transit provision provides improved network integration but limited investment in system integration.	Base Case
	Equity	17,600 households with income less than \$30k within 15 min walk of high frequency transit services. 60,100 households within 15 mins walk to transit.	Base Case
	Safety	Limited mode transfer will result in reduced traffic demand on roads and estimated reduction of 10 fatalities.	Base Case
	Health	Walk and cycle demand mode share of 5.9% by 2035 (573,000 daily trips).	Base Case
ENVIRONMENT	Emissions & disturbance	1.4 million daily Vehicle Miles Travelled (VMT) by 2035.	Base Case
	Placemaking/ Urban Form	Limited expansion of rail-based systems will only provide limited opportunities to improve public realm and limit futherTOD opportunities.	Base Case
ECONOMY	Transport efficiency (Users)	31,000 passenger transit hours (daily by 2035). 1.0% mode share (100,000 daily transit trips).	Base Case
	Transport efficiency (Operators)	Farebox recovery (operating costs/fare revenue) at 18%	Base Case
	Economic competitiveness	202,000 jobs within 15 min walk of high frequency transit services. 399,000 jobs within 15 mins walk to transit.	Base Case
DELIVERABILITY	Feasibility (Construction)	\$2.23bn (\$2008, PV)	Base Case
	Feasibility (Operations)	\$5.49bn (\$2008, PV)	Base Case
	Acceptability	7% respondents in favour of this scenario (out of 2,500 respondents, TMP outreach)	Base Case
	Funding Potential	Funding surplus of \$220m (\$2008, PV)	Base Case

TABLE 5.16 SCENARIO B EVALUATION

Evaluation Framework Summary Sheet			
Scenario	Scenario B		
Description:	Blueprint Preferred Alternative land-use is delivered and transit network is as proposed in SACOG's Metropolitan Transportation Plan (MTP) 2035		
Evaluation Category	Criteria	Commentary	Assessment
COMMUNITY	Support of policies & aspirations	Consistent with Blueprint and MTP - which based on the jurisdictions' plans and policies. Limited mode transfer.	+++
	Land use integration	234,000 population within 15 minute walk of high frequency transit services. 1,189,000 population within 15 mins walk to transit. 2 colleges, 2 hospitals, 4 shopping centres and 12 major employers within 10 mins (half a mile) of transit.	+
	Transport network integration	Transit provision provides large geographical coverage but low frequency levels.	+
	Equity	20,300 households with income less than \$30k within 15 min walk of high frequency transit services.. 65,000 households within 15 mins walk to transit.	+
	Safety	Mode transfer will result in reduced traffic demand on roads and estimated reduction of 10 fatalities.	+
	Health	Walk and cycle demand mode share of 6.5% by 2035 (619,000 daily trips).	+
ENVIRONMENT	Emissions & disturbance	Reduction in 6.1% Vehicle Miles Travelled (VMT) compared to Scenario A. Equivalent to 207 tonnes of CO2.	++
	Placemaking/ Urban Form	Limited expansion of rail-based systems will only provide limited opportunities to improve public realm and limit further TOD opportunities.	+
ECONOMY	Transport efficiency (Users)	Average time saving of 1.4 minutes per transit user (4,470 daily hours saved) compared to Scenario A. BCR of 0.60. Mode share of 2% (193,000 daily trips).	++
	Transport efficiency (Operators)	Farebox recovery (operating costs/fare revenue) at 18%	Neutral
	Economic competitiveness	224,000 jobs within 15 min walk of high frequency transit services. 438,000 jobs within 15 mins walk to transit.	+
DELIVERABILITY	Feasibility (Construction)	\$3.59bn (\$2008, PV)	-
	Feasibility (Operations)	\$11.22bn (\$2008, PV)	-
	Acceptability	20% respondents in favour of this scenario (out of 2,500 respondents, TMP outreach)	++
	Funding Potential	Funding shortfall of \$2.8bn (\$2008, PV)	-

TABLE 5.17 SCENARIO C EVALUATION

Evaluation Framework Summary Sheet			
Scenario	Scenario C		
Description:	Extends the transit offer (beyond Scenario B) providing a fully integrated package linking the Blueprint with a comprehensive set of Transit, transportation demand management (TDM) and transit oriented development (TOD) policies and projects		
Evaluation Category	Criteria	Commentary	Assessment
COMMUNITY	Support of policies & aspirations	Consistent with Blueprint. Integrated transit provision results in increased transit ridership.	+++
	Land use integration	990,000 population within 15 minute walk of high frequency transit services. 1,206,000 population within 15 mins walk to transit. 7 colleges, 11 hospitals, 10 shopping centres and 21 major employers within 10 mins (half a mile) of transit.	++
	Transport network integration	Enhanced transit measures (shelters, passenger information, pavements, etc) improves all aspects of transit trip making. Increase in rail-based and high frequency buses will improve access to frequent transit services.	+++
	Equity	58,000 households with incomes less than \$30k within 15 min walk of high frequency transit services. 65,000 households within 15 mins walk to transit.	++
	Safety	Increased rail-based systems provides safer travel. Enhanced transit facilities (lighting and security facilities) will provide a safe environment on and off bus. Mode transfer will result in reduced traffic demand on roads and estimated reduction of 10 fatalities.	+
	Health	Walk and cycle demand mode share of 6.6% by 2035 (630,000 daily trips).	+
ENVIRONMENT	Emissions & disturbance	Reduction in 6.4% Vehicle Miles Travelled compared to Scenario A. Equivalent to 217 tonnes of CO2.	++
	Placemaking/Urban Form	Expansion of rail-based systems will provide opportunity to improve public realm. Increased transit provision will also provide additional TOD opportunities.	++
ECONOMY	Transport efficiency (Users)	Average time saving of 1.8 minutes per transit user (6,420 daily hours saved) compared to Scenario A. BCR of 0.54. Mode share of 2.2% (213,000 daily trips).	++
	Transport efficiency (Operators)	Farebox recovery (operating costs/fare revenue) at 17%	Neutral
	Economic competitiveness	416,000 jobs within 15 min walk of high frequency transit services. 445,000 jobs within 15 mins walk to transit.	++
DELIVERABILITY	Feasibility (Construction)	\$5.42bn (\$2008, PV)	--
	Feasibility (Operations)	\$12.74bn (\$2008, PV)	--
	Acceptability	61% respondents in favour of this scenario (out of 2,500 respondents, TMP outreach)	+++
	Funding Potential	Funding shortfall of \$7.5bn (\$2008, PV)	---

TABLE 5.18 SCENARIO C+ EVALUATION

Evaluation Framework Summary Sheet			
Scenario	Scenario C+		
Description:	Scenario C plus TOD land use scenario developed by SACOG and robust Transportation Demand Management (TDM) - triple parking and gas prices		
Evaluation Category	Criteria	Commentary	Assessment
COMMUNITY	Support of policies & aspirations	TOD land use consistent with long term aspirations of jurisdictions. Largest increase in transit ridership.	+++
	Land use integration	1,089,000 population within 15 minute walk of high frequency transit services. 1,327,000 population within 15 mins walk to transit. 7 colleges, 11 hospitals, 10 shopping centres and 21 major employers within 10 mins (half a mile) of transit.	+++
	Transport network integration	Enhanced transit measures (shelters, passenger information, pavements, etc) improves all aspects of transit trip making. Increase in rail-based and high frequency buses will improve access to frequent transit services.	+++
	Equity	64,000 households with incomes less tha \$30k within 15 min walk of high frequency transit services. 71,000 households within 15 mins walk to transit.	+++
	Safety	Increased rail-based systems provides safer travel. Enhanced transit facilities (lighting and security facilities) will provide a safe environment on and off bus. Mode transfer will result in reduced traffic demand on roads and estimated reduction of 10 fatalities.	+
	Health	Walk and cycle demand mode share of 7.9% by 2035 (782,000 daily trips).	+++
ENVIRONMENT	Emissions & disturbance	Reduction in 7.1% Vehicle Miles Travelled (VMT) compared to Scenario A. Equivalent to 243 tonnes of CO2.	+++
	Placemaking/Urban Form	Expansion of rail-based systems will provide opportunity to improve public realm. Increased transit provision will also provide additional TOD opportunities.	++
ECONOMY	Transport efficiency (Users)	Average time saving of 1.2 minutes per transit user (6,945 daily hours saved) compared to Scenario A. BCR of 0.58. Mode share of 3.6% (356,000 transit trips).	++
	Transport efficiency (Operators)	Farebox recovery (operating costs/fare revenue) at 29%	++
	Economic competitiveness	457,000 jobs within 15 min walk of high frequency transit services. 490,000 jobs within 15 mins walk to transit.	+++
DELIVERABILITY	Feasibility (Construction)	\$5.42bn (\$2008, PV)	--
	Feasibility (Operations)	\$12.74bn (\$2008, PV)	--
	Acceptability	61% respondents in favour of this scenario (out of 2,500 respondents, TMP outreach)	+++
	Funding Potential	Funding shortfall of \$6.0bn (\$2008, PV)	--

Community Account

- 5.50 All scenarios show improvements against the Base Case. The proposed transit network of Scenario C increases the coverage and access considerably, in terms of the proportion of the population with access to transit and access to high frequency transit services. There is also increased accessibility for low income households under the Equity category together with increased accessibility to major activity centers.
- 5.51 While Transportation Network Integration is a qualitative measure, it is clear that Scenario C and C+ will provide enhanced transit measures (shelters, passenger information, sidewalks) which will improve both access and perception of the transit system as a whole. These parameters are generally not represented in large regional forecasting models and as such these benefits (and the likely increase in ridership) have not been accounted for.

Environment Account

- 5.52 Reduction in CO2 emissions are directly related to the VMT removed from the road network with C+ showing the greatest VMT reduction.
- 5.53 The higher scores for Scenarios C and C+ in the place-making category are related to the higher level of rail-based systems provided, which will facilitate the re-development of urban areas and spaces and therefore improve public realm. Increased transit provision and demand will enable additional TOD opportunities to be pursued.

Economy Account

- 5.54 Scenario C+ shows the highest passenger travel time savings and highest proportion of farebox recovery. In common with the population and low income walk catchment statistics, it also results in the largest

number of jobs within walking catchment of transit services.

Deliverability Account

- 5.55 This is the account in which the results are reversed and Scenario B shows the lowest construction and operating costs together with the lowest funding shortfall. However, the Scenario C+ funding shortfall is considerably lower than for Scenario C, reflecting the higher fare revenues of this scenario. This is a direct result of the increased ridership from the land use and gas price and parking cost increases.
- 5.56 Public acceptability (detailed in Chapter 6) is overwhelmingly in favor of Scenario C (and C+), with only 20% for Scenario B and 7% for Scenario A.



Providing high-frequency transit, such as this European Street Tram in Nottingham, England, within walking distance of housing and employment is a key component of Scenario C/C+.

Scenario Evaluation Summary Results

- 5.57 The evaluation demonstrated that Scenarios B, C and C+ all provide clear benefits in the Community and Environment accounts over Scenario A. In the Economy account Scenario C+ has the highest farebox recovery ratio and provides the highest travel time benefits to transit users along with greater job accessibility, particularly with high frequency transit services.
- 5.58 Where all scenarios fall short is on deliverability. There is a funding shortfall

for all options as a result of the large increases in operating and capital costs. Chapter 9 reviews the range of funding options available to help close these funding gaps and then Chapter 10 examines the delivery plan.

- 5.59 In summary, these results demonstrate that Scenario C, in particular when combined with complementary land use and TDM measures (Scenario C+) is the preferred scenario and is the basis for developing the details of the TransitAction Plan.



Linking land uses such as high density residential housing to an extensive transit network makes Scenario C the preferred option (York, Canada).



THE PEOPLE'S PLAN:
STAKEHOLDER AND PUBLIC INPUTS

6 The People’s Plan: Stakeholder and Public Inputs

Introduction: The Outreach Process

6.1 The TransitAction Plan was developed through a highly consultative process that included meetings, presentations, open houses, questionnaires, surveys, interviews and interactive online activities. This multi-faceted approach included the active participation from:

- Advisory Panels;
- Key stakeholders; and
- General public.

Advisory Panels

6.2 A number of advisory panels were used to gather input and to help shape the TransitAction Plan. These included:

- Technical Advisory Committee (TAC);
- Financial Advisory Panel;
- Mobility Advisory Council (MAC); and
- Partnership Group.

Technical Advisory Committee

6.3 The TAC was the key stakeholder group which brought together staff from the state, the region and the local agencies covered by RT. It included representatives from:

- California Department of Transportation;
- Sacramento Metropolitan Air Quality Management District;
- Sacramento Area Council of Governments;

- Walk Sacramento;
- Sacramento State University;
- Counties of Sacramento, El Dorado and Yolo;
- Cities of Sacramento, Citrus Heights, Rancho Cordova, and Elk Grove; and
- Paratransit.

Financial Advisory Panel

6.4 This panel consisted of a group of national financial experts who reviewed financing options and proposals that could be used to generate sufficient capital and operating funds to deliver the TransitAction Plan. Further information regarding the input of the Financial Advisory Panel can be found in Chapter 9.

Mobility Advisory Council

6.5 The MAC was primarily responsible for evaluating and providing feedback on the Americans with Disabilities Act (ADA)/ Paratransit plans and proposals as well as voicing their support for major increases in network coverage and service hours of the TransitAction Plan.

Partnership Group

6.6 The Partnership Group brought together the organizations from the TAC as well as other key stakeholders and agencies to form a group of over 100 participants, including local community groups, redevelopment advisory committees and other neighborhood associations.

Community Outreach - Phase 1

6.7 Between March and June 2008, presentations, open houses and forums were held with over fifty organizations across the Sacramento region and input was received on both general and specific elements of transit service provision. This outreach exercise included:

- | Eight public workshops/open houses;
- | Presentations to all City Councils, the Board of Supervisors and other transportation partner agencies;
- | A Modern Bus and New Technologies Seminar;
- | A schools program;
- | An interactive website;
- | Newsletters, phone line, advertising, and flyers; and
- | Media engagement.

6.8 This phase of consultation was primarily focused on presenting the scenarios detailed in Chapter 5, and asked the following questions:

- | Which scenario do you prefer?
- | What characteristics do you want in a transit system?

6.9 Feedback was collected through a questionnaire that was available online and was distributed at all the community meetings and events.

6.10 A Transit Master Plan website was launched to provide a key portal for the public and enabled them to keep up to date with the planning process. A screenshot of the home page of the website is shown in Figure 6.1.



The Regional Transit 'Modern Bus and New Technologies Seminar' showcased the future of bus transit.

FIGURE 6.1 TRANSIT MASTER PLAN WEBSITE



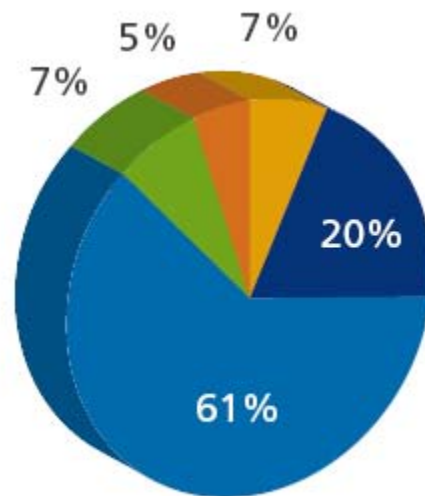
Conclusions of Outreach Phase 1

6.11 The feedback received from the first phase of the outreach program provided interesting and positive information. The majority of the feedback was received via the website where over 2,000 online surveys were completed.

6.12 Responses to the question, ‘Which strategy (scenario) would you like RT to adopt?’ confirmed that over 80% of the public would like RT to improve transit services beyond the existing network. Over 60% of respondents would like to see a comprehensive improvement of transit services as proposed under Scenario C. Figure 6.2 illustrates the results.

FIGURE 6.2 ONLINE SURVEY RESULTS: PREFERRED SCENARIOS

	Scenario A
	Scenario B
	Scenario C
	Don't mind
	None of these



6.13 The public also had the opportunity to comment on the characteristics of transit service which they felt were most important and least important. The most important characteristics were:

- Safe and secure services (65%);
- Reliable and punctual services (64%);
- High frequency services (36%);
- Affordable fares (32%); and
- Fast journey times (31%).

6.14 The least important characteristics were:

- Easy for everyone to get on and off services (40%);
- Direct services so no need to transfer (39%); and
- Friendly and helpful staff and drivers (35%).

6.15 From the surveys, data was collected to help create a profile of respondents. The results are presented in Table 6.1 and Table 6.2.

TABLE 6.1 ONLINE SURVEY RESPONDENT DATA: TRANSIT USE

Frequency of Transit Use		Purpose of Transit Use	
Most Days	34%	Get to work	67%
1-4 Days/Week	17%	Get to school	4%
1-3 Times/Month	11%	Go shopping	4%
Less than Once/Month	19%	Get to doctor/access social services	3%
Never	19%	Social or recreational trips	11%
		Other	12%

TABLE 6.2 ONLINE SURVEY RESPONDENT DATA: RESPONDENT PROFILE

Household Income		Age Group	
Less than \$10k	3%	Under 25	6%
\$10k-\$15k	3%	25-34	18%
\$15k-\$20k	1%	35-44	20%
\$20k-\$25k	3%	45-54	28%
\$25k-\$35k	6%	55-64	21%
\$35k-\$50k	14%	Over 64	7%
\$50k-\$75k	26%		
\$75k-\$100k	21%	Gender	
More than \$100k	23%	Female	60%
		Male	40%

6.16 These results highlight that:

- There was a good balance of regular transit riders (51%) and those who rarely use transit (38%);
- There was a good balance of male (40%) and female (60%) respondents;
- The majority of respondents use transit to commute to and from work (67%), while a significant portion use transit for social, recreational and other trips (23%);
- The majority of the respondents have an above average household income (70% above \$50,000); and
- Over half the respondents (56%) were over 45 years of age.

6.17 The first phase of outreach generated a range of specific and general suggestions and recommendations on how to improve or change Scenario C. Based on those suggestions and an internal review of the network, a number of changes were made. The specific details of the final, TransitAction Plan network are presented in Chapter 7.

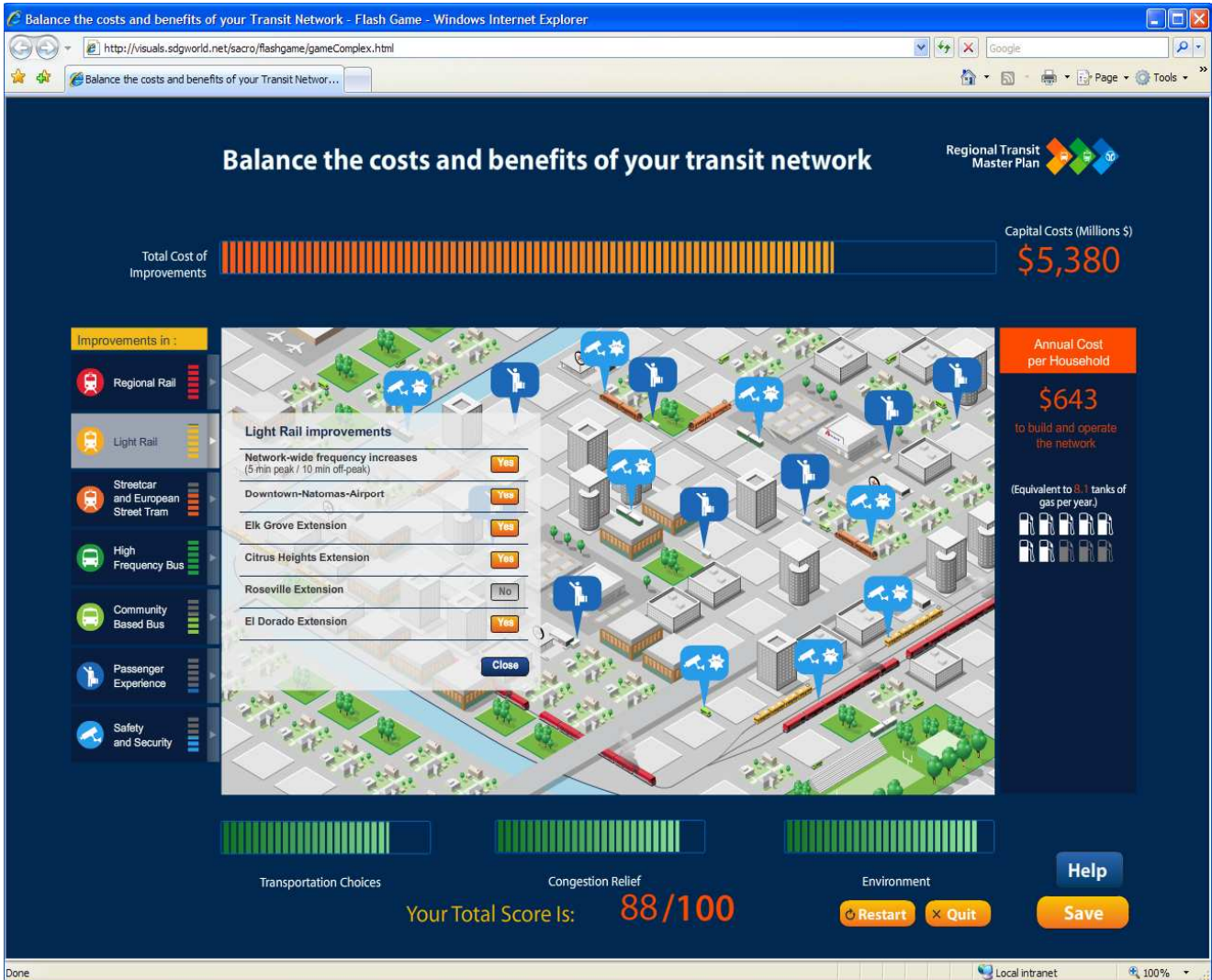
Community Outreach - Phase 2

- 6.18 The scenario evaluation presented in Chapter 5 along with the first phase of outreach confirmed Scenario C as the preferred TransitAction Plan. However, as noted in the conclusions of Chapter 5, there remained a gap in the available funding to build and operate the network.
- 6.19 A second phase of outreach was therefore undertaken in the fall and winter 2008, to discuss and get input on the public's 'willingness to pay' for increased transit service including identifying project priorities and understanding how much people are willing to pay for an expansion of the transit network and service levels.
- 6.20 The tool used to collect this information was an interactive online 'game' which enabled participants to add or remove transit projects while illustrating how each choice affected the total 'capital costs', the 'annual cost per household' and the 'total score', which was a combination of transportation choices, congestion relief and environmental benefits offered by the participants' selection of improvements. Figure 6.3 illustrates a screen image from the 'willingness-to-pay' game.



European Street Trams integrated with development are a key component of the TransitAction Plan.

FIGURE 6.3 WILLINGNESS-TO-PAY EXERCISE



6.21 Over 1,000 responses were received and overall there was still a high level of support for large scale transit investments with average respondent willing to pay almost \$570 per household per year (approximately 70% of the total package). This response was received during a period of economic decline in the US.

6.22 Respondents were able to select the projects that were most favored as well as different levels of service across the modes. The results highlight:

- A broad level of support for investment in LRT & European Street Tram:
 - Downtown European Street Tram North Loop: 77%
 - Downtown European Street Tram South Loop: 72%
 - DNA: 72%
 - Elk Grove (blue line): 72%
 - Roseville (blue line): 74%
 - Citrus Heights (blue line): 68%

- El Dorado (gold line): 65%
- Citrus Heights - Rancho Cordova European Street Tram: 58%
- Rancho Cordova Streetcar: 56%
- Bus network frequency improvements:
 - 5-min service on Hi-Bus network (vs. 10-min): 54%
 - 10-min service on the Community-based Network (vs. 20-min): 62%
- Regional Rail:
 - 15-min peak service (vs. 30-min): 54%
- Passenger improvement responses show a very high level of support for improvements to transit access and information:
 - Improvements to stops and shelters: 74%
 - Sidewalk and access improvements: 71%
 - Improvements to ticketing and information: 76%
- Safety improvements received the highest levels of support:
 - Extra police on the network: 80%
 - Cameras on vehicles and at stops/stations: 83%

Conclusions of the Public Outreach Process

6.23 Across the various elements of the outreach program, from the RT Board to the general public, there is a general consensus that more needs to be done to improve the transit system in Sacramento County. There is a clear level of support for an ambitious course of action that includes a more integrated and attractive service covering a

larger geographic area and with higher levels of service frequency. The input from key stakeholders has suggested that these improvements should begin with improvements to the existing infrastructure followed by new modes, new service areas and an expanded transit offer.

6.24 A key message from both internal and external stakeholders however, is that transit investment has to be linked to land use changes and that the implementation of the major projects included in Scenario C will be dependent on significant intensification of land use in those corridors to support the transit investment.



The public would like to see existing transit infrastructure improved first.



THE TRANSITATION PLAN

7



7 The TransitAction Plan

Introduction

- 7.1 The input received from the public and stakeholders alike showed a clear preference for significant increases in transit service and investment for the Sacramento region. In addition, the evaluation of the scenarios presented in Chapter 5 demonstrated that Scenario C, particular once land use and complementary measures were included (Scenario C+), should be the focus of the TransitAction Plan.
- 7.2 This chapter provides further detail on the preferred package of transit investments that make up the TransitAction Plan. It moves from the outline scenarios presented in Chapter 5, to the detail of the plan.

An Integrated Offer - Transit and Land Use

- 7.3 Transit project development in Sacramento, like many other cities, has frequently made use of available rights of way with the first light rail corridors developed as conversions of under-utilized rail freight corridors. So while this has meant that Sacramento was able to build light rail, it has also resulted in relatively low density development and lower levels of ridership along the network than might have been expected.
- 7.4 The ridership forecasting work completed has clearly demonstrated that transit service provided in isolation of land use and Transportation Demand Management (TDM) measures will not be enough to make significant changes in the way people move in Sacramento. This TransitAction Plan has therefore been developed to ensure that RT becomes an integral partner in the planning of transit alongside land use. As part of the

development of this plan, RT has developed a set of Transit Oriented Development (TOD) Guidelines (a full copy is provided in the Appendix) to provide the local jurisdictions with the guidance toward land use policies to create transit-supportive communities. This integration of transit and land use planning is a key aspect of the Federal Transit Administration’s (FTA) funding framework and signals a new direction for integrated transit and land use development.

- 7.5 With an established TOD land use framework incorporated into the General Plans of the local jurisdictions, RT will be able to plan its transit investments in bus, light rail and streetcar with greater certainty and enable them to cater for passenger needs by providing an integrated transit network.



Streetcars are also part of the TransitAction Plan.

The Blueprint Challenge: Transit-Oriented Development and Increasing Mode Share

- 7.6 In order to support and realize the benefits of the Blueprint Preferred Land-use Scenario, the Sacramento region will need an improved transit system to provide people with a real transportation choice.
- 7.7 As noted in Chapter 3, the existing mode share for transit in the region is relatively low and to have a real impact on congestion levels, environmental impacts and quality of life, transit will need to be used for a greater percentage of all trips.
- 7.8 SACOG has set a target of 4% transit mode share by 2050 which, although not a huge percent of all trips, would represent a fourfold increase in mode share over trips made today.

7.9 To achieve this kind of shift, two changes will be needed: a vastly improved transit network offering more frequent transit services to more places for longer hours of the day and land use that supports transit. Without land use and transit investment made together, neither change will get the full potential benefit. On average, 60 percent of RT trips are provided for commuting purposes. Overall however, commuting only represents 25 percent of household daily trips. Better integration of land uses with transit will allow people to use transit for a greater share of their daily trips. This chapter provides the details of the specific transit investments included in the TransitAction Plan as well as some specific ideas on how to better plan and integrate land use decisions alongside transit.



Linking higher density housing and mixed use communities to expansion of transit service is a priority in the TransitAction Plan.

An Energy-Efficient Transit System

- 7.10 With growing global and local concerns about energy security, the costs of oil and the environmental impacts of using fossil fuels, it is important that RT, as a public agency, continues to provide leadership and is involved in the debate about energy independence and climate change.
- 7.11 Almost a decade ago, RT made the decision to switch from diesel buses to compressed natural gas (CNG). This decision which supports better air quality and the positive impact it has had on the local environment and financial health of RT over the past few years is a testament to RT's staff and directors who made the decision. Over the life of this plan, RT will need to continue to monitor and evaluate new fuel and energy sources to ensure that it continues to use the most energy-efficient and cost-effective sources available.
- 7.12 As an integral component of the TransitAction Plan and the way that RT does business - from large scale project development, planning and policy decisions to small day-to-day decisions it makes in

materials procurement and HR policies - RT will continue to push and challenge its own way of operating to help ensure that it provides the region with a well managed and energy efficient transit system.

Passenger Requirements: From Lifeline to Lifestyle

- 7.13 The TransitAction Plan has a clear focus on 'Putting the Passenger First.' It is a simple phrase and has guided the development and planning of the transit network and services planned for RT.
- 7.14 In order to build ridership and improve the cost effectiveness of the public transit system, RT needs to attract new customers to its services and this means a fundamental shift in the way that transit services are planned, delivered and perceived in Sacramento. Transit cannot be just for people who have to use it, but a real transportation choice that provides people with mobility options that are fast, direct, frequent and convenient - a move from a lifeline to a lifestyle service.



Regional Transit's compressed natural gas (CNG) bus helps support better air quality.

Components of the TransitAction Plan

7.15 The scenario maps used for the public consultation process provided the public and stakeholders with a set of options on which to comment and provide feedback. As noted in Chapter 6, a number of specific changes were recommended and included in the final Scenario C map. Figure 7.1 shows the updated map and includes the following changes:

- Streetcar/European tram services extended to Broadway - loop service on J Street, Alhambra Blvd, Broadway and 5th Avenue;
- Rancho Cordova streetcar/European tram service extended north to Citrus Heights - Sunrise Blvd. to Greenback Lane;
- Bus Rapid Transit (BRT) service included along/adjacent to Jackson Highway.



An extensive and efficient bus network, including Bus Rapid Transit and Hi-Bus, is a key element of the TransitAction Plan (Nantes, France).

7.16 With a clear preference from the public and the results of the evaluation pointing towards Scenario C, the following sections provide the detail of the specific projects and policies to be pursued through the implementation of the TransitAction Plan.

Regional Rail

7.17 Sacramento is currently served by Capitol Corridor intercity rail services running from Colfax/Auburn to San Jose. Current services include 16 trains per day westbound/southbound and 16 trains per day eastbound/northbound.

7.18 As part of the TransitAction Plan, RT will work with Amtrak, Capitol Corridor Joint Powers Authority, Union Pacific Railroad (UPRR), their partners and stakeholders to improve the frequency of rail services serving this corridor - particularly from Davis through Sacramento Valley Station to Roseville and Rocklin.

7.19 To provide frequent, passenger-friendly commuter service, it is proposed that this service be increased to four trains per hour in the peak periods. In order to achieve this increase, additional rolling stock will be required as well as further agreements with the other railway operators to provide sufficient 'train paths' for the services.

7.20 In addition to rail services in the Capitol Corridor, the TransitAction Plan also includes the introduction of a new service from Stockton and Galt north into Sacramento. This service is also proposed as a four train per hour peak period service and would serve the commuters in the south of the county and beyond.

7.21 Each of these services is shown in Figure 7.2.

FIGURE 7.1 REVISED SCENARIO C AFTER PUBLIC OUTREACH

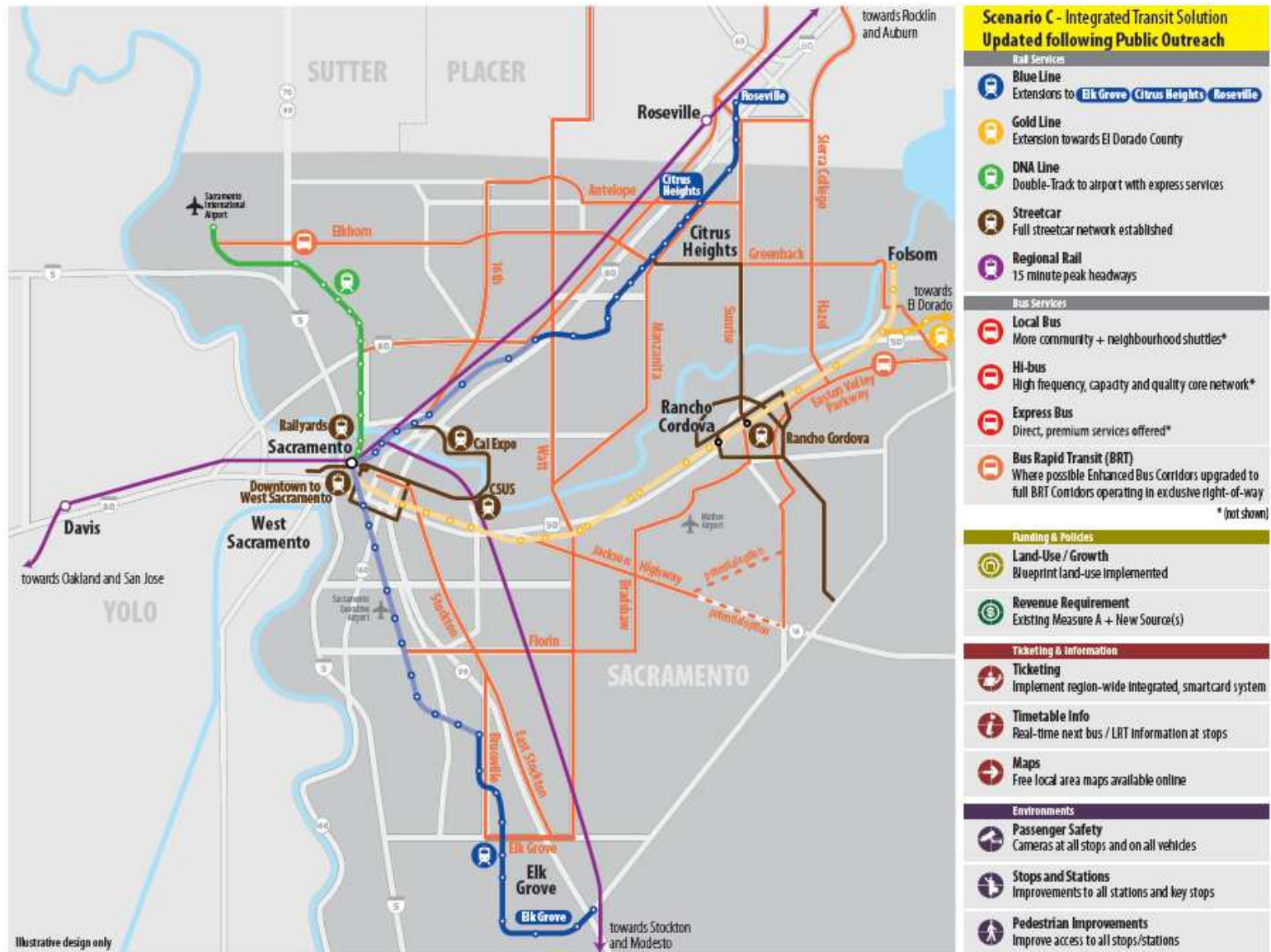
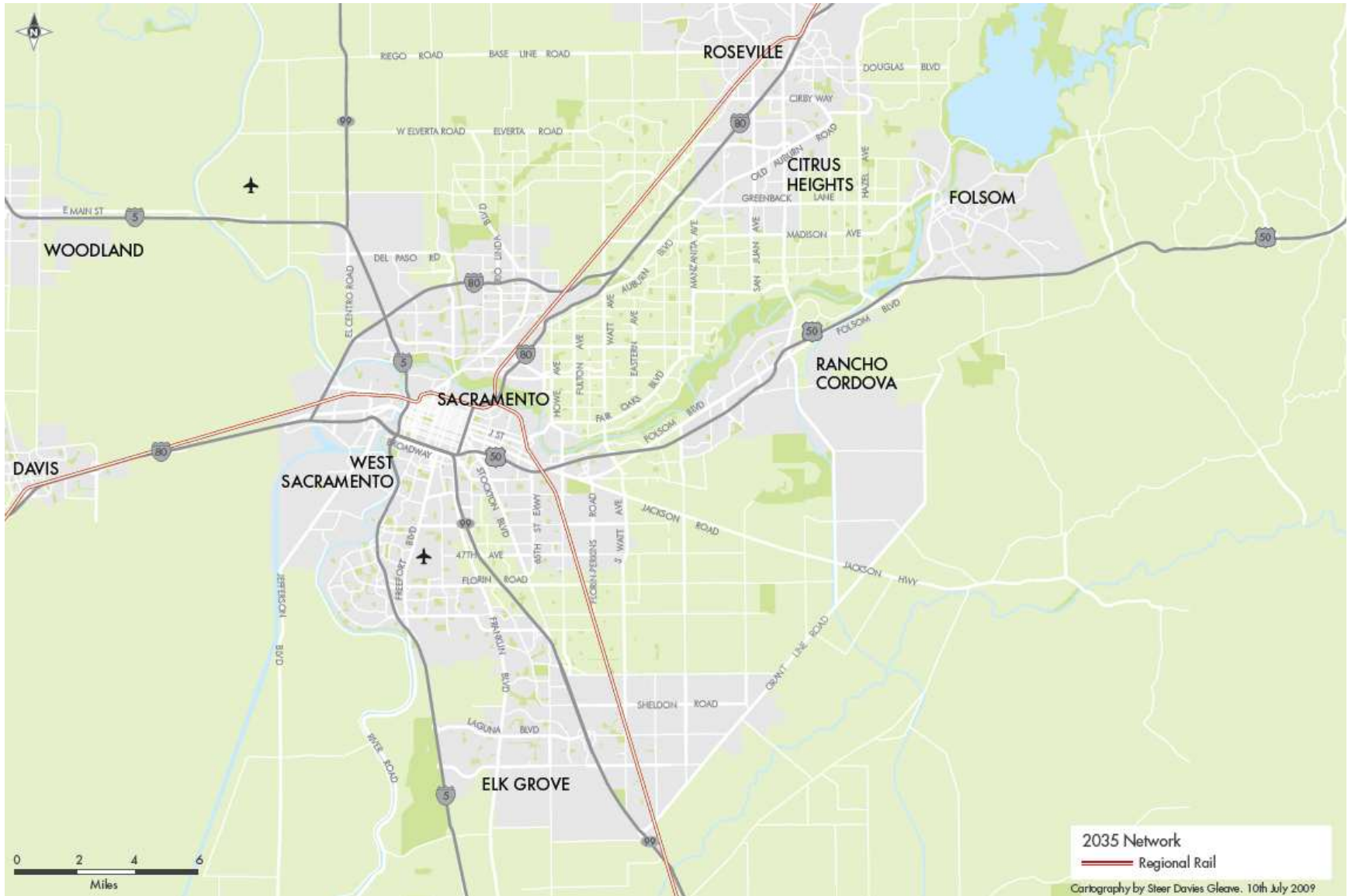


FIGURE 7.2 2035 REGIONAL RAIL NETWORK



Light Rail Transit

- 7.22 Sacramento’s light rail network began operating in 1987 with its Starter Line. Since that time, the network has continued to expand and grow and the two lines - the Blue Line running from the northeast at Watt/I-80 through downtown south to Meadowview and the Gold Line running from Historic Folsom through Rancho Cordova to the Sacramento Valley Station Downtown - now carry almost as many passengers each day as the entire bus network.
- 7.23 The TransitAction Plan, and much of the support for the major elements within it, therefore includes further expansion of the light rail network as a key component of the regional high capacity transit network.
- 7.24 Table 7.1 provides a summary of the network expansion plans. Figure 7.3 shows a map of the various lines and then further details of each project are provided.

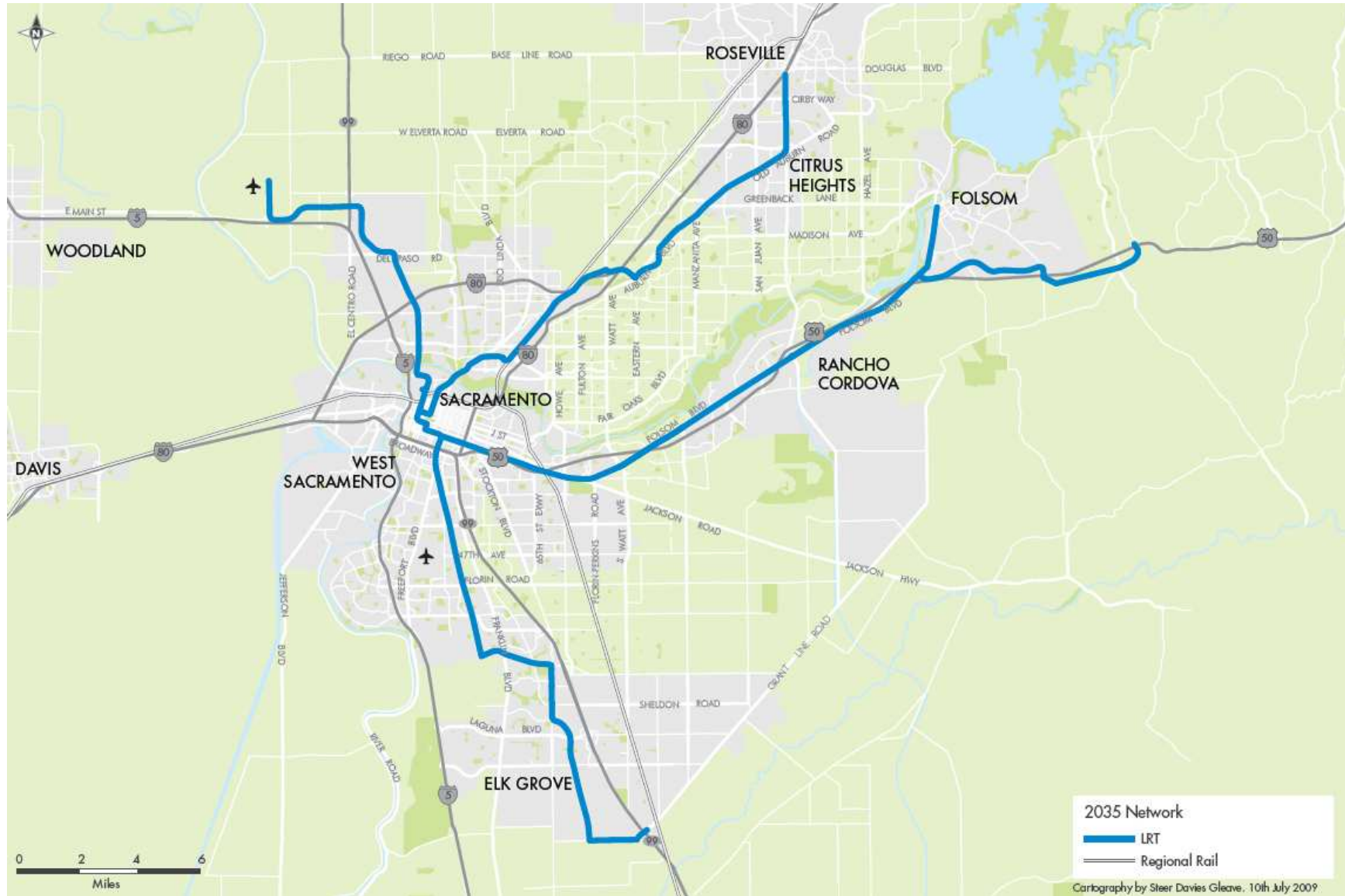


Expanding the LRT network will connect more communities to jobs, education and leisure facilities.

TABLE 7.1 SUMMARY OF THE LIGHT RAIL NETWORK EXPANSION PROJECTS

Alignment / Extension	Length (mi.)	Stops	Average Spacing (mi.)
Downtown-Natomas-Airport LRT	12.8	13	1.07
Gold Line LRT Extension to El Dorado County	9.6	10	1.07
Blue Line LRT Extension to Citrus Heights	6.4	10	0.71
Blue Line LRT Extension to Roseville	3.7	6	0.74
Blue Line LRT Extension to Elk Grove	8.3	5	2.08

FIGURE 7.3 TRANSICTION PLAN 2035 LIGHT RAIL NETWORK



Downtown-Natomas-Airport Light Rail

7.25 RT has been planning and developing the Downtown-Natomas-Airport (DNA) Light Rail project for over a decade. Plans are well developed and construction is now underway to build and operate the first segment of this line - the Minimum Operable Segment (MOS1) from Downtown to Richards Boulevard. The TransitAction Plan therefore builds on the work already underway and includes a full-double track route all the way through Natomas to Sacramento International Airport (SMF).

7.26 The indicative 12.8 mile route shown in Figure 7.3 includes the following stations:

- Railyards
- Richards
- Sequoia Pacific
- El Camino/Truxel
- Natomas Gateway
- Arena Blvd.
- Arco Arena
- East Town Center
- Natomas Town Center

- Commerce Parkway, South
- Commerce Parkway, North
- Greenbriar
- Metro Airpark
- Airport

7.27 Table 7.2 summarizes the key destinations this extension serves.



The TransitAction Plan will continue to use LRT as the 'spine' of the high capacity network (Charlotte, NC).

TABLE 7.2 DNA LIGHT RAIL KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Sacramento Valley Rail Station	Interchange	Interstate Rail Commuter Rail Intercity Bus Local Bus
Downtown Sacramento	Employment	Central Business District
	Shopping	Downtown Plaza and other retail
Natomas Marketplace / Sacramento Gateway	Shopping	1.2 million sq.ft.
Arco Arena	Events	200 events/year
Sacramento International Airport	Passengers	10.6 million pass/year
	Employees	1,000+

Gold Line Light Rail Extension to El Dorado County

7.28 This extension, from Iron Point on the Gold Line, was identified through previous planning efforts by both the City of Folsom and El Dorado County and would be largely driven by local plans and desires to support intensification of land use in the corridor.

7.29 The indicative 9.6 mile route shown in Figure 7.3 includes the following ten stations (nine new):

- Iron Point Station
- Black Diamond Drive
- Prairie City
- Oak Avenue Parkway
- Palladio Parkway/Bidwell Street
- Placerville / El Dorado Freeway
- Placerville Road/White Rock Road
- Stonebriar Drive

- Latrobe Road
- Silva Valley Parkway/El Dorado Freeway.

7.30 Table 7.3 summarizes the key destinations this extension serves.



Extending the Gold Line to El Dorado County will focus land use development near stations along the corridor.

TABLE 7.3 EL DORADO LIGHT RAIL EXTENSION KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Gold Line Connections to Rancho Cordova and Downtown Sacramento	Employment Shopping Colleges Hospitals	Numerous opportunities
Folsom Premium Outlets	Shopping	300,000 sq.ft.
Intel Corporation	Employees	6,800+
Chapman University College - Folsom	Students	1,000+
Broadstone Neighborhood	Shopping	1.5 million sq.ft.

Blue Line Light Rail Extension to Citrus Heights

7.31 The existing Blue Line Light Rail terminates at Watt/I-80 station with a stub terminus extending between the north and south bound freeway lanes near the Watt Avenue / I-80 junction. An extension of the Blue Line north would be a largely street-running extension starting at Watt/I-80 and terminating in Citrus Heights at (or near) the intersection of Auburn Blvd., Old Auburn Road and Sylvan Road. It is expected that a further extension would then continue from near that intersection north/northeast to Roseville.

7.32 The indicative alignment was shown in Figure 7.3 and of note is that it:

- Would require a significant structure/ tunnel to pass over/under the freeway;
- Directly serves American River College;
- Would intersect with a north-south running European Street Tram from Rancho Cordova to Citrus Heights (at Auburn and Greenback); and
- Includes stops at all of the retail nodes on Auburn Boulevard highlighted as important areas of commercial activity by the City of Citrus Heights.

7.33 The 6.4 mile route includes ten stations with the following nine new additions:

- Watt-I80; Auburn/Orange Grove;
- American River College;
- Auburn/Madison;
- Auburn/Garfield;
- Auburn/Manzanita;
- Auburn/Greenback;
- Auburn/Van Maren Lane;
- Auburn/Coachman Way;
- Auburn/Old Auburn/Sylvan Road.

7.34 Table 7.4 summarizes the key destinations this extension serves.

TABLE 7.4 CITRUS HEIGHTS LIGHT RAIL EXTENSION KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Blue Line Connections to Downtown Sacramento	Employment Shopping	Numerous opportunities
Heritage Oaks Hospital	Patient Beds	120+
American River College	Students	36,000+
	Employers	1,000+
European Street Tram Connections to Rancho Cordova (proposed)	Shopping Employment	Sunrise Marketplace and other opportunities
Retail Nodes Along Auburn Boulevard	Shopping Employment	Auburn & Old Auburn Auburn & Greenback Auburn & Garfield Auburn & Madison

Blue Line Light Rail Extension to Roseville

7.35 An extension of the Blue Line to Roseville would be a continuation, or further phase, of a north/northeastern extension of the existing Blue Line. The southern terminus is assumed to be the northern terminus of the Citrus Heights extension (i.e. at (or near) the intersection of Auburn Blvd., Old Auburn Road and Sylvan Road) and then the alignment continues to run on-street along Old Auburn Boulevard and then north on Sunrise Boulevard to Roseville Gateway College.

7.36 The indicative alignment was shown in Figure 7.3 and of note is that it:

- Would intersect with a Hi-Bus corridor on Antelope and Sunrise Boulevard;
- Terminates at Sierra College - Roseville Gateway; and
- Includes stops at all of the retail nodes on Auburn Boulevard highlighted as important areas of commercial activity by the City of Citrus Heights.

7.37 The 3.7 mile route includes the following six stations (five new):

- Auburn/Old Auburn/Sylvan Rd
- Auburn/Sunrise; Sunrise/Antelope
- Sunrise/Twin Oaks
- Sunrise/Cirby Way
- Roseville Gateway.

7.38 Table 7.5 summarizes the key destinations this extension serves.

TABLE 7.5 ROSEVILLE LIGHT RAIL EXTENSION KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Blue Line Connections to Downtown Sacramento	Employment Shopping	Numerous opportunities
Retail Nodes Along Old Auburn Blvd and Sunrise Blvd	Shopping Employment	Sunrise & Cirby Sunrise & Old Auburn
BRT/Hi-Bus Connections to Antelope and Roseville Center (proposed)	Shopping Employment Hospital Colleges	Numerous opportunities
Sierra College - Roseville Gateway	Students	600+

Blue Line Light Rail Extension to Elk Grove

7.39 RT already has committed to building an extension of the Blue Line south to Cosumnes River College (CRC) with a terminus on Bruceville Road and this is assumed in the ‘base case’ for the TransitAction Plan. However, a further extension is proposed south from CRC to the south/southeast to a southern terminus at the future Elk Grove Promenade Shopping Center.

7.40 The indicative alignment was shown in Figure 7.3 and of note is that it:

- Would intersect with Hi-Bus corridors serving routes from Cosumnes River College, as well as routes from Elk Grove along Grant Line Road and towards Rancho Cordova; and
- Follows the alignment in the adopted Elk Grove General Plan - Circulation Element (adopted in 2003 and amended in 2007).

7.41 The 8.3 mile route includes the following five stations (four new):

- Cosumnes River College
- Bruceville/Sheldon Road
- Bruceville/Big Horn Blvd
- Big Horn/Elk Grove Blvd
- Elk Grove Promenade Shopping Center.

7.42 Table 7.6 summarizes the key destinations this extension serves.



The Blue Line LRT Extension will serve the Elk Grove community and connect with Hi-Bus corridors.

TABLE 7.6 ELK GROVE LIGHT RAIL EXTENSION KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Blue Line Connections to Downtown Sacramento	Employment Shopping Colleges	Numerous opportunities
Laguna Crossroads	Shopping	423,000 sq.ft.
Elk Grove Promenade (under construction)	Shopping	1.1 million sq.ft.

Streetcar and European Street Tram

7.43 Sacramento was one once one of America’s great streetcar cities with streetcars running throughout Downtown, Midtown and providing access to and from the growing suburbs. In the mid-1930’s the City had more than a dozen different routes operating, but with the end of World War II and the dawn of the motor car and the development of the bus industry, the streetcars slowly disappeared from Sacramento’s streets.

7.44 As part of the TransitAction Plan, four new streetcar/tram systems are planned for the Sacramento region. They are a combination of American-style streetcar services similar to those seen in Portland, Oregon with smaller vehicles running in mixed operation with traffic and European Street Trams similar to the systems in many western European cities with longer, higher capacity vehicles.

7.45 The pictures and captions from Portland’s Streetcar and Dublin’s Street Tram on the following pages highlight the key differences between the two styles of system.

7.46 Table 7.7 provides a summary of the Streetcar and European Street Tram network plans and Figure 7.4 presents a map of the various lines. Further details of each project are provided below.

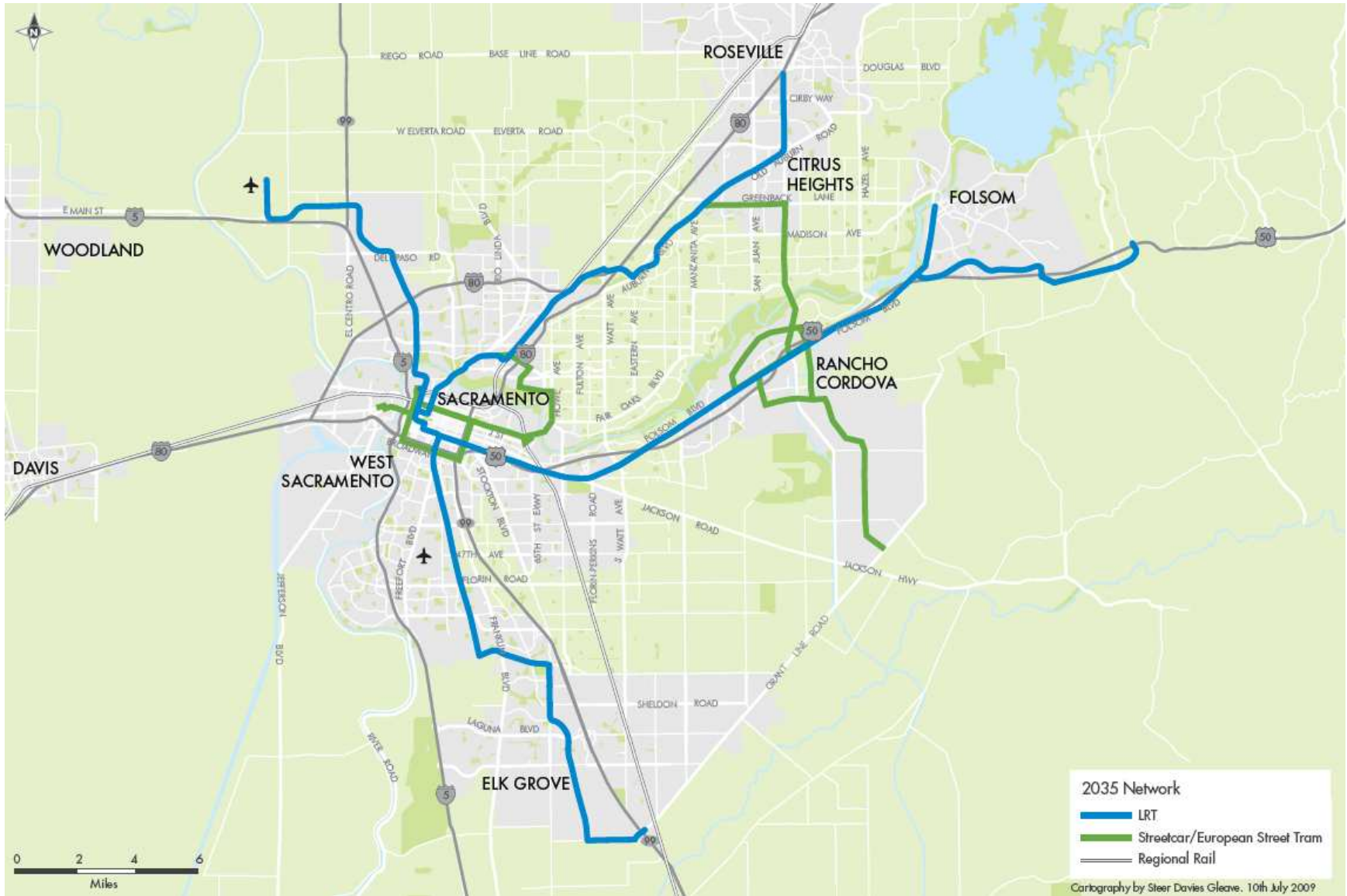


European Street Trams are modern, low floor (level boarding) and fully accessible (Lyon, France)

TABLE 7.7 SUMMARY OF STREETCAR AND EUROPEAN STREET TRAM PROJECTS

Alignment / Extension	Length (miles)	Stops	Average Spacing
Downtown European Street Tram - North Loop	10.3	21	0.52
Downtown European Street Tram - South Loop	8.7	21	0.44
Citrus Heights - Rancho Cordova European Street Tram	7.9	14	0.61
Rancho Cordova Streetcar	18.7	25	0.78

FIGURE 7.4 TRANSITION PLAN 2035 STREETCAR / EUROPEAN STREET TRAM NETWORK





Most North American Streetcar systems operate with smaller, lower capacity vehicles that run in traffic with little or no priority (Portland, OR).



LRT and European Street Trams operate larger, higher capacity vehicles with priority over private cars to guarantee service reliability and journey times (Dublin, IR)





A complete street design with space prioritized for light rail (Montpellier, France).

Downtown European Street Tram

7.47 The TransitAction Plan includes a European Street Tram service linking West Sacramento to Downtown with an extension eastwards through Midtown to CSUS, Cal Expo and Arden/Arden Fair Mall. A service is also shown on Broadway on the south side of Downtown. For operational purposes, this loop network has been split into two routes: a northern and southern loop. Each is assumed to be operated using low-floor LRT vehicles - European Street Trams.

North Loop

7.48 The southern terminus for this loop would be in the Railyards development site. While the specific location of the terminus may change as development plans and phasing are further developed, for the purposes of the TransitAction Plan it has been assumed to stop on Railyards Boulevard adjacent to the DNA Light Rail stop at Railyards Blvd and 7th Avenue. It would then serve Downtown on J Street, east through midtown to CSUS and then head north on Howe Avenue before turning west into the Cal Expo site.

7.49 While it is likely that this site will be redeveloped and the road configuration changed, for planning purposes, the alignment largely follows existing roads and includes two stops. North of Cal Expo, the street tram serves Arden Fair Mall before heading west to connect with the Blue Line LRT at Royal Oaks Station.

7.50 The 10.3 mile alignment is shown in Figure 7.4 and includes 21 stops (19 new) at:

- Railyards Blvd & 7th
- Sac Valley Station
- Westfield Shopping Plaza (6th & J)
- City Plaza Park (10th & J)
- Convention Center (14th & J)
- 20th & J
- Sutter Hospital (28th & J)
- Alhambra & J
- Mercy General Hospital (39th & J)
- 48th & J
- 56th & J
- North State University Dr
- CSUS Transit Center
- Fair Oaks Blvd/Campus Commons Dr
- Fair Oaks Blvd/ Howe Ave
- Howe Ave/Northrop Ave
- Howe Ave/Hurley Way
- Cal Expo/Fair 1
- Cal Expo/ Fair 2
- Arden Fair Mall
- Royal Oaks Station.

7.51 Table 7.8 summarizes the key destinations this extension serves.

TABLE 7.8 DOWNTOWN EUROPEAN STREET TRAM NORTH LOOP KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
DNA Connections to Natomas, Sacramento Int'l Airport and Arco Arena	Shopping, Airport, Events	Numerous opportunities
Downtown Plaza	Shopping	1.2 million sq.ft.
California Air Resources Board	Employees	1,000+
California Environmental Protection Agency	Employees	1,000+
Sacramento Convention Center	Visitors	1 million/year
Sutter General Hospital	Patient Beds	300+
Mercy General Hospital	Patient Beds	340+
	Employees	1,000+
California State University Sacramento	Students	29,000
	Employees	1,000+
Arden Fair Mall	Shopping	1.1 million sq.ft.
Blue Line Connections to Downtown or towards Citrus Heights	Employment, Hospitals, Colleges, Shopping	Numerous opportunities

South Loop

7.52 The South Loop will provide a downtown circulation service that will help support the revitalization of parts of West Sacramento, Downtown and the Broadway Corridor. The western terminus is assumed to be at West Sacramento City Hall - consistent with the streetcar project being developed in partnership between the City of Sacramento and the City of West Sacramento. The route shares the track downtown with the north loop on J Street as far as Alhambra where it would head south to Broadway and then return back west to Downtown terminating in the Railyards development site. As with the North Loop, the terminus would be on Railyards Boulevard adjacent to the DNA Light Rail stop at Railyards Blvd and 7th Avenue.

7.53 The 8.7 mile route is shown in Figure 7.4 and includes 21 stops (19 new with seven shared with the North Loop) at:

- 5th and Capitol;
- Westfield Shopping Plaza (6th & J);
- City Plaza Park (10th & J);
- Convention Center (14th & J);
- 20th & J;
- Sutter Hospital (28th & J);
- Alhambra & J;
- Alhambra and Stockton Blvd;
- 29th Street station;
- Alhambra / Broadway;
- Broadway / Franklin;
- Broadway station;
- Broadway / Riverside Blvd;
- Broadway / 5th Street;
- 5th and R Street;
- 5th and Capitol;
- Sac Valley station; and
- Railyards Blvd & 7th.

TABLE 7.9 DOWNTOWN EUROPEAN STREET TRAM SOUTH LOOP KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
DNA Connection to Natomas, Sacramento Int'l Airport and Arco Arena	Shopping, Airport, Events	Numerous opportunities
Downtown Plaza	Shopping	1.2 million sq.ft.
California Air Resources Board	Employees	1,000+
California Environmental Protection Agency	Employees	1,000+
Sacramento Convention Center	Visitors	1 million/year
Sutter General Hospital	Patient Beds	300+
California Social Services Department	Employees	7,500
California Child Abuse Prevention Office	Employees	1,000+
California Water Resources Department	Employees	1,000+
California Employment Development Department	Employees	1,000+

Rancho Cordova Streetcar

7.54 The Rancho Cordova Streetcar was identified as a priority project in the City of Rancho Cordova’s 2006 Transit Master Plan and is supported through RT’s TransitAction Plan. At full build, it will be an 18.7 mile network grouped into the following three phases for planning and implementation:

- Stages 1-3 - 10 stops, 7.5 miles;
- Stages 4-5 - 7 stops, 5.4 miles; and
- Stages 6-7 - 8 stops, 5.9 miles.

7.55 All three stages are shown together in Figure 7.4; however, for the purposes of the TransitAction Plan, it is assumed that the service would be built in phases to match the planned development and changing land uses in the City of Rancho Cordova.

7.56 Table 7.10 summarizes the key destinations this extension serves.

TABLE 7.10 RANCHO CORDOVA STREETCAR KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Gold Line Connections to Downtown and Folsom	Employment, Shopping, Hospitals, Colleges	Numerous opportunities
Vision Service Plan	Employees	1,900
Capital Village Town Center	Shopping	300,000 sq.ft.
Delta Dental	Employees	1,000+
Local Retail Nodes	Shopping	Rancho Cordova Town Center, Mills Shopping Center
Convention Area	Hotels	18+

Citrus Heights - Rancho Cordova European Street Tram

7.57 Through consultation with the City of Citrus Heights, a European Street Tram was identified as a priority project serving the Sunrise-Greenback corridor into Citrus Heights town center. While further detailed planning work will be required to determine the precise alignment, stops and termini (as well as the financial viability of the project), it is assumed that the northern terminus would be at Greenback and Auburn Blvd and that the southern terminus would be in Rancho Cordova at the Sunrise station.

7.58 The indicative 7.9 mile route includes 14 stops, including:

- | Sunrise LRT P&R
- | Sunrise/Zinfandel Dr
- | Sunrise/Gold Express Drive
- | Sunrise/Gold Country Blvd
- | Sunrise/Fair Oaks Blvd
- | Sunrise/Winding Way

- | Sunrise/Sunset Avenue
- | Sunrise/Madison Avenue
- | Sunrise Festival & Marketplace at Birdcage Malls
- | Greenback/Birdcage St
- | Greenback/Mindan Way
- | Greenback/Regency Drive
- | Greenback/Van Maren Lane
- | Greenback/Auburn Blvd.

7.59 The alignment is shown in Figure 7.4 and of note is that it:

- | Would intersect with Hi-Bus routes on Sunrise (from Rancho Cordova) and north/northwest on Sunrise/Antelope;
- | Connects the Gold Line (at Sunrise station) and the Blue Line (Citrus Heights Extension at Greenback/Auburn Light Rail); and
- | Connects with the Rancho Cordova streetcar network.

7.60 Table 7.11 summarizes the key destinations this extension serves.

TABLE 7.11 CITRUS HEIGHTS-RANCHO CORDOVA EUROPEAN STREET TRAM KEY DESTINATIONS

Key Destination	Impact of Amenity	Scale of Amenity
Gold Line Connections to Downtown and Folsom	Employment Shopping Hospitals Colleges	Numerous opportunities
Sunrise Marketplace	Shopping	2 million sq.ft.
Hi-Bus Connections to Folsom and Citrus Heights	Employment Hospitals Colleges	Mercy San Juan Mercy Folsom Folsom Lake College
Blue Line Connections to Downtown and Roseville	Employment Shopping Hospitals Colleges	Numerous opportunities
Rancho Cordova Streetcar connections	Employees, Shopping, Hotels	Numerous opportunities

Bus Services - The Hi-Bus Network

7.61 The Hi-Bus network is planned as a network of **high frequency, high speed** bus routes using **high quality** vehicles that will augment the light rail/street tram/streetcar networks to complete the regional high capacity transit system. The Hi-Bus network is extensive and includes total route length of over 260 miles, which will provide a much larger portion of the population with fast, reliable transit services. This network will be supported and infilled with a further set of local, community based services to help feed the high capacity network and cater to short, local trips.

7.62 The Hi-Bus network includes a range of bus-based services including BRT using exclusive lanes, enhanced bus corridors and express bus services. Chapter 8 provides further details on the specific guidelines, standards and elements included as part of the Hi-Bus network.

7.63 While the implementation of specific routes and services will be subject to detailed service planning and review, the indicative network, along with key destinations served are presented in Table 7.12 and in Figure 7.5.



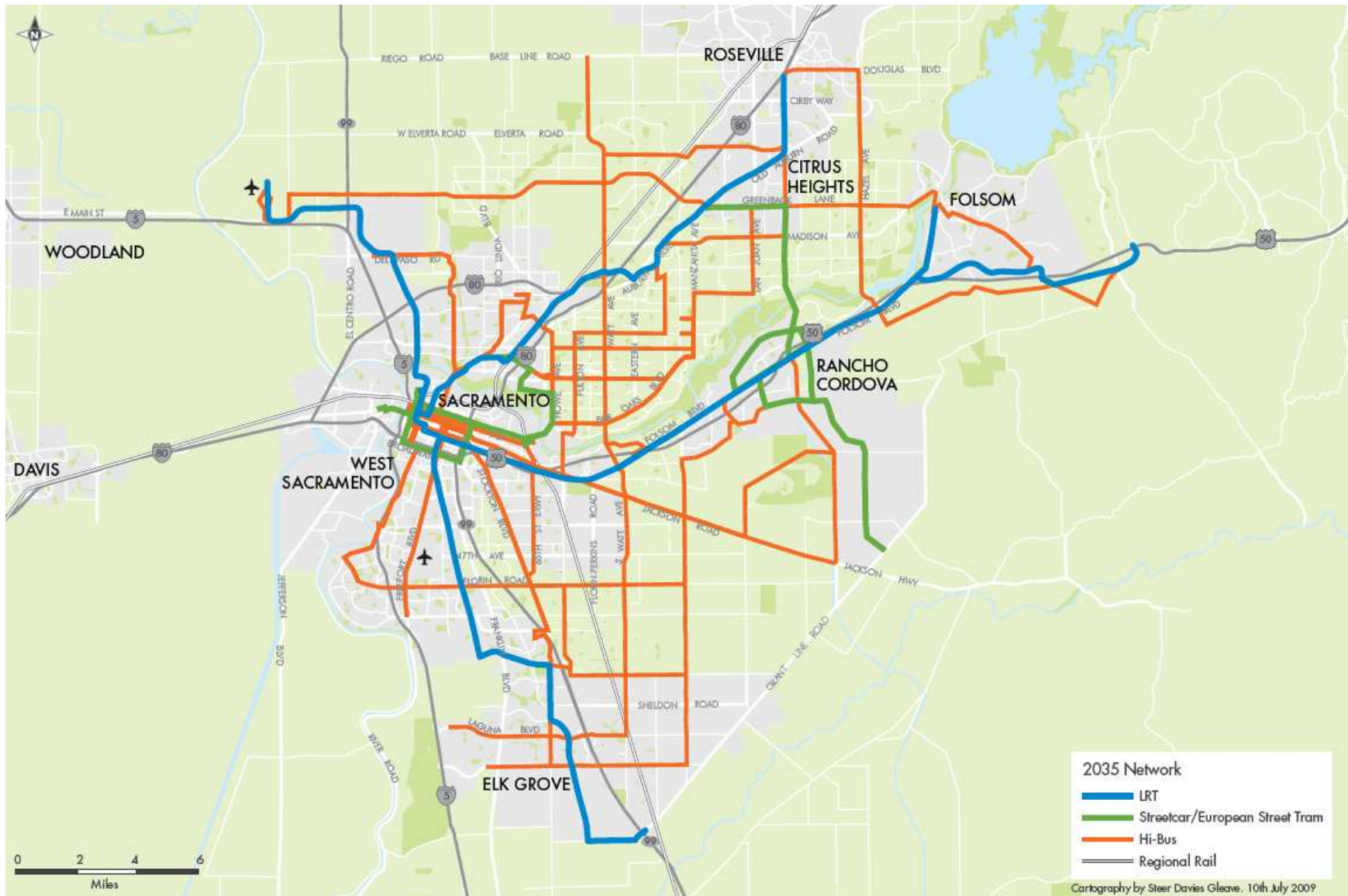
Modern buses look increasingly like light rail vehicles and aim to provide the same level of comfort and efficiency.

TABLE 7.12 SUMMARY OF THE HI-BUS NETWORK

Route	Start	End	Key Destinations Served	Length (miles)
Riverside	Florin Road/ JFK HS	Downtown	Westfield Downtown Plaza, State Depts. (SS/CAPO/WR/EDD), Riverview Neighborhood, N Riverside Blvd Neighborhood, John F. Kennedy High School	7½
Freeport	Freeport/ Meadowview	Downtown	Westfield Downtown Plaza, Convention Center, State Depts. (EPA, ARB), Sac City College, Sac Executive Airport, Sac Bee Newspaper	8
Stockton	CRC Transit Center	Downtown	Downtown Plaza, State Depts. (SS/CAPO/WR/EDD/CD), UC Davis Health Center Cosumnes River College, Fruitridge/Florin Malls	12
Norwood	East Town Center LRT	Downtown	Arco Arena, State Depts. (EPA/ARB), Convention Center, Downtown Plaza, Northgate Blvd Neighborhood	8½
Del Paso	Grant Union High School	Downtown	Grant Union High School, Rio Linda Neighborhood, Convention Center, State Depts. (EPA/ARB), Downtown Plaza	7
Fair Oaks	Fair Oaks/ Marconi	Downtown	Downtown Plaza, Convention Center, Mercy General Hospital, Cal State U Sacramento, Pavilions Mall, Sutter General Hospital	13
Jackson Hwy	Jackson Hwy/ Sunrise	Downtown	Mather Regional Park, Downtown Plaza, Convention Center, Cal State U Sacramento, Sutter General Hospital	15
Arden Way	Fair Oaks/ Marconi	Royal Oaks LRT	Royal Oaks LRT, Arden Fair, Arden/Watt Neighborhood, Arden/Fair Oaks Neighborhood, Fair Oaks/Marconi Neighborhood	9
El Camino	Sunrise Mall	Royal Oaks LRT	Royal Oaks LRT, Arden Fair, Country Club Center & Plaza, El Camino Fundamental High School, Sunrise Mall/Marketplace at Birdcage	15½
Florin	Florin Road/ JFK HS	Florin Bradshaw	Florin Town Center, Southgate Plaza, Luther Burbank High School, Florin LRT, John F. Kennedy High School	11½
Elkhorn	Greenback/ Auburn LRT	SMF Airport	Sacramento Int'l Airport, W Elkhorn Blvd New Neighborhood, Elkhorn/Walerga Neighborhood, Elkhorn Plaza, Greenback/Auburn LRT	18

Route	Start	End	Key Destinations Served	Length (miles)
Hazel	Hazel LRT	Roseville LRT	Hazel LRT, Aerojet, Madison Mall, Kaiser Permanente Roseville, Roseville Center, Sierra College Roseville, Roseville LRT	11
Bradshaw	Laguna Cross Roads Center	Zinfandel LRT	Zinfandel LRT, Rancho Cordova Streetcar, Rancho Cordova Town Center, Vision Service Plan/Capital Village Town Center, Mather Sports Center, Sac County Water Quality Board, County Branch Center, Laguna Cross Roads Center, 3 High/Middle Schools, Cosumnes River College	20½
Antelope	Sunrise Mall	Watt/Elkhorn Blvd	Elkhorn/Watt Neighborhood, Antelope/Daly Neighborhood, Mesa Verde High School, Sunrise Mall/Marketplace at Birdcage	9
Madison	Sunrise Mall	American River College	American River College LRT, Madison/Dewey Neighborhood, Sunrise Mall/Marketplace at Birdcage	6
65th Street	CRC Transit Center	CSUS Transit Center	Cal State U Sacramento, University/65th St LRT, Florin Mall, Cosumnes River College LRT	10
Watt	Starfire LRT	Watt/Elkhorn Blvd	Elkhorn/Watt Neighborhood, Watt/Whitney Neighborhood, Country Club Center & Plaza, Arden/Watt Neighborhood, Starfire LRT	10½
South Watt	CRC Transit Center	Watt/Manlove LRT	Watt/Manlove LRT, Elk Grove Florin/Vintage Park Neighborhood, Laguna Gateway/Cross Roads Center Malls, Edward Harris, Jr. Middle School, Cosumnes River College LRT	13½
Howe	Grant Union High School	CSUS Transit Center	CSUS LRT, Cal State U Sacramento, Pavilions Mall, Marconi/Arcade LRT, Grant Union High School	6½
Marconi	American River College	Power Inn LRT	Power Inn LRT, Cal State U Sacramento LRT, Kaiser Foundation Hospital, Town & Country Village, American River College LRT	11
Sunrise	Jackson Hwy/Sunrise	Cordova Town Center LRT	Cordova Town Center LRT, Rancho Cordova Town Center, Rancho Cordova Streetcar, Rancho Cordova Convention Area, Sunrise Blvd Industrial Area, Mather Regional Park	8
Easton Valley	Hazel LRT	Silva Valley Parkway LRT	Hazel Light Rail, Aerojet	10½

FIGURE 7.5 TRANSITION PLAN 2035 HI-BUS NETWORK



Local Bus Services

- 7.64 While the high capacity transit network will cater for a large portion of the trips made on the network - particularly the longer distance trips to major destinations - many of the shorter distance, local trips will be made on community-based services.
- 7.65 The details of the individual services will be the subject of local, community based planning but will serve local shopping centers, medical facilities, schools, recreation centers and other local attractors. In addition to serving these local trips, these services will also play an important role in helping link passengers to the high capacity transit network.

Impacts on Fleet and Maintenance Facilities

- 7.66 The TransitAction Plan includes large increases in both the network coverage and frequency of services and, in order to provide this level of service, many more vehicles and staff will be needed. Additional maintenance staff and facilities will be needed to store and maintain the expanded fleet.

7.67 Table 7.13 provides the relative impacts on RT’s fleet size and maintenance facilities required as a result of the TransitAction Plan’s expanded service levels.

Park and Ride Facilities

- 7.68 At many of RT’s existing Light Rail stations, particularly those outside of the central city, park and ride facilities are provided. In addition to providing parking for car drivers, they are also typically used as transfer centers from bus to light rail.
- 7.69 These lots provide RT’s users with convenient access to the transit network and allow them to avoid road network congestion and save on the cost of parking at their final destination (where cost is likely to be higher and availability at a premium).
- 7.70 In many cases, the facilities are easily accessible from main roadways in more suburban areas where the bus service is less frequent and less convenient relative to other more urban areas. As such, park and ride facilities are used by RT to complement the bus- and Light Rail services to provide transit options for those individuals that are less inclined to take the bus and either unwilling or unable to pay for parking in the more costly urban centers.

TABLE 7.13 IMPACTS ON FLEET AND MAINTENANCE REQUIREMENTS

Variable	Current Requirement	2035 Requirement
Maintenance Facilities		
Bus	1	3
Light Rail	1	3
Vehicles		
Bus	351	947
Light Rail	97	359

Park and Ride Considerations

7.71 One of the main purposes of RT’s services is to provide choice and help increase the people moving capacity of the transportation network. With this in mind, Park and Ride facilities should be located at strategic points throughout the network to attract and encourage individuals to combine transit into their trip decision. Through the strategic use of Park and Ride (in its current network and in the network created by the TransitAction Plan), RT is able to increase ridership while releasing road capacity at key points in the network.

7.72 Some of the positive and negative attributes of Park and Ride are briefly described below:

Positives

- Increases accessibility to transit;
- Can encourages shorter auto trips;
- Encourages transit usage;

- Provides opportunities to better allocate scarce transit resources;
- Provides potential to alleviate some congestion;
- Reduces the competition for parking on private streets adjacent to stations;
- Expands the marketability of transit;
- Can complement local services; and
- Can help service special events.

Negatives

- In some instances, it can compete with bus service and may cause more auto trips;
- Costs to build, operate and maintain the lots;
- Security and enforcement; and
- Can sterilize development opportunities.



While the Blueprint and TransitAction Plan focus development near major transit investments, Park and Ride still remains an important part of the long term plan for RT (Montpellier, France).

Cost Considerations

7.73 Given the high construction costs for structured parking in Sacramento the majority of Park and Ride facilities are surface lots. Although the Park and Ride facility will increase transit revenues, including a possible parking fee and the transit fare, it is difficult to overcome capital costs of between \$30,000 and \$40,000 per stall in addition to the cost of property and the costs associated with the operations and maintenance of the parking facility.

Charging

7.74 Most jurisdictions reviewed as part of the peer review do not charge for parking. However the principle of introducing a charge to manage Park and Ride demand is being applied in Vancouver and is part of Portland’s policy on Park and Ride facilities. However it is important to recognize that introducing parking charges (or making them too high) can have a number of detrimental effects including making car use more attractive, increasing road congestion and reducing transit ridership. Further issues to be considered on the charge level to apply are downtown car park parking tariffs and availability of parking as lower charges may encourage more traffic to drive.

Ridership and Operations

7.75 Based on practices in other jurisdictions, it is apparent that Park and Ride can complement the overall transit service by increasing ridership without being too detrimental to the bus service. In order to minimize the negative impacts of Park and Ride on existing transit services, RT should select Park and Ride locations in areas that are either not particularly well-served by the existing bus network or where the existing bus service is not able to attract a specific segment of the potential riders.

Complementary Services

7.76 In addition to providing a place to park cars and access transit services, park and ride lots and transit centers provide ideal locations for complementary services to attract passengers and ‘footfall’ to the area. The types of services that should be encouraged include convenience stores, post offices, dry cleaners, coffee shops, child care facilities, health care centers, and banks. A considerable portion of commuting trips include stops for commercial services and creating more opportunities for linking such trips to transit would make switching modes easier.



Integrating Park and Rides within transit centers improves journey options for passengers (Seattle, WA)

Transit/Transfer Centers

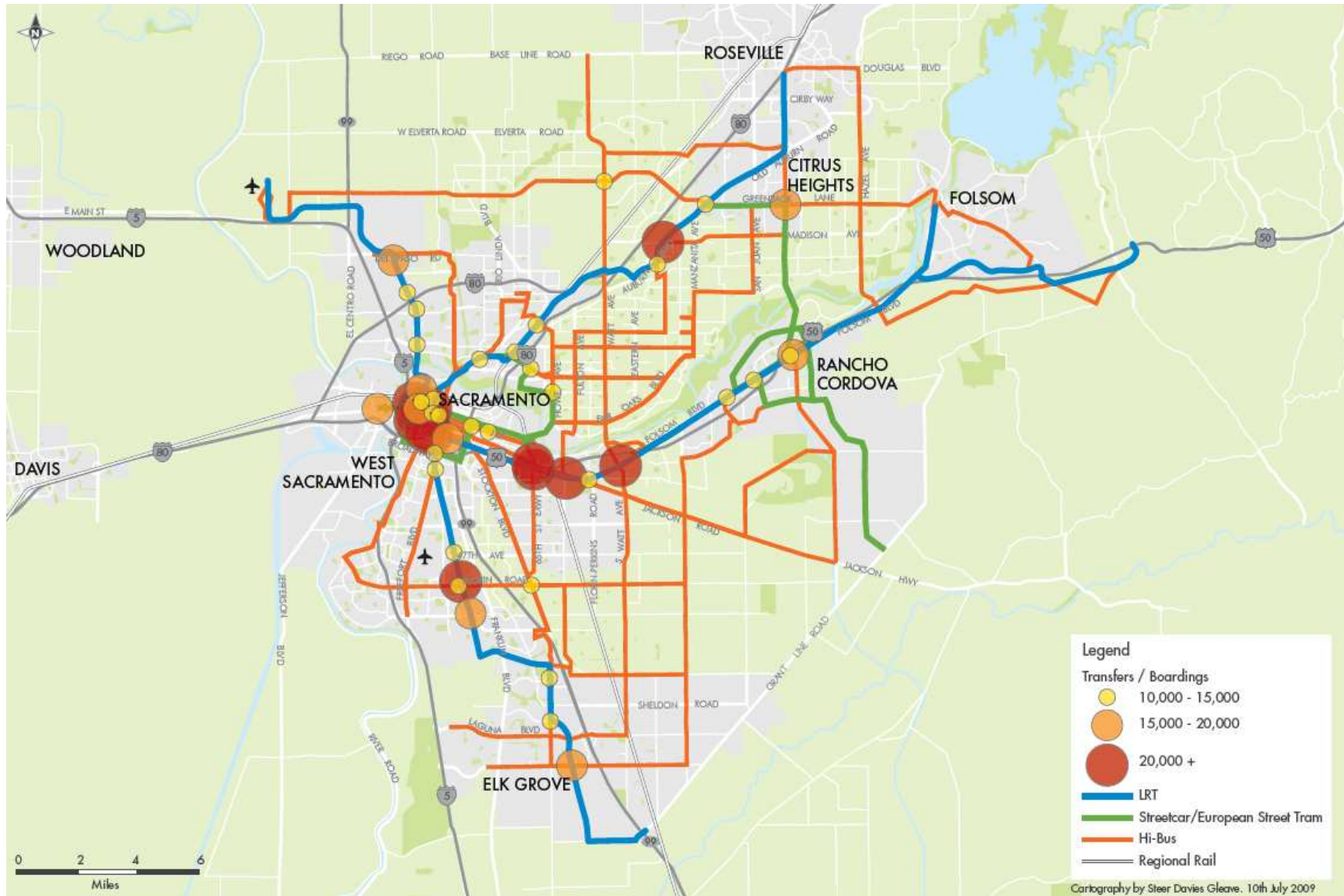
- 7.77 The development of new high frequency corridors provides the opportunity to create new multi-functional transfer centers to provide easy and convenient interchange between modes and services.
- 7.78 The Transit-Oriented Development Guidelines, developed as part of the Transit Action Plan, illustrate land use opportunities at several of the ‘new’ interchanges created by the implementation of the European Street Tram and Hi-Bus network. Figure 7.6 illustrates these opportunities.

- 7.79 In addition, the SACMET model used for the ridership forecasting was also able to identify the stops and stations on the network where the highest number of boardings and transfers are predicted to occur - shown in Figure 7.6.
- 7.80 Depending on the modes serving the transfer points and the scale of transfers occurring, RT may need to purchase further land or look for partners to develop integrated transfer facilities within new developments to provide passengers with convenient interchange facilities.



Transit centers should be designed to make changing between services as easy as possible (Bordeaux, France)

FIGURE 7.6 BOARDINGS/TRANSFERS BY TRANSIT STOP



ADA/Paratransit Plan

- 7.81 As a public operator of transit services, RT is required by the Americans with Disabilities Act (ADA) to provide complementary paratransit services for people who, due to a disability, are unable to use RT's fixed-route bus and rail services for some or all of their trips. Since 1992 RT has met its ADA paratransit obligation through a Collaborative Agreement with Paratransit, Inc. Paratransit, Inc. is an independent non-profit organization that is designated as a Consolidated Transportation Services Agency for the Sacramento region by the SACOG under provisions of the Transportation Development Act.
- 7.82 RT first submitted an ADA Paratransit Plan to the FTA in 1992, as required by the ADA implementing regulations, showing how it would comply with the paratransit requirements of the ADA. The ADA Paratransit Plan was updated annually for five years, as required by the regulations, but has not been updated since 1997. In view of the many changes that have occurred since 1997 and the need to plan for challenges ahead, RT decided to prepare a new ADA Paratransit Plan. While such plans are no longer submitted to or received by FTA, they do provide an official statement of how a transit agency intends to comply with the paratransit requirements of the ADA.
- 7.83 The full ADA Paratransit Plan is attached as an Appendix and covers the period from fiscal year 2008-09 through 2017-18. It includes a description of current services, a discussion of issues and trends that affect RT's ability to provide paratransit services, recommended service and policy changes, a demand forecast, and a financial and operating plan with projections of trips provided and costs. The plan concludes with

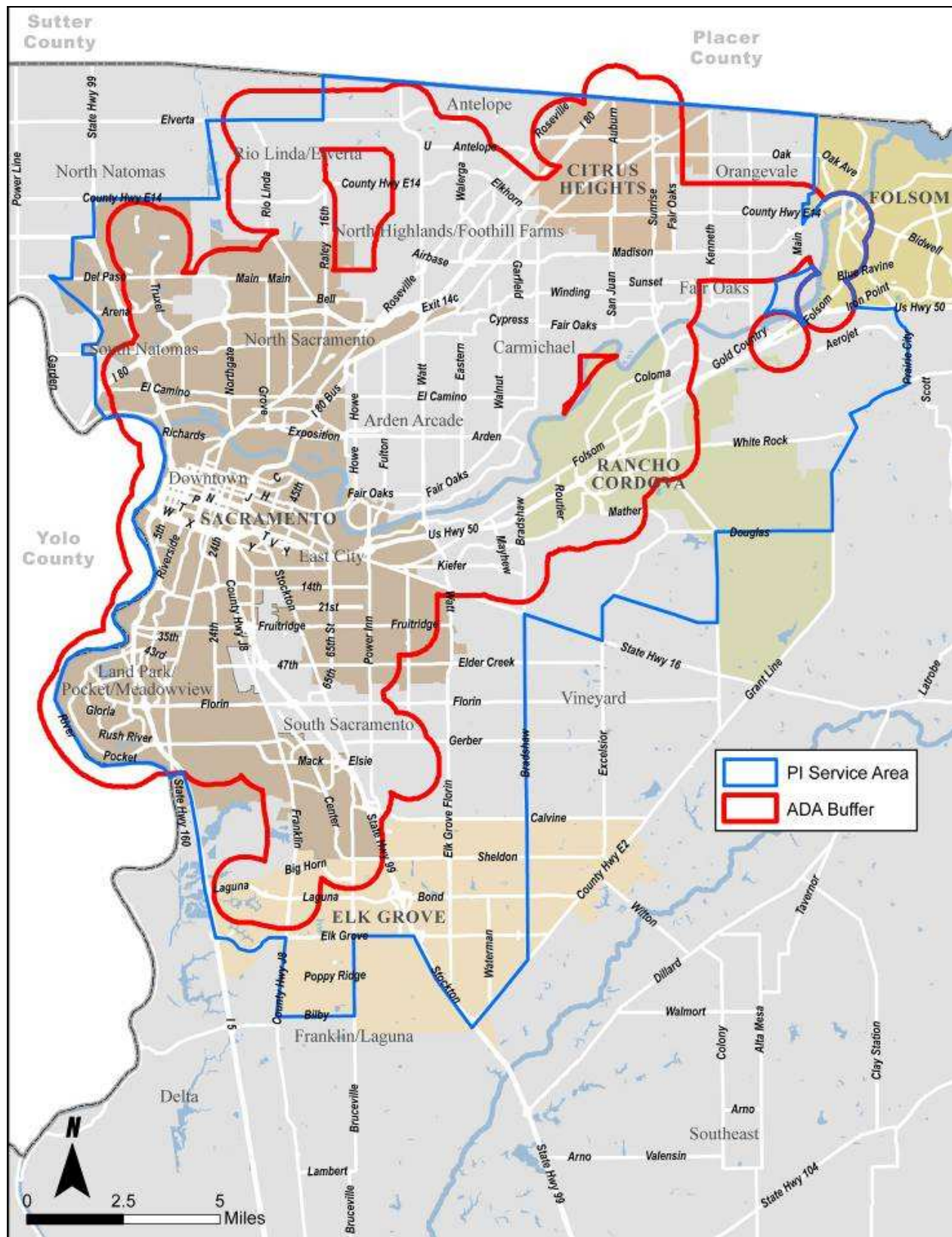
a chapter about non-ADA and supportive services.

- 7.84 ADA paratransit service in the Sacramento region provides door-to-door, shared-ride transportation for individuals whose disabilities prevent them from using RT's bus and light-rail system, and also to people who are 75 years of age or older. Figure 7.7 shows the ADA Paratransit service area boundary for Type I and II services (defined in more detail in Appendix 3.) Paratransit rides are normally available seven days a week, including holidays, from 6:00 AM to 12:30 AM (half an hour past midnight), although some rides are picked up earlier and later than that.



Paratransit is an important part of the TransitAction Plan.

FIGURE 7.7 ADA PARATRANSIT (TYPE I AND TYPE II) SERVICE AREAS



Transit-Supportive Investment Opportunities

7.85 The work undertaken in developing the TransitAction Plan and evidence from peer cities in the USA has shown that large-scale investments in transit, while they increase ridership and reduce VMT, will not alone be enough to attract significant numbers of new riders. Investment in and commitment to implementing additional initiatives alongside transit investment is needed to provide people with the incentives to switch to transit. The key measures available to Regional Transit are:

- Transit-oriented development; and
- Complementary measures, including:
 - Traffic management;
 - Parking restrictions; and
 - Behavioral change.

7.86 Transit-supportive opportunities and how they could be implemented in Sacramento by RT and its partner agencies will be a vital part of the discussion leading to implementation of the TransitAction Plan.

Transit-Oriented Development (TOD) Guidelines

7.87 The success of RT and the TransitAction Plan is tied to the delivery of transit-supportive communities with a ‘complete streets’ approach including roads, sidewalks, bike paths and land use all developed in a way that facilitates convenient access to transit.

7.88 RT has therefore developed a set of Transit-Oriented Development Guidelines for the local jurisdictions to adopt that will help to promote and deliver TOD in Sacramento. The full guidelines are provided in the Appendix to the TransitAction Plan.

7.89 The guide has been developed as a flexible set of recommendations to begin the conversation on a common policy and vision for development around Sacramento’s transit investments.



Light Rail, European Street Trams and Streetcars can be integrated safely into vibrant communities.

Challenges to Implementation

7.90 As set out in Chapter 3, a number of previous studies and plans have been developed to try to get TOD projects built in Sacramento. There remain however a number challenges facing TOD implementation in Sacramento, including:

- Entitlement processes that are risky to developers;
- Housing and retail product types new to the market;
- Suburban-level parking requirements; and
- Infrastructure capacity issues.

Flexibility and Managing Expectations

7.91 The prospect of a locally unproven development product in a part of town with weak market factors only reinforces the need for the transit agency to study and promote the best development practices. The foundation of the policy, however, should be to create a framework for development that is **flexible** and allows for **evolution over time**.

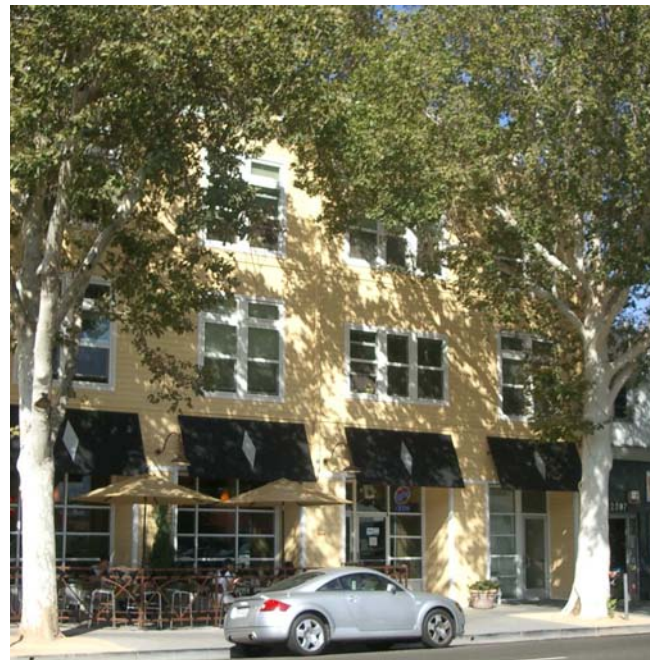
7.92 This marks a clear departure from “standardizing” development expectations for TOD, particularly in the area of land use and density, but also to character and access. Because of unpredictable market forces in many transit corridors, RT expects that its stations will represent a spectrum of opportunities and its policy should acknowledge this reality. The scope for TOD to develop adjacent to improved high frequency bus corridors has also been recognized, though with limits to the extent of transit-oriented development.

Land Use Framework

7.93 The definition of TOD tends to force a single programmed solution onto the different

types of communities served by transit. On the contrary, the land development pattern in the Sacramento Region is sophisticated and diverse with a multitude of conditions. The types of projects that might be appropriate in older neighborhoods close to downtown are different from those that might work in new and growing areas in the County.

7.94 This section discusses the Sacramento context, the existing and desired community form that will be served by the TransitAction Plan, and the important differences among places and destinations within the Sacramento Region. These definitions clarify the differences between each community and establish a basic framework of development regulations, investment priorities, and design responses for RT’s transit delivery policies and each municipality’s land development regulations, transportation policies, parks and civic infrastructure programming priorities.



TOD often includes a mix of residential and retail development.

The Existing System

- 7.95 Sacramento's existing light rail network follows a basic framework of station types. Downtown stations are mostly accessed by walking and serve a dense, mixed use environment. Some stations have denser surroundings than others, but nearly all of them are supported by a well connected street network.
- 7.96 Traveling outward from the urban core, stations serve retail crossroads, employment centers, or predominantly residential neighborhoods. These stations may have park-and-ride lots or are simply accessed by walking.
- 7.97 Further into the suburbs and towards the urbanized edge of the region, the majority of stations have large park-and-ride lots. Although some of these stations serve major

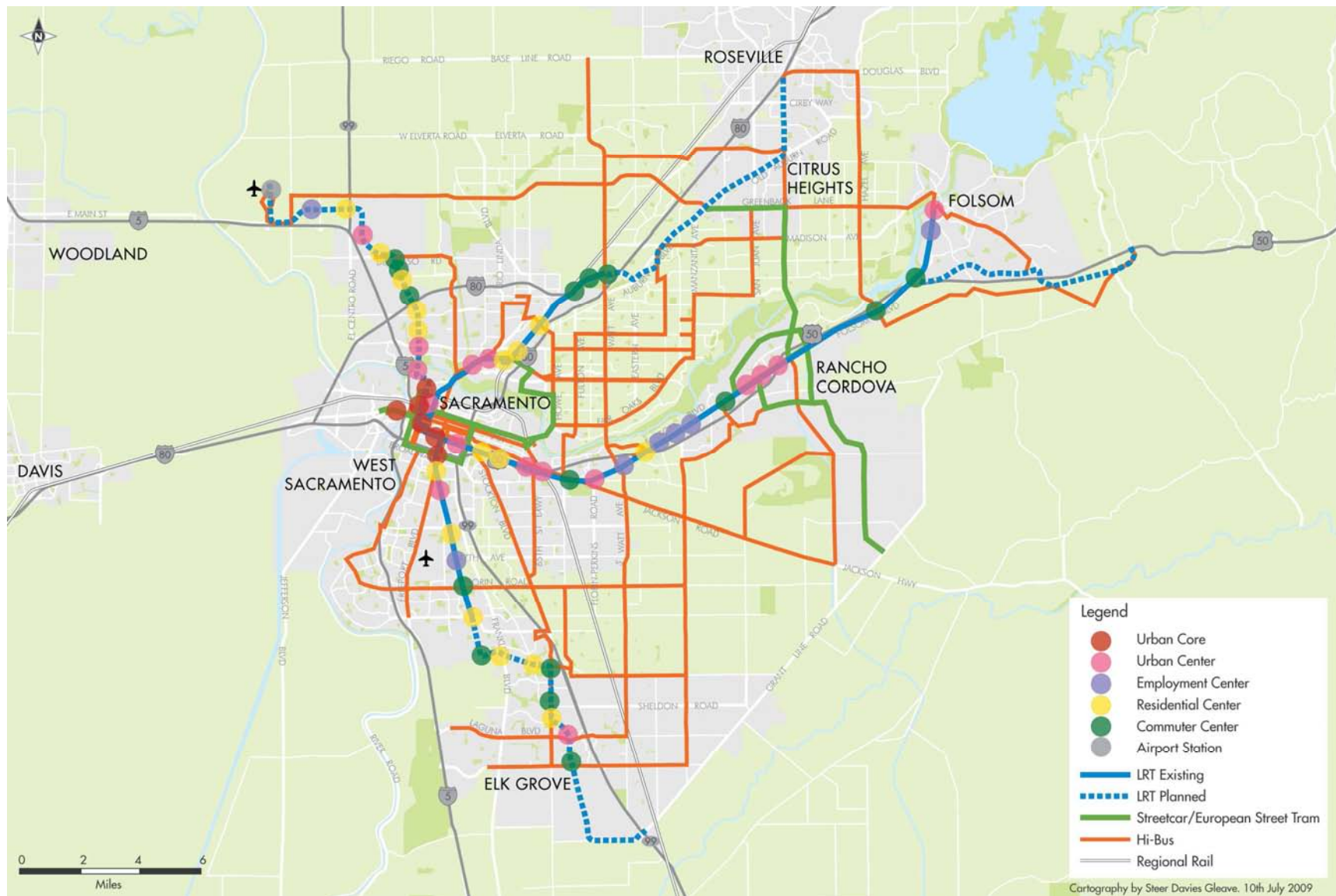
employers, most function to draw in commuters to travel into and out of the urban core via transit.

- 7.98 As illustrated in Figure 7.8, the land use framework of a transit system is made up of a range of environments and a parallel range of transit functions and appropriate technologies. This range of environments can be used to inform policy and development expectations for TOD.
- 7.99 Since the stations today vary in function and intensity, they should be expected to accommodate TOD in different ways and at different rates. Sacramento's urban core stations already benefit from a complementary land use environment and can be expected to continue to do so. It is the stations outside of the core that will evolve the most to accommodate new growth.



TOD can also be focused around major employment sites (Dublin, Ireland)

FIGURE 7.8 DRAFT TOD STATION TYPOLOGY MAP



The TOD Framework

Downtown

- 7.100 This area includes downtown Sacramento and its immediate surroundings, including Midtown, the Railyards and downtown West Sacramento. It is the most accessible part of the region with an interconnected street pattern. Its existing (or planned) densities are already supportive of transit and should be the highest in the region. The area has an existing strong TOD market - even in areas not served by premium transit.
- 7.101 The Downtown is built-out and all forms of growth are expected to come from infill and redevelopment. The Urban Core's sphere of influence extends a half-mile from the transit stations.

Urban Center

- 7.102 Urban centers are envisioned as complete communities, reflected in their density and intensity. Today, many of the station areas that could become urban centers are already important places of activity. They include traditional retail crossroads, malls, and existing neighborhood centers.
- 7.103 As complete communities these station areas express individual character as they evolve. Likewise, some may be transit supportive today while others may not have very strong transit oriented development markets and will emerge over time. The Urban Center sphere of influence reaches a half-mile from the transit station.

Employment Center

- 7.104 The transit system is a network of origins and destinations. The majority of the stations are origins because the majority of land uses in a region are residential. However, the system generates ridership through destinations, not origins. The

most important destination is employment - operationally, as well as financially (tax base). Some stations along Sacramento's LRT line are dominated by employment centers. This includes many downtown stations but also stations like Butterfield on the Gold Line, which serves the State Franchise Tax Board campus. It is important to set land use expectations that accommodate the land use mix that major employers bring, while working cooperatively with major users to adhere to the pedestrian-centered urban design philosophy that supports transit.



Downtown will continue to grow through infill development.

Residential Center

7.105 Many development conditions along the transit system are predominantly residential. These areas may have a mix of uses but their predominant character and activity supports residential neighborhoods. They have limited park and ride. Some of these areas may become as intense as the Urban Core or Urban Centers. However, the TOD market in the Residential Centers varies and will emerge over time. A primary consideration in this station area type is the protection of existing neighborhoods and the transition from higher to lower density. The Residential Center Station's sphere of influence reaches a half-mile from the transit station.



Transit-oriented development with low floor light rail (Minneapolis, MN).

Commuter Center

7.106 Commuter Centers balance density with the role of accommodating commuters accessing transit via park and ride. Some of these stations serve potential development markets by virtue of being near developable land, and they may have significant transit agency land assets. Others may have very limited development potential. Most do not enjoy high street connectivity or pedestrian-oriented environments.

7.107 This station type may allow higher parking ratios and higher replacement levels of park and ride spaces than are consumed for joint development. If development does occur, every effort should be made to ensure a connected street network and a pedestrian-oriented environment that allows for future densification.

Enhanced Bus Corridor

7.108 The TransitAction Plan envisions a comprehensive transit system. In addition to rail transit, Hi-Bus corridors will serve areas outside the premium transit lines. Instead of a radius around a station point, these areas are linear along corridors with 10 minute service headways or better. These areas should intensify over time because they are dependable transportation options, but their TOD potential is limited due to the thin linear nature of the development opportunities.

TOD Expectations and Guidelines

7.109 The delivery of TOD is more involved than simply placing the correct land uses and densities around the appropriate transit investments. Truly positioning the Sacramento region to deliver TOD involves incorporating all the elements of community building that influence land

use, as well as those that place demands on the transportation infrastructure.

7.110 A comprehensive approach is important because the transit user's experience is influenced by so many factors, and these factors are often the responsibility of different authorities. In a door-to-door trip, a transit user must navigate the streetscape, private development, utilities, transit infrastructure, civic uses and green space. If any of these variables discourages transit use, the viability of TOD will suffer.

Complementary Measures Promoting Transit Use

Traffic Management

7.111 There are a number of measures available to transit and city planners to provide priority to transit vehicles to make them more competitive with other vehicle traffic. These include:

- Signal priority and intersections: enabling transit vehicles to skip traffic congestion by moving buses and light rail through intersections quickly;
- Special turning lanes for Buses;
- Road closures: providing transit priority and creating pedestrian-friendly areas along portions of street to improve transit flow; and
- Traffic calming: engineering measures to discourage vehicle traffic and enable more efficient transit operation.

Parking Management

7.112 Another element which complements the transit network is the management of on- and off-street parking. The availability and cost of parking affects the attractiveness of driving versus transit so measures to manage parking opportunities can promote transit use, including:

- On-street parking restrictions: utilizing time restrictions, location restrictions and managing where commercial, retail and residential servicing and loading can occur;
- Off-street parking: managing the availability and cost of parking lots/garages, especially in the downtown core; and
- Residential parking zones: restricting on-street parking to local residents only during certain times.



Parking policies can help get more people onto transit.

Travel Behavior Change

7.113 There are a wide variety of complementary transportation demand management (TDM) measures that can be implemented by RT and its partner agencies to further promote transit usage. Travel behavior change is a technique used to influence mode choice through education, marketing, self-enforcing target setting, minor infrastructure improvements and the administration of programs and events. Specific tools include:

- Travel planning including site-based, workplace, school, residential, destination and personalized travel planning have demonstrated significant mode shifts (10-30%) to transit through pilot programs in the UK, Canada, Ireland, Australia and most recently in the US;
- Marketing - professionally delivered public transit marketing initiatives to attract riders and change in travel away from the car;
- Improved information utilizing as many means as possible to share transit information (schedules, maps, disruptions, etc.);
- Car co-ops and car sharing;
- Car pooling and ridesharing/matching;
- Promoting cycling & walking;
- Parking management (to reduce the supply of free, available parking); and
- Flexible working hours.

Summary

7.114 In order for transit and RT to be truly a mode of choice for the people of Sacramento, a ‘toolbox’ approach of implementing transit services and investment alongside changes in the physical layout of the road network and with complementary TDM measures will be needed. It is important to note that not all options or measures (or types of transit services) will be appropriate to every corridor or neighborhood.

7.115 These investments all cost money and with scarce resources available, RT will need to work with its partners to prioritize investments based on need and expected return (i.e. riders on the system).

7.116 The expectations and guidelines in the Tables 7.14, 7.15 and 7.16 identify and organize these many considerations into three elements of city building: Land Use and Community Character; Transportation, Mobility and Access; and Civic Amenities including green space.



TDM involves managing the demand for road space in favour of alternative modes.

TABLE 7.14 TOD FRAMEWORK: LAND USE AND COMMUNITY CHARACTER

Applying the Framework:

Land Use and Community Character Guidelines

	Downtown	Urban Center	Employment Center	Residential Center	Commuter Center	Enhanced Bus Corridor
Land Uses	<i>Not Applicable</i>	Restrict industrial, flex office and auto-oriented uses within 1/2 mile of station	Restrict industrial and auto-oriented uses within 1/2 mile of station	Restrict all forms of industrial and auto-related uses within 1/2 mile of station	Restrict all forms of industrial and auto related uses within 1/2 mile of station	Restrict most forms of industrial uses within 1/4 mile of corridor
Land Use Ratios¹	No percentage constraints	50% Employment (Max) 50% Residential (Max) 50% Retail (Max)	90% Employment (Max) 30% Residential (Max) 20% Retail (Max)	30% Employment (Max) 90% Residential (Max) 20% Retail (Max)	30% Employment (Max) 90% Residential (Max) 50% Retail (Max)	40% Employment (Max) 100% Residential (Max) 20% Retail (Max)
Residential Density	1/2 Mile: 36 DU/Acre (Min)	1/4 Mile: 20 DU/Acre (Min) 1/2 Mile: 15 DU/Acre (Min)	1/4 Mile: 15 DU/Acre (Min) 1/2 Mile: 10 DU/Acre (Min)	1/4 Mile: 15 DU/Acre (Min) 1/2 Mile: 10 DU/Acre (Min)	1/2 Mile: 10 DU/Acre (Min)	1/4 Mile: 10 DU/Acre (Min)
Commercial Density	1/4 Mile: 2 FAR (Min)	1/4 Mile: 1.5 FAR (Min) 1/2 Mile: 1 FAR (Min)	1/4 Mile: 1.5 FAR (Min) 1/2 Mile: 1 FAR (Min)	1/2 Mile: .5 FAR (Min)	1/4 Mile: .5 FAR (Min)	1/4 Mile: .25 FAR (Min)
Parking	Residential: .75/Unit (Max) Office: 1/1,000 SF (Max) Retail: 2/1,000 SF (Max)	Residential: .75/Unit (Max) Office: 1/1,000 SF (Max) Retail: 2/1,000 SF (Max)	Residential: 1/Unit (Max) Office: 2/1,000 SF (Max) Retail: 3/1,000 SF (Max)	Residential: 1/Unit (Max) Office: 2/1,000 SF (Max) Retail: 3/1,000 SF (Max)	Residential: 1.5/Unit (Max) Office: 3/1,000 SF (Max) Retail: 3.5/1,000 SF (Max)	Residential: 1.5/Unit (Max) Office: 3/1,000 SF (Max) Retail: 3.5/1,000 SF (Max)
Block Dimensions²	400' Block Length (Max) 1600' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)	600' Block Length (Max) 1800' Block Perimeter (Max)
Building Floor Plates	Residential: 40,000 SF (Max) Commercial: NR	Residential: 50,000 SF (Max) Commercial: 50,000 SF (Max)	Residential: 30,000 SF (Max) Commercial: 90,000 SF (Max)	Residential: 15,000 SF (Max) Commercial: 90,000 SF (Max)	Residential: 15,000 SF (Max) Commercial: 90,000 SF (Max)	Residential: 15,000 SF (Max) Commercial: 100,000 SF (Max)
Building Heights	<i>Not Applicable</i>	12 Floors (Max) <i>May be lower based on community context</i>	12 Floors (Max) <i>May be lower based on community context</i>	6 Floors (Max) <i>May be lower based on community context</i>	6 Floors (Max) <i>May be lower based on community context</i>	4 Floors (Max)
"A" Street Recommendations	<i>Not Applicable. See City of Sacramento's Central City Design Guidelines</i>	<ul style="list-style-type: none"> Buildings placed to minimum street setback 90% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 	<ul style="list-style-type: none"> Buildings placed to minimum street setback 66% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 	<ul style="list-style-type: none"> Buildings placed to minimum street setback 66% (Min) building frontage 75% (Min) facade transparency No parking between sidewalk and front of building 	<ul style="list-style-type: none"> Encourage building to minimum street setback 50% (Min) building frontage 75% (Min) facade transparency Encourage landscape or knee wall to screen surface parking 	<i>Not Applicable</i>
"B" Street Recommendations	<i>Not Applicable. See City of Sacramento's Central City Design Guidelines</i>	<ul style="list-style-type: none"> Encourage building to minimum street setback 50% (Min) building frontage Encourage landscape or knee wall to screen surface parking 	<ul style="list-style-type: none"> Encourage building to minimum street setback 25% (Min) building frontage Encourage landscape or knee wall to screen surface parking 	<ul style="list-style-type: none"> Encourage building to minimum street setback 25% (Min) building frontage Encourage landscape or knee wall to screen surface parking 	<ul style="list-style-type: none"> Encourage building to minimum street setback No minimum building frontage Encourage landscape or knee wall to screen surface parking 	<i>Not Applicable</i>

1) Does not apply to parcels under 1 acre in area

2) Paseos, or unrestricted through-block pedestrian connections, strongly encouraged for blocks greater than 400' in length

Glossary of Terms:

DU - Dwelling Unit

FAR - Floor Area Ratio - is the total building square footage (building area) divided by the site size square footage (site area).

TABLE 7.15 TOD FRAMEWORK: TRANSPORTATION, MOBILITY AND ACCESS

Applying the Framework:

Mobility and Access Guidelines

	Downtown	Urban Center	Employment Center	Residential Center	Commuter Center	Enhanced Bus Corridor
Transit Technologies	Commuter Rail, Light Rail, Tram, Streetcar, BRT, HI-Bus, Fixed Route Bus	Commuter Rail, Light Rail, Tram, Streetcar, BRT, HI-Bus, Fixed Route Bus	Commuter Rail, Light Rail, Streetcar, BRT, HI-Bus, Fixed Route Bus	Light Rail, Streetcar, BRT, HI-Bus, Fixed Route Bus, Neighborhood Circulator, Shuttle	Commuter Rail, Light Rail, BRT, HI-Bus, Fixed Route Bus, Neighborhood Circulator, Shuttle	Hi-Bus, Fixed Route Bus, Neighborhood Circulator, Shuttle
Transit Center Placement/Design	Discouraged. If required, facilities should be incorporated into street design.	Discouraged. If required, facilities should be incorporated into street design.	Discouraged	Not appropriate	Designed to accommodate joint development	Not appropriate
Park & Ride Placement/Design	Not appropriate	Not appropriate	Designed to accommodate joint development	Designed to accommodate joint development	Designed to accommodate joint development	<i>Not Applicable</i>
ROW and Train Operation	Exclusive, shared, or mixed	Exclusive, shared, or mixed	Exclusive, shared, or mixed	Exclusive, shared, or mixed	Exclusive or shared. Mixed discouraged.	<i>Not Applicable</i>
Grade Crossings	Signalized grade crossings encouraged. Grade separated discouraged.	Signalized grade crossings encouraged. Grade separated discouraged.	Signalized grade crossings encouraged. Grade separated discouraged.	Signalized grade crossings encouraged. Grade separated discouraged.	Gated or grade separated allowed	Gated or grade separated encouraged.
Minimum LOS Standards	1/2 Mile: No minimum vehicle based LOS	1/2 Mile: No minimum vehicle based LOS	1/2 Mile: No minimum vehicle based LOS	1/2 Mile: No minimum vehicle based LOS	1/2 Mile: LOS EV/C ratio .80	1/2 Mile: LOS EV/C ratio .80
Connectivity Index	Ratio of intersections to segments should equal 1.25 (Min)	Ratio of intersections to segments should equal 1.25 (Min)	Ratio of intersections to segments should equal 1.25 (Min)	Ratio of intersections to segments should equal 1.25 (Min)	Ratio of intersections to segments should equal 1.5 (Min)	Ratio of intersections to segments should equal 1.5 (Min)
Street Design Guidelines	<i>Not Applicable.</i> See City of Sacramento's Central City Design Guidelines	Only skinny/low speed street guidelines apply	Only skinny/low speed street guidelines apply	Only skinny/low speed street guidelines apply	Context appropriate. Not all streets will be pedestrian oriented.	Context appropriate. Not all streets will be pedestrian oriented.
On-Street Parking	<i>Not Applicable.</i> See City of Sacramento's Central City Design Guidelines	Required	Required	Required	Required	Context appropriate (negotiated)
Sidewalks¹	12' (Min)	12' (Min) Mixed-Use Streets 5' (Min) Residential-Only Streets	12' (Min) Mixed-Use Streets 5' (Min) Residential-Only Streets	12' (Min) Mixed-Use Streets 5' (Min) Residential-Only Streets	12' (Min) Mixed-Use Streets 5' (Min) Residential-Only Streets	5' (Min)
Bicycle Facilities	Required. Encourage secure storage, changing stations at destination station types.	Required. Encourage secure storage, changing stations at destination station types.	Required. Encourage secure storage, changing stations at destination station types.	Required	Context appropriate (negotiated)	Context appropriate (negotiated)
Crossings²	15' (Min) with enhanced striping	1/8 Mile: 15' (Min) with enhanced striping 1/2 Mile: 10'	1/8 Mile: 15' (Min) 1/2 Mile: 10'	1/8 Mile: 12' (Min) 1/2 Mile: 10'	10' (Min)	10' (Min)

1) Sidewalk width should increase with density and proximity to station

2) Mid-block crossings strongly advised on street segments over 400' in length

Glossary of Terms:

skinny/low speed street - Are streets that employ a set of design strategies which aim to slow down or reduce traffic, thereby improving safety for pedestrians and bicyclists as well as improving the environment for residents.

TABLE 7.16 TOD FRAMEWORK: AMENITIES AND CIVIC INFRASTRUCTURE

Applying the Framework:

Open Space and Civic Amenities Guidelines

	Downtown	Urban Center	Employment Center	Residential Center	Commuter Center	Enhanced Bus Corridor
Park Types	Urban Plaza, Pocket Park	Urban Plaza, Pocket Park, Neighborhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neighborhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neighborhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neighborhood Park. Community and Regional Park discouraged.	Urban Plaza, Pocket Park, Neighborhood Park, Community Park, Regional Park
Open Space Provision	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/8 mile of any residence	Provide appropriate park type within 1/4 mile of any residence	<i>Not Applicable</i>
Schools	College, High School, Middle School, Elementary School. Urban format encouraged.	College, High School, Middle School	College, High School, Middle School	High School, Middle School, Elementary School	College, High School, Middle School	High School, Middle School, Elementary School
Libraries	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Encouraged. Prioritize access to parks and schools.	Discouraged
Community Venues	Arena/Stadium, Museum, Performing Arts. Regional-scale venues encouraged.	Arena/Stadium, Museum, Performing Arts. Regional-scale venues encouraged.	Arena/Stadium, Museum, Performing Arts	Museum, Performing Arts. Local-scale venues encouraged.	Discouraged	Discouraged
Government Offices	Encourage visible and accessible locations. Encourage context-sensitive security solutions.*	Encourage visible and accessible locations. Encourage context-sensitive security solutions.*	Encouraged.	Discouraged	Encouraged.	Discouraged
Assisted Living	Encouraged in high-density format	Encouraged. Prioritize access to parks, convenience retail, and medical facilities.	Discouraged	Encouraged. Prioritize access to parks, convenience retail, and medical facilities.	Discouraged	Discouraged

* For government offices and other sensitive uses that require enhanced security or access restrictions in the Urban Core and Urban Centers, it is strongly recommended that such measures be designed to minimize the impact on an accessible, transparent pedestrian environment and public realm.



AN INTEGRATED APPROACH
TO SERVICE PLANNING

8 An Integrated Approach to Service Planning

Introduction

- 8.1 The TransitAction Plan provides RT with a strategy for significantly improving and expanding transit service in Sacramento. 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 TransitAction Plan standards (as a percentage of the population within 5/10/15 minute walk of the transit network).



A key measure of accessibility is the number of people living or working within walking distance of transit.

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)

8.6 RT’s existing standards are high, and lacking in progressive milestones - current service levels provide 66% accessibility to all services (target is 95%) and only 8% to high frequency services (target is 80%). Also, only population is considered as a key measure of analysis. By contrast, the new 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.

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.

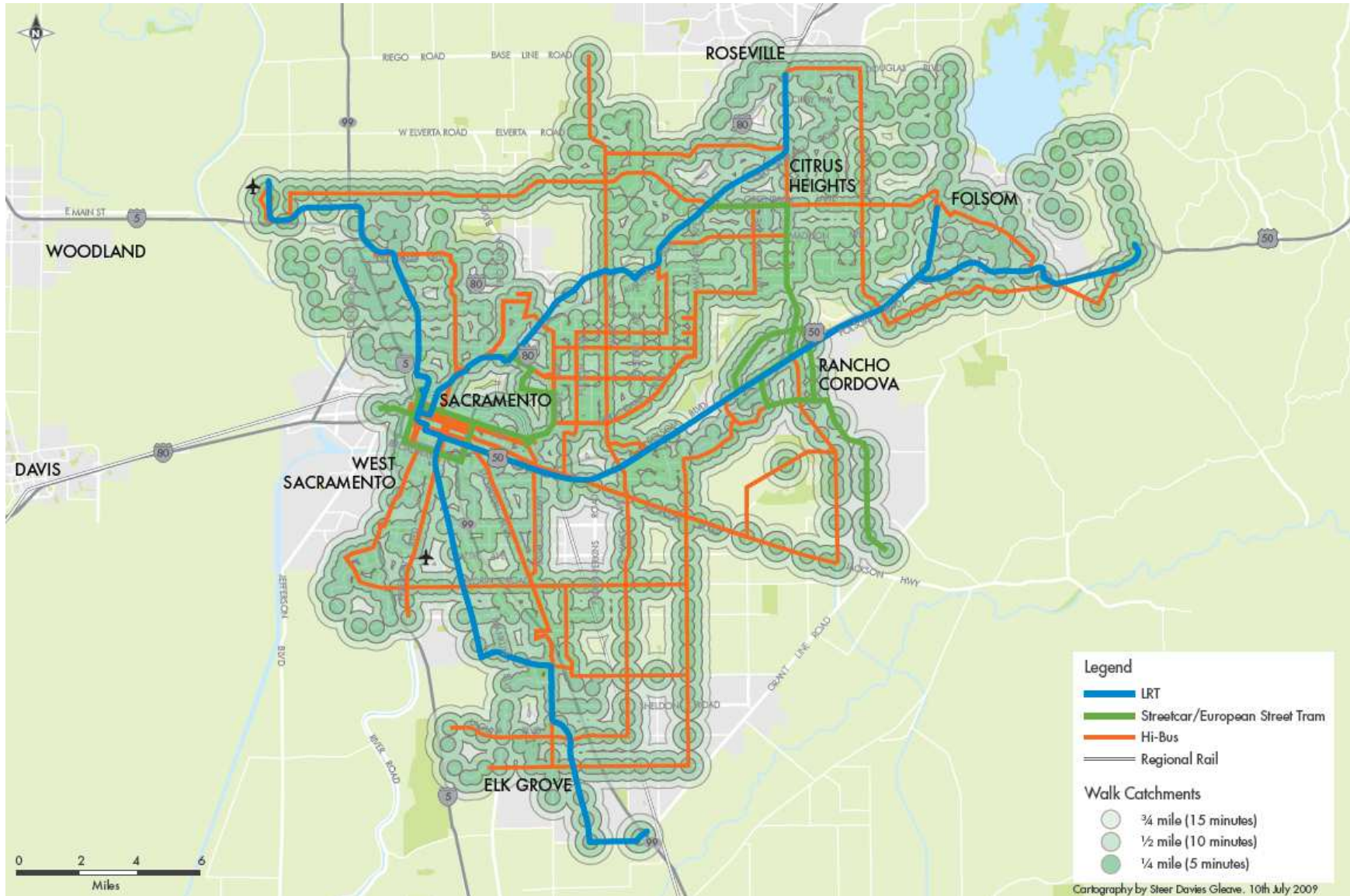
8.8 A key component of the TransitAction Plan, linked to meeting the overall Vision and Objectives, is the need to draw more people onto transit. This will be particularly true for the region’s growing aging population. By providing a wide-

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 demands on the paratransit system.



Putting services within walking distance creates higher ridership (Dublin, Ireland).

FIGURE 8.1 FULL NETWORK WALK CATCHMENTS



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. 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.

- 8.11 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).
- 8.12 It is important to note that the service levels are presented as desirable frequencies to support the full transit network in 2035 and for the interim years varying levels will be used based on land use and ridership.

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

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

Travel Time Competitiveness Standards

8.13 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 will 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	Fully segregated from traffic on railway right of way - no specific standards
European Street Tram	1.3x
Hi-Bus	1.6x
Streetcar and Local Bus Services	2.0x

Lifeline Transit Service Standards

- 8.14 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.
- 8.15 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) Order¹ 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.

- 8.16 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 standard of 50% for Title VI services and programs.



RT will assess which routes are provided as lifeline services

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

Stop/Station Spacing Guidelines

8.17 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.



European Street Tram stations will be spaced about ½ mile to 1 mile apart (Montpellier, France)

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

8.18 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:

- Summary indicators - network-wide measures of ridership and performance; and
- Financial indicators - indicators of the financial 'health' and effectiveness of the organization and its service.

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

8.20 The indicator tables are divided in three columns:

- Key Performance Indicator (KPI) - name of the indicator;
- 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
- Source - states the source to obtain real value of indicators.



Monitoring, assessing and analyzing transit performance is an important part of the TransitAction Plan.

TABLE 8.6 PRODUCTIVITY & PERFORMANCE GOALS: 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
% On Time 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: <ul style="list-style-type: none"> - Population - Employment - Retail Floor Area 	Census data, GIS demographic data

TABLE 8.7 PRODUCTIVITY & PERFORMANCE GOALS: 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

8.21 The summary and financial indicators provided in Tables 8.6 and 8.7 provide RT staff, decision-makers and stakeholders with a comprehensive 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.

8.22 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.



Understanding the productivity of the transit system is necessary to make day-to-day service changes

Performance Measures for Assessing Underperforming Routes

8.23 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:

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

8.24 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.

8.25 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.

8.26 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.



Detecting inefficient or underperforming routes enables reallocation of scarce resources.



VIVA

FINDING THE FUNDING:
HOW TO PAY FOR THE PLAN

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.

Regional Transit's Current Funding

- 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.



Transit fares are one of RT's main funding sources.

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.



Modern, efficient modes of transit can attract high levels of ridership and enable higher farebox recovery rates.

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:

- 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:
 - Bus and Bus Facilities, - provides capital assistance for new and replacement buses and related equipment and facilities;
 - Fixed Guideways - provides funding for transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part; and
 - New Starts - provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems.



The Federal Government contributes to transit through various programs and grants.

- 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;
- Section 5308 - Clean-Fuels Formula Grant Program - provides grants to public transit operators to use on clean-fuel technologies for their bus fleets; and
- Section 3037 - Job Access Reverse Commute Program - provides grants to local governments to develop transportation 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 (FY2009) 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	32.6	
Other Operating Revenue	7.7	
Local and State Assistance	70.7	29.6
Federal Assistance	30.3	4.6
Total	\$141.3m	\$34.2m

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 TRANSICTION 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 \$	\$6,905m	

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 year². 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.



Sales tax will continue to be an important funding mechanism.

² 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.

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:

- **Everyone pays** - transit benefits everyone, directly or indirectly, and in determining where to seek new revenues consideration should be given to have every beneficiary pay;

- **Multiple revenue sources** - like any well diversified portfolio, a long-term funding strategy should minimize risk by having a multitude of sources where it receives revenues; and

- **TDM effect** - where given a choice, apply the revenue source in such a way to generate the maximum TDM effect (e.g. increasing parking costs can raise money for transit and encourage greater transit use).

9.28 A discussion on the revenue sources that could be used to fund the remaining gap is provided in the following sections.



To create a fully integrated attractive transit system, a variety of funding sources will be needed.



Fares

- 9.29 RT currently collects an average of \$0.88 per passenger in fare revenues and it is assumed that this will increase slightly as fare increases are implemented every five years.
- 9.30 The impacts of these fares is that fare revenues currently make up approximately 20-25% of operating costs and by 2035 with the full TransitAction Plan in place (including integrating the land use and TDM impacts), this is expected to increase to 30%.
- 9.31 In order to reduce the funding gap, additional fare revenue will be needed. This could be achieved through a combination of increased fares, lower operating expenses and/or seeking higher local contributions from communities where the cost recovery is below RT's target (set for 30%).



Fares will cover approximately 1/3 of operating costs in 2035.

- 9.32 Increasing the average fare per passenger could be achieved through several strategies:

- *Distance traveled:* Implement a zone-system with multiple fares depending on distance traveled;
- *Time-of-day:* Higher fares in peak periods (morning and afternoon) to reflect the higher cost of providing service in those time periods, and lower fares at other times and on weekends;
- *Quality of service:* It is recognized, and supported by research³, that higher quality service not only can command a higher fare, but also generates higher ridership as passengers are more willing to use premier service, such as express bus and light rail, than a regular, slower bus; and
- *Premium fare:* A higher fare can be charged on faster, premium service, such as express or rapid bus and light rail services.

- 9.33 As an example, doubling the average fare would result in \$2.1 billion in additional revenues over the period, or approximately \$75 million per year (in today's dollars), on average, in revenues.

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

³ *Valuing Transit Service Quality Improvements*, Todd Litman, Victoria Transport Policy Institute, 10 May 2007

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.⁴

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.



Gas taxes are already levied in Sacramento County but increases could provide more funding for transit infrastructure.

⁴ Based on the revenue projections of the existing TDA -LTF sales tax revenues.

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.

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.



Congestion charging is one form of a 'user-pay' system that reduces congestion and raises funds to improve transit provision.

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 structured parking. 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.⁵ 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.



Development charges and property taxes raise funds through land value uplift and property ownership.

⁵ Based on an average assessment of \$280,000.

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 overleaf 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.



Parking charges or taxes could be another opportunity to collect funds for transit.

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 ½%	\$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



THE IMPLEMENTATION STRATEGY

10 The Implementation Strategy

updated as funding and other conditions change.

Prioritizing the Investments

Introduction

10.1 The TransitAction Plan is a 26-year plan designed to set the course and vision for Regional Transit (RT) to 2035. It includes large-scale expansion both in the physical network and in operating hours. The delivery of the plan will have huge impacts for RT - it will require the construction of new infrastructure, many more vehicles, additional maintenance facilities, more staff to plan, operate and maintain the network and, as was discussed in Chapter 9, significant new sources of funding. All of these changes cannot be accommodated or accomplished at once and this chapter has therefore been included to provide an initial implementation strategy for the TransitAction Plan. It contains a number of assumptions on funding availability and will need to be periodically reviewed and

10.2 The first step in developing the implementation plan was to undertake a technical evaluation of all of the capital investments included in the TransitAction Plan. This evaluation used the same Multiple Account Evaluation (MAE) process used to assess the three scenarios in Chapter 5. However, due to the large number of services to be assessed and the variability of data available at a route level, a slightly simplified process was used at the individual project level

Multiple Account Evaluation (MAE)

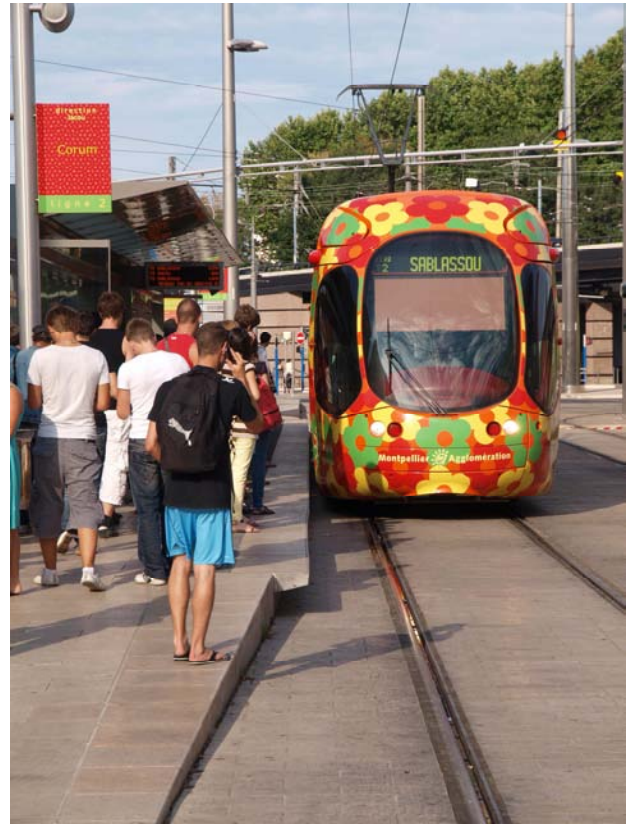
10.3 The evaluation incorporated four accounts including Community Benefits, Environmental Benefits, Economic Benefits and Deliverability. The categories used in the evaluation are summarized in Table 10.1.

TABLE 10.1 MULTIPLE ACCOUNT EVALUATION PROCESS

Account	Parameter
COMMUNITY	
Land Use Integration & Opportunity for TOD	Identification of major activity centers served
Transportation Network Integration	Identification of transit transfer centers and interchange opportunities
ENVIRONMENT	
Emissions and Disturbance	Change in vehicle miles travelled and resulting emission levels for CO2
TOD/Urban Form	Identification of impacts on urban composition and public space function
ECONOMY	
Transportation Efficiency (Users)	Estimated transit travel time saving
Transportation Efficiency (Operator)	Farebox recovery
DELIVERABILITY	
Funding Potential	Initial assessment of local and federal funding opportunities
Feasibility (Construction)	Capital cost
Feasibility (Operations)	Operating subsidy required

Ranking Methodology

- 10.4 For the purposes of this analysis, only new projects over and above existing committed projects were evaluated, so for example, the South Line extension to Cosumnes River College was excluded.
- 10.5 Each account in the MAE framework was populated and a ranking was generated based on the following:
 - Each account was ranked from 1 to 35, with 1 scoring the best score (this can be the lowest for cost but the highest for Placemaking/Urban form) and
 - Where two services score the same, ranking was adapted accordingly (e.g. if two services score highest they will be allocated 1, the next service would be 3 and so on).
- 10.6 A final or total ranking was then calculated by adding together the rankings across the four accounts (i.e. no account is given more weight than the others). For ease of review and comparison, the projects were split by rail-based projects in Table 10.2 and bus-based projects in Table 10.3. Figures 10.1 and 10.2 have also been provided for reference to assist in reviewing the rankings.



The Downtown European Street Tram was ranked highly in the evaluation.

TABLE 10.2 RAIL PROJECT RANKING

Rank	Project
1	DNA Line
2	Downtown European Street Tram - South Loop
3	Citrus Heights LRT
4	Elk Grove LRT
5	Downtown European Street Tram - South Loop
6	Roseville LRT
7	Rancho Cordova Streetcar - Phase 1-3
8	Citrus Heights - Rancho Cordova Streetcar
9	Rancho Cordova Streetcar - Phase 4-5
10	El Dorado LRT
11	Rancho Cordova Streetcar - Phase 6-7

FIGURE 10.1 RAIL PROJECT RANKING MAP

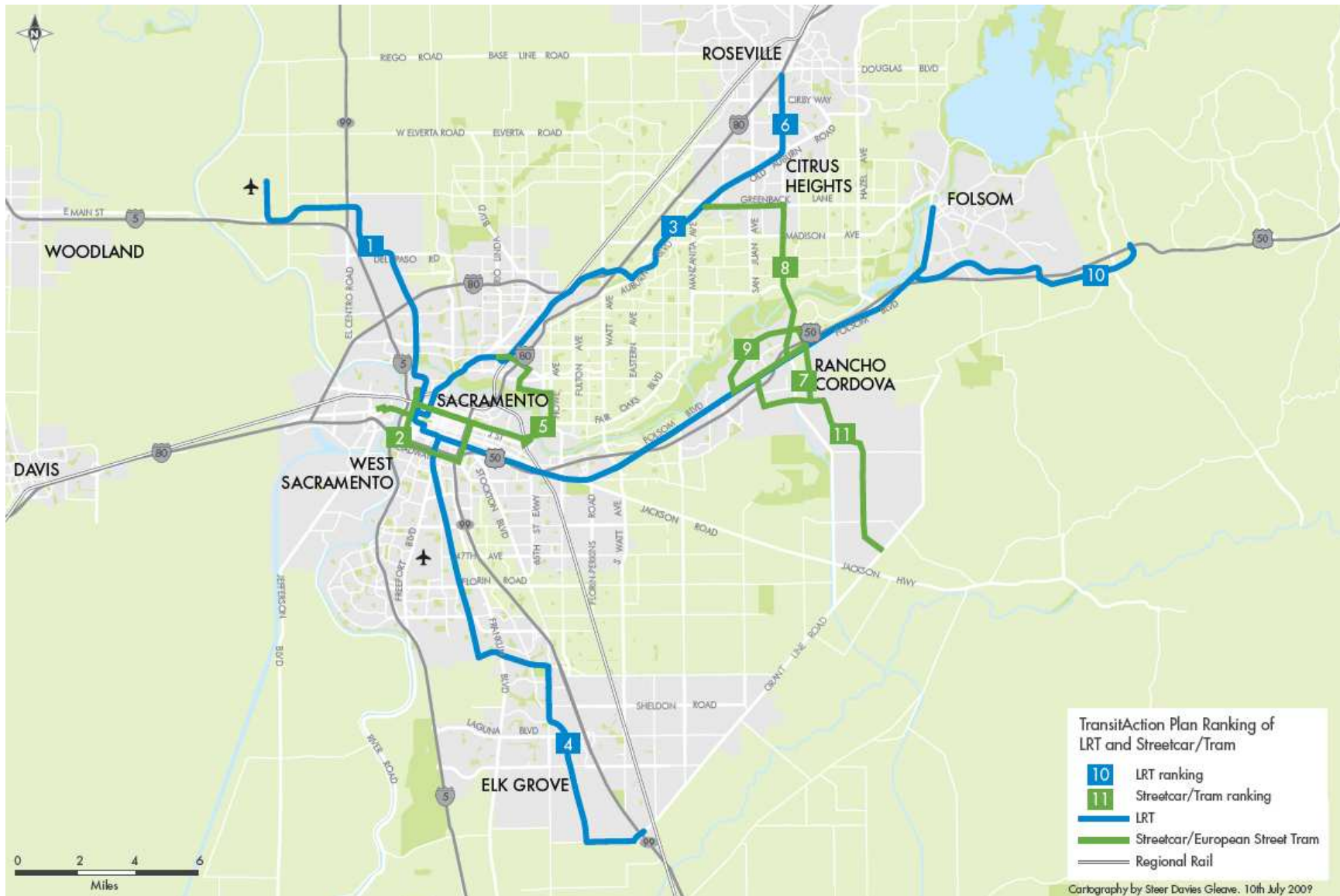
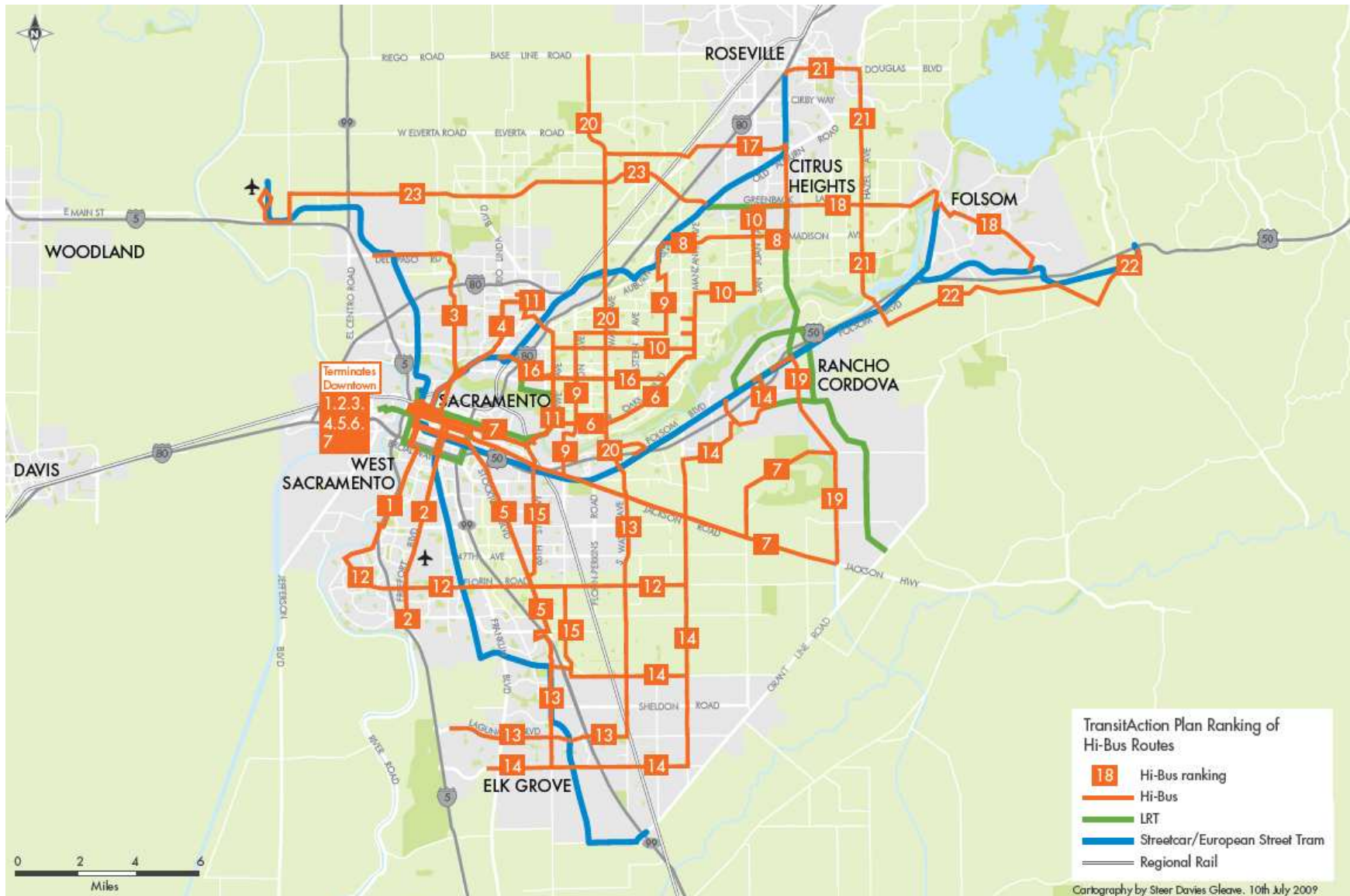


TABLE 10.3 HI-BUS PROJECT RANKING

Rank	Project
1	Riverside Boulevard
2	Freeport Boulevard
3	Norwood
4	Del Paso
5	Stockton Boulevard
6	Fair Oaks
7	Jackson Highway
8	Madison
9	Marconi
10	El Camino
11	Howe
12	Florin Road
13	South Watt
14	Bradshaw
15	65th Street
16	Arden Way
17	Antelope
18	Greenback
19	Sunrise
20	Watt
21	Hazel
22	Easton Valley Parkway
23	Elkhorn

FIGURE 10.2 HI-BUS PROJECT RANKING MAP



Local Input to the Deliverability Assessment

- 10.7 While the technical evaluation presented in the previous section was undertaken from an objective perspective, it was done using 2035 ridership forecasts based on a single, long term land use forecast.
- 10.8 In order to further define the deliverability account of the MAE process, consultation was undertaken with senior RT staff and operations personnel. This input was used to ensure that the final TransitAction Plan represents the needs and land use aspirations of the whole region, linking future projects and investments to updated General Plans and provides a clear need to link future investment to proactive land use decisions and policies.
- 10.9 The remaining sections present the revised project priority list and TransitAction Plan implementation strategy.



Hi-Bus routes were also evaluated and ranked to help prioritize investment decisions.

A Tiered Approach to Implementation

10.10 Following the completion of the evaluation process, an implementation strategy for the TransitAction Plan was developed based on various levels of funding availability. A three-tiered approach was developed as follows:

- **Tier 1 Projects and Improvements** - projects that could be funded with equivalent of a ¼¢ sales tax;
- **Tier 2 Projects and Improvements** - projects that could be funded with equivalent of a ½¢ sales tax;
- **Tier 3 Projects and Improvements** - projects within the overall plan but that do not meet thresholds for service and require:
 - Changes to land use (to generate higher density and more ridership);
 - Changes to road network planning and designation;
 - Changes to complementary measures (e.g. changes to parking policies); and
 - Further funding sources (above those in Tiers 1 and 2).

10.11 In addition, it is worth noting that:

- Projects outside the RT service boundaries will require further local contributions from those jurisdictions benefiting; and
- Additional partner funding will be needed to implement Complete Streets.

Tier 1 Projects and Improvements

10.12 Tier 1 projects are the highest priority and would be implemented immediately should funding be available. Tier 1 includes investments in new infrastructure as well as substantial expansion of service levels. The specific details of Tier 1 are summarized below and shown in Figure 10.3.

Tier 1 Capital Projects and Improvements

- Rail projects/improvements:
 - DNA starter line to the airport;
 - South Line Phase 2 (Blue Line extension to Cosumnes College);
 - Rancho Cordova Streetcar (Phase 1);
 - Streetcar starter line (West Sac-Downtown); and
 - Blue and Gold lines double-tracked.
- Bus projects/improvements:
 - 10-15 Hi-Bus corridors implemented - these are not envisioned as full Bus Rapid Transit (BRT) but Enhanced Bus offering 'Hi-Quality, Hi-Frequency and Hi-Speed' service;
 - Priority of implementation will be based on a combination of ranking, funding availability (phasing) and cooperation of local jurisdictions; and
 - Changes in vehicle fuels and technology will be made once the technologies are proven (i.e. RT will not be an 'early implementer').
- Safety measures introduced to reduce crime and nuisance behavior:
 - Closed-Circuit Television cameras installed at all stations, major stops and on all vehicles and

- Funding for increased transit policing and more frequent vehicle cleaning.
- Implementation of Smartcard system and improved information systems; and
- Maintenance facilities:
 - Upgrade of existing light rail facility and
 - Phase 1 of the McClellan Business Park facility.

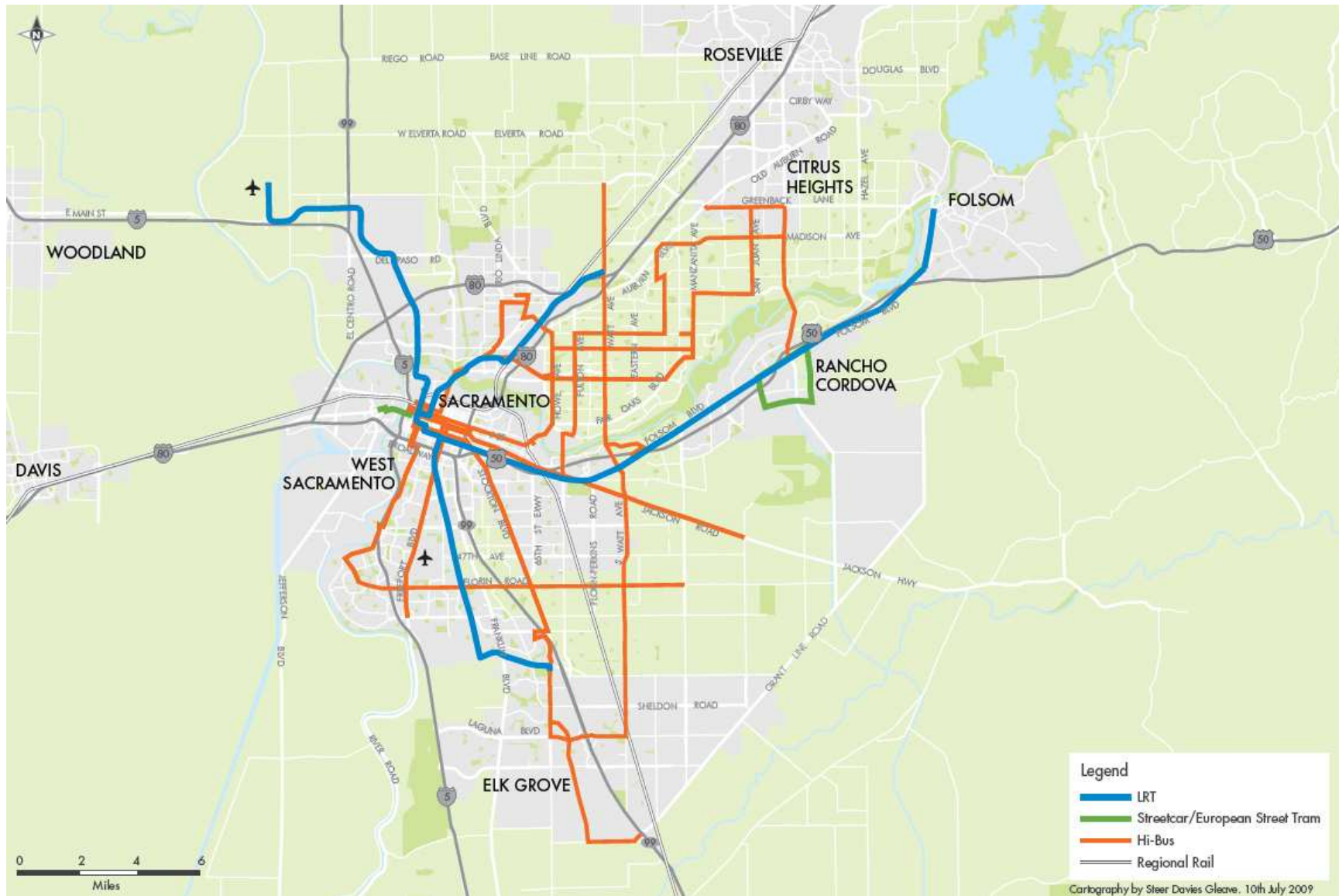
Tier 1 Operations

- Service Frequencies:
 - Rail - 10 minute peak service and 15 minute off-peak;
 - Hi-Bus - 10 minute peak service and 15 minute off-peak;
 - Local Bus - 20 minute peak service and 30 minute off-peak;
 - Rail hours are double what is currently provided; and
 - Bus hours are almost three times what is currently provided.

Tier 1 Funding Requirement

10.13 While the precise amount and timing of the funding source will need to be determined through further research and consultation with the RT Board, its stakeholders and the general public, the full set of Tier 1 Projects and Improvements could be delivered with the equivalent of a ¼¢ sales tax.

FIGURE 10.3 TRANSITATION PLAN TIER 1 NETWORK



Tier 2 Projects and Improvements

10.14 Tier 2 projects are the next level of priority for implementation and would also be implemented should funding be available. Tier 2 includes further investments in new infrastructure, particularly rail, as well as further expansion of service levels. The specific details of Tier 2 are summarized below and shown in Figure 10.4.

Tier 2 Capital Projects and Improvements

- All capital projects from Tier 1, plus...
- Rail projects/improvements:
 - Downtown European Street Tram - North Loop (Railyards - Midtown - CSUS - Cal Expo - Arden);
 - Downtown European Street Tram - South Loop (West Sac - Downtown - Broadway - Railyards);
 - Blue Line Extension to Citrus Heights (funded locally); and
 - Blue Line Extension to Elk Grove (funded locally).
- Regional Rail - vehicles to provide 30-minute peak service;
- Maintenance facilities:
 - Two additional rail facilities and
 - Completion of the McClellan Business Park facility; and
- Pedestrian access improvements to provide for Complete Streets and Corridors.

Tier 2 Operations

■ Service Frequencies:

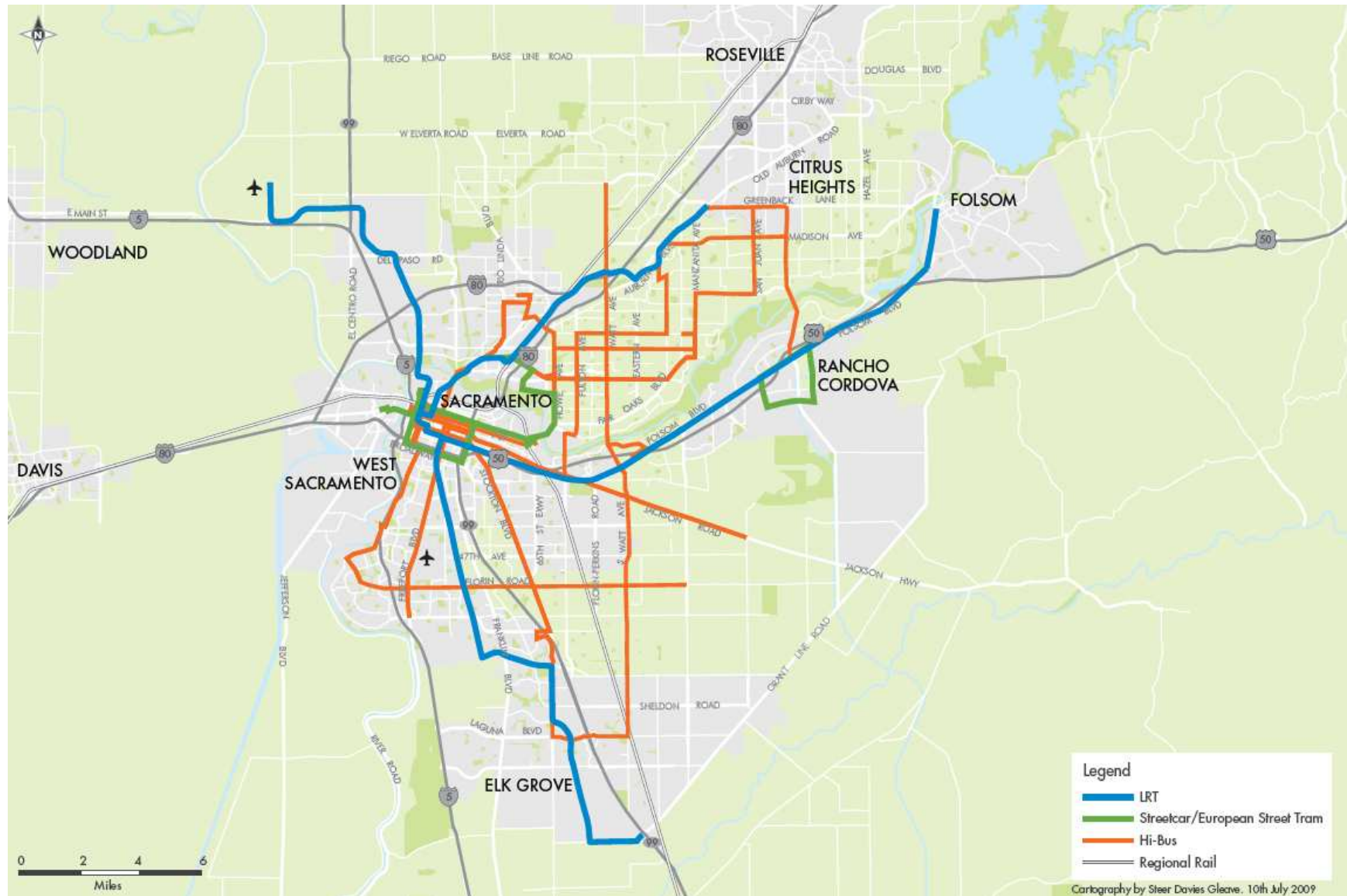
- Rail - 10 minute peak service and 15 minute off-peak;
- Hi-Bus - 10 minute peak service and 15 minute off-peak, plus 5 minute peak and 10-minute off-peak service on targeted routes;
- Local Bus - 20 minute peak service and 30 minute off-peak;
- Rail hours are three times what is currently provided; and
- Bus hours are more than three times what is currently provided.

Tier 2 Funding Requirement

10.15 While the precise amount and timing of the funding source will need to be determined through further research and consultation with the RT Board, its stakeholders and the general public, the full set of Tier 2 Projects and Improvements could be delivered with the equivalent of a ½¢ sales tax.

10.16 In addition, funding and cooperation from partner agencies would be needed to implement Complete Streets programs.

FIGURE 10.4 TRANSITATION PLAN TIER 2 NETWORK



Cartography by Steer Davies Gleave, 10th July 2009

Tier 3 Projects and Improvements

10.17 While Tier 3 represents the full TransitAction Plan, many of the projects included in Tier 3 will require major changes in land use and planning before RT will commit to implementation/operations. RT is however committed to these projects and will work with communities and developers to try to make these projects viable over the life of the plan. The specific details of Tier 3 are summarized below and shown in Figure 10.5.

Tier 3 Capital Projects & Improvements

- All capital projects from Tiers 1 and 2, plus...
- Rail projects/improvements:
 - Rancho Cordova Streetcar - Phase 2 and 3;
 - Blue Line Extension to Roseville;
 - Gold Line Extension to El Dorado County; and
 - Citrus Heights - Rancho Cordova European Street Tram.
- Regional Rail - vehicles to provide 15-minute peak service;
- Bus projects/improvements:
 - Remaining 8-13 Hi-Bus routes;
- Maintenance facilities:
 - Additional bus maintenance facility; and
- Remainder of pedestrian access improvements to provide for Complete Streets and Corridors.

Tier 3 Operations

■ Service Frequencies:

- Rail - 5 minute peak service and 10 minute off-peak (Regional Rail - 15 min service);
- Hi-Bus - 5 minute peak service and 10-minute off-peak service;
- Local Bus - 10 minute peak service and 20 minute off-peak;
- Rail hours are eight times what is currently provided; and
- Bus hours are almost five times what is currently provided.

Tier 3 Funding Requirement

10.18 As presented in Chapter 9, the full TransitAction Plan requires substantial additional funding - an average of \$290 million/year. The combination of tools and sources of additional funding will need to be determined through further research and consultation with the RT Board, its stakeholders and the general public.

10.19 As noted above, RT will set a number of conditions for moving some of these projects forward. These will vary on a project-by-project basis, but may include adoption of Transit Oriented Development (TOD) land use policies/guidelines, density thresholds, Transportation Demand Management (TDM) policies and identification of local funding sources.

FIGURE 10.5 TRANSITATION PLAN TIER 3 NETWORK

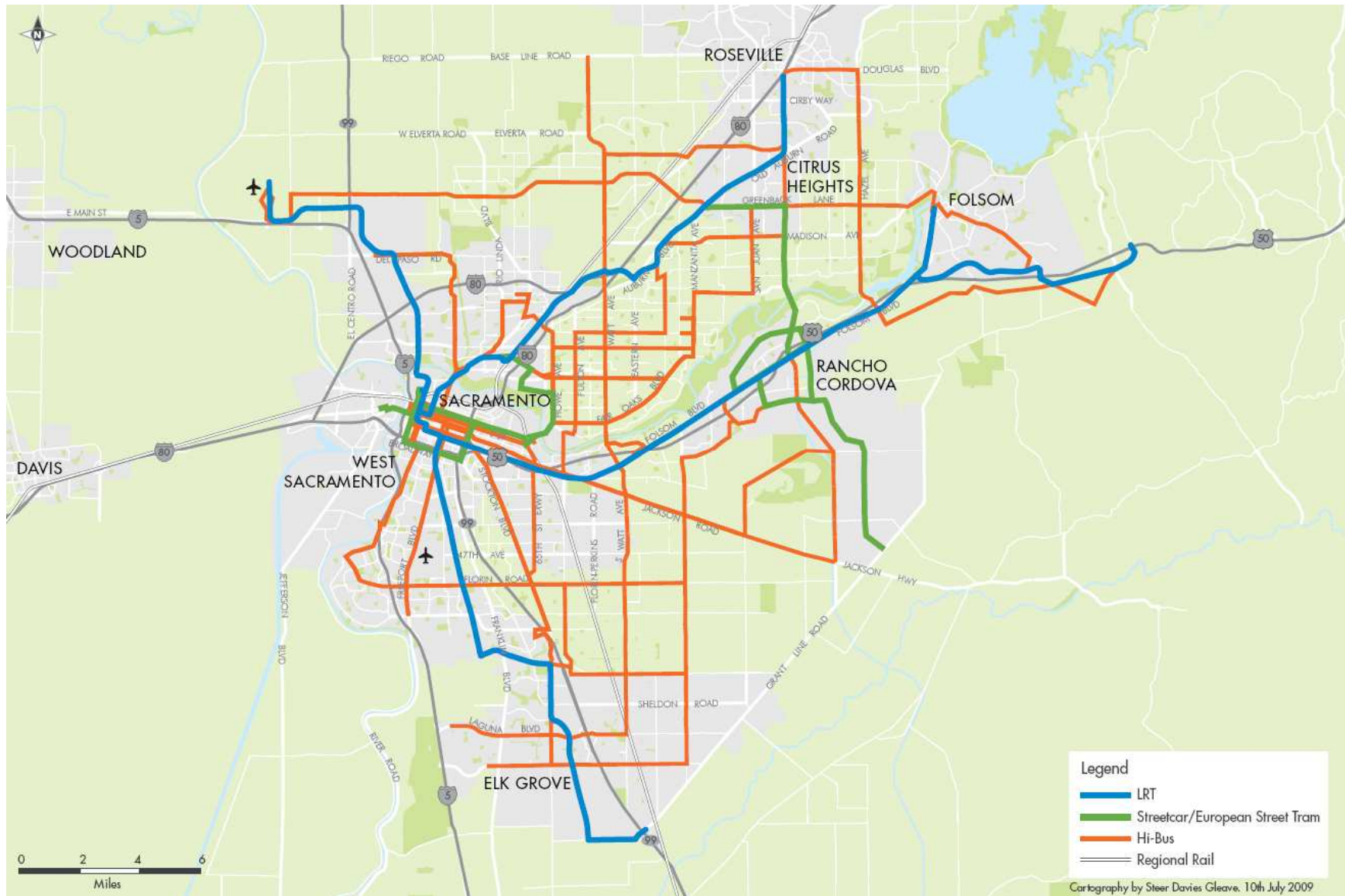


TABLE 10.4 SUMMARY OF TIERS

Project	Base / Scenario A	Tier 1	Tier 2	Tier 3
CAPITAL PROJECTS	-	-	-	-
Rail	-	-	-	-
• Blue Line	-	-	-	-
o South Line to CRC	✓	✓	✓	✓
o Elk Grove Extension	-	-	✓	✓
o Citrus Heights Extension	-	-	✓	✓
o Roseville Extension	-	-	-	✓
• Gold Line	-	-	-	-
o DNA	MOS1	✓	✓	✓
o El Dorado Extension	-	-	-	✓
• Streetcars/Street Trams	-	-	-	-
o West Sac Downtown Streetcar	-	-	✓	✓
o Rancho Cordova Streetcar Streetcar	-	-	Phase 1	✓
o Downtown European Street Tram - North Loop	-	-	✓	✓
o Downtown European Street Tram - South Loop	West Sac-Dtn	West Sac-Dtn	✓	✓
o Citrus Heights - Rancho Cordova European Street Tram	-	-	-	✓
• Regional Rail	-	-	30-min peak	15-min peak
Bus - Hi-Bus Capital Improvements	-	10-15 routes	10-15 routes	✓
ADA Paratransit Services	3-5% growth	3-5% growth	3-5% growth	3-5% growth
Maintenance Facilities	P1 McClellan	P1 McClellan	2 x LRT + McClellan	2 x LRT + 2 x bus
OPERATIONS	-	-	-	-
• Light Rail	15/30	10/15	10/15	5/10
• Hi-Bus / Enhanced Bus	30/60	10/15	10/15 + 5/10	5/10
• Community-based Services	30/60	20/30	20/30	10/20
NEW FUNDING REQUIRED (sales tax equivalent)	0	¼¢	½¢	1½¢

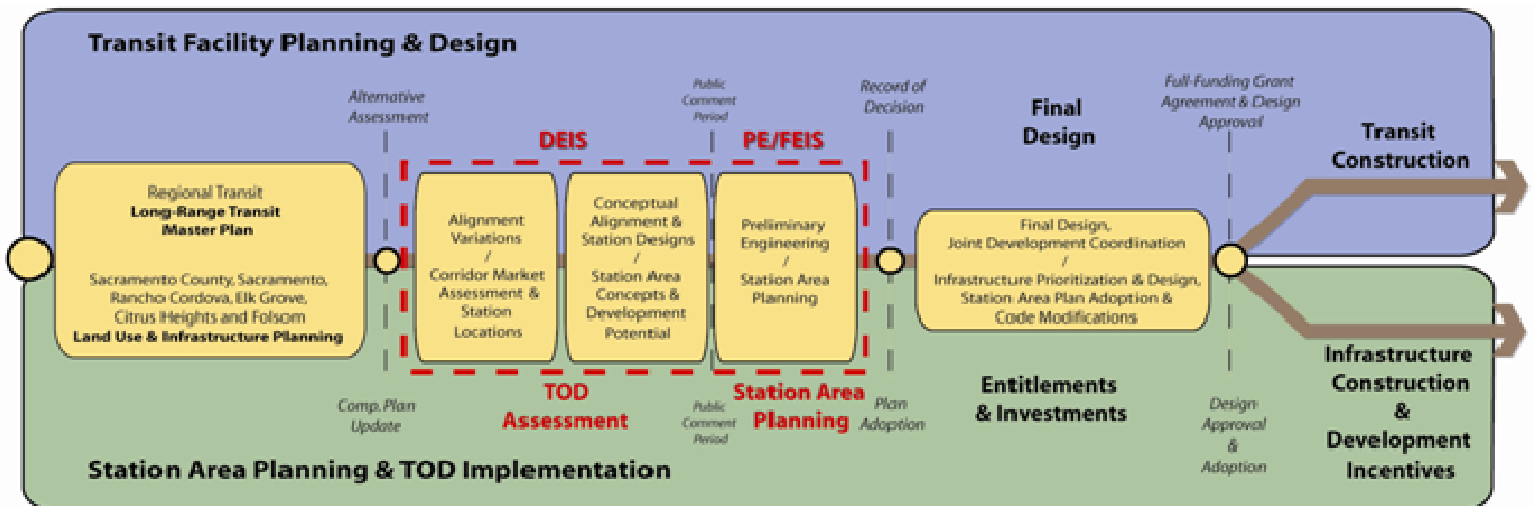
Delivering TOD: Key Actions

10.20 The most effective way to deliver TOD will be to establish the necessary foundation for the physical, regulatory, financial and political environments to react to and absorb TOD opportunities when they occur. Today, many of the necessary ingredients

exist; however, these ingredients have not been successfully integrated to produce an environment conducive to guide and motivate the private development industry to deliver TOD at a regional scale.

10.21 Figure 10.6 illustrates the various steps involved in transit development and TOD implementation.

FIGURE 10.6 TOD DELIVERY STEPS



Actively Support the Regional Vision

10.22 The Blueprint regional growth vision and its accompanying benchmarks present a common goal for all policy to support. The ideas presented in the Blueprint transcend the agendas of individual agencies and jurisdictions. When one agency or jurisdiction acts contrary to the regional vision, it inhibits the rest of the region from attaining common goals.

Use Transit Delivery to Influence TOD

10.23 RT has an important role in implementing the regional vision and supporting local community plans. Infrastructure and the commitment to infrastructure dictate land use and clearly, transit plays a defining role

in the delivery of TOD in the Sacramento region. Three key elements will be addressed by RT to ensure the transit delivery mechanisms position the region for TOD;

- **Establish** minimum land use objectives for system upgrades and new transit investments. Like the Federal New Starts competition, RT will establish priorities so that local municipalities can commit to the TOD expectations.
- **Understand** - RT's assets assist in delivering catalytic opportunities. RT will review its existing resources and identify surplus properties and then it will work with local municipalities to identify catalytic development

opportunities and provide flexibility in the parking replacement criteria (i.e. less than 1 for 1) in the joint development policies with the appropriate mixture of land uses. Each opportunity will be evaluated and negotiated with the local municipality; and

- I **Develop** and financially sponsor an integrated transit and land use framework for transit corridor planning, National Environmental Quality Act/California Environmental Quality Act (NEPA/CEQA) procedures, and preliminary engineering. This is a critical element to TOD delivery. Integrating transit facility planning with station area land use and infrastructure planning will identify development opportunities and local infrastructure requirements when transit has an opportunity to support the initiative. It is always better to integrate these elements early into the planning and design of transit corridors and NEPA/CEQA procedures when commitments are being made. Many times, simple TOD solutions identified early in the process can be embraced; while if they are identified later in the process these opportunities cannot be accommodated, limiting development opportunities.

Sponsor and Adopt Station Area Plans

10.24 Local municipalities need to follow through with the recent Transit for Livable Communities initiative and formalize station area plans that advance to adoption and implementation with the creation of new land development regulations.



Station Area Plans, currently being developed through the TLC program will be key catalysts for transit-oriented development.

Get the Bones Right

10.25 Transit and new development regulations together do not guarantee development opportunities. It is important that the local municipalities and regional agencies commit necessary capital improvement projects around transit to position station areas to become higher density, walkable, transit supportive environments. The development community is seeking to meet the confidence of their investors. Real public commitments of public investment, beyond transit, is needed to gain the confidence of the development community, including:

- I Sidewalk Infrastructure and Pedestrian Amenities - Identify the deficiencies and commit to their improvement;
- I New Streets and Street Network Improvements - In most cases the street network and block structure define the development opportunities; transit only provides the enhancement or incentive for more intensity. Many of the stations throughout the RT service area lack basic infrastructure to create transit supportive, walkable communities; and

- Parks and Civic Infrastructure - In most cases investments around transit will involve residential development. Important to investor confidence is the abundance of civic amenities that will insure a quality environment for future residents. Parks and civic infrastructure are often the key missing ingredients to ensuring more transit supportive opportunities.

Develop Internal Consistency

10.26 Clearly, partnerships and policy consistency at a regional scale are critical to delivering TOD. However, equally important is internal consistency within RT and local municipalities. Many departments within a city or county influence the development approval process and ultimately that agency’s ability to deliver TOD. Similarly, there are numerous departments within RT that impact the agency’s ability to promote transit supportive development. It is critical that all departments internal to each municipality, or internal to RT, align their

policies and procedures and create consistent regulations, design guidelines and operational applications to enable transit supportive development.

10.27 One of the single most influential considerations a developer has in deciding the form of their investment is the clarity and ease of the development review process. In many communities, policies and actions conducted are inconsistent and out of alignment in creating a truly transit supportive and sustainable community. These public inconsistencies burden the development market by making approval for appropriate design solutions around transit more difficult, with greater risk to investors than a less appropriate form of development. One of the first steps in the TOD process should be establishing the appropriate zoning and development parameters for a site. The developer would then have greater assurance that their project would be processed faster and approved by the decision making body.



Developers need clear guidelines, consistency and predictability when going through the approval process.

Regional Transit as Facilitator

10.28 In every region where TOD products are being delivered at a regional scale, the transit authority plays a key leadership role. These agencies are facilitating and advancing conversations on community form and the necessity to align capital spending on transit infrastructure with regional growth strategies. They are also working with local municipalities to create model land development regulations, and in a few cases they are sponsoring local planning initiatives to create more transit supportive environments. RT needs to play a leadership role on the following issues:

- Implementing the Blueprint and integrating land use and transportation;
- Modifying its own operational and design standards to create development oriented infrastructure;
- Obtaining approval of zoning and entitlements for TOD sites;
- Seeking joint development opportunities for surplus transit properties;
- Financially sponsoring local planning initiatives and private development responses; and
- Including public infrastructure dollars for sidewalk and street improvements associated with the implementation of the TransitAction Plan.

Roles and Responsibilities

10.29 The TOD Guidelines' intent is not to be specific, but to offer principles and guidelines that will be refined and adopted by each municipality and their various departments.

10.30 Plans for areas served by existing and future high quality transit should be re-evaluated. These TOD guidelines and the resulting

modifications within each municipality will allow effective implementation of the appropriate changes to the built environment.

10.31 Table 10.5 clarifies the roles and responsibilities of all the major decision makers that influence TOD in the region. These decision makers include the Sacramento Area Council of Governments (SACOG), municipal and county governments, RT, private developers, the State Department of Transportation (Caltrans), and the public utility commissions.

10.32 The requirements for delivery of TOD involve more than one entity in every instance. This chart reinforces the necessity of common goals and shared policy to create a predictable environment for TOD when market opportunities occur.



Implementing TOD will require leadership from Regional Transit and partnership working between many local, regional and state organizations.

TABLE 10.5 ROLES AND RESPONSABILITIES FOR TOD DELIVERY

TOD Delivery Requirements	SACOG	Municipal & County	Regional Transit	Private Dev. Community	Caltrans	Public Utilities Comm.
Support the Regional Vision						
1. Endorse Blueprint	■	■	■	■	■	■
2. Modify General Plans		■				
3. Adopt TOD Guidelines		■	■			
4. Develop Supportive TMP			■		■	
5. Develop Supportive MTP	■	■	■		■	
Transit Delivery						
1. Establish Minimum Guidelines	■		■		■	
2. Revise Joint Dev. Policies		■	■		■	
3. Sponsor Integrated Process	■	■	■		■	
4. Commit to Timetables	■	■	■		■	
Station Area Plans & Dev. Reg.						
1. Station Area Concepts	■	■	■	■		
2. Station Area Plans		■	■	■		
3. Adopt Revised LDCs		■		■		
4. Sponsor TOD Rezoning		■	■	■		
5. Build TOD		■		■		
Get the Bones Right						
1. Sidewalk Improvements	■	■		■		
2. New Streets & Grade Crossings	■	■		■	■	■
3. Intersection Design		■	■	■	■	
4. Park Infrastructure		■		■		
5. Transit Facility Design			■			
Internal Consistency						
1. Internal Dept. Consistency	■	■	■	■	■	■
Leadership						
1. Regional Growth	■	■	■	■	■	
2. Regional Infrastructure	■	■	■	■	■	
3. Land Use / Transportation Integration	■	■	■	■	■	
4. Internal Operations	■	■	■		■	■
5. Financial Sponsorship	■	■	■		■	



Top: Transit-oriented development with low floor light rail (Minneapolis, MN).
Bottom: Light rail and new land use development (Lyon, France).

Conclusions and Next Steps

10.33 The TransitAction Plan sets an ambitious vision for an improved transit system for the Sacramento region. It clearly identifies the need to link land use and transportation planning to meet regional and national objectives of improved air quality, reduced congestion and the development of livable communities.

10.34 The short range transit plans that will follow this TransitAction Plan will provide the detail of the rolling program of projects and investments that RT will pursue. However, the immediate next steps in the delivery of the Plan are:

- **Funding** - additional funding is required to implement any increases in service levels or new capital projects. RT will therefore seek funding to deliver Tiers 1 and 2 and continue to work with the local jurisdictions and developers to determine the requirements for Tier 3 projects;
- **Local Planning** - the TransitAction Plan has developed the high level strategy for the future of Sacramento's transit system. There is a now a need for much more detailed planning at the local community level to determine the precise number and alignment of routes. RT will work with each local community to develop a local transit service map - an example is included as Figure 10.7.
- **Continue Planning** - RT will continue to develop their existing project portfolio including the South Line Phase 2 extension of the Blue Line to Cosumnes River College and the Minimum Operating Segment 1 section of the DNA line.

- **Begin Planning** - RT will begin planning work on new projects included in Tiers 1 and 2 including Hi-Bus Corridors and the Downtown Street Tram project;
- **TOD Guidelines** - RT will work with the local jurisdictions to adopt the Transit Oriented Development Guidelines to provide clarity over the land use requirements for transit investment; and
- **Safeguard Opportunities** - working with the jurisdictions, the Urban Land Institute and the local development community, RT will identify opportunities for future transit services to safeguard land and road space to protect transit journey times, services and investments into the future.



TransitAction
Regional Transit Master Plan

FIGURE 10.7 SAMPLE TRANSITATION PLAN COMMUNITY MAP

TransitAction
Regional Transit Master Plan
Conceptual Plan for Central City

Community Based Bus
Frequencies of all community bus routes will be no more than 30 minutes and service hours will be expanded.

Hi-Bus Routes
Seven brand new Hi-Bus routes will serve this community with higher quality and higher capacity buses and frequencies of 5-30 minutes. The routes will conceptually be aligned as follows:

- Del Paso Rd. from E. Commerce Way connecting to the Natomas Education Center, Inderkum High School and library, then east to Northgate Blvd. and south into the Central City
- From Grant High School to South Ave. eastward, then south on Rio Linda Blvd., taking Del Paso Blvd into the Central City
- Fair Oaks Blvd. from Marconi Ave. in Carmichael west to the Central City with connections to Sacramento State and the American River Parkway
- Jackson Highway from Sunrise Blvd in the East County west into the Central City
- Stockton Blvd. from Cosumnes River College north into the Central City with connections to Shriners, UC Davis, Methodist, Sierra Vista and Kaiser hospitals along the way
- Freeport Blvd. from Meadowview Rd. north into the Central City with connections to Sacramento Executive Airport and Sacramento City College
- Riverside Blvd. from Kennedy High School on Florin Rd. north into the Central City

Street Tram

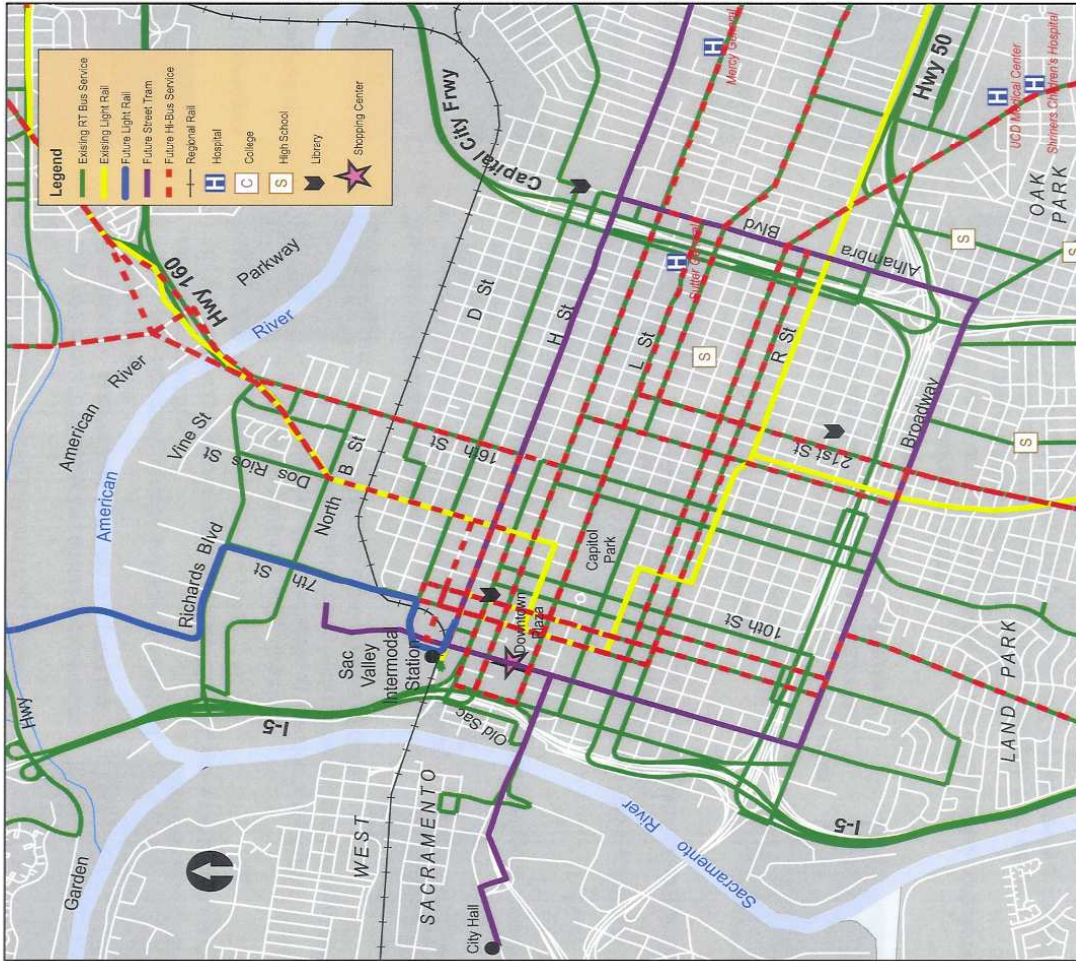
The proposed downtown street tram will link West Sacramento to Sacramento with frequencies of 5-30 minutes. The south loop will conceptually extend from the West Sacramento City Hall through Downtown and Midtown, south on Alhambra, west on Broadway, then north to the Sacramento Valley Intermodal Station. From there the north loop will extend through the proposed Railyards development then east through town to Sacramento State, then north to Cal Expo and Arden Fair terminating at the Royal Oaks light rail station. The tram will serve Downtown Plaza, the Convention Center, Sutter, Mercy General and Kaiser hospitals and major employers, as well as connect to the region's bus, light rail and commuter rail services.

Light Rail

The proposed light rail expansion to the Sacramento International Airport will have frequencies of 5-30 minutes and extend from the Sacramento Valley Intermodal Station and proposed Railyards development north through Natomas. It is proposed to serve the River District, American River Parkway, major employers, Natomas Marketplace and other retail and Arco Arena.

Regional Rail

Frequencies of the Capitol Corridor trains will be increased to four trains per hour during peak periods. New commuter service will be added between Stockton and Sacramento also with four trains per hour during peak periods.



produced by: Steer Davies Gleave n A inc.
1000-355 Burrard Street, vancouver BC, v6C 2G8, Canada
t. +1 (604) 608 6198
www.steerdaviesgleave.com